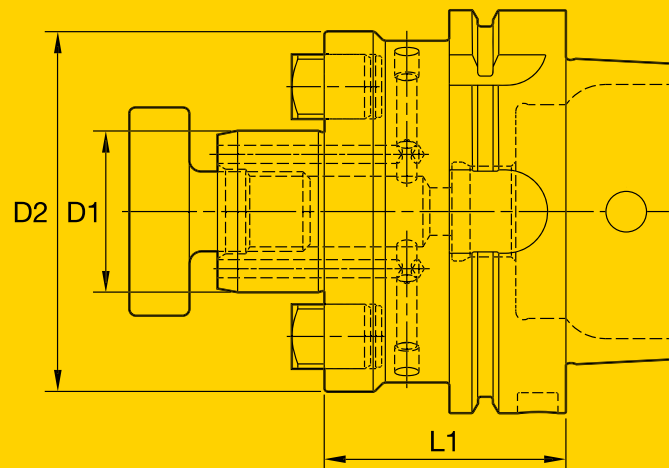
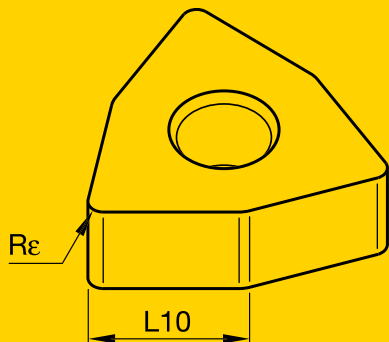
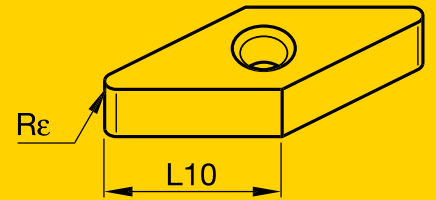
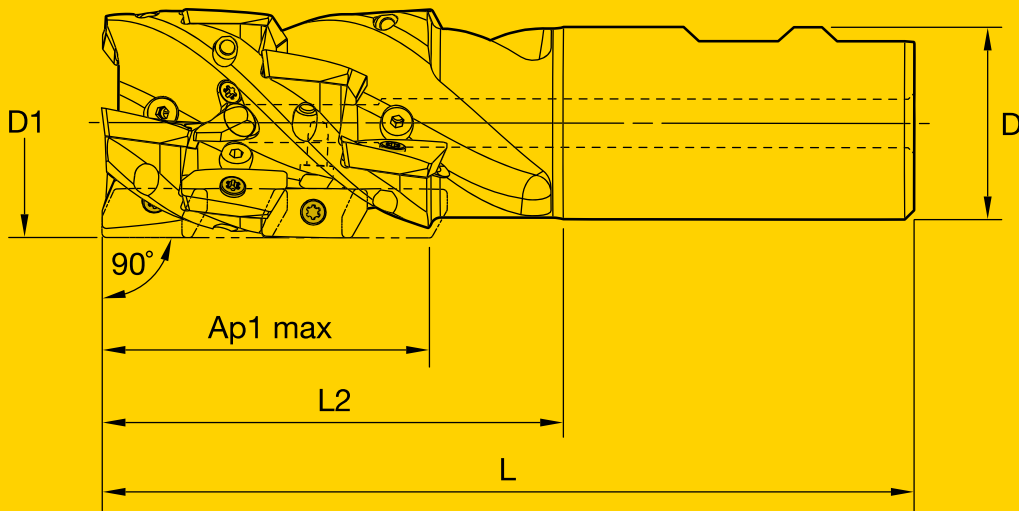
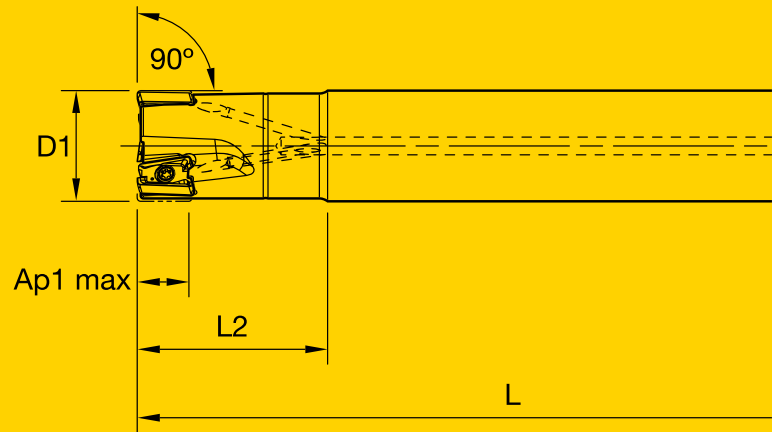
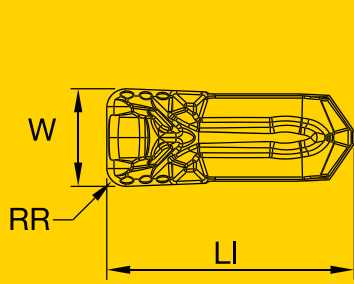
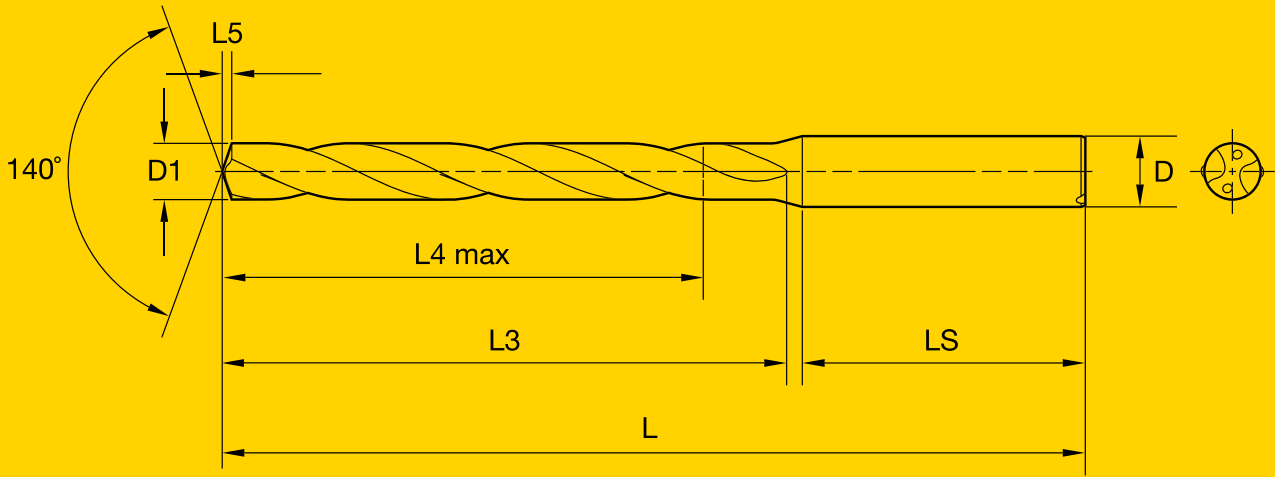


KENNAMETAL[®]

FIRST CHOICE

**METRIC
FY2025-26**



WE'VE BEEN CUTTING METAL Since 1938.

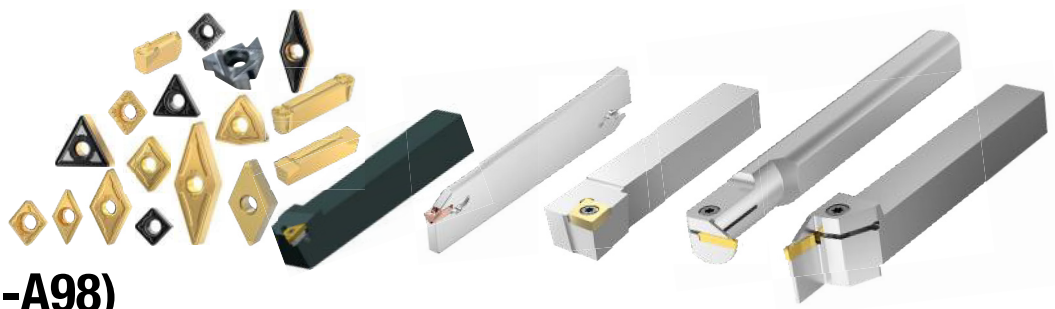


Our Story Is One of Continuous Innovation

It starts in 1938 with our founder, metallurgist Philip M. McKenna, who after years of research created a tungsten-titanium carbide alloy specifically for cutting tools. That single development not only led to a new class of machining tools that cut faster, lasted longer and drove productivity in everything from the automobile to the airplane, but also led to the opening of McKenna Metals Company in Latrobe, Pennsylvania, United States. Today, that company is Kennametal Inc.—a recognized leader in metalworking serving customers across continents and industries including transportation, construction, aerospace, machining and cutting, energy and general engineering. We have a reputation for building innovative solutions for our customers' most challenging applications. The name Kennametal is synonymous for high-quality, high-performance tools that can withstand the most strenuous conditions and bring ease to a wide range of machining operations. We help our customers' operations run longer, faster and with greater precision.

WE DON'T CUT CORNERS. WE CUT METAL. YOUR TOUGHEST MATERIALS DON'T STAND A CHANCE.





TURNING (A1-A98)



INDEXABLE MILLING (B1-B114)



SOLID END MILLING (C1-C90)



HOLEMAKING (D1-D98)

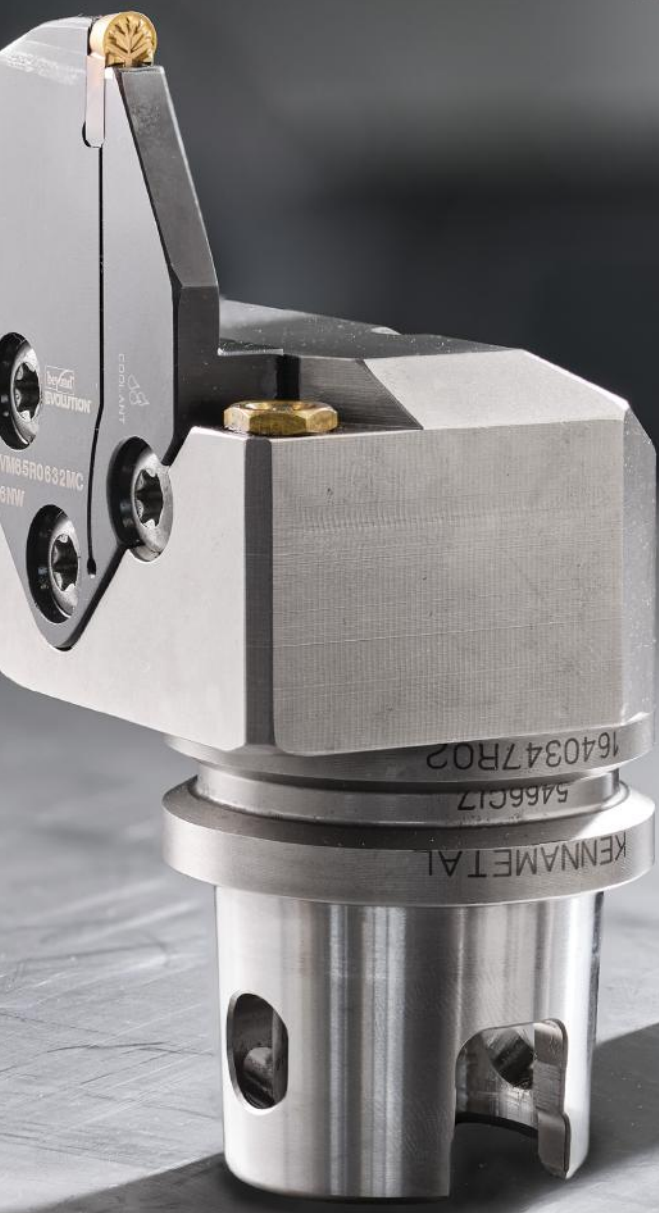


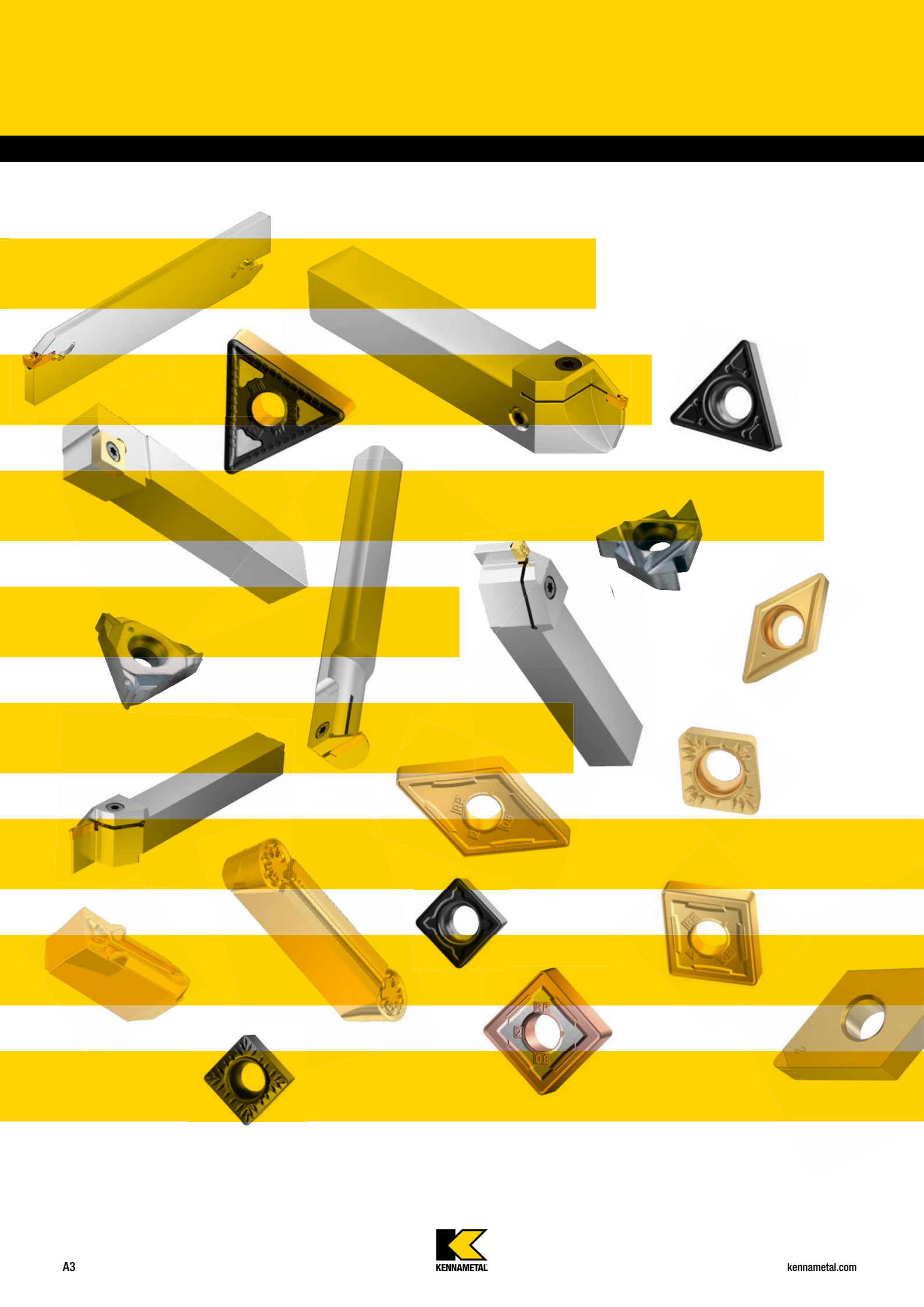
TOOLING SYSTEMS (E1-E32)

Visit kennametal.com/firstchoice for more information.



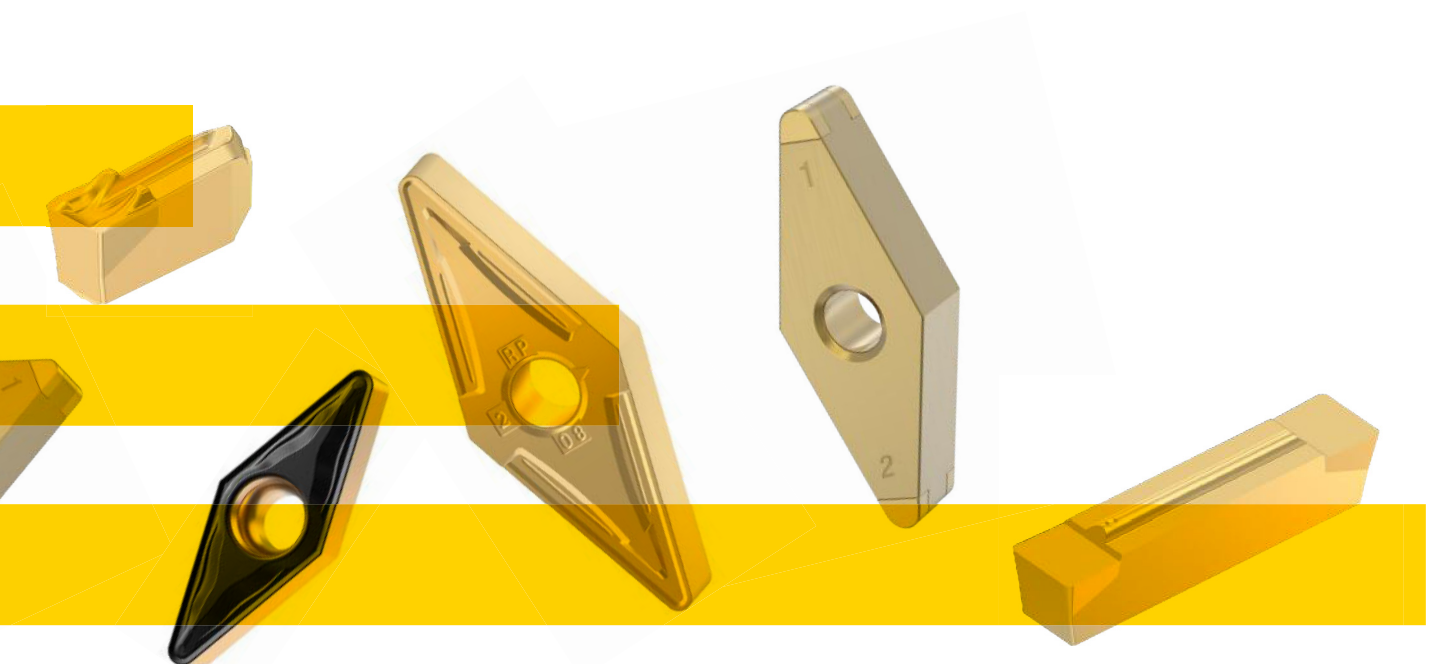
TURNING





TURNING

KCP25C – KENGOLD™ CVD.....	A5
KCU10B – KENGOLD PVD	A7
KCU25B – KENGOLD PVD	A9
KBH10B & KBH20B	A11
BEYOND EVOLUTION™	A59
A4 TOOLING AND DOUBLE-SIDED INSERTS	A75
LAYDOWN TRIANGLE THREADING.....	A89



ISO Turning Inserts

KCP25C - KENGOLD CVD

KCP25C offers **improved toughness and abrasion resistance** as well as **consistent and repeatable performance** for higher MRR through increased cutting speeds



Explore KCP25C

Materials

P

Industries



Automotive



General Engineering



Oil & Gas



EV



Aerospace & Defense

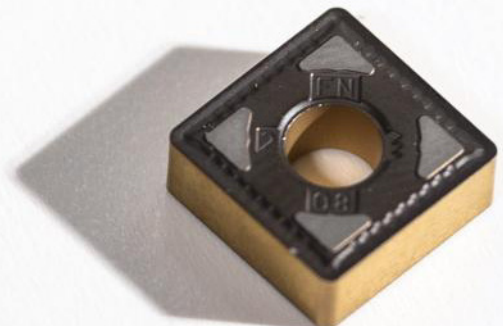
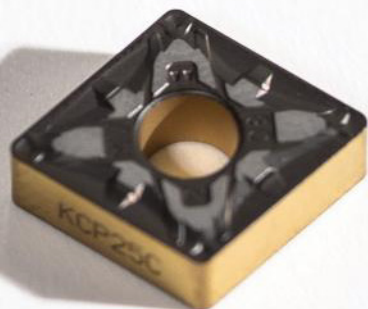


Medical



Wind & Solar

Applications



Modern CNC machines and flexible production facilities require tools with application versatility. Kennametal high-performance inserts, tool holders and boring bars are designed to handle any turning application. Whether you're doing light finishing or heavy roughing, we have the tooling solutions to meet your needs.



Features and Benefits

- Improved MT-TiCN/Alumina CVD coated grade
- Reduces waste of unused edges by offering easy identification of worn or unused edges
- Alpha-Alumina coated layer provides a strong thermal barrier and improves crater and flank wear
- Increases output rate reliability and has consistent tool life
- For machining all steels including carbon and alloy

ISO Turning Inserts

KCU10B – KENGOLD PVD

This **multilayer nanocomposite coating technology** is comprised of three layers, each with unique protection properties



Explore KCU10B

Materials



Industries



Automotive



General Engineering



Oil & Gas



EV



Aerospace & Defense

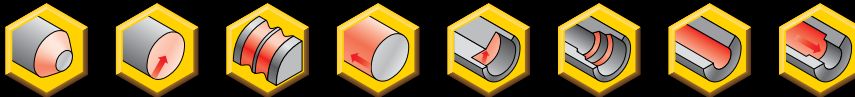


Medical



Wind & Solar

Applications





Features and Benefits

- The top layer made of TiSiN is gold for easy wear identification
- The second layer made of AlTiSiN is a super-hard nanostructured interlayer for superior wear resistance
- The third layer made of AlTiN is a low-stress base layer for excellent flaking resistance
- Multilayer coating applied to cemented carbide delivers greater thermal deformation resistance and exceptional edge wear resistance



ISO Turning Inserts

KCU25B – KENGOLD PVD

Switch up your materials, not your tools. From steels, stainless steels, cast iron to high-temp alloys and non-ferrous materials, **KCU25B features the newly engineered KENGold PVD multilayer coating that keeps you cutting**

Materials



Industries



Automotive



General Engineering



Oil & Gas



EV



Aerospace & Defense

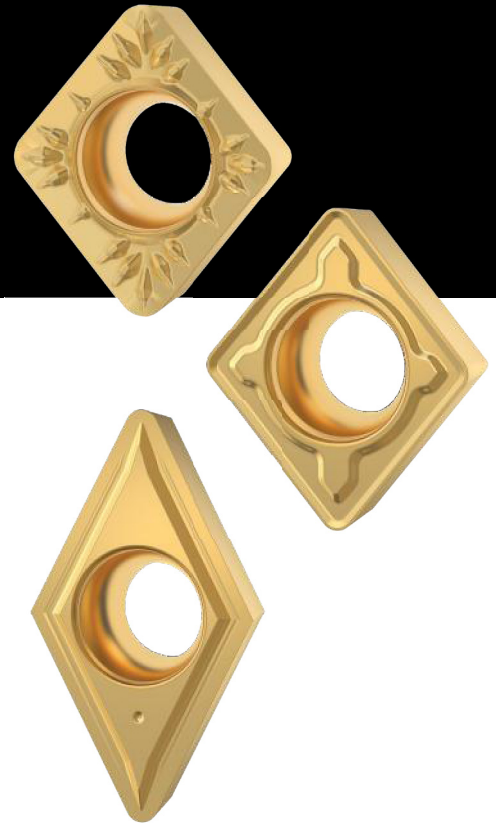


Medical



Wind & Solar

Applications



Features and Benefits

- Roughing with precision and power in every cut
- Suited for the most common turning, grooving and cut-off applications
- Ideal for machining steels, stainless steels, cast iron and high-temp alloys



Explore KCU25B



Superhard

KBH10B & KBH20B

HARD TURNING GRADES



Materials

H

Industries



Automotive



General Engineering



Oil & Gas



EV



Aerospace & Defense



Medical

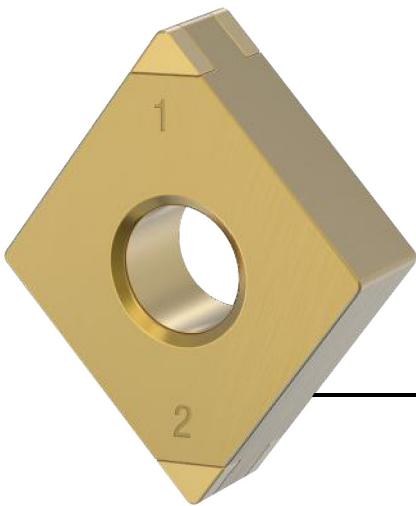


Wind & Solar

Applications



Explore KBH10B & KBH20B

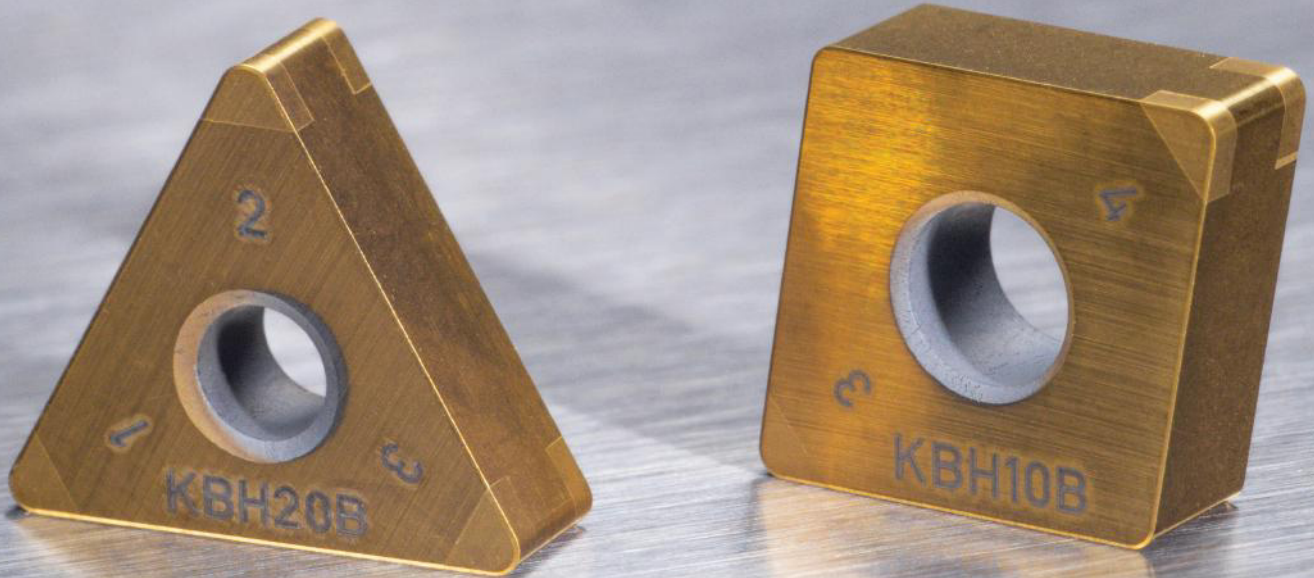


Gold color allows for easy wear identification

Consistency in cutting multiple materials and provides reliability and stability

Low-content PcBN grade featuring proprietary binder and enhanced PVD coating enhances wear resistance

KBH10B and KBH20B are low-content PcBN grades, designed for precision machining of hardened steel (>48 HRC) and achieving the best possible surface finishes even in lightly interrupted cuts. **The multi-tip format inserts come with numbered cutting edges and cost effective double-sided design**



QUICK AND EASY TURNING INSERT SELECTION

- All information on one page.
- Inserts already pre-selected by material.
- All necessary technical data included.

Example page:




ISO/ANSI TURNING INSERTS **STEEL**

MG-RP																													
STEEL																													
		Cutting Conditions																											
		P0	P1	P2	P3	P4	P5	P6																					
Cutting Speed (SFM) Range		591	1296	1444	492	1083	1411	377	689	771																			
		591	1296	1444	492	1083	1411	377	689	771																			
		591	869	1148	492	771	1263	377	492	787																			
		525	623	804	492	607	902	377	394	525																			
		295	476	640	246	410	705	164	312	443																			
		492	705	984	427	771	1066	361	443	492																			
		394	591	886	377	591	869	295	344	459																			
		Carbide Grade			KCP10B			KCP25C			KCP40B																		
				L10		R _e		Depth of Cut		Feed Rate																			
				in		mm		ap min		start (in)		ap max		f/rev min		start (in/rev)		f/rev max											
ISO catalog number		ANSI catalog number		KCP10B		KCP25C		KCP40B		in		mm		ap min		start (in)		ap max		f/rev min		start (in/rev)		f/rev max					
CNMG120404RP		CNMG431RP		-		7026595		-		.508		12.90		1/64		0.4		.043		.148		.252		.004		.007		.012	
CNMG120408RP		CNMG432RP		5388039		7026596		-		.508		12.90		1/32		0.8		.043		.148		.252		.008		.014		.024	
CNMG120412RP		CNMG433RP		5413174		7026597		-		.508		12.90		3/64		1.2		.043		.148		.252		.008		.015		.035	
CNMG120416RP		CNMG434RP		5413176		7026598		-		.508		12.90		1/16		1.6		.043		.148		.252		.008		.015		.047	
CNMG160608RP		CNMG542RP		-		7026642		-		.635		16.12		1/32		0.8		.043		.179		.315		.008		.014		.024	
CNMG160612RP		CNMG543RP		5413180		7026643		5886542		.635		16.12		3/64		1.2		.043		.179		.315		.008		.015		.035	
CNMG160616RP		CNMG544RP		5413182		7026644		-		.635		16.12		1/16		1.6		.043		.179		.315		.008		.015		.047	
CNMG190612RP		CNMG643RP		5697939		7026648		5591971		.762		19.34		3/64		1.2		.043		.211		.378		.008		.015		.035	
CNMG190616RP		CNMG644RP		-		7026649		-		.762		19.34		1/16		1.6		.043		.211		.378		.008		.015		.047	
DNMG110408RP		DNMG332RP		-		7026650		-		.35		8.89								.35		.227		.008		.014		.024	
DNMG110412RP		DNMG333RP		-		7026651		-		.35		8.89								.35		.227		.008		.015		.035	
DNMG150408RP		DNMG432RP		5697968		7026652		-		.73		18.54								.73		.303		.008		.014		.024	

The cutting conditions guide you to the First Choice grade:

All inserts are already pre-selected by the workpiece material group:

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

-  Smooth cut, pre-turned surface.
-  Varying depths of cut, casting or forging skin.
-  Lightly interrupted cut.
-  Heavily interrupted cut.

The table directly provides you with all the application-specific cutting data for the inserts you have selected. Bold numbers are starting values.

Material-specific surface speed.

Insert specific depth of cut and feed rates.





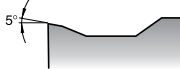
Example page:

ISO/ANSI TURNING INSERTS STEEL

MG-RP STEEL		Cutting Conditions							Carbide Grade			L10		R _c		Depth of Cut			Feed Rate				
Cutting Speed (SFM) Range	P0	591	1296	1444	492	1083	1411	377	689	771	KCP10B	KCP25C	KCP40B	in	mm	in	mm	ap min	start (in)	ap max	f/rev min	start (in/rev)	f/rev max
	P1	591	1296	1444	492	1083	1411	377	689	771													
	P2	591	869	1148	492	771	1263	377	492	787													
	P3	525	623	804	492	607	902	377	394	525													
	P4	295	476	640	246	410	705	164	312	443													
	P5	492	705	984	427	771	1066	361	443	492													
	P6	394	591	886	377	591	869	295	344	459													
ISO catalog number	ANSI catalog number	KCP10B	KCP25C	KCP40B	in	mm	in	mm	ap min	start (in)	ap max	f/rev min	start (in/rev)	f/rev max									
CNMG120404RP	CNMG431RP	-	7026595	-	.508	12.90	1/64	0.4	.043	.148	.252	.004	.007	.012									
CNMG120408RP	CNMG432RP	5388039	7026596	-	.508	12.90	1/32	0.8	.043	.148	.252	.008	.014	.024									
CNMG120412RP	CNMG433RP	5413174	7026597	-	.508	12.90	3/64	1.2	.043	.148	.252	.008	.015	.035									
CNMG120416RP	CNMG434RP	5413176	7026598	-	.508	12.90	1/16	1.6	.043	.148	.252	.008	.015	.047									
CNMG160608RP	CNMG542RP	-	7026642	-	.635	16.12	1/32	0.8	.043	.179	.315	.008	.014	.024									
CNMG160612RP	CNMG543RP	5413180	7026643	5886542	.635	16.12	3/64	1.2	.043	.179	.315	.008	.015	.035									
CNMG160616RP	CNMG544RP	5413182	7026644	-	.635	16.12	1/16	1.6	.043	.179	.315	.008	.015	.047									
CNMG190612RP	CNMG643RP	5697939	7026648	5591971	.762	19.34	3/64	1.2	.043	.211	.378	.008	.015	.035									
CNMG190616RP	CNMG644RP	-	7026649	-	.762	19.34	1/16	1.6	.043	.211	.378	.008	.015	.047									
DNMG110408RP	DNMG332RP	-	7026653	-	.458	11.63	1/32	0.8	.043	.135	.227	.008	.014	.024									
DNMG110412RP	DNMG333RP	-	7026654	-	.458	11.63	3/64	1.2	.043	.135	.227	.008	.015	.035									
DNMG150408RP	DNMG332RP	5697968	7026655	-	.610	15.50	1/32	0.8	.043	.173	.303	.008	.014	.024									

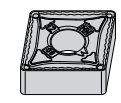
Select preferred insert style, size, and corner radius.

Insert order code.


MG-RP																	RP		
STEEL																			
Cutting Conditions																			
Cutting Speed (m/min) Range	P0	180	395	440	150	330	430	115	210	235									
	P1	180	395	440	150	330	430	115	210	235									
	P2	180	265	350	150	235	385	115	150	240									
	P3	160	190	245	150	185	275	115	120	160									
	P4	90	145	195	75	125	215	50	95	135									
	P5	150	215	300	130	235	325	110	135	150									
	P6	120	180	270	115	180	265	90	105	140									
Carbide Grade		KCP10B			KCP25C			KCP40B			Depth of Cut			Feed Rate					
ISO catalog number	ANSI catalog number	KCP10B			KCP25C			KCP40B			L10	Re	ap min	start (mm)	ap max	f/rev min	start (mm/rev)	f/rev max	
CNMG120404RP	CNMG431RP	-			7026595			-			12,90	0,4	1,10	3,75	6,40	0,10	0,20	0,30	
CNMG120408RP	CNMG432RP	5388039			7026596			-			12,90	0,8	1,10	3,75	6,40	0,20	0,35	0,60	
CNMG120412RP	CNMG433RP	5413174			7026597			-			12,90	1,2	1,10	3,75	6,40	0,20	0,40	0,90	
CNMG120416RP	CNMG434RP	5413176			7026598			-			12,90	1,6	1,10	3,75	6,40	0,20	0,40	1,20	
CNMG160608RP	CNMG542RP	-			7026642			-			16,12	0,8	1,10	4,55	8,00	0,20	0,35	0,60	
CNMG160612RP	CNMG543RP	5413180			7026643			5886542			16,12	1,2	1,10	4,55	8,00	0,20	0,40	0,90	
CNMG160616RP	CNMG544RP	5413182			7026644			-			16,12	1,6	1,10	4,55	8,00	0,20	0,40	1,20	
CNMG190612RP	CNMG643RP	5697939			7026648			5591971			19,34	1,2	1,10	5,35	9,60	0,20	0,40	0,90	
CNMG190616RP	CNMG644RP	-			7026649			-			19,34	1,6	1,10	5,35	9,60	0,20	0,40	1,20	
DNMG110408RP	DNMG332RP	-			7026653			-			11,63	0,8	1,10	3,44	5,77	0,20	0,35	0,60	
DNMG110412RP	DNMG333RP	-			7026654			-			11,63	1,2	1,10	3,44	5,77	0,20	0,40	0,90	
DNMG150408RP	DNMG432RP	5697968			7026655			-			15,50	0,8	1,10	4,40	7,69	0,20	0,35	0,60	
DNMG150412RP	DNMG433RP	-			7026656			-			15,50	1,2	1,10	4,40	7,69	0,20	0,40	0,90	
DNMG150608RP	DNMG442RP	5413197			7026665			-			15,50	0,8	1,10	4,40	7,69	0,20	0,35	0,60	
DNMG150612RP	DNMG443RP	5413202			7026666			-			15,50	1,2	1,10	4,40	7,69	0,20	0,40	0,90	
DNMG150616RP	DNMG444RP	-			7088645			-			15,50	1,6	1,10	4,40	7,69	0,20	0,40	1,20	
SNMG120408RP	SNMG432RP	-			7026670			-			12,70	0,8	1,10	3,70	6,30	0,20	0,35	0,60	
SNMG120412RP	SNMG433RP	5387874			7026671			-			12,70	1,2	1,10	3,70	6,30	0,20	0,35	0,89	
SNMG150612RP	SNMG543RP	-			7026672			-			15,88	1,2	1,10	4,49	7,88	0,20	0,35	0,89	
SNMG150616RP	SNMG544RP	5697163			7026673			-			15,88	1,6	1,10	4,49	7,88	0,20	0,40	1,20	
TNMG160408RP	TNMG332RP	5697030			7026684			-			16,50	0,8	1,10	4,65	8,19	0,20	0,35	0,60	
TNMG160412RP	TNMG333RP	-			7026685			-			16,50	1,2	1,10	4,65	8,19	0,20	0,40	0,90	
TNMG220408RP	TNMG432RP	5697178			7026686			-			22,00	0,8	1,10	6,01	10,92	0,20	0,35	0,60	
TNMG220412RP	TNMG433RP	-			7026688			-			22,00	1,2	1,10	6,01	10,92	0,20	0,35	0,89	
TNMG220416RP	TNMG434RP	-			7026689			-			22,00	1,6	1,10	6,01	10,92	0,20	0,40	1,19	
TNMG220432RP	TNMG438RP	-			7089534			-			22,00	3,2	1,10	6,01	10,92	0,20	0,40	2,39	
TNMG330924RP	TNMG666RP	-			-			5591974			33,00	2,4	1,10	8,74	16,38	0,20	0,40	1,79	
VNMG160408RP	VNMG332RP	-			7026706			-			16,61	0,8	1,10	2,63	4,15	0,20	0,35	0,60	
VNMG160412RP	VNMG333RP	-			7026707			-			16,61	1,2	1,10	2,63	4,15	0,20	0,40	0,90	
WNMG060408RP	WNMG332RP	-			7026708			-			6,52	0,8	1,10	1,37	1,63	0,20	0,35	0,60	
WNMG060412RP	WNMG333RP	-			7026709			-			6,52	1,2	1,10	1,37	1,63	0,20	0,40	0,90	
WNMG080408RP	WNMG432RP	5387915			7026712			5591972			8,69	0,8	1,10	1,64	2,17	0,20	0,35	0,60	
WNMG080412RP	WNMG433RP	5387919			7026713			-			8,69	1,2	1,10	1,64	2,17	0,20	0,40	0,90	
WNMG080416RP	WNMG434RP	-			7026714			-			8,69	1,6	1,10	1,64	2,17	0,20	0,40	1,20	

MG-MN																			
STEEL																			
		Cutting Conditions																	
Cutting Speed (m/min) Range	P0	180	395	440	150	330	430	115	210	235									
	P1	180	395	440	150	330	430	115	210	235									
	P2	180	265	350	150	235	385	115	150	240									
	P3	160	190	245	150	185	275	115	120	160									
	P4	90	145	195	75	125	215	50	95	135									
	P5	150	215	300	130	235	325	110	135	150									
Carbide Grade		KCP10B			KCP25C			KCP40B											
											Depth of Cut			Feed Rate					
ISO catalog number	ANSI catalog number	KCP10B			KCP25C			KCP40B			L10	R _c	ap min	start (mm)	ap max	f/rev min	start (mm/rev)	f/rev max	
CNMG090304MN	CNMG321MN	-			7026378			-			9,67	0,4	0,50	2,17	3,83	0,10	0,15	0,25	
CNMG090308MN	CNMG322MN	5697917			7026379			-			9,67	0,8	0,50	2,17	3,83	0,20	0,30	0,50	
CNMG120404MN	CNMG431MN	5697921			7026380			5591773			12,90	0,4	0,50	2,80	5,10	0,10	0,15	0,25	
CNMG120408MN	CNMG432MN	5388036			7026401			5596457			12,90	0,8	0,50	2,80	5,10	0,20	0,30	0,50	
CNMG120412MN	CNMG433MN	5388061			7026402			5591716			12,90	1,2	0,50	2,80	5,10	0,20	0,35	0,75	
CNMG120416MN	CNMG434MN	5697929			-			-			12,90	1,6	0,50	2,80	5,10	0,20	0,35	1,00	
CNMG160608MN	CNMG542MN	-			7026404			-			16,12	0,8	0,50	3,44	6,38	0,20	0,30	0,50	
CNMG160612MN	CNMG543MN	5413178			7026405			-			16,12	1,2	0,50	3,44	6,38	0,20	0,35	0,75	
CNMG160616MN	CNMG544MN	5697935			-			-			16,12	1,6	0,50	3,44	6,38	0,20	0,35	1,00	
CNMG190608MN	CNMG642MN	-			7026407			-			19,34	0,8	0,50	4,08	7,65	0,20	0,30	0,50	
CNMG190612MN	CNMG643MN	-			7026408			-			19,34	1,2	0,50	4,08	7,65	0,20	0,35	0,75	
CNMG190616MN	CNMG644MN	5430968			7026409			-			19,34	1,6	0,50	4,08	7,65	0,20	0,35	1,00	
CNMG190624MN	CNMG646MN	-			7026410			-			19,34	2,4	0,50	4,08	7,65	0,20	0,35	1,50	
DNMG110404MN	DNMG331MN	5697962			7026421			-			11,63	0,4	0,50	2,55	4,60	0,10	0,15	0,25	
DNMG110408MN	DNMG332MN	5697965			7026422			-			11,63	0,8	0,50	2,55	4,60	0,20	0,30	0,50	
DNMG110412MN	DNMG333MN	-			7026423			-			11,63	1,2	0,50	2,55	4,60	0,20	0,35	0,75	
DNMG150404MN	DNMG431MN	5430969			7026424			-			15,50	0,4	0,50	3,32	6,13	0,10	0,15	0,25	
DNMG150408MN	DNMG432MN	5388111			7026425			-			15,50	0,8	0,50	3,32	6,13	0,20	0,30	0,50	
DNMG150412MN	DNMG433MN	5431070			7026426			5591721			15,50	1,2	0,50	3,32	6,13	0,20	0,35	0,75	
DNMG150604MN	DNMG441MN	5697970			-			-			15,50	0,4	0,50	3,32	6,13	0,10	0,15	0,25	
DNMG150608MN	DNMG442MN	5388117			7026428			-			15,50	0,8	0,50	3,32	6,13	0,20	0,30	0,50	
DNMG150612MN	DNMG443MN	5413200			7026430			5591727			15,50	1,2	0,50	3,32	6,13	0,20	0,35	0,75	
SNMG090308MN	SNMG322MN	-			7026431			-			9,53	0,8	0,50	2,14	3,77	0,20	0,30	0,50	
SNMG120404MN	SNMG431MN	-			7026432			-			12,70	0,4	0,50	2,76	5,02	0,10	0,15	0,25	
SNMG120408MN	SNMG432MN	5697161			7026433			5591714			12,70	0,8	0,50	2,76	5,02	0,20	0,30	0,50	
SNMG120412MN	SNMG433MN	-			7026434			-			12,70	1,2	0,50	2,76	5,02	0,20	0,35	0,75	
SNMG120416MN	SNMG434MN	-			7026435			-			12,70	1,6	0,50	2,76	5,02	0,20	0,35	1,00	
SNMG150612MN	SNMG543MN	-			7026436			-			15,88	1,2	0,50	3,39	6,28	0,20	0,35	0,75	
SNMG150616MN	SNMG544MN	-			7026437			-			15,88	1,6	0,50	3,39	6,28	0,20	0,35	1,00	
SNMG190612MN	SNMG643MN	-			7026438			-			19,05	1,2	0,50	4,02	7,53	0,20	0,35	0,75	
TNMG160404MN	TNMG331MN	-			7026439			-			16,50	0,4	0,50	3,52	6,53	0,10	0,15	0,25	
TNMG160408MN	TNMG332MN	5413250			7026440			-			16,50	0,8	0,50	3,52	6,53	0,20	0,30	0,50	
TNMG160412MN	TNMG333MN	-			7026443			-			16,50	1,2	0,50	3,52	6,53	0,20	0,35	0,75	
TNMG220404MN	TNMG431MN	-			7026447			-			22,00	0,4	0,50	4,60	8,70	0,10	0,15	0,25	
TNMG220408MN	TNMG432MN	5697176			7026448			-			22,00	0,8	0,50	4,60	8,70	0,20	0,30	0,50	
TNMG220412MN	TNMG433MN	-			7026449			-			22,00	1,2	0,50	4,60	8,70	0,20	0,35	0,75	
VNMG160404MN	VNMG331MN	5697186			7026450			-			16,61	0,4	0,50	2,33	4,15	0,10	0,15	0,25	
VNMG160408MN	VNMG332MN	5425591			7026451			-			16,61	0,8	0,50	2,33	4,15	0,20	0,30	0,50	
VNMG160412MN	VNMG333MN	-			7026452			-			16,61	1,2	0,50	2,33	4,15	0,20	0,35	0,75	
WNMG080408MN	WNMG432MN	5413260			7026454			-			8,69	0,8	0,50	1,34	2,17	0,20	0,30	0,50	
WNMG080412MN	WNMG433MN	5425593			7026455			5591718			8,69	1,2	0,50	1,34	2,17	0,20	0,35	0,75	

MN



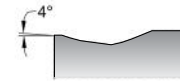
TURNING

MG-MV		
STEEL		


Cutting Conditions				
Cutting Speed (m/min) Range	P0	150	330	430
	P1	150	330	430
	P2	150	235	385
	P3	150	185	275
	P4	75	125	215
	P5	130	235	325
	P6	115	180	265

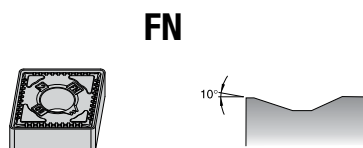
Carbide Grade	KCP25C
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MV



ISO catalog number	ANSI catalog number	KCP25C	L10	Re	Depth of Cut			Feed Rate		
					ap min	start (mm)	ap max	f/rev min	start (mm/rev)	f/rev max
CNMG090304MV	CNMG321MV	7036143	9,67	0,4	0,30	1,90	3,50	0,12	0,20	0,25
CNMG090308MV	CNMG322MV	7036144	9,67	0,8	0,50	2,25	4,00	0,15	0,25	0,50
CNMG120404MV	CNMG431MV	7036145	12,90	0,4	0,30	2,40	4,50	0,12	0,20	0,30
CNMG120408MV	CNMG432MV	7036146	12,90	0,8	0,50	2,50	4,50	0,15	0,25	0,50
CNMG120412MV	CNMG433MV	7036147	12,90	1,2	0,70	2,85	5,00	0,17	0,25	0,55
CNMG160608MV	CNMG542MV	7036149	16,12	0,8	0,50	3,00	5,50	0,15	0,25	0,50
CNMG160612MV	CNMG543MV	7036150	16,12	1,2	0,70	3,35	6,00	0,17	0,25	0,60
CNMG160616MV	CNMG544MV	7036151	16,12	1,6	1,20	3,60	6,00	0,30	0,40	0,60
CNMG190608MV	CNMG642MV	7036152	19,34	0,8	0,50	4,00	7,50	0,15	0,25	0,50
CNMG190612MV	CNMG643MV	7036153	19,34	1,2	0,70	4,35	8,00	0,17	0,25	0,60
CNMG190616MV	CNMG644MV	7036154	19,34	1,6	0,90	4,45	8,00	0,30	0,40	0,60
CNMG190624MV	CNMG646MV	7036155	19,34	2,4	1,20	5,10	9,00	0,60	0,60	0,65
DNMG110404MV	DNMG331MV	7036156	11,63	0,4	0,30	2,40	4,50	0,12	0,20	0,30
DNMG110408MV	DNMG332MV	7036157	11,63	0,8	0,50	2,75	5,00	0,15	0,20	0,40
DNMG110412MV	DNMG333MV	7036158	11,63	1,2	0,70	2,85	5,00	0,17	0,25	0,50
DNMG150404MV	DNMG431MV	7036159	15,50	0,4	0,30	2,40	4,50	0,12	0,20	0,30
DNMG150408MV	DNMG432MV	7036160	15,50	0,8	0,50	2,50	4,50	0,15	0,25	0,50
DNMG150412MV	DNMG433MV	7036161	15,50	1,2	0,70	2,85	5,00	0,17	0,25	0,55
DNMG150604MV	DNMG441MV	7036162	15,50	0,4	0,30	2,40	4,50	0,12	0,20	0,30
DNMG150608MV	DNMG442MV	7036163	15,50	0,8	0,50	2,50	4,50	0,15	0,25	0,50
DNMG150612MV	DNMG443MV	7036164	15,50	1,2	0,70	2,85	5,00	0,17	0,25	0,55
SNMG090308MV	SNMG322MV	7036165	9,53	0,8	0,50	2,00	3,50	0,15	0,25	0,50
SNMG120404MV	SNMG431MV	7036166	12,70	0,4	0,30	1,90	3,50	0,12	0,30	0,50
SNMG120408MV	SNMG432MV	7036167	12,70	0,8	0,50	2,75	5,00	0,15	0,25	0,50
SNMG120412MV	SNMG433MV	7036168	12,70	1,2	0,70	3,35	6,00	0,17	0,25	0,55
SNMG120416MV	SNMG434MV	7036169	12,70	1,6	1,20	3,10	5,00	0,30	0,40	0,60
SNMG150612MV	SNMG543MV	7036180	15,88	1,2	0,70	3,35	6,00	0,17	0,25	0,60
SNMG150616MV	SNMG544MV	7036181	15,88	1,6	1,20	3,60	6,00	0,30	0,40	0,65
TNMG160404MV	TNMG331MV	7036170	16,50	0,4	0,30	2,15	4,00	0,12	0,20	0,30
TNMG160408MV	TNMG332MV	7036171	16,50	0,8	0,50	2,50	4,50	0,15	0,25	0,50
TNMG160412MV	TNMG333MV	7036172	16,50	1,2	0,70	2,85	5,00	0,17	0,25	0,55
TNMG220408MV	TNMG432MV	7036185	22,00	0,8	0,50	3,25	6,00	0,15	0,25	0,55
TNMG220412MV	TNMG433MV	7036186	22,00	1,2	0,70	3,85	7,00	0,17	0,25	0,60
VNMG160404MV	VNMG331MV	7036173	16,61	0,4	0,30	1,15	2,00	0,10	0,15	0,25
VNMG160408MV	VNMG332MV	7036174	16,61	0,8	0,40	1,70	3,00	0,15	0,20	0,40
VNMG160412MV	VNMG333MV	7036175	16,61	1,2	0,70	2,35	4,00	0,17	0,25	0,50
WNMG060408MV	WNMG332MV	7036176	6,52	0,8	0,50	2,00	3,50	0,15	0,25	0,50
WNMG080408MV	WNMG432MV	7036177	8,69	0,8	0,50	2,50	4,50	0,15	0,25	0,50
WNMG080412MV	WNMG433MV	7036178	8,69	1,2	0,70	2,85	5,00	0,17	0,25	0,55
WNMG080416MV	WNMG434MV	7036179	8,69	1,6	0,89	2,95	5,00	0,30	0,40	0,60

MG-FN	Cutting Conditions		KCP10B			KCP25C							
			180	395	440	150	330	430					
STEEL													
Cutting Speed (m/min) Range	P0	180	395	440	150	330	430						
	P1	180	395	440	150	330	430						
	P2	180	265	350	150	235	385						
	P3	160	190	245	150	185	275						
	P4	90	145	195	75	125	215						
	P5	150	215	300	130	235	325						
	P6	120	180	270	115	180	265						
Carbide Grade		KCP10B			KCP25C								
								Depth of Cut		Feed Rate			
ISO catalog number	ANSI catalog number	KCP10B	KCP25C	L10	Re	ap min	start (mm)	ap max	f/rev min	start (mm/rev)	f/rev max		
	CNMG120404FN	CNMG431FN	5531836	7026239	12,90	0,4	0,30	1,40	2,50	0,05	0,05	0,15	
	CNMG120408FN	CNMG432FN	5531839	7026240	12,90	0,8	0,30	1,40	2,50	0,10	0,15	0,30	
	CNMG120412FN	CNMG433FN	5531894	7026361	12,90	1,2	0,30	1,40	2,50	0,10	0,15	0,45	
	DNMG110404FN	DNMG331FN	5531896	7026362	11,63	0,4	0,30	1,28	2,25	0,05	0,05	0,15	
	DNMG110408FN	DNMG332FN	5697020	7026363	11,63	0,8	0,30	1,28	2,25	0,10	0,15	0,30	
	DNMG110412FN	DNMG333FN	5544755	-	11,63	1,2	0,30	1,28	2,25	0,10	0,15	0,45	
	DNMG150404FN	DNMG431FN	5697021	7026364	15,50	0,4	0,30	1,66	3,01	0,05	0,05	0,15	
	DNMG150408FN	DNMG432FN	5531900	7026365	15,50	0,8	0,30	1,66	3,01	0,10	0,15	0,30	
	DNMG150412FN	DNMG433FN	5697023	-	15,50	1,2	0,30	1,66	3,01	0,10	0,15	0,45	
	DNMG150604FN	DNMG441FN	5531901	7026366	15,50	0,4	0,30	1,66	3,01	0,05	0,05	0,15	
	DNMG150608FN	DNMG442FN	5388116	7026367	15,50	0,8	0,30	1,66	3,01	0,10	0,15	0,30	
	DNMG150612FN	DNMG443FN	5531908	-	15,50	1,2	0,30	1,66	3,01	0,10	0,15	0,45	
	SNMG120404FN	SNMG431FN	-	7026368	12,70	0,4	0,30	1,38	2,46	0,05	0,05	0,15	
	SNMG120408FN	SNMG432FN	5697027	7026369	12,70	0,8	0,30	1,38	2,46	0,10	0,15	0,30	
	TNMG160404FN	TNMG331FN	5697029	7026371	16,50	0,4	0,30	1,75	3,20	0,05	0,05	0,15	
	TNMG160408FN	TNMG332FN	5413249	7026372	16,50	0,8	0,30	1,75	3,20	0,10	0,15	0,30	
	TNMG220408FN	TNMG432FN	5507610	-	22,00	0,8	0,30	2,29	4,27	0,10	0,15	0,30	
	VNMG160404FN	VNMG331FN	5697035	7026373	16,61	0,4	0,30	1,76	3,22	0,05	0,05	0,15	
	VNMG160408FN	VNMG332FN	5615609	7026374	16,61	0,8	0,30	1,76	3,22	0,10	0,15	0,30	
	WNMG080404FN	WNMG431FN	5697036	7026376	8,69	0,4	0,30	0,99	1,68	0,05	0,05	0,15	
	WNMG080408FN	WNMG432FN	5697037	7026377	8,69	0,8	0,30	0,99	1,68	0,10	0,15	0,30	



MT-MF			
STEEL			

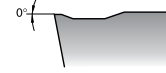
Cutting Conditions

Cutting Speed (m/min) Range	P0	180	395	440	150	330	430
	P1	180	395	440	150	330	430
	P2	180	265	350	150	235	385
	P3	160	190	245	150	185	275
	P4	90	145	195	75	125	215
	P5	150	215	300	130	235	325
	P6	120	180	270	115	180	265



Carbide Grade		KCP10B			KCP25C		
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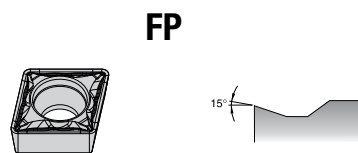


MF



ISO catalog number	ANSI catalog number	KCP10B	KCP25C	L10	R _c	Depth of Cut			Feed Rate		
						ap min	start (mm)	ap max	f/rev min	start (mm/rev)	f/rev max
CCMT060204MF	CCMT2151MF	5697910	7026459	6,45	0,4	1,10	1,13	1,15	0,10	0,15	0,20
CCMT09T304MF	CCMT3251MF	5697912	7026534	9,67	0,4	1,10	1,42	1,73	0,10	0,15	0,20
CCMT09T308MF	CCMT3252MF	5388033	7026535	9,67	0,8	1,10	1,42	1,73	0,20	0,30	0,40
CCMT09T312MF	CCMT3253MF	-	7026536	9,67	1,2	1,10	1,42	1,73	0,20	0,30	0,60
CCMT120408MF	CCMT432MF	5388035	7026539	12,90	0,8	1,10	1,70	2,30	0,20	0,30	0,40
CCMT120412MF	CCMT433MF	-	7026540	12,90	1,2	1,10	1,70	2,30	0,20	0,30	0,60
DCMT11T304MF	DCMT3251MF	5697956	7026547	11,63	0,4	1,10	1,59	2,07	0,10	0,15	0,20
DCMT11T308MF	DCMT3252MF	5413190	7026548	11,63	0,8	1,10	1,59	2,07	0,20	0,30	0,40
DCMT11T312MF	DCMT3253MF	-	7026549	11,63	1,2	1,10	1,59	2,07	0,20	0,30	0,60
SCMT09T308MF	SCMT3252MF	5387858	7026552	9,53	0,8	1,10	1,40	1,70	0,20	0,30	0,40
SCMT09T312MF	SCMT3253MF	-	7026553	9,53	1,2	1,10	1,40	1,70	0,20	0,30	0,60
SCMT120404MF	SCMT431MF	-	7026556	12,70	0,4	1,10	1,69	2,27	0,20	0,20	0,20
SCMT120408MF	SCMT432MF	-	7026557	12,70	0,8	1,10	1,69	2,27	0,20	0,30	0,40
SCMT120412MF	SCMT433MF	-	7026558	12,70	1,2	1,10	1,69	2,27	0,20	0,30	0,60
TCMT110204MF	TCMT2151MF	-	7026565	11,00	0,4	1,10	1,53	1,96	0,20	0,20	0,20
TCMT110208MF	TCMT2152MF	-	7026566	11,00	0,8	1,10	1,53	1,96	0,20	0,30	0,40
TCMT16T308MF	TCMT3252MF	-	7026569	16,50	0,8	1,10	2,02	2,94	0,20	0,30	0,40
TCMT16T312MF	TCMT3253MF	-	7026570	16,50	1,2	1,10	2,02	2,94	0,20	0,30	0,60

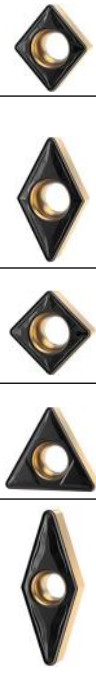
MT-FP			
STEEL			
Cutting Conditions			



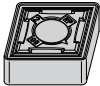
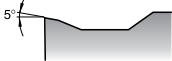






Cutting Speed (m/min) Range	P0	180	395	440	150	330	430
	P1	180	395	440	150	330	430
	P2	180	265	350	150	235	385
	P3	160	190	245	150	185	275
	P4	90	145	195	75	125	215
	P5	150	215	300	130	235	325
	P6	120	180	270	115	180	265















Carbide Grade		KCP10B		KCP25C	
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ISO catalog number	ANSI catalog number	KCP10B	KCP25C	L10	Rε	Depth of Cut			Feed Rate		
						ap min	start (mm)	ap max	f/rev min	start (mm/rev)	f/rev max
CCMT060204FP	CCMT2151FP	5537375	7026457	6,45	0,4	0,16	0,48	0,80	0,03	0,05	0,13
CCMT060208FP	CCMT2152FP	-	7026458	6,45	0,8	0,16	0,48	0,80	0,06	0,10	0,25
CCMT09T302FP	CCMT32505FP	-	7026531	9,67	0,2	0,16	0,68	1,20	0,02	0,05	0,06
CCMT09T304FP	CCMT3251FP	5537420	7026532	9,67	0,4	0,16	0,68	1,20	0,03	0,05	0,13
CCMT09T308FP	CCMT3252FP	5537422	7026533	9,67	0,8	0,16	0,68	1,20	0,06	0,10	0,25
CCMT120404FP	CCMT431FP	5537425	7026537	12,90	0,4	0,16	0,88	1,60	0,03	0,05	0,13
CCMT120408FP	CCMT432FP	-	7026538	12,90	0,8	0,16	0,88	1,60	0,06	0,10	0,25
DCMT070204FP	DCMT21505FP	-	7026541	7,75	0,2	0,16	0,56	0,96	0,02	0,05	0,06
DCMT070204FP	DCMT2151FP	-	7026542	7,75	0,4	0,16	0,56	0,96	0,03	0,05	0,13
DCMT070208FP	DCMT2152FP	-	7026543	7,75	0,8	0,16	0,56	0,96	0,06	0,10	0,25
DCMT11T302FP	DCMT32505FP	5537439	7026544	11,63	0,2	0,16	0,80	1,44	0,02	0,05	0,06
DCMT11T304FP	DCMT3251FP	5537442	7026545	11,63	0,4	0,16	0,80	1,44	0,03	0,05	0,13
DCMT11T308FP	DCMT3252FP	5538858	-	11,63	0,8	0,16	0,80	1,44	0,06	0,10	0,25
SCMT09T304FP	SCMT3251FP	-	7026550	9,53	0,4	0,16	0,67	1,18	0,03	0,05	0,13
SCMT09T308FP	SCMT3252FP	-	7026551	9,53	0,8	0,16	0,67	1,18	0,06	0,10	0,25
SCMT120404FP	SCMT431FP	-	7026554	12,70	0,4	0,16	0,87	1,58	0,03	0,05	0,13
SCMT120408FP	SCMT432FP	-	7026555	12,70	0,8	0,16	0,87	1,58	0,06	0,10	0,25
TCMT090204FP	TCMT18151FP	-	7026562	9,62	0,4	0,16	0,68	1,20	0,03	0,05	0,13
TCMT110204FP	TCMT2151FP	-	7026563	11,00	0,4	0,16	0,77	1,37	0,03	0,05	0,13
TCMT110208FP	TCMT2152FP	-	7026564	11,00	0,8	0,16	0,77	1,37	0,06	0,10	0,25
TCMT110304FP	TCMT221FP	5538894	-	11,00	0,4	0,16	0,77	1,37	0,03	0,05	0,13
VBMT160404FP	VBMT331FP	5387907	7026559	16,61	0,4	0,16	1,11	2,06	0,03	0,05	0,13
VBMT160408FP	VBMT332FP	5538903	7026560	16,61	0,8	0,16	1,11	2,06	0,06	0,10	0,25
VBMT160412FP	VBMT333FP	-	7026561	16,61	1,2	0,16	1,11	2,06	0,06	0,10	0,38



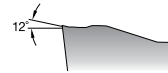
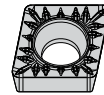
TURNING

MG-RP	STAINLESS STEEL	Cutting Conditions											
		M1			M2			M3					
Cutting Speed (m/min) Range		150	235	275	100	180	240	90	150	180			
Carbide Grade		KCU10B			KCM15B			KCM25B					
		Depth of Cut					Feed Rate						
ISO catalog number	ANSI catalog number	KCU10B	KCM15B	KCM25B	L10	Re	ap min	start (mm)	ap max	f/rev min	start (mm/rev)	f/rev max	
	CNMG120404RP	CNMG431RP	7093048	-	5591950	12,90	0,4	1,10	3,75	6,40	0,10	0,20	0,30
	CNMG120408RP	CNMG432RP	7093479	5640482	5596468	12,90	0,8	1,10	3,75	6,40	0,20	0,35	0,60
	CNMG120412RP	CNMG433RP	7093482	5640483	5596469	12,90	1,2	1,10	3,75	6,40	0,20	0,40	0,90
	CNMG120416RP	CNMG434RP	7093050	-	-	12,90	1,6	1,10	3,75	6,40	0,20	0,40	1,20
	CNMG160608RP	CNMG542RP	7093272	-	-	16,12	0,8	1,10	4,55	8,00	0,20	0,35	0,60
	CNMG160612RP	CNMG543RP	7093274	5640986	5591919	16,12	1,2	1,10	4,55	8,00	0,20	0,40	0,90
	CNMG160616RP	CNMG544RP	-	-	5591960	16,12	1,6	1,10	4,55	8,00	0,20	0,40	1,20
	CNMG190612RP	CNMG643RP	7093278	-	5591931	19,34	1,2	1,10	5,35	9,60	0,20	0,40	0,90
	CNMG190616RP	CNMG644RP	7093483	-	5591955	19,34	1,6	1,10	5,35	9,60	0,20	0,40	1,20
	DNMG110408RP	DNMG332RP	7090557	-	-	11,63	0,8	1,10	3,44	5,77	0,20	0,35	0,60
	DNMG150408RP	DNMG432RP	7093292	-	5591976	15,50	0,8	1,10	4,40	7,69	0,20	0,35	0,60
	DNMG150412RP	DNMG433RP	7093295	-	-	15,50	1,2	1,10	4,40	7,69	0,20	0,40	0,90
	DNMG150416RP	DNMG434RP	7093488	-	-	15,50	1,6	1,10	4,40	7,69	0,20	0,40	1,20
	DNMG150608RP	DNMG442RP	7093299	-	5591932	15,50	0,8	1,10	4,40	7,69	0,20	0,35	0,60
	SNMG120408RP	SNMG432RP	7093259	-	-	12,70	0,8	1,10	3,70	6,30	0,20	0,35	0,60
	SNMG120412RP	SNMG433RP	7090599	-	5591982	12,70	1,2	1,10	3,70	6,30	0,20	0,35	0,89
	SNMG120416RP	SNMG434RP	7090601	-	-	12,70	1,6	1,10	3,70	6,30	0,20	0,40	1,20
	SNMG150612RP	SNMG543RP	7090607	-	-	15,88	1,2	1,10	4,49	7,88	0,20	0,35	0,89
	SNMG150616RP	SNMG544RP	-	-	5591953	15,88	1,6	1,10	4,49	7,88	0,20	0,40	1,20
	SNMG190612RP	SNMG643RP	7090609	-	-	19,05	1,2	1,10	5,28	9,45	0,20	0,35	0,89
	SNMG190616RP	SNMG644RP	7090613	-	5591936	19,05	1,6	1,10	5,28	9,45	0,20	0,40	1,19
	TNMG160408RP	TNMG332RP	7093512	-	-	16,50	0,8	1,10	4,65	8,19	0,20	0,35	0,60
	TNMG220408RP	TNMG432RP	7090624	-	5591962	22,00	0,8	1,10	6,01	10,92	0,20	0,35	0,60
	TNMG220412RP	TNMG433RP	7090627	-	-	22,00	1,2	1,10	6,01	10,92	0,20	0,35	0,89
	TNMG270612RP	TNMG543RP	7090630	-	5591967	27,50	1,2	1,10	7,38	13,65	0,20	0,35	0,89
	TNMG330924RP	TNMG666RP	7090631	-	-	33,00	2,4	1,10	8,74	16,38	0,20	0,40	1,79
	VNMG160408RP	VNMG332RP	7093285	-	-	16,61	0,8	1,10	2,63	4,15	0,20	0,35	0,60
	VNMG160412RP	VNMG333RP	7090634	-	-	16,61	1,2	1,10	2,63	4,15	0,20	0,40	0,90
	WNMG060408RP	WNMG332RP	7090637	-	-	6,52	0,8	1,10	1,37	1,63	0,20	0,35	0,60
	WNMG080408RP	WNMG432RP	7093316	5641122	5591959	8,69	0,8	1,10	1,64	2,17	0,20	0,35	0,60
	WNMG080412RP	WNMG433RP	7093317	-	5591938	8,69	1,2	1,10	1,64	2,17	0,20	0,40	0,90

MG-MP														
STAINLESS STEEL		Cutting Conditions												
Cutting Speed (m/min) Range	M1		100	180	240	90	150	180						
	M2		110	165	250	90	140	225						
M3		110	150	250	90	120	180							
Carbide Grade		KCM15B		KCM25B										
								Depth of Cut		Feed Rate				
ISO catalog number	ANSI catalog number	KCM15B	KCM25B	L10	R _c	ap min	start (mm)	ap max	f/rev min	start (mm/rev)	f/rev max			
 CNMG120404MP	CNMG431MP	5640971	5591779	12,90	0,4	0,80	2,95	5,10	0,10	0,15	0,25			
CNMG120408MP	CNMG432MP	5640480	5596460	12,90	0,8	0,80	2,95	5,10	0,20	0,30	0,50			
CNMG120412MP	CNMG433MP	-	5591901	12,90	1,2	0,80	2,95	5,10	0,20	0,35	0,75			
CNMG160612MP	CNMG543MP	-	5591780	16,12	1,2	0,80	3,59	6,38	0,20	0,35	0,75			
CNMG160616MP	CNMG544MP	-	5591775	16,12	1,6	0,80	3,59	6,38	0,20	0,35	1,00			
 CNMG190608MP	CNMG642MP	5640988	5591787	19,34	0,8	0,80	4,23	7,65	0,20	0,30	0,50			
CNMG190612MP	CNMG643MP	-	5591799	19,34	1,2	0,80	4,23	7,65	0,20	0,35	0,75			
 DNMG110408MP	DNMG332MP	-	5591791	11,63	0,8	0,80	2,70	4,60	0,20	0,30	0,50			
DNMG150404MP	DNMG431MP	5641098	5591902	15,50	0,4	0,80	3,47	6,13	0,10	0,15	0,25			
DNMG150408MP	DNMG432MP	5641099	5591782	15,50	0,8	0,80	3,47	6,13	0,20	0,30	0,50			
DNMG150604MP	DNMG441MP	5641101	5591788	15,50	0,4	0,80	3,47	6,13	0,10	0,15	0,25			
DNMG150608MP	DNMG442MP	5641102	5591900	15,50	0,8	0,80	3,47	6,13	0,20	0,30	0,50			
DNMG150612MP	DNMG443MP	-	5591795	15,50	1,2	0,80	3,47	6,13	0,20	0,35	0,75			
 SNMG120408MP	SNMG432MP	-	5591907	12,70	0,8	0,80	2,91	5,02	0,20	0,30	0,50			
SNMG120412MP	SNMG433MP	-	5591933	12,70	1,2	0,80	2,91	5,02	0,20	0,35	0,74			
SNMG120416MP	SNMG434MP	-	5591952	12,70	1,6	0,80	2,91	5,02	0,20	0,35	1,00			
SNMG190612MP	SNMG643MP	-	5591934	19,05	1,2	0,80	4,17	7,53	0,20	0,35	0,74			
SNMG190616MP	SNMG644MP	-	5591951	19,05	1,6	0,80	4,17	7,53	0,20	0,35	0,99			
 TNMG160404MP	TNMG331MP	5641110	5591785	16,50	0,4	0,80	3,67	6,53	0,10	0,15	0,25			
TNMG160408MP	TNMG332MP	5640490	5596461	16,50	0,8	0,80	3,67	6,53	0,20	0,30	0,50			
TNMG160412MP	TNMG333MP	-	5591956	16,50	1,2	0,80	3,67	6,53	0,20	0,35	0,74			
 TNMG220408MP	TNMG432MP	5641113	5591910	22,00	0,8	0,80	4,75	8,70	0,20	0,30	0,50			
TNMG220412MP	TNMG433MP	-	5591796	22,00	1,2	0,80	4,75	8,70	0,20	0,35	0,74			
 VNMG160404MP	VNMG331MP	5641115	5591789	16,61	0,4	0,80	2,48	4,15	0,10	0,15	0,25			
VNMG160408MP	VNMG332MP	5641116	5591781	16,61	0,8	0,80	2,48	4,15	0,20	0,30	0,50			
 WNMG060404MP	WNMG331MP	-	5591937	6,52	0,4	0,80	1,22	1,63	0,10	0,15	0,25			
WNMG060408MP	WNMG332MP	-	5591912	6,52	0,8	0,80	1,22	1,63	0,20	0,30	0,50			
WNMG080408MP	WNMG432MP	5641120	5591774	8,69	0,8	0,80	2,48	4,15	0,10	0,15	0,40			
WNMG080412MP	WNMG433MP	-	5591790	8,69	1,2	0,80	2,48	4,15	0,20	0,35	0,75			

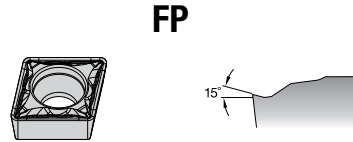
MT-MP		
STAINLESS STEEL	Cutting Conditions	

MP



Cutting Speed (m/min) Range	M1			M2			M3					
	100	180	240	90	150	180	110	165	250	90	140	225
Carbide Grade		KCM15B			KCM25B							
ISO catalog number	ANSI catalog number	KCM15B	KCM25B	L10	Rε	Depth of Cut			Feed Rate			
						ap min	start (mm)	ap max	f/rev min	start (mm/rev)	f/rev max	
	CCMT060204MP	CCMT2151MP	5640906	5591914	6,45	0,4	0,80	0,98	1,15	0,05	0,10	0,20
	CCMT09T304MP	CCMT3251MP	5640960	5591792	9,53	0,4	0,80	1,27	1,73	0,05	0,10	0,20
	CCMT09T308MP	CCMT3252MP	5640964	5591783	9,67	0,8	0,80	1,27	1,73	0,10	0,15	0,40
	CCMT120408MP	CCMT432MP	-	5591777	12,90	0,8	0,80	1,55	2,30	0,10	0,15	0,40
	DCMT11T308MP	DCMT3252MP	-	5591784	11,63	0,8	0,80	1,44	2,07	0,10	0,15	0,40
	SCMT09T308MP	SCMT3252MP	-	5591776	9,53	0,8	0,80	1,25	1,70	0,10	0,15	0,40
	SCMT120408MP	SCMT432MP	-	5591794	12,70	0,8	0,80	1,54	2,27	0,10	0,15	0,40
	TCMT16T304MP	TCMT3251MP	-	5591904	16,50	0,4	0,80	1,87	2,94	0,05	0,10	0,20
	TCMT16T308MP	TCMT3252MP	-	5591906	16,50	0,8	0,80	1,87	2,94	0,10	0,15	0,40
	VBMT160404MP	VBMT331MP	-	5591786	16,61	0,4	0,80	1,88	2,96	0,01	0,00	0,20
	VBMT160408MP	VBMT332MP	-	5591778	16,61	0,8	0,80	1,88	2,96	0,10	0,15	0,40

MT-FP		
STAINLESS STEEL	Cutting Conditions	







Cutting Speed (m/min) Range	M1	135	215	250
	M2	115	200	250
	M3	125	185	225
Carbide Grade		KCS10		

ISO catalog number	ANSI catalog number	KCS10	L10	R _e	Depth of Cut			Feed Rate		
					ap min	start (mm)	ap max	f/rev min	start (mm/rev)	f/rev max
CCMT060202FP	CCMT21505FP	3769290	6,45	0,2	0,16	0,48	0,80	0,02	0,05	0,06
CCMT060204FP	CCMT2151FP	3769291	6,45	0,4	0,16	0,48	0,80	0,03	0,05	0,13
CCMT060208FP	CCMT2152FP	3769292	6,45	0,8	0,16	0,48	0,80	0,06	0,10	0,25
CCMT09T302FP	CCMT32505FP	3769343	9,67	0,2	0,16	0,68	1,20	0,02	0,05	0,06
CCMT09T304FP	CCMT3251FP	3769344	9,67	0,4	0,16	0,68	1,20	0,03	0,05	0,13
CCMT09T308FP	CCMT3252FP	3482532	9,67	0,8	0,16	0,68	1,20	0,06	0,10	0,25
CCMT120404FP	CCMT431FP	3769345	12,90	0,4	0,16	0,88	1,60	0,03	0,05	0,13
CCMT120408FP	CCMT432FP	3769346	12,90	0,8	0,16	0,88	1,60	0,06	0,10	0,25
DCMT070202FP	DCMT21505FP	3769355	7,75	0,2	0,16	0,56	0,96	0,02	0,05	0,06
DCMT070204FP	DCMT2151FP	3769356	7,75	0,4	0,16	0,56	0,96	0,03	0,05	0,13
DCMT070208FP	DCMT2152FP	3769357	7,75	0,8	0,16	0,56	0,96	0,06	0,10	0,25
DCMT11T302FP	DCMT32505FP	3769358	11,63	0,2	0,16	0,80	1,44	0,02	0,05	0,06
DCMT11T304FP	DCMT3251FP	3769359	11,63	0,4	0,16	0,80	1,44	0,03	0,05	0,13
DCMT11T308FP	DCMT3252FP	3769360	11,63	0,8	0,16	0,80	1,44	0,06	0,10	0,25
SCMT09T304FP	SCMT3251FP	3769370	9,53	0,4	0,16	0,67	1,18	0,03	0,05	0,13
SCMT09T308FP	SCMT3252FP	3769371	9,53	0,8	0,16	0,67	1,18	0,06	0,10	0,25
SCMT120408FP	SCMT432FP	3769373	12,70	0,8	0,16	0,87	1,58	0,06	0,10	0,25
TCMT090204FP	TCMT18151FP	3769377	9,62	0,4	0,16	0,68	1,20	0,03	0,05	0,13
TCMT090208FP	TCMT18152FP	3769378	9,63	0,8	0,16	0,68	1,20	0,06	0,10	0,25
TCMT110204FP	TCMT2151FP	3769380	11,00	0,4	0,16	0,77	1,37	0,03	0,05	0,13
TCMT110208FP	TCMT2152FP	3769381	11,00	0,8	0,16	0,77	1,37	0,06	0,10	0,25
TCMT110304FP	TCMT221FP	3769382	11,00	0,4	0,16	0,77	1,37	0,03	0,05	0,13
TCMT110312FP	TCMT223FP	3769384	11,00	1,2	0,16	0,77	1,37	0,06	0,10	0,38
TCMT16T304FP	TCMT3251FP	3769386	16,50	0,4	0,16	1,11	2,05	0,03	0,05	0,13
TCMT16T308FP	TCMT3252FP	3769387	16,50	0,8	0,16	1,11	2,05	0,06	0,10	0,25
TCMT16T312FP	TCMT3253FP	3769388	16,50	1,2	0,16	1,11	2,05	0,06	0,10	0,38
VBMT110302FP	VBMT2205FP	3769401	11,07	0,2	0,16	0,77	1,37	0,02	0,05	0,06
VBMT110304FP	VBMT221FP	3769402	11,07	0,4	0,16	0,77	1,37	0,03	0,05	0,13
VBMT110308FP	VBMT222FP	3769403	11,07	0,8	0,16	0,77	1,37	0,06	0,10	0,25
VBMT160402FP	VBMT3305FP	3769404	16,61	0,2	0,16	1,11	2,06	0,02	0,05	0,06
VBMT160404FP	VBMT331FP	3769405	16,61	0,4	0,16	1,11	2,06	0,03	0,05	0,13
VBMT160408FP	VBMT332FP	3769406	16,61	0,8	0,16	1,11	2,06	0,06	0,10	0,25



TURNING

MG-RP			
CAST IRON	Cutting Conditions		

RP

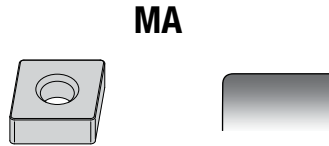
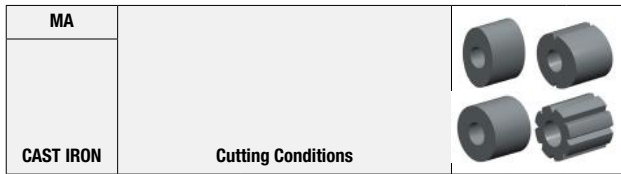


Cutting Speed (m/min) Range	K1	240	450	615	200	360	550
	K2	240	360	500	150	270	450
	K3	155	240	445	140	215	380

Carbide Grade		KCK05			KCK15		
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ISO catalog number	ANSI catalog number	KCK05	KCK15	L10	Rε	Depth of Cut			Feed Rate		
						ap min	start (mm)	ap max	f/rev min	start (mm/rev)	f/rev max
CNMG120408RP	CNMG432RP	3751862	3752176	12,90	0,8	1,10	3,75	6,40	0,20	0,35	0,60
CNMG120412RP	CNMG433RP	3752114	3752050	12,90	1,2	1,10	3,75	6,40	0,20	0,40	0,90
CNMG160612RP	CNMG543RP	-	3752052	16,12	1,2	1,10	4,55	8,00	0,20	0,40	0,90
CNMG190612RP	CNMG643RP	-	3752053	19,34	1,2	1,10	5,35	9,60	0,20	0,40	0,90
DNMG150612RP	DNMG443RP	-	3752057	15,50	1,2	1,10	4,40	7,69	0,20	0,40	0,90

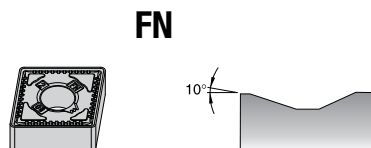









ISO catalog number	ANSI catalog number	KCK15	L10	Rε	Depth of Cut			Feed Rate		
					ap min	start (mm)	ap max	f/rev min	start (mm/rev)	f/rev max
CNMA120408	CNMA432	3752128	12,90	0,8	0,10	1,30	2,50	0,08	0,10	0,25
CNMA120412	CNMA433	3752129	12,90	1,2	0,15	1,33	2,50	0,12	0,15	0,38
CNMA120416	CNMA434	3752130	12,90	1,6	0,20	1,35	2,50	0,16	0,20	0,50
CNMA160612	CNMA543	3752132	16,12	1,2	0,15	1,33	2,50	0,12	0,15	0,38
CNMA160616	CNMA544	3752143	16,12	1,6	0,20	1,35	2,50	0,16	0,20	0,50
DNMA150408	DNMA432	3752145	15,50	0,8	0,10	1,30	2,50	0,08	0,10	0,25
DNMA150412	DNMA433	3752146	15,50	1,2	0,15	1,33	2,50	0,12	0,15	0,38
DNMA150608	DNMA442	3752147	15,50	0,8	0,10	1,30	2,50	0,08	0,10	0,25
SNMA120412	SNMA433	3752152	12,70	1,2	0,15	1,33	2,50	0,12	0,15	0,38
TNMA160416	TNMA334	3752159	16,50	1,6	0,20	1,35	2,50	0,16	0,20	0,50
VNMA160408	VNMA332	3752164	16,61	0,8	0,10	1,30	2,50	0,08	0,10	0,25
WNMA060408	WNMA332	3752165	6,52	0,8	0,10	1,30	2,50	0,08	0,10	0,25
WNMA080408	WNMA432	3752167	8,69	0,8	0,10	1,30	2,50	0,08	0,10	0,25

TURNING

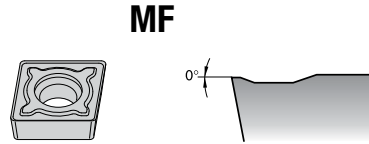
MG-FN		
CAST IRON	Cutting Conditions	



Cutting Speed (m/min) Range	K1	240	450	615
	K2	240	360	500
	K3	155	240	445
Carbide Grade		KCK05		

	ISO catalog number	ANSI catalog number	KCK05	L10	R _c	Depth of Cut			Feed Rate		
						ap min	start (mm)	ap max	f/rev min	start (mm/rev)	f/rev max
	CNMG090308FN	CNMG322FN	3751944	9,67	0,8	0,30	1,09	1,88	0,10	0,15	0,30
	CNMG120404FN	CNMG431FN	3751945	12,90	0,4	0,30	1,40	2,50	0,05	0,05	0,15
	CNMG120408FN	CNMG432FN	3751946	12,90	0,8	0,30	1,40	2,50	0,10	0,15	0,30
	DNMG110404FN	DNMG331FN	3751950	11,63	0,4	0,30	1,28	2,25	0,05	0,05	0,15
	DNMG110408FN	DNMG332FN	3751952	11,63	0,8	0,30	1,28	2,25	0,10	0,15	0,30
	DNMG150404FN	DNMG431FN	3751955	15,50	0,4	0,30	1,66	3,01	0,05	0,05	0,15
	DNMG150408FN	DNMG432FN	3751956	15,50	0,8	0,30	1,66	3,01	0,10	0,15	0,30
	DNMG150604FN	DNMG441FN	3751959	15,50	0,4	0,30	1,66	3,01	0,05	0,05	0,15
	DNMG150608FN	DNMG442FN	3751960	15,50	0,8	0,30	1,66	3,01	0,10	0,15	0,30
	DNMG150612FN	DNMG443FN	3751961	15,50	1,2	0,30	1,66	3,01	0,10	0,15	0,45
	SNMG090308FN	SNMG322FN	3751963	9,53	0,8	0,30	1,08	1,85	0,10	0,15	0,30
	VNMG160408FN	VNMG332FN	3751975	16,61	0,8	0,30	1,76	3,22	0,10	0,15	0,30
	WNMG080404FN	WNMG431FN	3751978	8,69	0,4	0,30	0,99	1,68	0,05	0,05	0,15
	WNMG080408FN	WNMG432FN	3751979	8,69	0,8	0,30	0,99	1,68	0,10	0,15	0,30

MT-MF		
CAST IRON	Cutting Conditions	

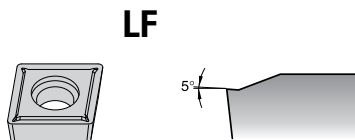

















Cutting Speed (m/min) Range	K1	200	300	550
	K2	150	240	420
	K3	140	210	350

Carbide Grade	KCK20
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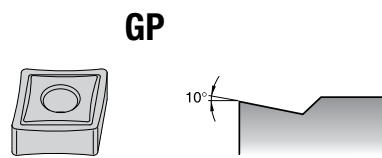
ISO catalog number	ANSI catalog number	KCK20	L10	Rε	Depth of Cut			Feed Rate		
					ap min	start (mm)	ap max	f/rev min	start (mm/rev)	f/rev max
CCMT060204MF	CCMT2151MF	3755531	6,45	0,4	1,10	1,13	1,15	0,10	0,15	0,20
CCMT09T304MF	CCMT3251MF	3755532	9,67	0,4	1,10	1,42	1,73	0,10	0,15	0,20
CCMT09T308MF	CCMT3252MF	3758173	9,67	0,8	1,10	1,42	1,73	0,20	0,30	0,40
CCMT09T312MF	CCMT3253MF	3755533	9,67	1,2	1,10	1,42	1,73	0,20	0,30	0,60
CCMT120408MF	CCMT432MF	3758174	12,90	0,8	1,10	1,70	2,30	0,20	0,30	0,40
CCMT120412MF	CCMT433MF	3755534	12,90	1,2	1,10	1,70	2,30	0,20	0,30	0,60
DCMT11T304MF	DCMT3251MF	3755538	11,63	0,4	1,10	1,59	2,07	0,10	0,15	0,20
DCMT11T308MF	DCMT3252MF	3755539	11,63	0,8	1,10	1,59	2,07	0,20	0,30	0,40
DCMT11T312MF	DCMT3253MF	3755540	11,63	1,2	1,10	1,59	2,07	0,20	0,30	0,60
SCMT09T308MF	SCMT3252MF	3755542	9,53	0,8	1,10	1,40	1,70	0,20	0,30	0,40
SCMT120408MF	SCMT432MF	3755543	12,70	0,8	1,10	1,69	2,27	0,20	0,30	0,40
SCMT120412MF	SCMT433MF	3755544	12,70	1,2	1,10	1,69	2,27	0,20	0,30	0,60
TCMT110208MF	TCMT2152MF	3755547	11,00	0,8	1,10	1,53	1,96	0,20	0,30	0,40
TCMT16T308MF	TCMT3252MF	3755548	16,50	0,8	1,10	2,02	2,94	0,20	0,30	0,40
TCMT16T312MF	TCMT3253MF	3755549	16,50	1,2	1,10	2,02	2,94	0,20	0,30	0,60

MT-LF		
CAST IRON	Cutting Conditions	



Cutting Speed (m/min) Range		K1	200	300	550						
		K2	150	240	420						
		K3	140	210	350						
Carbide Grade			KCK20								
					Depth of Cut			Feed Rate			
ISO catalog number	ANSI catalog number	KCK20	L10	Rε	ap min	start (mm)	ap max	f/rev min	start (mm/rev)	f/rev max	
 CCMT060204LF	CCMT2151LF	3758167	6,45	0,4	0,80	0,98	1,15	0,10	0,15	0,20	
 CCMT09T304LF	CCMT3251LF	3758168	9,67	0,4	0,80	1,27	1,73	0,10	0,15	0,20	
 CCMT09T308LF	CCMT3252LF	3758169	9,67	0,8	0,80	1,27	1,73	0,20	0,30	0,40	
 CCMT120404LF	CCMT431LF	3758170	12,90	0,4	0,80	1,55	2,30	0,10	0,15	0,20	
 CCMT120408LF	CCMT432LF	3755481	12,90	0,8	0,80	1,55	2,30	0,20	0,30	0,40	
 DCMT070204LF	DCMT2151LF	3755486	7,75	0,4	0,80	1,09	1,38	0,10	0,15	0,20	
 DCMT11T304LF	DCMT3251LF	3758172	11,63	0,4	0,80	1,44	2,07	0,10	0,15	0,20	
 DCMT11T308LF	DCMT3252LF	3755487	11,63	0,8	0,80	1,44	2,07	0,20	0,30	0,40	
 SCMT09T304LF	SCMT3251LF	3755504	9,53	0,4	0,80	1,25	1,70	0,10	0,15	0,20	
 SCMT09T308LF	SCMT3252LF	3755505	9,53	0,8	0,80	1,25	1,70	0,20	0,30	0,40	
 SCMT120408LF	SCMT432LF	3755507	12,70	0,8	0,80	1,54	2,27	0,20	0,30	0,40	
 SCMT120412LF	SCMT433LF	3755508	12,70	1,2	0,80	1,54	2,27	0,20	0,30	0,60	
 TCMT110204LF	TCMT2151LF	3755511	11,00	0,4	0,80	1,87	2,94	0,10	0,15	0,20	
 TCMT16T308LF	TCMT3252LF	3755514	16,50	0,8	0,80	1,87	2,94	0,20	0,30	0,40	
 VBMT160408LF	VBMT332LF	3755526	16,61	0,8	0,80	1,88	2,96	0,20	0,30	0,40	
VBMT160412LF	VBMT333LF	3755527	16,61	1,2	0,80	1,88	2,96	0,20	0,30	0,60	

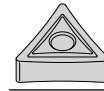
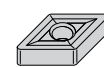
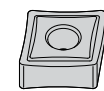
GP		
NON-FERROUS MATERIALS	Cutting Conditions	



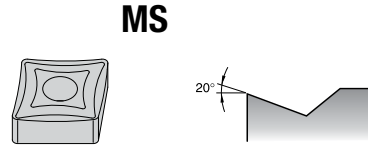
Cutting Speed (m/min) Range	N1	200	700	1200
	N2	125	550	1000
	N4	125	275	750
	N5	125	170	400
	N6	125	200	500

Carbide Grade	KC5410		
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ISO catalog number	ANSI catalog number	KC5410	L10	Rε	Depth of Cut			Feed Rate		
					ap min	start (mm)	ap max	f/rev min	start (mm/rev)	f/rev max
CNGP120401	CNGP4302	1785715	12,90	0,1	0,03	0,82	1,60	0,05	0,10	0,12
CNGP120402	CNGP4305	1785716	12,90	0,2	0,05	0,83	1,60	0,10	0,15	0,20
CNGP120404	CNGP431	1785717	12,90	0,4	0,10	0,85	1,60	0,28	0,35	0,45
CNGP120408	CNGP432	1785718	12,90	0,8	0,20	0,90	1,60	0,30	0,40	0,50
CNGP120412	CNGP433	1785719	12,90	1,2	0,30	0,95	1,60	0,30	0,45	0,55
DNGP150402	DNGP4305	1560717	15,50	0,2	0,05	0,83	1,60	0,10	0,15	0,20
DNGP150404	DNGP431	1785733	15,50	0,4	0,10	0,85	1,60	0,28	0,35	0,45
DNGP150408	DNGP432	1785734	15,50	0,8	0,20	0,90	1,60	0,30	0,40	0,50
DNGP150604	DNGP441	1785735	15,50	0,4	0,10	0,85	1,60	0,28	0,35	0,45
TNGP160404	TNGP331	1785740	16,50	0,4	0,10	0,85	1,60	0,28	0,35	0,45
TNGP160408	TNGP332	1785741	16,50	0,8	0,20	0,90	1,60	0,30	0,40	0,50
VNGP160401	VNGP3302	1785746	16,61	0,1	0,03	0,82	1,60	0,05	0,10	0,10
VNGP160402	VNGP3305	1785747	16,61	0,2	0,05	0,83	1,60	0,10	0,15	0,20

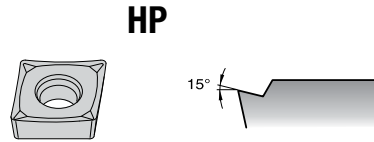


MS		
NON-FERROUS MATERIALS	Cutting Conditions	
Cutting Speed (m/min) Range	N1	200 700 1200
	N2	125 550 1000
	N4	125 275 750
	N5	125 170 400
	N6	125 200 500
Carbide Grade		KC5410



ISO catalog number	ANSI catalog number	KC5410	L10	Rε	ap min	Depth of Cut		Feed Rate		
						start (mm)	ap max	f/rev min	start (mm/rev)	f/rev max
CNMS120408	CNMS432	1560797	12,90	0,8	0,20	1,37	2,54	0,08	0,10	0,25
CNMS160608	CNMS542	1560799	16,12	0,8	0,20	1,69	3,18	0,08	0,10	0,25
CNMS190608	CNMS642	1560801	19,34	0,8	0,20	2,01	3,81	0,08	0,10	0,25
DNMS150408	DNMS432	1560803	15,50	0,8	0,20	1,37	2,54	0,08	0,10	0,25
SNMS190612	SNMS643	1560808	19,05	1,2	0,30	2,06	3,81	0,12	0,15	0,38
TNMS220408	TNMS432	1560829	22,00	0,8	0,20	1,37	2,54	0,08	0,10	0,25
VNMS160404	VNMS331	1560833	16,61	0,4	0,10	1,01	1,91	0,04	0,05	0,13
VNMS160408	VNMS332	1560834	16,61	0,8	0,20	1,06	1,91	0,08	0,10	0,25

GT-HP		
NON-FERROUS MATERIALS	Cutting Conditions	



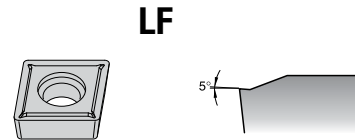
Cutting Speed (m/min) Range	N1	200	700	1200
	N2	125	550	1000
	N4	125	275	750
	N5	125	170	400
	N6	125	200	500

Carbide Grade	KC5410			
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ISO catalog number	ANSI catalog number	KC5410	L10	Rε	Depth of Cut			Feed Rate		
					ap min	start (mm)	ap max	f/rev min	start (mm/rev)	f/rev max
CCGT060202HP	CCGT21505HP	1560600	6,46	0,2	0,60	1,07	1,53	0,05	0,05	0,10
CCGT060204HP	CCGT2151HP	1560389	6,47	0,4	0,60	1,07	1,53	0,10	0,15	0,20
CCGT060208HP	CCGT2152HP	1623193	6,45	0,8	0,60	1,07	1,53	0,20	0,30	0,40
CCGT09T302HP	CCGT32505HP	1560390	9,67	0,2	0,60	1,45	2,30	0,05	0,05	0,10
CCGT09T304HP	CCGT3251HP	1560651	9,67	0,4	0,60	1,45	2,30	0,10	0,15	0,20
CCGT09T308HP	CCGT3252HP	1623194	9,67	0,8	0,60	1,45	2,30	0,20	0,30	0,40
CCGT120404HP	CCGT431HP	1560653	12,90	0,4	0,60	1,84	3,07	0,10	0,15	0,20
CCGT120408HP	CCGT432HP	1560655	12,90	0,8	0,60	1,84	3,07	0,20	0,30	0,40
DCGT070202HP	DCGT21505HP	1623200	7,75	0,2	0,60	1,22	1,84	0,05	0,05	0,10
DCGT070204HP	DCGT2151HP	1623271	7,75	0,4	0,60	1,22	1,84	0,10	0,15	0,20
DCGT11T302HP	DCGT32505HP	1560699	11,63	0,2	0,60	1,69	2,77	0,05	0,05	0,10
DCGT11T304HP	DCGT3251HP	1560714	11,59	0,4	0,60	1,69	2,77	0,10	0,15	0,20
DCGT11T308HP	DCGT3252HP	1560715	11,63	0,8	0,60	1,69	2,77	0,20	0,30	0,40
TCGT110202HP	TCGT21505HP	1623272	11,00	0,2	0,60	1,61	2,62	0,05	0,05	0,10
TCGT110204HP	TCGT2151HP	1623273	11,00	0,4	0,60	1,61	2,62	0,10	0,15	0,20
TCGT16T304HP	TCGT3251HP	1623274	16,50	0,4	0,60	2,26	3,92	0,10	0,15	0,20
TCGT16T308HP	TCGT3252HP	1623275	16,50	0,8	0,60	2,26	3,92	0,20	0,30	0,40
VBGT110302HP	VBGT2205HP	1910043	11,07	0,2	0,60	1,62	2,63	0,05	0,05	0,10
VBGT110304HP	VBGT221HP	1910044	10,95	0,4	0,60	1,62	2,63	0,10	0,15	0,20
VBGT160404HP	VBGT331HP	1623278	16,61	0,4	0,60	2,28	3,95	0,10	0,15	0,20
VBGT160408HP	VBGT332HP	1623279	16,61	0,8	0,60	2,28	3,95	0,20	0,30	0,40



GT-LF		
NON-FERROUS MATERIALS	Cutting Conditions	












Cutting Speed (m/min) Range	N1	200	700	1200
	N2	125	550	1000
	N4	125	275	750
	N5	125	170	400
	N6	125	200	500


Carbide Grade	KC5410
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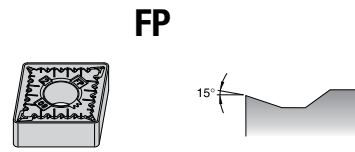
ISO catalog number	ANSI catalog number	KC5410	L10	Rε	Depth of Cut			Feed Rate		
					ap min	start (mm)	ap max	f/rev min	start (mm/rev)	f/rev max
CCGT09T304LF	CCGT3251LF	1807220	9,67	0,4	0,80	1,55	2,30	0,10	0,15	0,20
TPGT090204LF	TPGT18151LF	1782831	9,62	0,4	0,80	1,55	2,29	0,10	0,15	0,20
VBGT110301LF	VBGT2202LF	1866757	11,07	0,1	0,80	1,72	2,63	0,03	0,05	0,05
VBGT160402LF	VBGT3305LF	1866761	16,61	0,2	0,80	2,38	3,95	0,05	0,05	0,10
VBGT160404LF	VBGT331LF	1866762	16,61	0,4	0,80	2,38	3,95	0,10	0,15	0,20









MG-RP HIGH-TEMPERATURE ALLOYS	Cutting Conditions										
	Cutting Speed (m/min) Range	S1	15	60	155	10	45	65			
S2		15	65	155	10	35	85				
S3		15	75	155	15	45	85				
S4		15	75	185	10	60	115				
Carbide Grade		KCU10B	KCU25B				Depth of Cut		Feed Rate		
ISO catalog number	ANSI catalog number	KCU10B	KCU25B	L10	Re	ap min	start (mm)	ap max	f/rev min	start (mm/rev)	f/rev max
	CNMG431RP	7093048	7166120	12,90	0,4	1,10	3,75	6,40	0,10	0,20	0,30
	CNMG432RP	7093479	7166783	12,90	0,8	1,10	3,75	6,40	0,20	0,35	0,60
	CNMG433RP	7093482	7166784	12,90	1,2	1,10	3,75	6,40	0,20	0,40	0,90
	CNMG434RP	7093050	-	12,90	1,6	1,10	3,75	6,40	0,20	0,40	1,20
	CNMG542RP	7093272	7166513	16,12	0,8	1,10	4,55	8,00	0,20	0,35	0,60
	CNMG543RP	7093274	7166785	16,12	1,2	1,10	4,55	8,00	0,20	0,40	0,90
	CNMG544RP	-	7166515	16,12	1,6	1,10	4,55	8,00	0,20	0,40	1,20
	CNMG643RP	7093278	7166517	19,34	1,2	1,10	5,35	9,60	0,20	0,40	0,90
	CNMG644RP	7093483	7166787	19,34	1,6	1,10	5,35	9,60	0,20	0,40	1,20
	DNMG332RP	7090557	7166518	11,63	0,8	1,10	3,44	5,77	0,20	0,35	0,60
	DNMG432RP	7093292	7166519	15,50	0,8	1,10	4,40	7,69	0,20	0,35	0,60
	DNMG433RP	7093295	-	15,50	1,2	1,10	4,40	7,69	0,20	0,40	0,90
	DNMG434RP	7093488	-	15,50	1,6	1,10	4,40	7,69	0,20	0,40	1,20
	DNMG442RP	7093299	7166521	15,50	0,8	1,10	4,40	7,69	0,20	0,35	0,60
	DNMG443RP	-	7166523	15,50	1,2	1,10	4,40	7,69	0,20	0,40	0,90
	DNMG444RP	-	7166524	15,50	1,6	1,10	4,40	7,69	0,20	0,40	1,20
	SNMG432RP	7093259	7166790	12,70	0,8	1,10	3,70	6,30	0,20	0,35	0,60
	SNMG433RP	7090599	7166525	12,70	1,2	1,10	3,70	6,30	0,20	0,35	0,89
	SNMG434RP	7090601	-	12,70	1,6	1,10	3,70	6,30	0,20	0,40	1,20
	SNMG543RP	7090607	7166527	15,88	1,2	1,10	4,49	7,88	0,20	0,35	0,89
	SNMG544RP	-	7166528	15,88	1,6	1,10	4,49	7,88	0,20	0,40	1,20
	SNMG643RP	7090609	7166529	19,05	1,2	1,10	5,28	9,45	0,20	0,35	0,89
	SNMG644RP	7090613	7166530	19,05	1,6	1,10	5,28	9,45	0,20	0,40	1,19
	TNMG332RP	7093512	7166806	16,50	0,8	1,10	4,65	8,19	0,20	0,35	0,60
	TNMG432RP	7090624	7166532	22,00	0,8	1,10	6,01	10,92	0,20	0,35	0,60
	TNMG433RP	7090627	7166533	22,00	1,2	1,10	6,01	10,92	0,20	0,35	0,89
	TNMG434RP	-	7166534	22,00	1,6	1,10	6,01	10,92	0,20	0,40	1,19
	TNMG543RP	7090630	-	27,50	1,2	1,10	7,38	13,65	0,20	0,35	0,89
	TNMG666RP	7090631	-	33,00	2,4	1,10	8,74	16,38	0,20	0,40	1,79
	VNMG332RP	7093285	7166809	16,61	0,8	1,10	2,63	4,15	0,20	0,35	0,60
	VNMG333RP	7090634	-	16,61	1,2	1,10	2,63	4,15	0,20	0,40	0,90
	WNMG332RP	7090637	7166537	6,52	0,8	1,10	1,37	1,63	0,20	0,35	0,60
	WNMG432RP	7093316	7166538	8,69	0,8	1,10	1,64	2,17	0,20	0,35	0,60
	WNMG433RP	7093317	7166539	8,69	1,2	1,10	1,64	2,17	0,20	0,40	0,90
	WNMG434RP	-	7166540	8,69	1,6	1,10	1,64	2,17	0,20	0,40	1,20

MG-MS		Cutting Conditions		MS		MS		MS		MS	
HIGH-TEMPERATURE ALLOYS											
Cutting Speed (m/min) Range	S1	15	60	155	10	45	65				
	S2	15	65	155	10	35	85				
	S3	15	75	155	15	45	85				
	S4	15	75	185	10	60	115				
Carbide Grade		KCU10B		KCU25B				Depth of Cut		Feed Rate	
ISO catalog number	ANSI catalog number	KCU10B	KCU25B	L10	R _c	ap min	start (mm)	ap max	f/rev min	start (mm/rev)	f/rev max
CNMG120401MS	CNMG4302MS	7093047	-	12,90	0,1	0,76	2,88	5,00	0,02	0,05	0,04
CNMG120402MS	CNMG4305MS	7093473	7166020	12,90	0,2	0,76	2,88	5,00	0,03	0,05	0,09
CNMG120404MS	CNMG431MS	7093476	7166431	12,90	0,4	0,76	2,88	5,00	0,06	0,10	0,18
CNMG120408MS	CNMG432MS	7093478	7166432	12,90	0,8	0,76	2,88	5,00	0,12	0,15	0,35
CNMG120412MS	CNMG433MS	7090542	7166433	12,90	1,2	0,76	2,88	5,00	0,12	0,20	0,53
CNMG120416MS	CNMG434MS	7090544	7166434	12,90	1,6	0,76	2,88	5,00	0,12	0,20	0,70
CNMG160608MS	CNMG542MS	7090545	7166435	16,12	0,8	0,76	3,51	6,25	0,12	0,15	0,35
CNMG160612MS	CNMG543MS	7090546	7166436	16,12	1,2	0,76	3,51	6,25	0,12	0,20	0,53
CNMG190608MS	CNMG642MS	7090549	7166437	19,34	0,8	0,76	4,13	7,50	0,12	0,15	0,35
CNMG190612MS	CNMG643MS	7090550	7166438	19,34	1,2	0,76	4,13	7,50	0,12	0,20	0,52
CNMG190616MS	CNMG644MS	-	7166786	19,34	1,6	0,76	4,13	7,50	0,12	0,20	0,70
DNMG110408MS	DNMG332MS	7093250	7166788	11,63	0,8	0,76	2,64	4,51	0,12	0,15	0,35
DNMG150401MS	DNMG4302MS	7090559	-	15,50	0,1	0,76	3,39	6,01	0,02	0,05	0,05
DNMG150402MS	DNMG4305MS	7090561	7166451	15,50	0,2	0,76	3,39	6,01	0,03	0,05	0,09
DNMG150404MS	DNMG431MS	7093291	7166452	15,50	0,4	0,76	3,39	6,01	0,06	0,10	0,18
DNMG150408MS	DNMG432MS	7093486	7166453	15,50	0,8	0,76	3,39	6,01	0,12	0,15	0,35
DNMG150412MS	DNMG433MS	7093294	7166789	15,50	1,2	0,76	3,39	6,01	0,12	0,20	0,53
DNMG150604MS	DNMG441MS	7093297	7166454	15,50	0,4	0,76	3,39	6,01	0,06	0,10	0,18
DNMG150608MS	DNMG442MS	7093501	7166455	15,50	0,8	0,76	3,39	6,01	0,12	0,15	0,35
DNMG150612MS	DNMG443MS	7093502	7166456	15,50	1,2	0,76	3,39	6,01	0,12	0,20	0,53
SNMG120408MS	SNMG432MS	7090595	7166457	12,70	0,8	0,76	2,84	4,92	0,12	0,15	0,35
SNMG120412MS	SNMG433MS	7090597	-	12,70	1,2	0,76	2,84	4,92	0,12	0,20	0,53
SNMG190612MS	SNMG643MS	-	7166459	19,05	1,2	0,76	4,08	7,39	0,12	0,20	0,53
TNMG160402MS	TNMG3305MS	7093505	7166803	16,50	0,2	0,76	3,58	6,40	0,03	0,05	0,09
TNMG160404MS	TNMG331MS	7093508	7166804	16,50	0,4	0,76	3,58	6,40	0,06	0,10	0,18
TNMG160408MS	TNMG332MS	7093511	7166805	16,50	0,8	0,76	3,58	6,40	0,12	0,15	0,35
TNMG220404MS	TNMG431MS	7093268	7166807	22,00	0,4	0,76	4,65	8,53	0,06	0,10	0,18
TNMG220408MS	TNMG432MS	7090623	7166460	22,00	0,8	0,76	4,65	8,53	0,12	0,15	0,35
TNMG220412MS	TNMG433MS	7090626	7166461	22,00	1,2	0,76	4,65	8,53	0,12	0,20	0,53
TNMG270608MS	TNMG542MS	-	7166462	27,50	0,8	0,76	5,71	10,66	0,12	0,15	0,35
VNMG160401MS	VNMG3302MS	7093281	7166808	16,61	0,1	0,76	2,46	4,15	0,02	0,05	0,04
VNMG160402MS	VNMG3305MS	7090632	7166466	16,61	0,2	0,76	2,46	4,15	0,03	0,05	0,09
VNMG160404MS	VNMG331MS	7093314	7166467	16,61	0,4	0,76	2,46	4,15	0,06	0,10	0,18
VNMG160408MS	VNMG332MS	7093519	7166468	16,61	0,8	0,76	2,46	4,15	0,12	0,15	0,35
VNMG220404MS	VNMG431MS	7093286	7166469	22,14	0,4	0,76	3,15	5,54	0,06	0,10	0,18
VNMG220408MS	VNMG432MS	7090635	7166470	22,14	0,8	0,76	3,15	5,54	0,12	0,15	0,35
WNMG060408MS	WNMG332MS	7093321	7166810	6,52	0,8	0,76	1,20	1,63	0,12	0,15	0,35
WNMG080401MS	WNMG4302MS	7090638	-	8,69	0,1	0,76	1,47	2,17	0,02	0,05	0,04
WNMG080402MS	WNMG4305MS	7090639	7166481	8,69	0,2	0,76	1,47	2,17	0,03	0,05	0,09
WNMG080404MS	WNMG431MS	7093315	7166482	8,69	0,4	0,76	1,47	2,17	0,06	0,10	0,18
WNMG080408MS	WNMG432MS	7093525	7166483	8,69	0,8	0,76	1,47	2,17	0,12	0,15	0,35

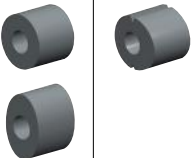
MG-FP	HIGH-TEMPERATURE ALLOYS	
Cutting Conditions		

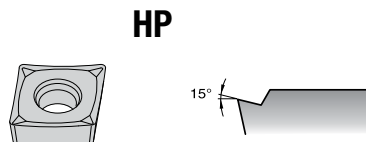


Cutting Speed (m/min) Range	S1	15	60	155
	S2	15	65	155
	S3	15	75	155
	S4	15	75	185
Carbide Grade		KCU10B		

ISO catalog number	ANSI catalog number	KCU10B	L10	Rε	Depth of Cut			Feed Rate			
					ap min	start (mm)	ap max	f/rev min	start (mm/rev)	f/rev max	
	CNMG120404FP	CNMG431FP	7093474	12,90	0,4	0,30	1,40	2,50	0,05	0,05	0,15
	CNMG120408FP	CNMG432FP	7108886	12,90	0,8	0,30	1,40	2,50	0,10	0,15	0,30
	CNMG120412FP	CNMG433FP	7093480	12,90	1,2	0,30	1,40	2,50	0,10	0,15	0,45
	DNMG110404FP	DNMG331FP	7093247	11,63	0,4	0,30	1,28	2,25	0,05	0,05	0,15
	DNMG110408FP	DNMG332FP	7093248	11,63	0,8	0,30	1,28	2,25	0,10	0,15	0,30
	DNMG150404FP	DNMG431FP	7093484	15,50	0,4	0,30	1,66	3,01	0,05	0,05	0,15
	DNMG150408FP	DNMG432FP	7093318	15,50	0,8	0,30	1,66	3,01	0,10	0,15	0,30
	DNMG150412FP	DNMG433FP	7093487	15,50	1,2	0,30	1,66	3,01	0,10	0,15	0,45
	DNMG150604FP	DNMG441FP	7093489	15,50	0,4	0,30	1,66	3,01	0,05	0,05	0,15
	DNMG150608FP	DNMG442FP	7108887	15,50	0,8	0,30	1,66	3,01	0,10	0,15	0,30
	SNMG120404FP	SNMG431FP	7093503	12,70	0,4	0,30	1,38	2,46	0,05	0,05	0,15
	SNMG120408FP	SNMG432FP	7093258	12,70	0,8	0,30	1,38	2,46	0,10	0,15	0,30
	TNMG160404FP	TNMG331FP	7093506	16,50	0,4	0,30	1,75	3,20	0,05	0,05	0,15
	TNMG160408FP	TNMG332FP	7093509	16,50	0,8	0,30	1,75	3,20	0,10	0,15	0,30
	TNMG220404FP	TNMG431FP	7093267	22,00	0,4	0,30	2,29	4,27	0,05	0,05	0,15
	TNMG220408FP	TNMG432FP	7093269	22,00	0,8	0,30	2,29	4,27	0,10	0,15	0,30
	VNMG160404FP	VNMG331FP	7093515	16,61	0,4	0,30	1,76	3,22	0,05	0,05	0,15
	VNMG160408FP	VNMG332FP	7093517	16,61	0,8	0,30	1,76	3,22	0,10	0,15	0,30
	WNMG060404FP	WNMG331FP	7093288	6,52	0,4	0,30	0,78	1,26	0,05	0,05	0,15
	WNMG080404FP	WNMG431FP	7093521	8,69	0,4	0,30	0,99	1,68	0,05	0,05	0,15
	WNMG080408FP	WNMG432FP	7093522	8,69	0,8	0,30	0,99	1,68	0,10	0,15	0,30

TURNING

GT-HP		
HIGH-TEMPERATURE ALLOYS	Cutting Conditions	



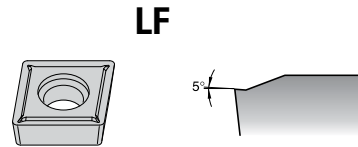
Cutting Speed (m/min) Range	S1	15	60	155	10	45	65
	S2	15	65	155	10	35	85
	S3	15	75	155	15	45	85
	S4	15	75	185	10	60	115

Carbide Grade	KCU10B	KCU25B
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ISO catalog number	ANSI catalog number	KCU10B	KCU25B	L10	R _ε	Depth of Cut			Feed Rate		
						ap min	start (mm)	ap max	f/rev min	start (mm/rev)	f/rev max
CCGT060202HP	CCGT21505HP	7093380	7166919	6,46	0,2	0,60	1,07	1,53	0,05	0,05	0,10
CCGT060204HP	CCGT2151HP	7093319	7166920	6,47	0,4	0,60	1,07	1,53	0,10	0,15	0,20
CCGT09T302HP	CCGT32505HP	7093320	-	9,67	0,2	0,60	1,45	2,30	0,05	0,05	0,10
CCGT09T304HP	CCGT3251HP	7093779	7167023	9,67	0,4	0,60	1,45	2,30	0,10	0,15	0,20
CCGT09T308HP	CCGT3252HP	7093357	7167024	9,67	0,8	0,60	1,45	2,30	0,20	0,30	0,40
CCGT120402HP	CCGT4305HP	7093341	-	12,90	0,2	0,60	1,84	3,07	0,05	0,05	0,10
CCGT120404HP	CCGT431HP	7093342	-	12,90	0,4	0,60	1,84	3,07	0,10	0,15	0,20
CCGT120408HP	CCGT432HP	7093350	-	12,90	0,8	0,60	1,84	3,07	0,20	0,30	0,40
CPGT060202HP	CPGT21505HP	7093351	-	6,45	0,2	0,60	1,07	1,53	0,05	0,05	0,10
CPGT060204HP	CPGT2151HP	7093352	-	6,45	0,4	0,60	1,07	1,53	0,10	0,15	0,20
CPGT09T304HP	CPGT3251HP	7093347	-	9,67	0,4	0,60	1,45	2,30	0,10	0,15	0,20
DCGT070202HP	DCGT21505HP	7093353	7167035	7,75	0,2	0,60	1,22	1,84	0,05	0,05	0,10
DCGT070204HP	DCGT2151HP	7093354	7167036	7,75	0,4	0,60	1,22	1,84	0,10	0,15	0,20
DCGT070208HP	DCGT2152HP	7093355	-	7,75	0,8	0,60	1,22	1,84	0,20	0,30	0,40
DCGT11T302HP	DCGT32505HP	7093815	7167038	11,63	0,2	0,60	1,69	2,77	0,05	0,05	0,10
DCGT11T304HP	DCGT3251HP	7093816	7167039	11,59	0,4	0,60	1,69	2,77	0,10	0,15	0,20
DCGT11T308HP	DCGT3252HP	7093348	7167040	11,63	0,8	0,60	1,69	2,77	0,20	0,30	0,40
TCGT110204HP	TCGT2151HP	-	7167048	11,00	0,4	0,60	1,61	2,62	0,10	0,15	0,20
TCGT110208HP	TCGT2152HP	7093877	-	11,00	0,8	0,60	1,61	2,62	0,20	0,30	0,40
TCGT16T302HP	TCGT32505HP	-	7167050	16,50	0,2	0,60	2,26	3,92	0,05	0,05	0,10
TCGT16T304HP	TCGT3251HP	7093874	-	16,50	0,4	0,60	2,26	3,92	0,10	0,15	0,20
TCGT16T308HP	TCGT3252HP	7093116	-	16,50	0,8	0,60	2,26	3,92	0,20	0,30	0,40
VBGT110302HP	VBGT2205HP	7093366	-	11,07	0,2	0,60	1,62	2,63	0,05	0,05	0,10
VBGT110304HP	VBGT221HP	7093364	-	10,95	0,4	0,60	1,62	2,63	0,10	0,15	0,20
VBGT160404HP	VBGT331HP	7093826	7167066	16,61	0,4	0,60	2,28	3,95	0,10	0,15	0,20
VBGT160408HP	VBGT332HP	7093362	7167068	16,61	0,8	0,60	2,28	3,95	0,20	0,30	0,40



GT-LF		
HIGH-TEMPERATURE ALLOYS	Cutting Conditions	




Cutting Speed (m/min) Range	S1	15	60	155	10	45	65
	S2	15	65	155	10	35	85
	S3	15	75	155	15	45	85
	S4	15	75	185	10	60	115

Carbide Grade	KCU10B	KCU25B
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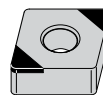
ISO catalog number	ANSI catalog number	KCU10B	KCU25B	L10	Re	Depth of Cut			Feed Rate		
						ap min	start (mm)	ap max	f/rev min	start (mm/rev)	f/rev max
CCGT060201LF	CCGT21502LF	7093145	-	6,45	0,1	0,80	1,17	1,53	0,03	0,05	0,05
CCGT060202LF	CCGT21505LF	7093143	-	6,45	0,2	0,80	1,17	1,53	0,05	0,05	0,10
CCGT060204LF	CCGT2151LF	7093778	-	6,45	0,4	0,80	1,17	1,53	0,10	0,15	0,20
CCGT060208LF	CCGT2152LF	7093147	-	6,45	0,8	0,80	1,17	1,53	0,20	0,30	0,40
CCGT09T301LF	CCGT32502LF	7093151	-	0,00	0,1	0,80	1,55	2,30	0,03	0,05	0,05
CCGT09T302LF	CCGT32505LF	7093149	-	9,67	0,2	0,80	1,55	2,30	0,05	0,05	0,10
CCGT09T304LF	CCGT3251LF	7093780	7167055	9,67	0,4	0,80	1,55	2,30	0,10	0,15	0,20
CCGT09T308LF	CCGT3252LF	7093153	-	9,67	0,8	0,80	1,55	2,30	0,20	0,30	0,40
CPGT060204LF	CPGT2151LF	7093812	-	6,45	0,4	0,80	1,17	1,53	0,10	0,15	0,20
DCGT070201LF	DCGT21502LF	7093177	-	7,75	0,1	0,80	1,32	1,84	0,03	0,05	0,05
DCGT11T301LF	DCGT32502LF	7093178	-	11,63	0,1	0,80	1,79	2,77	0,03	0,05	0,05
TCGT110204LF	TCGT2151LF	7093169	-	11,00	0,4	0,80	1,71	2,62	0,10	0,15	0,20
TCGT16T304LF	TCGT3251LF	7093224	-	16,50	0,4	0,80	2,36	3,92	0,10	0,15	0,20
TCGT16T308LF	TCGT3252LF	7093173	-	16,50	0,8	0,80	2,36	3,92	0,20	0,30	0,40
VBGT110301LF	VBGT2202LF	7093176	-	11,07	0,1	0,80	1,72	2,63	0,03	0,05	0,05
VBGT110302LF	VBGT2205LF	7093835	-	11,07	0,2	0,80	1,72	2,63	0,05	0,05	0,10
VBGT110304LF	VBGT221LF	7093181	-	11,07	0,4	0,80	1,72	2,63	0,10	0,15	0,20
VBGT160401LF	VBGT3302LF	7093182	-	16,61	0,1	0,80	2,38	3,95	0,03	0,05	0,05
VBGT160402LF	VBGT3305LF	7093183	-	16,61	0,2	0,80	2,38	3,95	0,05	0,05	0,10
VBGT160404LF	VBGT331LF	7093184	-	16,61	0,4	0,80	2,38	3,95	0,10	0,15	0,20



TURNING

GA-MT		
HARD TURNING		

MT



Edge Preparation Details:

..S01015/..S0415: Light machining and finishing, smooth cuts only

..S01225/..S0525: Medium machining: From smooth cut to light interrupted cutting conditions

..FW... Wiper Geometry


Cutting Conditions

Cutting Speed (m/min) Range	H1	175	220	320	120	180	270	120	180	270
	H2	160	200	290	110	165	245	110	165	245
	H3	140	180	260	95	145	215	95	145	215
	H4	120	150	220	85	125	175	85	125	175

Carbide Grade

KBH10B KBH20B KBH20

ISO catalog number	ANSI catalog number	KBH10B	KBH20B	KBH20	L10	Rε	Depth of Cut			Feed Rate		
							ap min	start (mm)	ap max	f/rev min	start (mm/rev)	f/rev max
CNGA120404S01015DMT	CNGA431S0415DMT	6630858	-	-	12,90	0,4	0,03	0,08	0,13	0,05	0,05	0,15
CNGA120404S01225DMT	CNGA431S0525DMT	6630860	6630915	-	12,90	0,4	0,03	0,09	0,15	0,05	0,05	0,17
CNGA120404S01225MT	CNGA431S0525MT	-	-	5330695	12,90	0,4	0,03	0,17	0,30	0,05	0,10	0,20
CNGA120404S01515GWDMT	CNGA431S0615GWDMT	6813659	-	-	12,90	0,4	0,05	0,15	0,25	0,08	0,15	0,30
CNGA120408S01015DMT	CNGA432S0415DMT	6630859	6630913	-	12,90	0,8	0,03	0,09	0,15	0,05	0,05	0,15
CNGA120408S01015FWMT	CNGA432S0415FWMT	-	-	5330832	12,90	0,8	0,03	0,17	0,30	0,05	0,05	0,30
CNGA120408S01225DMT	CNGA432S0525DMT	6630911	6630916	-	12,90	0,8	0,03	0,13	0,23	0,05	0,05	0,23
CNGA120408S01225MT	CNGA432S0525MT	-	-	5330699	12,90	0,8	0,03	0,19	0,35	0,05	0,05	0,25
CNGA120408S01515GWDMT	CNGA432S0615GWDMT	6813671	-	-	12,90	0,8	0,05	0,18	0,30	0,08	0,15	0,40
CNGA120412S01015DMT	CNGA433S0415DMT	-	6630914	-	12,90	1,2	0,03	0,11	0,18	0,05	0,05	0,20
CNGA120412S01015FWMT	CNGA433S0415FWMT	-	-	5330836	12,90	1,2	0,03	0,17	0,30	0,05	0,05	0,30
CNGA120412S01225DMT	CNGA433S0525DMT	-	6630917	-	12,90	1,2	0,03	0,16	0,28	0,05	0,05	0,28
CNGA120412S01225MT	CNGA433S0525MT	-	-	5330833	12,90	1,2	0,03	0,22	0,40	0,05	0,05	0,30
DNGA150404S01015DMT	DNGA431S0415DMT	6630918	-	-	15,50	0,4	0,03	0,08	0,13	0,05	0,05	0,11
DNGA150404S01225DMT	DNGA431S0525DMT	-	6630924	-	15,50	0,4	0,03	0,14	0,25	0,05	0,10	0,19
DNGA150408S01015DMT	DNGA432S0415DMT	6630919	-	-	15,50	0,8	0,03	0,09	0,15	0,05	0,05	0,14
DNGA150408S01225DMT	DNGA432S0525DMT	-	6630925	-	15,50	0,8	0,03	0,14	0,25	0,05	0,05	0,19
DNGA150412S01225DMT	DNGA433S0525DMT	-	6630926	-	15,50	1,2	0,03	0,17	0,30	0,05	0,05	0,25
DNGA150608S01015DMT	DNGA442S0415DMT	6687556	-	-	15,50	0,8	0,03	0,09	0,15	0,05	0,05	0,14
DNGA150608S01225DMT	DNGA442S0525DMT	6687558	-	-	15,50	0,8	0,03	0,09	0,15	0,05	0,05	0,14
DNGA150608S01225MT	DNGA442S0525MT	-	-	5330850	15,50	0,8	0,03	0,19	0,35	0,05	0,05	0,25
DNGA150612S01015DMT	DNGA443S0415MT	-	-	5330854	15,50	1,2	0,03	0,17	0,30	0,05	0,05	0,25
TNGA160404S01015DMT	TNGA331S0415DMT	6630947	-	-	16,50	0,4	0,03	0,08	0,13	0,05	0,05	0,13
TNGA160408S01015DMT	TNGA332S0415DMT	6630948	6630951	-	16,60	0,8	0,03	0,10	0,17	0,05	0,05	0,17
TNGA160408S01225DMT	TNGA332S0525DMT	6630949	6630952	-	16,50	0,8	0,03	0,17	0,30	0,05	0,05	0,30
VNGA160404S01015DMT	VNGA331S0415DMT	6630927	-	-	16,61	0,4	0,03	0,07	0,10	0,05	0,05	0,10
VNGA160404S01225DMT	VNGA331S0525DMT	6630929	6630944	-	16,61	0,4	0,03	0,09	0,14	0,05	0,05	0,14
VNGA160408S01015DMT	VNGA332S0415DMT	6630928	6630943	-	16,61	0,8	0,03	0,09	0,14	0,05	0,05	0,14
VNGA160408S01225DMT	VNGA332S0525DMT	6630930	6630945	-	16,61	0,8	0,03	0,11	0,18	0,05	0,05	0,18
VNGA160412S01225DMT	VNGA333S0525DMT	-	6630946	-	16,61	1,2	0,03	0,13	0,23	0,05	0,05	0,23
VNGA160412S01225MT	VNGA333S0525MT	-	-	5330873	16,61	1,2	0,03	0,17	0,30	0,05	0,05	0,25

GW-MT		
HARD TURNING	Cutting Conditions	



Edge Preparation Details:
 ..S01015/..S0415: Light machining and finishing,
 smooth cuts only
 ..S01225/..S0525: Medium machining:
 From smooth cut to light interrupted cutting
 conditions
 ..FW.: Wiper Geometry

Cutting Speed (m/min) Range	H1	120	180	270
	H2	110	165	245
	H3	95	145	215
	H4	85	125	175

Carbide Grade	KBH20
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ISO catalog number	ANSI catalog number	KBH20	L10	Rε	Depth of Cut			Feed Rate		
					ap min	start (mm)	ap max	f/rev min	start (mm/rev)	f/rev max
CCGW060204S01225MT	CCGW2151S0525MT	5330132	6,45	0,4	0,03	0,12	0,20	0,05	0,10	0,20
CCGW09T304S01015FWMT	CCGW3251S0415FWMT	5330136	9,67	0,4	0,03	0,17	0,30	0,05	0,10	0,30
CCGW09T304S01015MT	CCGW3251S0415MT	5330135	9,67	0,4	0,03	0,17	0,30	0,05	0,10	0,25
CCGW09T308S01015FWMT	CCGW3252S0415FWMT	5330139	9,67	0,8	0,03	0,17	0,30	0,05	0,05	0,30
CCGW09T308S01015MT	CCGW3252S0415MT	5330138	9,67	0,8	0,10	1,05	2,00	0,06	0,10	0,25
CCGW09T308S01225MT	CCGW3252S0525MT	5330137	9,67	0,8	0,03	0,19	0,35	0,05	0,05	0,25
DCGW070204S01015MT	DCGW2151S0415MT	5330143	7,75	0,4	0,03	0,11	0,18	0,05	0,05	0,18
DCGW11T302S01225MT	DCGW3250S0525MT	5330144	11,63	0,2	0,03	0,17	0,30	0,05	0,10	0,20
DCGW11T304S01015MT	DCGW3251S0415MT	5330146	11,63	0,4	0,10	0,65	1,20	0,06	0,10	0,25
DCGW11T304S01225MT	DCGW3251S0525MT	5330145	11,63	0,4	0,03	0,19	0,35	0,05	0,10	0,25
DCGW11T308S01015MT	DCGW3252S0415MT	5330148	11,63	0,8	0,10	0,65	1,20	0,06	0,10	0,25
DCGW11T308S01225MT	DCGW3252S0525MT	5330147	11,63	0,8	0,03	0,19	0,35	0,05	0,05	0,25
TCGW110208S01015MT	TCGW2152S0415MT	5330155	11,00	0,8	0,03	0,09	0,15	0,05	0,05	0,15
TPGW110208S01015MT	TPGW2152S0415MT	5330152	11,00	0,8	0,03	0,14	0,25	0,05	0,05	0,25
TPGW16T308S01225MT	TPGW3252S0525MT	5330160	16,50	0,8	0,03	0,19	0,35	0,05	0,05	0,25
VBGW110304S01015MT	VBGW221S0415MT	5330163	11,07	0,4	0,03	0,11	0,18	0,05	0,05	0,18
VBGW110308S01225MT	VBGW222S0525MT	5330166	11,07	0,8	0,03	0,03	0,03	0,05	0,05	0,25
VBGW160408S01015MT	VBGW332S0415MT	5330164	16,61	0,8	0,10	0,55	1,00	0,06	0,10	0,25
VCGW160408S01015MT	VCGW332S0415MT	5330180	16,61	0,8	0,03	0,17	0,30	0,05	0,05	0,25



SPARE PARTS & ACCESSORIES INFORMATION

**Lost a screw? Have to replace worn-out clamping wedges?
Need to find and re-order those spare parts?**

Are you in need of some accessories, like a torque wrench or coolant shower plate? These tools are at your fingertips!

Go to **kennametal.com** and find what you need in seconds. Enter the catalog number of the corresponding tool, and it will display.

KENNAMETAL Products Industries Services Resources Enter the tool catalog number here

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DCLN-KC -5° **FIRST CHOICE**

Kenloc™ Inserts ★★★★★ [1 Review](#)

Material Number 1874862 ISO Catalog ID DCLNR164DKC3

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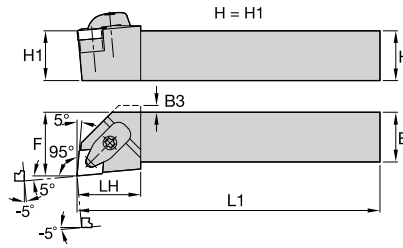
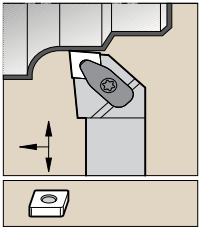
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Open expanded view

Generic representation

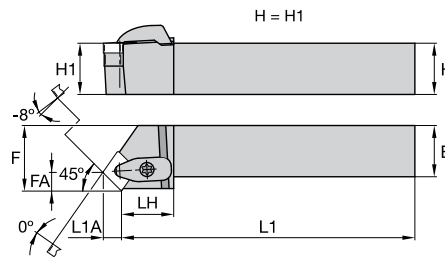
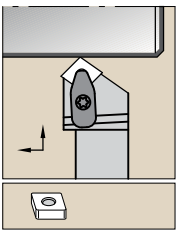
Overview	Application Data	Downloads	Compatible Parts Machine Side	Compatible Parts Workpiece Side	Spare Parts
	CARBIDE SHIM	1848655	ICSN443	ICSN443	
	Slotted Spring Pin	1867212	SSP025016M	SSP025016M	
	SHIM SCREW M6.3-1.0p x 12 1SIP	1867278	KMSP415IP	KMSP415IP	
	HARDWARE LOCKPIN 1SIP	1867321	KLM46L15IP	KLM46L15IP	
	L-TYPE WRENCH K15IP TORX PLUS	1867353	K15IP	K15IP	

Select the spare parts & accessories



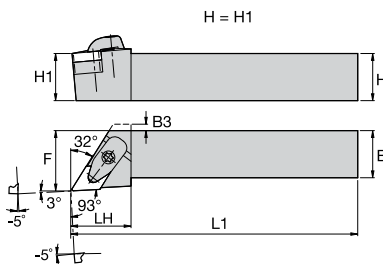
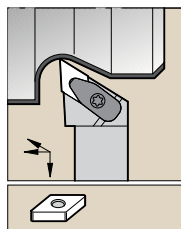
DCLN-KC 95°

Order Number	Catalog Number	H	B	F	L1	LH	B3	Gage Insert
Right Hand								
1875199	DCLNR2020K12KC04	20,00	20,00	25,00	125,00	32,00	4,00	CN..120408
1875193	DCLNR2525M12KC04	25,00	25,00	32,00	150,00	32,00	—	CN..120408
1875212	DCLNR2525M16KC06	25,00	25,00	32,00	150,00	33,00	—	CN..160612
1875223	DCLNR3225P12KC04	32,00	25,00	32,00	170,00	32,00	—	CN..120408
1875224	DCLNR3232P16KC06	32,00	32,00	40,00	170,00	33,00	—	CN..160612
2273091	DCLNR3232P19KC06	32,00	32,00	40,00	170,00	40,00	—	CN..190612
Left Hand								
1875194	DCLNL2020K12KC04	20,00	20,00	25,00	125,00	32,00	4,00	CN..120408
1875196	DCLNL2525M12KC04	25,00	25,00	32,00	150,00	32,00	—	CN..120408
1875205	DCLNL2525M16KC06	25,00	25,00	32,00	150,00	33,00	—	CN..160612
1875231	DCLNL3225P12KC04	32,00	25,00	32,00	170,00	32,00	—	CN..120408
1875230	DCLNL3225P16KC06	32,00	25,00	32,00	170,00	33,00	—	CN..160612
1875225	DCLNL3232P16KC06	32,00	32,00	40,00	170,00	33,00	—	CN..160612
2273093	DCLNL3232P19KC06	32,00	32,00	40,00	170,00	40,00	—	CN..190612



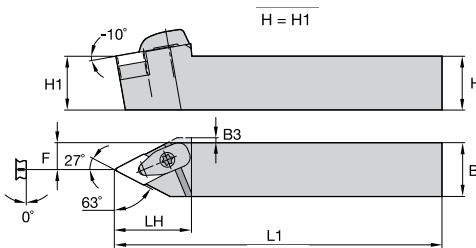
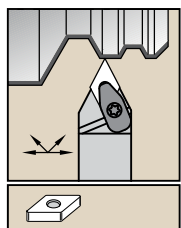
DCSN-KC 45°

Order Number	Catalog Number	H	B	F	L1	LH	FA	L1A	Gage Insert
Right Hand									
2273102	DCSNR2525M12KC04	25,00	25,00	32,00	150,00	35,00	8,20	8,45	CN..120408



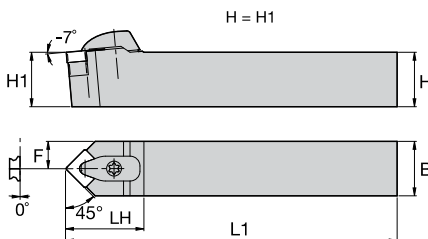
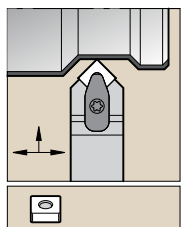
DDJN-KC 93°

Order Number	Catalog Number	H	B	F	L1	LH	B3	Gage Insert
Right Hand								
2273105	DDJNR2020K11KC04	20,00	20,00	25,00	125,00	30,00	2,00	DN..110408
1875197	DDJNR2020K15KC06	20,00	20,00	25,00	125,00	32,00	4,00	DN..150608
2273106	DDJNR2525M11KC04	25,00	25,00	32,00	150,00	30,00	—	DN..110408
1875191	DDJNR2525M15KC06	25,00	25,00	32,00	150,00	32,00	—	DN..150608
1875208	DDJNR3225P15KC06	32,00	25,00	32,00	170,00	32,00	—	DN..150608
1875227	DDJNR3232P15KC06	32,00	32,00	40,00	170,00	32,00	—	DN..150608
Left Hand								
2273107	DDJNL2020K11KC04	20,00	20,00	25,00	125,00	30,00	2,00	DN..110408
1875198	DDJNL2020K15KC06	20,00	20,00	25,00	125,00	32,00	4,00	DN..150608
2273108	DDJNL2525M11KC04	25,00	25,00	32,00	150,00	30,00	—	DN..110408
1875192	DDJNL2525M15KC06	25,00	25,00	32,00	150,00	32,00	—	DN..150608
1875207	DDJNL3225P15KC06	32,00	25,00	32,00	170,00	32,00	—	DN..150608
1875209	DDJNL3232P15KC06	32,00	32,00	40,00	171,00	32,00	—	DN..150608



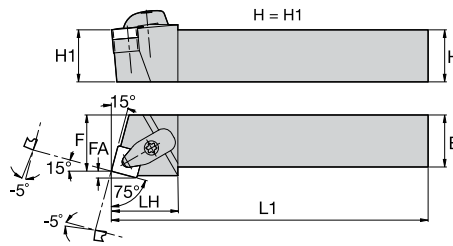
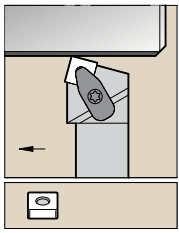
DDNN-KC 63°

Order Number	Catalog Number	H	B	F	L1	LH	B3	Gage Insert
Right Hand								
2273111	DDNNR2020K15KC06	20,00	20,00	10,00	125,00	40,00	2,50	DN..150608
2273112	DDNNR2525M15KC06	25,00	25,00	13,00	150,00	40,00	—	DN..150608



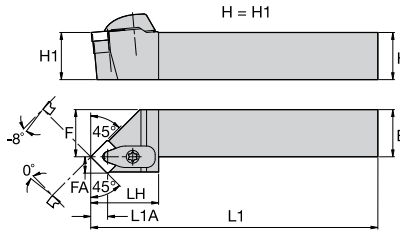
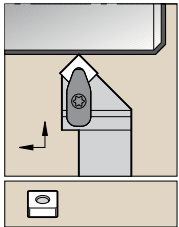
DSDN-KC 45°

Order Number	Catalog Number	H	B	F	L1	LH	Gage Insert
Neutral Hand							
1875211	DSDNN2525M12KC04	25,00	25,00	12,00	150,00	36,00	SN..120408
1875216	DSDNN2525M15KC06	25,00	25,00	12,00	150,00	42,00	SN..150612
2273139	DSDNN3232P19KC06	32,00	32,00	15,50	170,00	44,00	SN..190612



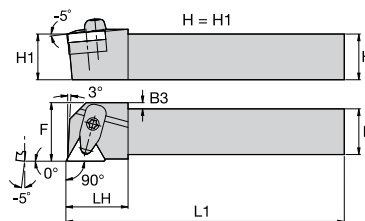
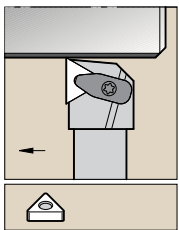
DSRN-KC 75°

Order Number	Catalog Number	H	B	F	L1	LH	FA	Gage Insert
Right Hand								
1875228	DSRNR2525M12KC04	25,00	25,00	27,00	150,00	32,00	3,30	SN..120408



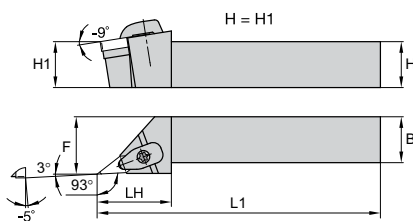
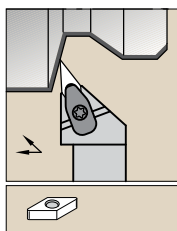
DSSN-KC 45°

Order Number	Catalog Number	H	B	F	L1	LH	FA	L1A	Gage Insert
Right Hand									
1875195	DSSNR2525M12KC04	25,00	25,00	32,00	150,00	36,00	8,40	9,58	SN..120408
Left Hand									
1875203	DSSNL2525M12KC04	25,00	25,00	32,00	150,00	36,00	8,40	8,65	SN..120408



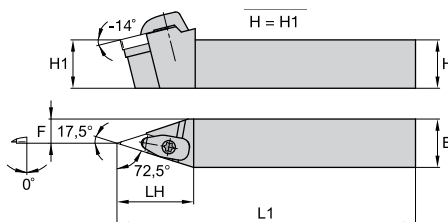
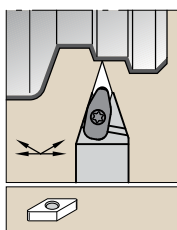
DTGN-KC 90°

Order Number	Catalog Number	H	B	F	L1	LH	Gage Insert
Right Hand							
2273441	DTGNR2525M16KC04	25,00	25,00	32,00	150,00	25,00	TN..160408



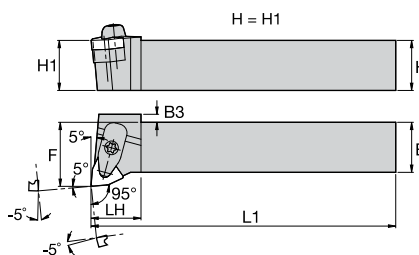
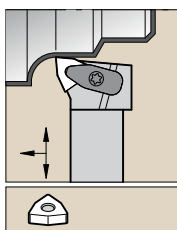
DVJN-KC 93°

Order Number	Catalog Number	H	B	F	L1	LH	Gage Insert
Right Hand							
2439399	DVJNR2020K16KC04	20,00	20,00	25,00	125,00	46,00	VN..160408
2439401	DVJNR2525M16KC04	25,00	25,00	32,00	150,00	46,00	VN..160408
2439443	DVJNR3225P16KC04	32,00	25,00	32,00	170,00	46,00	VN..160408
Left Hand							
2439400	DVJNL2020K16KC04	20,00	20,00	25,00	125,00	46,00	VN..160408
2439402	DVJNL2525M16KC04	25,00	25,00	32,00	150,00	46,00	VN..160408
2439444	DVJNL3225P16KC04	32,00	25,00	32,00	170,00	46,00	VN..160408



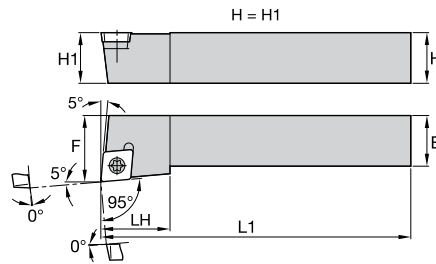
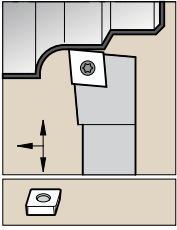
DVVN-KC 72,5°

Order Number	Catalog Number	H	B	F	L1	LH	Gage Insert
Neutral Hand							
2439455	DVVNN2020K16KC04	20,00	20,00	9,75	126,25	48,00	VN..160408
2439456	DVVNN2525M16KC04	25,00	25,00	12,00	150,00	48,00	VN..160408



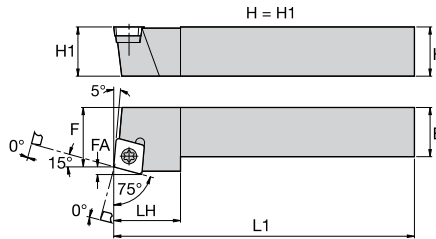
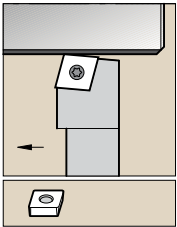
DWLN-KC 95°

Order Number	Catalog Number	H	B	F	L1	LH	B3	Gage Insert
Right Hand								
2439476	DWLNLR2020K08KC04	20,00	20,00	25,00	125,00	31,00	—	WN..060408
2439471	DWLNLR2020K08KC04	20,00	20,00	25,00	125,00	33,00	—	WN..080408
2273451	DWLNLR2525M06KC04	25,00	25,00	32,00	150,00	25,00	—	WN..060408
1908860	DWLNLR2525M08KC04	25,00	25,00	32,00	150,00	25,00	4,00	WN..080408
1908862	DWLNLR3232P08KC04	32,00	32,00	40,00	170,00	25,00	—	WN..080408
Left Hand								
2439472	DWLNLR2020K08KC04	20,00	20,00	25,00	125,00	33,00	—	WN..080408
2273455	DWLNLR2525M06KC04	25,00	25,00	32,00	150,00	25,00	—	WN..060408
1908861	DWLNLR2525M08KC04	25,00	25,00	32,00	150,00	25,00	4,00	WN..080408



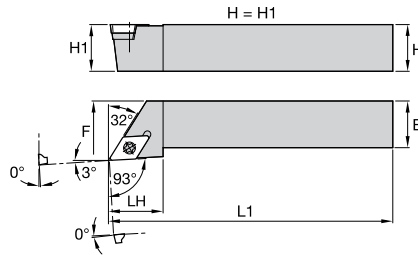
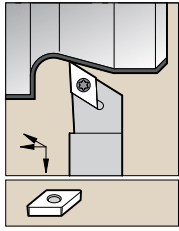
SCLC 95°

Order Number	Catalog Number	H	B	F	L1	LH	Gage Insert
Right Hand							
1097819	SCLCR1616H09	16,00	16,00	20,00	100,00	15,80	CC..09T308
1097821	SCLCR2020K09	20,00	20,00	25,00	125,00	15,80	CC..09T308
1097820	SCLCR2020K12	20,00	20,00	25,00	125,00	19,80	CC..120408
Left Hand							
1097966	SCLCL2020K09	20,00	20,00	25,00	125,00	15,80	CC..09T308



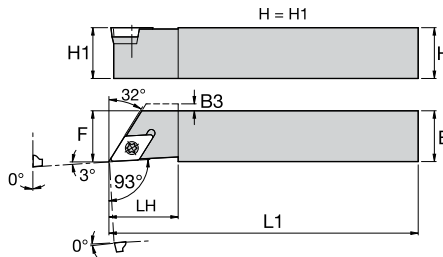
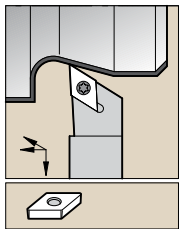
SCRC 75°

Order Number	Catalog Number	H	B	F	L1	LH	FA	Gage Insert
Right Hand								
1097828	SCRCR1212N09	12,00	12,00	13,00	160,00	14,00	2,27	CC..09T308



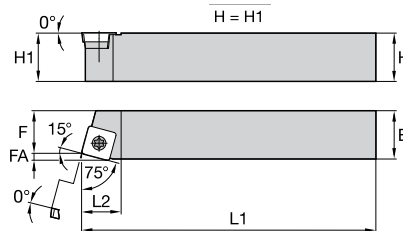
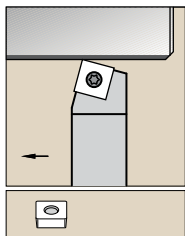
SDJC 93°

Order Number	Catalog Number	H	B	F	L1	LH	Gage Insert
Right Hand							
1097850	SDJCR1212N11	12,00	12,00	16,00	160,00	22,00	DC,,11T308
1097851	SDJCR1616H11	16,00	16,00	20,00	100,00	22,00	DC,,11T308
1097853	SDJCR2020K11	20,00	20,00	25,00	125,00	22,00	DC,,11T308
1097854	SDJCR2525M11	25,00	25,00	32,00	150,00	22,00	DC,,11T308
Left Hand							
1098001	SDJCL1616H11	16,00	16,00	20,00	100,00	22,00	DC,,11T308
1098003	SDJCL2020K11	20,00	20,00	25,00	125,00	22,00	DC,,11T308
1192473	SDJCL2525M11	25,00	25,00	32,00	150,00	22,00	DC,,11T308



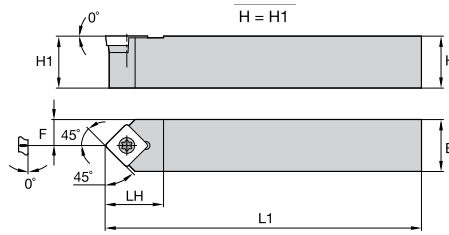
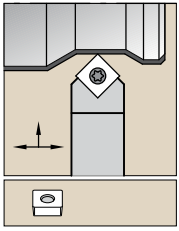
SDJC-F 93°

Order Number	Catalog Number	H	B	F	L1	LH	Gage Insert
Right Hand							
1097845	SDJCRF1212M07Q	12,00	12,00	12,00	150,00	16,00	DC,,070204
1097846	SDJCRF1616K11Q	16,00	16,00	16,00	125,00	22,00	DC,,11T308



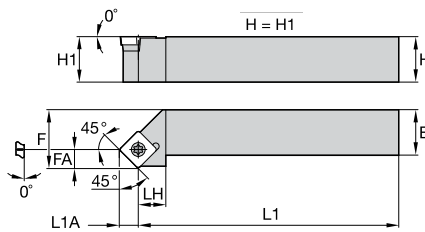
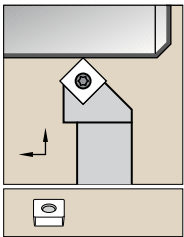
SSBC 75°

Order Number	Catalog Number	H	B	F	L1	LH	FA	Gage Insert
Right Hand								
1097867	SSBCR2525M12	25,00	25,00	22,00	150,00	21,00	3,06	SC..120408



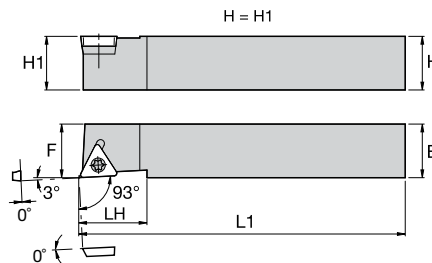
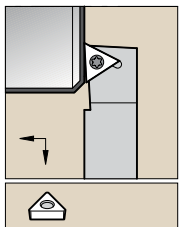
SSDC 45°

Order Number	Catalog Number	H	B	F	L1	LH	Gage Insert
Neutral Hand							
1098005	SSDCN1212N09	12,00	12,00	6,00	160,00	18,00	SC..09T308



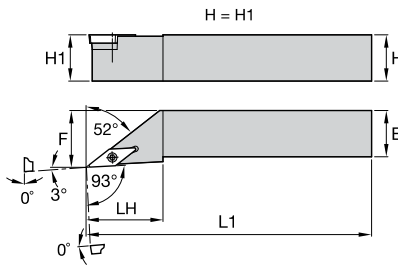
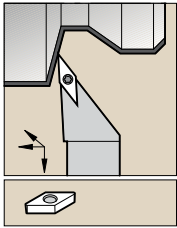
SSSC 45°

Order Number	Catalog Number	H	B	F	L1	LH	FA	L1A	Gage Insert
Right Hand									
1097810	SSSCR2020K12	20,00	20,00	25,00	125,00	25,00	8,07	8,32	SC..120408



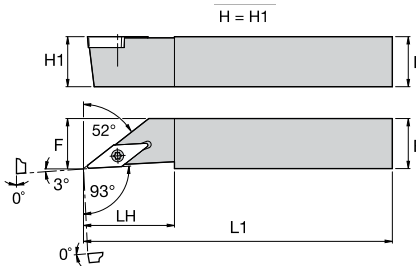
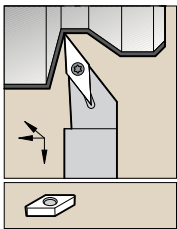
STJC-F 93°

Order Number	Catalog Number	H	B	F	L1	LH	Gage Insert
Right Hand							
1772197	STJCRF1212M11Q	12,00	12,00	12,00	150,00	16,00	TC..110204



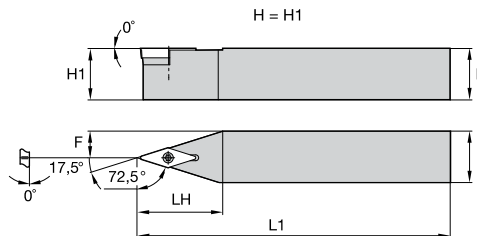
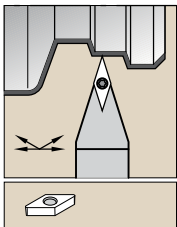
SVJB 93°

Order Number	Catalog Number	H	B	F	L1	LH	Gage Insert
Right Hand							
1097801	SVJBR1616H11	16,00	16,00	20,00	100,00	22,00	VB,,110304
1252235	SVJBR2020K11	20,00	20,00	25,00	125,00	26,00	VB,,110304
1097802	SVJBR2020K16	20,00	20,00	25,00	125,00	35,00	VB,,160408
1097803	SVJBR2525M16	25,00	25,00	32,00	150,00	35,00	VB,,160408
1244992	SVJBR3225P16	32,00	25,00	32,00	170,00	35,00	VB,,160408
Left Hand							
1097946	SVJBL1616H11	16,00	16,00	20,00	100,00	22,00	VB,,110304
1252234	SVJBL2020K11	20,00	20,00	25,00	125,00	26,00	VB,,110304
1097947	SVJBL2020K16	20,00	20,00	25,00	125,00	35,00	VB,,160408
1097948	SVJBL2525M16	25,00	25,00	32,00	150,00	35,00	VB,,160408
1192560	SVJBL3225P16	32,00	25,00	32,00	170,00	35,00	VB,,160408



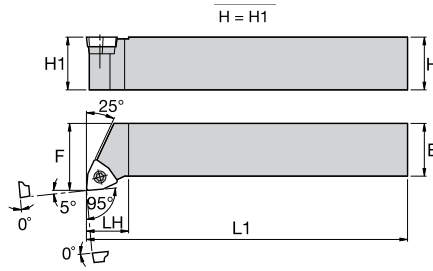
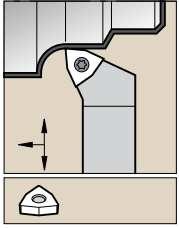
SVJB-F 93°

Order Number	Catalog Number	H	B	F	L1	LH	Gage Insert
Right Hand							
1097797	SVJBRF1010M11Q	10,00	10,00	10,00	150,00	23,00	VB..110304



SVVB 72,5°

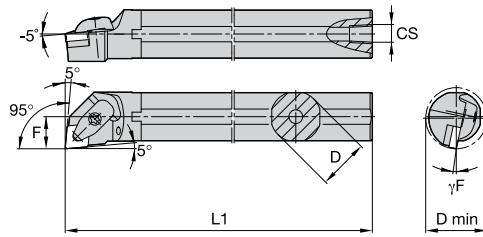
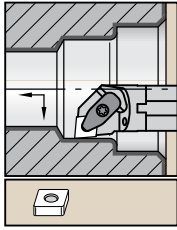
Order Number	Catalog Number	H	B	F	L1	LH	Gage Insert
Neutral Hand							
1097992	SVVBN2020K16	20,00	20,00	10,00	125,00	33,00	VB..160408



TURNING

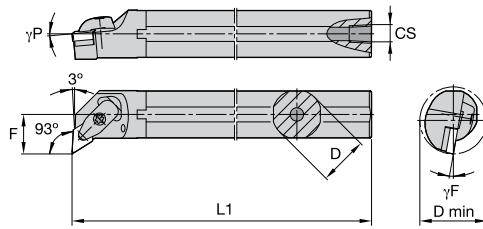
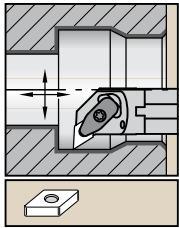
SWLC 95°

Order Number	Catalog Number	H	B	F	L1	LH	Gage Insert
Right Hand							
1097732	SWLCR2020K06	20,00	20,00	25,00	125,00	16,00	WC..06T308



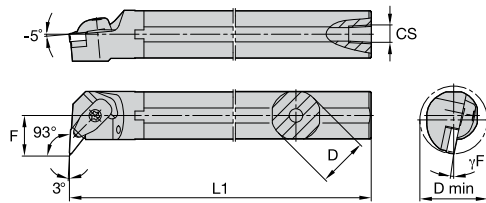
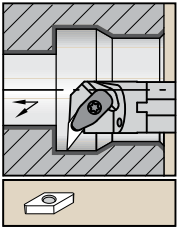
A-DCLN-KC 95°

Order Number	ISO Catalog Number	D	D min	F	L1	A	CS	γF°	Gage Insert
Right Hand									
2441867	A25RDCLNR12KC04	25,00	32,00	17,00	200,00	6,40	1/4-18 NPT	-12,000	CN.120408
2441931	A32SDCLNR12KC04	32,00	40,00	22,00	250,00	6,40	1/4-18 NPT	-12,000	CN.120408
2441933	A40TDCLNR12KC04	40,00	50,00	27,00	300,00	6,40	1/4-18 NPT	-9,000	CN..120408
Left Hand									
2441930	A25RDCLNL12KC04	25,00	32,00	17,00	200,00	6,40	1/4-18 NPT	-12,000	CN.120408
2441932	A32SDCLNL12KC04	32,00	40,00	22,00	250,00	6,40	1/4-18 NPT	-12,000	CN.120408
2441934	A40TDCLNL12KC04	40,00	50,00	27,00	300,00	6,40	1/4-18 NPT	-9,000	CN.120408



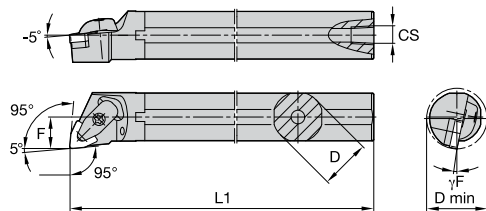
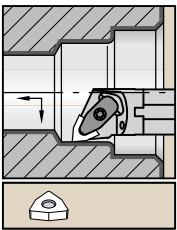
A-DDUN-KC 93°

Order Number	ISO Catalog Number	D	D min	F	L1	CS	γF°	Gage Insert
Right Hand								
2441939	A25RDDUNR11KC04	25,00	32,00	17,00	200,00	1/4-18 NPT	-12,000	DN..110408
2441941	A32SDDUNR11KC04	32,00	40,00	22,00	250,00	1/4-18 NPT	-12,000	DN..110408
2441945	A32SDDUNR15KC06	32,00	40,00	22,00	250,00	1/4-18 NPT	-12,000	DN..150608
2441947	A40TDDUNR15KC06	40,00	50,00	27,00	300,00	1/4-18 NPT	-9,000	DN..150608
Left Hand								
2441940	A25RDDUNL11KC04	25,00	32,00	17,00	200,00	1/4-18 NPT	-12,000	DN..110408
2441946	A32SDDUNL15KC06	32,00	40,00	22,00	250,00	1/4-18 NPT	-12,000	DN..150608
2441948	A40TDDUNL15KC06	40,00	50,00	27,00	300,00	1/4-18 NPT	-9,000	DN..150608



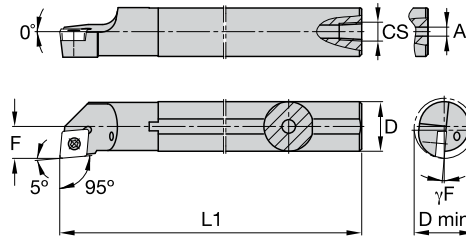
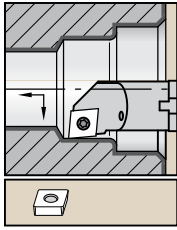
A-DVUN-KC 93°

Order Number	ISO Catalog Number	D	D min	F	L1	A	CS	γ_F°	Gage Insert
Right Hand									
2441916	A32SDVUNR16KC04	32,00	40,00	22,00	250,00	6,40	1/4-18 NPT	-11,000	VN..160408
2441918	A40TDVUNR16KC04	40,00	50,00	27,00	300,00	6,40	1/4-18 NPT	-10,000	VN..160408
Left Hand									
2441917	A32SDVUNL16KC04	32,00	40,00	22,00	250,00	6,40	1/4-18 NPT	-11,000	VN..160408
2441919	A40TDVUNL16KC04	40,00	50,00	27,00	300,00	6,40	1/4-18 NPT	-10,000	VN..160408



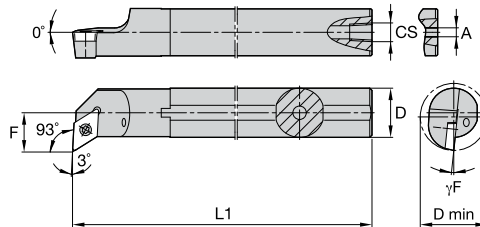
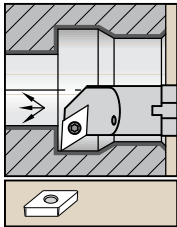
A-DWLN-KC 95°

Order Number	ISO Catalog Number	D	D min	F	L1	A	CS	γ_F°	Gage Insert
Right Hand									
2441921	A25RDWLNRO6KC04	25,00	32,00	17,00	200,01	6,40	1/4-18 NPT	-14,000	WN..060408
2441923	A25RDWLNRO8KC04	25,00	32,00	17,00	200,00	6,40	1/4-18 NPT	-12,000	WN..080408
2441925	A32SDWLNRO8KC04	32,00	40,00	22,00	250,00	6,40	1/4-18 NPT	-14,000	WN..080408
2441927	A40TDWLNRO8KC04	40,00	50,00	27,00	300,00	6,40	1/4-18 NPT	-14,000	WN..080408
Left Hand									
2441924	A25RDWLNLO8KC04	25,00	32,00	17,00	200,00	6,40	1/4-18 NPT	-12,000	WN..080408
2441926	A32SDWLNLO8KC04	32,00	40,00	22,00	250,00	6,40	1/4-18 NPT	-14,000	WN..080408



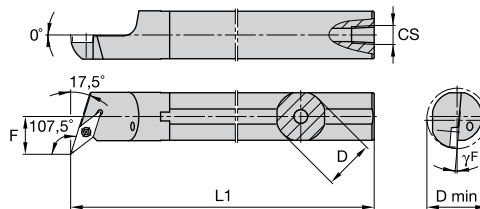
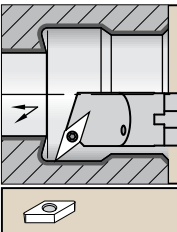
A-SCLC 95°

Order Number	ISO Catalog Number	D	D min	F	L1	A	CS	γF°	Gage Insert
Right Hand									
1098168	A10KSCLCR06	10,00	13,00	7,00	125,00	3,18	—	-7,000	CC..060204
1098178	A12MSCLCR06	12,00	16,00	9,00	150,00	4,00	1/16-27 NPT	-6,000	CC..060204
1098225	A16RSCLCR09	16,00	20,00	11,00	200,00	4,00	1/8-27 NPT	-7,000	CC..09T308
1098239	A20SSCLCR09	20,00	25,00	13,00	250,00	4,00	1/8-27 NPT	-5,000	CC..09T308
Left Hand									
1098173	A10KSCLCL06	10,00	13,00	7,00	125,00	3,18	—	-7,000	CC..060204
1098183	A12MSCLCL06	12,00	16,00	9,00	150,00	4,00	1/16-27 NPT	-6,000	CC..060204
1098231	A16RSCLCL09	16,00	20,00	11,00	200,00	4,00	1/8-27 NPT	-7,000	CC..09T308
1098244	A20SSCLCL09	20,00	25,00	13,00	250,00	4,00	1/8-27 NPT	-5,000	CC..09T308



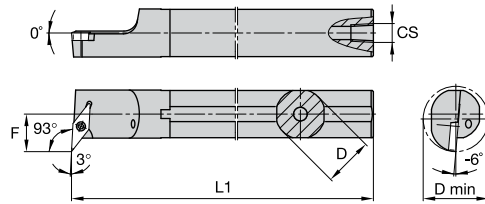
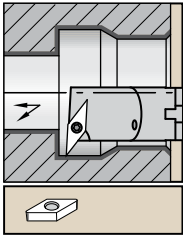
A-SDUC 93°

Order Number	ISO Catalog Number	D	D min	F	L1	A	CS	γF°	Gage Insert
Right Hand									
1886506	A10KSDUCR07	10,00	13,00	7,00	125,00	3,20	—	-7,000	DC..070204
1098187	A12MSDUCR07	12,00	16,00	9,00	150,00	—	1/16-27 NPT	-4,000	DC..070204
1098197	A16RSDUCR07	16,00	20,00	11,00	200,00	—	1/8-27 NPT	-4,000	DC..070204
1886508	A16RSDUCR11	16,00	20,00	11,00	200,00	—	1/8-27 NPT	-6,000	DC..11T308
1098146	A20SSDUCR11	20,00	25,00	13,00	250,00	—	1/8-27 NPT	-5,000	DC..11T308
Left Hand									
1886505	A10KSDUCL07	10,00	13,00	7,00	125,00	3,20	—	-7,000	DC..070204
1098192	A12MSDUCL07	12,00	16,00	9,00	150,00	—	1/16-27 NPT	-4,000	DC..070204
1098202	A16RSDUCL07	16,00	20,00	11,00	200,00	—	1/8-27 NPT	-4,000	DC..070204
1886507	A16RSDUCL11	16,00	20,00	11,00	200,00	—	1/8-27 NPT	-6,000	DC..11T308
1098148	A20SSDUCL11	20,00	25,00	13,00	250,00	—	1/8-27 NPT	-5,000	DC..11T308



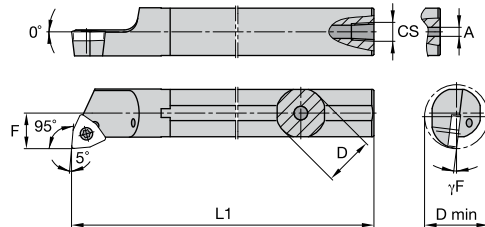
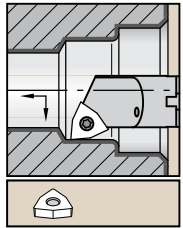
A-SVQB 107,5°

Order Number	ISO Catalog Number	D	D min	F	L1	CS	γF°	Gage Insert
Right Hand								
1098232	A16RSVQBR11	16,00	20,00	11,00	200,00	1/8-27 NPT	-7,000	VB..110304
Left Hand								
1098233	A16RSVQBL11	16,00	20,00	11,00	200,00	1/8-27 NPT	-7,000	VB..110304



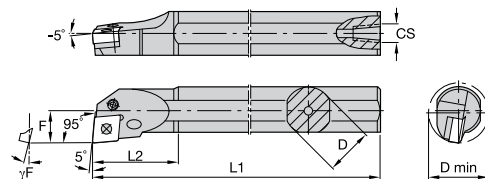
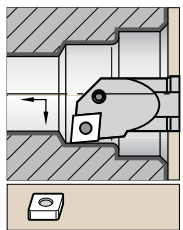
A-SVUB 93°

Order Number	ISO Catalog Number	D	D min	F	L1	A	CS	γ_F°	Gage Insert
Right Hand									
1098249	A20SSVUBR11	20,00	25,00	13,00	250,00	4,00	1/8-27 NPT	-6,000	VB..110304
1098275	A25TSVUBR16	25,00	32,00	17,00	300,00	—	1/4-18 NPT	-6,000	VB..160408
Left Hand									
1098278	A25TSVUBL16	25,00	32,00	17,00	300,00	—	1/4-18 NPT	-6,000	VB..160408



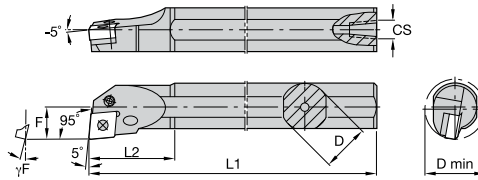
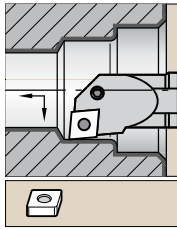
A-SWLC 95°

Order Number	ISO Catalog Number	D	D min	F	L1	A	CS	γ_F°	Gage Insert
Right Hand									
1098062	A10KSWLCR04	10,00	13,00	7,00	125,00	3,00	—	-7,000	WC..040204
1098063	A12MSWLCR04	12,00	16,00	9,00	150,00	—	1/16-27 NPT	-6,000	WC..040204
1098064	A16RSWLCR06	16,00	20,00	11,00	200,00	3,96	1/8-27 NPT	-7,000	WC..06T308



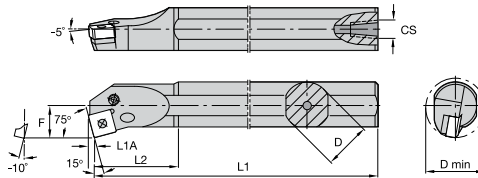
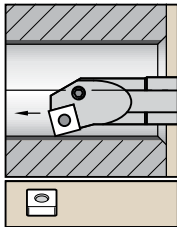
A-PCLN 95°

Order Number	ISO Catalog Number	D	D min	F	L1	A	CS	γ_F°	Gage Insert
Right Hand									
2447150	A25TPCLNR12	25,00	32,00	17,00	300,00	6,40	1/4-18 NPT	-12,000	CN..120408
2447152	A32UPCLNR12	32,00	40,00	22,00	350,00	6,40	1/4-18 NPT	-10,000	CN..120408
2447476	A32UPCLNR16	32,00	50,00	22,00	350,00	—	1/4-18 NPT	-10,000	CN..160612
2447533	A40VPCLNR12	40,00	50,00	27,00	400,00	6,40	1/4-18 NPT	-10,000	CN..120408
2447478	A40VPCLNR16	40,00	50,00	27,00	400,00	—	1/4-18 NPT	-11,000	CN..160612
Left Hand									
2447151	A25TPCLNL12	25,00	32,00	17,00	300,00	6,40	1/4-18 NPT	-12,000	CN..120408
2447473	A32UPCLNL12	32,00	40,00	22,00	350,00	6,40	1/4-18 NPT	-10,000	CN..120408
2447534	A40VPCLNL12	40,00	50,00	27,00	400,00	6,40	1/4-18 NPT	-10,000	CN..120408



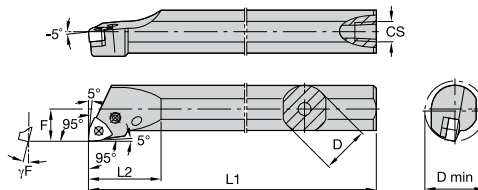
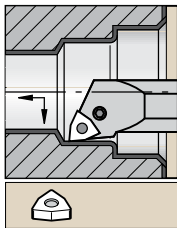
S-PCLN 95°

Order Number	ISO Catalog Number	D	D min	F	L1	γ_F°	Gage Insert
Right Hand							
1244127	S25T-PCLNR12	25,00	32,00	17,00	300,00	-12,000	CN..120408
1192453	S32U-PCLNR12	32,00	40,00	22,00	350,00	-10,000	CN..120408
1192457	S40VPCLNR12	40,00	50,00	27,00	400,00	-10,000	CN..120408
Left Hand							
1244099	S25T-PCLNL12	25,00	32,00	17,00	300,00	-12,000	CN..120408
1244101	S32U-PCLNL12	32,00	40,00	22,00	350,00	-10,000	CN..120408



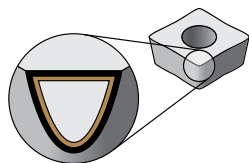
A-PSKN 75°

Order Number	ISO Catalog Number	D	D min	F	L1	CS	γ_F°	Gage Insert
Right Hand								
2447482	A32UPSKNR12	32,00	40,00	22,00	350,00	1/4-18 NPT	-10,000	SN..120408



A-PWLN 95°

Order Number	ISO Catalog Number	D	D min	F	L1	A	CS	γ_F°	gage insert
right hand									
1244113	A16RPWLNRO6	16,00	27,00	11,00	200,00	—	1/8-27 NPT	-12,000	WN..060404
1244115	A20SPWLNRO6	20,00	25,00	13,00	250,00	4,00	1/8-27 NPT	-14,000	WN..060408
1194440	A25RPWLNRO8	25,00	32,00	17,00	200,00	6,40	1/4-18 NPT	-12,000	WN..080408
1244118	A32SPWLNRO8	32,00	40,00	22,00	250,00	—	1/4-18 NPT	-10,000	WN..080408
1244120	A40TPWLNRO8	40,00	50,00	27,00	300,00	—	1/4-18 NPT	-8,000	WN..080408
left hand									
1191396	A16RPWLNLO6	16,00	27,00	11,00	200,00	—	1/8-27 NPT	-12,000	WN..060404
1244114	A20SPWLNLO6	20,00	25,00	13,00	250,00	4,00	1/8-27 NPT	-14,000	WN..060408
1244116	A25RPWLNLO8	25,00	32,00	17,00	200,00	6,40	1/4-18 NPT	-12,000	WN..080408
1244117	A32SPWLNLO8	32,00	40,00	22,00	250,00	—	1/4-18 NPT	-10,000	WN..080408
1244119	A40TPWLNLO8	40,00	50,00	27,00	300,00	—	1/4-18 NPT	-8,000	WN..080408



Coatings provide high-speed capability and are engineered for finishing to light roughing.

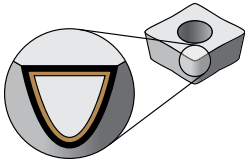
P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

wear resistance ← → toughness

PVD-Coated Carbide Grades

Coating	Grade Description		05	10	15	20	25	30	35	40	45	
KCU10B	<p>Composition: An advanced multilayer AlTiN-AlTiSiN/TiSiN PVD coating over a very deformation-resistant unalloyed carbide substrate. The new coating improves wear resistance with a Si-enhanced hard outlayer and increased edge stability achieved by a low stress baselayer. The gold outlayer provides better used edge identification.</p> <p>Application: The KCU10B grade is ideal for finishing to general machining of most workpiece materials at a wide range of speed and feed capabilities. Excellent for machining most steels, stainless steels, cast irons, non-ferrous materials, and high-temp alloys with improved edge toughness, notch resistance, and higher cutting speed/feed capability.</p>	P										
		M										
		K										
		N										
		S										
		H										
KCU25B	<p>Composition: An advanced multilayer AlTiN-AlTiSiN/TiSiN PVD coating and fine-grain unalloyed substrate. The new coating improves wear resistance with a Si-enhanced hard outlayer and increased edge stability achieved by a low stress baselayer. The gold outlayer provides better used edge identification.</p> <p>Application: The KCU25B grade is ideal for general machining of most steels, stainless steels, high-temp alloys, titanium, irons, and non-ferrous materials in a wide range of speeds and feeds with improved edge toughness for interrupted cuts and high feed rates.</p>	P										
		M										
		K										
		N										
		S										
		H										
KC5410	<p>Composition: A PVD TiB2 coating over a very deformation-resistant unalloyed substrate.</p> <p>Application: Designed for roughing, semi-finishing, and finishing of free machining (hypoeutectic <12.2% Si) aluminum, aluminum alloys, and magnesium alloys. The TiB2 coating is harder than TiN and TiAlN coatings and has an extremely smooth surface, resulting in reduced surface friction, speedy chip flow, and outstanding wear resistance. Built-up edge is prevented because this coating has a very low affinity for aluminum. The substrate is unalloyed and fine grained and offers sharp edges, smooth surfaces, and excellent thermal deformation resistance and edge integrity. Inserts with a ground periphery are polished before coating and have a sharp edge. Molded inserts have a light hone.</p>	P										
		M										
		K										
		N										
		S										
		H										
KCS10	<p>Composition: An advanced PVD-AlTiN coated, fine-grained tungsten carbide grade.</p> <p>Application: The KCS10 grade is specifically engineered for the productive machining of high-temp alloys. The fine-grained tungsten carbide substrate has excellent toughness and deformation resistance while the advanced PVD coating allows metalcutting speeds double those of conventional PVD-coated cutting tools.</p>	P										
		M										
		K										
		N										
		S										
		H										
KC5025	<p>Composition: An advanced PVD-AlTiN-coated grade with a tough, ultra-fine-grain unalloyed substrate.</p> <p>Application: For general-purpose machining of most steels, stainless steels, high-temp alloys, titanium, irons, and non-ferrous materials. Speeds may vary from low to medium and will handle interruptions and high feed rates.</p>	P										
		M										
		K										
		N										
		S										
		H										

TURNING



Coatings provide high-speed capability and are engineered for finishing to light roughing.

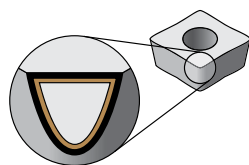
P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

wear resistance ← → toughness

Coating	Grade Description	Material Group										
		05	10	15	20	25	30	35	40	45		
KCK05	<p>Composition: A multilayered coating with moderately thick MTCVD TiCN-Al₂O₃ layers over a highly deformation-resistant carbide substrate.</p> <p>Application: Designed for high-speed machining of gray and ductile irons. The substrate and coating architecture together with post-coat treatment ensure a tremendous tool life advantage, especially when cutting higher tensile strength ductile and gray irons where workpiece size consistency and reliability of tool life are critical. Excellent both in continuous cuts and varied depths of cut.</p>	P										
		M										
		K										
		N										
		S										
		H										
KCK15	<p>Composition: A multilayered coating with thick MTCVD TiCN-Al₂O₃ layers applied over a carbide substrate specifically engineered for cast irons.</p> <p>Application: Delivers consistent performance in high-speed machining of gray and ductile irons. The substrate design permits the insert to stay in the cut for a long time at high speeds with minimum deformation. The thick CVD coating and post-coat treatment provide superior wear resistance ensuring long and consistent tool life. Can be applied both in continuous and lightly interrupted cuts.</p>	P										
		M										
		K										
		N										
		S										
		H										
KCK20	<p>Composition: A specially toughened MTCVD TiCN-Al₂O₃ coating over a wear-resistant substrate.</p> <p>Application: Specifically engineered to maximize coating adhesion and edge strength making this grade ideal in wet interrupted cutting of gray and ductile irons. It can be used in a wide range of applications from finishing to roughing to maximize productivity wherever strength and reliability are needed.</p>	P										
		M										
		K										
		N										
		S										
		H										
KCM15B	<p>Composition: A multilayer MTCVD TiCN-Al₂O₃ coated carbide grade.</p> <p>Application: An excellent finishing to medium machining grade for austenitic stainless steels at higher speeds that covers a broad range of steel applications in the P20–P25 range. KCM15B in combination with unique geometries has been designed to resist depth-of-cut notching and minimize burr formation. The post-coat treatment reduces coating stresses, improves coating adhesion, minimizes microchipping and edge build-up, and improves workpiece finish.</p>	P										
		M										
		K										
		N										
		S										
		H										
KCM25B	<p>Composition: A multilayer MTCVD TiCN-Al₂O₃-TiCN coated carbide grade.</p> <p>Application: This CVD-coated grade is designed for general-purpose machining of austenitic stainless steels at moderate speeds and feeds. This grade offers an extraordinary combination of toughness, built-up edge resistance, and wear resistance in stainless steel applications.</p>	P										
		M										
		K										
		N										
		S										
		H										
KCP10B	<p>Composition: A specially engineered cobalt-enriched carbide grade with thick MTCVD TiCN-Al₂O₃-TiCN coating for maximum wear resistance.</p> <p>Application: An excellent finishing to medium machining grade for a variety of workpiece materials, including most steels, ferritic, martensitic and PH stainless steels, and cast irons. The cobalt-enriched substrate offers a balanced combination of deformation resistance and edge toughness, while the thick coating layers offer outstanding abrasion resistance and crater wear resistance for high-speed machining. Smooth coating provides resistance to edge build-up and microchipping and produces excellent surface finishes.</p>	P										
		M										
		K										
		N										
		S										
		H										

CVD-Coated Carbide Grades






TURNING



Coatings provide high-speed capability and are engineered for finishing to light roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

wear resistance ← → toughness

Coating		Grade Description		05	10	15	20	25	30	35	40	45		
CVD-Coated Carbide Grades	 KCP25C	Composition: A tough cobalt-enriched carbide grade with an advanced multilayer MT TiCN-Al ₂ O ₃ CVD coating with gold TiN outer layer on flank for improved wear identification. Application: Best general-purpose turning grade for most steels and ferritic and martensitic stainless steels. The substrate design provides an excellent combination of deformation resistance and insert edge strength. Coating layers offer superior wear resistance enabling increased speeds and productivity compared to other P25 grades. A targeted post-coat treatment minimizes microchipping and enables improved part finishes while retaining the bright gold color on the flank so that used/unused cutting edges can clearly be identified.	P											
CVD-Coated Carbide Grades	 KCP40B	Composition: A tough carbide grade with a thin MTCVD TiCN-Al ₂ O ₃ -TiOCN coating. Application: For heavy roughing of carbon, alloy, and stainless steels. The substrate-coating combination provides unbelievable toughness and operational security allowing high metal removal rates even the in most demanding interrupted cuts.	P											
PVD coated PcBN	 KBH10B	Composition: A low content PcBN grade with a proprietary binder and a PVD TiN/TiAlN/TiN coating for added wear resistance and enhanced wear identification. Application: Designed for the precision machining of hardened steels (>45 HRC). It can be effectively applied on bearing steels, hot and cold work tool steels, high speed steels, die steels, case hardened steels, carburised and nitrided irons, and some hard coatings. Available in a multi-tip format with a wide range of edge preparations, insert styles, and wiper geometries.												
PVD coated PcBN	 KBH20B	Composition: A medium-low content PcBN grade with a proprietary binder and a PVD TiN/TiAlN/TiN coating for added wear resistance and enhanced wear identification. Application: KBH20B is the ideal PcBN hard turning grade for continuous to lightly interrupted cutting applications. The structure, as well as the different edge preparations, enable repeatable workpiece tolerances, excellent surface finishes, and surface integrity. Typical applications are case-hardened steel components such as gears, shafts, and other drive-train components.												
PVD coated PcBN	 KBH20	Composition: A low content PcBN grade with a PVD TiN/AlTiN coating for added wear resistance. Application: KBH20 is the ideal PcBN hard turning grade for continuous to lightly interrupted cutting applications. The structure, as well as the different edge preparations, enable repeatable workpiece tolerances, excellent surface finishes, and surface integrity. Typical applications are case-hardened steel components such as gears, shafts, and other drive-train components.												

TURNING

Grooving and Cut-Off

BEYOND EVOLUTION

GROOVING, TURNING AND CUT-OFF

Materials



Explore Beyond Evolution

Industries



Automotive



EV



General
Engineering



Oil & Gas



Aerospace &
Defense



Medical



Wind & Solar

Applications



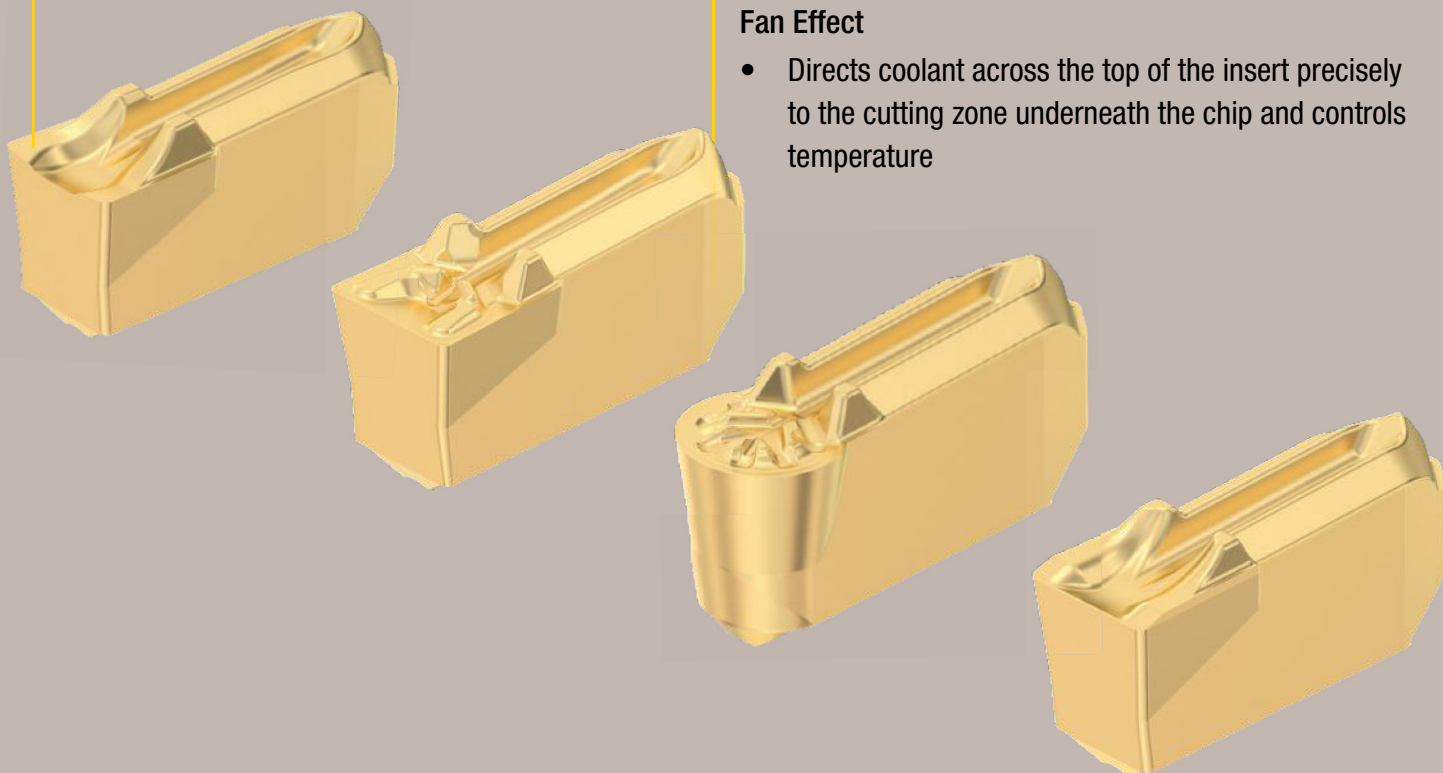
SINGLE-SIDED GROOVING, TURNING AND CUT-OFF SYSTEM

Beyond Evolution is applicable with high- or low-pressure coolant supply. The active coolant control feature delivers longer tool life and higher MRR. The proprietary triple-V seating feature with three contact surfaces provides functional stability and minimizes vibration, resulting in excellent surface finishes.

Experience precision and power in EVERY cut with KCU10B & KCU25B universal turning grade featuring KENGOLD™ PVD coating technology

CHIPBREAKING EFFECT

- Coolant delivery system directs fluids to the cutting edge, improving chip removal



TRIPLE V-DESIGN

Top and Bottom-V

- Precise and secure insert positioning for increased rigidity and dimensional accuracy

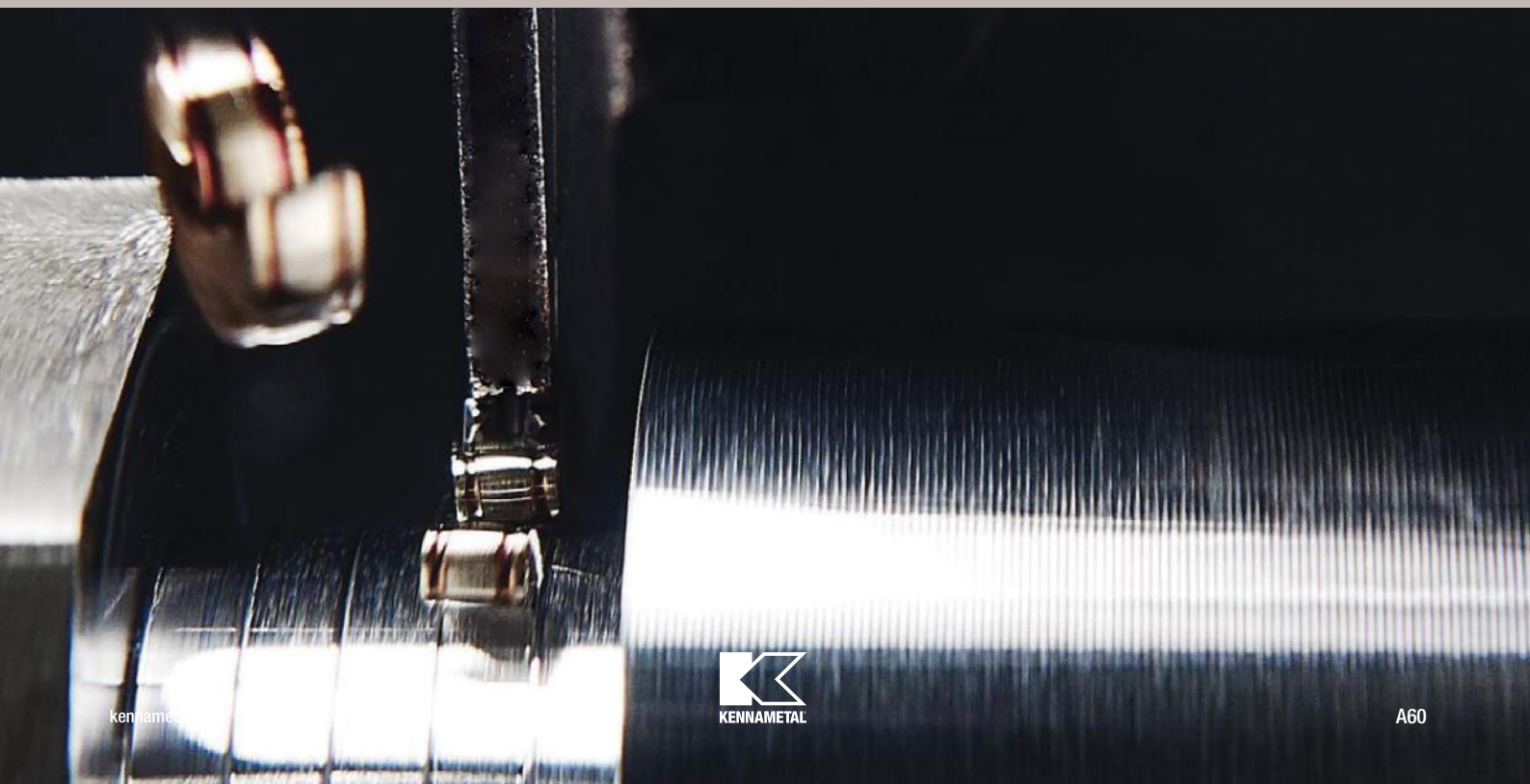
V-Back Design

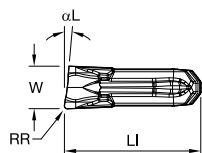
- Unsurpassed grooving, cut-off and multi-directional turning load stability

COOLANT DELIVERY

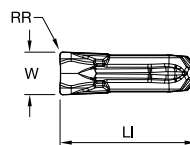
Fan Effect

- Directs coolant across the top of the insert precisely to the cutting zone underneath the chip and controls temperature

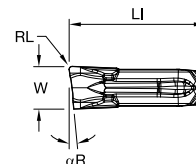




Left Hand



Neutral



Right Hand

TURNING

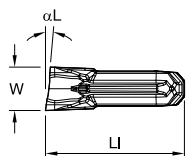
KCUB25B

P	●
M	●
K	●
N	●
S	●
H	●

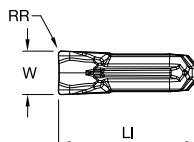
● Primary
○ Secondary

Beyond Evolution • Cut-Off Insert • CF Geometry • Metric

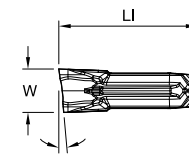
ANSI Catalog Number	ISO Catalog Number	Insert Size	W		α		RR		RL		LI		KCUB25B
			mm	in	αR	αL	mm	in	mm	in	mm	in	
L - Left													
EC014M1BL06CF01	EC014M1BL06CF01	1B	1.40	0.055	—	6.000	0.15	0.006	—	—	9.00	0.355	7167401
EC020M02L06CF02	EC020M02L06CF02	2	2.00	0.079	—	6.000	0.20	0.008	—	—	8.97	0.353	7167410
EC030M03L06CF02	EC030M03L06CF02	3	3.00	0.118	—	6.000	0.20	0.008	—	—	9.60	0.378	7167429
EC040M04L06CF02	EC040M04L06CF02	4	4.00	0.157	—	6.000	0.20	0.008	—	—	10.19	0.401	7167438
N — Neutral													
EC014M1BN00CF01	EC014M1BN00CF01	1B	1.40	0.055	—	—	0.15	0.006	0.15	0.006	9.00	0.355	7167402
EC020M02N00CF02	EC020M02N00CF02	2	2.00	0.079	—	—	0.20	0.008	0.20	0.008	8.97	0.353	7167421
EC030M03N00CF02	EC030M03N00CF02	3	3.00	0.118	—	—	0.20	0.008	0.20	0.008	9.60	0.378	7167430
EC040M04N00CF02	EC040M04N00CF02	4	4.00	0.158	—	—	0.20	0.008	0.20	0.008	10.19	0.401	7167439
EC050M05N00CF03	EC050M05N00CF03	5	5.00	0.197	—	—	0.30	0.012	0.30	0.012	12.20	0.482	7167447
R — Right													
EC014M1BR06CF01	EC014M1BR06CF01	1B	1.40	0.055	6.000	—	—	—	0.15	0.006	9.00	0.355	7167409
EC020M02R06CF02	EC020M02R06CF02	2	2.00	0.079	6.000	—	—	—	0.20	0.008	8.97	0.353	7167428
EC030M03R06CF02	EC030M03R06CF02	3	3.00	0.118	6.000	—	—	—	0.20	0.008	9.60	0.378	7167437
EC040M04R06CF02	EC040M04R06CF02	4	4.00	0.158	6.000	—	—	—	0.20	0.008	10.19	0.401	7167446



Left Hand



Neutral



Right Hand

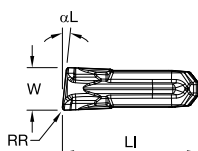
Beyond Evolution • Cut-Off Insert • CF Geometry
• Precision Ground • Metric

- Primary
- Secondary

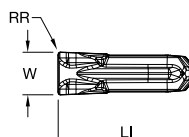
P	●
M	●
K	●
N	●
S	●
H	●

KCU25B

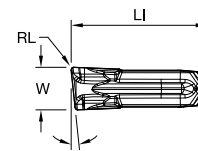
ANSI Catalog Number	ISO Catalog Number	Insert Size	W		α		RR		RL		LI		KCU25B
			mm	in	αR	αL	mm	in	mm	in	mm	in	
L - Left													
EC030M03PL06CF00	EC030M03PL06CF00	3	3.00	0.118	—	6.000	0.00	0.000	—	—	9.48	0.373	7167431
EC030M03PL12CF00	EC030M03PL12CF00	3	3.00	0.118	—	12.000	—	—	—	—	9.48	0.373	7167432
N — Neutral													
EC020M02PN00CF02	EC020M02PN00CF02	2	2.00	0.079	—	—	0.20	0.008	0.20	0.008	9.04	0.356	7167425
EC020M02PN00CF00	EC020M02PN00CF00	2	2.00	0.079	—	—	—	—	—	—	8.94	0.352	7167424
EC030M03PN00CF00	EC030M03PN00CF00	3	3.00	0.118	—	—	—	—	—	—	9.48	0.373	7167433
EC030M03PN00CF02	EC030M03PN00CF02	3	3.00	0.118	—	—	0.20	0.008	0.20	0.008	9.63	0.379	7167434
EC040M04PN00CF00	EC040M04PN00CF00	4	4.00	0.158	—	—	—	—	—	—	10.01	0.394	7167442
EC040M04PN00CF02	EC040M04PN00CF02	4	4.00	0.158	—	—	0.20	0.008	0.20	0.008	10.16	0.400	7167443
EC050M05PN00CF03	EC050M05PN00CF03	5	5.00	0.197	—	—	0.30	0.012	0.30	0.012	12.22	0.481	7167449
R — Right													
EC020M02PR12CF00	EC020M02PR12CF00	2	2.00	0.079	12.000	—	—	—	—	—	8.95	0.352	7167427
EC030M03PR12CF00	EC030M03PR12CF00	3	3.00	0.118	12.000	—	—	—	—	—	9.48	0.373	7167436
EC030M03PR06CF00	EC030M03PR06CF00	3	3.00	0.118	6.000	—	—	—	—	—	9.48	0.373	7167435



Left Hand



Neutral



Right Hand

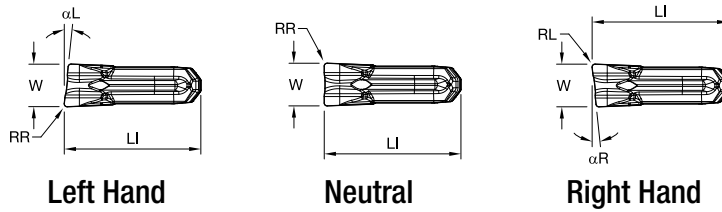
Beyond Evolution • Cut-Off Insert • CM Geometry • Metric

- Primary
- Secondary

P	●
M	●
K	●
N	●
S	●
H	●

KCU25B

ANSI Catalog Number	ISO Catalog Number	Insert Size	W		α		RR		RL		LI		KCU25B
			mm	in	αR	αL	mm	in	mm	in	mm	in	
L - Left													
EC030M03L06CM02	EC030M03L06CM02	3	3.00	0.118	—	6.000	0.20	0.008	—	—	9.60	0.378	7167247
N — Neutral													
EC014M1BN00CM01	EC014M1BN00CM01	1B	1.40	0.055	—	—	0.15	0.006	0.15	0.006	9.00	0.355	7167234
EC020M02N00CM02	EC020M02N00CM02	2	2.00	0.079	—	—	0.20	0.008	0.20	0.008	8.98	0.353	7167241
EC030M03N00CM02	EC030M03N00CM02	3	3.00	0.118	—	—	0.20	0.008	0.20	0.008	9.60	0.378	7167250
EC040M04N00CM02	EC040M04N00CM02	4	4.00	0.158	—	—	0.20	0.008	0.20	0.008	10.20	0.402	7167259
EC050M05N00CM03	EC050M05N00CM03	5	5.00	0.197	—	—	0.30	0.012	0.30	0.012	12.20	0.482	7167264
EC080M08N00CM04	EC080M08N00CM04	8	8.00	0.315	—	—	0.40	0.016	0.40	0.016	17.50	0.688	7167273
R — Right													
EC030M03R06CM02	EC030M03R06CM02	3	3.00	0.118	6.000	—	—	—	0.20	0.008	9.60	0.378	7167253
EC040M04R06CM02	EC040M04R06CM02	4	4.00	0.157	6.000	—	—	—	0.20	0.008	10.20	0.401	7167262



TURNING

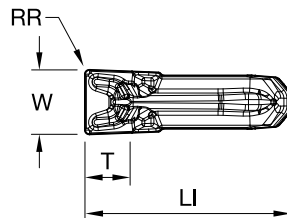
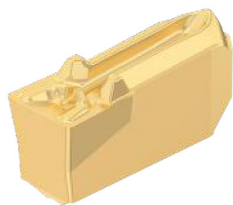
KCU25B

P	●
M	●
K	●
N	●
S	●
H	●

● Primary
○ Secondary

Beyond Evolution • Cut-Off Insert • CR Geometry • Metric

ANSI Catalog Number	ISO Catalog Number	Insert Size	W		α		RR		RL		LI		KCU25B
			mm	in	αR	αL	mm	in	mm	in	mm	in	
L — Left													
EC030M03L06CR02	EC030M03L06CR02	3	3.00	0.118	—	6.000	0.20	0.008	—	—	9.60	0.378	7167248
N — Neutral													
EC020M02N00CR02	EC020M02N00CR02	2	2.00	0.079	—	—	0.20	0.008	0.20	0.008	8.98	0.353	7167242
EC030M03N00CR02	EC030M03N00CR02	3	3.00	0.118	—	—	0.20	0.008	0.20	0.008	9.60	0.378	7167251
EC040M04N00CR02	EC040M04N00CR02	4	4.00	0.158	—	—	0.20	0.008	0.20	0.008	10.20	0.402	7167260
EC060M06N00CR03	EC060M06N00CR03	6	6.00	0.236	—	—	0.30	0.012	0.30	0.012	14.59	0.574	7167268
EC070M06N00CR04	EC070M06N00CR04	6	7.00	0.276	—	—	0.40	0.016	0.40	0.016	14.60	0.574	7167271
R — Right													
EC020M02R06CR02	EC020M02R06CR02	2	2.00	0.079	6.000	—	—	—	0.20	0.008	9.00	0.353	7167245
EC030M03R06CR02	EC030M03R06CR02	3	3.00	0.118	6.000	—	—	—	0.20	0.008	9.60	0.378	7167254
EC040M04R06CR02	EC040M04R06CR02	4	4.00	0.157	6.000	—	—	—	0.20	0.008	10.20	0.402	7167263



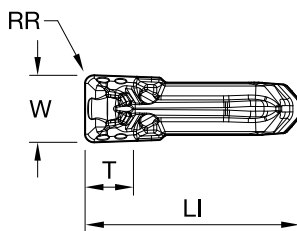
KCK20B

P	○
M	●
K	●
N	●
S	●
H	●

● Primary
○ Secondary

Beyond Evolution • Groove and Turn Insert • GUN Geometry • Metric

Catalog Number	Insert Size	W		RR		LI		T		KCK20B
		mm	in	mm	in	mm	in	mm	in	
EG0512M05U08GUN	5	5.13	0.202	0.80	0.031	12.20	0.481	3.20	0.126	6017485

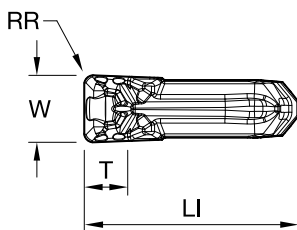


		KCU10B	KCU25B
P	●	●	●
M	●	●	●
K	●	●	●
N	●	●	●
S	●	●	●
H	●	●	●

● Primary
○ Secondary

Beyond Evolution • Groove and Turn Insert • GUP Geometry • Metric

catalog number	insert size	W		RR		LI		T		KCU10B	KCU25B
		mm	in	mm	in	mm	in	mm	in		
EG0212M02U02GUP	2	2.13	0.084	0.20	0.008	8.97	0.353	1.65	0.065	7096909	7167098
EG0251M02U02GUP	2	2.51	0.099	0.20	0.008	8.97	0.353	1.67	0.066	7096910	7167099
EG0312M03U02GUP	3	3.13	0.123	0.20	0.008	9.60	0.378	2.20	0.087	7096911	7167102
EG0312M03U04GUP	3	3.13	0.123	0.40	0.016	9.60	0.378	1.80	0.071	7096912	7167103
EG0412M04U04GUP	4	4.13	0.162	0.40	0.016	10.19	0.401	2.75	0.108	7096877	7167106
EG0412M04U08GUP	4	4.13	0.162	0.80	0.031	10.19	0.401	2.75	0.108	—	7167107
EG0512M05U04GUP	5	5.13	0.202	0.40	0.016	12.25	0.482	3.20	0.126	7096879	7167112
EG0512M05U08GUP	5	5.13	0.202	0.80	0.031	12.25	0.482	3.20	0.126	7096880	7167114
EG0612M06U04GUP	6	6.13	0.241	0.40	0.016	14.60	0.575	4.00	0.159	7096881	7167120
EG0612M06U08GUP	6	6.13	0.241	0.80	0.031	14.60	0.574	3.80	0.150	7096882	7167122
EG0812M08U08GUP	8	8.13	0.320	0.80	0.031	17.47	0.688	3.80	0.150	7096884	7167134
EG1012M10U12GUP	10	10.13	0.399	1.20	0.047	20.80	0.817	5.30	0.209	7096886	7167142

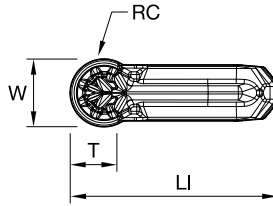


		KCU10B	KCU25B
P	●	●	●
M	●	●	●
K	●	●	●
N	●	●	●
S	●	●	●
H	●	●	●

● Primary
○ Secondary

Beyond Evolution • Groove and Turn Insert • GUP Geometry • Precision Ground • Metric

Catalog Number	Insert Size	W		RR		LI		T		KCU10B	KCU25B
		mm	in	mm	in	mm	in	mm	in		
EG0200M02P02GUP	2	2.00	0.079	0.20	0.008	8.92	0.351	1.70	0.066	7096845	7167097
EG0300M03P02GUP	3	3.00	0.118	0.20	0.008	9.55	0.376	2.20	0.088	7096846	7167100
EG0300M03P04GUP	3	3.00	0.118	0.40	0.016	9.55	0.376	2.20	0.088	7096847	7167101
EG0400M04P04GUP	4	4.00	0.158	0.40	0.016	10.15	0.399	2.70	0.106	7096848	7167104
EG0400M04P08GUP	4	4.00	0.158	0.80	0.032	10.15	0.399	2.70	0.106	7096849	7167105
EG0500M05P04GUP	5	5.00	0.197	0.40	0.016	12.18	0.480	3.10	0.123	7096850	7167108
EG0500M05P08GUP	5	5.00	0.197	0.80	0.032	12.20	0.480	3.10	0.123	7096851	7167110
EG0600M06P04GUP	6	6.00	0.236	0.40	0.016	14.53	0.057	4.00	0.156	7096852	7167116
EG0600M06P08GUP	6	6.00	0.236	0.80	0.032	14.54	0.572	3.90	0.153	7096853	7167118
EG0800M08P08GUP	8	8.00	0.315	0.80	0.031	17.40	0.685	4.60	0.183	7096856	7167130
EG1000M10P12GUP	10	10.00	0.394	1.20	0.047	20.70	0.815	5.20	0.206	7096859	—

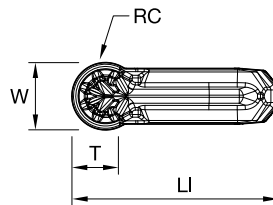


		KCU10B	KCU25B
P	●	●	●
M	●	●	●
K	●	●	●
N	●	●	●
S	●	●	●
H	○	●	●

Beyond Evolution • Grooving Insert • GUP Geometry • Full Radius • Metric

● Primary
○ Secondary

Catalog Number	Insert Size	W		RC		LI		T		KCU10B	KCU25B
		mm	in	mm	in	mm	in	mm	in		
ER0212M02U00GUP	2	2.12	0.084	1.06	0.042	8.97	0.353	1.65	0.065	7096917	—
ER0312M03U00GUP	3	3.13	0.123	1.56	0.062	9.60	0.378	2.30	0.091	7096915	7167180
ER0412M04U00GUP	4	4.13	0.162	2.06	0.081	10.20	0.401	1.40	0.055	7096902	—
ER0612M06U00GUP	6	6.13	0.241	3.06	0.121	14.60	0.575	3.90	0.154	—	7167192
ER0812M08U00GUP	8	8.13	0.320	4.06	0.160	17.50	0.688	4.70	0.185	7096905	7167196



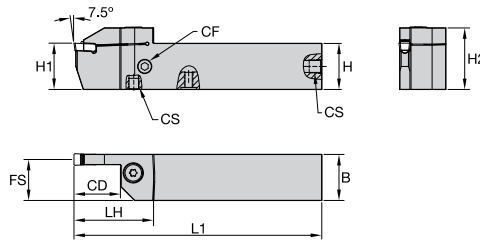
		KCU10B	KCU25B
P	●	●	●
M	●	●	●
K	●	●	●
N	●	●	●
S	●	●	●
H	○	●	●

Beyond Evolution • Grooving Insert • GUP Geometry • Full Radius • Precision Ground • Metric

● Primary
○ Secondary

Catalog number	insert size	W		RC		LI		T		KCU10B	KCU25B
		mm	in	mm	in	mm	in	mm	in		
ER0200M02P00GUP	2	2.00	0.079	1.00	0.039	8.91	0.351	1.00	0.039	7096918	7167174
ER0300M03P00GUP	3	3.00	0.118	1.50	0.059	9.50	0.376	1.50	0.059	7096868	7167178
ER0400M04P00GUP	4	4.00	0.157	2.00	0.079	10.10	0.399	1.40	0.055	7096869	7167182
ER0500M05P00GUP	5	5.00	0.197	2.50	0.098	12.20	0.480	2.50	0.098	7096870	7167186
ER0600M06P00GUP	6	6.00	0.236	3.00	0.118	14.50	0.572	3.00	0.118	7096871	7167190
ER0800M08P00GUP	8	8.00	0.315	4.00	0.157	17.40	0.685	4.00	0.158	7096872	—





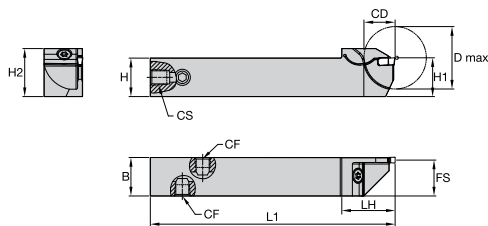
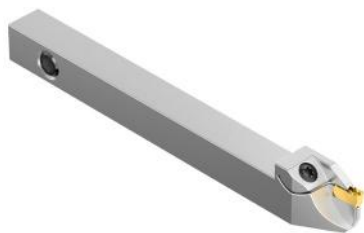
Beyond Evolution • Integral Toolholder • Through Coolant • Metric

Order Number	ISO Catalog Number	SSC	CD	H1	H	B	H2	L1	LH	FS	CF	CS
Right Hand												
5953960	EVSMR2020K0216	2	16,00	20,00	20,00	20,00	27,00	125,00	31,00	19,06	—	—
5953958	EVSMR2525M0216	2	16,00	25,00	25,00	25,00	32,00	150,00	31,00	24,06	—	—
5953959	EVSMR2020K0222	2	22,00	20,00	20,00	20,00	29,00	125,00	38,00	19,06	—	—
5953957	EVSMR2525M0226	2	26,00	25,00	25,00	25,00	34,00	150,00	42,00	24,06	—	—
5939452	EVSMR2020K0316C	3	16,00	20,00	20,00	20,00	29,00	125,00	37,00	18,61	M8X1	M8X1
5939448	EVSMR2525M0316C	3	16,00	25,00	25,00	25,00	34,00	150,00	37,00	23,61	G1/8-28	G1/8-28
5939451	EVSMR2020K0322C	3	22,00	20,00	20,00	20,00	29,50	125,00	43,00	18,61	M8X1	M8X1
5939447	EVSMR2525M0326C	3	26,00	25,00	25,00	25,00	35,00	150,00	47,00	23,61	G1/8	G1/8
5939450	EVSMR2020K0416C	4	16,00	20,00	20,00	20,00	29,00	125,00	37,00	18,11	M8X1	M8X1
5939446	EVSMR2525M0416C	4	16,00	25,00	25,00	25,00	34,00	150,00	37,00	23,11	G1/8	G1/8
5939449	EVSMR2020K0422C	4	22,00	20,00	20,00	20,00	29,50	125,00	43,00	18,11	M8X1	M8X1
5939445	EVSMR2525M0426C	4	26,00	25,00	25,00	25,00	35,00	150,00	47,00	23,11	G1/8	G1/8
5939444	EVSMR3232P0426C	4	26,00	32,00	32,00	32,00	42,00	170,00	47,00	30,08	G1/8	G1/8
5939443	EVSMR3232P0432C	4	32,00	32,00	32,00	32,00	42,20	170,00	53,00	30,08	G1/8	G1/8
5954258	EVSMR2020K0516C	5	16,00	20,00	20,00	20,00	29,00	125,00	37,00	17,61	M8X1	M8X1
5954254	EVSMR2525M0516C	5	16,00	25,00	25,00	25,00	34,00	150,00	37,00	22,61	G1/8-28	G1/8-28
5954253	EVSMR2525M0526C	5	26,00	25,00	25,00	25,00	35,00	150,00	47,00	22,61	G1/8-28	G1/8-28
5954249	EVSMR3232P0526C	5	26,00	32,00	32,00	32,00	42,00	170,00	47,00	29,58	G1/8-28	G1/8-28
5954248	EVSMR3232P0532C	5	32,00	32,00	32,00	32,00	42,20	170,00	53,00	29,58	G1/8-28	G1/8-28
5954256	EVSMR2020K0616C	6	16,00	20,00	20,00	20,00	29,00	125,00	37,00	17,21	M8X1	M8X1
5954252	EVSMR2525M0616C	6	16,00	25,00	25,00	25,00	33,50	150,00	37,00	25,21	G1/8-28	G1/8-28
5954251	EVSMR2525M0626C	6	26,00	25,00	25,00	25,00	34,00	150,00	47,00	25,21	G1/8-28	G1/8-28
5954247	EVSMR3232P0626C	6	26,00	32,00	32,00	32,00	41,50	170,00	47,00	32,18	G1/8-28	G1/8-28
5954246	EVSMR3232P0632C	6	32,00	32,00	32,00	32,00	42,50	170,00	55,00	29,18	G1/8-28	G1/8-28
5954250	EVSMR2525M0826C	8	26,00	25,00	25,00	25,00	36,80	150,00	49,00	21,34	G1/8-28	G1/8-28
5954244	EVSMR3232P0832C	8	32,00	32,00	32,00	32,00	42,50	170,00	55,00	28,30	G1/8-28	G1/8-28
Left Hand												
5953956	EVSMR2020K0216	2	16,00	20,00	20,00	20,00	27,00	125,00	31,00	19,06	—	—
5953954	EVSMR2525M0216	2	16,00	25,00	25,00	25,00	32,00	150,00	31,00	24,06	—	—
5953955	EVSMR2020K0222	2	22,00	20,00	20,00	20,00	29,00	125,00	38,00	19,06	—	—
5953953	EVSMR2525M0226	2	26,00	25,00	25,00	25,00	34,00	150,00	42,00	24,06	—	—
5939442	EVSMR2020K0316C	3	16,00	20,00	20,00	20,00	28,50	125,00	37,00	18,61	M8X1	M8X1
5939438	EVSMR2525M0316C	3	16,00	25,00	25,00	25,00	34,00	150,00	37,00	23,61	G1/8-28	G1/8-28
5939441	EVSMR2020K0322C	3	22,00	20,00	20,00	20,00	29,50	125,00	43,00	18,61	M8X1	M8X1
5939437	EVSMR2525M0326C	3	26,00	25,00	25,00	25,00	35,00	150,00	47,00	23,61	G1/8-28	G1/8-28
5939440	EVSMR2020K0416C	4	16,00	20,00	20,00	20,00	29,00	125,00	37,00	18,11	M8X1	M8X1
5939436	EVSMR2525M0416C	4	16,00	25,00	25,00	25,00	34,00	150,00	37,00	23,11	G1/8	G1/8
5939439	EVSMR2020K0422C	4	22,00	20,00	20,00	20,00	29,50	125,00	43,00	18,11	M8X1	M8X1
5939435	EVSMR2525M0426C	4	26,00	25,00	25,00	25,00	35,00	150,00	47,00	23,11	G1/8	G1/8
5939433	EVSMR3232P0426C	4	26,00	32,00	32,00	32,00	42,00	170,00	47,00	30,08	G1/8	G1/8
5939432	EVSMR3232P0432C	4	32,00	32,00	32,00	32,00	42,20	170,00	53,00	30,08	G1/8	G1/8
5954235	EVSMR2525M0516C	5	16,00	25,00	25,00	25,00	34,00	150,00	37,00	22,61	G1/8-28	G1/8-28
5954234	EVSMR2525M0526C	5	26,00	25,00	25,00	25,00	35,00	150,00	47,00	22,61	G1/8-28	G1/8-28
5954220	EVSMR3232P0526C	5	26,00	32,00	32,00	32,00	42,00	170,00	47,00	29,58	G1/8-28	G1/8-28
5954219	EVSMR3232P0532C	5	32,00	32,00	32,00	32,00	42,20	170,00	53,00	29,58	G1/8-28	G1/8-28
5954218	EVSMR3232P0626C	6	26,00	32,00	32,00	32,00	41,50	170,00	47,00	29,18	G1/8-28	G1/8-28
5954217	EVSMR3232P0632C	6	32,00	32,00	32,00	32,00	42,50	170,00	55,00	29,18	G1/8-28	G1/8-28
5954231	EVSMR2525M0826C	8	26,00	25,00	25,00	25,00	36,80	150,00	49,00	21,34	G1/8-28	G1/8-28
5954214	EVSMR3232P1032C	10	32,00	32,00	32,00	32,00	43,25	170,00	55,00	27,66	G1/8-28	G1/8-28

NOTE:

*Catalog numbers ending with "C" indicate through coolant

**Coolant through feature is available with seat sizes 3 and above only



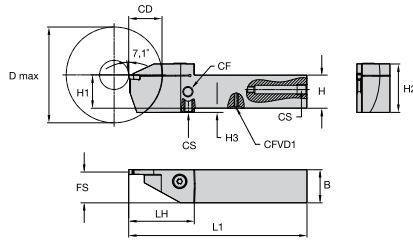
**Beyond Evolution • Integral Toolholder • Reinforced • Front Clamp
• Through Coolant • Metric**

Order Number	ISO Catalog Number	SSC	CD	DMAX	H1	H	B	H2	L1	LH	FS	CF	CS
Right Hand													
6179766	EVSCFR1212K1B10	1B	10,00	20,00	12,00	12,00	12,00	16,00	125,00	20,50	11,30	—	—
6179767	EVSCFR1212K1B13	1B	13,00	26,00	12,00	12,00	12,00	16,00	125,00	23,50	11,30	—	—
6179774	EVSCFR1616K1B16	1B	16,00	32,00	16,00	16,00	16,00	20,50	125,00	26,50	15,30	—	—
6179778	EVSCFR2020K1B16	1B	16,00	32,00	20,00	20,00	20,00	24,50	125,00	26,50	19,30	—	—
6179770	EVSCFR1212K0210	2	10,00	20,00	12,00	12,00	12,00	16,00	125,00	20,50	11,00	—	—
6179771	EVSCFR1212K0216	2	16,00	32,00	12,00	12,00	12,00	16,00	125,00	26,50	11,00	—	—
6179776	EVSCFR1616K0216	2	16,00	32,00	16,00	16,00	16,00	20,50	125,00	26,50	15,00	—	—
6179780	EVSCFR2020K0216	2	16,00	32,00	20,00	20,00	20,00	24,50	125,00	26,50	19,00	—	—
6179772	EVSCFR1212K0310C	3	10,00	20,00	12,00	12,00	12,00	16,75	125,00	21,50	10,50	M8X1	M8X1
6179773	EVSCFR1212K0316C	3	16,00	32,00	12,00	12,00	12,00	16,75	125,00	27,50	10,50	M8X1	M8X1
6179777	EVSCFR1616K0316C	3	16,00	32,00	16,00	16,00	16,00	20,75	125,00	27,50	14,50	M8X1	M8X1
6179781	EVSCFR2020K0316C	3	16,00	32,00	20,00	20,00	20,00	24,75	125,00	27,50	18,50	M8X1	M8X1
Left Hand													
6179922	EVSCFL1212K1B10	1B	10,00	20,00	12,00	12,00	12,00	16,00	125,00	20,50	11,30	—	—
6179926	EVSCFL1212K0210	2	10,00	20,00	12,00	12,00	12,00	16,00	125,00	20,50	11,00	—	—
6179927	EVSCFL1212K0216	2	16,00	32,00	12,00	12,00	12,00	16,00	125,00	26,50	11,00	—	—
6179932	EVSCFL1616K0216	2	16,00	32,00	16,00	16,00	16,00	20,50	125,00	26,50	15,00	—	—
6179936	EVSCFL2020K0216	2	16,00	32,00	20,00	20,00	20,00	24,50	125,00	26,50	19,00	—	—
6179928	EVSCFL1212K0310C	3	10,00	20,00	12,00	12,00	12,00	16,75	125,00	21,50	10,50	M8X1	M8X1
6179933	EVSCFL1616K0316C	3	16,00	32,00	16,00	16,00	16,00	20,75	125,00	27,50	14,50	M8X1	M8X1

NOTE:

*Catalog numbers ending with "C" indicate through coolant

**Coolant through feature is available with seat sizes 3 and above only



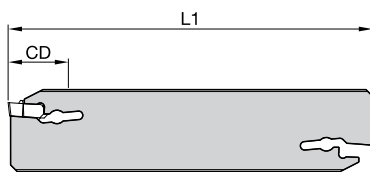
Beyond Evolution • Integral Toolholder • Reinforced • Through Coolant • Metric

Order Number	ISO Catalog Number	SSC	CD	DMAX	H1	H	B	H2	H3	L1	LH	FS	CF	CS
Right Hand														
6179757	EVSCTR1212K1B16	1B	16,00	42,00	12,00	12,00	12,00	23,00	4,00	125,00	31,00	11,29	—	—
6179759	EVSCTR1212K0216	2	16,00	42,00	12,00	12,00	12,00	23,00	4,00	125,00	31,00	11,09	—	—
5980139	EVSCTR1616K0216	2	16,00	42,00	16,00	16,00	16,00	23,00	—	125,00	31,00	15,09	—	—
5980762	EVSCTR2020K0216	2	16,00	42,00	20,00	20,00	20,00	27,00	—	125,00	31,00	19,06	—	—
5980767	EVSCTR2525M0216	2	16,00	42,00	25,00	25,00	25,00	32,00	—	150,00	31,00	24,06	—	—
5980768	EVSCTR2525M0226	2	26,00	62,00	25,00	25,00	25,00	34,00	—	150,00	42,00	24,06	—	—
6179755	EVSCTR1212K0316C	3	16,00	52,00	12,00	12,00	12,00	23,00	4,00	125,00	33,35	10,64	M8X1	M8X1
5980140	EVSCTR1616K0316C	3	16,00	52,00	16,00	16,00	16,00	23,80	—	125,00	35,05	14,64	M8X1	M8X1
5980763	EVSCTR2020K0316C	3	16,00	52,00	20,00	20,00	20,00	29,00	—	125,00	36,85	18,61	M8X1	M8X1
5980138	EVSCTR2525M0316C	3	16,00	62,00	25,00	25,00	25,00	34,00	—	150,00	36,87	23,61	G1/8-28	G1/8-28
5980764	EVSCTR2020K0326C	3	26,00	62,00	20,00	20,00	20,00	33,50	4,00	125,00	46,86	18,61	M8X1	M8X1
5980769	EVSCTR2525M0326C	3	26,00	62,00	25,00	25,00	25,00	35,00	—	150,00	46,87	23,61	G1/8-28	G1/8-28
5980761	EVSCTR1616K0416C	4	16,00	52,00	16,00	16,00	16,00	24,00	—	125,00	35,05	14,14	M8X1P	M8X1P
5980765	EVSCTR2020K0416C	4	16,00	52,00	20,00	20,00	20,00	29,00	—	125,00	36,85	18,11	M8X1P	M8X1P
5980766	EVSCTR2020K0426C	4	26,00	62,00	20,00	20,00	20,00	33,50	4,00	125,00	47,00	18,11	M8X1P	M8X1P
5980770	EVSCTR2525M0426C	4	26,00	62,00	25,00	25,00	25,00	35,00	—	150,00	47,00	23,11	G1/8-28	G1/8-28
5980771	EVSCTR2525M0432C	4	32,00	64,00	25,00	25,00	25,00	39,00	4,00	150,00	53,00	23,11	G1/8-28	G1/8-28
5980772	EVSCTR2525M0526C	5	26,00	62,00	25,00	25,00	25,00	35,00	—	150,00	47,00	22,61	G1/8-28	G1/8-28
5980775	EVSCTR3232P0540C	5	40,00	82,00	32,00	32,00	32,00	47,00	4,00	170,00	63,00	29,58	G1/8-28	G1/8-28
Left Hand														
6179760	EVSCTL1212K1B16	1B	16,00	42,00	12,00	12,00	12,00	23,00	4,00	125,00	31,00	11,29	—	—
6179762	EVSCTL1212K0216	2	16,00	42,00	12,00	12,00	12,00	23,00	4,00	125,00	31,00	11,09	—	—
5980777	EVSCTL1616K0216	2	16,00	42,00	16,00	16,00	16,00	23,00	—	125,00	31,00	15,09	—	—
5980780	EVSCTL2020K0216	2	16,00	42,00	20,00	20,00	20,00	27,00	—	125,00	31,00	19,06	—	—
5980806	EVSCTL2525M0226	2	26,00	62,00	25,00	25,00	25,00	34,00	—	150,00	42,00	24,06	—	—
6179756	EVSCTL1212K0316C	3	16,00	52,00	12,00	12,00	12,00	23,15	4,00	125,00	33,35	10,64	M8X1	M8X1
5980778	EVSCTL1616K0316C	3	16,00	52,00	16,00	16,00	16,00	23,80	—	125,00	35,05	14,64	M8X1	M8X1
5980801	EVSCTL2020K0316C	3	16,00	52,00	20,00	20,00	20,00	29,00	—	125,00	36,85	18,61	M8X1	M8X1
5980776	EVSCTL2525M0316C	3	16,00	62,00	25,00	25,00	25,00	34,00	—	150,00	36,87	23,61	G1/8-28	G1/8-28
5980802	EVSCTL2020K0326C	3	26,00	62,00	20,00	20,00	20,00	33,50	4,00	125,00	46,86	18,61	M8X1	M8X1
5980807	EVSCTL2525M0326C	3	26,00	62,00	25,00	25,00	25,00	35,00	—	150,00	46,87	23,61	G1/8-28	G1/8-28
5980803	EVSCTL2020K0416C	4	16,00	52,00	20,00	20,00	20,00	29,00	—	125,00	36,85	18,11	M8X1P	M8X1P
5980804	EVSCTL2020K0426C	4	26,00	62,00	20,00	20,00	20,00	33,50	4,00	125,00	47,00	18,11	M8X1P	M8X1P
5980808	EVSCTL2525M0426C	4	26,00	62,00	25,00	25,00	25,00	35,00	—	150,00	47,00	23,11	G1/8-28	G1/8-28
5980809	EVSCTL2525M0432C	4	32,00	64,00	25,00	25,00	25,00	39,00	4,00	150,00	53,00	23,11	G1/8-28	G1/8-28
5980810	EVSCTL2525M0526C	5	26,00	62,00	25,00	25,00	25,00	35,00	—	150,00	47,00	22,61	G1/8-28	G1/8-28

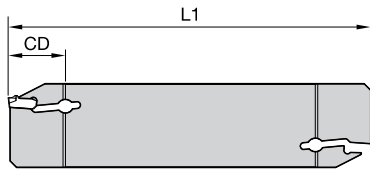
NOTE:

*Catalog numbers ending with "C" indicate through coolant

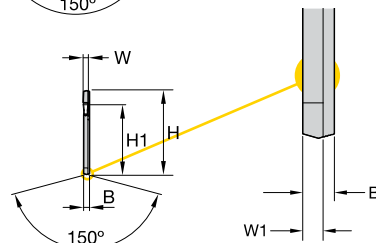
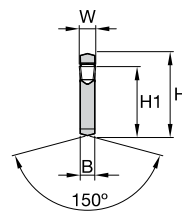
**Coolant through feature is available with seat sizes 3 and above only



Straight

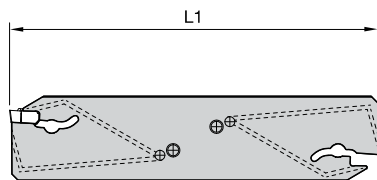


Reinforced

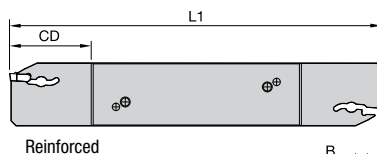


Beyond Evolution • Cut-Off Blade • Double Ended • Metric

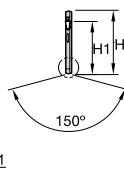
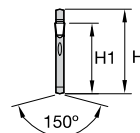
Order Number	ISO Catalog Number	SSC	CD	H1	H	B	L1	W	W1
Neutral Hand									
5941706	EVBSN19G1B14	1B	14,00	15,45	19,00	1,80	90,25	1,40	1,15
5941708	EVBSN26J1B15	1B	15,00	21,45	26,00	1,80	110,25	1,40	1,15
5955392	EVBSN26J1F17	1F	17,00	21,45	26,00	1,80	110,25	1,60	1,30
5941710	EVBSN26M0230	2	—	21,45	26,00	1,65	150,25	2,00	—
5941707	EVBSN19G0220	2	20,00	15,45	19,00	1,65	90,25	2,00	—
5941709	EVBSN26J0230	2	30,00	21,45	26,00	1,65	110,25	2,00	—
5941724	EVBSN32M0250	2	50,00	25,05	32,00	1,65	150,25	2,00	—
5941722	EVBSN26M0340	3	—	21,45	26,00	2,40	150,25	3,00	—
5941721	EVBSN26J0340	3	40,00	21,45	26,00	2,40	110,25	3,00	—
5941725	EVBSN32M0350	3	50,00	25,05	32,00	2,40	150,25	3,00	—
5941723	EVBSN26J0440	4	40,00	21,45	26,00	3,40	110,25	4,00	—
5941726	EVBSN32M0450	4	50,00	25,05	32,00	3,40	150,25	4,00	—
5977635	EVBSN26J0540	5	—	21,45	26,00	4,40	110,25	5,00	—
5977637	EVBSN32M0560	5	60,00	25,05	32,00	4,40	150,25	5,00	—
5977640	EVBSN52X06120	6	—	45,25	52,50	5,40	260,00	6,00	—
5977638	EVBSN32M0660	6	60,00	25,05	32,00	5,40	150,25	6,00	—
5977639	EVBSN32M0860	8	60,00	25,05	32,00	7,00	150,25	8,00	—
5977721	EVBSN52X08120	8	120,00	45,25	52,50	7,00	260,00	8,00	—



Straight

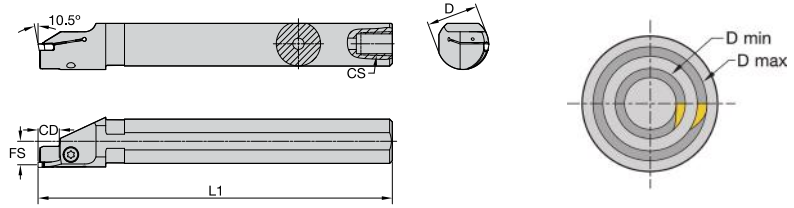


Reinforced



Beyond Evolution • Cut-Off Blade • Double Ended • Through Coolant • Metric

Order Number	ISO Catalog Number	SSC	CD	H1	H	B	L1	W	W1	CS
Neutral Hand										
6513449	EVBSN26M0233C	2	33,00	21,45	26,00	2,40	150,25	2,00	1,65	M4X0.7
6513450	EVBSN32M0233C	2	33,00	25,05	32,00	2,40	150,25	2,00	1,65	M4X0.7
6513521	EVBSN26J0340C	3	40,00	21,45	26,00	2,40	110,25	3,00	—	M4X0.7
6513522	EVBSN26M0340C	3	40,00	21,45	26,00	2,40	150,25	3,00	—	M4X0.7
6513523	EVBSN32M0350C	3	50,00	25,05	32,00	2,40	150,25	3,00	—	M4X0.7
6513524	EVBSN26J0440C	4	40,00	21,45	26,00	3,40	110,25	4,00	—	M4X0.7
6513525	EVBSN26M0440C	4	40,00	21,45	26,00	3,40	150,25	4,00	—	M4X0.7
6513526	EVBSN32M0450C	4	50,00	25,05	32,00	3,40	150,25	4,00	—	M4X0.7
6513527	EVBSN32M0560C	5	60,00	25,05	32,00	4,40	150,25	5,00	—	M4X0.7
6513529	EVBSN32M0660C	6	60,00	25,05	32,00	5,40	150,15	6,00	—	M4X0.7



Beyond Evolution • Integral Boring Bar • Face Grooving • Through Coolant • Metric

Order Number	ISO Catalog Number	SSC	CD	D	D min	D MAX	L1	FS	CS
Right Hand									
6116521	A25REVSAR0212M026030	2	12,00	25,00	26,00	30,00	200,00	11,75	1/4-18 NPT
6116522	A25REVSAR0312M030035	3	12,00	25,00	30,00	35,00	200,00	11,26	1/4-18 NPT
Left Hand									
6116528	A25REVSAL0312M030035	3	12,00	25,00	30,00	35,00	200,00	11,26	1/4-18 NPT

APPLICATION DATA RECOMMENDED STARTING SPEEDS

Material Group		Grooving & Cut-Off • Application Data • Recommended Starting Speeds (m/min)			
		KCU10B		KCU25B	
		MIN	MAX	MIN	MAX
P	0-1	145	350	135	360
	2	145	255	125	220
	3	145	255	120	220
	4	80	180	35	95
	5	125	275	60	145
	6	115	240	50	120
M	1	145	275	100	265
	2	125	255	90	250
	3	125	255	90	220
K	1	125	255	135	400
	2	95	220	115	375
	3	65	160	100	340
N	1-2	160	1025	115	820
	3	-	-	-	-
	4	125	640	115	635
	5	95	255	90	320
S	6	125	320	90	410
	1	15	140	10	65
	2	15	140	10	85
	3	15	140	15	85
H	4	15	180	10	115
	1	30	70	-	-
	2	45	80	-	-
	3	-	-	-	-

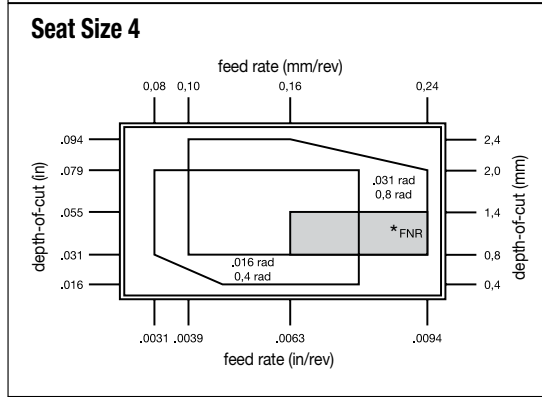
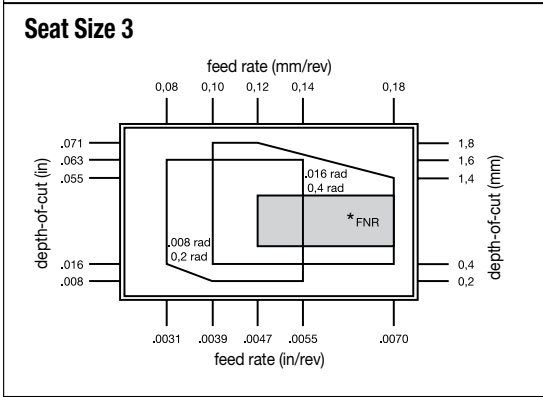
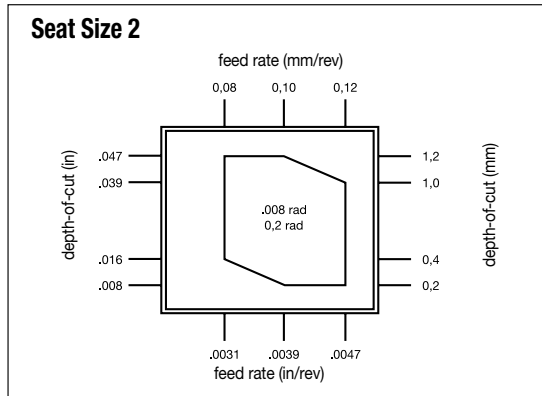
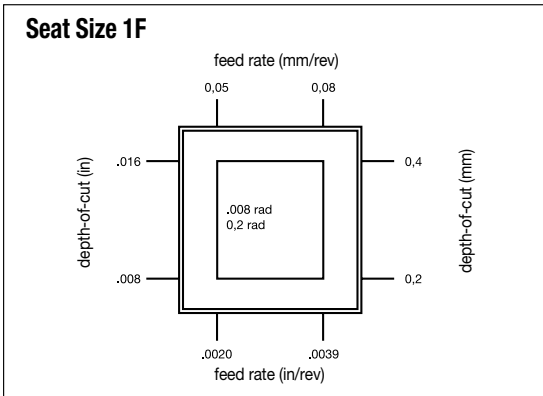
TURFING

APPLICATION DATA PLUNGE FEED RATES

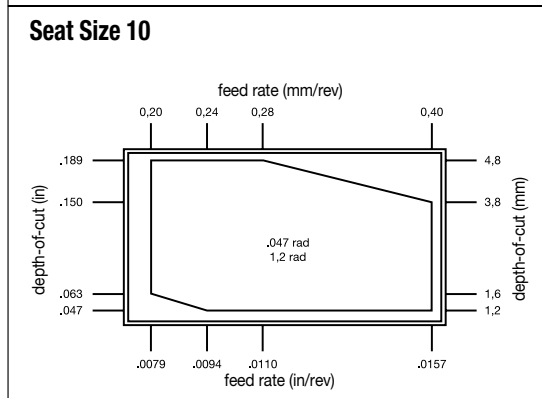
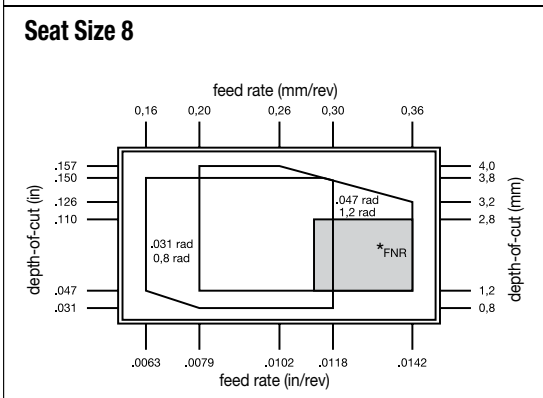
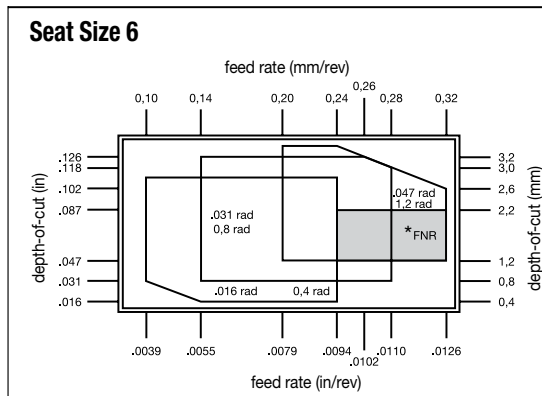
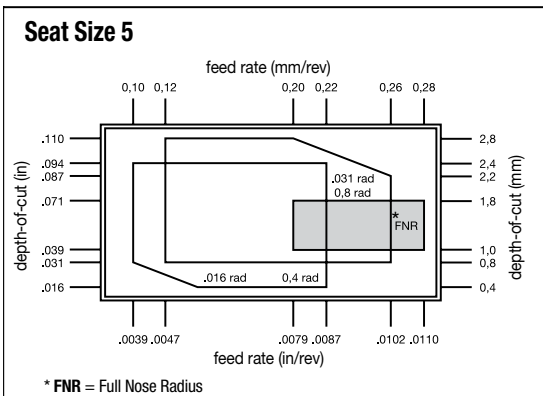
TURNING

Grooving & Cut-Off • Application Data • Plunge Feed Rates							
Geometry	Seat Size	RR		fn (mm/rev)		fn (in/rev)	
		mm	in	MIN	MAX	MIN	MAX
GUP / GMP GMN / GUN	1F	0.20	0.008	0.05	0.08	0.002	0.003
	2	0.20	0.008	0.05	0.14	0.002	0.006
	3	0.20	0.008	0.05	0.16	0.002	0.006
		0.40	0.016	0.08	0.18	0.003	0.007
	4	0.40	0.016	0.08	0.22	0.003	0.009
		0.80	0.031	0.10	0.24	0.004	0.009
	5	0.40	0.016	0.10	0.23	0.004	0.009
		0.80	0.031	0.10	0.25	0.004	0.010
	6	0.40	0.016	0.10	0.22	0.004	0.009
		0.80	0.031	0.12	0.26	0.005	0.010
		1.20	0.047	0.14	0.30	0.006	0.012
	8	0.80	0.031	0.12	0.30	0.005	0.012
		1.20	0.047	0.14	0.32	0.006	0.013
	10	1.20	0.047	0.15	0.35	0.006	0.014
CL	1B	0.15	0.006	0.05	0.09	0.002	0.004
	2	0.20	0.008	0.05	0.11	0.002	0.004
	3	0.20	0.008	0.05	0.14	0.002	0.006
	4	0.20	0.008	0.05	0.18	0.002	0.007
GF	1B	0.00	0.000	0.04	0.08	0.002	0.003
		0.10	0.004	0.05	0.10	0.002	0.004
	2	0.00	0.000	0.04	0.08	0.002	0.003
		0.20	0.008	0.05	0.13	0.002	0.005
	3	0.00	0.000	0.04	0.12	0.002	0.005
		0.20	0.008	0.05	0.18	0.002	0.007
	4	0.00	0.000	0.04	0.12	0.002	0.005
		0.20	0.008	0.05	0.20	0.002	0.008
	5	0.00	0.000	0.04	0.14	0.002	0.006
		0.30	0.012	0.05	0.23	0.002	0.009
CM	1B	0.15	0.006	0.05	0.09	0.002	0.004
	2	0.20	0.008	0.05	0.13	0.002	0.005
	3	0.20	0.008	0.05	0.18	0.002	0.007
	4	0.20	0.008	0.05	0.20	0.002	0.008
	5	0.30	0.012	0.05	0.20	0.002	0.008
	6	0.40	0.016	0.05	0.25	0.002	0.010
	8	0.40	0.016	0.05	0.30	0.002	0.012
	2	0.20	0.008	0.08	0.13	0.003	0.005
CR	3	0.20	0.008	0.08	0.23	0.003	0.009
	4	0.20	0.008	0.08	0.30	0.003	0.012
	5	0.30	0.012	0.10	0.35	0.004	0.014
	6	0.30	0.012	0.10	0.40	0.004	0.016
		0.40	0.016	0.10	0.40	0.004	0.016
	8	0.40	0.016	0.10	0.43	0.004	0.017

APPLICATION DATA TURN AND PROFILE FEED RATES



*FNR= Full Nose Radius



*FNR= Full Nose Radius

Grooving and Cut-Off

A4 TOOLING AND DOUBLE-SIDED INSERTS

FOR ALL YOUR O.D. AND I.D. APPLICATIONS

Materials



Industries



Automotive



EV



General Engineering



Aerospace & Defense



Medical



Wind & Solar



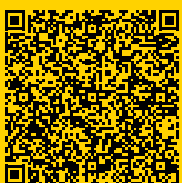
Oil & Gas

Applications



PRIMARY APPLICATION

Choose A4 tooling for turning, facing, grooving, face grooving and cut-off applications across a broad range of workpiece materials. The unique clamping system and versatile insert geometry deliver a very high metal removal rate.



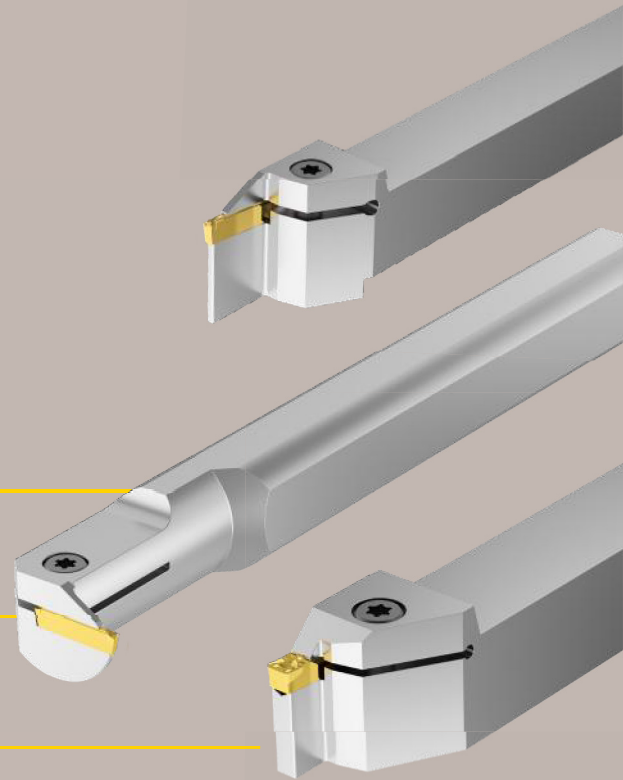
Explore A4

THE A4 SYSTEM INCREASES PRODUCTIVITY

Covers multiple applications

Reduces tool cost

Minimizes machining time

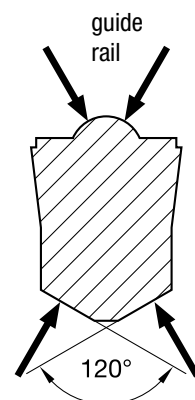


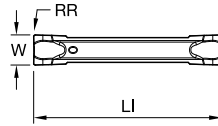
A4 CHIPBREAKERS



One tool for turning, facing, grooving, face grooving and cut-off in O.D. and I.D. applications means exceptionally fast cycle times and no turret indexes!

- Extra-long clamping area, ground 120° bottom prism seating surface and an exclusive top guide rail combine to deliver unsurpassed grooving and side-turning stability
- Precise insert positioning ensures for accurate cuts
- Rigid clamping securely locks insert in place through the toughest cuts
- Versatile design enables one system to handle O.D. and I.D. grooving, face grooving, back turning, undercutting and even threading operations
- Chip control inserts provide excellent chip evacuation in grooving and offer better chip control in multi-directional turning





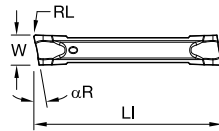
A4 Cut-off Insert • A4C-N-CF • Positive Rake • Molded • Neutral

● Primary
○ Secondary

KCU25B

P	Blue	●
M	Yellow	●
K	Red	●
N	Green	●
S	Orange	●
H	Grey	●

ANSI Catalog Number	ISO Catalog Number	Insert Size	W		RR		LI		KCU25B
			mm	in	mm	in	mm	in	
N - Neutral									
A4C0155N00CF01	A4C0155N00CF01	1	1.50	0.059	0.15	0.006	15.50	0.610	7167225
A4C0205N00CF02	A4C0205N00CF02	2	2.00	0.079	0.20	0.008	20.02	0.788	7167281
A4C0305N00CF02	A4C0305N00CF02	3	3.12	0.123	0.20	0.008	20.10	0.791	7167290
A4C0405N00CF02	A4C0405N00CF02	4	4.12	0.162	0.20	0.008	20.10	0.791	7167300



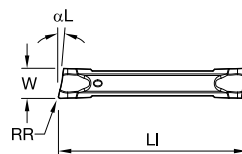
A4 Cut-off Insert • A4C-R-CF • Positive Rake • Molded • Right Hand

● Primary
○ Secondary

KCU25B

P	Blue	●
M	Yellow	●
K	Red	●
N	Green	●
S	Orange	●
H	Grey	●

ANSI Catalog Number	ISO Catalog Number	Insert Size	W		αR	RL		LI		KCU25B
			mm	in		mm	in	mm	in	
R - Right										
A4C0205R10CF02	A4C0205R10CF02	2	1.99	0.078	10	0.20	0.008	20.03	0.788	7167283
A4C0205R06CF02	A4C0205R06CF02	2	2.00	0.079	6	0.20	0.008	20.03	0.788	7167282
A4C0305R06CF02	A4C0305R06CF02	3	3.11	0.123	6	0.20	0.008	20.10	0.791	7167292
A4C0305R10CF02	A4C0305R10CF02	3	3.11	0.122	10	0.20	0.008	20.10	0.791	7167294



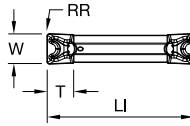
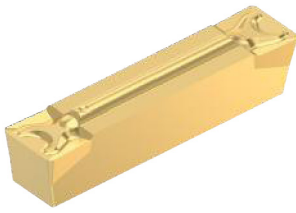
A4 Cut-off Insert • A4C-L-CF • Positive Rake • Molded • Left Hand

● Primary
○ Secondary

KCU25B

P	Blue	●
M	Yellow	●
K	Red	●
N	Green	●
S	Orange	●
H	Grey	●

ANSI Catalog Number	ISO Catalog Number	Insert Size	W		αL	RR		LI		KCU25B
			mm	in		mm	in	mm	in	
L - Left										
A4C0305L06CF02	A4C0305L06CF02	3	3.11	0.123	6	0.20	0.008	20.10	0.791	7167286

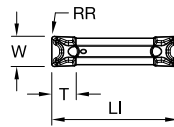


A4 Groove and Turn Insert • A4G-U-GMN • Medium Negative
• Square Molded

											KCU10B	KCU25B
P	●	●	●	●	●	●	●	●	●	●	●	●
M	●	●	●	●	●	●	●	●	●	●	●	●
K	●	●	●	●	●	●	●	●	●	●	●	●
N	●	●	●	●	●	●	●	●	●	●	●	●
S	●	●	●	●	●	●	●	●	●	●	●	●
H	●	●	●	●	●	●	●	●	●	●	●	●

● Primary
○ Secondary

Catalog Number	Insert Size	W		RR		LI		T		KCU10B	KCU25B
		mm	in	mm	in	mm	in	mm	in		
A4G0205M02U02GMN	2	2.13	0.084	0.20	0.008	20.10	0.791	2.00	0.079	7097851	7167287
A4G0305M03U02GMN	3	3.12	0.123	0.20	0.008	20.00	0.787	3.50	0.138	7097822	7167295
A4G0305M03U04GMN	3	3.12	0.123	0.40	0.016	20.00	0.787	3.50	0.138	7097823	7167297
A4G0405M04U04GMN	4	4.12	0.162	0.40	0.016	20.00	0.787	3.40	0.134	7097824	7167305
A4G0405M04U08GMN	4	4.12	0.162	0.80	0.031	20.00	0.787	3.40	0.134	7097825	7167307
A4G0505M05U04GMN	5	5.12	0.202	0.40	0.016	25.00	0.984	4.20	0.165	7097826	7167315
A4G0505M05U08GMN	5	5.12	0.202	0.80	0.031	25.00	0.984	4.20	0.165	7097827	7167317
A4G0605M06U04GMN	6	6.13	0.241	0.40	0.016	30.00	1.181	4.90	0.193	7097831	7167323
A4G0605M06U08GMN	6	6.13	0.241	0.80	0.031	30.00	1.181	4.90	0.193	7097832	7167325
A4G0805M08U08GMN	8	8.13	0.320	0.80	0.031	30.00	1.181	6.40	0.252	7097834	—

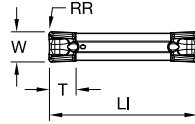


A4 Groove and Turn Insert • A4G-P-GMN • Medium Negative
• Square Precision Ground

												KCU10B
P	●	●	●	●	●	●	●	●	●	●	●	●
M	●	●	●	●	●	●	●	●	●	●	●	●
K	●	●	●	●	●	●	●	●	●	●	●	●
N	●	●	●	●	●	●	●	●	●	●	●	●
S	●	●	●	●	●	●	●	●	●	●	●	●
H	●	●	●	●	●	●	●	●	●	●	●	●

● Primary
○ Secondary

Catalog Number	Insert Size	W		RR		LI		T		KCU10B
		mm	in	mm	in	mm	in	mm	in	
A4G09412BP05GMN	2B	2.39	0.094	0.20	0.008	20.00	0.787	1.90	0.075	7097853

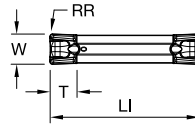


A4 Groove and Turn Insert • A4G-U-GMP • Medium Positive
• Square Molded

P	●	●	●	●
M	●	●	●	●
K	●	●	●	●
N	●	●	●	●
S	●	●	●	●
H	●	●	●	●

● Primary
○ Secondary

Catalog Number	Insert Size	W		RR		LI		T		KCU10B	KCU25B
		mm	in	mm	in	mm	in	mm	in		
A4G0205M02U02GMP	2	2.13	0.084	0.20	0.008	20.10	0.791	2.00	0.079	7096839	7167308
A4G0305M03U02GMP	3	3.10	0.122	0.20	0.008	20.10	0.791	3.50	0.138	—	7167316
A4G0305M03U04GMP	3	3.10	0.122	0.40	0.016	20.10	0.791	3.50	0.138	7096805	7167318
A4G0405M04U04GMP	4	4.10	0.161	0.40	0.015	20.10	0.791	3.40	0.134	7096807	7167326
A4G0505M05U04GMP	5	5.10	0.201	0.40	0.015	25.15	0.990	4.20	0.165	7096811	7167334
A4G0505M05U08GMP	5	5.10	0.201	0.80	0.032	25.15	0.990	4.20	0.165	7096812	—
A4G0605M06U04GMP	6	6.13	0.241	0.40	0.016	30.10	1.185	4.90	0.193	—	7167342

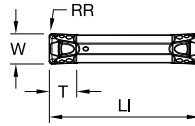


A4 Groove and Turn Insert • A4G-P-GMP • Medium Positive
• Square Precision Ground

P	●	●	●	●
M	●	●	●	●
K	●	●	●	●
N	●	●	●	●
S	●	●	●	●
H	●	●	●	●

● Primary
○ Secondary

Catalog Number	Insert Size	W		RR		LI		T		KCU10B	KCU25B
		mm	in	mm	in	mm	in	mm	in		
A4G0200M02P02GMP	2	2.00	0.079	0.20	0.008	19.90	0.782	2.00	0.079	7096840	7167306
A4G0300M03P02GMP	3	3.00	0.118	0.20	0.008	19.90	0.784	3.50	0.138	7096814	7167312
A4G0300M03P04GMP	3	3.00	0.118	0.40	0.016	19.90	0.784	3.50	0.138	7096815	7167314
A4G0400M04P02GMP	4	4.00	0.158	0.20	0.008	19.90	0.783	3.16	0.124	7096816	7167320
A4G0400M04P04GMP	4	4.00	0.158	0.40	0.016	19.90	0.783	3.50	0.138	7096817	7167322
A4G0400M04P08GMP	4	4.00	0.158	0.80	0.032	19.90	0.784	3.50	0.138	7096818	—
A4G0500M05P04GMP	5	5.00	0.197	0.40	0.016	25.00	0.984	4.11	0.162	7096802	—
A4G0500M05P08GMP	5	5.00	0.197	0.80	0.032	25.00	0.984	3.94	0.155	7096803	7167332
A4G0600M06P04GMP	6	6.00	0.236	0.40	0.016	29.85	1.175	4.90	0.192	7096836	7167338
A4G0600M06P08GMP	6	6.00	0.236	0.80	0.031	29.85	1.175	4.90	0.192	7096837	—

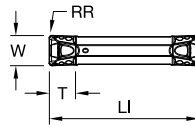


	KCU10B	KCU25B
P	●	●
M	●	●
K	●	●
N	●	●
S	●	●
H	●	●

● Primary
○ Secondary

A4 Groove and Turn Insert • A4G-U-GUP • High Positive • Square Molded

Catalog Number	Insert Size	W		RR		LI		T		KCU10B	KCU25B
		mm	in	mm	in	mm	in	mm	in		
A4G0205M02U02GUP	2	2.13	0.084	0.20	0.008	20.15	0.793	2.00	0.079	7096756	7167113
A4G0305M03U02GUP	3	3.13	0.123	0.20	0.008	20.15	0.793	3.00	0.118	—	7167125
A4G0305M03U04GUP	3	3.13	0.123	0.40	0.016	20.15	0.793	3.00	0.118	7096758	7167127
A4G0405M04U04GUP	4	4.12	0.162	0.40	0.016	20.15	0.793	3.40	0.134	7096759	7167139
A4G0405M04U08GUP	4	4.12	0.162	0.80	0.031	20.15	0.793	3.40	0.134	—	7167141
A4G0505M05U04GUP	5	5.13	0.202	0.40	0.016	25.15	0.990	4.20	0.165	7096761	7167151
A4G0505M05U08GUP	5	5.13	0.202	0.80	0.031	25.15	0.990	4.20	0.165	7096762	7167153
A4G0605M06U04GUP	6	6.12	0.241	0.40	0.016	30.10	1.185	4.50	0.177	—	7167163
A4G0605M06U12GUP	6	6.12	0.241	1.20	0.047	30.10	1.185	4.50	0.177	—	7167167
A4G0805M08U08GUP	8	8.13	0.320	0.80	0.031	30.10	1.185	6.00	0.236	7096766	7167173
A4G1005M10U08GUP	10	10.13	0.399	0.80	0.031	30.10	1.185	6.00	0.236	7096768	—

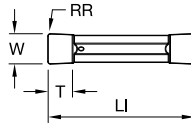


	KCU10B	KCU25B
P	●	●
M	●	●
K	●	●
N	●	●
S	●	●
H	●	●

● Primary
○ Secondary

A4 Groove and Turn Insert • A4G-P-GUP • High Positive • Square Precision Ground

Catalog Number	Insert Size	W		RR		LI		T		KCU10B	KCU25B
		mm	in	mm	in	mm	in	mm	in		
A4G0200M02P02GUP	2	2.00	0.079	0.20	0.008	20.00	0.787	1.90	0.075	7096732	7167109
A4G0300M03P02GUP	3	3.00	0.118	0.20	0.008	20.00	0.787	2.90	0.115	7096733	7167117
A4G0300M03P04GUP	3	3.00	0.118	0.40	0.016	20.00	0.787	2.90	0.115	7096734	7167119
A4G0400M04P04GUP	4	4.00	0.158	0.40	0.016	20.00	0.787	3.30	0.130	7096736	7167135
A4G0400M04P08GUP	4	4.00	0.157	0.80	0.032	20.00	0.787	3.30	0.130	7096737	7167137
A4G0400M04P02GUP	4	4.00	0.158	0.20	0.008	20.00	0.787	3.30	0.130	7096735	7167133
A4G0500M05P04GUP	5	5.00	0.197	0.40	0.016	25.00	0.984	4.10	0.162	7096738	—
A4G0500M05P08GUP	5	5.00	0.197	0.80	0.031	25.00	0.984	4.10	0.163	—	7167147
A4G0600M06P04GUP	6	6.00	0.236	0.40	0.016	30.00	1.181	4.40	0.175	7096740	7167159
A4G0600M06P08GUP	6	6.00	0.236	0.80	0.032	30.00	1.181	4.40	0.175	7096751	7167161
A4G0800M08P08GUP	8	8.00	0.315	0.80	0.032	30.00	1.181	5.90	0.234	7096752	—

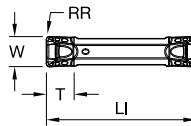


A4 Groove and Turn Insert • A4G-U-B • Flat Top • Square Molded

● Primary
○ Secondary

KCK20	
P	○
M	●
K	●
N	●
S	●
H	●

Catalog Number	Insert Size	W		RR		LI		T		KCK20
		mm	in	mm	in	mm	in	mm	in	
A4G0305M03U02B	3	3.12	0.123	0.20	0.008	20.00	0.787	3.50	0.138	3324721
A4G0505M05U04B	5	5.12	0.202	0.40	0.015	25.00	0.984	4.20	0.165	3324723

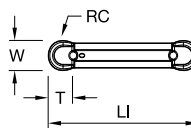


A4 Groove and Turn Insert • A4G-SP-GUP • Face Grooving • High Positive • Square Precision Ground

● Primary
○ Secondary

KCU10B	
P	●
M	●
K	●
N	●
S	●
H	●

Catalog Number	Insert Size	W		RR		LI		T		KCU10B
		mm	in	mm	in	mm	in	mm	in	
A4G0200M2SP02GUP	2S	2.00	0.079	0.20	0.008	20.00	0.787	1.90	0.075	7096769

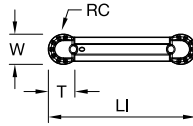


A4 Groove and Turn Insert • A4R-P-GMP • Medium Positive • Full Radius Precision Ground

● Primary
○ Secondary

KCU10B	
KCU25B	
P	●
M	●
K	●
N	●
S	●
H	●

Catalog Number	Insert Size	W		RC		LI		T		KCU10B	KCU25B
		mm	in	mm	in	mm	in	mm	in		
A4R0200M02P00GMP	2	2.00	0.079	1.00	0.039	19.90	0.783	1.65	0.065	7096842	7167352
A4R0300M03P00GMP	3	3.00	0.118	1.50	0.059	19.90	0.783	2.48	0.098	7096831	7167356
A4R0400M04P00GMP	4	4.00	0.157	2.00	0.079	19.90	0.783	3.10	0.122	7096819	7167360
A4R0500M05P00GMP	5	5.00	0.197	2.50	0.098	24.90	0.980	4.07	0.160	7096820	—
A4R0600M06P00GMP	6	6.00	0.236	3.00	0.118	29.85	1.175	4.80	0.189	7096834	—
A4R0800M08P00GMP	8	8.00	0.315	4.00	0.158	29.85	1.175	6.40	0.252	7096835	—

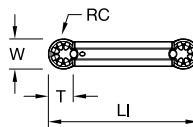


A4 Groove and Turn Insert • A4R-U-GMN • Medium Negative
• Full Radius Molded

										KCU10B	KCU25B
P	●	●	●	●	●	●	●	●	●	●	●
M	●	●	●	●	●	●	●	●	●	●	●
K	●	●	●	●	●	●	●	●	●	●	●
N	●	●	●	●	●	●	●	●	●	●	●
S	●	●	●	●	●	●	●	●	●	●	●
H	●	●	●	●	●	●	●	●	●	●	●

● Primary
○ Secondary

Catalog Number	Insert Size	W		RC		LI		T		KCU10B	KCU25B
		mm	in	mm	in	mm	in	mm	in		
A4R0205M02U00GMN	2	2.13	0.084	1.06	0.042	20.10	0.791	1.76	0.069	—	7167351
A4R0305M03U00GMN	3	3.12	0.123	1.53	0.060	20.10	0.791	2.58	0.101	7097830	7167353
A4R0405M04U00GMN	4	4.12	0.162	2.03	0.080	20.10	0.791	3.45	0.136	7097828	7167355
A4R0505M05U00GMN	5	5.12	0.202	2.53	0.099	25.15	0.990	4.15	0.163	7097829	7167357
A4R0605M06U00GMN	6	6.12	0.241	3.03	0.119	30.10	1.185	4.90	0.194	7097836	—
A4R0805M08U00GMN	8	8.12	0.320	4.03	0.159	30.10	1.185	6.50	0.256	7097837	7167361

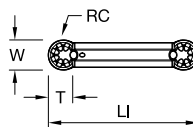


A4 Groove and Turn Insert • A4R-U-GUP • High Positive
• Full Radius Molded

										KCU10B	KCU25B
P	●	●	●	●	●	●	●	●	●	●	●
M	●	●	●	●	●	●	●	●	●	●	●
K	●	●	●	●	●	●	●	●	●	●	●
N	●	●	●	●	●	●	●	●	●	●	●
S	●	●	●	●	●	●	●	●	●	●	●
H	●	●	●	●	●	●	●	●	●	●	●

● Primary
○ Secondary

Catalog Number	Insert Size	W		RC		LI		T		KCU10B	KCU25B
		mm	in	mm	in	mm	in	mm	in		
A4R0305M03U00GUP	3	3.12	0.123	1.53	0.060	20.10	0.791	2.58	0.101	—	7167203
A4R0405M04U00GUP	4	4.12	0.162	2.03	0.080	20.10	0.791	3.45	0.136	—	7167207
A4R0505M05U00GUP	5	5.12	0.202	2.53	0.099	25.15	0.990	4.15	0.163	7096786	7167211
A4R0805M08U00GUP	8	8.13	0.320	4.03	0.159	30.10	1.185	6.52	0.257	—	7167218

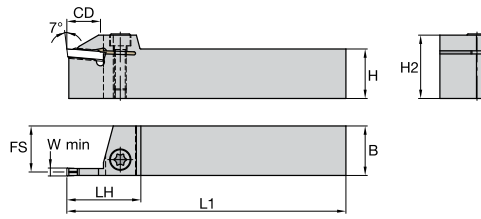


A4 Groove and Turn Insert • A4R-P-GUP • High Positive
• Full Radius Precision Ground

										KCU10B	KCU25B
P	●	●	●	●	●	●	●	●	●	●	●
M	●	●	●	●	●	●	●	●	●	●	●
K	●	●	●	●	●	●	●	●	●	●	●
N	●	●	●	●	●	●	●	●	●	●	●
S	●	●	●	●	●	●	●	●	●	●	●
H	●	●	●	●	●	●	●	●	●	●	●

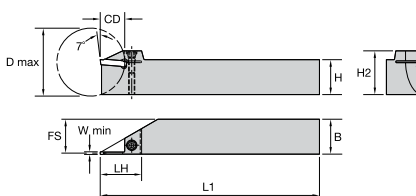
● Primary
○ Secondary

Catalog Number	Insert Size	W		RC		LI		T		KCU10B	KCU25B
		mm	in	mm	in	mm	in	mm	in		
A4R0300M03P00GUP	3	3.00	0.118	1.50	0.059	20.00	0.787	2.41	0.095	—	7167201
A4R0400M04P00GUP	4	4.00	0.157	2.00	0.079	20.00	0.787	3.40	0.134	7096783	7167205
A4R0500M05P00GUP	5	5.00	0.197	2.50	0.098	25.00	0.984	4.00	0.157	—	7167209
A4R0600M06P00GUP	6	6.00	0.236	3.00	0.118	30.00	1.181	4.75	0.187	—	7167213



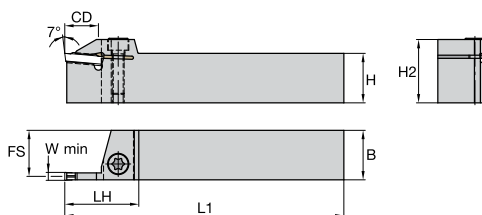
A4SM • Integral Toolholder • Metric

Order Number	ISO Catalog Number	SSC	CD	H1	H	B	H2	H3	L1	LH	FS
Right Hand											
3017342	A4SMR1616K0214	2	14,00	16,00	16,00	16,00	25,00	4,00	125,00	30,00	15,20
3017341	A4SMR2020K0214	2	14,00	20,00	20,00	20,00	25,00	—	125,00	30,00	19,20
3017340	A4SMR2525M0214	2	14,00	25,00	25,00	25,00	30,00	—	150,00	30,00	24,20
2974425	A4SMR2020K0217	2	17,00	20,00	20,00	20,00	31,00	5,00	125,00	34,00	19,20
3017339	A4SMR2525M0217	2	17,00	16,00	25,00	25,00	31,00	—	150,00	34,00	24,20
1949633	A4SMR1616K0314	3	14,00	16,00	16,00	16,00	27,00	4,00	125,00	35,00	14,70
1949635	A4SMR2020K0314	3	14,00	20,00	20,00	20,00	27,00	—	125,00	35,00	18,72
2503551	A4SMR2020K0317	3	17,00	20,00	20,00	20,00	32,00	5,00	125,00	37,00	18,70
1949637	A4SMR2525M0317	3	17,00	25,00	25,00	25,00	32,00	—	150,00	37,00	23,72
1949639	A4SMR2020K0414	4	14,00	20,00	20,00	20,00	27,00	—	125,00	34,70	18,22
2503559	A4SMR2016K0417	4	17,00	20,00	20,00	16,00	32,00	5,00	125,00	37,00	14,20
2503553	A4SMR2020K0417	4	17,00	20,00	20,00	20,00	32,00	5,00	125,00	37,00	18,20
1949641	A4SMR2525M0417	4	17,00	25,00	25,00	25,00	32,00	—	150,00	36,70	23,22
1949643	A4SMR3225P0417	4	17,00	32,00	32,00	25,00	40,00	—	170,00	37,00	23,22
1949645	A4SMR2020K0519	5	19,00	20,00	20,00	20,00	28,00	—	125,00	39,70	17,72
1949647	A4SMR2525M0520	5	20,00	25,00	25,00	25,00	33,00	—	150,00	39,70	22,72
1949649	A4SMR3225P0522	5	22,00	32,00	32,00	25,00	40,00	—	170,00	42,00	22,72
2503555	A4SMR2020K0620	6	20,00	20,00	20,00	20,00	33,00	5,00	125,00	40,00	17,30
2245484	A4SMR2525M0620	6	20,00	25,00	25,00	25,00	33,00	—	150,00	40,00	22,30
2263089	A4SMR3225P0626	6	26,00	32,00	32,00	25,00	40,00	—	170,00	45,00	22,30
2245485	A4SMR2525M0820	8	20,00	25,00	25,00	25,00	34,00	—	150,00	43,00	21,40
2263091	A4SMR3225P0826	8	26,00	32,00	32,00	25,00	41,00	—	170,00	47,00	21,40
Left Hand											
3017338	A4SML1616K0214	2	14,00	16,00	16,00	16,00	25,00	4,00	125,00	30,00	15,20
3017336	A4SML2020K0214	2	14,00	20,00	20,00	20,00	25,00	—	125,00	30,00	19,20
3017335	A4SML2525M0214	2	14,00	25,00	25,00	25,00	30,00	—	150,00	30,00	24,20
3017337	A4SML2020K0217	2	17,00	20,00	20,00	20,00	31,00	5,00	125,00	34,00	19,20
3017334	A4SML2525M0217	2	17,00	25,00	25,00	25,00	31,00	—	150,00	34,00	24,20
1949634	A4SML1616K0314	3	14,00	16,00	16,00	16,00	27,00	4,00	125,00	35,00	14,72
1949636	A4SML2020K0314	3	14,00	20,00	20,00	20,00	27,00	—	125,00	35,00	18,72
2503550	A4SML2020K0317	3	17,00	20,00	20,00	20,00	32,00	5,00	125,00	37,00	18,70
1949638	A4SML2525M0317	3	17,00	25,00	25,00	25,00	32,00	—	150,00	37,00	23,72
1949640	A4SML2020K0414	4	14,00	20,00	20,00	20,00	27,00	—	125,00	34,70	18,22
2503552	A4SML2020K0417	4	17,00	20,00	20,00	20,00	32,00	5,00	125,00	37,00	18,20
1949642	A4SML2525M0417	4	17,00	25,00	25,00	25,00	32,00	—	150,00	36,70	23,22
1949644	A4SML3225P0417	4	17,00	32,00	32,00	25,00	40,00	—	170,00	37,00	23,22
1949646	A4SML2020K0519	5	19,00	20,00	20,00	20,00	28,00	—	125,00	39,70	17,72
1949648	A4SML2525M0520	5	20,00	25,00	25,00	25,00	33,00	—	150,00	39,70	22,72
1949650	A4SML3225P0522	5	22,00	32,00	32,00	25,00	40,00	—	170,00	42,00	22,72
2503554	A4SML2020K0620	6	20,00	20,00	20,00	20,00	33,00	5,00	125,00	40,00	17,30
2245486	A4SML2525M0620	6	20,00	25,00	25,00	25,00	33,00	—	150,00	40,00	22,30
2263090	A4SML3225P0626	6	26,00	32,00	32,00	25,00	40,00	—	170,00	45,00	22,30
2245487	A4SML2525M0820	8	20,00	25,00	25,00	25,00	34,00	—	150,00	43,00	21,40
2263092	A4SML3225P0826	8	26,00	32,00	32,00	25,00	41,00	—	170,00	47,00	21,40
2263174	A4SML3225P1026	10	26,00	32,00	32,00	25,00	41,00	—	170,00	47,00	20,80



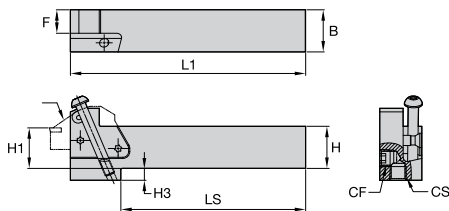
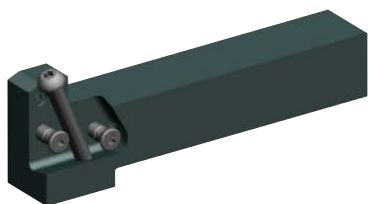
A4SC • Integral Toolholder • Metric

Order Number	ISO Catalog Number	SSC	CD	DMAX	H1	H	B	H2	H3	L1	LH	FS
Right Hand												
4169745	A4SCR1212K0214	2	14,00	28,00	12,00	12,00	12,00	21,00	4,00	125,00	28,00	11,17
4169746	A4SCR1616K0217	2	17,00	34,00	16,00	16,00	16,00	26,00	4,00	125,00	31,00	15,20
4169747	A4SCR1212K0314	3	14,00	28,00	12,00	12,00	12,00	23,00	4,00	125,00	30,00	10,72
4169748	A4SCR1616K0317	3	17,00	34,00	16,00	16,00	16,00	27,00	4,00	125,00	33,00	14,72
Left Hand												
4169749	A4SCL1212K0214	2	14,00	28,00	12,00	12,00	12,00	21,00	4,00	125,00	28,00	11,17
4169750	A4SCL1616K0217	2	17,00	34,00	16,00	16,00	16,00	26,00	4,00	125,00	31,00	15,20
4169752	A4SCL1616K0317	3	17,00	34,00	16,00	16,00	16,00	27,00	4,00	125,00	33,00	14,72



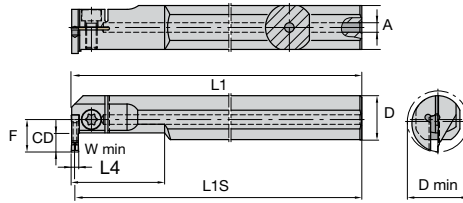
A4SM Short Projection • Integral Toolholder • Metric

Order Number	ISO Catalog Number	SSC	CD	H1	H	B	H2	L1	LH	FS
Right Hand										
3854265	A4SMR2020K0208	2	8,00	20,00	20,00	20,00	24,00	125,30	26,00	19,20
3854267	A4SMR2020K0308	3	8,00	20,00	20,00	20,00	26,50	125,30	28,00	18,70
3854269	A4SMR2020K0408	4	8,00	20,00	20,00	20,00	26,50	125,30	28,00	18,20
3854271	A4SMR2525M0510	5	10,00	25,00	25,00	25,00	32,50	150,30	32,00	22,70
3854273	A4SMR2525M0610	6	10,00	25,00	25,00	25,00	32,50	150,30	37,00	22,30
Left Hand										
3854266	A4SML2020K0208	2	8,00	20,00	20,00	20,00	24,00	125,30	26,00	19,20
3854268	A4SML2020K0308	3	8,00	20,00	20,00	20,00	26,50	125,30	28,00	18,70
3854272	A4SML2525M0510	5	10,00	25,00	25,00	25,00	32,50	150,30	32,00	22,70
3854274	A4SML2525M0610	6	10,00	25,00	25,00	25,00	32,50	150,30	37,00	22,30



KGMS • Modular Straight Toolholder • Metric

Order Number	ISO Catalog Number	H	B	H3	L1 (mm)	F
Right Hand						
1600249	KGMSR2525M50	25,00	25,00	7,00	138,75	13,84
Left Hand						
1600250	KGMSL2525M50	25,00	25,00	7,00	138,75	13,84



A-A4E • Integral Boring Bar • Metric

Order Number	ISO Catalog Number	SSC	CD	W min	D	D min	L1	L1S	L4
Right Hand									
2979223	A20RA4EMR0207M	2	7,00	2,00	20,00	25,00	200,00	199,00	40,00
2979225	A25RA4EMR0210M	2	10,00	2,00	25,00	32,00	200,00	199,00	50,00
1949655	A20RA4EMR0307M	3	7,00	3,00	20,00	25,00	200,00	198,50	40,00
1949657	A25RA4EMR0310M	3	10,00	3,00	25,00	32,00	200,00	198,50	50,00
1949659	A32SA4EMR0312M	3	12,00	3,00	32,00	40,00	250,00	248,50	64,00
1949661	A20RA4EMR0407M	4	7,00	4,00	20,00	25,00	200,00	198,00	40,00
1949663	A25RA4EMR0410M	4	10,00	4,00	25,00	32,00	200,00	198,00	50,00
1949665	A32SA4EMR0412M	4	12,00	4,00	32,00	40,00	250,00	248,00	64,00
1949667	A40TA4EMR0416M	4	16,00	4,00	40,00	52,00	300,00	298,00	80,00
1949669	A32SA4EMR0516M	5	16,00	5,00	32,00	44,00	250,00	247,50	64,00
1949671	A40TA4EMR0516M	5	16,00	5,00	40,00	52,00	300,00	297,50	80,00
2263197	A40TA4EMR0616M	6	16,00	6,00	40,00	52,00	300,00	296,98	80,00
Left Hand									
2979192	A20RA4EML0207M	2	7,00	2,00	20,00	25,00	200,00	199,00	40,00
2979224	A25RA4EML0210M	2	10,00	2,00	25,00	32,00	200,00	199,00	50,00
1949656	A20RA4EML0307M	3	7,00	3,00	20,00	25,00	200,00	198,50	40,00
1949658	A25RA4EML0310M	3	10,00	3,00	25,00	32,00	200,00	198,50	50,00
1949660	A32SA4EML0312M	3	12,00	3,00	32,00	40,00	250,00	248,50	64,00
1949662	A20RA4EML0407M	4	7,00	4,00	20,00	25,00	200,00	198,00	40,00
1949664	A25RA4EML0410M	4	10,00	4,00	25,00	32,00	200,00	198,00	50,00
1949666	A32SA4EML0412M	4	12,00	4,00	32,00	40,00	250,00	248,00	64,00
1949668	A40TA4EML0416M	4	16,00	4,00	40,00	52,00	300,00	298,00	80,00
1949670	A32SA4EML0516M	5	16,00	5,00	32,00	44,00	250,00	247,50	64,00
1949672	A40TA4EML0516M	5	16,00	5,00	40,00	52,00	300,00	297,50	80,00
2263198	A40TA4EML0616M	6	16,00	6,00	40,00	52,00	300,00	296,98	80,00

TURNING

APPLICATION DATA RECOMMENDED STARTING SPEEDS

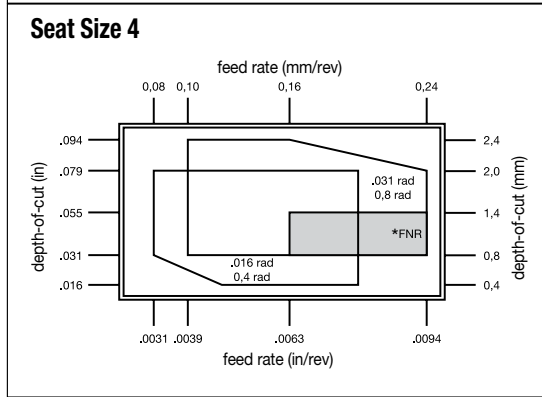
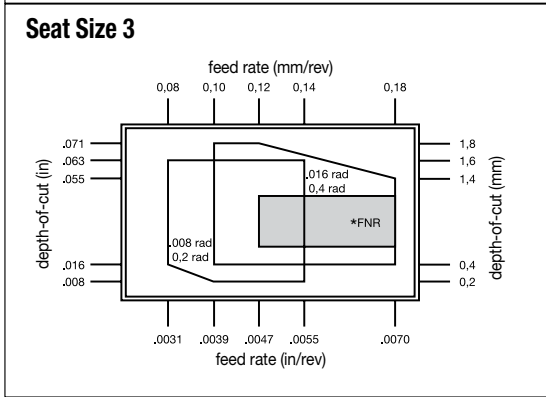
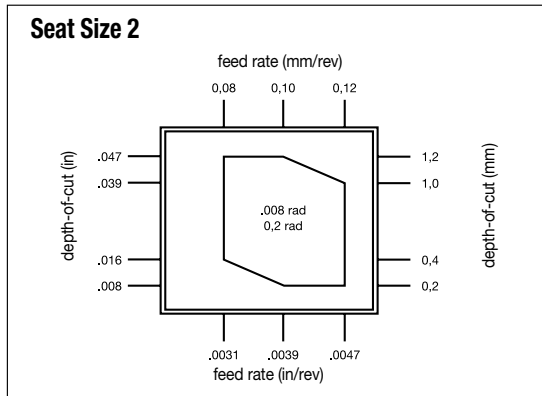
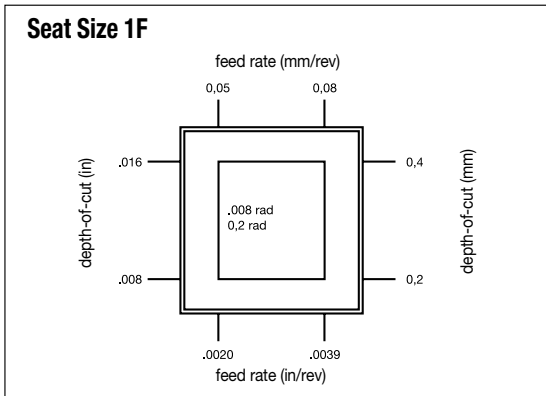
Material Group		Grooving & Cut-Off • Application Data • Recommended Starting Speeds (m/min)					
		KCU10B		KCU25B		KCK20	
		MIN	MAX	MIN	MAX	MIN	MAX
P	0-1	145	350	135	360	97	143
	2	145	255	125	220	76	103
	3	145	255	120	220	54	73
	4	80	180	35	95	39	57
	5	125	275	60	145	60	88
	6	115	240	50	120	51	76
M	1	145	275	100	265	-	-
	2	125	255	90	250	-	-
	3	125	255	90	220	-	-
K	1	125	255	135	400	78	130
	2	95	220	115	375	60	103
	3	65	160	100	340	54	83
N	1-2	160	1025	115	820	-	-
	3	-	-	-	-	-	-
	4	125	640	115	635	-	-
	5	95	255	90	320	-	-
S	1	15	140	10	65	-	-
	2	15	140	10	85	-	-
	3	15	140	15	85	-	-
	4	15	180	10	115	-	-
H	1	30	70	-	-	-	-
	2	45	80	-	-	-	-
	3	-	-	-	-	-	-

NOTE:
As the average chip thickness increases, the speed should be decreased.

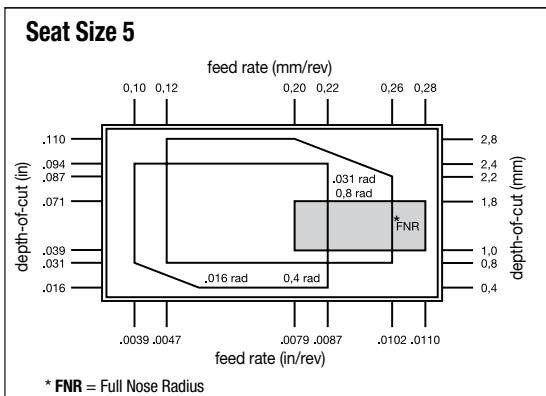
APPLICATION DATA PLUNGE FEED RATES

Geometry		Seat Size	Grooving & Cut-Off • Application Data • Plunge Feed Rates					
			RR		fn (mm/rev)		fn (in/rev)	
			mm	in	MIN	MAX	MIN	MAX
GUP / GMP GMN / GUN	1F	2	0.20	0.008	0.05	0.08	0.002	0.003
		3	0.20	0.008	0.05	0.14	0.002	0.006
	3	4	0.20	0.008	0.05	0.16	0.002	0.006
		5	0.40	0.016	0.08	0.18	0.003	0.007
	4	6	0.40	0.016	0.08	0.22	0.003	0.009
		8	0.80	0.031	0.10	0.24	0.004	0.009
	5	10	0.40	0.016	0.10	0.23	0.004	0.009
		12	0.80	0.031	0.10	0.25	0.004	0.010
	6	14	0.40	0.016	0.10	0.22	0.004	0.009
		16	0.80	0.031	0.12	0.26	0.005	0.010
8	18	1.20	0.047	0.14	0.30	0.006	0.012	
	20	0.80	0.031	0.12	0.30	0.005	0.012	
10	22	1.20	0.047	0.14	0.32	0.006	0.013	
	24	1.20	0.047	0.15	0.35	0.006	0.014	
CL	1B	2	0.15	0.006	0.05	0.09	0.002	0.004
		3	0.20	0.008	0.05	0.11	0.002	0.004
	3	4	0.20	0.008	0.05	0.14	0.002	0.006
		5	0.20	0.008	0.05	0.18	0.002	0.007
CF	1B	2	0.00	0.000	0.04	0.08	0.002	0.003
		3	0.10	0.004	0.05	0.10	0.002	0.004
	2	4	0.00	0.000	0.04	0.08	0.002	0.003
		5	0.20	0.008	0.05	0.13	0.002	0.005
	3	6	0.00	0.000	0.04	0.12	0.002	0.005
		8	0.20	0.008	0.05	0.18	0.002	0.007
	4	10	0.00	0.000	0.04	0.12	0.002	0.005
		12	0.20	0.008	0.05	0.20	0.002	0.008
5	14	0.00	0.000	0.04	0.14	0.002	0.006	
	16	0.30	0.012	0.05	0.23	0.002	0.009	
CM	1B	2	0.15	0.006	0.05	0.09	0.002	0.004
		3	0.20	0.008	0.05	0.13	0.002	0.005
	3	4	0.20	0.008	0.05	0.18	0.002	0.007
		5	0.20	0.008	0.05	0.20	0.002	0.008
	6	8	0.30	0.012	0.05	0.20	0.002	0.008
		10	0.40	0.016	0.05	0.25	0.002	0.010
8	12	0.40	0.016	0.05	0.30	0.002	0.012	
	14	0.40	0.016	0.05	0.30	0.002	0.012	
CR	2	3	0.20	0.008	0.08	0.13	0.003	0.005
		4	0.20	0.008	0.08	0.23	0.003	0.009
	3	5	0.20	0.008	0.08	0.30	0.003	0.012
		6	0.30	0.012	0.10	0.35	0.004	0.014
	6	8	0.30	0.012	0.10	0.40	0.004	0.016
		10	0.40	0.016	0.10	0.40	0.004	0.016
8	12	0.40	0.016	0.10	0.43	0.004	0.017	
	14	0.40	0.016	0.10	0.43	0.004	0.017	

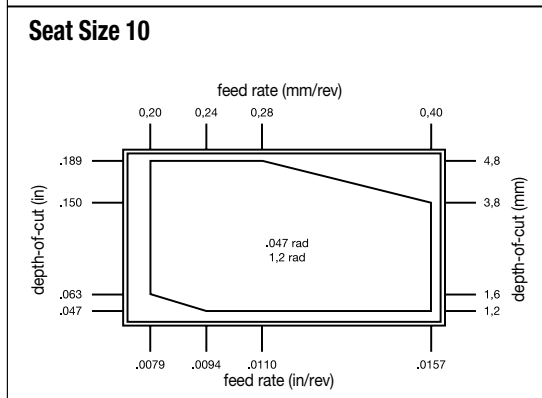
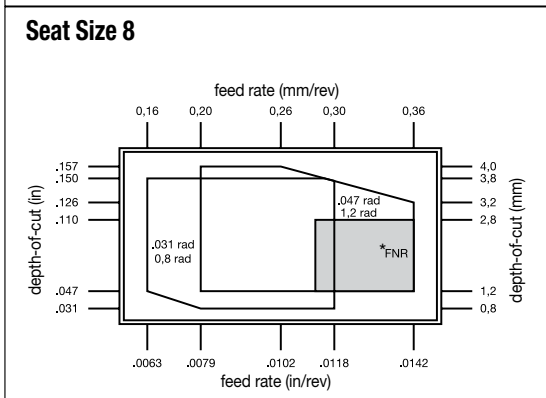
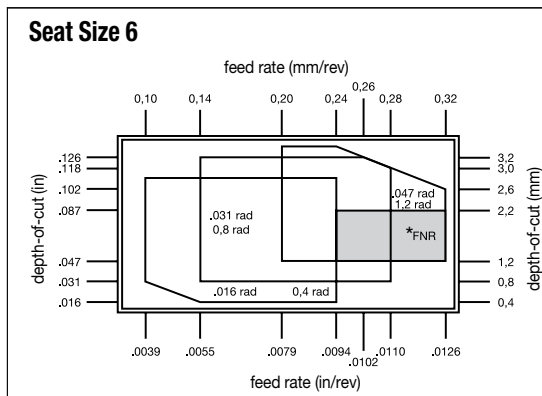
APPLICATION DATA TURN AND PROFILE FEED RATES



*FNR= Full Nose Radius



* FNR = Full Nose Radius



*FNR= Full Nose Radius

Threading

LAYDOWN TRIANGLE THREADING



Explore Laydown Triangle Threading

Materials

Primary



Secondary



Industries



Automotive



EV



General Engineering



Oil & Gas



Aerospace & Defense

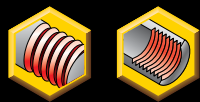


Medical

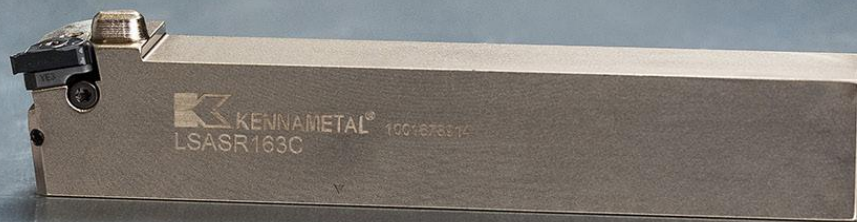


Wind & Solar

Applications



Laydown Triangle (LT) threading is the system of choice for fine-pitch threads, high-helix/multistart threads and single-point threading in small-diameter bores. With a wide selection of CB-style chip control inserts, you will receive superior chip management for excellent surface finishes and minimal operator intervention. The low profile design enables unrestricted chip flow — ideal for I.D. threads. Variable shim angles enable proper cutting geometry for high-helix angle and reverse helix angle threading, maximizing tool life and improving thread quality.



KC5010 AND KC5025 PREMIUM PVD TIALN-COATED GRADES

- Increase tool life at existing machining conditions
- Increase productivity by outperforming conventional PVD grades with elevated cutting speed capability

PRECISION-GROUND THREAD FORM ON LT AND LT-CB

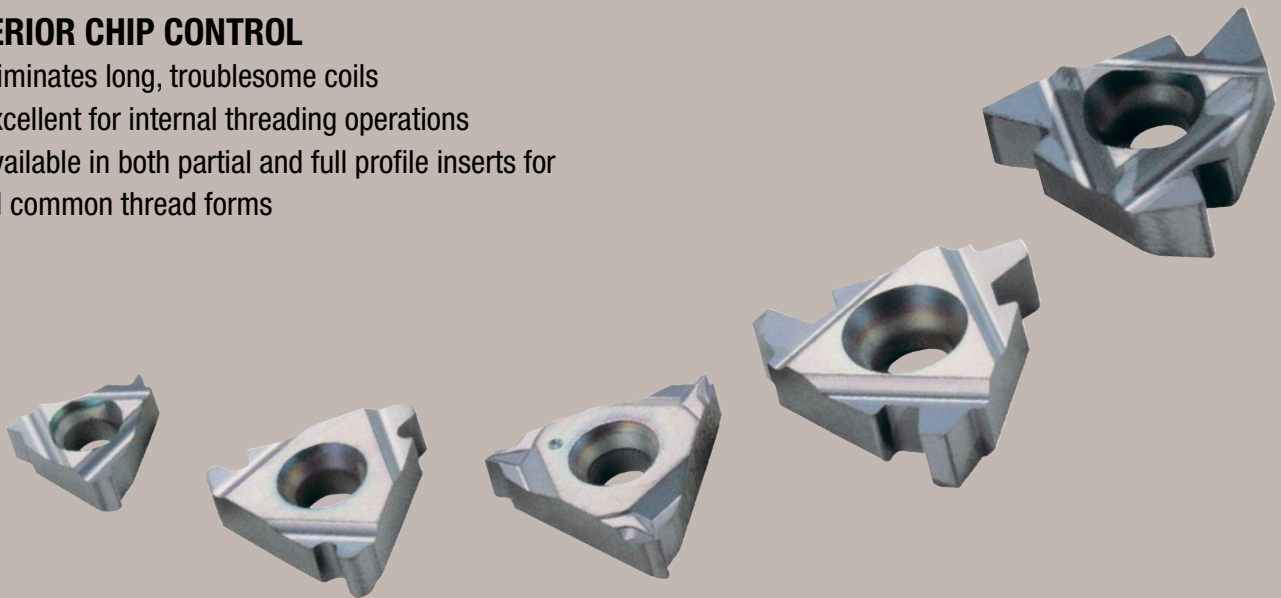
- Minimizes built-up edge
- Precisely cuts most common materials
- Reduces cutting forces
- Ensures accurate, high-quality threads

SUPERIOR CHIP CONTROL







- Eliminates long, troublesome coils
- Excellent for internal threading operations
- Available in both partial and full profile inserts for all common thread forms

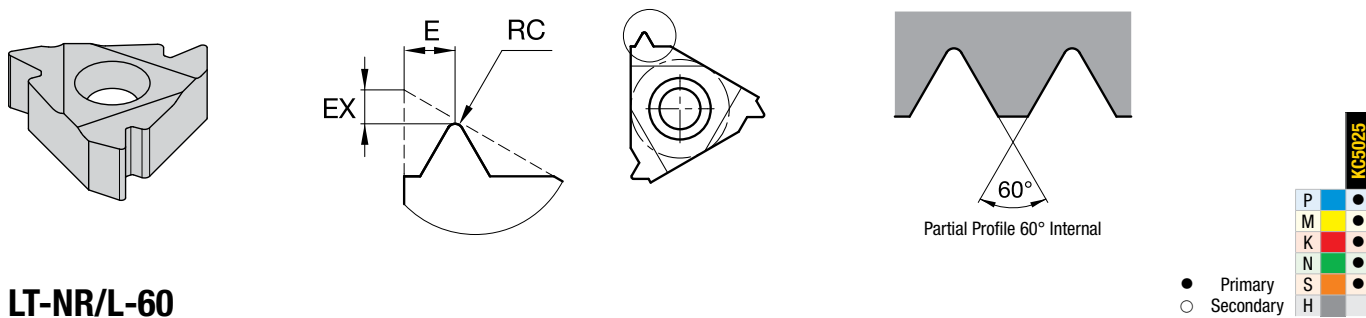
KENNA UNIVERSAL INSERTS

- Precision molded LT-CB thread form provides outstanding utility and value
- Excellent chip control combined with KC5025 grade enables trouble-free threading on a variety of workpiece materials



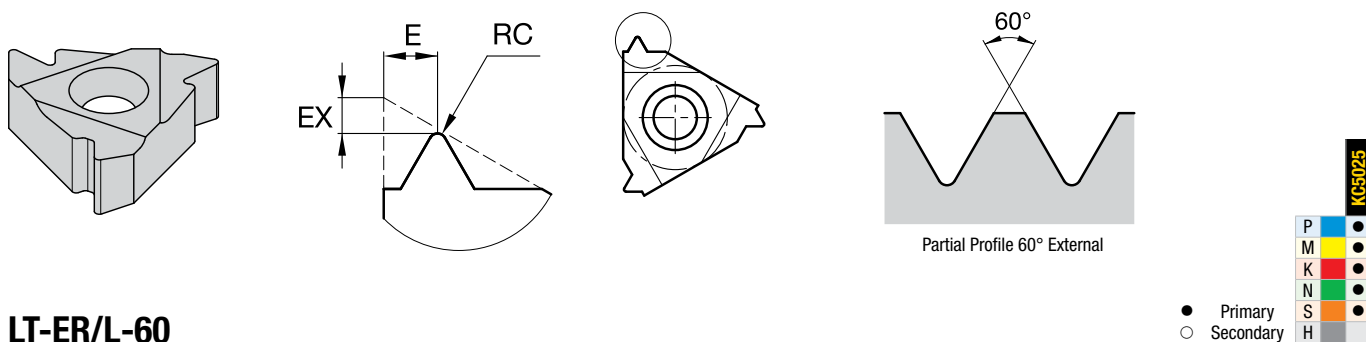
Insert Overview

Style		Thread Profile	Standard	Tolerance Class	Cresting	Application	Thread Type
CB	Thread Profile						
 LT-60CB	 LT-60	Partial profile 60°	—	—	N	General use for 60° thread forms, such as ISO and UN, where non-cresting inserts are desired to cut a variety of pitches.	external internal
 LT-ISOCB	 LT-ISO	Metric ISO	ISO R262, DIN 13	6g/6H	Y	Widely used metric 60° V-form for all industries.	external internal
 LT-WCB	 LT-W	Whitworth, BSW, BSF, BSP	BS 84:1956, ISO 228/1:1985, DIN 259	Medium Class A	Y	Widely used 55° form for gas and water connections.	external internal



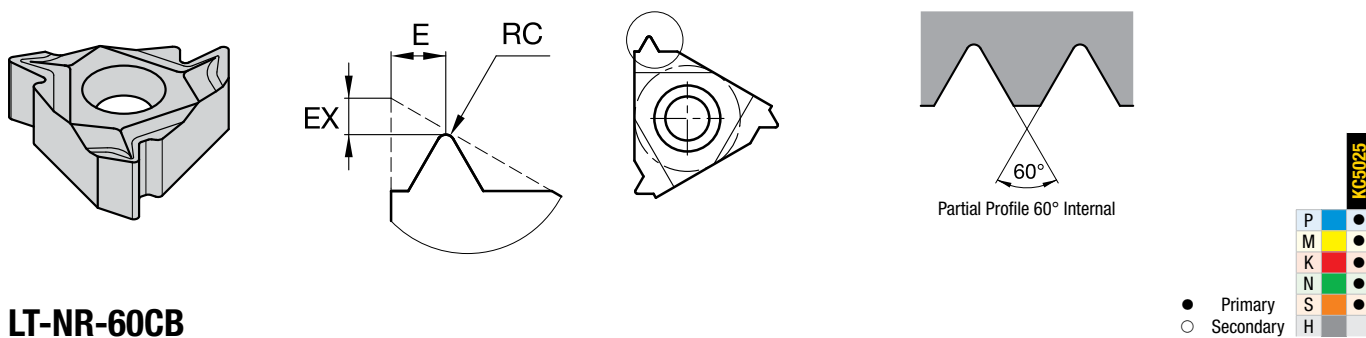
LT-NR/L-60

Catalog Number	Thread Series	RC		E		EX		Thread Pitch mm	TPI	KC5025
		mm	in	mm	in	mm	in			
Right Hand										
LT16NRAG60	60 Degree Partial	0,05	0.002	1,70	0.067	1,19	0.047	0,50-3,0	8-48	1743929



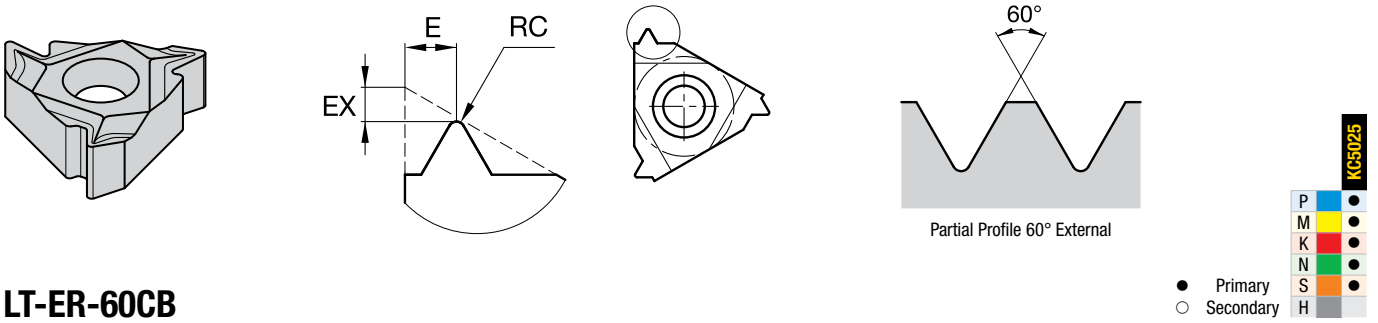
LT-ER/L-60

Catalog Number	Thread Series	RC		E		EX		Thread Pitch mm	TPI	KC5025
		mm	in	mm	in	mm	in			
Right Hand										
LT16ERA60	60 Degree Partial	0,05	0.002	0,89	0.035	0,79	0.031	0,50-1,50	16-48	1743744



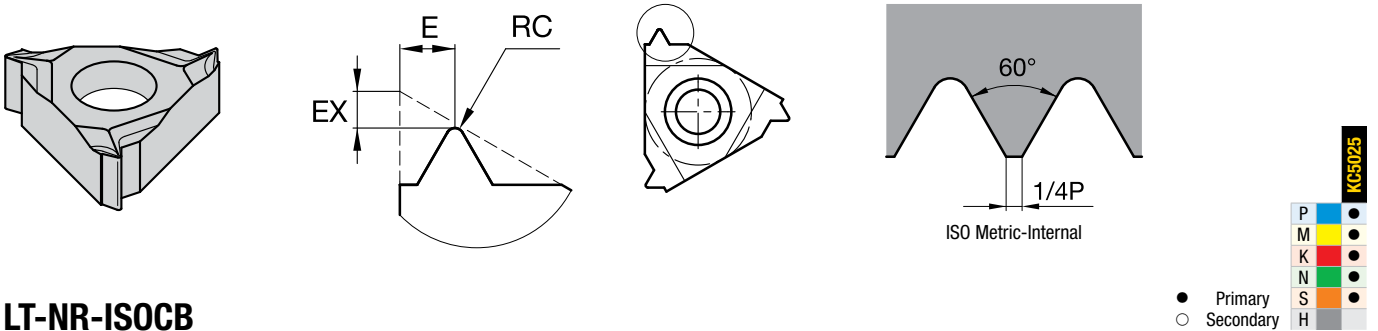
LT-NR-60CB

Catalog Number	Thread Series	RC		E		EX		Thread Pitch mm	TPI	KC5025
		mm	in	mm	in	mm	in			
Right Hand										
LT16NRAG60CB	60 Degree Partial	0.05	0.002	1.50	0.059	0.89	0.035	0,50-3,0	8-48	1698208



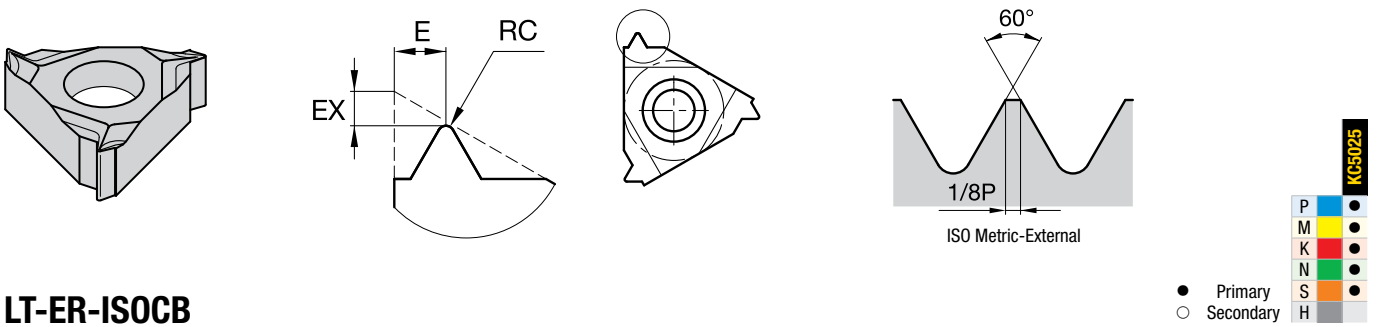
LT-ER-60CB

Catalog Number	Thread Series	RC		E		EX		Thread Pitch mm	TPI	KC5025
		mm	in	mm	in	mm	in			
Right Hand										
LT16ERAG60CB	60 Degree Partial	0.08	0.003	1.50	0.059	0.89	0.035	0,50-3,0	8-48	1679780



LT-NR-ISOCB

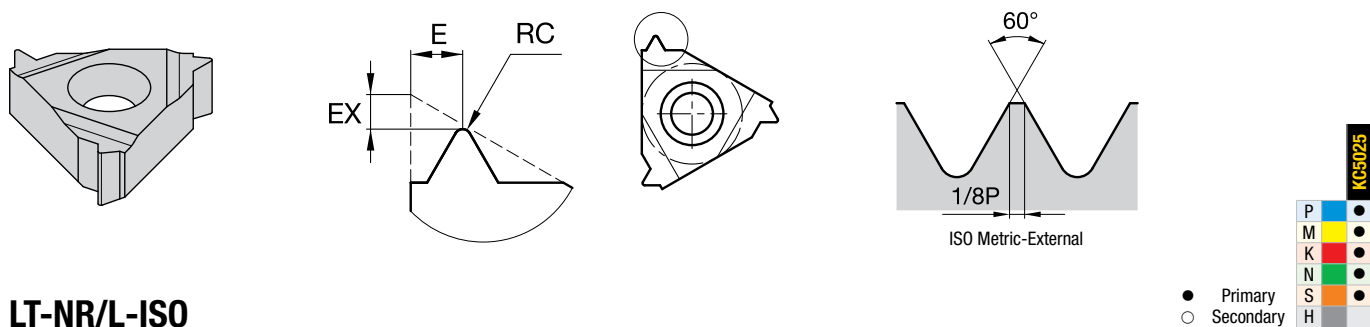
Catalog Number	Thread Series	E		EX		Thread Pitch mm	KC5025
		mm	in	mm	in		
Right Hand							
LT16NR15ISOCB	M-Metric/ISO	0.79	0.031	0.71	0.028	1.5	1712552
LT16NR20ISOCB	M-Metric/ISO	1.50	0.059	1.10	0.043	2.0	1712554



LT-ER-ISOCB

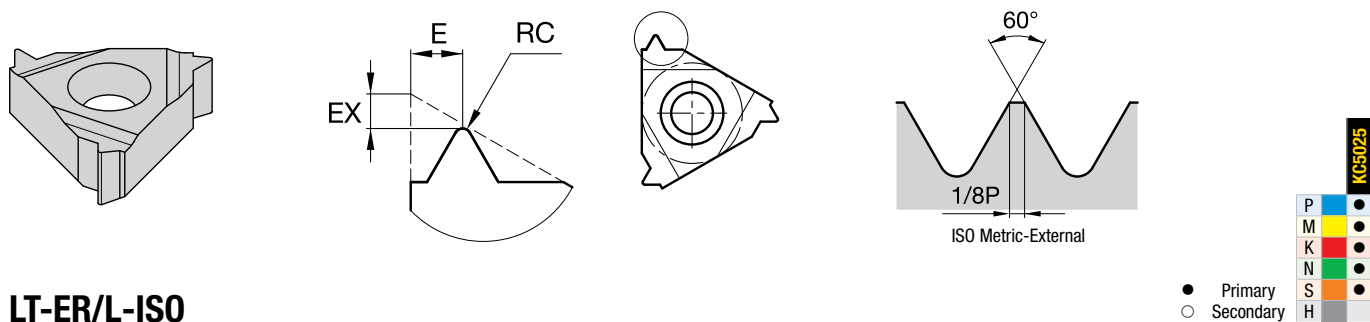
Catalog Number	Thread Series	E		EX		Thread Pitch mm	KC5025
		mm	in	mm	in		
Right Hand							
LT16ER10ISOCB	M-Metric/ISO	0.79	0.031	0.71	0.028	1.0	1690876
LT16ER125ISOCB	M-Metric/ISO	0.79	0.031	0.71	0.028	1.25	1690878
LT16ER15ISOCB	M-Metric/ISO	0.79	0.031	0.71	0.028	1.5	1690880
LT16ER175ISOCB	M-Metric/ISO	1.50	0.059	1.19	0.047	1.75	1692102
LT16ER20ISOCB	M-Metric/ISO	1.50	0.059	1.19	0.047	2.0	1692109
LT16ER30ISOCB	M-Metric/ISO	1.50	0.059	1.30	0.051	3.0	1698207

TURNING



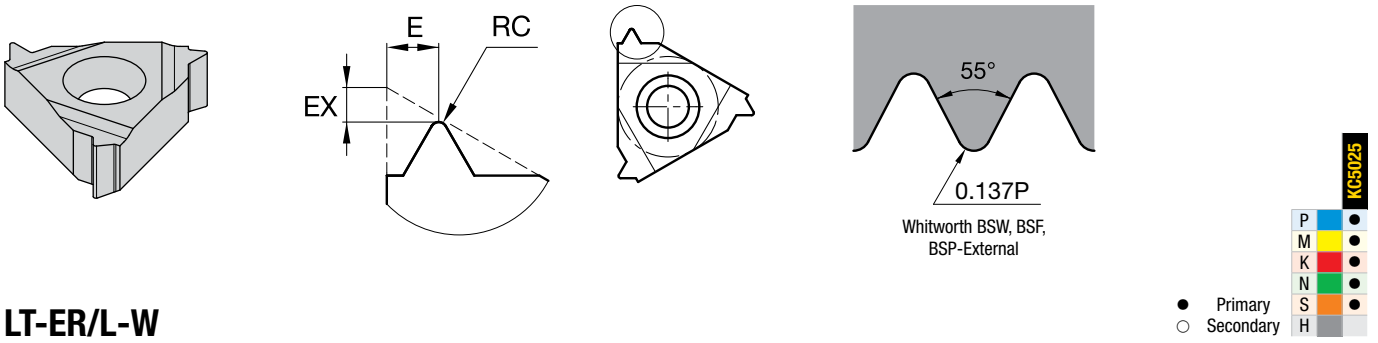
LT-NR/L-ISO

Catalog Number	Thread Series	E		EX		Thread Pitch mm	KC5025
		mm	in	mm	in		
Right Hand							
LT16NR10ISO	M-Metric/ISO	0.69	0.027	0.61	0.024	1.0	1725475
LT16NR125ISO	M-Metric/ISO	0.89	0.035	0.79	0.031	1.25	1725476
LT16NR15ISO	M-Metric/ISO	0.99	0.039	0.79	0.031	1.5	1725477
LT16NR20ISO	M-Metric/ISO	1.30	0.051	0.99	0.039	2.0	1725511
LT16NR25ISO	M-Metric/ISO	1.50	0.059	1.09	0.043	2.5	1725512
LT16NR30ISO	M-Metric/ISO	1.50	0.059	1.09	0.043	3.0	1725513
Left Hand							
LT16NL15ISO	M-Metric/ISO	0.99	0.039	0.79	0.031	1.5	1724497
LT16NL20ISO	M-Metric/ISO	1.30	0.051	0.99	0.039	2.0	1724499



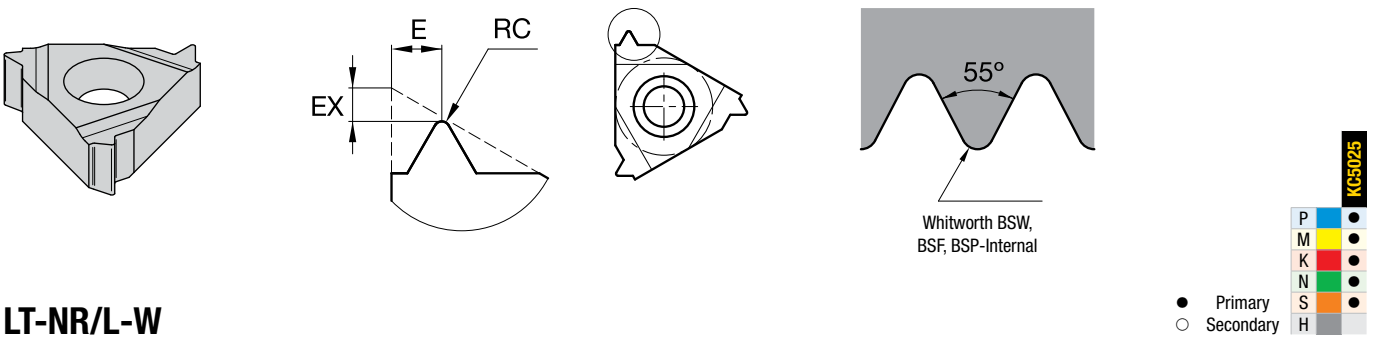
LT-ER/L-ISO

Catalog Number	Thread Series	E		EX		Thread Pitch mm	KC5025
		mm	in	mm	in		
Right Hand							
LT16ER05ISO	M-Metric/ISO	0.40	0.016	0.61	0.024	0.50	1724524
LT16ER075ISO	M-Metric/ISO	0.61	0.024	0.61	0.024	0.75	1724527
LT16ER10ISO	M-Metric/ISO	0.69	0.027	0.69	0.027	1.0	1725108
LT16ER125ISO	M-Metric/ISO	0.89	0.035	0.79	0.031	1.25	1725109
LT16ER15ISO	M-Metric/ISO	0.99	0.039	0.79	0.031	1.5	1725110
LT16ER175ISO	M-Metric/ISO	1.19	0.047	0.89	0.035	1.75	1725221
LT16ER20ISO	M-Metric/ISO	1.30	0.051	0.99	0.039	2.0	1725222
LT16ER25ISO	M-Metric/ISO	1.50	0.059	1.09	0.043	2.5	1725223
LT16ER30ISO	M-Metric/ISO	1.60	0.063	1.19	0.047	3.0	1725224



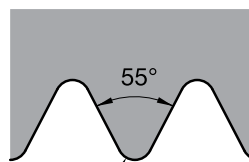
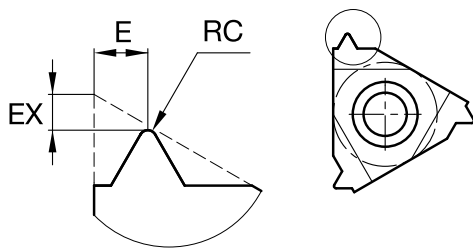
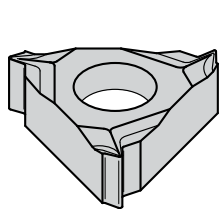
LT-ER/L-W

Catalog Number	Thread Series	E		EX		TPI	KC5025
		mm	in	mm	in		
Right Hand							
LT16ER11W	Whitworth	1.50	0.059	1.09	0.043	11	1743760
LT16ER14W	Whitworth	1.19	0.047	0.99	0.039	14	1743758
LT16ER19W	Whitworth	0.99	0.039	0.79	0.031	19	1743755
LT16ER28W	Whitworth	0.69	0.027	0.61	0.024	28	1743752



LT-NR/L-W

Catalog Number	Thread Series	E		EX		TPI	KC5025
		mm	in	mm	in		
Right Hand							
LT16NR11W	Whitworth	1.50	0.059	1.09	0.043	11	1743945
LT16NR14W	Whitworth	1.19	0.047	0.99	0.039	14	1743943



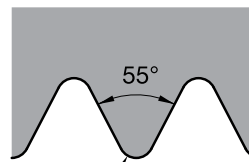
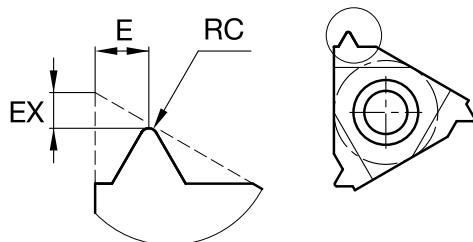
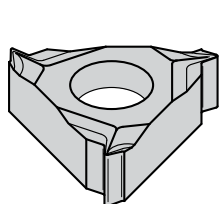
Whitworth BSW,
BSF, BSP-Internal

- Primary
- Secondary

P	●	KC5025
M	●	
K	●	
N	●	
S	●	
H	●	

LT-NR-WCB

Catalog Number	Thread Series	E		EX		TPI	KC5025
		mm	in	mm	in		
Right Hand							
LT16NR11WCB	Whitworth	1.50	0.059	1.30	0.051	11	1712669
LT16NR14WCB	Whitworth	1.50	0.059	1.30	0.051	14	1712670



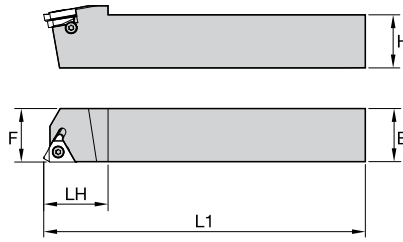
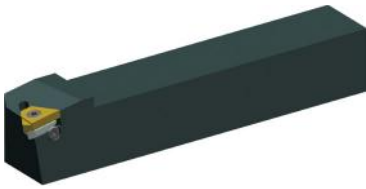
Whitworth BSW,
BSF, BSP-External

- Primary
- Secondary

P	●	KC5025
M	●	
K	●	
N	●	
S	●	
H	●	

LT-ER-WCB

Catalog Number	Thread Series	E		EX		TPI	KC5025
		mm	in	mm	in		
Right Hand							
LT16ER11WCB	Whitworth	1.50	0.059	1.30	0.051	11	1712614
LT16ER14WCB	Whitworth	1.50	0.059	1.30	0.051	14	1712616



LSA

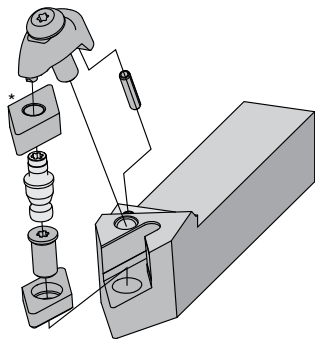
Order Number	Catalog Number	H	B	F	L1	LH	Gage Insert
Right Hand							
1136984	LSASR1616H16	16.00	16.00	16.00	100.00	25.00	LT16ER
1136992	LSASR2020K16	20.00	20.00	20.00	125.00	30.00	LT16ER
1137000	LSASR2525M16	25.00	25.00	25.00	150.00	30.00	LT16ER

APPLICATION DATA RECOMMENDED STARTING SPEEDS

Material Group	Threading • Application Data • Recommended Starting Speeds (m/min)			
			KC5025	
P	0-1	105	165	230
	2	100	150	200
	3	75	125	170
	4	60	95	130
	5	75	130	170
	6	50	90	130
M	1	90	170	230
	2	75	140	200
	3	75	135	200
K	1	90	135	180
	2	70	120	170
	3	50	85	120
N	1-2	120	305	455
	3	60	105	150
	4	100	200	305
	5	70	135	195
	6	100	170	245
	S	1	20	40
2		20	35	45
3		20	35	45
4		45	85	120
H	1	-	-	-
	2	-	-	-
	3	-	-	-
	4	-	-	-

NOTE:
FIRST choice starting speeds are in **bold** type.

Kenclamp D-style clamping

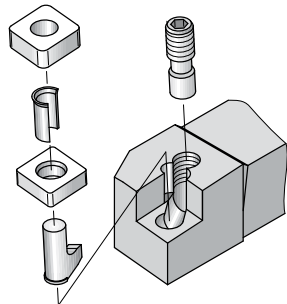


*The pin is an optional spare part and not in the standard configuration.

Catalog Number	Thread Size	Drive Size	Recommended Torque		
			Nm	In. Lbs.	Ft. Lbs.
KMSP415IP	M6,3 x 1,0	15 IP	4	35	3,0
KMSP515IP	M8 x 1,0	15 IP	4,5	40	3,3
KMSP625IP	M10 x 1,0	25 IP	8	71	5,9
KMSP315IP	M5 x 0,8	15 IP	3	27	2,2
KMSP5S15IP	M8 x 1,0	15 IP	4,5	40	3,3
KMSP4S15IP	M6,3 x 1,0	15 IP	4	35	3,0

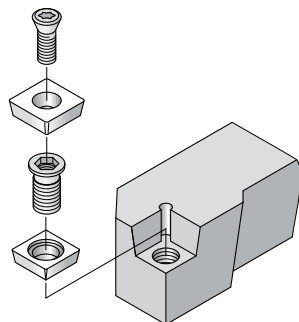
Catalog Number	Thread Size	Drive Size	Recommended Torque		
			Nm	In. Lbs.	Ft. Lbs.
CM234R ASSY	M6 x 1	15 IP	4,5	40	3,3
CM209R ASSY	M6 x 1	15 IP	4,5	40	3,3
CM210R ASSY	M8 x 1	25 IP	8	71	5,9
CM215R ASSY	M6 x 1	15 IP	4,5	40	3,3

Kenlever P-style clamping



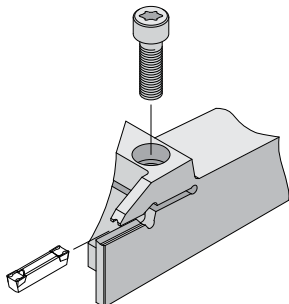
Catalog Number	Thread Size	Drive Size	Recommended Torque		
			Nm	In. Lbs.	Ft. Lbs.
514.122	M6	10 IP	2	18	1,5
514.123	M8 x 1,0	15 IP	3	27	2,2
514.124	M8 x 1,0	15 IP	3	27	2,2
514.125	M8 x 1,0	15 IP	3	27	2,2
514.112	M5 x 0,8	8 IP	2	18	1,5

Screw-On S-style clamping



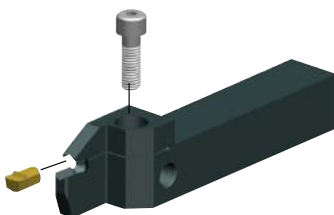
Catalog Number	Thread Size	Drive Size	Recommended Torque		
			Nm	In. Lbs.	Ft. Lbs.
MS1153	M2,5 x 0,45	T7	0,7	6	0,5
MS1156	M3,5 x 0,6	T15	1,7	15	1,3
MS1155	M3,5 x 0,6	T15	1,7	15	1,3
MS1158	M4 x 0,5	T15	2,6	23	1,9
MS1939	M2,5 x 0,45	T7	0,7	6	0,5
MS2066	M2,5 x 0,45	7 IP	0,7	6	0,5
MS2055	M3,5 x 0,8	15 IP	1,7	15	1,3
MS1160	M5 x 0,8	T20	4	35	3,0

A4



Catalog Number	Thread Size	Drive Size	Recommended Torque		
			Nm	In. Lbs.	Ft. Lbs.
MS1156	M3,5 x 0,6	T15	3,5	31	3
MS1160	M5 x 0,8	T20	7	62	5
MS1490	M8 x 1,25	T45	17	151	13
MS1595	M6 x 1,0	T30	12	106	9
MS1944	M4 x 0,7	T25	4	35	3
MS1970	M6 x 1,0	T30	12	106	9
MS2091	M5 x 0,8	25 IP	9	80	7

Beyond Evolution



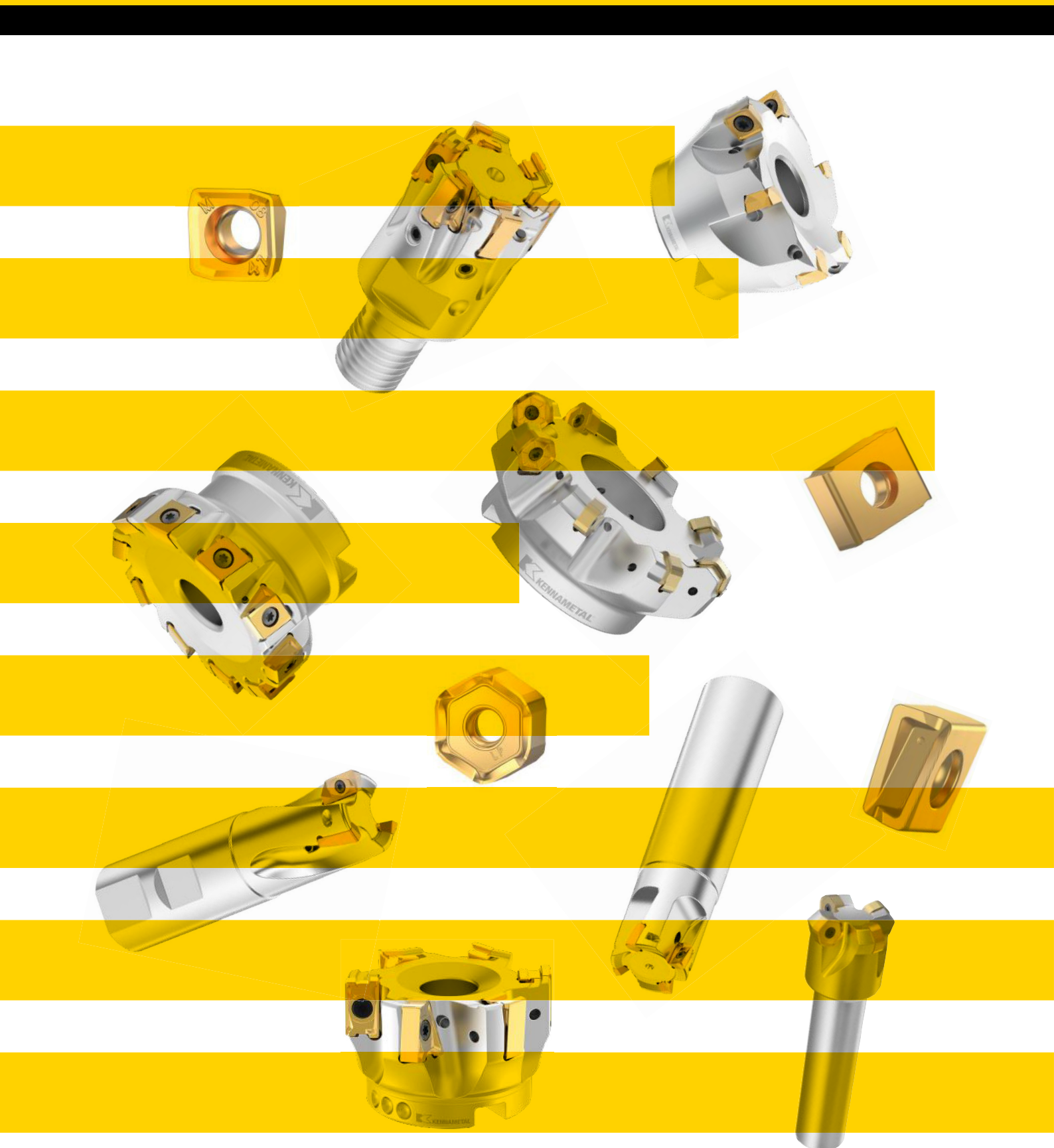
Catalog Number	Thread Size	Drive Size	Recommended Torque		
			Nm	In. Lbs.	Ft. Lbs.
MS1160	M5	T20	7	62	5
MS1162	M6	T25	9	80	7
MS1163	M8	T30	18	159	13
MS1273	M4	T15	4	35	3
MS1490	M8	T45	17	151	13
MS1595	M6	T30	12	106	9
MS1944	M4	T25	4	35	3
MS1970	M6	T30	12	106	9
MS2002	M6	T25	9	80	7
MS2091	M5	25 IP	9	80	7
191.916	M4	T15	5	44	4

TURNING

INDEXABLE MILLING







INDEXABLE MILLING

DODEKA™ SERIES.....	B5
7745VOD SERIES.....	B23
MILL 4™-11.....	B29
MILL 4-15.....	B39
MILL 1™-10.....	B49
MILL 1-14.....	B63
MILL 4-12 ^{KT}	B75
7792 HIGH-FEED SERIES.....	B81
7713VR SERIES.....	B103



Face Milling

DODEKA SERIES

LEADER IN ADVANCED
FACE MILLING APPLICATIONS

Materials



Industries



Automotive



General
Engineering

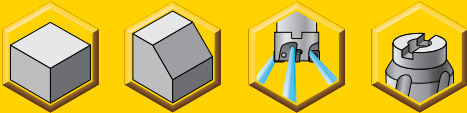


Aerospace



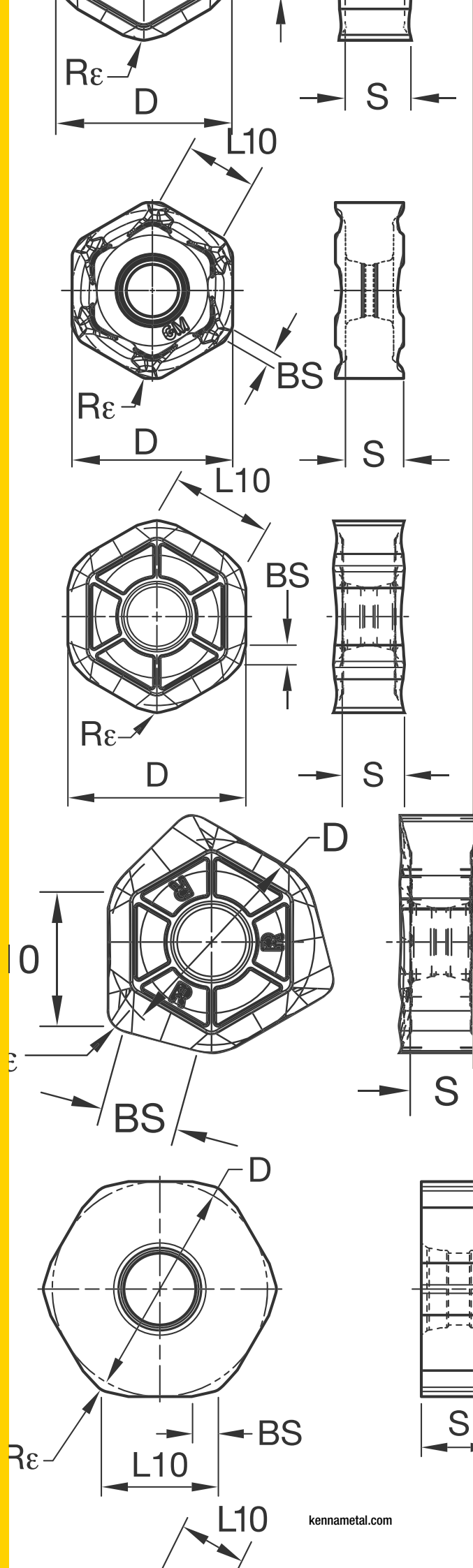
Die and Mold

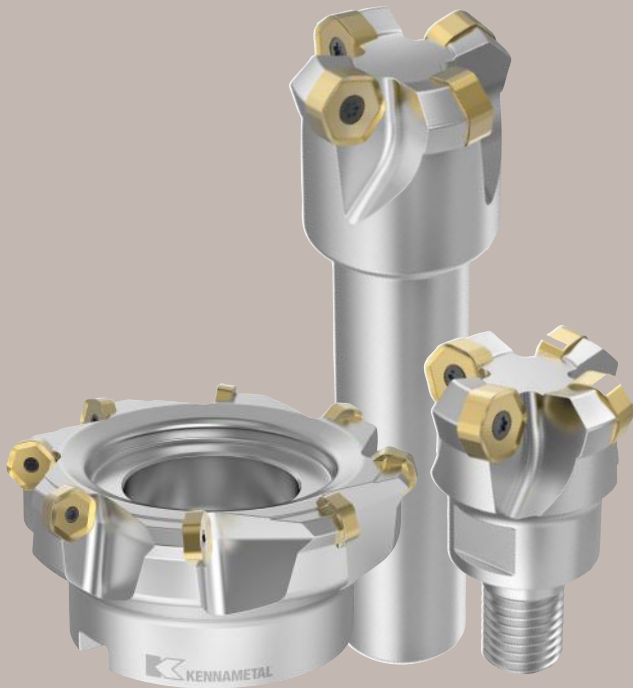
Applications



PRIMARY APPLICATION

Dodeka and Dodeka Mini platforms are the most comprehensive face milling boosters on the market today. Twelve true cutting edges per insert mean low cost-per-edge and high productivity. With Beyond™ premium milling grades, achieve up to 30% higher MRR, 25% lower cutting forces due to soft cutting action and up to 35% better tool life in light to heavy machining.



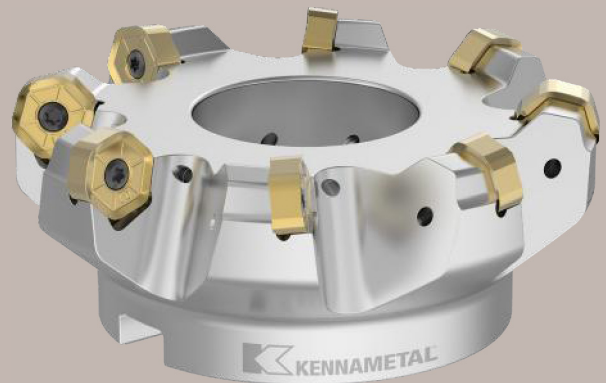


Dodeka Mini Series

insert size HN.J06

Ap1 max = 4,4mm

(for approach angle 60°)



Dodeka

insert size HN.J0905

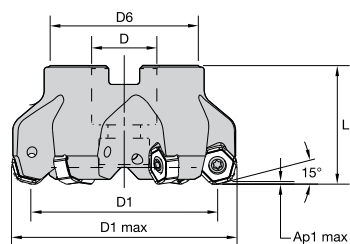
Ap1 max = 4,5mm

DODEKA SERIES

- Most comprehensive face milling platform on the market
- Provides excellent cost-per-cutting edge with market leading performance
- Capable of covering all your face milling application needs



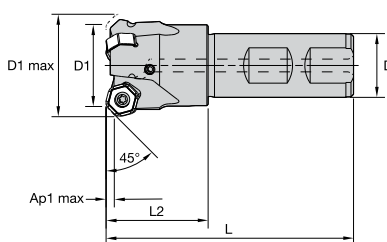
Explore Dodeka



Dodeka Mini High-Feed 15° • Shell Mill • Metric

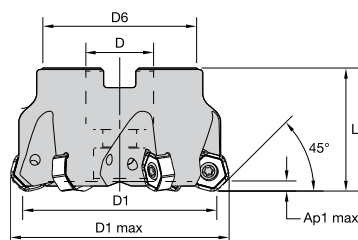
Order Number	ISO Catalog Number	D1	D1 max	D	D6	L	Ap1 max	Z	max RPM	kg
4153706	KSHRHF040A05RS15HN06	40	53,2	22	38	40	1,6	5	15800	0.29
4153707	KSHRHF050A05RS15HN06	50	63,1	22	38	40	1,6	5	12700	0.39

INDEXABLE MILLING



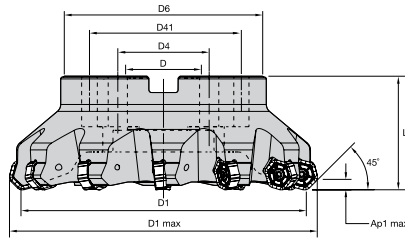
Dodeka Mini 45° • End Mill • Weldon® Shank • Metric

Order Number	ISO Catalog Number	D1	D1 max	D	L	L2	Ap1 max	Z	max RPM	kg
4126350	KSHR032D04B25HN06	32	40,2	25	97	40	3,2	4	17600	0.41



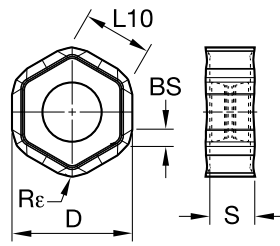
Dodeka Mini 45° • Shell Mill • Metric

Order Number	ISO Catalog Number	D1	D1 max	D	D6	L	Ap1 max	Z	max RPM	kg
4126387	KSHR040A04RS45HN06	40	48,2	22	38	40	3,2	4	15800	0.25
4124313	KSHR040A05RS45HN06	40	48,2	22	38	40	3,2	5	15800	0.25
4122886	KSHR050A05RS45HN06	50	58,2	22	38	40	3,2	5	12700	0.37
4126389	KSHR050A06RS45HN06	50	58,2	22	38	40	3,2	6	12700	0.36
4122889	KSHR063A06RS45HN06	63	71,2	22	50	40	3,2	6	10100	0.65
4126390	KSHR063A08RS45HN06	63	71,2	22	50	40	3,2	8	10100	0.64
4126391	KSHR080A05RS45HN06	80	88,2	27	60	50	3,2	5	7900	1.13
4126392	KSHR080A08RS45HN06	80	88,2	27	64	50	3,2	8	7900	1.25
4126403	KSHR080A10RS45HN06	80	88,2	27	60	50	3,2	10	7900	1.19
4126405	KSHR100B09RS45HN06	100	108,2	32	80	50	3,2	9	6300	1.84
4126406	KSHR100B12RS45HN06	100	108,2	32	80	50	3,2	12	6300	1.84
4126407	KSHR125B08RS45HN06	125	133,2	40	90	63	3,2	8	5050	2.87
4126408	KSHR125B12RS45HN06	125	133,2	40	90	63	3,2	12	5050	2.98



Dodeka 45° • Shell Mill • Metric

Order Number	ISO Catalog Number	D1	D1 max	D	D4	D6	L	Ap1 max	Z	max RPM	kg
3324831	KSHR50A04RS45HN09	50	61,0	22	—	38	40	4,5	4	12700	0.32
3324832	KSHR50A05RS45HN09	50	61,0	22	—	38	40	4,5	5	12700	0.33
3749959	KSHR63A05RS45HN09	63	74,0	22	—	50	40	4,5	5	10100	0.60
3325163	KSHR63A06RS45HN09	63	74,0	22	—	50	40	4,5	6	10100	0.56
3325164	KSHR63A07RS45HN09	63	74,0	22	—	50	40	4,5	7	10100	0.57
3749960	KSHR80A05RS45HN09	80	91,0	27	—	60	50	4,5	5	7900	1.12
3325165	KSHR80A06RS45HN09	80	91,0	27	—	60	50	4,5	6	7900	1.07
3325166	KSHR80A09RS45HN09	80	91,0	27	—	60	50	4,5	9	7900	1.11
3749961	KSHR100B06RS45HN09	100	111,0	32	—	80	50	4,5	6	6300	1.73
3325167	KSHR100B08RS45HN09	100	111,0	32	—	80	50	4,5	8	6300	1.68
3325168	KSHR100B11RS45HN09	100	111,0	32	—	80	50	4,5	11	6300	1.73
3749962	KSHR125B08RS45HN09	125	135,9	40	—	90	63	4,5	8	5050	2.84
3325169	KSHR125B10RS45HN09	125	135,9	40	—	90	63	4,5	10	5050	2.77
3325170	KSHR125B14RS45HN09	125	136,0	40	—	90	63	4,5	14	5050	2.86
3750013	KSHR160C10RS45HN09	160	171,0	40	66,7	110	63	4,5	10	3900	4.75
3325171	KSHR160C12RS45HN09	160	171,0	40	66,7	110	63	4,5	12	3900	4.56
3325172	KSHR160C16RS45HN09	160	171,0	40	66,7	110	63	4,5	16	3900	4.70
3587732	KSHR200C16RS45HN09	200	211,0	60	101,6	130	63	4,5	16	3180	6.43

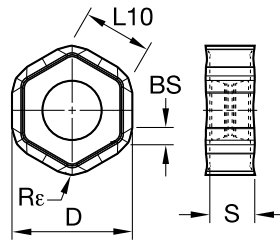


Dodeka Mini • Carbide Insert • HNGJ-LDJ
Light Machining of Aluminum

		KC410M	
P	●	●	●
M	●	●	●
K	●	●	●
N	●	●	●
S	●	●	●
H	●	●	●

● Primary
○ Secondary

ISO Catalog Number	D	L10	S	Re	BS	hm	Cutting Edges	KC410M
HNGJ0604ANFNLDJ	12.00	6.93	4.48	1.00	1.54	0.02	12	4121575

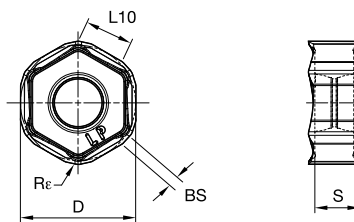
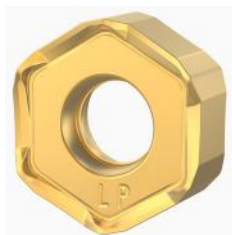


Dodeka Mini • Carbide Insert • HNGJ-LD
Light Machining

		KC522M	KC725M	KCK20B	KCPK30	KCPM40	KCSM40
P	●	●	●	●	●	●	●
M	●	●	●	●	●	●	●
K	○	○	○	○	○	○	○
N	●	●	●	●	●	●	●
S	●	●	●	●	●	●	●
H	○	○	○	○	○	○	○

● Primary
○ Secondary

ISO Catalog Number	D	L10	S	Re	BS	hm	Cutting Edges	KC522M	KC725M	KCK20B	KCPK30	KCPM40	KCSM40
HNGJ0604ANENLD	12.00	6.93	4.48	1.00	1.52	0.04	12	4121578	4119224	6970343	4119190	5550701	6165862

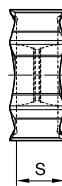
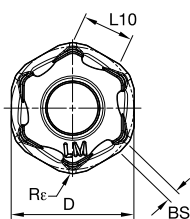


Dodeka Mini 45° • Carbide Insert • HNPJ-LP
Light Machining of Steels

		KC522M	KCK20B	KCPK30	KCPM40
P	●	●	●	●	●
M	●	●	●	●	●
K	○	○	○	○	○
N	●	●	●	●	●
S	●	●	●	●	●
H	○	○	○	○	○

● Primary
○ Secondary

ISO Catalog Number	D	L10	S	Re	BS	hm	Cutting Edges	KC522M	KCK20B	KCPK30	KCPM40
HNPJ0604ANERLP	12.00	6.93	4.72	1.00	1.33	0.05	12	7033331	7033333	7037930	7033332



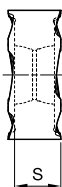
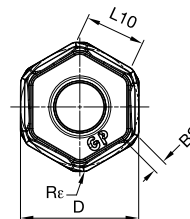
Dodeka Mini 45° • Carbide Insert • HNPJ-LM

Light Machining of Stainless Steels

● Primary
○ Secondary

				KC522M	KCSM40
P	●	●	●	●	●
M	●	●	●	●	●
K	○	○	○	○	○
N	○	○	○	○	○
S	○	○	○	○	○
H	○	○	○	○	○

ISO Catalog Number	D	L10	S	Re	BS	hm	Cutting Edges	KC522M	KCSM40
HNPJ0604ANERLM	12.00	6.93	4.72	1.00	1.33	0.05	12	7032979	7032980



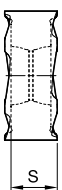
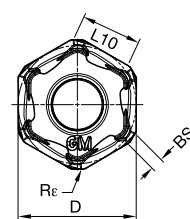
Dodeka Mini 45° • Carbide Insert • HNGJ-GP

Medium Machining of Steels with excellent floor finish

● Primary
○ Secondary

				KC522M	KCPM40	KTPK20
P	●	●	○	●	○	○
M	●	●	○	●	○	○
K	○	○	○	○	○	○
N	○	○	○	○	○	○
S	○	○	○	○	○	○
H	○	○	○	○	○	○

ISO Catalog Number	D	L10	S	Re	BS	hm	Cutting Edges	KC522M	KCPM40	KTPK20
HNGJ0604ANERGP	12.00	6.93	4.72	1.00	1.10	0.06	12	7033335	7033336	7033334



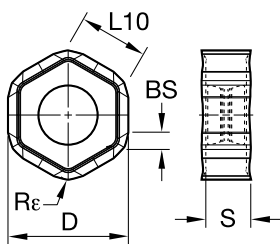
Dodeka Mini 45° • Carbide Insert • HNGJ-GM

Medium Machining of Stainless Steels with excellent floor finish

● Primary
○ Secondary

				KC522M	KCSM40
P	●	●	●	●	●
M	●	●	●	●	●
K	○	○	○	○	○
N	○	○	○	○	○
S	○	○	○	○	○
H	○	○	○	○	○

ISO Catalog Number	D	L10	S	Re	BS	hm	Cutting Edges	KC522M	KCSM40
HNGJ0604ANERGM	12.00	6.93	4.72	1.00	2.13	0.06	12	7032977	7032978

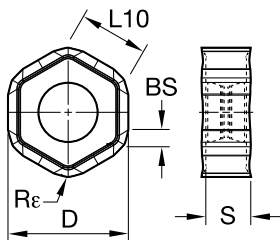


		KC522M	KC725M	KCK15	KCK20B	KCPK30	KCPM40	KCSM40
P	●	●	●	●	●	●	●	●
M	●	●	●	●	●	○	○	○
K	○	○	●	●	○	○	○	○
N	○	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○

● Primary
○ Secondary

Dodeka Mini • Carbide Insert • HNPJ-GD
Medium Machining

ISO Catalog Number	D	L10	S	Rε	BS	hm	Cutting Edges	KC522M	KC725M	KCK15	KCK20B	KCPK30	KCPM40	KCSM40
HNPJ0604ANSNGD	12.00	6.93	4.45	1.00	1.45	0.08	12	4119697	4119701	4119699	6970330	4119700	5550703	6165759

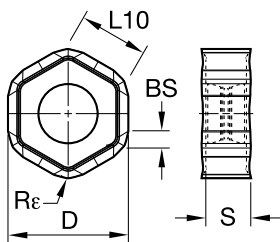


		KCPK30	KCPM40
P	●	●	●
M	○	○	○
K	○	○	○
N	○	○	○
S	○	○	○
H	○	○	○

● Primary
○ Secondary

Dodeka Mini • Carbide Insert • HNGJ-HD
Heavy Machining

ISO Catalog Number	D	L10	S	Rε	BS	hm	Cutting Edges	KCPK30	KCPM40
HNGJ0604ANSNHD	12.00	6.93	4.40	1.00	1.45	0.14	12	6039812	6039659



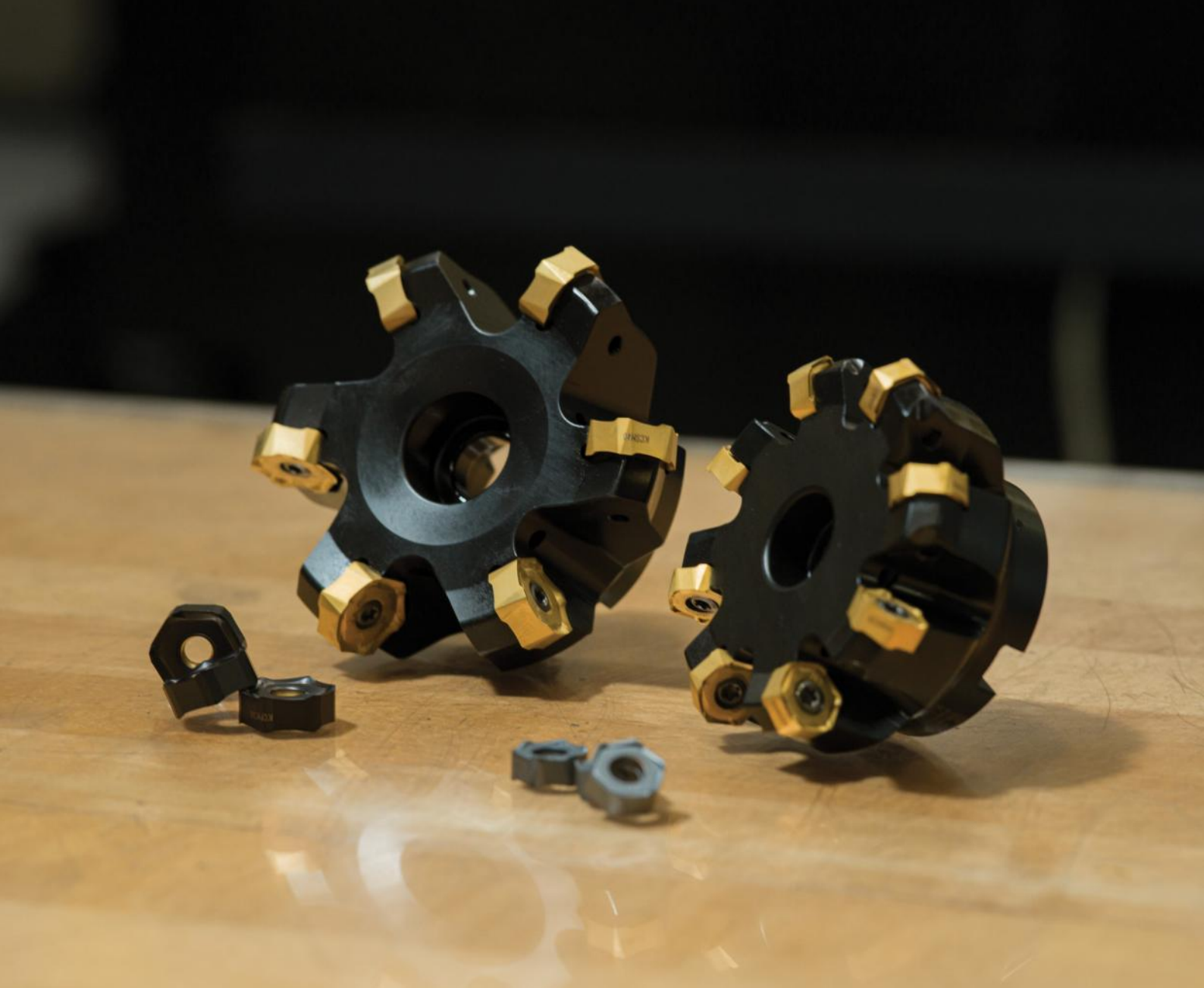
		KC522M	KC725M	KCK20B	KCPK30	KCPM40	KCSM40
P	●	●	●	●	●	●	●
M	●	●	●	●	○	○	○
K	○	○	●	●	○	○	○
N	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○

● Primary
○ Secondary

Dodeka Mini • Carbide Insert • HNPJ-HD
Heavy Machining

ISO Catalog Number	D	L10	S	Rε	BS	hm	Cutting Edges	KC522M	KC725M	KCK20B	KCPK30	KCPM40	KCSM40
HNPJ0604ANSNHD	12.00	6.44	4.41	1.00	1.45	0.14	12	4119703	—	—	—	—	—
HNPJ0604ANSNHD	12.00	6.93	4.41	1.00	1.45	0.14	12	—	4119229	6970345	4119228	5550702	6165760
HNPJ060432ANSNHD	12.00	6.93	4.41	3.20	—	0.10	12	4119989	4120003	—	—	—	—
HNPJ060432ANSNHD	12.00	6.93	4.41	3.20	—	0.10	12	—	—	—	—	—	6165861

INDEXABLE MILLING



FACE MILLING • DODEKA MINI SERIES - RECOMMENDED STARTING FEEDS

Recommended Starting Feeds [mm]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)						Insert Geometry
	30%			40-100%			
.F.LDJ	0,08	0,22	0,37	0,07	0,20	0,34	.F.LDJ
.E.LD	0,11	0,31	0,46	0,10	0,28	0,42	.E.LD
.E.LM	0,08	0,23	0,38	0,07	0,21	0,35	.E.LM
.E.LP	0,08	0,28	0,43	0,07	0,25	0,40	.E.LP
.E.GM	0,08	0,23	0,38	0,07	0,21	0,35	.E.GM
.E.GP	0,08	0,28	0,44	0,07	0,25	0,40	.E.GP
.S.GD	0,16	0,34	0,54	0,14	0,31	0,49	.S.GD
.S.HD	0,16	0,39	0,63	0,14	0,36	0,57	.S.HD

HNG.....: Ground inserts; high versatility for all finishing applications and difficult-to-machine stainless steels and high-temp alloys.
HNP.....: Pressed inserts; lower cost per edge for most roughing to semi-finishing operations.

Recommended Starting Speeds for Dry Machining • Metric

Material Group		KC410M*			KC510M			KC520M			KC522M			KC725M		
P	1	-	-	-	-	-	-	-	-	-	395	340	325	310	275	260
	2	-	-	-	-	-	-	-	-	-	330	290	240	265	230	190
	3	-	-	-	-	-	-	-	-	-	305	260	210	240	205	170
	4	-	-	-	295	240	205	-	-	-	270	220	180	215	180	145
	5	-	-	-	-	-	-	-	-	-	220	205	180	180	160	145
	6	-	-	-	-	-	-	-	-	-	200	150	120	155	120	95
M	1	-	-	-	-	-	-	-	-	-	245	215	200	205	180	160
	2	-	-	-	-	-	-	-	-	-	220	190	155	185	155	130
	3	-	-	-	-	-	-	-	-	-	170	145	115	140	120	95
K	1	-	-	-	355	320	290	325	295	260	275	245	220	-	-	-
	2	-	-	-	275	245	230	250	230	210	215	190	180	-	-	-
	3	-	-	-	235	210	190	210	190	175	180	160	145	-	-	-
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	190	155	110	-	-	-	145	110	85	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Material Group		KCK15			KCPK30			KCPM40			KCSM40					
P	1	-	-	-	545	475	445	355	310	295	275	240	205			
	2	-	-	-	335	305	275	300	260	215	240	205	160			
	3	-	-	-	305	275	245	275	235	190	205	180	160			
	4	-	-	-	230	210	190	245	205	160	180	160	145			
	5	-	-	-	310	275	250	205	185	160	160	145	125			
	6	-	-	-	190	160	145	180	140	110	125	110	90			
M	1	-	-	-	245	220	185	235	205	185	275	220	180			
	2	-	-	-	220	190	170	210	180	150	180	145	125			
	3	-	-	-	175	155	140	155	140	110	145	125	110			
K	1	505	460	410	355	320	290	-	-	-	-	-	-			
	2	400	355	330	280	250	230	-	-	-	-	-	-			
	3	335	300	275	235	210	190	-	-	-	-	-	-			
N	1	-	-	-	-	-	-	-	-	-	-	-	-			
	2	-	-	-	-	-	-	-	-	-	-	-	-			
	3	-	-	-	-	-	-	-	-	-	-	-	-			
S	1	-	-	-	-	-	-	-	-	-	-	-	-			
	2	-	-	-	-	-	-	-	-	-	-	-	-			
	3	-	-	-	-	-	-	-	-	-	-	-	-			
	4	-	-	-	-	-	-	-	-	-	-	-	-			
H	1	-	-	-	-	-	-	-	-	-	-	-	-			
	2	-	-	-	-	-	-	-	-	-	-	-	-			
	3	-	-	-	-	-	-	-	-	-	-	-	-			

*Recommended for wet machining only.

NOTE:

FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

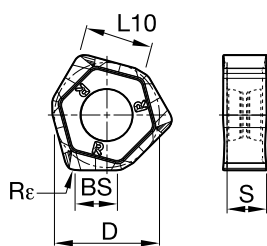
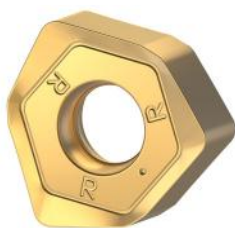
INDEXABLE MILLING

Recommended Starting Speeds for Wet Machining • Metric

Material Group	KC410M			KC510M			KC520M			KC522M			KC725M		
P	1	-	-	-	-	-	-	-	-	315	270	260	250	220	210
	2	-	-	-	-	-	-	-	-	265	230	190	210	185	150
	3	-	-	-	-	-	-	-	-	245	210	170	190	165	135
	4	-	-	-	235	190	165	-	-	215	175	145	170	145	115
	5	-	-	-	-	-	-	-	-	175	165	145	145	130	115
	6	-	-	-	-	-	-	-	-	160	120	95	125	95	75
M	1	-	-	-	-	-	-	-	-	195	170	160	165	145	130
	2	-	-	-	-	-	-	-	-	175	150	125	150	125	105
	3	-	-	-	-	-	-	-	-	135	115	90	110	95	75
K	1	-	-	-	285	255	230	260	235	210	220	195	175	-	-
	2	-	-	-	220	195	185	200	185	170	170	150	145	-	-
	3	-	-	-	190	170	150	170	150	140	145	130	115	-	-
N	1	1170	1035	955	615	550	505	-	-	-	-	-	-	-	-
	2	1035	955	880	555	510	470	-	-	-	-	-	-	-	-
	3	1035	955	880	555	510	470	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	40	30	25	30	30	25
	2	-	-	-	-	-	-	-	-	40	30	25	30	30	25
	3	-	-	-	-	-	-	-	-	50	40	25	45	30	25
	4	-	-	-	-	-	-	-	-	70	50	30	50	45	30
H	1	-	-	-	150	125	90	-	-	115	90	70	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Material Group	KCK15			KCPK30			KCPM40			KCSM40					
P	1	-	-	-	435	380	355	285	250	235	-	-	-		
	2	-	-	-	270	245	220	240	210	170	-	-	-		
	3	-	-	-	245	220	195	220	190	150	-	-	-		
	4	-	-	-	185	170	150	195	165	130	-	-	-		
	5	-	-	-	250	220	200	165	150	130	165	140	115		
	6	-	-	-	150	130	118	145	110	90	145	105	75		
M	1	-	-	-	195	175	150	190	165	150	200	165	135		
	2	-	-	-	175	150	135	170	145	120	170	140	115		
	3	-	-	-	140	125	110	125	110	90	140	105	80		
K	1	405	370	330	285	255	230	-	-	-	-	-	-		
	2	320	285	265	225	200	185	-	-	-	-	-	-		
	3	270	240	220	190	170	150	-	-	-	-	-	-		
N	1	-	-	-	-	-	-	-	-	-	-	-	-		
	2	-	-	-	-	-	-	-	-	-	-	-	-		
	3	-	-	-	-	-	-	-	-	-	-	-	-		
S	1	-	-	-	-	-	-	40	30	30	40	30	25		
	2	-	-	-	-	-	-	40	30	30	40	30	25		
	3	-	-	-	-	-	-	50	40	30	50	40	25		
	4	-	-	-	65	50	30	65	50	30	55	50	30		
H	1	-	-	-	-	-	-	-	-	-	-	-	-		
	2	-	-	-	-	-	-	-	-	-	-	-	-		
	3	-	-	-	-	-	-	-	-	-	-	-	-		

NOTE:
 FIRST choice starting speeds are in **bold** type.
 As the average chip thickness increases, the speed should be decreased.

INDEXABLE MILLING



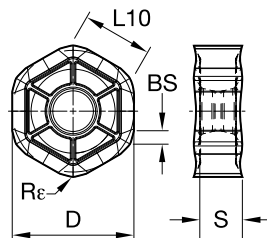
KC522M
KCKP10
KCPM40

P	●	○	○	○
M	●	○	○	○
K	○	○	○	○
N	○	○	○	○
S	○	○	○	○
H	○	○	○	○

Dodeka Mini 45° • Wiper Carbide Insert • XNGJ-LD3W
Fine Finishing of Multiple Materials

● Primary
○ Secondary

ISO Catalog Number	D	LI	L10	S	Re	BS	hm	Cutting Edges	KC522M	KCKP10	KCPM40
XNGJ0604ANENLD3W	12.00	13.04	6.93	4.51	1.60	4.80	0.05	6	4121607	6970349	5879813



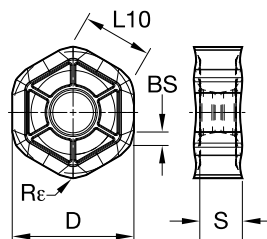
KC410M

P	●	○	○	○
M	●	○	○	○
K	○	○	○	○
N	○	○	○	○
S	○	○	○	○
H	○	○	○	○

Dodeka • Carbide Insert • HNGJ-LDJ
Light Machining of Aluminum

● Primary
○ Secondary

ISO Catalog Number	D	L10	S	Re	BS	hm	Cutting Edges	KC410M
HNGJ0905ANFNLDJ	15.88	8.58	5.56	1.20	1.81	0.02	12	3849320



KC522M
KC725M
KCK15
KCK20B
KCPK30
KCSM40

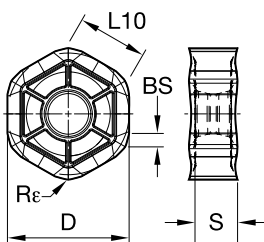
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M	●	○	○	○	○
K	○	○	○	○	○
N	○	○	○	○	○
S	○	○	○	○	○
H	○	○	○	○	○

Dodeka • Carbide Insert • HNGJ-LD
Light Machining

● Primary
○ Secondary

ISO Catalog Number	D	L10	S	Re	BS	hm	Cutting Edges	KC522M	KC725M	KCK15	KCK20B	KCPK30	KCSM40
HNGJ0905ANENLD	15.88	8.58	5.56	1.20	1.76	0.05	12	3093561	3331175	3330952	6970328	3331178	6178103

INDEXABLE MILLING

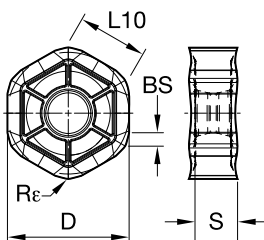


		KC725M	KCK15	KCPK30	KCPM40	KCSM40
P	●	●	○	○	○	○
M	●	●	○	○	○	○
K	●	●	○	○	○	○
N	●	●	○	○	○	○
S	●	●	○	○	○	○
H	○	○	○	○	○	○

● Primary
○ Secondary

Dodeka • Carbide Insert • HNGJ-GD
Medium Machining

ISO Catalog Number	D	L10	S	Rε	BS	hm	Cutting Edges	KC725M	KCK15	KCPK30	KCPM40	KCSM40
HNGJ0905ANSNGD	15.88	8.58	5.56	1.20	1.71	0.10	12	3331176	3331173	3093719	5550793	6178104

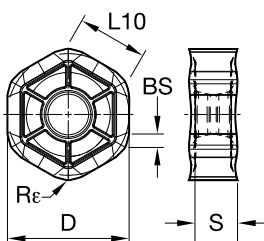


		KC522M	KC725M	KCK15	KCK20B	KCPK30	KCPM40
P	●	●	○	○	○	○	○
M	●	●	○	○	○	○	○
K	○	○	○	○	○	○	○
N	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○

● Primary
○ Secondary

Dodeka • Carbide Insert • HNPJ-GD
Medium Machining

ISO Catalog Number	D	L10	S	Rε	BS	hm	Cutting Edges	KC522M	KC725M	KCK15	KCK20B	KCPK30	KCPM40
HNPJ0905ANSNGD	15.88	8.58	5.56	1.20	1.80	0.10	12	3774250	3763727	3763725	6970329	3763728	5550795

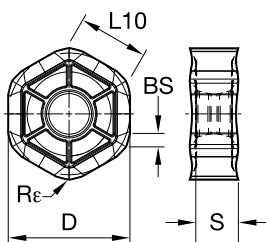


		KC725M	KCK15	KCK20B	KCPK30	KCPM40	KCSM40
P	●	●	○	○	○	○	○
M	●	●	○	○	○	○	○
K	○	○	○	○	○	○	○
N	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○

● Primary
○ Secondary

Dodeka • Carbide Insert • HNGJ-HD
Heavy Machining

ISO Catalog Number	D	L10	S	Rε	BS	hm	Cutting Edges	KC725M	KCK15	KCK20B	KCPK30	KCPM40	KCSM40
HNGJ0905ANSNHD	15.88	8.59	5.46	1.20	1.65	0.17	12	3556331	3556330	6970341	3556332	5550794	6178105
HNGJ090543ANSNHD	15.88	8.50	5.44	4.35	—	0.20	12	3556374	—	—	3556375	6068043	—

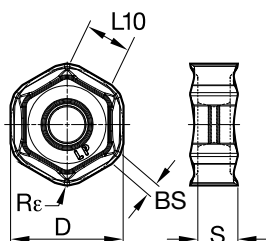


		KC522M	KC725M	KCK15	KCK20B	KCPK30	KCPM40	KCSM40
P	●	●	●	●	●	●	●	●
M	●	●	●	●	○	○	○	○
K	○	○	●	●	○	○	○	○
N	○	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○

Dodeka • Carbide Insert • HNPJ-HD
Heavy Machining

● Primary
○ Secondary

ISO Catalog Number	D	L10	S	Rε	BS	hm	Cutting Edges	KC522M	KC725M	KCK15	KCK20B	KCPK30	KCPM40	KCSM40
HNPJ0905ANSNHD	15.88	8.59	5.46	1.20	1.65	0.18	12	3774249	3763723	3763185	6970342	3763724	5550796	6178108
HNPJ090543ANSNHD	15.88	8.50	5.44	4.35	—	0.13	12	3774251	3763730	3763729	—	3763731	5550797	6178109

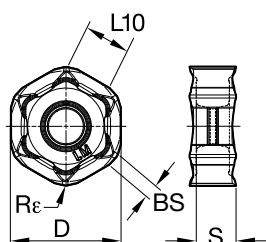


		KC522M	KCK20B	KCPK30	KCPM40
P	●	●	●	●	●
M	●	○	○	○	○
K	○	○	○	○	○
N	○	○	○	○	○
S	○	○	○	○	○
H	○	○	○	○	○

Dodeka 45° • Carbide Insert • HNPJ-LP
Light Machining of Steels

● Primary
○ Secondary

ISO Catalog Number	D	L10	S	Rε	BS	hm	Cutting Edges	KC522M	KCK20B	KCPK30	KCPM40
HNPJ0905ANERLP	15.88	8.59	5.74	1.20	1.68	0.05	12	7060935	7060937	7060938	7060936



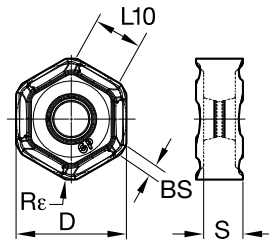
		KCSM40
P	●	●
M	●	○
K	○	○
N	○	○
S	○	○
H	○	○

Dodeka 45° • Carbide Insert • HNPJ-LM
Light Machining of Stainless Steels

● Primary
○ Secondary

ISO Catalog Number	D	L10	S	Rε	BS	hm	Cutting Edges	KCSM40
HNPJ0905ANERLM	15.88	8.58	5.72	1.20	1.73	0.05	12	7064759

INDEXABLE MILLING



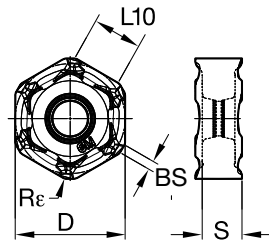
Dodeka 45° • Carbide Insert • HNGJ-GP

Medium Machining of Steels with excellent floor finish

● Primary
○ Secondary

									KC522M	KCPM40
P	●	●	●	●	●	●	●	●	●	●
M	●	●	●	●	●	●	●	●	●	●
K	○	○	○	○	○	○	○	○	○	○
N	●	●	●	●	●	●	●	●	●	●
S	○	○	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○	○

ISO Catalog Number	D	L10	S	Rε	BS	hm	Cutting Edges	KC522M	KCPM40
HNGJ0905ANERGP	15.88	9.17	5.75	1.20	2.13	0.06	12	7060940	7061091



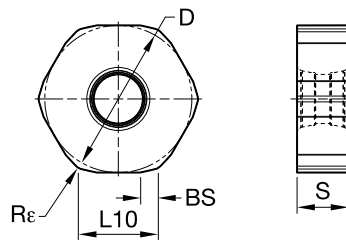
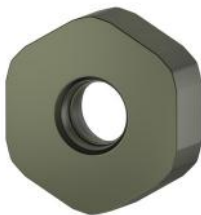
Dodeka 45° • Carbide Insert • HNGJ-GM

Medium Machining of Stainless Steels with excellent floor finish

● Primary
○ Secondary

									KC522M	KCSM40
P	●	●	●	●	●	●	●	●	●	●
M	●	●	●	●	●	●	●	●	●	●
K	○	○	○	○	○	○	○	○	○	○
N	●	●	●	●	●	●	●	●	●	●
S	○	○	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○	○

ISO Catalog Number	D	L10	S	Rε	BS	hm	Cutting Edges	KC522M	KCSM40
HNGJ0905ANERGM	15.88	9.17	5.75	1.20	2.13	0.06	12	7064753	7064754



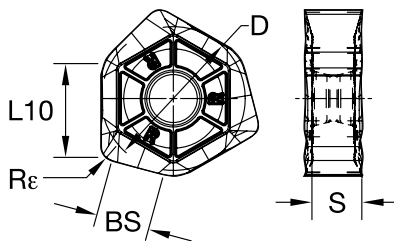
Dodeka 45° • Ceramic Insert • HNEC

High-Speed Machining of Cast Iron

● Primary
○ Secondary

										KY3500
P	●	●	●	●	●	●	●	●	●	●
M	●	●	●	●	●	●	●	●	●	●
K	○	○	○	○	○	○	○	○	○	○
N	●	●	●	●	●	●	●	●	●	●
S	○	○	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○	○

ISO Catalog Number	D	L10	S	Rε	BS	hm	Cutting Edges	KY3500
HNEC0905ANSN	15.88	9.17	5.56	1.20	1.95	0.19	12	6140064



		KC725M	KCK15	KCPK30
P	●	●	●	●
M	●	○	○	○
K	●	○	○	○
N	○	○	○	○
S	●	○	○	○
H	○	○	○	○

● Primary
○ Secondary

Dodeka 45° • Wiper Carbide Insert • XNGJ-GD3W
Fine Finishing of Multiple Materials

ISO Catalog Number	D	L10	S	Re	BS	hm	Cutting Edges	KC725M	KCK15	KCPK30
XNGJ0905ANSNGD3W	15.88	9.17	5.51	1.60	6.00	0.09	6	3547033	3547022	3547035

INDEXABLE MILLING

FACE MILLING • DODEKA SERIES - RECOMMENDED STARTING FEEDS

Recommended Starting Feeds [mm]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)						Insert Geometry
	30%			40-100%			
.F..LDJ	0,08	0,22	0,37	0,07	0,20	0,34	.F..LDJ
.E..LD	0,11	0,31	0,46	0,10	0,28	0,42	.E..LD
.E..LM	0,08	0,23	0,38	0,07	0,21	0,35	.E..LM
.E..LP	0,08	0,28	0,43	0,07	0,25	0,40	.E..LP
.E..GM	0,08	0,23	0,38	0,07	0,21	0,35	.E..GM
.E..GP	0,08	0,28	0,44	0,07	0,25	0,40	.E..GP
.S..GD	0,16	0,34	0,54	0,14	0,31	0,49	.S..GD
.S..HD	0,16	0,39	0,63	0,14	0,36	0,57	.S..HD

HNG.....: Ground inserts; high versatility for all finishing applications and difficult-to-machine stainless steels and high-temp alloys.
HNP.....: Pressed inserts; lower cost per edge for most roughing to semi-finishing operations.
XNG.....: Wiper finishing insert. To be used in combination with HNGJ..LD insert.

Recommended Starting Speeds for Dry Machining • Metric

Material Group		KC410M*			KC520M			KC522M			KC725M			KCK15		
P	1	-	-	-	-	-	-	395	340	325	310	275	260	-	-	-
	2	-	-	-	-	-	-	330	290	240	265	230	190	-	-	-
	3	-	-	-	-	-	-	305	260	210	240	205	170	-	-	-
	4	-	-	-	-	-	-	270	220	180	215	180	145	-	-	-
	5	-	-	-	-	-	-	220	205	180	180	160	145	-	-	-
	6	-	-	-	-	-	-	200	150	120	155	120	95	-	-	-
M	1	-	-	-	-	-	-	245	215	200	205	180	160	-	-	-
	2	-	-	-	-	-	-	220	190	155	185	155	130	-	-	-
	3	-	-	-	-	-	-	170	145	115	140	120	95	-	-	-
K	1	-	-	-	325	295	260	275	245	220	-	-	-	505	460	410
	2	-	-	-	250	230	210	215	190	180	-	-	-	400	355	330
	3	-	-	-	210	190	175	180	160	145	-	-	-	335	300	275
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	-	-	-	145	110	85	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Material Group		KCPK30			KCPM40			KCSM40			KY3500					
P	1	545	475	445	355	310	295	275	240	205	-	-	-			
	2	335	305	275	300	260	215	240	205	160	-	-	-			
	3	305	275	245	275	235	190	205	180	160	-	-	-			
	4	230	210	190	245	205	160	180	160	145	-	-	-			
	5	310	275	250	205	185	160	160	145	125	-	-	-			
	6	190	160	145	180	140	110	125	110	90	-	-	-			
M	1	245	220	185	235	205	185	275	220	180	-	-	-			
	2	220	190	170	210	180	150	180	145	125	-	-	-			
	3	175	155	140	155	140	110	145	125	110	-	-	-			
K	1	355	320	290	-	-	-	-	-	-	965	875	780			
	2	280	250	230	-	-	-	-	-	-	760	685	635			
	3	235	210	190	-	-	-	-	-	-	-	-	-			
N	1	-	-	-	-	-	-	-	-	-	-	-	-			
	2	-	-	-	-	-	-	-	-	-	-	-	-			
	3	-	-	-	-	-	-	-	-	-	-	-	-			
S	1	-	-	-	-	-	-	-	-	-	-	-	-			
	2	-	-	-	-	-	-	-	-	-	-	-	-			
	3	-	-	-	-	-	-	-	-	-	-	-	-			
	4	-	-	-	-	-	-	-	-	-	-	-	-			
H	1	-	-	-	-	-	-	-	-	-	-	-	-			
	2	-	-	-	-	-	-	-	-	-	-	-	-			
	3	-	-	-	-	-	-	-	-	-	-	-	-			

*Recommended for wet machining only.

NOTE:

FIRST choice starting speeds are in **bold** type.

As the average chip thickness increases, the speed should be decreased.

INDEXABLE MILLING

Recommended Starting Speeds for Wet Machining • Metric

INDEXABLE MILLING

Material Group	KC410M			KC520M			KC522M			KC725M			KCK15			
P	1	-	-	-	-	-	-	315	270	260	250	220	210	-	-	-
	2	-	-	-	-	-	-	265	230	190	210	185	150	-	-	-
	3	-	-	-	-	-	-	245	210	170	190	165	135	-	-	-
	4	-	-	-	-	-	-	215	175	145	170	145	115	-	-	-
	5	-	-	-	-	-	-	175	165	145	145	130	115	-	-	-
	6	-	-	-	-	-	-	160	120	95	125	95	75	-	-	-
M	1	-	-	-	-	-	-	195	170	160	165	145	130	-	-	-
	2	-	-	-	-	-	-	175	150	125	150	125	105	-	-	-
	3	-	-	-	-	-	-	135	115	90	110	95	75	-	-	-
K	1	-	-	-	260	235	210	220	195	175	-	-	-	405	370	330
	2	-	-	-	200	185	170	170	150	145	-	-	-	320	285	265
	3	-	-	-	170	150	140	145	130	115	-	-	-	270	240	220
N	1	1170	1035	955	-	-	-	-	-	-	-	-	-	-	-	-
	2	1035	955	880	-	-	-	-	-	-	-	-	-	-	-	-
	3	1035	955	880	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	40	30	25	30	30	25	-	-	-
	2	-	-	-	-	-	-	40	30	25	30	30	25	-	-	-
	3	-	-	-	-	-	-	50	40	25	45	30	25	-	-	-
	4	-	-	-	-	-	-	70	50	30	50	45	30	-	-	-
H	1	-	-	-	-	-	-	115	90	70	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Material Group	KCPK30			KCPM40			KCSM40			KY3500*						
P	1	435	380	355	285	250	235	-	-	-	-	-	-	-	-	-
	2	270	245	220	240	210	170	-	-	-	-	-	-	-	-	-
	3	245	220	195	220	190	150	-	-	-	-	-	-	-	-	-
	4	185	170	150	195	165	130	-	-	-	-	-	-	-	-	-
	5	250	220	200	165	150	130	165	140	115	-	-	-	-	-	-
	6	150	130	118	145	110	90	145	105	75	-	-	-	-	-	-
M	1	195	175	150	190	165	150	200	165	135	-	-	-	-	-	-
	2	175	150	135	170	145	120	170	140	115	-	-	-	-	-	-
	3	140	125	110	125	110	90	140	105	80	-	-	-	-	-	-
K	1	285	255	230	-	-	-	-	-	-	-	-	-	-	-	-
	2	225	200	185	-	-	-	-	-	-	-	-	-	-	-	-
	3	190	170	150	-	-	-	-	-	-	-	-	-	-	-	-
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	40	30	30	40	30	25	-	-	-	-	-	-
	2	-	-	-	40	30	30	40	30	25	-	-	-	-	-	-
	3	-	-	-	50	40	30	50	40	25	-	-	-	-	-	-
	4	65	50	30	65	50	30	55	50	30	-	-	-	-	-	-
H	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Recommended for dry machining only.

NOTE:
 FIRST choice starting speeds are in **bold** type.
 As the average chip thickness increases, the speed should be decreased.

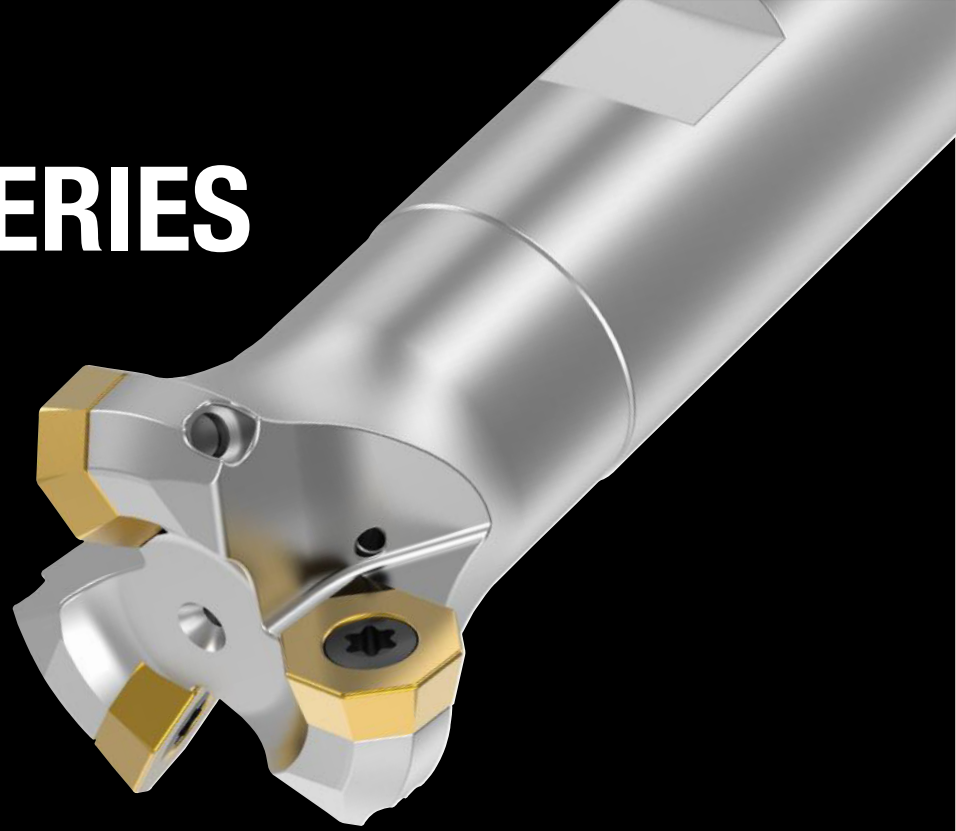




Face Milling

7745VOD SERIES

FACE MILLING CUTTER



Materials



Industries



General
Engineering

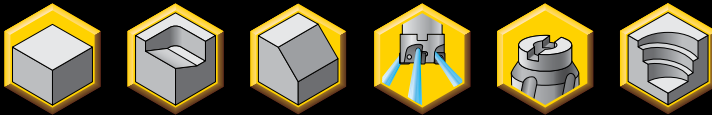


Aerospace



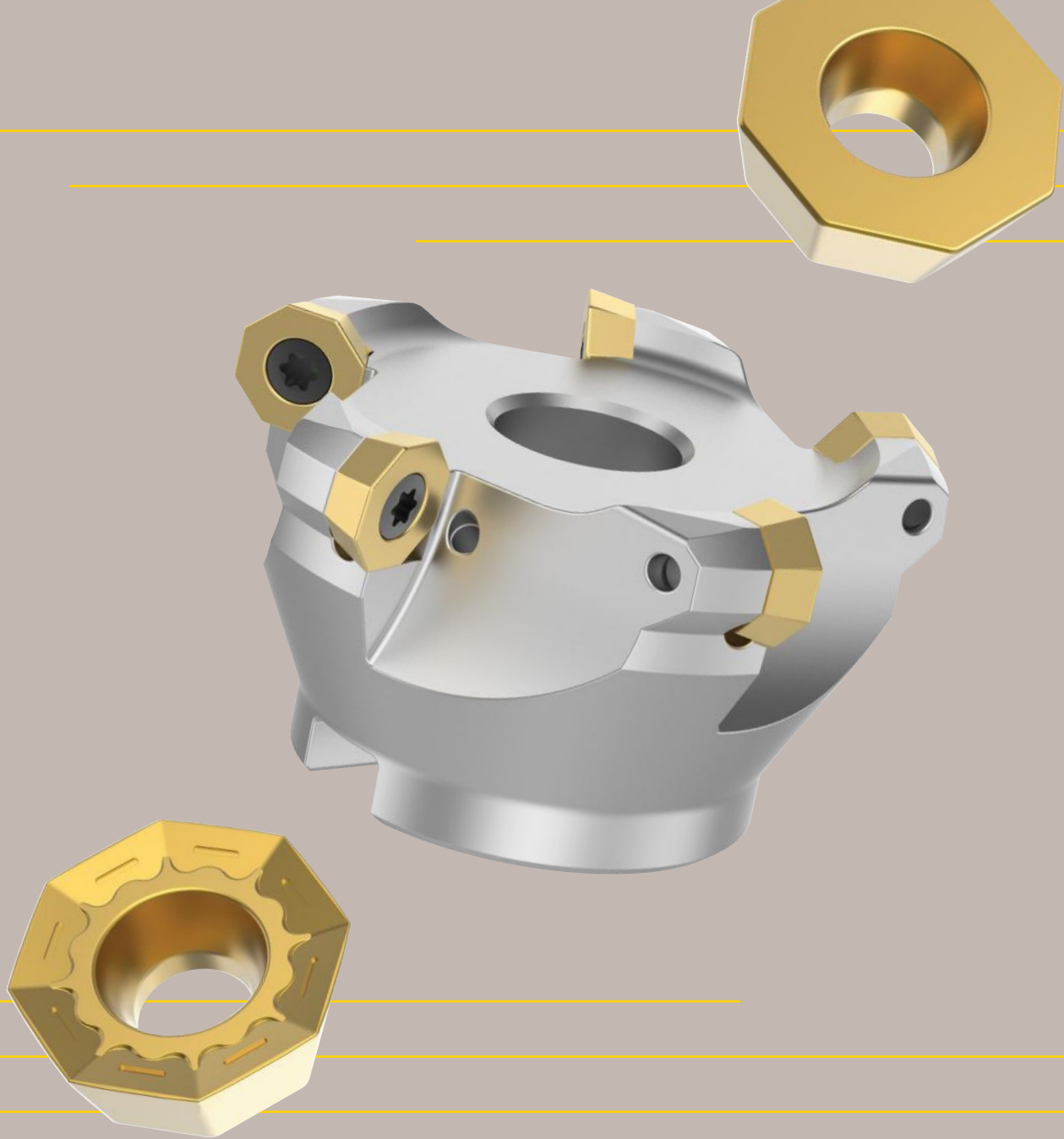
Automotive

Applications



42° LEAD ANGLE – FACE MILLS

7745VOD cutters are designed for machining most materials. Octagonal inserts offer up to 8 economical cutting edges. These cutters are ideal for roughing, semi-finishing and finishing of steel, alloyed steel, stainless steels, high-temp alloys, cast iron and aluminum alloys. 7745VOD cutters are also very robust when machining with tool holder extensions. They are one of the first choice tools for machining component surface with scale as well as for machining of irregular stock. Insert sizes: OD..04 available in cutters with medium and fine tooth pitch, giving maximum efficiency and performance in order to reduce cycle times.



7745VOD04:

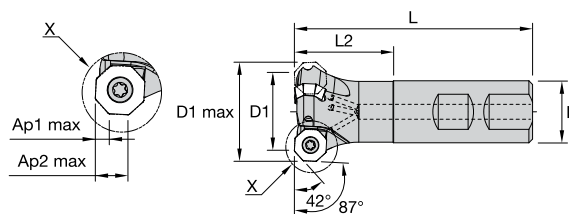
Maximum a_p = 3,50mm (8 cutting edges)

Maximum a_p = 8mm (4 cutting edges)

Diameter Range = 32mm to 125mm



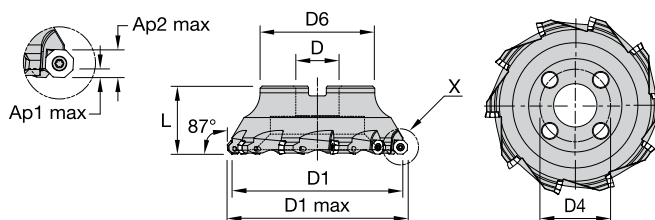
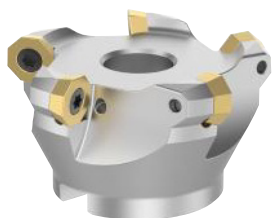
Explore 7745VOD Series



7745VOD04 • End Mill • Weldon Shank • Metric

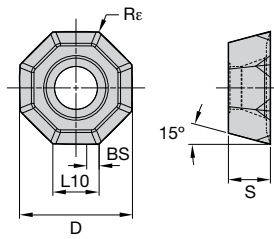
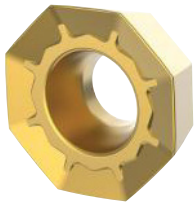
Order Number	ISO Catalog Number	D1	D1 max	D	L	L2	Ap1 max	Ap2 max	Z	max ramp angle	max RPM	kg
5672181	7745VOD04WA032R	32	40,2	25	96	40	3,5	8,00	3	12.10	33200	0.33

INDEXABLE MILLING



7745VOD04 • Shell Mills • Metric

Order Number	ISO Catalog Number	D1	D1 max	D	D6	L	Ap1 max	Ap2 max	Z	max ramp angle	max RPM	kg
5673810	7745VOD04-A040R	40	48,0	16	35	35	3,5	8,00	4	8.50	29200	0.19
5672038	7745VOD04-A050Z6R	50	58,0	22	45	40	3,5	8,00	6	6.10	18000	0.37
5671836	7745VOD04-A063R	63	71,4	22	45	40	3,5	8,00	5	4.30	22700	0.52
5673700	7745VOD04-A080R	80	88,0	27	65	50	3,5	8,00	6	3.00	20000	1.40
5672025	7745VOD04-A100R	100	108,0	32	80	50	3,5	8,00	7	2.40	17700	2.20
5672190	7745VOD04-A125R	125	133,4	40	82	63	3,5	8,00	8	2.00	15700	3.08

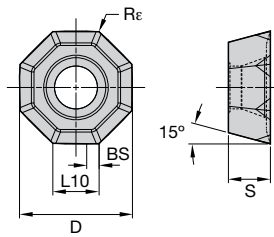
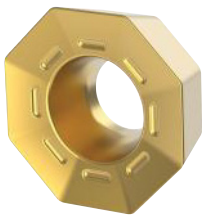


		SP6519	X500
P	○	○	○
M	●	●	●
K	○	○	○
N	○	○	○
S	●	●	●
H	○	○	○

7745VOD04 • Inserts • ODET-APEN44

● Primary
○ Secondary

ISO Catalog Number	D	L10	S	BS	hm	Cutting Edges	SP6519	X500
ODET0404APEN44	12.80	5.30	4.76	1.50	0.04	8	5667950	5656499

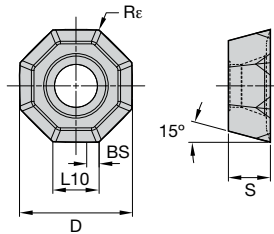
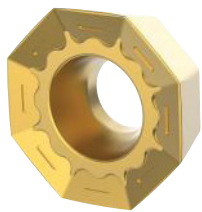


		SP6519	X700
P	○	○	○
M	●	●	●
K	○	○	○
N	○	○	○
S	●	●	●
H	○	○	○

7745VOD04 • Inserts • ODMT-08EN412

● Primary
○ Secondary

ISO Catalog Number	D	L10	S	Re	hm	Cutting Edges	SP6519	X700
ODMT040408EN412	12.80	5.30	4.76	0.80	0.06	8	5665818	5666904

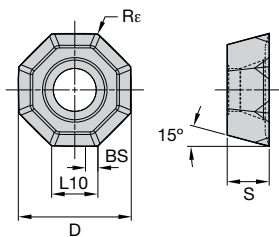


		SP6519	X500
P	○	○	○
M	●	●	●
K	○	○	○
N	○	○	○
S	●	●	●
H	○	○	○

7745VOD04 • Inserts • ODMT-APEN41

● Primary
○ Secondary

ISO Catalog Number	D	L10	S	Re	BS	hm	Cutting Edges	SP6519	X500
ODMT0404APEN41	12.80	5.30	4.76	0.20	1.50	0.06	8	5661185	5657014

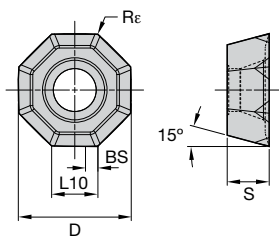


		SP6519	X500
P	○	○	○
M	●	●	●
K	○	○	○
N	○	○	○
S	●	●	●
H	○	○	○

● Primary
○ Secondary

7745VOD04 • Inserts • ODMT-EN41

ISO Catalog Number	D	L10	S	Re	hm	Cutting Edges	SP6519	X500
ODMT040408EN41	12.80	4.00	4.76	0.80	0.06	8	5667576	—
ODMT040408EN41	12.80	5.30	4.76	0.80	0.06	8	—	5656811



		SP6519	X500
P	○	○	○
M	●	●	●
K	○	○	○
N	○	○	○
S	●	●	●
H	○	○	○

● Primary
○ Secondary

7745VOD04 • Inserts • ODMW-08SN

ISO Catalog Number	D	L10	S	Re	hm	Cutting Edges	SP6519	X500
ODMW040408SN	12.80	5.30	4.76	0.80	0.27	8	5665739	5656555

FACE MILLING • 7745VOD SERIES - RECOMMENDED STARTING FEEDS

Recommended Starting Feeds [mm]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			50-100%			
.E..44	0,14	0,35	0,58	0,10	0,25	0,41	0,08	0,19	0,31	0,07	0,17	0,28	0,06	0,15	0,25	.E..44
.E..412	0,16	0,41	0,69	0,12	0,30	0,50	0,09	0,23	0,38	0,08	0,20	0,33	0,07	0,18	0,30	.E..412
.E..41	0,18	0,51	0,81	0,13	0,36	0,58	0,10	0,28	0,44	0,09	0,24	0,39	0,08	0,22	0,35	.E..41
.S..N	0,46	0,81	1,15	0,33	0,58	0,83	0,25	0,44	0,63	0,22	0,39	0,55	0,20	0,35	0,50	.S..N

Recommended Starting Speeds for Dry Machining • Metric

Material Group		SP6519			X500			X700		
P	1	355	260	155	325	240	155	–	–	–
	2	310	230	140	290	215	140	–	–	–
	3	275	200	120	250	185	120	–	–	–
	4	210	150	90	190	145	90	–	–	–
	5	170	125	85	155	120	85	160	125	85
	6	145	100	60	130	95	60	140	100	60
M	1	325	235	140	300	220	140	310	230	140
	2	280	205	125	265	190	120	275	205	125
	3	235	170	100	215	155	95	230	170	100
K	1	355	265	170	310	265	205	–	–	–
	2	290	210	130	265	215	155	–	–	–
	3	265	190	120	205	170	120	–	–	–
N	1	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–
S	1	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–
	4	–	–	–	–	–	–	–	–	–
H	1	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–

NOTE:

FIRST choice starting speeds are in **bold** type.

As the average chip thickness increases, the speed should be decreased.

Recommended Starting Speeds for Wet Machining • Metric

Material Group		SP6519			X500			X700		
P	1	285	210	125	260	190	125	–	–	–
	2	250	185	110	230	170	110	–	–	–
	3	220	160	95	200	150	95	–	–	–
	4	170	120	70	150	115	70	–	–	–
	5	135	100	70	125	95	70	130	100	70
	6	115	80	50	105	75	50	110	80	50
M	1	260	190	110	240	175	110	250	185	110
	2	225	165	100	210	150	95	220	165	100
	3	190	135	80	170	125	75	185	135	80
K	1	285	210	135	250	210	165	–	–	–
	2	230	170	105	210	170	125	–	–	–
	3	210	150	95	165	135	95	–	–	–
N	1	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–
S	1	50	40	25	50	30	25	50	40	25
	2	50	30	20	45	30	20	45	30	20
	3	50	40	25	50	40	25	50	40	25
	4	75	55	35	70	50	30	70	50	35
H	1	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–

NOTE:

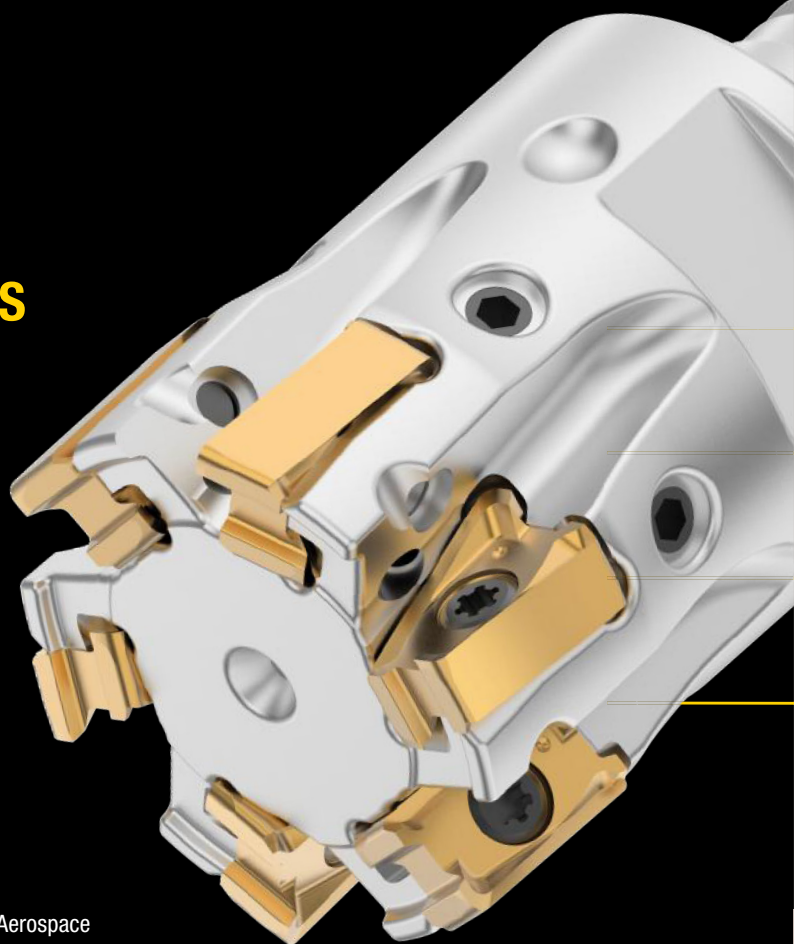
FIRST choice starting speeds are in **bold** type.

As the average chip thickness increases, the speed should be decreased.

Shoulder Milling

MILL 4-11

ONE TOOL FOR ALL APPLICATIONS



Materials



Industries



Automotive



General Engineering



Aerospace



Oil & Gas



Wind & Solar

Applications



PRIMARY APPLICATION

The Mill 4-11 series is specially engineered to achieve excellent surface quality and higher MRR in shoulder milling applications. Its unique design allows you to apply the tool in multiple passes (stepping down) with outstanding results.

From roughing to finishing operations, the Mill 4-11 series is applicable in a wide range of workpiece materials: steel, cast iron, stainless steels, non-ferrous materials and high-temp alloys.



Screw-on end mills and shell mill cutter with internal coolant

Up to 11mm ap capabilities

Double-sided insert with 4 cutting edges

Uneven pocket spacing

High positive geometry for lower cutting forces

“Stepless” solution for multiple-pass operations

Superior wall and surface finish capabilities

Comprehensive offering to cover all applications in all material groups



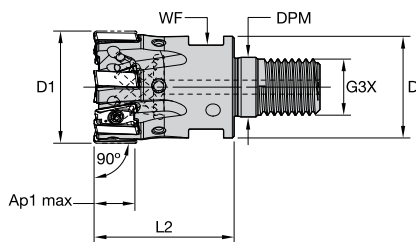
Explore Mill 4-11

TP9 insert screw (M3) to provide higher reliability and safe processes

Multiple corner nose radii available from 0,4mm up to 1,6mm

Integrated wiper facet for best-in-class floor finisher

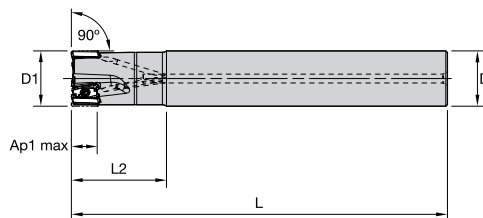




Mill 4-11 • End Mill • Screw-On • Metric

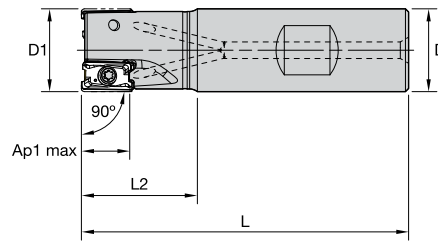
Order Number	ISO Catalog Number	D1	D	DPM	WF	G3X	L	L2	Ap1 max	Z	max RPM	kg
6136738	M4D016Z02M08LN11	16	13	8,50	10,00	M8	43	25	11,0	2	48000	0.03
6131682	M4D020Z03M10LN11	20	18	10,49	15,00	M10	48	28	11,0	3	40200	0.05
6131686	M4D025Z04M12LN11	25	21	12,50	17,00	M12	62	40	11,0	4	34300	0.10
6136793	M4D032Z05M16LN11	32	29	17,00	24,00	M16	65	40	11,0	5	29200	0.20
6134187	M4D032Z06M16LN11	32	29	17,00	24,00	M16	65	40	11,0	6	29200	0.19

INDEXABLE MILLING



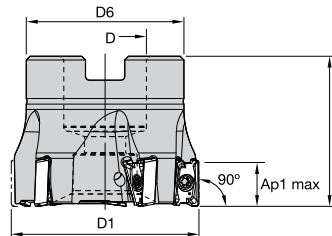
Mill 4-11 • End Mill • Cylindrical Shank • Metric

Order Number	ISO Catalog Number	D1	D	L	L2	Ap1 max	Z	max RPM	kg
6131627	M4D016Z02A16LN11L090	16	16	90	25	11,0	2	48000	0.11
6136737	M4D016Z02A16LN11L150	16	16	150	25	11,0	2	48000	0.21
6131629	M4D020Z02A20LN11L150	20	20	150	28	11,0	2	40200	0.32
6131681	M4D020Z03A20LN11L090	20	20	90	28	11,0	3	40200	0.21
6136739	M4D020Z03A20LN11L150	20	20	150	28	11,0	3	40200	0.33
6131683	M4D025Z03A25LN11L170	25	25	170	43	11,0	3	34300	0.58
6131685	M4D025Z04A25LN11L100	25	25	100	43	11,0	4	34300	0.32
6136791	M4D025Z04A25LN11L170	25	25	170	43	11,0	4	34300	0.59
6134184	M4D032Z04A32LN11L200	32	32	200	49	11,0	4	29200	1.14
6134186	M4D032Z05A32LN11L110	32	32	110	49	11,0	5	29200	0.61
6136792	M4D032Z05A32LN11L200	32	32	200	49	11,0	5	29200	1.17
6136794	M4D040Z05A32LN11L200	40	32	200	49	11,0	5	25400	1.22



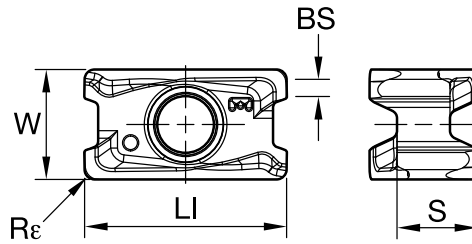
Mill 4-11 • End Mill • Weldon Shank • Metric

Order Number	ISO Catalog Number	D1	D	L	L2	Ap1 max	Z	max RPM	kg
6131628	M4D016Z02B16LN11	16	16	74	25	11,0	2	48000	0.09
6131630	M4D020Z02B20LN11	20	20	79	28	11,0	2	40200	0.16
6136740	M4D020Z03B20LN11	20	20	79	28	11,0	3	40200	0.15
6131684	M4D025Z03B25LN11	25	25	89	32	11,0	3	34300	0.29
6134185	M4D032Z04B32LN11	32	32	110	49	11,0	4	29200	0.59
6136795	M4D040Z05B32LN11	40	32	110	49	11,0	5	25400	0.65



Mill 4-11 • Shell Mill • Metric

Order Number	ISO Catalog Number	D1	D	D6	L	Ap1 max	Z	max RPM	kg
6134188	M4D040Z04S16LN11	40	16	37	40	11,0	4	25400	0.26
6134189	M4D040Z06S16LN11	40	16	37	40	11,0	6	25400	0.25
6136796	M4D040Z07S16LN11	40	16	37	40	11,0	7	25400	0.25
6134190	M4D050Z05S22LN11	50	22	42	40	11,0	5	22300	0.33
6134231	M4D050Z07S22LN11	50	22	42	40	11,0	7	22300	0.32
6136797	M4D050Z09S22LN11	50	22	42	40	11,0	9	22300	0.34
6134232	M4D063Z06S22LN11	63	22	50	40	11,0	6	19500	0.56
6134233	M4D063Z09S22LN11	63	22	50	40	11,0	9	19500	0.56
6134234	M4D080Z08S27LN11	80	27	60	50	11,0	8	17100	1.12
6136798	M4D080Z10S27LN11	80	27	60	50	11,0	10	17100	1.11



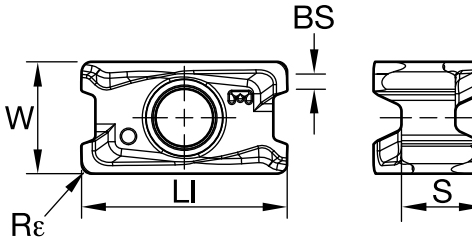
Mill 4-11 • Carbide Insert • LNGU11-ELEJ

Light Machining of Aluminum

● Primary
○ Secondary

KC422M	
P	■
M	■
K	■
N	■
S	■
H	■

ISO Catalog Number	LI	W	S	R _ε	BS	hm	Cutting Edges	KC422M
LNGU110404ERLEJ	12.16	6.60	4.83	0.40	1.40	0.04	4	6201292
LNGU110408ERLEJ	12.16	6.60	4.83	0.80	1.00	0.04	4	6131556



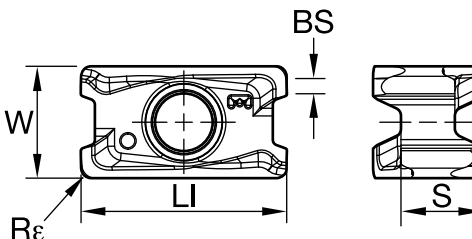
Mill 4-11 • Carbide Insert • LNGU11-EGE

Light Machining

● Primary
○ Secondary

KC522M		KC725M		KCPM40		KCSM30		KCSM40	
P	■	●	●	●	○	○	○	○	○
M	■	●	●	●	○	○	○	○	○
K	■	○	○	○	○	○	○	○	○
N	■	○	○	○	○	○	○	○	○
S	■	○	○	○	○	○	○	○	○
H	■	○	○	○	○	○	○	○	○

ISO Catalog Number	LI	W	S	R _ε	BS	hm	Cutting Edges	KC522M	KC725M	KCPM40	KCSM30	KCSM40
LNGU110404ERGE	12.16	6.60	4.83	0.40	1.40	0.08	4	6131515	6131514	6131516	—	—
LNGU110408ERGE	12.16	6.60	4.83	0.80	1.00	0.08	4	6131542	6131541	6131543	6131544	6201354
LNGU110412ERGE	12.17	6.60	4.83	1.20	0.60	0.08	4	6201352	—	6201353	—	6201351



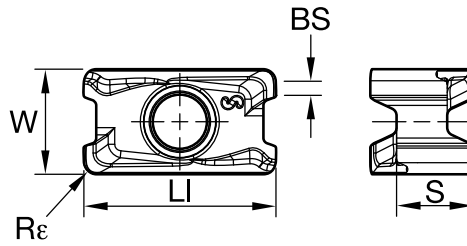
Mill 4-11 • Carbide Insert • LNPU11-EGE

Light Machining

● Primary
○ Secondary

KCPM40		KCSM40	
P	■	●	○
M	■	●	○
K	■	○	○
N	■	○	○
S	■	○	○
H	■	○	○

ISO Catalog Number	LI	W	S	R _ε	BS	Cutting Edges	KCPM40	KCSM40
LNPU110408ERGE	12.10	6.60	4.83	0.80	0.90	4	6200727	6200725



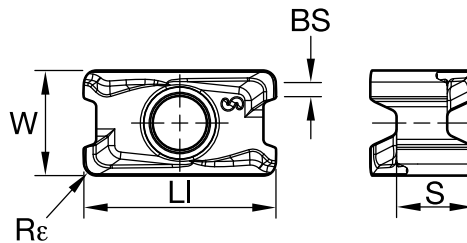
		KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM40
P	●	●	●	●	●	●	●
M	●	●	●	○	○	○	○
K	○	○	●	○	○	○	○
N	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○

● Primary
○ Secondary

Mill 4-11 • Carbide Insert • LNGU11-SGE

Medium Machining

ISO Catalog Number	LI	W	S	Rε	BS	hm	Cutting Edges	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM40
LNGU110404SRGE	12.16	6.60	4.83	0.40	1.40	0.10	4	6201279	—	—	—	6201280	6201291
LNGU110408SRGE	12.16	6.60	4.83	0.80	1.00	0.10	4	6132022	6132024	6132026	6132025	6132023	6165397



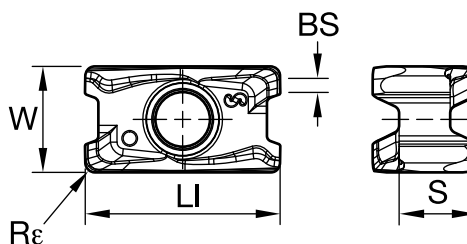
		KC520M	KC522M	KC725M	KCK15	KCK20B	KCPK30	KCPM40
P	●	●	●	●	●	●	●	●
M	●	●	●	○	○	○	○	○
K	○	○	●	○	○	○	○	○
N	○	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○

● Primary
○ Secondary

Mill 4-11 • Carbide Insert • LNPU11-SGE

Medium Machining

ISO Catalog Number	LI	W	S	Rε	BS	hm	Cutting Edges	KC520M	KC522M	KC725M	KCK15	KCK20B	KCPK30	KCPM40
LNPU110408SRGE	12.10	6.60	4.83	0.80	0.90	0.10	4	6131506	6131502	6131504	6131507	—	6131505	6131503
LNPU110408SRGE	12.10	6.60	4.83	0.80	0.90	—	4	—	—	—	—	6969217	—	—
LNPU110412SRGE	12.10	6.60	4.83	1.20	0.50	0.10	4	6131512	6131428	6131430	6131513	—	6131511	6131429
LNPU110416SRGE	12.10	6.60	4.83	1.60	0.02	0.10	4	—	6131557	6131559	—	—	6131560	6131558



		KC520M	KC522M	KCK15	KCK20B	KCPK30	KCPM40
P	●	●	●	●	●	●	●
M	●	●	●	○	○	○	○
K	○	○	●	○	○	○	○
N	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○

● Primary
○ Secondary

Mill 4-11 • Carbide Insert • LNGU11-SGEM

Heavy Machining

ISO Catalog Number	LI	W	S	Rε	BS	hm	Cutting Edges	KC520M	KC522M	KCK15	KCK20B	KCPK30	KCPM40
LNGU110408SRGEM	12.16	6.60	4.83	0.80	0.90	0.10	4	6131604	6131605	6131602	6969214	6131603	6131606
LNGU110412SRGEM	12.16	6.60	4.83	1.20	0.60	0.10	4	6131425	—	6131423	6969215	—	6131426
LNGU110416SRGEM	12.16	6.60	4.83	1.60	0.10	0.10	4	6201021	—	6200729	6969223	6200730	6201022

SHOULDER MILLING • MILL 4-11 - RECOMMENDED STARTING FEEDS

Recommended Starting Feeds [mm]

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..LEJ	0,13	0,35	0,58	0,09	0,25	0,42	0,07	0,19	0,31	0,06	0,17	0,27	0,06	0,15	0,25	.E..LEJ
.E..GE	0,23	0,43	0,59	0,17	0,31	0,43	0,13	0,23	0,32	0,11	0,20	0,28	0,10	0,18	0,25	.E..GE
.S..GE	0,23	0,46	0,65	0,17	0,33	0,47	0,13	0,25	0,35	0,11	0,22	0,31	0,10	0,20	0,28	.S..GE
.S..GEM	0,23	0,46	0,71	0,17	0,33	0,51	0,13	0,25	0,38	0,11	0,22	0,33	0,10	0,20	0,30	.S..GEM

LNG...: Ground inserts; high versatility for all finishing applications and difficult-to-machine stainless steels and high-temp alloys.

LNP...: Pressed; lower cost per edge for most roughing to semi-finishing operations.

.E..LEJ: For aluminum and other non-ferrous alloys.

.E..GE: First choice for stainless steels and high-temp alloys. For highest finishing requirements in light machining.

.S..GE: Universal geometry. First choice for steel.

.S..GEM: First choice for cast iron machining and all heavy applications.

Recommended Starting Speeds for Dry Machining • Metric

Material Group		KC422M			KC520M			KC522M			KC725M		
P	1	-	-	-	-	-	-	330	285	270	260	230	215
	2	-	-	-	-	-	-	275	240	200	220	190	160
	3	-	-	-	-	-	-	255	215	175	200	170	140
	4	-	-	-	-	-	-	225	185	150	180	150	120
	5	-	-	-	-	-	-	185	170	150	150	135	120
	6	-	-	-	-	-	-	165	125	100	130	100	80
M	1	-	-	-	-	-	-	205	180	165	170	150	135
	2	-	-	-	-	-	-	185	160	130	155	130	110
	3	-	-	-	-	-	-	140	120	95	115	100	80
K	1	-	-	-	270	245	215	230	205	185	-	-	-
	2	-	-	-	210	190	175	180	160	150	-	-	-
	3	-	-	-	175	160	145	150	135	120	-	-	-
N	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	-	-	-	120	90	70	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-
Material Group		KCK15			KCPK30			KCPM40			KCSM40		
P	1	-	-	-	455	395	370	295	260	245	260	230	215
	2	-	-	-	280	255	230	250	215	180	220	190	160
	3	-	-	-	255	230	205	230	195	160	200	170	140
	4	-	-	-	190	175	160	205	170	135	180	150	120
	5	-	-	-	260	230	210	170	155	135	150	135	120
	6	-	-	-	160	135	125	150	115	90	130	100	80
M	1	-	-	-	205	185	155	195	170	155	170	150	135
	2	-	-	-	185	160	140	175	150	125	155	130	110
	3	-	-	-	145	130	115	130	115	90	115	100	80
K	1	420	385	340	295	265	240	-	-	-	-	-	-
	2	335	295	275	235	210	190	-	-	-	-	-	-
	3	280	250	230	195	175	160	-	-	-	-	-	-
N	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-

*Recommended for wet machining only.

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

Recommended Starting Speeds for Wet Machining • Metric

INDEXABLE MILLING

Material Group		KC422M			KC520M			KC522M			KC725M		
P	1	-	-	-	-	-	-	265	230	215	210	185	170
	2	-	-	-	-	-	-	220	190	160	175	150	130
	3	-	-	-	-	-	-	205	170	140	160	135	110
	4	-	-	-	-	-	-	180	150	120	145	120	95
	5	-	-	-	-	-	-	150	135	120	120	110	95
	6	-	-	-	-	-	-	130	100	80	105	80	65
M	1	-	-	-	-	-	-	165	145	130	135	120	110
	2	-	-	-	-	-	-	150	130	105	125	105	90
	3	-	-	-	-	-	-	110	95	75	90	80	65
K	1	-	-	-	215	195	170	185	165	150	-	-	-
	2	-	-	-	170	150	140	145	130	120	-	-	-
	3	-	-	-	140	130	115	120	110	95	-	-	-
N	1	860	755	700	-	-	-	-	-	-	-	-	-
	2	755	700	610	-	-	-	-	-	-	-	-	-
	3	755	700	610	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	30	30	20	30	25	20
	2	-	-	-	-	-	-	30	30	20	30	25	20
	3	-	-	-	-	-	-	40	30	20	35	30	20
	4	-	-	-	-	-	-	55	40	30	45	35	25
H	1	-	-	-	-	-	-	95	70	55	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-
Material Group		KCK15			KCPK30			KCPM40			KCSM40		
P	1	-	-	-	365	315	295	285	250	235	-	-	-
	2	-	-	-	225	205	185	240	210	170	-	-	-
	3	-	-	-	205	185	165	220	190	150	-	-	-
	4	-	-	-	150	140	130	195	165	130	-	-	-
	5	-	-	-	210	185	170	165	150	130	135	115	95
	6	-	-	-	130	110	100	145	110	90	120	90	65
M	1	-	-	-	165	150	125	190	165	150	170	135	110
	2	-	-	-	150	130	110	170	145	120	145	115	95
	3	-	-	-	115	105	90	125	110	90	115	90	70
K	1	335	310	270	235	210	190	-	-	-	-	-	-
	2	270	235	220	190	170	150	-	-	-	-	-	-
	3	225	200	185	155	140	130	-	-	-	-	-	-
N	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	40	30	30	30	30	20
	2	-	-	-	-	-	-	40	30	30	30	30	20
	3	-	-	-	-	-	-	50	40	30	40	30	20
	4	-	-	-	55	40	25	65	50	30	50	40	25
H	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-

NOTE:
 FIRST choice starting speeds are in **bold** type.
 As the average chip thickness increases, the speed should be decreased.



Shoulder Milling

MILL 4-15

DOUBLE-SIDED SHOULDER MILLING

Materials



Industries

Automotive

General Engineering

Oil & Gas

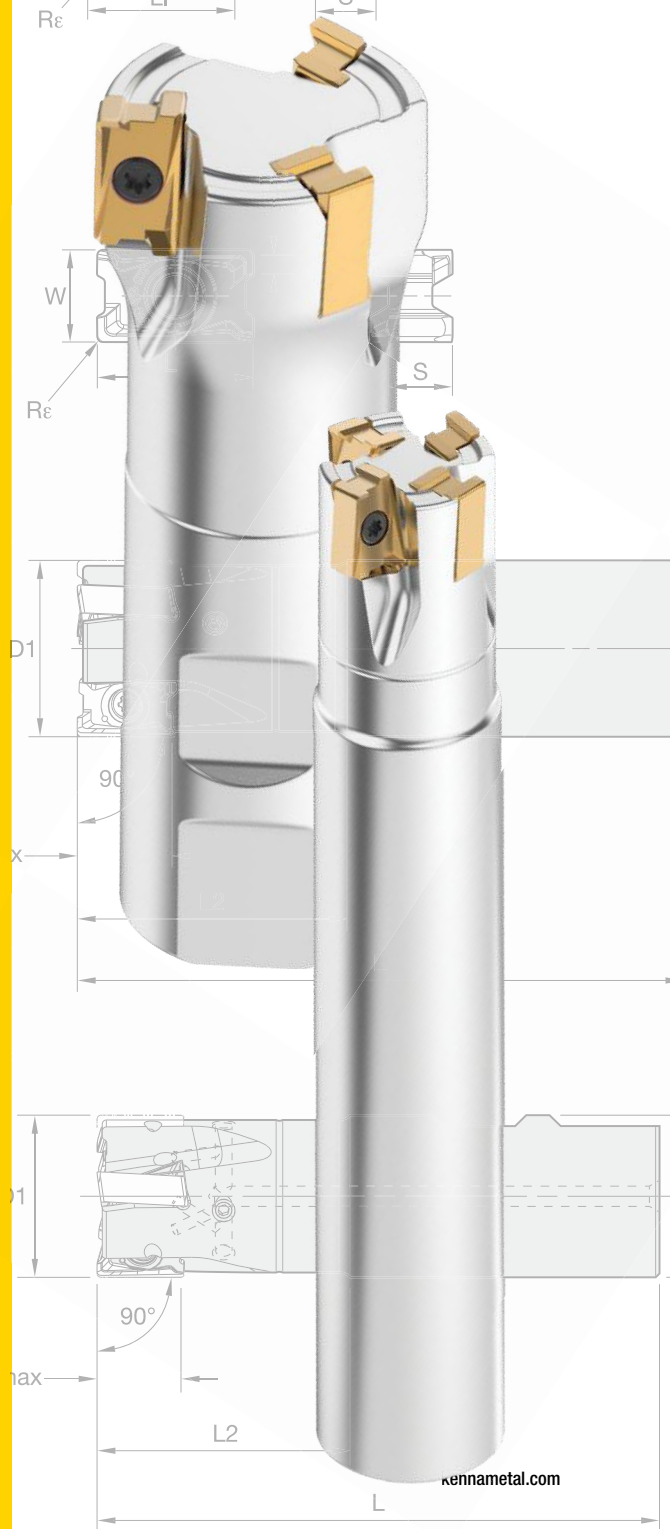
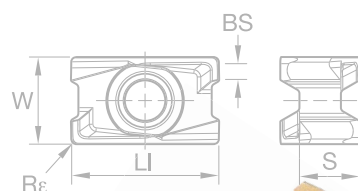
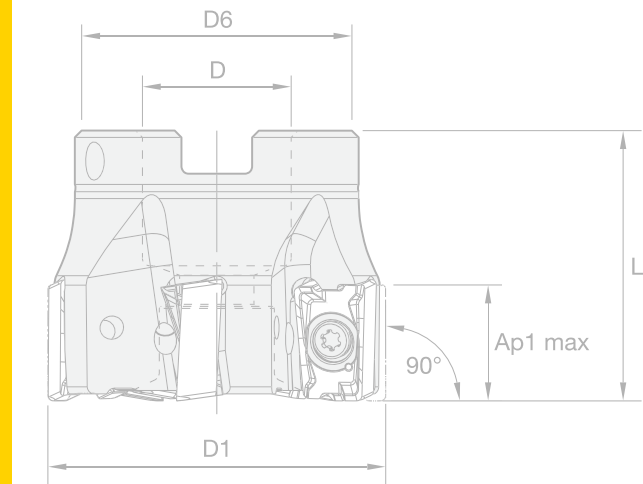
Wind & Solar

Aerospace

Applications



The Mill 4-15 series is engineered to achieve excellent surface quality and higher MRR in shoulder milling applications. Its unique design enables multiple passes (stepping down) with outstanding results. The Mill 4-15 platform is applicable in a wide range of workpiece materials: steel, cast iron, stainless steels and titanium, from roughing to finishing operations.



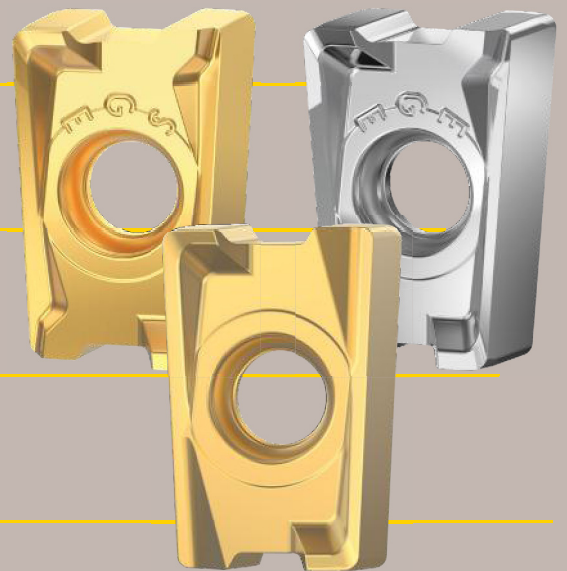


Double-sided, strong insert with 4 cutting edges

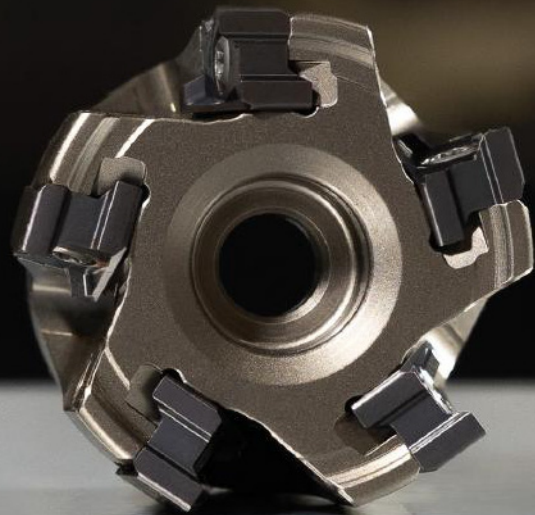
High positive geometry for lower cutting forces

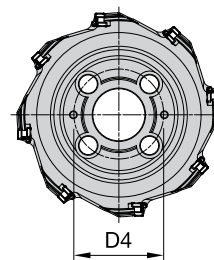
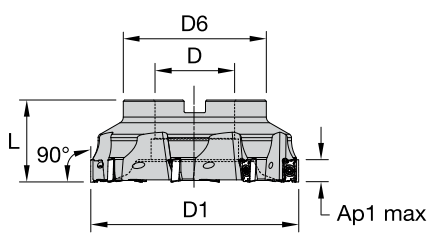
Superior wall and surface finish capabilities

“Stepless” solution for multiple-pass operations



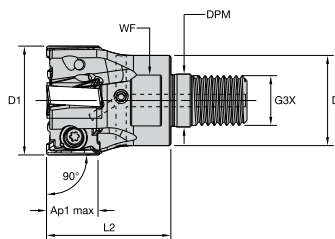
Explore Mill 4-15





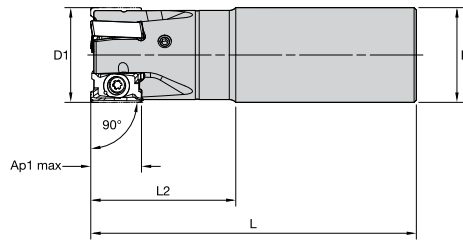
Mill 4-15 • Shell Mill • Metric

Order Number	ISO Catalog Number	D1	D	D4	D6	L	Ap1 max	Z	max RPM	kg
5528632	M4D040Z04S16LN15	40	16	—	37	40	15,5	4	18800	0.21
5555801	M4D040Z05S16LN15	40	16	—	37	40	15,5	5	18800	0.22
5698436	M4D050Z04S22LN15	50	22	—	42	40	15,5	4	16300	0.30
5528633	M4D050Z05S22LN15	50	22	—	42	40	15,5	5	16300	0.30
5528634	M4D050Z06S22LN15	50	22	—	42	40	15,5	6	16300	0.29
5698437	M4D063Z05S22LN15	63	22	—	50	40	15,5	5	14200	0.50
5528635	M4D063Z06S22LN15	63	22	—	50	40	15,5	6	14200	0.50
5528636	M4D063Z07S22LN15	63	22	—	50	40	15,5	7	14200	0.50
5698438	M4D080Z05S27LN15	80	27	—	60	50	15,5	5	12300	1.07
5528637	M4D080Z07S27LN15	80	27	—	60	50	15,5	7	12300	1.06
5555802	M4D080Z09S27LN15	80	27	—	60	50	15,5	9	12300	1.04
5698439	M4D100Z06S32LN15	100	32	—	80	50	15,5	6	10900	1.58
5528638	M4D100Z08S32LN15	100	32	—	80	50	15,5	8	10900	1.78
5555803	M4D100Z11S32LN15	100	32	—	80	50	15,5	11	10900	1.60
5698490	M4D125Z07S40LN15	125	40	—	90	63	15,5	7	9600	2.96
5555804	M4D125Z09S40LN15	125	40	—	90	63	15,5	9	9600	3.34
5532000	M4D125Z12S40LN15	125	40	—	90	63	15,5	12	9600	2.98
5698491	M4D160Z08S40LN15	160	40	66,7	110	63	15,5	8	8400	4.87
5555805	M4D160Z12S40LN15	160	40	66,7	110	63	15,5	12	8400	4.89
5555806	M4D160Z16S40LN15	160	40	66,7	110	63	15,5	16	8400	4.89



Mill 4-15 • End Mill • Screw-On • Metric

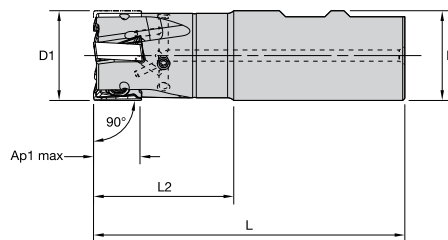
Order Number	ISO Catalog Number	D1	D	DPM	WF	G3X	L	L2	Ap1 max	Z	max RPM	kg
5531911	M4D025Z02M12LN15	25	21	12,50	17,00	M12	54	32	15,5	2	26700	0.08
5531912	M4D032Z03M16LN15	32	29	17,00	24,00	M16	65	40	15,5	3	22000	0.18
5555606	M4D032Z04M16LN15	32	29	17,00	24,00	M16	65	40	15,5	4	22000	0.18
5528599	M4D035Z04M16LN15	35	29	17,00	24,00	M16	65	40	15,5	4	20600	0.19
5531913	M4D040Z05M16LN15	40	29	17,00	24,00	M16	65	40	15,5	5	18800	0.23



Mill 4-15 • End Mill • Cylindrical Shank • Metric

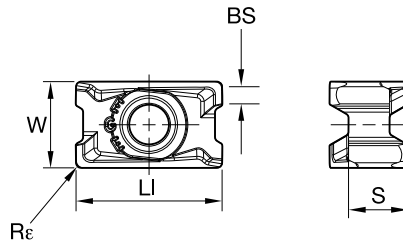
Order Number	ISO Catalog Number	D1	D	L	L2	Ap1 max	Z	max RPM	kg
5531915	M4D025Z02A25LN15L100	25	25	100	43	15,5	2	26700	0.28
5531916	M4D025Z02A25LN15L170	25	25	170	43	15,5	2	26700	0.56
5531917	M4D032Z03A32LN15L110	32	32	110	49	15,5	3	22000	0.57
5531918	M4D032Z03A32LN15L200	32	32	200	50	15,5	3	22000	1.14
5555608	M4D032Z04A32LN15L110	32	32	110	49	15,5	4	22000	0.58
5555609	M4D032Z04A32LN15L200	32	32	200	50	15,5	4	22000	1.11
5531919	M4D040Z03A32LN15L200	40	32	200	50	15,5	3	18800	1.21
5555800	M4D040Z04A32LN15L200	40	32	200	50	15,5	4	18800	1.20

INDEXABLE MILLING



Mill 4-15 • End Mill • Weldon Shank • Metric

Order Number	ISO Catalog Number	D1	D	L	L2	Ap1 max	Z	max RPM	kg
5528630	M4D025Z02B25LN15	25	25	89	32	15,5	2	26700	0.27
5528631	M4D032Z03B32LN15	32	32	111	50	15,5	3	22000	0.58
5531914	M4D040Z03B32LN15	40	32	111	50	15,5	3	18800	0.64
5555607	M4D040Z04B32LN15	40	32	111	50	15,5	4	18800	0.64



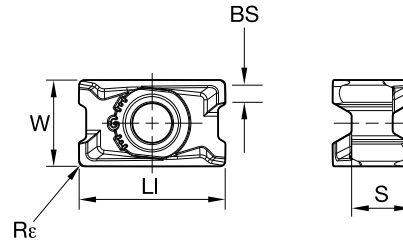
Mill 4-15 • Carbide Insert • LNGU15-EGEJ

Light Machining of Aluminum

- Primary
- Secondary

KC422M	
P	■
M	■
K	■
N	●
S	■
H	■

ISO Catalog Number	LI	W	S	Rε	BS	hm	Cutting Edges	KC422M
LNGU15T604ERGEJ	17.00	10.00	6.96	0.40	2.20	0.03	4	6001231
LNGU15T608ERGEJ	17.00	10.00	6.96	0.80	1.80	0.03	4	6001232



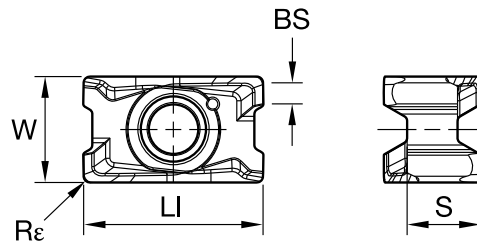
Mill 4-15 • Carbide Insert • LNGU15-EGE

Light Machining

- Primary
- Secondary

KC522M		KC725M		KCPM40		KCSM30		KCSM40	
P	■	●	●	●	○	○	○	○	○
M	■	●	●	●	○	○	○	○	○
K	■	○	○	○	○	○	○	○	○
N	■	○	○	○	○	○	○	○	○
S	■	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○

ISO Catalog Number	LI	W	S	Rε	BS	hm	Cutting Edges	KC522M	KC725M	KCPM40	KCSM30	KCSM40
LNGU15T604ERGE	17.01	10.00	6.96	0.40	2.20	0.08	4	5588516	5588513	5588515	5588514	—
LNGU15T608ERGE	17.01	10.00	6.96	0.80	1.80	0.08	4	5588388	5588385	5588387	5588386	6165422
LNGU15T612ERGE	17.01	10.00	6.96	1.20	1.40	0.08	4	—	5588517	5588519	5588518	6165423
LNGU15T616ERGE	17.01	10.00	6.96	1.60	1.07	0.08	4	—	5627789	5627871	5627870	—



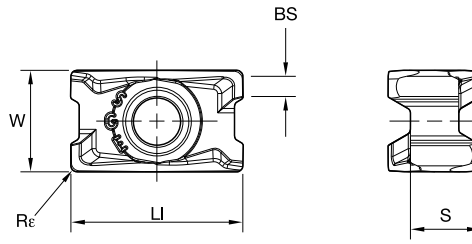
Mill 4-15 • Carbide Insert • LNGU15-SGE

Medium Machining

- Primary
- Secondary

KC520M		KC522M		KC725M		KCK15		KCK20B		KCPK30		KCPM20		KCSM40	
P	■	●	●	●	○	○	○	○	○	○	○	○	○	○	○
M	■	●	●	●	○	○	○	○	○	○	○	○	○	○	○
K	■	○	○	○	○	○	○	○	○	○	○	○	○	○	○
N	■	○	○	○	○	○	○	○	○	○	○	○	○	○	○
S	■	○	○	○	○	○	○	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Catalog Number	LI	W	S	Rε	BS	hm	Cutting Edges	KC520M	KC522M	KC725M	KCK15	KCK20B	KCPK30	KCPM20	KCSM40
LNGU15T604SRGE	17.00	10.00	6.96	0.40	2.20	0.10	4	5516073	5516074	5516075	5516076	6969220	5516077	5516078	—
LNGU15T608SRGE	17.01	10.00	6.96	0.80	1.80	0.10	4	5515759	5515890	5515891	5515892	6969212	5515893	5515894	6165400
LNGU15T612SRGE	17.01	10.00	6.96	1.20	1.40	0.10	4	5515746	5515747	5515748	5515749	6969218	5516070	5516071	6165421
LNGU15T616SRGE	17.01	10.00	6.96	1.60	1.07	0.10	4	5627784	5627785	5627786	5627787	6969219	5627788	—	—

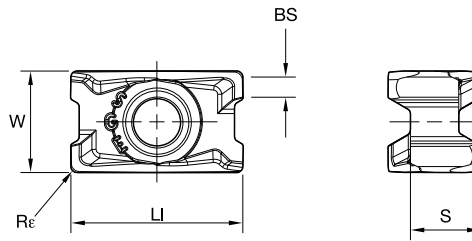


Mill 4-15 • Carbide Insert • LNP15-SGE
Medium Machining

	KC520M	KC522M	KC725M	KCK15	KCK20B	KCPK30	KCPM20	KCPM40
P	●	●	●	●	●	○	○	○
M	●	●	●	●	●	○	○	○
K	●	○	●	●	●	○	○	○
N	●	●	●	●	●	○	○	○
S	●	●	●	●	●	○	○	○
H	○	○	○	○	○	○	○	○

● Primary
○ Secondary

ISO Catalog Number	LI	W	S	Re	BS	hm	Cutting Edges	KC520M	KC522M	KC725M	KCK15	KCK20B	KCPK30	KCPM20	KCPM40
LNP15T604SRGE	16.90	10.00	6.96	0.40	2.20	0.10	4	5608034	5608035	5608036	5608037	6969222	5608038	—	—
LNP15T608SRGE	16.90	10.00	6.96	0.80	1.80	0.10	4	5547848	5547849	5548040	5548041	6969213	5548042	5548043	5684657
LNP15T612SRGE	16.90	10.00	6.96	1.20	1.50	0.10	4	5607996	5607997	5607998	—	6969225	5608030	—	5976169
LNP15T616SRGE	16.90	10.00	6.96	1.60	1.10	0.10	4	6019501	6019502	6019503	—	6969224	6019505	—	6019506
LNP15T620SRGE	16.92	10.00	6.96	2.00	0.70	0.10	4	—	6001237	6001233	6001235	—	6001234	—	6001236



Mill 4-15 • Carbide Insert • LNGU15-SGEM
Heavy Machining

	KC520M	KCK15	KCK20B	KCPK30	KCPM20	KCPM40
P	●	●	●	○	○	○
M	●	●	●	○	○	○
K	●	○	●	○	○	○
N	●	●	●	○	○	○
S	●	●	●	○	○	○
H	○	○	○	○	○	○

● Primary
○ Secondary

ISO Catalog Number	LI	W	S	Re	BS	hm	Cutting Edges	KC520M	KCK15	KCK20B	KCPK30	KCPM20	KCPM40
LNGU15T608SRGEM	17.01	10.00	6.96	0.80	1.70	0.10	4	5575827	5575828	6969211	5575829	5575880	5976170
LNGU15T612SRGEM	17.01	10.00	6.96	1.20	1.30	0.10	4	5947280	5947511	6969216	—	—	5976671
LNGU15T616SRGEM	17.01	10.00	6.96	1.62	0.95	0.10	4	5630018	5630019	6969221	5630070	5630071	5976672
LNGU15T620SRGEM	17.01	10.00	6.96	2.00	0.34	0.10	4	—	6019508	—	6019509	—	6019510

SHOULDER MILLING • MILL 4-15 - RECOMMENDED STARTING FEEDS

Recommended Starting Feeds [mm]

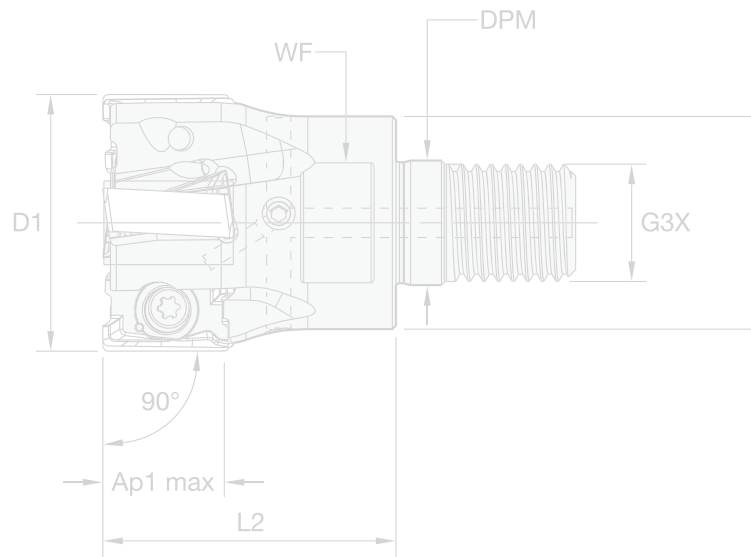
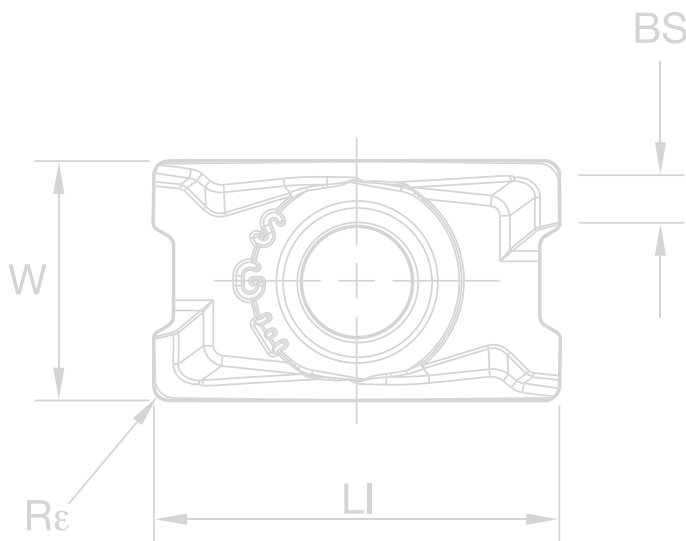
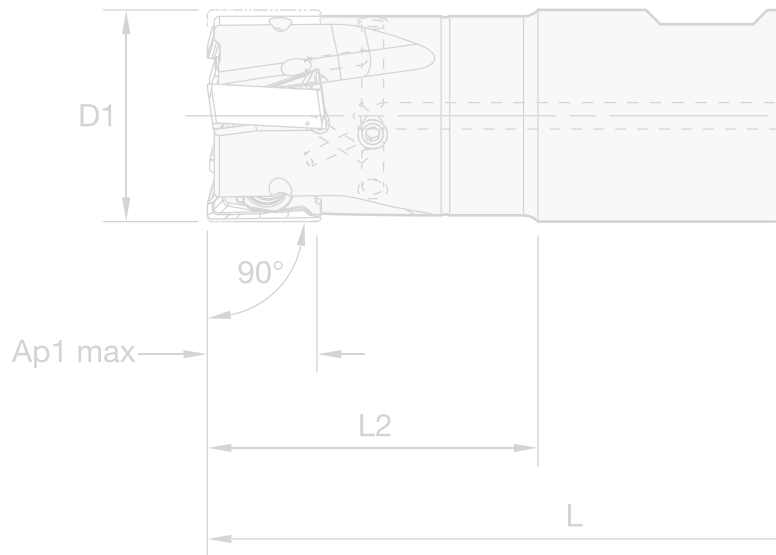
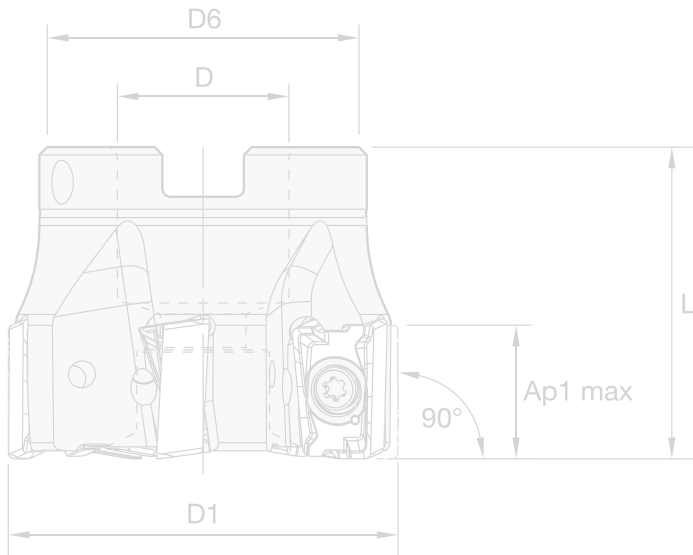
Light Machining	General Purpose	Heavy Machining
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Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..GEJ	0,12	0,47	0,84	0,08	0,34	0,60	0,06	0,26	0,45	0,06	0,22	0,39	0,05	0,20	0,36	.E..GEJ
.E..GE	0,23	0,54	0,93	0,17	0,39	0,67	0,13	0,29	0,50	0,11	0,25	0,44	0,10	0,23	0,40	.E..GE
.S..GE	0,23	0,59	0,95	0,17	0,43	0,68	0,13	0,32	0,51	0,11	0,28	0,44	0,10	0,25	0,41	.S..GE
.S..GEM	0,23	0,59	0,95	0,17	0,43	0,68	0,13	0,32	0,51	0,11	0,28	0,44	0,10	0,25	0,41	.S..GEM

LNG...: Ground inserts; high versatility for all finishing applications and difficult-to-machine stainless steels and high-temp alloys.
 LNP...: Pressed; lower cost per edge for most roughing to semi-finishing operations.

- .E..LEJ: For aluminum and other non-ferrous alloys.
- .E..GE: First choice for stainless Steels and high-temp alloys. For highest finishing requirements in light machining.
- .S..GE: Universal geometry. First choice for steel.
- .S..GEM: First choice for cast iron machining and all heavy applications.

INDEXABLE MILLING



Recommended Starting Speeds for Dry Machining • Metric

Material Group		KC422M			KC520M			KC522M			KC725M		
P	1	-	-	-	-	-	-	330	285	270	260	230	215
	2	-	-	-	-	-	-	275	240	200	220	190	160
	3	-	-	-	-	-	-	255	215	175	200	170	140
	4	-	-	-	-	-	-	225	185	150	180	150	120
	5	-	-	-	-	-	-	185	170	150	150	135	120
	6	-	-	-	-	-	-	165	125	100	130	100	80
M	1	-	-	-	-	-	-	205	180	165	170	150	135
	2	-	-	-	-	-	-	185	160	130	155	130	110
	3	-	-	-	-	-	-	140	120	95	115	100	80
K	1	-	-	-	270	245	215	230	205	185	-	-	-
	2	-	-	-	210	190	175	180	160	150	-	-	-
	3	-	-	-	175	160	145	150	135	120	-	-	-
N	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	-	-	-	120	90	70	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-
Material Group		KCK15			KCPK30			KCPM40			KCSM40		
P	1	-	-	-	455	395	370	295	260	245	260	230	215
	2	-	-	-	280	255	230	250	215	180	220	190	160
	3	-	-	-	255	230	205	230	195	160	200	170	140
	4	-	-	-	190	175	160	205	170	135	180	150	120
	5	-	-	-	260	230	210	170	155	135	150	135	120
	6	-	-	-	160	135	125	150	115	90	130	100	80
M	1	-	-	-	205	185	155	195	170	155	170	150	135
	2	-	-	-	185	160	140	175	150	125	155	130	110
	3	-	-	-	145	130	115	130	115	90	115	100	80
K	1	420	385	340	295	265	240	-	-	-	-	-	-
	2	335	295	275	235	210	190	-	-	-	-	-	-
	3	280	250	230	195	175	160	-	-	-	-	-	-
N	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-

*Recommended for wet machining only.

NOTE:
 FIRST choice starting speeds are in **bold** type.
 As the average chip thickness increases, the speed should be decreased.

Recommended Starting Speeds for Wet Machining • Metric

INDEXABLE MILLING

Material Group		KC422M			KC520M			KC522M			KC725M		
P	1	-	-	-	-	-	-	265	230	215	210	185	170
	2	-	-	-	-	-	-	220	190	160	175	150	130
	3	-	-	-	-	-	-	205	170	140	160	135	110
	4	-	-	-	-	-	-	180	150	120	145	120	95
	5	-	-	-	-	-	-	150	135	120	120	110	95
	6	-	-	-	-	-	-	130	100	80	105	80	65
M	1	-	-	-	-	-	-	165	145	130	135	120	110
	2	-	-	-	-	-	-	150	130	105	125	105	90
	3	-	-	-	-	-	-	110	95	75	90	80	65
K	1	-	-	-	215	195	170	185	165	150	-	-	-
	2	-	-	-	170	150	140	145	130	120	-	-	-
	3	-	-	-	140	130	115	120	110	95	-	-	-
N	1	860	755	700	-	-	-	-	-	-	-	-	-
	2	755	700	610	-	-	-	-	-	-	-	-	-
	3	755	700	610	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	30	30	20	30	25	20
	2	-	-	-	-	-	-	30	30	20	30	25	20
	3	-	-	-	-	-	-	40	30	20	35	30	20
	4	-	-	-	-	-	-	55	40	30	45	35	25
H	1	-	-	-	-	-	-	95	70	55	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-
Material Group		KCK15			KCPK30			KCPM40			KCSM40		
P	1	-	-	-	365	315	295	285	250	235	-	-	-
	2	-	-	-	225	205	185	240	210	170	-	-	-
	3	-	-	-	205	185	165	220	190	150	-	-	-
	4	-	-	-	150	140	130	195	165	130	-	-	-
	5	-	-	-	210	185	170	165	150	130	135	115	95
	6	-	-	-	130	110	100	145	110	90	120	90	65
M	1	-	-	-	165	150	125	190	165	150	170	135	110
	2	-	-	-	150	130	110	170	145	120	145	115	95
	3	-	-	-	115	105	90	125	110	90	115	90	70
K	1	335	310	270	235	210	190	-	-	-	-	-	-
	2	270	235	220	190	170	150	-	-	-	-	-	-
	3	225	200	185	155	140	130	-	-	-	-	-	-
N	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	40	30	30	30	30	20
	2	-	-	-	-	-	-	40	30	30	30	30	20
	3	-	-	-	-	-	-	50	40	30	40	30	20
	4	-	-	-	55	40	25	65	50	30	50	40	25
H	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-

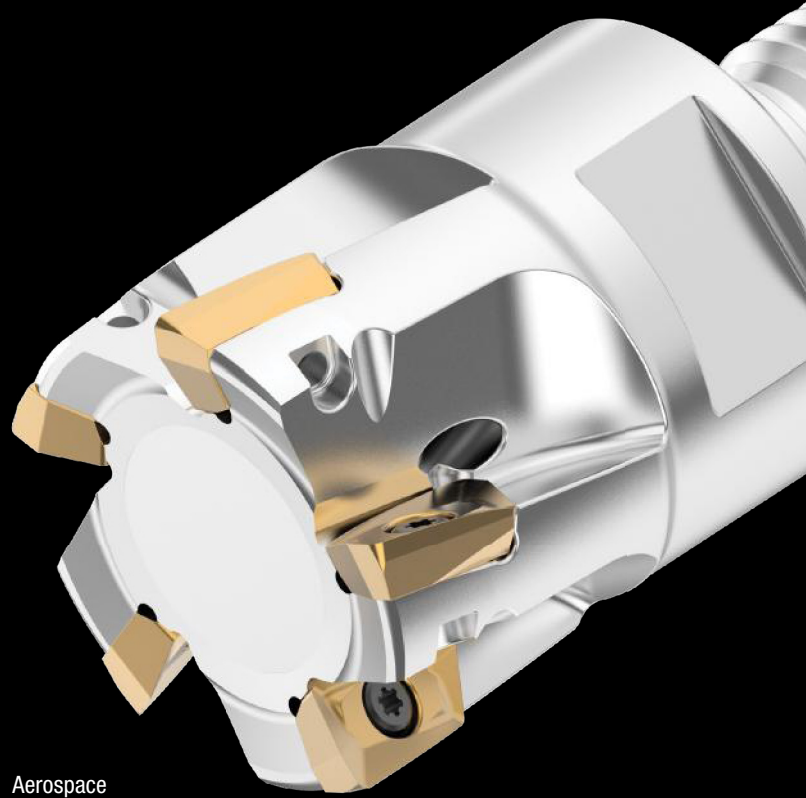
NOTE:
 FIRST choice starting speeds are in **bold** type.
 As the average chip thickness increases, the speed should be decreased.



Shoulder Milling

MILL 1-10

HIGH-PERFORMANCE SHOULDER MILLING PLATFORM



Materials



Industries



Automotive



General
Engineering



Oil & Gas



Wind & Solar



Aerospace

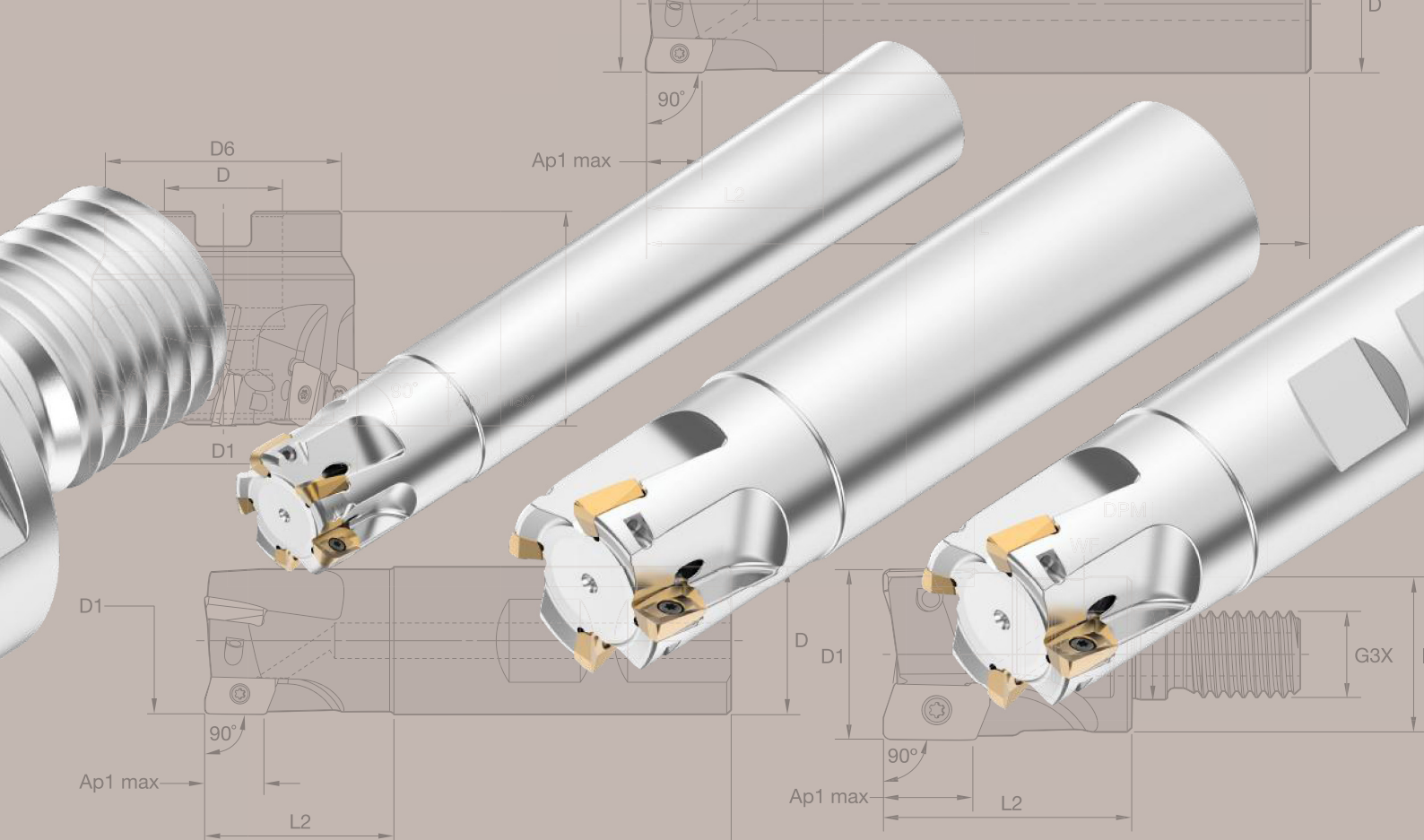
Applications



The multifunctional Mill 1-10 platform works with all workpiece materials in shoulder, ramp, slot, plunge and helical milling with one insert style to improve productivity and reduce inventory and machining costs. The super positive cutting rake, soft cutting action and low cutting forces enable higher feed rates and spindle protection.



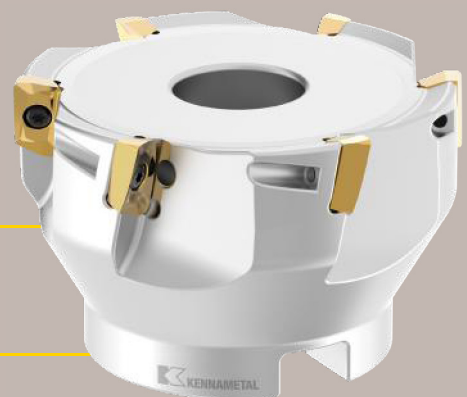
Explore Mill 1-10



Compatible with all workpiece materials

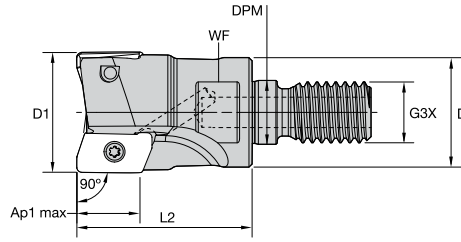
Capable of shoulder, ramp, plunge and helical milling

Internal coolant and air supply



ADVANTAGES

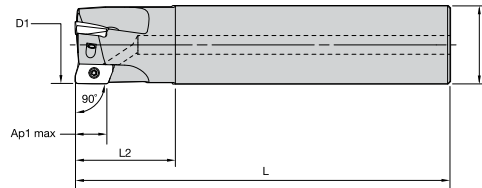
- Optimized soft cutting edge
- Elliptical edge generates 90° wall
- Increased ramping capability due to state of the art insert and cutter body design
- Innovative chip gash design for excellent chip evacuation and peak cutter body stability
- All pockets are machined into heat-treated materials, guaranteeing best-in-class runout and pocket strength
- Inserts feature innovative margin along the main cutting edge, corner nose radius and wiper facet for peak edge stability



Mill 1-10 • End Mill • Screw-On • Metric

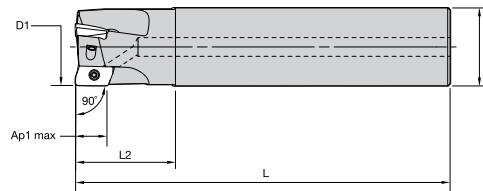
Order Number	ISO Catalog Number	D1	D	DPM	WF	G3X	L	L2	Ap1 max	Z	max ramp angle	max RPM	kg
3745708	16A02R025M08ED10	16	13	8,50	9,95	M8	42	25	10,1	2	9.50	50100	0.02
3745709	20A02R028M10ED10	20	18	10,50	14,95	M10	47	28	10,1	2	6.00	44800	0.04
3745710	20A03R028M10ED10	20	18	10,50	14,95	M10	47	28	10,1	3	6.00	44800	0.05
3745711	25A03R032M12ED10	25	21	12,50	16,95	M12	54	32	10,0	3	4.00	40000	0.09
3745712	25A04R032M12ED10	25	21	12,50	16,95	M12	54	32	10,0	4	4.00	40000	0.08
3745723	32A04R040M16ED10	32	29	17,00	23,95	M16	63	40	10,0	4	2.75	35400	0.19
3745724	32A05R040M16ED10	32	29	17,00	23,95	M16	63	40	10,0	5	2.75	35400	0.19
3745725	40A06R040M16ED10	40	29	17,00	23,95	M16	63	40	9,9	6	2.00	31600	0.23
3745726	42A06R040M16ED10	42	29	17,00	23,95	M16	63	40	9,9	6	1.75	30900	0.23

INDEXABLE MILLING



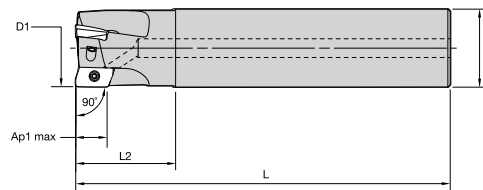
Mill 1-10 • End Mill • Cylindrical Shank • Metric

Order Number	ISO Catalog Number	D1	D	L	L2	Ap1 max	Z	max ramp angle	max RPM	kg
3744538	12A01R020A16ED10	12	16	90	20	10,3	1	11.50	57800	0.12
3744539	16A02R025A16ED10	16	16	100	25	10,1	2	9.50	50100	0.13
3744540	20A02R028A20ED10	20	20	110	28	10,1	2	6.00	44800	0.23
3744541	20A03R028A20ED10	20	20	110	28	10,1	3	6.00	44800	0.22
3744542	25A03R032A25ED10	25	25	120	32	10,0	3	4.00	40000	0.40
3744613	25A04R032A25ED10	25	25	120	32	10,0	4	4.00	40000	0.40
3744614	32A04R040A32ED10	32	32	130	40	10,0	4	2.75	35400	0.72
3744615	32A05R040A32ED10	32	32	130	40	10,0	5	2.75	35400	0.71



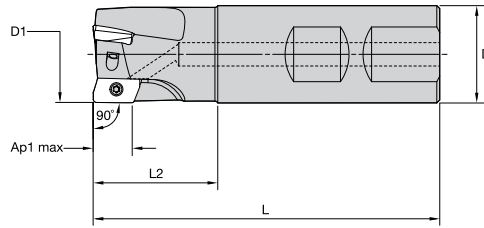
Mill 1-10 • End Mill • Long • Cylindrical Shank • Metric

Order Number	ISO Catalog Number	D1	D	L	L2	Ap1 max	Z	max ramp angle	max RPM	kg
3744616	16A02R025A16ED10-170	16	16	170	25	10,1	2	9.50	50100	0.23
3744618	18A02R028A16ED10-170	18	16	170	28	10,1	2	7.50	47200	0.24
3744619	20A02R032A20ED10-170	20	20	170	32	10,1	2	6.00	44800	0.37
3744621	20A03R032A20ED10-170	20	20	170	32	10,1	3	6.00	44800	0.36
3744623	22A03R032A20ED10-170	22	20	170	32	10,1	3	5.00	42700	0.37
3744624	25A03R040A25ED10-200	25	25	200	40	10,0	3	4.00	40000	0.69
3744626	25A04R040A25ED10-200	25	25	200	40	10,0	4	4.00	40000	0.68
3744628	28A04R040A25ED10-200	28	25	200	40	10,0	4	3.25	37800	0.71
3744629	32A04R048A32ED10-200	32	32	200	48	10,0	4	2.75	35400	1.14
3744631	32A05R048A32ED10-200	32	32	200	48	10,0	5	2.75	35400	1.13



Mill 1-10 • End Mill • Long • Cylindrical Shank • For Corner Radius 3,1mm • Metric

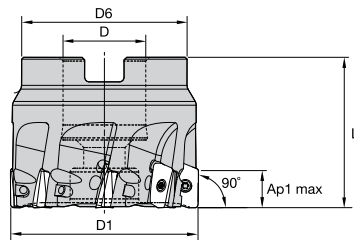
Order Number	ISO Catalog Number	D1	D	L	L2	Ap1 max	Z	max ramp angle	max RPM	kg
3744617	16A02R025A16ED10R31-170	16	16	170	25	9,7	2	8.00	50100	0.23
3744620	20A02R032A20ED10R31-170	20	20	170	32	9,8	2	4.50	44800	0.37
3744622	20A03R032A20ED10R31-170	20	20	170	32	9,8	3	4.50	44800	0.36
3744625	25A03R040A25ED10R31-200	25	25	200	40	9,8	3	3.00	40000	0.69
3744627	25A04R040A25ED10R31-200	25	25	200	40	9,8	4	3.00	40000	0.68
3744632	32A05R048A32ED10R31-200	32	32	200	48	9,7	5	2.00	35400	1.13



Mill 1-10 • End Mill • Weldon Shank • Metric

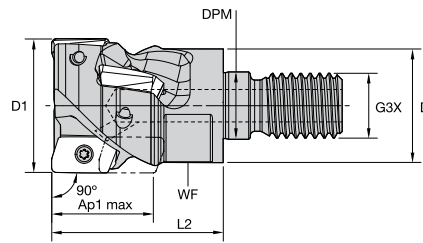
Order Number	ISO Catalog Number	D1	D	L	L2	Ap1 max	Z	max ramp angle	max RPM	kg
3744633	16A02R025B16ED10	16	16	74	25	10,1	2	9.50	50100	0.09
3744634	20A02R028B20ED10	20	20	79	28	10,1	2	6.00	44800	0.15
3744635	20A03R028B20ED10	20	20	79	28	10,1	3	6.00	44800	0.15
3744636	25A03R032B25ED10	25	25	89	32	10,0	3	4.00	40000	0.28
3744637	25A04R032B25ED10	25	25	89	32	10,0	4	4.00	40000	0.28
3744638	32A04R040B32ED10	32	32	101	40	10,0	4	2.75	35400	0.53
3744639	32A05R040B32ED10	32	32	101	40	10,0	5	2.75	35400	0.53

INDEXABLE MILLING



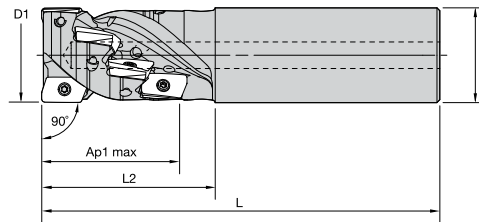
Mill 1-10 • Shell Mill • Metric

Order Number	ISO Catalog Number	D1	D	D6	L	Ap1 max	Z	max ramp angle	max RPM	kg
3745674	40A04RS90ED10D	40	16	37	40	9,9	4	2.00	31600	0.25
3745675	40A06RS90ED10D	40	16	37	40	9,9	6	2.00	31600	0.24
3745676	50A05RS90ED10D	50	22	44	40	9,9	5	1.50	28300	0.38
3745677	50A08RS90ED10D	50	22	44	40	9,9	8	1.50	28300	0.36
3745678	63A06RS90ED10D	63	22	44	40	9,9	6	1.00	25200	0.54
3745679	63A09RS90ED10D	63	22	44	40	9,9	9	1.00	25200	0.53
3745680	80A08RS90ED10D	80	27	60	50	9,9	8	0.75	22400	1.26
3745681	80A10RS90ED10D	80	27	60	50	9,9	10	0.75	22400	1.25
3745682	100B08RS90ED10D	100	32	80	50	9,9	8	0.50	20000	1.88
3745703	100B12RS90ED10D	100	32	80	50	9,9	12	0.50	20000	1.85



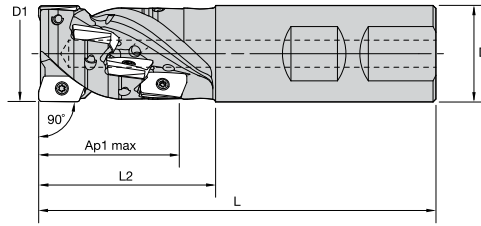
Mill 1-10 • Helical End Mill • Screw-On • Metric

Order Number	ISO Catalog Number	D1	D	DPM	WF	G3X	L	L2	Ap1 max	Z	max ramp angle	max RPM	kg
3773810	M1H20J02R32M10ED10C4	20	18	10,50	14,95	M10	51	32	18,9	4	6.00	37100	0.49
3773811	M1H25J02R32M12ED10C4	25	21	12,50	16,95	M12	54	32	18,8	4	4.00	33200	0.07
3773813	M1H32J03R40M16ED10C6	32	29	17,00	23,95	M16	63	40	18,7	6	2.75	29300	0.18



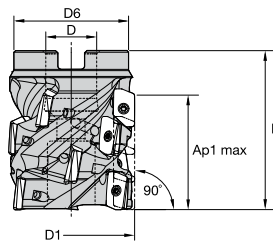
Mill 1-10 • Helical End Mill • Cylindrical Shank • Metric

Order Number	ISO Catalog Number	D1	D	L	L2	Ap1 max	Z	max ramp angle	max RPM	kg
3773806	M1H20J02R28A20ED10C4	20	20	110	28	18,9	4	6.00	37100	0.48
3773122	M1H20J02R36A20ED10C6	20	20	90	36	27,7	6	6.00	37100	0.36
3773803	M1H25J02R46A25ED10C8	25	25	105	46	36,4	8	4.00	33200	0.30
3773805	M1H32J03R54A32ED10C15	32	32	115	54	44,8	15	2.75	29300	0.53



Mill 1-10 • Helical End Mill • Weldon Shank • Metric

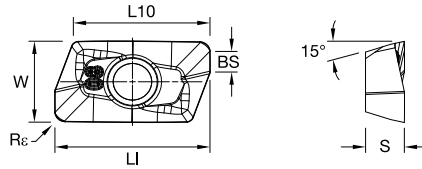
Order Number	ISO Catalog Number	D1	D	L	L2	Ap1 max	Z	max ramp angle	max RPM	kg
3773118	M1H20J02R36B20ED10C6	20	20	87	36	27,7	6	6.00	37100	0.34
3773119	M1H25J02R46B25ED10C8	25	25	103	46	36,4	8	4.00	33200	0.31
3773120	M1H32J02R54B32ED10C10	32	32	115	54	44,8	10	2.75	29300	0.56
3773121	M1H32J03R54B32ED10C15	32	32	115	54	44,8	15	2.75	29300	0.53



Mill 1-10 • Helical Shell Mill • Metric

Order Number	ISO Catalog Number	D1	D	D6	L	Ap1 max	Z	max ramp angle	max RPM	kg
3773814	M1H40T03R50A16ED10C12	40	16	37	50	35,9	12	2.00	26200	0.27
3773815	M1H40T05R50A16ED10C20	40	16	37	50	35,9	20	2.00	26200	0.26
3773816	M1H50T03R60A22ED10C15	50	22	44	60	44,3	15	1.50	23400	0.62
3773817	M1H50T05R60A22ED10C25	50	22	44	60	44,3	25	1.50	23400	0.55

INDEXABLE MILLING



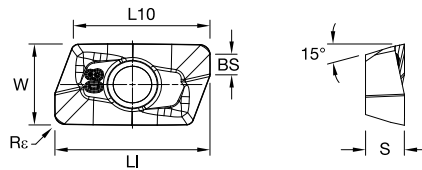
			K313	KC410M
P				
M				
K				
N				
S				
H				

● Primary
○ Secondary

Mill 1-10 • Carbide Insert • EDCT-FLDJ

Light Machining of Aluminum

ISO Catalog Number	LI	W	L10	S	Rε	BS	hm	Cutting Edges	K313	KC410M
EDCT10T302PDFRLDJ	12.05	6.75	10.36	3.75	0.20	2.29	0.02	2	3684778	3684779
EDCT10T304PDFRLDJ	12.05	6.75	10.36	3.75	0.40	1.98	0.02	2	—	3682450
EDCT10T308PDFRLDJ	12.05	6.74	10.36	3.75	0.79	1.70	0.02	2	—	3649187
EDCT10T312PDFRLDJ	12.06	6.74	10.36	3.75	1.19	1.30	0.02	2	—	3682520
EDCT10T316PDFRLDJ	12.06	6.74	10.34	3.75	1.59	0.90	0.02	2	—	3682777
EDCT10T320PDFRLDJ	12.06	6.73	10.36	3.75	2.00	0.49	0.02	2	—	3765830
EDCT10T331PDFRLDJ	11.52	6.71	10.03	3.75	3.10	—	0.02	2	—	3684824



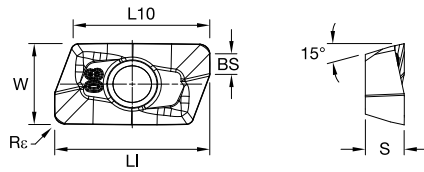
			K313	KC422M
P				
M				
K				
N				
S				
H				

● Primary
○ Secondary

Mill 1-10 • Carbide Insert • EDCT-ELDJ

Light Machining of Aluminum

ISO Catalog Number	LI	W	L10	S	Rε	BS	hm	Cutting Edges	KC422M
EDCT10T304PDERLDJ	12.05	6.74	10.36	3.75	0.40	1.98	0.03	2	3682451
EDCT10T308PDERLDJ	12.05	6.74	10.36	3.75	0.79	1.70	0.03	2	3649188
EDCT10T316PDERLDJ	12.05	6.74	10.36	3.75	1.59	0.90	0.03	2	3682778
EDCT10T320PDERLDJ	12.05	6.74	10.36	3.75	2.00	0.49	0.03	2	3765831
EDCT10T324PDERLDJ	12.05	6.74	10.36	3.75	2.38	0.11	0.03	2	3766027



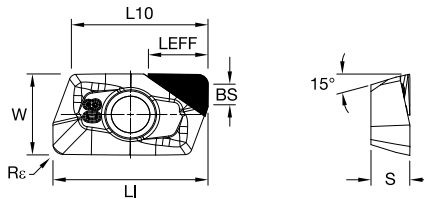
	KC510M	KC520M	KC522M	KC725M	KCK15	KCK20B	KCKP10	KCPK30	KCPM40	KCSM40
P	●	●	●	●	○	○	○	○	○	○
M	●	●	●	●	○	○	○	○	○	○
K	●	●	○	○	○	○	○	○	○	○
N	●	●	○	○	○	○	○	○	○	○
S	●	●	○	○	○	○	○	○	○	○
H	●	○	○	○	○	○	○	○	○	○

● Primary
○ Secondary

Mill 1-10 • Carbide Insert • EDCT-LD

Light Machining

ISO Catalog Number	LI	W	L10	S	Rε	BS	hm	Cutting Edges	KC510M	KC520M	KC522M	KC725M	KCK15	KCK20B	KCKP10	KCPK30	KCPM40	KCSM40
EDCT10T302PDERLD	12.04	6.75	10.35	3.75	0.20	2.29	0.04	2	—	—	—	3959611	—	—	—	3959612	—	—
EDCT10T304PDERLD	12.05	6.75	10.36	3.75	0.40	1.98	0.04	2	—	3682452	3682513	3682514	—	6970408	—	3682515	—	—
EDCT10T308PDERLD	12.05	6.74	10.36	3.75	0.79	1.70	0.04	2	3753417	3649189	3649190	3649191	3649213	6970406	6970412	3649192	5545217	6176096
EDCT10T312PDERLD	12.06	6.74	10.36	3.75	1.19	1.30	0.04	2	—	—	3682653	3682655	—	—	—	—	—	6176097
EDCT10T316PDERLD	12.06	6.74	10.34	3.75	1.59	0.90	0.04	2	—	—	3682780	3682781	—	—	—	3682782	—	6176098
EDCT10T320PDERLD	12.06	6.73	10.36	3.75	2.00	0.49	0.04	2	—	—	—	3766023	—	—	—	—	—	—
EDCT10T324PDERLD	12.06	6.74	10.36	3.75	2.38	0.11	0.04	2	—	—	3766028	3766029	—	—	—	—	—	6176099
EDCT10T331PDERLD	11.52	6.71	10.03	3.75	3.10	—	0.04	2	—	—	—	3684828	—	—	—	—	—	6176100



	KD1410
P	●
M	●
K	●
N	●
S	●
H	○

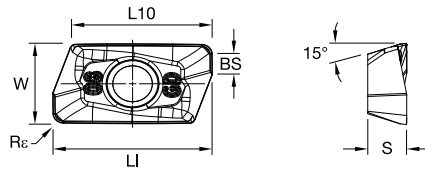
● Primary
○ Secondary

Mill 1-10 • Carbide Insert with PCD Tip • EDCT-PCD

High-Speed Machining of Aluminum

ISO Catalog Number	LI	W	L10	S	Rε	BS	hm	Cutting Edges	KD1410
EDCT10T304PDFR-PCD	12.01	6.75	10.36	3.75	0.40	2.26	0.02	1	3759083
EDCT10T308PDFR-PCD	12.02	6.74	10.36	3.75	0.79	1.83	0.02	1	3759084

INDEXABLE MILLING

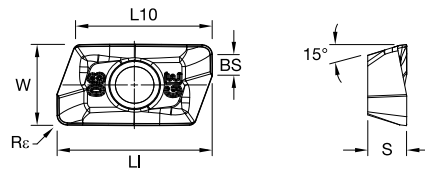


	KC520M	KC725M	KCK15	KCK20B	KCPK30	KCPM40
P	●	●	●	●	●	●
M	●	●	○	○	○	○
K	●	●	●	○	○	○
N	●	●	○	○	○	○
S	●	●	○	○	○	○
H	○	○	○	○	○	○

● Primary
○ Secondary

Mill 1-10 • Carbide Insert • EDPT-GD
Medium Machining

ISO Catalog Number	LI	W	L10	S	Rε	BS	hm	Cutting Edges	KC520M	KC725M	KCK15	KCK20B	KCPK30	KCPM40
EDPT10T304PDSRGD	12.05	6.75	10.46	3.75	0.40	2.07	0.13	2	—	3642141	3642142	—	3642163	—
EDPT10T308PDSRGD	12.05	6.74	10.47	3.75	0.80	1.70	0.13	2	3753386	3642170	3642171	6970405	3642172	5545216
EDPT10T312PDSRGD	12.06	6.74	10.47	3.75	1.19	1.30	0.13	2	3753387	3642193	—	6970411	3642195	—
EDPT10T316PDSRGD	12.06	6.74	10.47	3.75	1.60	0.90	0.13	2	—	3642196	—	—	3642198	—

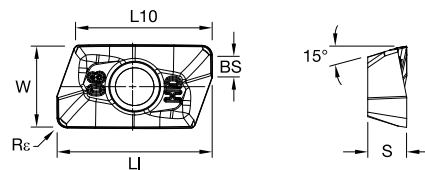


	KC522M	KC725M	KCPK30	KCPM20	KCPM40	KCSM40
P	●	●	●	●	●	●
M	●	●	○	○	○	○
K	○	○	●	○	○	○
N	○	○	○	○	○	○
S	●	●	○	○	○	○
H	○	○	○	○	○	○

● Primary
○ Secondary

Mill 1-10 • Carbide Insert • EDPT-GE
Medium Machining

ISO Catalog Number	LI	W	L10	S	Rε	BS	hm	Cutting Edges	KC522M	KC725M	KCPK30	KCPM20	KCPM40	KCSM40
EDPT10T304PDSRGE	12.04	6.75	10.35	3.75	0.40	2.08	0.14	2	3779249	3779250	3779251	—	6127885	—
EDPT10T308PDSRGE	12.05	6.74	10.36	3.75	0.80	1.70	0.14	2	3775016	3775017	3775018	4089042	6127886	6176092
EDPT10T312PDSRGE	12.05	6.74	10.36	3.75	1.19	1.30	0.14	2	3775003	3775004	3775005	—	—	6176093
EDPT10T316PDSRGE	12.06	6.74	10.36	3.75	1.60	0.90	0.14	2	—	3774920	3774921	—	—	6176094
EDPT10T331PDSRGE	11.51	6.71	10.09	3.75	3.10	—	0.14	2	—	3775063	3775064	—	—	6176095



	KC520M	KC522M	KC725M	KCK15	KCK20B	KCPK30	KCPM40	KCSM40
P	●	●	●	●	●	●	●	●
M	●	●	○	○	○	○	○	○
K	●	○	●	○	○	○	○	○
N	●	○	○	○	○	○	○	○
S	●	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○

● Primary
○ Secondary

Mill 1-10 • Carbide Insert • EDPT-HD
Heavy Machining

ISO Catalog Number	LI	W	L10	S	Rε	BS	hm	Cutting Edges	KC520M	KC522M	KC725M	KCK15	KCK20B	KCPK30	KCPM40	KCSM40
EDPT10T304PDERHD	12.05	6.75	10.46	3.75	0.40	2.07	0.08	2	3753592	3641740	3641741	3641742	6970407	3641783	5545215	—
EDPT10T308PDERHD	12.05	6.74	10.47	3.75	0.80	1.69	0.08	2	3753593	3641712	3641734	3641735	6970404	3641736	5545214	6175756
EDPT10T310PDERHD	12.05	6.74	10.34	3.75	1.00	1.49	0.08	2	—	3747113	3747114	—	—	3747116	—	—
EDPT10T312PDERHD	12.06	6.74	10.47	3.75	1.19	1.30	0.08	2	3753594	3642028	3642029	—	6970409	3642031	6127887	6175757
EDPT10T316PDERHD	12.06	6.74	10.47	3.75	1.60	0.90	0.08	2	—	3642093	3642094	—	—	3642096	6127888	6175758
EDPT10T320PDERHD	12.06	6.74	10.47	3.75	2.00	0.49	0.08	2	—	—	3642097	—	—	3642098	6127889	6175759
EDPT10T324PDERHD	12.06	6.74	10.47	3.75	2.38	0.11	0.08	2	—	—	3642102	—	—	3642133	—	6175760
EDPT10T331PDERHD	11.52	6.71	10.20	3.75	3.10	—	0.08	2	—	3642136	3642137	—	—	3642138	—	6176091

SHOULDER MILLING • MILL 1-10 - RECOMMENDED STARTING FEEDS

Recommended Starting Feeds [mm]

Light Machining	General Purpose	Heavy Machining
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Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.F.LDJ	0,12	0,35	0,58	0,08	0,25	0,42	0,06	0,19	0,31	0,06	0,16	0,27	0,05	0,15	0,25	.F.LDJ
.F.-PCD	0,12	0,35	0,58	0,08	0,25	0,42	0,06	0,19	0,31	0,06	0,16	0,27	0,05	0,15	0,25	.F.-PCD
.E.LDJ	0,12	0,35	0,58	0,08	0,25	0,42	0,06	0,19	0,32	0,06	0,16	0,28	0,05	0,15	0,25	.E.LDJ
.E.LD	0,12	0,35	0,57	0,09	0,25	0,41	0,07	0,19	0,31	0,06	0,17	0,27	0,05	0,15	0,25	.E.LD
.S..GE	0,23	0,46	0,70	0,17	0,33	0,51	0,13	0,25	0,38	0,11	0,22	0,33	0,10	0,20	0,30	.S..GE
.S..GD	0,23	0,47	0,71	0,17	0,34	0,51	0,13	0,25	0,38	0,11	0,22	0,33	0,10	0,20	0,30	.S..GD
.E..HD	0,23	0,51	0,82	0,17	0,37	0,59	0,13	0,28	0,44	0,11	0,24	0,38	0,10	0,22	0,35	.E..HD

EDC...: Ground inserts; high versatility for all finishing applications and difficult-to-machine stainless steels and high-temp alloys.
 EDP...: Pressed; lower cost per edge for most roughing to semi-finishing operations.

- .E.LDJ: For aluminum and other non-ferrous alloys.
- .E.LD: Finishing and high-precision applications.
- .E.HD: Medium roughing and semi-finishing.
- .S.GE: Medium roughing and semi-finishing. Also suitable for austenitic stainless steels and super alloys.
- .S.GD: Strongest cutting edge for heavy roughing applications with high feed rates in all material groups.

INDEXABLE MILLING

Recommended Starting Speeds for Dry Machining • Metric

Material Group	KC422M			KC520M			KC522M			KC725M			KCPK30			KCPM40			KCSM40		
P	1	-	-	-	-	-	330	285	270	260	230	215	455	395	370	295	260	245	260	230	215
	2	-	-	-	-	-	275	240	200	220	190	160	280	255	230	250	215	180	220	190	160
	3	-	-	-	-	-	255	215	175	200	170	140	255	230	205	230	195	160	200	170	140
	4	-	-	-	-	-	225	185	150	180	150	120	190	175	160	205	170	135	180	150	120
	5	-	-	-	-	-	185	170	150	150	135	120	260	230	210	170	155	135	150	135	120
	6	-	-	-	-	-	165	125	100	130	100	80	160	135	125	150	115	90	130	100	80
M	1	-	-	-	-	-	205	180	165	170	150	135	205	185	155	195	170	155	170	150	135
	2	-	-	-	-	-	185	160	130	155	130	110	185	160	140	175	150	125	155	130	110
	3	-	-	-	-	-	140	120	95	115	100	80	145	130	115	130	115	90	115	100	80
K	1	-	-	-	270	245	215	230	205	185	-	-	-	295	265	240	-	-	-	-	-
	2	-	-	-	210	190	175	180	160	150	-	-	-	235	210	190	-	-	-	-	-
	3	-	-	-	175	160	145	150	135	120	-	-	-	195	175	160	-	-	-	-	-
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	-	-	120	90	70	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NOTE:
 FIRST choice starting speeds are in **bold** type.
 As the average chip thickness increases, the speed should be decreased.

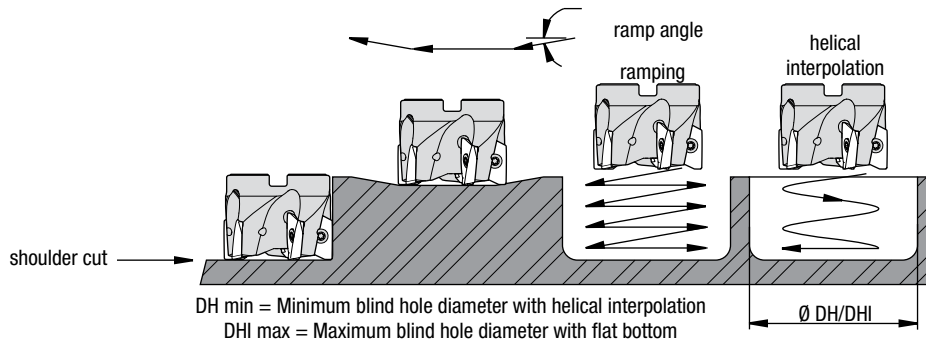
Recommended Starting Speeds for Wet Machining • Metric

Material Group	KC422M			KC520M			KC522M			KC725M			KCPK30			KCPM40			KCSM40			
P	1	-	-	-	-	-	-	265	230	215	210	185	170	365	315	295	285	250	235	-	-	-
	2	-	-	-	-	-	-	220	190	160	175	150	130	225	205	185	240	210	170	-	-	-
	3	-	-	-	-	-	-	205	170	140	160	135	110	205	185	165	220	190	150	-	-	-
	4	-	-	-	-	-	-	180	150	120	145	120	95	150	140	130	195	165	130	-	-	-
	5	-	-	-	-	-	-	150	135	120	120	110	95	210	185	170	165	150	130	135	115	95
	6	-	-	-	-	-	-	130	100	80	105	80	65	130	110	110	145	110	90	120	90	65
M	1	-	-	-	-	-	-	165	145	130	135	120	110	165	150	125	190	165	150	170	135	110
	2	-	-	-	-	-	-	150	130	105	125	105	90	150	130	110	170	145	120	145	115	95
	3	-	-	-	-	-	-	110	95	75	90	80	65	115	105	90	125	110	90	115	90	70
K	1	-	-	-	215	195	170	185	165	150	-	-	-	235	210	190	-	-	-	-	-	-
	2	-	-	-	170	150	140	145	130	120	-	-	-	190	170	150	-	-	-	-	-	-
	3	-	-	-	140	130	115	120	110	95	-	-	-	155	140	130	-	-	-	-	-	-
N	1	860	755	700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	755	700	610	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	755	700	610	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	30	30	20	30	25	20	-	-	-	40	30	30	30	30	20
	2	-	-	-	-	-	-	30	30	20	30	25	20	-	-	-	40	30	30	30	30	20
	3	-	-	-	-	-	-	40	30	20	35	30	20	-	-	-	50	40	30	40	30	20
	4	-	-	-	-	-	-	55	40	30	45	35	25	55	40	25	65	50	30	50	40	25
H	1	-	-	-	-	-	-	95	70	55	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NOTE:
 FIRST choice starting speeds are in **bold** type.
 As the average chip thickness increases, the speed should be decreased.

INDEXABLE MILLING

APPLICATION EXAMPLES



Insert Style	Cutting Diameter	Max Ramp Angle To Non-Cutting Corner Tangent	Max Ramp Angle To Steel Body Interference	Dh Min (Min Hole Diameter)	Dhi Min (Min Flat-Bottomed Hole Diameter)	Max Diameter (No Flat Bottom)
Mill-1, 10mm	12	not recommended	not recommended	not recommended	not recommended	not recommended
Mill-1, 10mm	16	9,7°	12,3°	19,50	28,73	32
Mill-1, 10mm	18	7,6°	9,6°	23,29	32,68	63
Mill-1, 10mm	20	6,2°	8,6°	27,25	36,63	40
Mill-1, 10mm	22	5,2°	7,0°	31,25	40,63	44
Mill-1, 10mm	25	4,2°	5,3°	37,26	46,62	50
Mill-1, 10mm	28	3,5°	4,3°	43,26	52,62	56
Mill-1, 10mm	32	2,8°	3,3°	51,27	60,62	64
Mill-1, 10mm	40	2,0°	2,3°	67,30	76,61	80
Mill-1, 10mm	50	1,5°	1,6°	87,53	96,86	100
Mill-1, 10mm	63	1,2°	1,2°	113,54	122,86	126
Mill-1, 10mm	80	0,9°	0,9°	147,54	156,85	160
Mill-1, 10mm	100	0,7°	0,7°	187,54	196,85	200

NOTE: Max ramp angle decreases as nose radius increases.

INDEXABLE MILLING



Shoulder Milling

MILL 1-14

**HIGH-PERFORMANCE
SHOULDER MILLING PLATFORM**



Materials N S

Industries



Automotive



General
Engineering



Oil & Gas



Wind & Solar



Aerospace

Applications



The Mill 1-14 series is a versatile, functional cutter system for a range of cutting tasks. Mill 1-14 cutters can be used for profiling, slotting, ramping, helical interpolation, circular interpolation and other milling applications. It's a single tool with multi-functional benefits. Mill 1-14 inserts are specially designed to add cutting versatility. Innovative micro-geometry features like various rake angles, a negative T-land and small hone contribute greatly to enhanced performance. Results include significantly reduced cycle times and lower cutting forces. Test results in producing 90° walls have proven excellent with the GD2 geometry.



Explore Mill 1-14

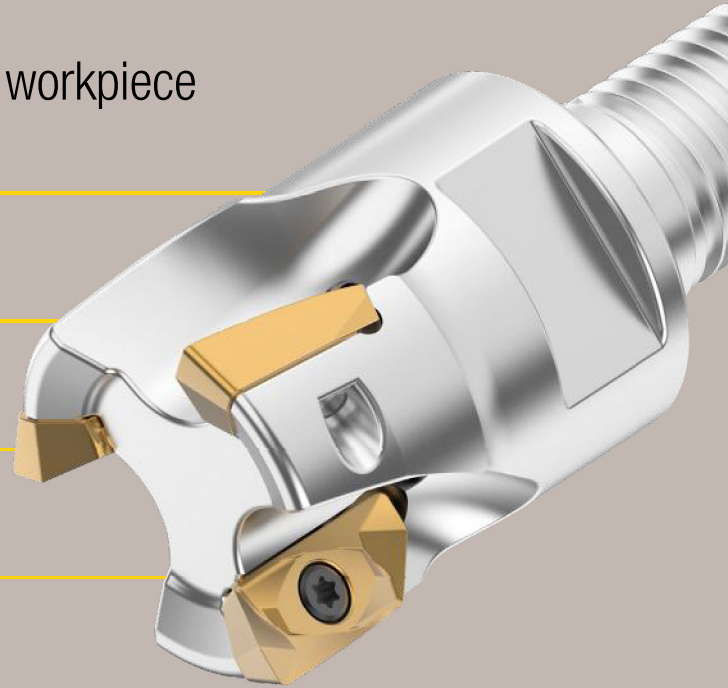
FEATURES

Insert geometries and grades for most workpiece materials

Insert radii from 0,4mm up to 4mm

Axial depth of cut up to 14mm

Beyond grade technology



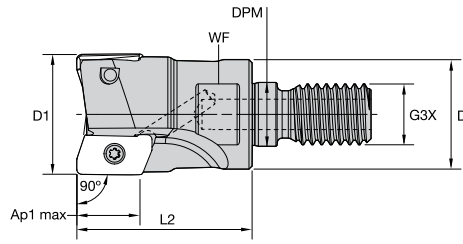
BENEFITS

Compatible with all workpiece materials

Capable of shoulder, ramp, plunge and helical milling

Internal coolant and air supply

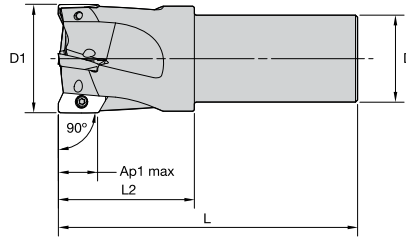




Mill 1-14 • End Mill • Screw-On • Metric

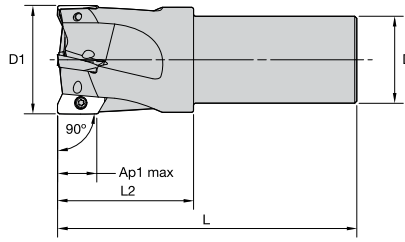
Order Number	ISO Catalog Number	D1	D	DPM	WF	G3X	L	L2	Ap1 max	Z	max ramp angle	max RPM	kg
2968370	20A02R035M10SED14	20	18	10,50	14,95	M10	55	35	14,6	2	16.60	47500	0.05
2968371	25A02R035M12SED14	25	21	12,50	16,95	M12	57	35	14,5	2	10.50	39700	0.08
3345679	25A03R035M12SED14	25	21	12,50	16,95	M12	57	35	14,5	3	10.50	39700	0.08
2968372	32A03R040M16SED14	32	29	17,00	21,90	M16	65	40	14,4	3	6.80	33300	0.17
3345680	32A04R040M16SED14	32	29	17,00	21,90	M16	65	40	14,4	4	6.80	33300	0.18
2968373	40A04R040M16SED14	40	29	17,00	21,90	M16	65	40	14,3	4	4.80	28700	0.23
3345681	40A05R040M16SED14	40	29	17,00	21,90	M16	65	40	14,3	5	4.80	28700	0.23

INDEXABLE MILLING



Mill 1-14 • End Mill • Cylindrical Shank • Metric

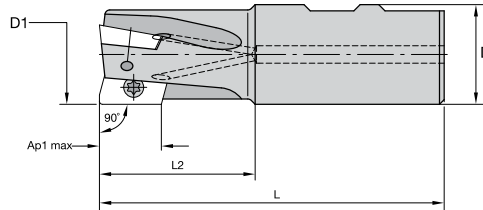
Order Number	ISO Catalog Number	D1	D	L	L2	Ap1 max	Z	max ramp angle	max RPM	kg
3345674	20A02R039A20SED14	20	20	90	39	14,7	2	16.60	47500	0.17
3345675	25A02R044A25SED14	25	25	100	44	14,6	2	10.50	39700	0.31
3345676	25A03R044A25SED14	25	25	100	44	14,6	3	10.50	39700	0.31
3345677	32A03R050A25SED14	32	25	107	50	14,6	3	6.80	33300	0.39
3345678	32A04R050A25SED14	32	25	107	50	14,6	4	6.80	33300	0.41
3348765	32A03R050A32SED14	32	32	110	50	14,5	3	6.80	33300	0.55
3348766	32A04R050A32SED14	32	32	110	50	14,5	4	6.80	33300	0.56
3348767	40A04R050A32SED14	40	32	110	50	14,5	4	4.80	28700	0.71
3348768	40A05R050A32SED14	40	32	110	50	14,5	5	4.80	28700	0.70



Mill 1-14 • End Mill • Long • Cylindrical Shank • Metric

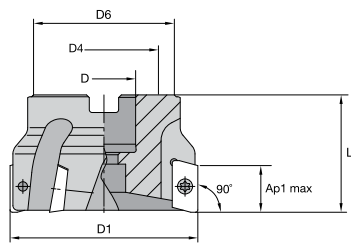
Order Number	ISO Catalog Number	D1	D	L	L2	Ap1 max	Z	max ramp angle	max RPM	kg
2968363	20A02R050A20SED14-170	20	20	170	50	14,7	2	16.60	47500	0.34
2968367	25A02R050A25SED14-170	25	25	170	50	14,6	2	10.50	39700	0.56
2968364	25A03R050A25SED14-170	25	25	170	50	14,6	3	10.50	39700	0.56
2968368	32A03R050A32SED14-200	32	32	200	50	14,6	3	6.80	33300	1.10
2968365	32A04R050A32SED14-200	32	32	200	50	14,6	4	6.80	33300	1.11
2968369	40A04R050A32SED14-200	40	32	200	50	14,4	4	4.80	28700	1.26
2968366	40A05R050A32SED14-200	40	32	200	50	14,4	5	4.80	28700	1.25

INDEXABLE MILLING



Mill 1-14 • End Mill • Weldon Shank • Metric

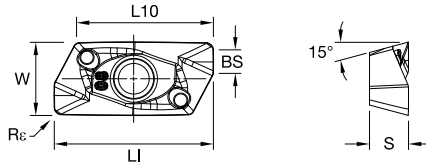
Order Number	ISO Catalog Number	D1	D	L	L2	Ap1 max	Z	max ramp angle	max RPM	kg
2622232	20A02R039B20SED14	20	20	90	39	14,7	2	16.60	47500	0.17
2623937	25A02R044B25SED14	25	25	101	44	14,6	2	10.70	39700	0.31
2478640	25A03R044B25SED14	25	25	101	44	14,6	3	10.50	39700	0.30
2623938	32A03R050B32SED14	32	32	111	50	14,5	3	6.80	33300	0.55
2478642	32A04R050B32SED14	32	32	111	50	14,5	4	6.80	33300	0.56
2623939	40A04R050B32SED14	40	32	111	50	14,3	4	4.80	28700	0.71
2623933	40A05R050B32SED14	40	32	111	50	14,3	5	4.80	28700	0.71



Mill 1-14 • Shell Mill • Metric

Order Number	ISO Catalog Number	D1	D	D4	D6	L	Ap1 max	Z	max ramp angle	max RPM	kg
2623940	40A04RS90ED14D	40	16	—	37	40	14,3	4	4.80	28700	0.21
2623934	40A05RS90ED14D	40	16	—	37	40	14,3	5	4.80	28700	0.21
2623941	50A05RS90ED14D	50	22	—	45	40	14,0	5	3.50	25000	0.30
2478686	50A06RS90ED14D	50	22	—	45	40	14,0	6	3.50	25000	0.29
2623942	63A06RS90ED14D	63	22	—	50	40	14,0	6	2.50	21800	0.49
2478689	63A07RS90ED14D	63	22	—	50	40	14,0	7	2.50	21800	0.48
2623963	80A07RS90ED14D	80	27	—	60	50	14,0	7	1.90	19000	1.00
2478690	80A09RS90ED14D	80	27	—	60	50	14,0	9	1.90	19000	1.00
2623964	100A08RS90ED14D	100	32	—	80	50	14,2	8	1.50	16800	1.80
2623935	100A10RS90ED14D	100	32	—	80	50	14,2	10	1.50	16800	1.81
2510390	125B09RS90ED14D	125	40	—	90	63	14,1	9	1.20	14900	2.64
2623936	125B12RS90ED14D	125	40	—	90	63	14,1	12	1.20	14900	2.66
2623965	160C11RS90ED14D	160	40	66,7	100	63	14,1	11	0.90	13100	3.64

INDEXABLE MILLING



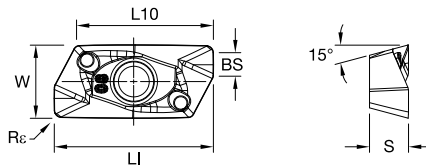
Mill 1-14 • Carbide Insert • EDCT-F.LDJ
Light Machining of Aluminum

KC410M

P	Blue	Primary
M	Yellow	Secondary
K	Red	Secondary
N	Green	Secondary
S	Orange	Secondary
H	Grey	Secondary

● Primary
○ Secondary

ISO Catalog Number	LI	W	L10	S	Re	BS	hm	Cutting Edges	KC410M
EDCT140402PDFRLDJ	17.46	8.49	15.26	4.50	0.20	3.14	0.02	2	3273589
EDCT140404PDFRLDJ	17.46	8.49	15.26	4.50	0.40	2.95	0.02	2	2984054
EDCT140408PDFRLDJ	17.47	8.48	15.26	4.50	0.79	2.56	0.02	2	2983279
EDCT140412PDFRLDJ	17.47	8.46	15.26	4.50	1.19	2.17	0.02	2	2984138
EDCT140416PDFRLDJ	17.49	8.45	15.28	4.50	1.59	1.77	0.02	2	2984360
EDCT140431PDFRLDJ	17.50	8.40	15.28	4.50	3.10	0.26	0.02	2	2984057
EDCT140440PDFRLDJ	16.53	8.34	15.26	4.50	4.00	—	0.02	2	3273590



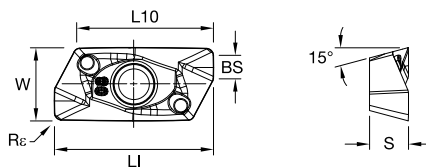
Mill 1-14 • Carbide Insert • EDCT-E.LDJ
Light Machining of Aluminum

KC422M

P	Blue	Primary
M	Yellow	Secondary
K	Red	Secondary
N	Green	Secondary
S	Orange	Secondary
H	Grey	Secondary

● Primary
○ Secondary

ISO Catalog Number	LI	W	L10	S	Re	BS	hm	Cutting Edges	KC422M
EDCT140404PDERLDJ	17.46	8.49	15.27	4.50	0.40	2.95	0.03	2	3324993
EDCT140408PDERLDJ	17.47	8.48	15.27	4.50	0.79	2.56	0.03	2	3324994
EDCT140424PDERLDJ	17.50	8.42	15.27	4.50	2.38	0.99	0.03	2	3324726



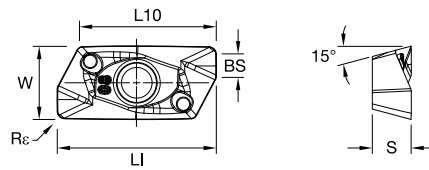
Mill 1-14 • Carbide Insert • EDCT-LD
Light Machining

KC522M

P	Blue	Primary
M	Yellow	Secondary
K	Red	Secondary
N	Green	Secondary
S	Orange	Secondary
H	Grey	Secondary

● Primary
○ Secondary

ISO Catalog Number	LI	W	L10	S	Re	BS	hm	Cutting Edges	KC522M
EDCT140404PDERLD	17.46	8.49	15.26	4.50	0.40	2.95	0.04	2	2984053
EDCT140408PDERLD	17.50	8.40	15.28	4.50	0.80	2.56	0.04	2	2983278
EDCT140412PDERLD	17.48	8.46	15.28	4.50	1.19	2.17	0.04	2	2984137
EDCT140416PDERLD	17.49	8.45	15.28	4.50	1.59	1.77	0.04	2	2984359
EDCT140431PDERLD	17.50	8.40	15.28	4.50	3.10	0.26	0.04	2	2984056

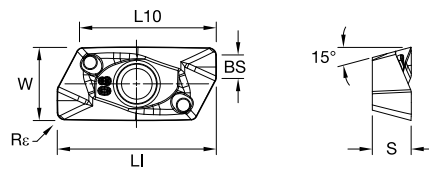


Mill 1-14 • Carbide Insert • EDCT-GD
Medium Machining

	KC725M	KCPM20	KCPM40	KCSM40
P	●	●	●	●
M	●	○	●	●
K	●	○	○	○
N	●	○	○	○
S	●	○	○	○
H	○	○	○	○

● Primary
○ Secondary

ISO Catalog Number	LI	W	L10	S	Rε	BS	hm	Cutting Edges	KC725M	KCPM20	KCPM40	KCSM40
EDCT140404PDERGD	17.46	8.49	15.26	4.50	0.40	2.95	0.05	2	2983890	—	5545068	—
EDCT140408PDERGD	17.46	8.49	15.26	4.50	0.79	2.56	0.05	2	2983331	3957214	5545067	6171518
EDCT140412PDERGD	17.48	8.46	15.26	4.50	1.19	2.17	0.05	2	2984210	—	—	6171519
EDCT140416PDERGD	17.49	8.45	15.28	4.50	1.59	1.77	0.05	2	2984773	—	—	6171520
EDCT140431PDERGD	17.50	8.40	15.28	4.50	3.10	0.26	0.05	2	2983891	—	—	6171591

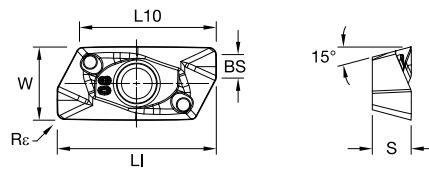


Mill 1-14 • Carbide Insert • EDPT-GD
Medium Machining

	KC520M	KC725M	KCK20B	KCPK30	KCPM40	KCSM40
P	●	●	●	●	●	●
M	●	○	○	○	○	○
K	●	○	○	○	○	○
N	●	○	○	○	○	○
S	●	○	○	○	○	○
H	○	○	○	○	○	○

● Primary
○ Secondary

ISO Catalog Number	LI	W	L10	S	Rε	BS	hm	Cutting Edges	KC520M	KC725M	KCK20B	KCPK30	KCPM40	KCSM40
EDPT140408PDSRGD	17.47	8.37	15.28	4.50	0.80	2.56	0.11	2	2980530	2981644	6970376	2980531	6128133	6172129
EDPT140412PDSRGD	17.48	8.35	15.29	4.50	1.20	2.17	0.11	2	2980527	2980568	—	2980526	5545066	6172130
EDPT140416PDSRGD	17.49	8.35	15.29	4.50	1.60	1.77	0.11	2	2982090	2982077	6970380	2982091	6128135	6172191



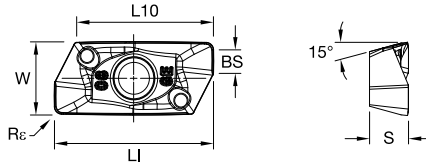
Mill 1-14 • Carbide Insert • EDPT-GD2
Medium Machining

	KC520M	KC725M	KCK20B	KCPK30	KCPM40
P	●	●	●	●	●
M	●	○	○	○	○
K	●	○	○	○	○
N	●	○	○	○	○
S	●	○	○	○	○
H	○	○	○	○	○

● Primary
○ Secondary

ISO Catalog Number	LI	W	L10	S	Rε	BS	hm	Cutting Edges	KC520M	KC725M	KCK20B	KCPK30	KCPM40
EDPT140408PDSRGD2	17.47	8.37	15.09	4.50	0.80	2.61	0.11	2	4155726	4155723	6970402	4155725	5545061

INDEXABLE MILLING

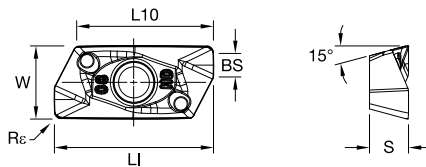


Mill 1-14 • Carbide Insert • EDPT-GE
Medium Machining

	KC522M	KC725M	KCPK30	KCPM20	KCPM40	KCSM40
P	●	●	●	○	○	○
M	●	●	○	○	○	○
K	○	○	○	○	○	○
N	○	○	○	○	○	○
S	○	○	○	○	○	○
H	○	○	○	○	○	○

● Primary
○ Secondary

ISO Catalog Number	LI	W	L10	S	Re	BS	hm	Cutting Edges	KC522M	KC725M	KCPK30	KCPM20	KCPM40	KCSM40
EDPT140404PDSRGE	17.47	8.20	17.44	4.45	0.40	2.80	0.14	2	3855209	3855210	3855211	—	—	—
EDPT140408PDSRGE	17.47	8.17	17.44	4.45	0.80	2.39	0.14	2	3855236	3855237	3855238	3954567	5545161	6172192
EDPT140412PDSRGE	17.44	8.14	14.86	4.45	1.20	1.98	0.14	2	3855240	3855241	3855242	—	—	6172193
EDPT140416PDSRGE	17.45	8.12	14.86	4.45	1.60	1.58	0.14	2	3855176	3855177	—	—	—	—
EDPT140416PDSRGE	17.45	8.12	—	4.45	1.60	1.58	0.14	2	—	—	—	—	—	6172194
EDPT140431PDSRGE	17.46	8.07	—	4.45	3.10	0.13	0.14	2	—	3855180	3855181	—	—	6172195

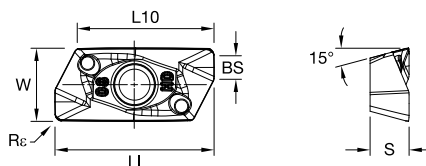


Mill 1-14 • Carbide Insert • EDPT-HD
Heavy Machining

	KC520M	KC522M	KC725M	KCK15	KCK20B	KCPK30	KCPM40	KCSM30	KCSM40
P	●	●	○	○	○	○	○	○	○
M	●	●	○	○	○	○	○	○	○
K	○	○	○	○	○	○	○	○	○
N	○	○	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○

● Primary
○ Secondary

ISO Catalog Number	LI	W	L10	S	Re	BS	hm	Cutting Edges	KC520M	KC522M	KC725M	KCK15	KCK20B	KCPK30	KCPM40	KCSM30	KCSM40
EDPT140404PDERHD	17.47	8.39	15.27	4.50	0.40	2.95	0.08	2	3051866	3051552	3051863	3051864	6970379	3051865	6128132	—	—
EDPT140408PDERHD	17.47	8.38	15.27	4.50	0.80	2.56	0.08	2	3033727	3033728	3033729	3033730	6970375	3033731	5545160	—	6172122
EDPT140412PDERHD	17.48	8.36	15.27	4.50	1.20	2.17	0.08	2	3032732	3033723	3033724	3033725	6970401	3033726	5545069	—	6172123
EDPT140416PDERHD	17.49	8.36	15.27	4.50	1.60	1.77	0.08	2	—	3033751	3033752	3033953	—	3033954	6128134	—	6172124
EDPT140420PDERHD	17.49	8.35	15.27	4.50	2.00	1.37	0.08	2	—	3051244	3051245	—	—	3051246	—	—	6172125
EDPT140424PDERHD	17.48	8.33	15.27	4.50	2.38	0.99	0.08	2	—	3051549	3051550	—	—	3051551	6128136	—	6172126
EDPT140431PDERHD	17.51	8.30	15.27	4.50	3.10	0.26	0.08	2	—	3051247	3051248	—	—	3051249	—	5519983	6172127
EDPT140440PDERHD	16.53	8.26	15.27	4.50	4.00	—	0.08	2	—	3051250	3051251	—	—	3051252	—	—	6172128



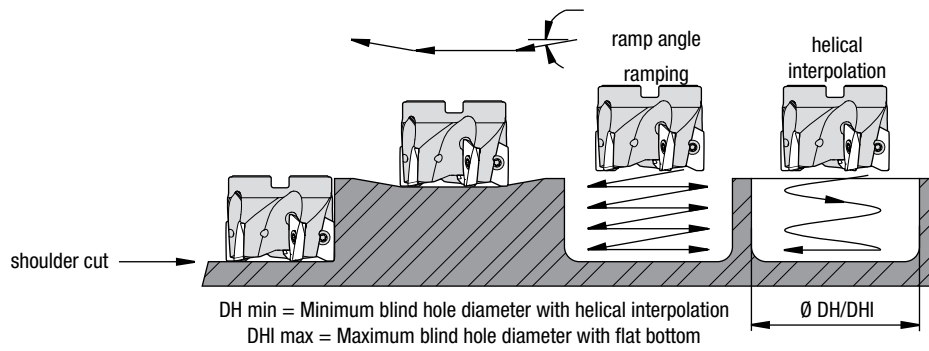
Mill 1-14 • Carbide Insert • EDPT-HD2
Heavy Machining

	KC522M	KC725M	KCPK30
P	●	●	○
M	●	●	○
K	○	○	○
N	○	○	○
S	○	○	○
H	○	○	○

● Primary
○ Secondary

ISO Catalog Number	LI	W	L10	S	Re	BS	hm	Cutting Edges	KC522M	KC725M	KCPK30
EDPT140408PDERHD2	17.47	8.38	15.30	4.50	0.80	2.56	0.06	2	5477299	5477295	5477296

APPLICATION EXAMPLES

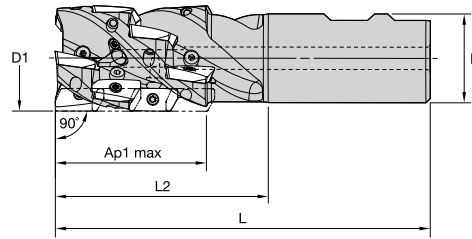


insert style	cutting diameter	max ramp angle	DH min (min hole diameter)	DHI min (min flat-bottomed hole diameter)	max diameter
Mill 1-14	20	16°	23,74	35,62	40
Mill 1-14	25	11°	33,75	44,44	50
Mill 1-14	32	7°	47,80	59,79	64
Mill 1-14	40	5°	63,76	75,22	80
Mill 1-14	50	4°	83,96	96,05	100
Mill 1-14	63	3°	109,93	121,47	126
Mill 1-14	80	2°	143,91	155,47	160
Mill 1-14	100	1°	183,89	199,47	200
Mill 1-14	125	1°	233,88	245,47	250
Mill 1-14	160	1°	303,88	315,47	320

NOTE: Max ramp angle decreases as nose radius increases.

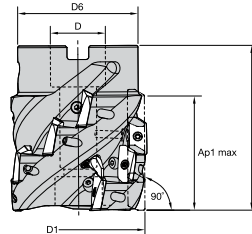
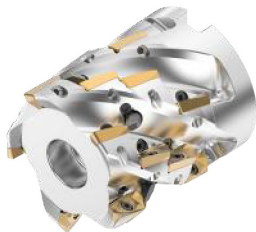
INDEXABLE MILLING





Mill 1-14 • Helical End Mill • Weldon Shank • Metric

Order Number	ISO Catalog Number	D1	D	L	L2	Ap1 max	Z	max ramp angle	max RPM	kg
3742932	M1H32J2R50B32S90ED14C4	32	32	111	50	27,8	4	6.80	31100	0.52
3743033	M1H40J3R50B32S90ED14C6	40	32	111	50	27,5	6	4.80	28400	0.59
3743034	M1H40J3R65B32S90ED14C9	40	32	126	65	40,8	9	4.80	28400	0.66
3743035	M1H40J3R80B32S90ED14C12	40	32	141	80	54,0	12	4.80	28400	0.73
5085631	M1H40J4R80B32S90ED14C12	40	32	141	80	40,8	12	4.80	28400	0.75
3743038	M1H50J3R80B40S90ED14C12	50	40	151	80	53,5	12	3.50	24600	1.30



Mill 1-14 • Helical Shell Mill • Metric

Order Number	ISO Catalog Number	D1	D	D6	L	Ap1 max	Z	max ramp angle	max RPM	kg
3743036	M1H50T3R50A22S90ED14C6	50	22	46	50	27,3	6	3.50	24600	0.43
3743037	M1H50T3R65A22S90ED14C9	50	22	46	65	40,4	9	3.50	24600	0.57
3743039	M1H63T3R50A27S90ED14C6	63	27	60	50	26,9	6	2.50	22000	0.76
3743042	M1H63T3R75A27S90ED14C12	63	27	60	75	52,8	12	2.50	22000	1.16
3743041	M1H63T4R65A27S90ED14C12	63	27	60	65	39,9	12	2.50	22000	0.97
3831819	M1H63T5R75A27S90ED14C20	63	27	60	75	52,8	20	1.95	22000	1.06

INDEXABLE MILLING

SHOULDER MILLING • MILL 1-14 - RECOMMENDED STARTING FEEDS

Recommended Starting Feeds [mm]

Light Machining	General Purpose	Heavy Machining
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Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.F.LDJ	0,12	0,46	0,82	0,08	0,33	0,59	0,06	0,25	0,44	0,06	0,22	0,38	0,05	0,20	0,35	.F.LDJ
.E.LDJ	0,12	0,47	0,82	0,08	0,34	0,59	0,06	0,26	0,44	0,06	0,22	0,39	0,05	0,20	0,35	.E.LDJ
.E.LD	0,12	0,46	0,81	0,09	0,33	0,58	0,07	0,25	0,43	0,06	0,22	0,38	0,05	0,20	0,35	.E.LD
.E.GD	0,17	0,52	0,89	0,12	0,38	0,64	0,09	0,28	0,48	0,08	0,24	0,42	0,07	0,22	0,38	.E.GD
.S.GE	0,23	0,51	0,89	0,17	0,37	0,64	0,13	0,27	0,48	0,11	0,24	0,42	0,10	0,22	0,38	.S.GE
.S.GD	0,23	0,50	0,88	0,17	0,36	0,63	0,13	0,27	0,47	0,11	0,24	0,41	0,10	0,22	0,38	.S.GD
.S.GD2	0,23	0,50	0,88	0,17	0,36	0,63	0,13	0,27	0,47	0,11	0,24	0,41	0,10	0,22	0,38	.S.GD2
.E.HD	0,23	0,59	0,95	0,17	0,43	0,68	0,13	0,32	0,51	0,11	0,28	0,44	0,10	0,25	0,41	.E.HD
.E.HD2	0,21	0,59	0,95	0,15	0,43	0,68	0,11	0,32	0,51	0,10	0,28	0,44	0,09	0,25	0,41	.E.HD2

EDC...: Ground inserts; high versatility for all finishing applications and difficult-to-machine stainless steels and high-temp alloys.
 EDP...: Pressed; lower cost per edge for most roughing to semi-finishing operations.
 .FLDJ: Sharp cutting edge for aluminium and other non-ferrous alloys.
 .E.LDJ: For aluminum and other non-ferrous alloys.
 .E.LD: Finishing and high-precision applications.
 .E.HD: Medium roughing and semi-finishing.
 .S.GE: Medium roughing and semi-finishing. Also suitable for austenitic stainless steels and super alloys.
 .S.GD: Strongest cutting edge for heavy roughing applications with high feed rates in all material groups.

INDEXABLE MILLING

Recommended Starting Speeds for Dry Machining • Metric

Material Group	KC520M			KC725M			KCPK30			KCPM40			KCSM40			
P	1	-	-	-	260	230	215	455	395	370	295	260	245	260	230	215
	2	-	-	-	220	190	160	280	255	230	250	215	180	220	190	160
	3	-	-	-	200	170	140	255	230	205	230	195	160	200	170	140
	4	-	-	-	180	150	120	190	175	160	205	170	135	180	150	120
	5	-	-	-	150	135	120	260	230	210	170	155	135	150	135	120
	6	-	-	-	130	100	80	160	135	125	150	115	90	130	100	80
M	1	-	-	-	170	150	135	205	185	155	195	170	155	170	150	135
	2	-	-	-	155	130	110	185	160	140	175	150	125	155	130	110
	3	-	-	-	115	100	80	145	130	115	130	115	90	115	100	80
K	1	270	245	215	-	-	-	295	265	240	-	-	-	-	-	-
	2	210	190	175	-	-	-	235	210	190	-	-	-	-	-	-
	3	175	160	145	-	-	-	195	175	160	-	-	-	-	-	-
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NOTE:
 FIRST choice starting speeds are in **bold** type.
 As the average chip thickness increases, the speed should be decreased.

Recommended Starting Speeds for Wet Machining • Metric

Material Group	KC410M/KC422M			KC520M			KC725M			KCPK30			KCPM40			KCSM40			
P	1	-	-	-	-	-	-	210	185	170	365	315	295	285	250	235	-	-	-
	2	-	-	-	-	-	-	175	150	130	225	205	185	240	210	170	-	-	-
	3	-	-	-	-	-	-	160	135	110	205	185	165	220	190	150	-	-	-
	4	-	-	-	-	-	-	145	120	95	150	140	130	195	165	130	-	-	-
	5	-	-	-	-	-	-	120	110	95	210	185	170	165	150	130	135	115	95
	6	-	-	-	-	-	-	105	80	65	130	110	100	145	110	90	120	90	65
M	1	-	-	-	-	-	-	135	120	110	165	150	125	190	165	150	170	135	110
	2	-	-	-	-	-	-	125	105	90	150	130	110	170	145	120	145	115	95
	3	-	-	-	-	-	-	90	80	65	115	105	90	125	110	90	115	90	70
K	1	-	-	-	215	195	170	-	-	-	235	210	190	-	-	-	-	-	-
	2	-	-	-	170	150	140	-	-	-	190	170	150	-	-	-	-	-	-
	3	-	-	-	140	130	115	-	-	-	155	140	130	-	-	-	-	-	-
N	1	1170	1035	840	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	1035	955	730	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	1035	955	730	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	30	25	20	-	-	-	40	30	30	30	30	20
	2	-	-	-	-	-	-	30	25	20	-	-	-	40	30	30	30	30	20
	3	-	-	-	-	-	-	35	30	20	-	-	-	50	40	30	40	30	20
	4	-	-	-	-	-	-	45	35	25	55	40	25	65	50	30	50	40	25
H	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NOTE:

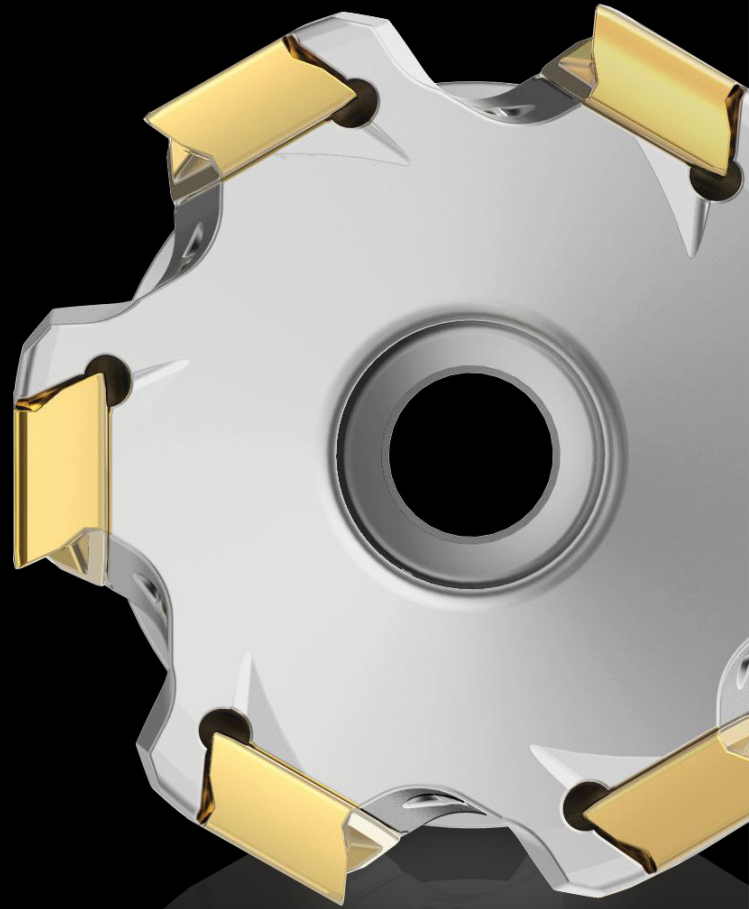
FIRST choice starting speeds are in **bold** type.

As the average chip thickness increases, the speed should be decreased.

Shoulder Milling

MILL 4-12^{KT}

TANGENTIAL SHOULDER MILLING



Industries



General
Engineering



Automotive



Oil & Gas



Wind & Solar

Applications



HANDLE SEVERELY INTERRUPTED CUTS WITH EASE

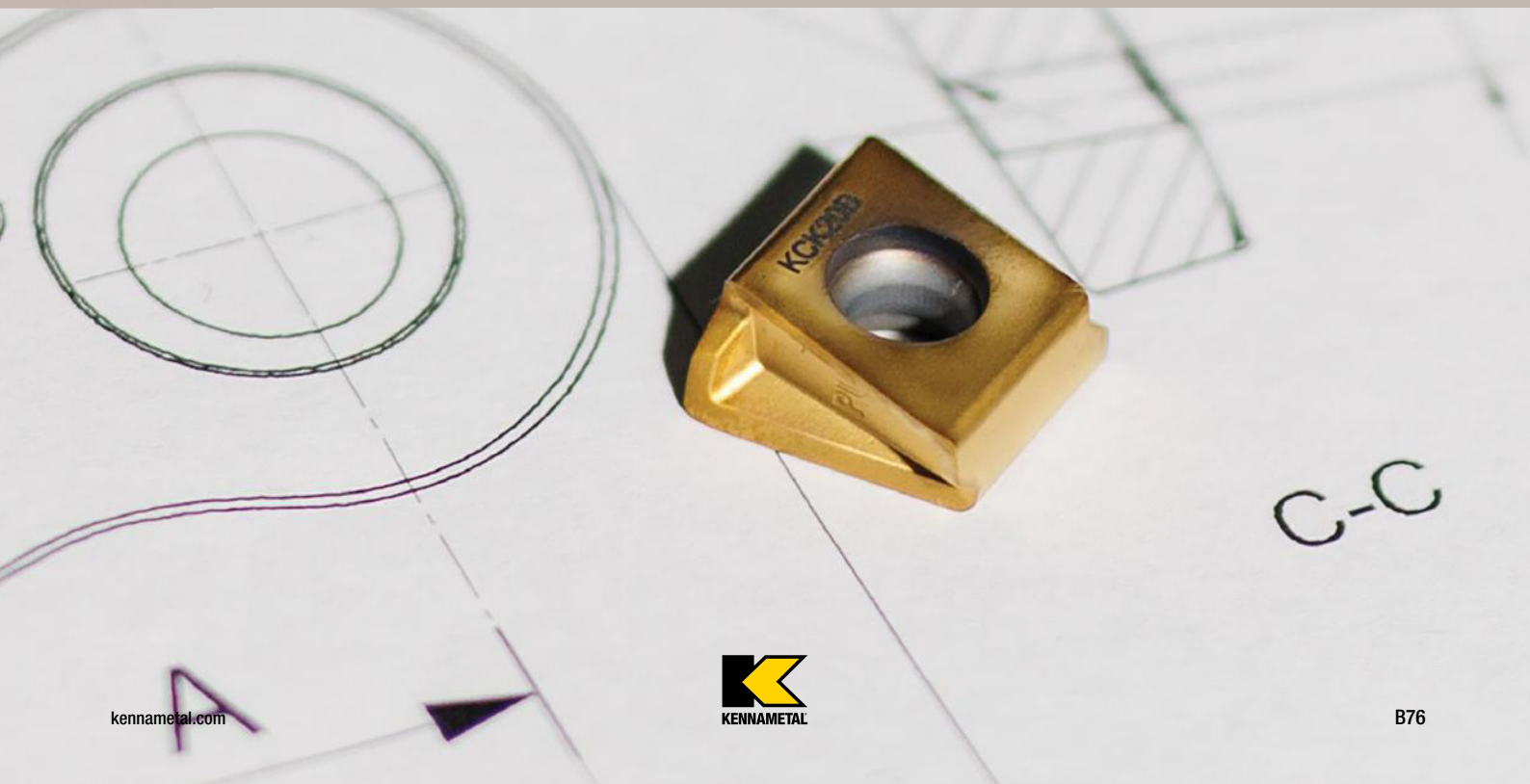
The strong cutting edge of the Mill 4-12^{KT} inserts was designed to overcome challenging applications, heavy cuts and the most severe interruptions. Even when cutting “Swiss cheese” holes, users experience no visible wear or chipping. If you have challenging applications to overcome, this tangential milling cutter is the way to go.

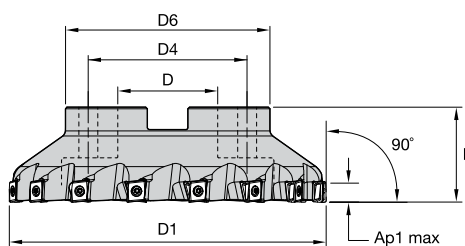


Explore Mill 4-12^{KT}

FEATURES AND BENEFITS

- Mill 4-12^{KT} requires up to 15% less horsepower, enabling increased feed rates, even on 40 taper machines
- The proprietary insert design, featuring a triangular shaped margin, provides unprecedented stability in steel and cast iron applications
- Excellent floor finishes due to minimal axial runout
- With 7 grades, 7 corner radii and depth-of-cut range up to .472" (12mm), the program offers versatility to cover many shoulder milling applications
- Fine pitch cutters for high productivity with low radial depth of cut (ae) when roughing and finishing in cast iron
- Reinforced HD geometry inserts provide higher stability and lower risk of breakage in heavy and interrupted cuts
- **NEW PSTS Inserts:** Precision pressed PU geometry for the lowest cost per cutting edge and strong cutting edges for higher productivity and increased MRR

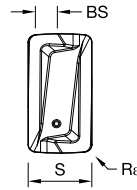
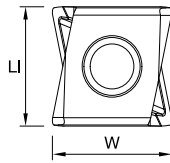




Mill 4-12KT • Shell Mill • Metric

Order Number	ISO Catalog Number	D1	D	D4	D6	L	Ap1 max	Z	max ramp angle	max RPM	kg
6524753	KT4D050Z04S22LN12	50	22	—	42	40	12,1	4	0.04	26000	0.29
6524769	KT4D050Z05S22LN12	50	22	—	42	40	12,1	5	0.04	26000	0.31
7009655	KT4D050Z06S22LN12	50	22	—	42	40	12,1	6	0.04	26000	0.31
6524755	KT4D063Z05S22LN12	63	22	—	50	40	12,2	5	0.03	22100	0.50
6524770	KT4D063Z06S22LN12	63	22	—	50	40	12,2	6	0.03	22100	0.49
7009656	KT4D063Z07S22LN12	63	22	—	49	40	12,2	7	0.03	22100	0.53
7009657	KT4D063Z08S22LN12	63	22	—	49	40	12,2	8	0.03	22100	0.52
6524757	KT4D080Z07S27LN12	80	27	—	60	50	12,2	7	0.02	19000	1.03
6524771	KT4D080Z08S27LN12	80	27	—	60	50	12,2	8	0.02	19000	1.05
7009658	KT4D080Z10S27LN12	80	27	—	60	50	12,2	10	0.02	19000	1.03
6524759	KT4D100Z09S32LN12	100	32	—	80	50	12,1	9	0.02	16600	1.68
6524772	KT4D100Z11S32LN12	100	32	—	80	50	12,1	11	0.02	16600	1.55
7009659	KT4D100Z12S32LN12	100	32	—	78	50	12,1	12	0.02	16600	1.86
6524761	KT4D125Z11S40LN12	125	40	—	97	63	12,1	11	0.01	14600	2.96
6524773	KT4D125Z14S40LN12	125	40	—	97	63	12,1	14	0.01	14600	2.96
7009660	KT4D125Z16S40LN12	125	40	—	89	63	12,1	16	0.01	14600	3.13
6524763	KT4D160Z12S40LN12	160	40	66,7	90	63	12,1	12	0.01	12700	3.27
7009751	KT4D160Z18S40LN12	160	40	66,7	90	63	12,1	18	0.01	12700	3.38
6524765	KT4D200Z16S60LN12	200	60	101,6	130	63	12,1	16	0.01	11200	7.50

INDEXABLE MILLING

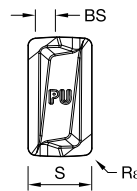
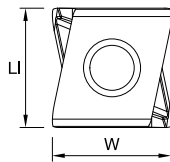


	KC522M	KC725M	KCK15	KCK20B	KCPK30	KCPM40	KCSM40
P	●	●	○	○	○	○	○
M	●	●	○	○	○	○	○
K	○	○	●	●	○	○	○
N	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○

Mill 4-12KT • Carbide Insert • LNGQ-GE
Light Machining

● Primary
○ Secondary

ISO Catalog Number	LI	W	L10	S	R _c	BS	hm	Cutting Edges	KC522M	KC725M	KCK15	KCK20B	KCPK30	KCPM40	KCSM40
LNGQ120604ERGEKT4	13.00	13.50	8.00	6.35	0.40	2.61	0.05	4	6525558	—	6525559	6969931	—	6525691	—
LNGQ120608ERGEKT4	13.00	13.39	8.00	6.35	0.80	2.23	0.05	4	6525750	6525756	6525751	6969918	6525753	6525754	6525755
LNGQ120612ERGEKT4	13.00	13.26	7.99	6.35	1.19	1.83	0.05	4	6525744	—	6525745	6969919	6525747	6525748	6525749
LNGQ120616ERGEKT4	13.00	13.14	7.99	6.35	1.56	1.42	0.05	4	6525714	6525720	6525715	6969920	6525717	6525718	6525719
LNGQ120620ERGEKT4	13.00	13.02	7.99	6.35	1.98	0.04	0.05	4	6525698	—	—	6969932	6525711	6525712	6525713
LNGQ120624ERGEKT4	13.00	12.89	7.97	6.35	2.38	0.56	0.05	4	—	—	—	—	6525695	6525696	—
LNGQ120631ERGEKT4	13.00	12.63	7.93	6.35	3.18	0.18	0.05	4	—	—	—	—	6525692	6525693	6525694

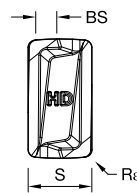
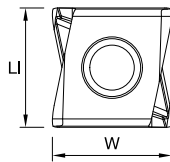


	KC522M	KC725M	KCK15	KCK20B	KCPK30	KCPM40	KCSM40
P	●	●	○	○	○	○	○
M	●	●	○	○	○	○	○
K	○	○	●	●	○	○	○
N	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○

Mill 4-12KT • Carbide Insert • LNPQ-PU
Medium Machining

● Primary
○ Secondary

ISO Catalog Number	LI	W	S	R _c	BS	Cutting Edges	KC522M	KC725M	KCK20B	KCPK30	KCPM40	KCSM40
LNPQ120608ERPUKT4	13.15	13.00	6.35	0.80	2.19	4	7159710	7159921	7159922	7159708	7159709	7159923



	KC522M	KC725M	KCK15	KCK20B	KCPK30	KCPM40	KCSM40
P	●	●	○	○	○	○	○
M	●	●	○	○	○	○	○
K	○	○	●	●	○	○	○
N	○	○	○	○	○	○	○
S	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○

Mill 4-12KT • Carbide Insert • LNGQ-HD
Heavy Machining

● Primary
○ Secondary

ISO Catalog Number	LI	W	S	R _c	BS	hm	Cutting Edges	KC522M	KC725M	KCK15	KCK20B	KCPK30	KCPM40	KCSM40
LNGQ120608ERHDKT4	13.00	13.15	6.35	0.80	2.10	0.05	4	7009748	7009767	7009749	7009750	7009761	7009765	7009766
LNGQ120616ERHDKT4	13.00	13.00	6.35	1.56	1.42	0.05	4	—	7151500	—	7151511	7151496	7151498	7151499

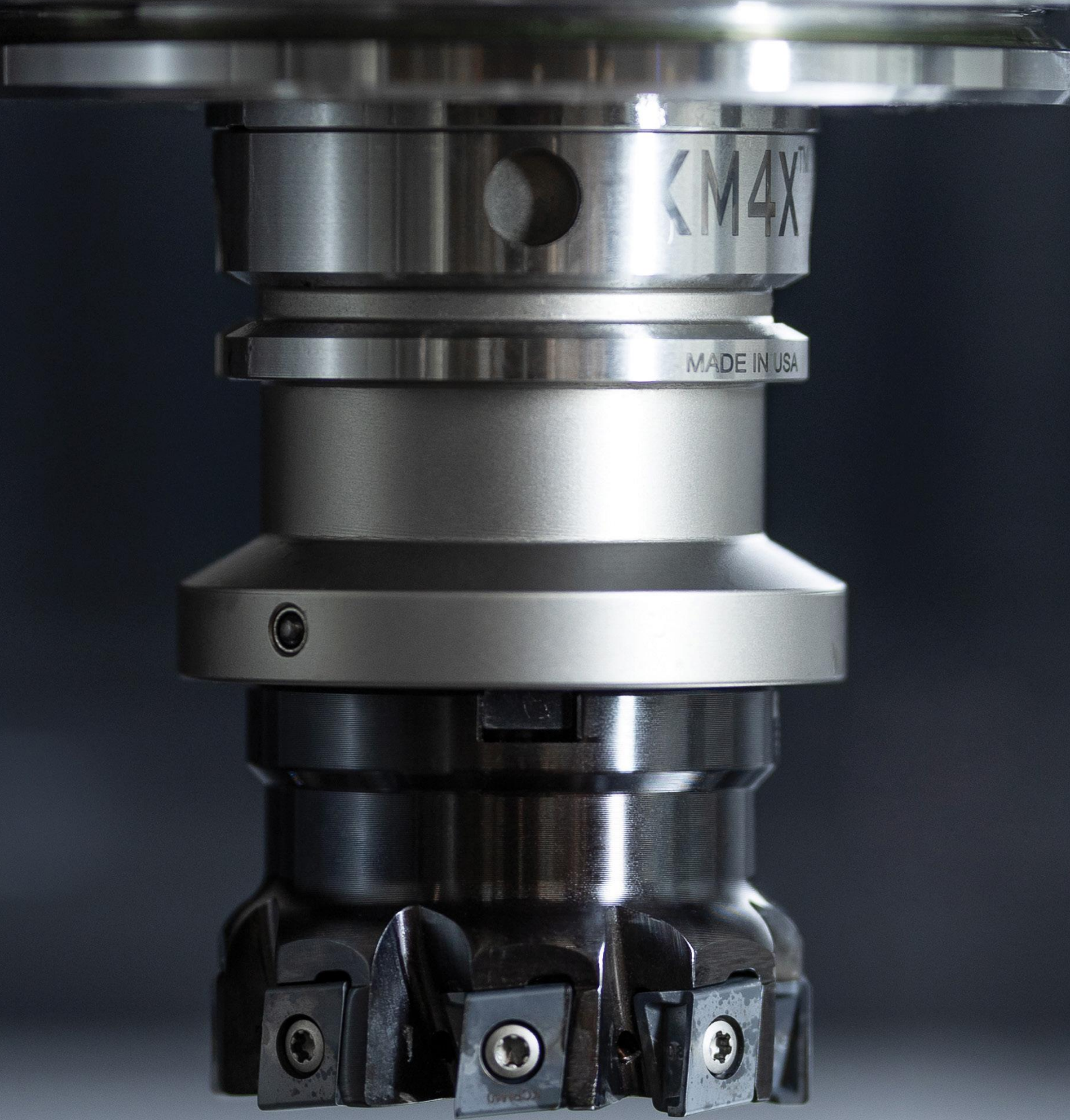
SHOULDER MILLING • MILL 4-12^{KT} - RECOMMENDED STARTING FEEDS

Feed Rates [mm]

Light Machining	General Purpose	Heavy Machining
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Insert Geometry	Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
.E..GE	0.12	0.33	-	0.09	0.25	-	0.08	0.22	-	0.07	0.2	-	0.07	0.2	-	.E..GE
.E..PU	0.15	0.35	0.45	0.12	0.3	0.4	0.1	0.25	0.35	0.08	0.2	0.33	0.08	0.2	0.3	.E..PU
.E..HD	-	0.35	0.55	-	0.3	0.44	-	0.25	0.38	-	0.2	0.36	-	0.2	0.35	.E..HD

INDEXABLE MILLING



KM4X™

MADE IN USA

Copy Milling

7792 HIGH-FEED SERIES

INDEXABLE MILLING

Materials



Explore 7792
High-Feed Series

Industries



Automotive



General
Engineering



Oil & Gas



Aerospace



Medical



Wind & Solar

Applications



The 7792 cutter series has been designed for high-feed milling applications with superior surface generation. 7792VX cutters are engineered for a wide range of applications, including facing, pocketing, ramping, helical interpolation and plunging. They are capable of machining all materials, including steel, stainless steels, cast iron, high-temp alloys and aluminum alloys.





7792VXP06:

Maximum a_p = 0,9mm

Diameter Range = 16-35mm

7792VXD09:

Maximum a_p = 1,50mm

Diameter Range = 25–66mm

7792VXD12:

Maximum a_p = 2,50mm

Diameter Range = 32–160mm

7792VXE16:

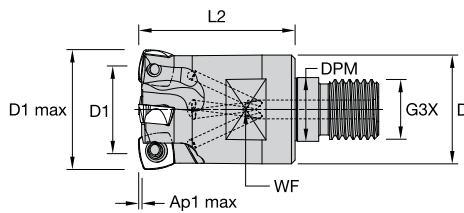
Maximum a_p = 3,50mm

Diameter Range = 40-160 mm

The 7792VX high-feed cutters are the best solution for reducing cycle times or removing the maximum amount of material in the shortest time.

NEW ULTRA-FINE PITCH CUTTERS FURTHER INCREASE METAL REMOVAL RATES, ESPECIALLY IN HIGH-TEMP ALLOYS.

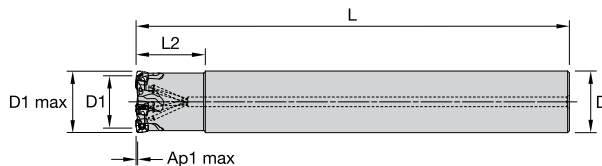
- The unique design and insert positioning help to achieve up to 5X higher feed rates than other cutters on the market
- When used in long (extended) toolholders, 7792VX cutters absorb vibrations and greatly reduce instability and tool deflection
- Integrated wiper facet for improved surface finish: 16 Ra (1,6 μ) when used at <0,5mm/z



7792VXP06 Series • End Mill • Screw-On • Metric

Order Number	ISO Catalog Number	D1	D1 max	D	DPM	WF	G3X	L	L2	Ap1 max	Z	max ramp angle	max RPM	kg
5681105	7792VXP06SA016Z2R25	7	16,0	13	8,50	11,00	M8	43	25	0,9	2	5.94	65000	0.03
5681122	7792VXP06SA020Z3R35	12	20,0	18	10,50	15,00	M10	54	35	0,9	3	3.42	57000	0.06
5667023	7792VXP06SA025Z4R35	16	25,0	21	12,50	18,00	M12	57	35	0,9	4	2.23	49000	0.09
5665964	7792VXP06SA025Z3R35	17	25,0	21	12,50	18,00	M12	57	35	0,9	3	2.84	49000	0.09

INDEXABLE MILLING



7792VXP06 Series • End Mill • Cylindrical Shank • Metric

Order Number	ISO Catalog Number	D1	D1 max	D	L	L2	Ap1 max	Z	max ramp angle	max RPM	kg
5673240	7792VXP06CA016Z2R140	8	16,0	16	188	25	0,9	2	5.94	65000	0.26
5673237	7792VXP06CA020Z3R154	11	20,0	20	200	32	0,9	3	3.42	57000	0.44
5666409	7792VXP06CA025Z4R154	16	25,0	25	210	40	0,9	4	2.23	48500	0.74

COPY MILLING • KSR 7792VXP06 SERIES - RECOMMENDED STARTING FEEDS

Recommended Starting Feeds [mm] • High-Feed

Light Machining	General Purpose	Heavy Machining
-----------------	-----------------	-----------------

At 0,90 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..D41	0,37	1,06	1,89	0,27	0,73	1,24	0,20	0,53	0,89	0,17	0,46	0,77	0,16	0,42	0,70	.E..D41
.S..D	0,68	1,46	2,35	0,48	0,98	1,49	0,36	0,71	1,07	0,31	0,62	0,92	0,28	0,56	0,84	.S..D

At 0,70 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..D41	0,42	1,21	2,20	0,30	0,83	1,41	0,22	0,60	1,01	0,19	0,52	0,87	0,18	0,48	0,79	.E..D41
.S..D	0,78	1,68	2,79	0,55	1,12	1,71	0,40	0,81	1,21	0,35	0,70	1,04	0,32	0,64	0,94	.S..D

At 0,60 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..D41	0,46	1,32	2,43	0,32	0,89	1,53	0,24	0,65	1,09	0,21	0,56	0,94	0,19	0,52	0,85	.E..D41
.S..D	0,84	1,84	3,12	0,59	1,21	1,85	0,43	0,87	1,30	0,38	0,75	1,12	0,34	0,69	1,02	.S..D

Feed Rate Guide • Plunging • IC 06 • fz [mm/tooth]

Insert Geometry	Programmed Feed per Tooth (fz)				Insert Geometry
	Max 6mm insert engagement (ae radial engagement)				
.E..D41	0,06		0,15		.E..D41
.S..D	0,10		0,20		.S..D

INDEXABLE MILLING

Recommended Starting Speeds for Dry Machining • Metric

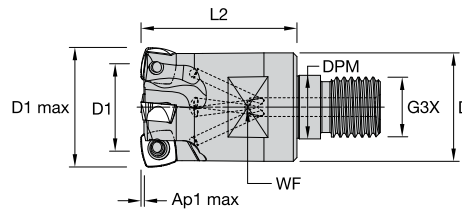
Material Group		KCSM40			SC6525			SP6519			X400			X500		
P	1	275	240	205	445	305	170	355	260	155	310	230	145	325	240	155
	2	240	205	160	390	270	145	310	230	140	275	205	125	290	215	140
	3	205	180	160	350	240	125	275	200	120	240	180	115	250	185	120
	4	180	160	145	250	175	95	210	150	90	180	130	85	190	145	90
	5	160	145	125	190	145	95	170	125	85	-	-	-	155	120	85
	6	125	110	90	170	120	70	145	100	60	-	-	-	130	95	60
M	1	275	220	180	240	215	170	325	235	140	-	-	-	300	220	140
	2	180	145	125	230	190	145	280	205	125	-	-	-	265	190	120
	3	145	125	110	175	155	110	235	170	100	-	-	-	215	155	95
K	1	-	-	-	470	325	175	355	265	170	-	-	-	310	265	205
	2	-	-	-	365	250	140	290	210	130	-	-	-	265	215	155
	3	-	-	-	-	-	-	265	190	120	-	-	-	205	170	120
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	-	-	-	-	-	-	115	85	55	-	-	-
	2	-	-	-	-	-	-	-	-	-	95	70	40	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

Recommended Starting Speeds for Wet Machining • Metric

Material Group		KCSM40			SC6525			SP6519			X400			X500		
P	1	-	-	-	445	305	170	285	210	125	250	185	115	260	190	125
	2	-	-	-	390	270	145	250	185	110	220	165	100	230	170	110
	3	-	-	-	350	240	125	220	160	95	190	145	90	200	150	95
	4	-	-	-	250	175	95	170	120	70	145	105	70	150	115	70
	5	165	140	115	190	145	95	135	100	70	-	-	-	125	95	70
	6	145	105	75	170	120	70	115	80	50	-	-	-	105	75	50
M	1	200	165	135	240	215	170	260	190	110	-	-	-	240	175	110
	2	170	140	115	230	190	145	225	165	100	-	-	-	210	150	95
	3	140	105	80	175	155	110	190	135	80	-	-	-	170	125	75
K	1	-	-	-	470	325	175	285	210	135	-	-	-	250	210	165
	2	-	-	-	365	250	140	230	170	105	-	-	-	210	170	125
	3	-	-	-	-	-	-	210	150	95	-	-	-	165	135	95
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	40	30	25	-	-	-	50	40	25	-	-	-	50	30	25
	2	40	30	25	-	-	-	50	30	20	-	-	-	45	30	20
	3	50	40	25	-	-	-	50	40	25	-	-	-	50	40	25
	4	55	50	30	-	-	-	75	55	35	-	-	-	70	50	30
H	1	-	-	-	-	-	-	-	-	-	90	70	45	-	-	-
	2	-	-	-	-	-	-	-	-	-	75	55	30	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

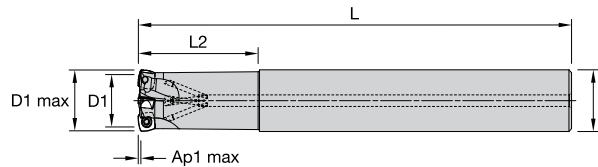
NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.



7792VXD09 Series • End Mill • Screw-On • Metric

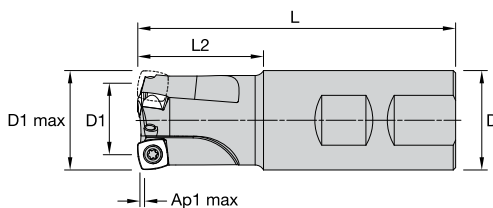
Order Number	ISO Catalog Number	D1	D1 max	D	DPM	WF	G3X	L	L2	Ap1 max	Z	max ramp angle	max RPM	kg
5667916	7792VXD09SA025Z2R35	12	25,0	21	12,50	18,00	M12	57	35	1,5	2	2.80	48500	0.09
6024361	7792VXD09SA025Z3R35	12	25,0	21	12,50	18,00	M12	57	35	1,5	3	2.80	48500	0.09
5660448	7792VXD09SA032Z3R43	19	32,0	29	17,00	24,00	M16	66	43	1,5	3	1.50	40500	0.19
6024362	7792VXD09SA032Z4R43	19	32,0	29	17,00	24,00	M16	66	43	1,5	4	1.50	40500	0.21
6024363	7792VXD09SA035Z4R43	22	35,0	29	17,00	24,00	M16	66	43	1,5	4	1.33	37500	0.22
6024365	7792VXD09SA042Z5R43	29	42,0	29	17,00	24,00	M16	66	43	1,5	5	1.00	34000	0.27

INDEXABLE MILLING



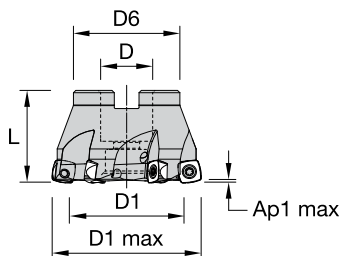
7792VXD09 Series • End Mill • Cylindrical Shank • Metric

Order Number	ISO Catalog Number	D1	D1 max	D	L	L2	Ap1 max	Z	max ramp angle	max RPM	kg
5659947	7792VXD09CA025Z2R50	12	25,0	25	200	50	1,5	2	2.80	48500	0.67
6024366	7792VXD09CA025Z3R50	12	25,0	25	200	50	1,5	3	2.28	48500	0.67
5661016	7792VXD09CA032Z3R70	19	32,0	32	250	70	1,5	3	1.50	40500	1.41
6024367	7792VXD09CA032Z4R70	19	32,0	32	250	70	1,5	4	1.50	40500	1.43



7792VXD09 Series • End Mill • Weldon Shank • Metric

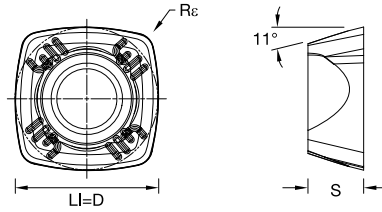
Order Number	ISO Catalog Number	D1	D1 max	D	L	L2	Ap1 max	Z	max ramp angle	max RPM	kg
5658074	7792VXD09WA032Z3R	19	32,0	32	100	40	1,5	3	1.50	40500	0.49



7792VXD09 Series • Shell Mill • Metric

Order Number	ISO Catalog Number	D1	D1 max	D	D6	L	Ap1 max	Z	max ramp angle	max RPM	kg
5657234	7792VXD09-A040Z4R	27	40,0	16	36	32	1,5	4	0.80	34500	0.14
5667475	7792VXD09-A040Z5R	27	40,0	16	36	32	1,5	5	0.80	34500	0.16
5656914	7792VXD09-A050Z5R	37	50,0	22	46	40	1,5	5	0.71	30000	0.31
6024368	7792VXD09-A050Z7R	37	50,0	22	45	40	1,5	7	0.71	30000	0.32
5656377	7792VXD09-A050Z6R	37	50,0	22	46	40	1,5	6	0.71	30000	0.32
6024369	7792VXD09-A052Z5R	39	52,0	22	45	40	1,5	5	1.30	29500	0.34
6024373	7792VXD09-A063Z6R	50	63,0	22	42	40	1,5	6	0.50	26000	0.47

INDEXABLE MILLING



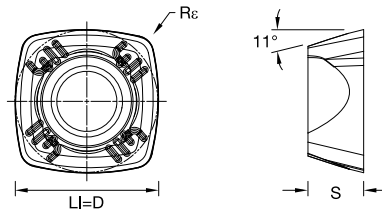
7792VXD09 Series • Carbide Insert • XDPT-D411
Light Machining

● Primary
○ Secondary

P	■	■	■	○
M	■	■	■	○
K	■	■	■	○
N	■	■	■	○
S	■	■	■	○
H	■	■	■	○

KCSM40

ISO Catalog Number	D	LI	S	Rε	hm	Cutting Edges	KCSM40
XDPT090412ERD411	9.53	9.53	4.76	1.20	0.05	4	6185922



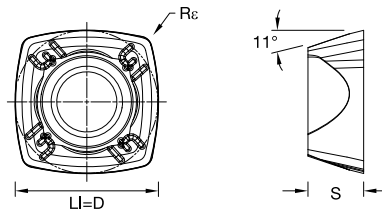
7792VXD09 Series • Carbide Insert • XDLT-D411
Light Machining

● Primary
○ Secondary

P	■	■	○	○
M	■	■	○	○
K	■	■	○	○
N	■	■	○	○
S	■	○	○	○
H	■	○	○	○

SP6519
X500

ISO Catalog Number	D	LI	S	Rε	hm	Cutting Edges	SP6519	X500
XDLT090412ERD411	9.53	9.53	4.75	1.19	0.05	4	5652249	5655172



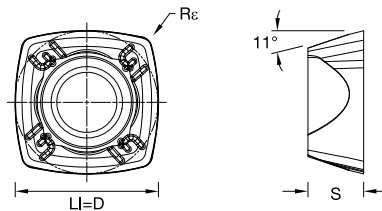
7792VXD09 Series • Carbide Insert • XDPT-D41
Medium Machining

● Primary
○ Secondary

P	■	■	○	○
M	■	■	○	○
K	■	■	○	○
N	■	○	○	○
S	○	○	○	○
H	○	○	○	○

KCSM40
SP6519
X500

ISO Catalog Number	D	LI	S	Rε	hm	Cutting Edges	KCSM40	SP6519	X500
XDPT090408ERD41	9.53	9.53	4.76	0.80	0.05	4	6185921	6010730	6010729



7792VXD09 Series • Carbide Insert • XDLT-D41
Medium Machining

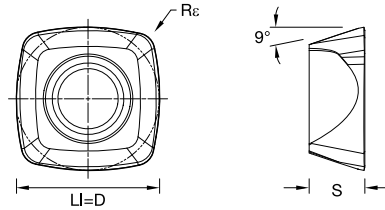
● Primary
○ Secondary

P	■	○	○	○
M	■	○	○	○
K	■	○	○	○
N	■	○	○	○
S	○	○	○	○
H	○	○	○	○

SP6519
X500

ISO Catalog Number	D	LI	S	Rε	hm	Cutting Edges	SP6519	X500
XDLT090408ERD41	9.53	9.53	4.76	0.80	0.05	4	5652490	5654896

INDEXABLE MILLING



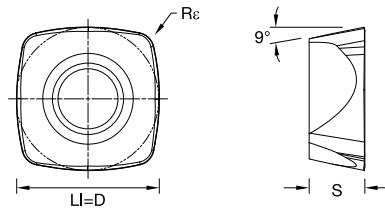
		KC522M	KCPK30	KCPM40
P	○	○	○	○
M	●	○	○	○
K	○	○	○	○
N	○	○	○	○
S	○	○	○	○
H	○	○	○	○

● Primary
○ Secondary

7792VXD09 Series • Carbide Insert • XDPT-GP

Heavy Machining

ISO Catalog Number	D	LI	S	Rc	hm	Cutting Edges	KC522M	KCPK30	KCPM40
XDPT090412SRGP	9.53	9.53	4.76	1.20	0.22	4	6191645	6191643	6191642



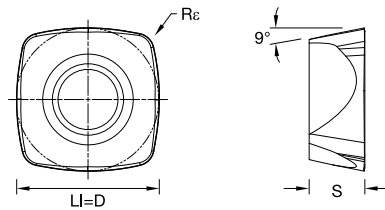
		KC522M	KCPM40
P	○	○	○
M	●	○	○
K	○	○	○
N	○	○	○
S	○	○	○
H	○	○	○

● Primary
○ Secondary

7792VXD09 Series • Carbide Insert • XDPW-D

Heavy Machining

ISO Catalog Number	D	LI	S	Rc	hm	Cutting Edges	KC522M	KCPM40
XDPW090412SRD	9.53	9.52	4.76	1.20	0.10	4	6187538	6187535



		X400	X500
P	○	○	○
M	●	○	○
K	○	○	○
N	○	○	○
S	○	○	○
H	○	○	○

● Primary
○ Secondary

7792VXD09 Series • Carbide Insert • XDLW-D

Heavy Machining

ISO Catalog Number	D	LI	S	Rc	hm	Cutting Edges	X400	X500
XDLW090408SRD	9.53	9.53	4.76	0.80	0.10	4	5652239	5651222

COPY MILLING • KSR 7792VXD09 SERIES - RECOMMENDED STARTING FEEDS

Recommended Starting Feeds [mm] • High-Feed

Light Machining	General Purpose	Heavy Machining
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At 1,50 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..D721	0,30	0,96	1,69	0,22	0,68	1,18	0,16	0,51	0,87	0,14	0,44	0,75	0,13	0,40	0,69	.E..D721
.E..D41	0,38	1,10	1,69	0,27	0,78	1,18	0,20	0,58	0,87	0,18	0,50	0,75	0,16	0,46	0,69	.E..D41
.E..D411	0,38	1,10	1,69	0,27	0,78	1,18	0,20	0,58	0,87	0,18	0,50	0,75	0,16	0,46	0,69	.E..D411
.S..D	0,55	1,21	1,99	0,39	0,86	1,38	0,29	0,63	1,01	0,25	0,55	0,88	0,23	0,50	0,80	.S..D
.S..GP	0,55	1,22	2,01	0,39	0,86	1,39	0,29	0,64	1,02	0,25	0,55	0,89	0,23	0,51	0,81	.S..GP

At 1,10 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..D721	0,35	1,12	1,98	0,25	0,79	1,37	0,19	0,59	1,01	0,16	0,51	0,87	0,15	0,47	0,80	.E..D721
.E..D41	0,44	1,28	1,98	0,32	0,90	1,37	0,24	0,67	1,01	0,21	0,58	0,87	0,19	0,53	0,80	.E..D41
.E..D411	0,44	1,28	1,98	0,32	0,90	1,37	0,24	0,67	1,01	0,21	0,58	0,87	0,19	0,53	0,80	.E..D411
.S..D	0,64	1,42	2,35	0,45	1,00	1,61	0,34	0,74	1,18	0,30	0,64	1,02	0,27	0,59	0,93	.S..D
.S..GP	0,64	1,42	2,37	0,45	1,00	1,63	0,34	0,74	1,19	0,30	0,64	1,03	0,27	0,59	0,94	.S..GP

At 0,90 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..D721	0,39	1,24	2,20	0,28	0,88	1,52	0,21	0,65	1,11	0,18	0,56	0,96	0,17	0,52	0,88	.E..D721
.E..D41	0,48	1,42	2,20	0,35	1,00	1,52	0,26	0,74	1,11	0,23	0,64	0,96	0,21	0,59	0,88	.E..D41
.E..D411	0,48	1,42	2,20	0,35	1,00	1,52	0,26	0,74	1,11	0,23	0,64	0,96	0,21	0,59	0,88	.E..D411
.S..D	0,70	1,57	2,61	0,50	1,10	1,78	0,37	0,81	1,30	0,33	0,71	1,12	0,30	0,64	1,03	.S..D
.S..GP	0,70	1,58	2,65	0,50	1,11	1,80	0,37	0,82	1,31	0,33	0,71	1,14	0,30	0,65	1,04	.S..GP

Feed Rate Guide • Plunging • IC 09 • fz [mm/tooth]

Insert Geometry	Programmed Feed per Tooth (fz)			Insert Geometry
	Max 6mm insert engagement (ae radial engagement)			
.E..D721	0,06			.E..D721
.E..D41	0,07			.E..D41
.E..D411	0,07			.E..D411
.S..D	0,10			.S..D
.S..GP	0,10			.S..GP

INDEXABLE MILLING

Recommended Starting Speeds for Dry Machining • Metric

Material Group		GH2			KC522M			KCPK30			KCPM40			KCSM40		
P	1	-	-	-	395	340	325	545	475	445	355	310	295	275	240	205
	2	-	-	-	330	290	240	335	305	275	300	260	215	240	205	160
	3	-	-	-	305	260	210	305	275	245	275	235	190	205	180	160
	4	-	-	-	270	220	180	230	210	190	245	205	160	180	160	145
	5	-	-	-	220	205	180	310	275	250	205	185	160	160	145	125
	6	-	-	-	200	150	120	190	160	-	180	140	110	125	110	90
M	1	-	-	-	245	215	200	245	220	185	235	205	185	275	220	180
	2	-	-	-	220	190	155	220	190	170	210	180	150	180	145	125
	3	-	-	-	170	145	115	175	155	140	155	140	110	145	125	110
K	1	300	220	145	275	245	220	355	320	290	-	-	-	-	-	-
	2	260	190	125	215	190	180	280	250	230	-	-	-	-	-	-
	3	220	175	120	180	160	145	235	210	190	-	-	-	-	-	-
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	145	110	85	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Material Group		SC3025			SC6525			SP6519			X400			X500		
P	1	-	-	-	445	305	170	355	260	155	310	230	145	325	240	155
	2	-	-	-	390	270	145	310	230	140	275	205	125	290	215	140
	3	-	-	-	350	240	125	275	200	120	240	180	115	250	185	120
	4	-	-	-	250	175	95	210	150	90	180	130	85	190	145	90
	5	-	-	-	190	145	95	170	125	85	-	-	-	155	120	85
	6	-	-	-	170	120	70	145	100	60	-	-	-	130	95	60
M	1	-	-	-	240	215	170	325	235	140	-	-	-	300	220	140
	2	-	-	-	230	190	145	280	205	125	-	-	-	265	190	120
	3	-	-	-	175	155	110	235	170	100	-	-	-	215	155	95
K	1	475	330	180	470	325	175	355	265	170	-	-	-	310	265	205
	2	400	275	145	365	250	140	290	210	130	-	-	-	265	215	155
	3	330	230	125	-	-	-	265	190	120	-	-	-	205	170	120
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	-	-	-	-	-	-	115	85	55	-	-	-
	2	-	-	-	-	-	-	-	-	-	95	70	40	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NOTE:
 FIRST choice starting speeds are in **bold** type.
 As the average chip thickness increases, the speed should be decreased.

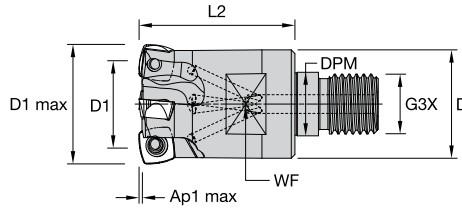
INDEXABLE MILLING

Recommended Starting Speeds for Wet Machining • Metric

INDEXABLE MILLING

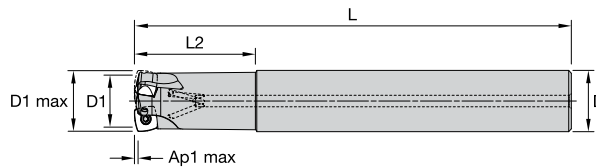
Material Group	GH2			KC522M			KCPK30			KCPM40			KCSM40			
P	1	-	-	-	315	270	260	435	380	355	285	250	235	-	-	-
	2	-	-	-	265	230	190	270	245	220	240	210	170	-	-	-
	3	-	-	-	245	210	170	245	220	195	220	190	150	-	-	-
	4	-	-	-	215	175	145	185	170	150	195	165	130	-	-	-
	5	-	-	-	175	165	145	250	220	200	165	150	130	165	140	115
	6	-	-	-	160	120	95	150	130	-	145	110	90	145	105	75
M	1	-	-	-	195	170	160	195	175	150	190	165	150	200	165	135
	2	-	-	-	175	150	125	175	150	135	170	145	120	170	140	115
	3	-	-	-	135	115	90	140	125	110	125	110	90	140	105	80
K	1	240	175	115	220	195	175	285	255	230	-	-	-	-	-	-
	2	210	150	100	170	150	145	225	200	185	-	-	-	-	-	-
	3	175	140	95	145	130	115	190	170	150	-	-	-	-	-	-
N	1	1150	910	385	-	-	-	-	-	-	-	-	-	-	-	-
	2	1150	910	385	-	-	-	-	-	-	-	-	-	-	-	-
	3	850	700	285	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	40	30	25	-	-	-	40	30	30	40	30	25
	2	-	-	-	40	30	25	-	-	-	40	30	30	40	30	25
	3	-	-	-	50	40	25	-	-	-	50	40	30	50	40	25
	4	-	-	-	70	50	30	65	50	30	65	50	30	55	50	30
H	1	-	-	-	115	90	70	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Material Group	SC3025			SC6525			SP6519			X400			X500			
P	1	355	245	135	445	305	170	285	210	125	250	185	115	260	190	125
	2	310	215	115	390	270	145	250	185	110	220	165	100	230	170	110
	3	280	190	100	350	240	125	220	160	95	190	145	90	200	150	95
	4	200	140	75	250	175	95	170	120	70	145	105	70	150	115	70
	5	150	115	75	190	145	95	135	100	70	-	-	-	125	95	70
	6	135	95	55	170	120	70	115	80	50	-	-	-	105	75	50
M	1	190	170	135	240	215	170	260	190	110	-	-	-	240	175	110
	2	185	150	115	230	190	145	225	165	100	-	-	-	210	150	95
	3	140	125	90	175	155	110	190	135	80	-	-	-	170	125	75
K	1	375	260	140	470	325	175	285	210	135	-	-	-	250	210	165
	2	290	200	110	365	250	140	230	170	105	-	-	-	210	170	125
	3	-	-	-	-	-	-	210	150	95	-	-	-	165	135	95
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	50	40	25	-	-	-	50	30	25
	2	-	-	-	-	-	-	50	30	20	-	-	-	45	30	20
	3	-	-	-	-	-	-	50	40	25	-	-	-	50	40	25
	4	-	-	-	-	-	-	75	55	35	-	-	-	70	50	30
H	1	-	-	-	-	-	-	-	-	-	90	70	45	-	-	-
	2	-	-	-	-	-	-	-	-	-	75	55	30	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NOTE:
 FIRST choice starting speeds are in **bold** type.
 As the average chip thickness increases, the speed should be decreased.



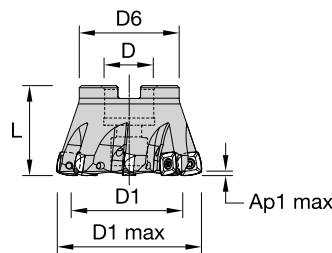
7792VXD12 Series • End Mill • Screw-On • Metric

Order Number	ISO Catalog Number	D1	D1 max	D	DPM	WF	G3X	L	L2	Ap1 max	Z	max ramp angle	max RPM	kg
6025280	7792VXD12SA032Z3R43	14	32,0	29	17,00	24,00	M16	66	43	2,5	3	1.80	31500	0.19



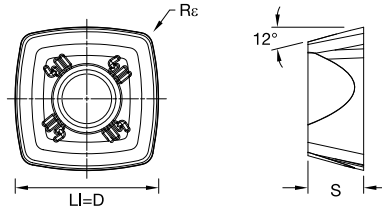
7792VXD12 Series • End Mill • Cylindrical Shank • Metric

Order Number	ISO Catalog Number	D1	D1 max	D	L	L2	Ap1 max	Z	max ramp angle	max RPM	kg
6025563	7792VXD12CA032Z3R70	14	32,0	32	250	70	2,5	3	1.80	32500	1.40



7792VXD12 Series • Shell Mill • Metric

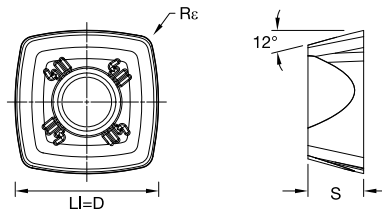
Order Number	ISO Catalog Number	D1	D1 max	D	D6	L	Ap1 max	Z	max ramp angle	max RPM	kg
6025272	7792VXD12-A040Z4R	22	40,0	22	38	40	2,5	4	1.44	26500	0.18
5673504	7792VXD12-A050Z4R	32	50,0	22	48	40	2,5	4	0.93	22500	0.30
6025273	7792VXD12-A050Z6R	32	50,0	22	45	40	2,5	6	0.93	22500	0.29
5666187	7792VXD12-A052Z4R	34	51,8	22	48	40	2,5	4	0.80	22000	0.30
5656383	7792VXD12-A052Z5R	34	51,8	22	48	40	2,5	5	0.80	22000	0.31
5656729	7792VXD12-A063Z4R	45	63,0	22	53	40	2,5	4	0.60	19500	0.47
5657235	7792VXD12-A063Z5R	45	63,0	22	53	40	2,5	5	0.60	19500	0.46
6025275	7792VXD12-A063Z7R	45	63,0	22	45	40	2,5	7	0.30	19500	0.46
5660065	7792VXD12-A066Z5R	48	66,0	27	58	45	2,5	5	0.45	19000	0.65
5656730	7792VXD12-A080Z5R	62	79,8	27	55	50	2,5	5	0.45	17000	0.90
5667478	7792VXD12-A080Z8R	62	80,0	27	55	50	2,5	8	0.45	17000	0.93
6025277	7792VXD12-A080Z10R	62	80,0	27	55	50	2,5	10	0.45	17000	0.93
5667834	7792VXD12-A100Z6R	82	100,0	32	82	50	2,5	6	0.32	15000	1.77
5666144	7792VXD12-A100Z9R	82	100,0	32	82	50	2,5	9	0.32	15000	1.77



7792VXD12 Series • Carbide Insert • XDPT-D411
Light Machining

		KCSM40	
P	●	●	●
M	●	●	●
K	●	●	●
N	●	●	●
S	●	●	●
H	○	○	○

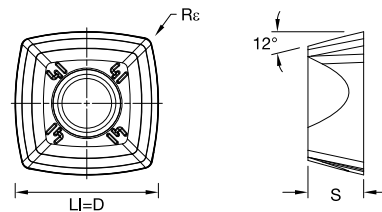
ISO Catalog Number	D	LI	S	Rc	hm	Cutting Edges	KCSM40
XDPT120512ERD411	12.70	12.70	5.56	1.20	0.05	4	6187808



7792VXD12 Series • Carbide Insert • XDLT-D411
Light Machining

		KCSM40	SP6519	X500
P	●	●	○	○
M	●	●	●	●
K	●	●	●	●
N	●	●	●	●
S	●	○	○	○
H	○	○	○	○

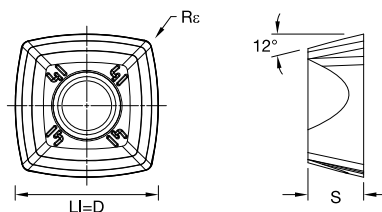
ISO Catalog Number	D	LI	S	Rc	hm	Cutting Edges	KCSM40	SP6519	X500
XDLT120512ERD411	12.70	12.70	5.56	1.19	0.05	4	6441068	5652899	5652248



7792VXD12 Series • Carbide Insert • XDPT-D41
Medium Machining

		KCSM40	SP6519	X500
P	●	●	○	○
M	●	●	●	●
K	●	●	●	●
N	●	●	●	●
S	●	○	○	○
H	○	○	○	○

ISO Catalog Number	D	LI	S	Rc	hm	Cutting Edges	KCSM40	SP6519	X500
XDPT120508ERD41	12.70	12.70	5.56	0.80	0.05	4	6187806	6010773	6010772

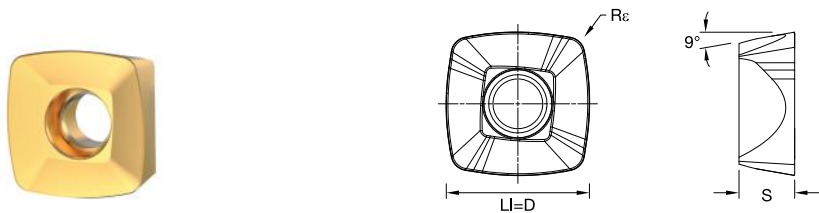


7792VXD12 Series • Carbide Insert • XDLT-D41
Medium Machining

		KCSM40	SP6519	X500
P	●	●	○	○
M	●	●	●	●
K	●	●	●	●
N	●	●	●	●
S	●	○	○	○
H	○	○	○	○

ISO Catalog Number	D	LI	S	Rc	hm	Cutting Edges	KCSM40	SP6519	X500
XDLT120508ERD41	12.70	12.70	5.56	0.80	0.05	4	6441067	5654220	5653930

INDEXABLE MILLING



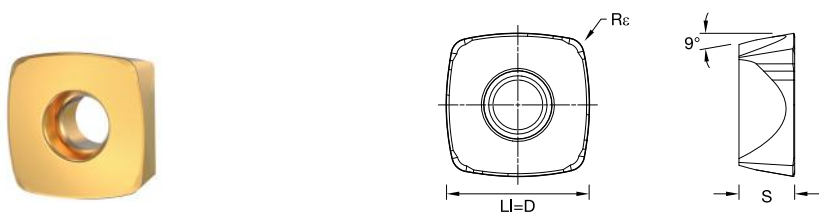
7792VXD12 Series • Carbide Insert • XDPT-GP

Heavy Machining

		KC522M	KCPK30	KCPM40
P	●	●	●	●
M	●	○	○	○
K	●	○	○	○
N	○	○	○	○
S	○	○	○	○
H	○	○	○	○

● Primary
○ Secondary

ISO Catalog Number	D	LI	S	Rε	hm	Cutting Edges	KC522M	KCPK30	KCPM40
XDPT120515SRGP	12.70	12.70	5.56	1.50	0.23	4	6074030	6074028	6074027



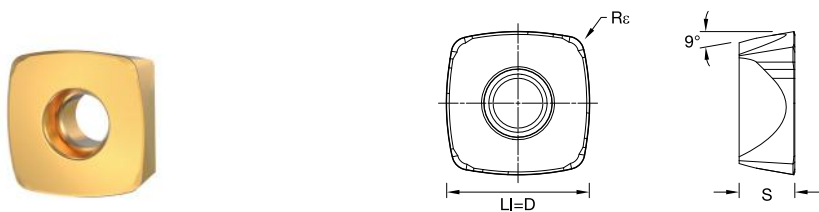
7792VXD12 Series • Carbide Insert • XDPW-D

Heavy Machining

		KC522M	KCPK30
P	●	●	●
M	●	○	○
K	●	○	○
N	○	○	○
S	○	○	○
H	○	○	○

● Primary
○ Secondary

ISO Catalog Number	D	LI	S	Rε	hm	Cutting Edges	KC522M	KCPK30
XDPW120515SRD	12.70	12.70	5.56	1.50	0.25	4	6033256	6033255



7792VXD12 Series • Carbide Insert • XDLW-D

Heavy Machining

		X400	X500
P	●	○	○
M	●	○	○
K	●	○	○
N	○	○	○
S	○	○	○
H	○	○	○

● Primary
○ Secondary

ISO Catalog Number	D	LI	S	Rε	hm	Cutting Edges	X400	X500
XDLW120508SRD	12.70	12.70	5.56	0.80	0.25	4	5651223	5655109

COPY MILLING • KSR 7792VXD12 SERIES - RECOMMENDED STARTING FEEDS

Recommended Starting Feeds [mm] • High-Feed

Light Machining	General Purpose	Heavy Machining
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At 2,50 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..D721	0,28	1,02	1,65	0,21	0,73	1,18	0,15	0,55	0,88	0,13	0,48	0,76	0,12	0,44	0,70	.E..D721
.E..D41	0,36	1,15	1,81	0,26	0,83	1,29	0,19	0,62	0,96	0,17	0,54	0,83	0,15	0,49	0,76	.E..D41
.E..D411	0,36	1,15	1,81	0,26	0,83	1,29	0,19	0,62	0,96	0,17	0,54	0,83	0,15	0,49	0,76	.E..D411
.S..GP	0,51	1,30	1,99	0,37	0,93	1,41	0,28	0,70	1,05	0,24	0,61	0,91	0,22	0,55	0,83	.S..GP
.S..D	0,51	1,30	1,95	0,37	0,93	1,38	0,28	0,70	1,03	0,24	0,61	0,89	0,22	0,55	0,82	.S..D

At 1,70 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..D721	0,34	1,23	2,00	0,25	0,88	1,42	0,19	0,66	1,05	0,16	0,57	0,92	0,15	0,52	0,84	.E..D721
.E..D41	0,43	1,39	2,20	0,31	0,99	1,56	0,23	0,74	1,15	0,20	0,64	1,00	0,19	0,59	0,92	.E..D41
.E..D411	0,43	1,39	2,20	0,31	0,99	1,56	0,23	0,74	1,15	0,20	0,64	1,00	0,19	0,59	0,92	.E..D411
.S..GP	0,62	1,57	2,41	0,45	1,12	1,70	0,33	0,84	1,26	0,29	0,73	1,10	0,27	0,67	1,00	.S..GP
.S..D	0,62	1,57	2,36	0,45	1,12	1,67	0,33	0,84	1,24	0,29	0,73	1,08	0,27	0,67	0,98	.S..D

At 1,30 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
.E..D721	0,39	1,41	2,29	0,28	1,01	1,62	0,21	0,75	1,20	0,18	0,65	1,04	0,17	0,60	0,96	.E..D721
.E..D41	0,49	1,59	2,52	0,35	1,13	1,78	0,26	0,84	1,31	0,23	0,73	1,14	0,21	0,67	1,04	.E..D41
.E..D411	0,49	1,59	2,52	0,35	1,13	1,78	0,26	0,84	1,31	0,23	0,73	1,14	0,21	0,67	1,04	.E..D411
.S..GP	0,70	1,80	2,76	0,51	1,28	1,94	0,38	0,95	1,44	0,33	0,83	1,25	0,30	0,76	1,14	.S..GP
.S..D	0,70	1,80	2,71	0,51	1,28	1,90	0,38	0,95	1,41	0,33	0,83	1,22	0,30	0,76	1,12	.S..D

Feed Rate Guide • Plunging • IC 12 • fz [mm/tooth]

Insert Geometry	Programmed Feed per Tooth (fz)					Insert Geometry
	Max 9mm insert engagement (ae radial engagement)					
.E..D721	0,06					.E..D721
.E..D41	0,07					.E..D41
.E..D411	0,07					.E..D411
.S..GP	0,10					.S..GP
.S..D	0,10					.S..D

INDEXABLE MILLING

Recommended Starting Speeds for Dry Machining • Metric

Material Group		GH2			KC522M			KCPK30			KCPM40			KCSM40		
P	1	-	-	-	395	340	325	545	475	445	355	310	295	275	240	205
	2	-	-	-	330	290	240	335	305	275	300	260	215	240	205	160
	3	-	-	-	305	260	210	305	275	245	275	235	190	205	180	160
	4	-	-	-	270	220	180	230	210	190	245	205	160	180	160	145
	5	-	-	-	220	205	180	310	275	250	205	185	160	160	145	125
	6	-	-	-	200	150	120	190	160	145	180	140	110	125	110	90
M	1	-	-	-	245	215	200	245	220	185	235	205	185	275	220	180
	2	-	-	-	220	190	155	220	190	170	210	180	150	180	145	125
	3	-	-	-	170	145	115	175	155	140	155	140	110	145	125	110
K	1	300	220	145	275	245	220	355	320	290	-	-	-	-	-	-
	2	260	190	125	215	190	180	280	250	230	-	-	-	-	-	-
	3	220	175	120	180	160	145	235	210	190	-	-	-	-	-	-
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	145	110	85	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Material Group		SC3025			SC6525			SP6519			X400			X500		
P	1	-	-	-	445	305	170	355	260	155	310	230	145	325	240	155
	2	-	-	-	390	270	145	310	230	140	275	205	125	290	215	140
	3	-	-	-	350	240	125	275	200	120	240	180	115	250	185	120
	4	-	-	-	250	175	95	210	150	90	180	130	85	190	145	90
	5	-	-	-	190	145	95	170	125	85	-	-	-	155	120	85
	6	-	-	-	170	120	70	145	100	60	-	-	-	130	95	60
M	1	-	-	-	240	215	170	325	235	140	-	-	-	300	220	140
	2	-	-	-	230	190	145	280	205	125	-	-	-	265	190	120
	3	-	-	-	175	155	110	235	170	100	-	-	-	215	155	95
K	1	475	330	180	470	325	175	355	265	170	-	-	-	310	265	205
	2	400	275	145	365	250	140	290	210	130	-	-	-	265	215	155
	3	330	230	125	-	-	-	265	190	120	-	-	-	205	170	120
N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	-	-	-	-	-	-	115	85	55	-	-	-
	2	-	-	-	-	-	-	-	-	-	95	70	40	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NOTE:
 FIRST choice starting speeds are in **bold** type.
 As the average chip thickness increases, the speed should be decreased.

INDEXABLE MILLING

Recommended Starting Speeds for Dry Machining • Metric

Material Group		KC422M			KC520M			KC522M			KC725M		
P	1	-	-	-	-	-	-	330	285	270	260	230	215
	2	-	-	-	-	-	-	275	240	200	220	190	160
	3	-	-	-	-	-	-	255	215	175	200	170	140
	4	-	-	-	-	-	-	225	185	150	180	150	120
	5	-	-	-	-	-	-	185	170	150	150	135	120
	6	-	-	-	-	-	-	165	125	100	130	100	80
M	1	-	-	-	-	-	-	205	180	165	170	150	135
	2	-	-	-	-	-	-	185	160	130	155	130	110
	3	-	-	-	-	-	-	140	120	95	115	100	80
K	1	-	-	-	270	245	215	230	205	185	-	-	-
	2	-	-	-	210	190	175	180	160	150	-	-	-
	3	-	-	-	175	160	145	150	135	120	-	-	-
N	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	-	-	-	120	90	70	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-
Material Group		KCK15			KCPK30			KCPM40			KCSM40		
P	1	-	-	-	455	395	370	295	260	245	260	230	215
	2	-	-	-	280	255	230	250	215	180	220	190	160
	3	-	-	-	255	230	205	230	195	160	200	170	140
	4	-	-	-	190	175	160	205	170	135	180	150	120
	5	-	-	-	260	230	210	170	155	135	150	135	120
	6	-	-	-	160	135	125	150	115	90	130	100	80
M	1	-	-	-	205	185	155	195	170	155	170	150	135
	2	-	-	-	185	160	140	175	150	125	155	130	110
	3	-	-	-	145	130	115	130	115	90	115	100	80
K	1	420	385	340	295	265	240	-	-	-	-	-	-
	2	335	295	275	235	210	190	-	-	-	-	-	-
	3	280	250	230	195	175	160	-	-	-	-	-	-
N	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-

*Recommended for wet machining only.

NOTE:
 FIRST choice starting speeds are in **bold** type.
 As the average chip thickness increases, the speed should be decreased.

INDEXABLE MILLING

Recommended Starting Speeds for Wet Machining • Metric

Material Group	GH2			KC522M			KCPK30			KCPM40			KCSM40			
P	1	–	–	–	315	270	260	435	380	355	285	250	235	–	–	–
	2	–	–	–	265	230	190	270	245	220	240	210	170	–	–	–
	3	–	–	–	245	210	170	245	220	195	220	190	150	–	–	–
	4	–	–	–	215	175	145	185	170	150	195	165	130	–	–	–
	5	–	–	–	175	165	145	250	220	200	165	150	130	165	140	115
	6	–	–	–	160	120	95	150	130	120	145	110	90	145	105	75
M	1	–	–	–	195	170	160	195	175	150	190	165	150	200	165	135
	2	–	–	–	175	150	125	175	150	135	170	145	120	170	140	115
	3	–	–	–	135	115	90	140	125	110	125	110	90	140	105	80
K	1	240	175	115	220	195	175	285	255	230	–	–	–	–	–	–
	2	210	150	100	170	150	145	225	200	185	–	–	–	–	–	–
	3	175	140	95	145	130	115	190	170	150	–	–	–	–	–	–
N	1	1150	910	385	–	–	–	–	–	–	–	–	–	–	–	–
	2	1150	910	385	–	–	–	–	–	–	–	–	–	–	–	–
	3	850	700	285	–	–	–	–	–	–	–	–	–	–	–	–
S	1	–	–	–	40	30	25	–	–	–	40	30	30	40	30	25
	2	–	–	–	40	30	25	–	–	–	40	30	30	40	30	25
	3	–	–	–	50	40	25	–	–	–	50	40	30	50	40	25
	4	–	–	–	70	50	30	65	50	30	65	50	30	55	50	30
H	1	–	–	–	115	90	70	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Material Group	SC3025			SC6525			SP6519			X400			X500			
P	1	355	245	135	445	305	170	285	210	125	250	185	115	260	190	125
	2	310	215	115	390	270	145	250	185	110	220	165	100	230	170	110
	3	280	190	100	350	240	125	220	160	95	190	145	90	200	150	95
	4	200	140	75	250	175	95	170	120	70	145	105	70	150	115	70
	5	150	115	75	190	145	95	135	100	70	–	–	–	125	95	70
	6	135	95	55	170	120	70	115	80	50	–	–	–	105	75	50
M	1	190	170	135	240	215	170	260	190	110	–	–	–	240	175	110
	2	185	150	115	230	190	145	225	165	100	–	–	–	210	150	95
	3	140	125	90	175	155	110	190	135	80	–	–	–	170	125	75
K	1	375	260	140	470	325	175	285	210	135	–	–	–	250	210	165
	2	290	200	110	365	250	140	230	170	105	–	–	–	210	170	125
	3	–	–	–	–	–	–	210	150	95	–	–	–	165	135	95
N	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
S	1	–	–	–	–	–	–	50	40	25	–	–	–	50	30	25
	2	–	–	–	–	–	–	50	30	20	–	–	–	45	30	20
	3	–	–	–	–	–	–	50	40	25	–	–	–	50	40	25
	4	–	–	–	–	–	–	75	55	35	–	–	–	70	50	30
H	1	–	–	–	–	–	–	–	–	–	90	70	45	–	–	–
	2	–	–	–	–	–	–	–	–	–	75	55	30	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

NOTE:
 FIRST choice starting speeds are in **bold** type.
 As the average chip thickness increases, the speed should be decreased.

INDEXABLE MILLING

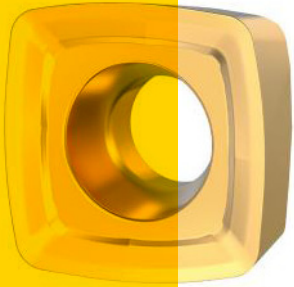


Recommended Starting Speeds for Wet Machining • Metric

INDEXABLE MILLING

Material Group		KC422M			KC520M			KC522M			KC725M		
P	1	–	–	–	–	–	–	265	230	215	210	185	170
	2	–	–	–	–	–	–	220	190	160	175	150	130
	3	–	–	–	–	–	–	205	170	140	160	135	110
	4	–	–	–	–	–	–	180	150	120	145	120	95
	5	–	–	–	–	–	–	150	135	120	120	110	95
	6	–	–	–	–	–	–	130	100	80	105	80	65
M	1	–	–	–	–	–	–	165	145	130	135	120	110
	2	–	–	–	–	–	–	150	130	105	125	105	90
	3	–	–	–	–	–	–	110	95	75	90	80	65
K	1	–	–	–	215	195	170	185	165	150	–	–	–
	2	–	–	–	170	150	140	145	130	120	–	–	–
	3	–	–	–	140	130	115	120	110	95	–	–	–
N	1	860	755	700	–	–	–	–	–	–	–	–	–
	2	755	700	610	–	–	–	–	–	–	–	–	–
	3	755	700	610	–	–	–	–	–	–	–	–	–
S	1	–	–	–	–	–	–	30	30	20	30	25	20
	2	–	–	–	–	–	–	30	30	20	30	25	20
	3	–	–	–	–	–	–	40	30	20	35	30	20
	4	–	–	–	–	–	–	55	40	30	45	35	25
H	1	–	–	–	–	–	–	95	70	55	–	–	–
	2	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–
Material Group		KCK15			KCPK30			KCPM40			KCSM40		
P	1	–	–	–	365	315	295	285	250	235	–	–	–
	2	–	–	–	225	205	185	240	210	170	–	–	–
	3	–	–	–	205	185	165	220	190	150	–	–	–
	4	–	–	–	150	140	130	195	165	130	–	–	–
	5	–	–	–	210	185	170	165	150	130	135	115	95
	6	–	–	–	130	110	100	145	110	90	120	90	65
M	1	–	–	–	165	150	125	190	165	150	170	135	110
	2	–	–	–	150	130	110	170	145	120	145	115	95
	3	–	–	–	115	105	90	125	110	90	115	90	70
K	1	335	310	270	235	210	190	–	–	–	–	–	–
	2	270	235	220	190	170	150	–	–	–	–	–	–
	3	225	200	185	155	140	130	–	–	–	–	–	–
N	1	–	–	–	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–
S	1	–	–	–	–	–	–	40	30	30	30	30	20
	2	–	–	–	–	–	–	40	30	30	30	30	20
	3	–	–	–	–	–	–	50	40	30	40	30	20
	4	–	–	–	55	40	25	65	50	30	50	40	25
H	1	–	–	–	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–

NOTE:
 FIRST choice starting speeds are in **bold** type.
 As the average chip thickness increases, the speed should be decreased.



Copy Milling

7713VR SERIES

ROUND INSERT MILLING CUTTER WITH INDEXATION



Explore
7713VR Series

Materials



Industries



Aerospace

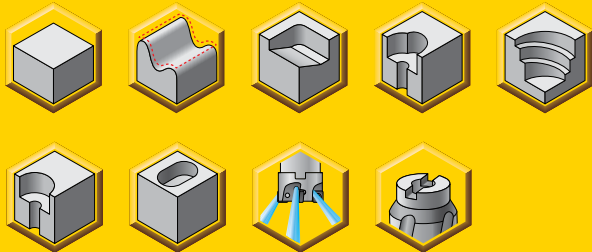


Oil & Gas

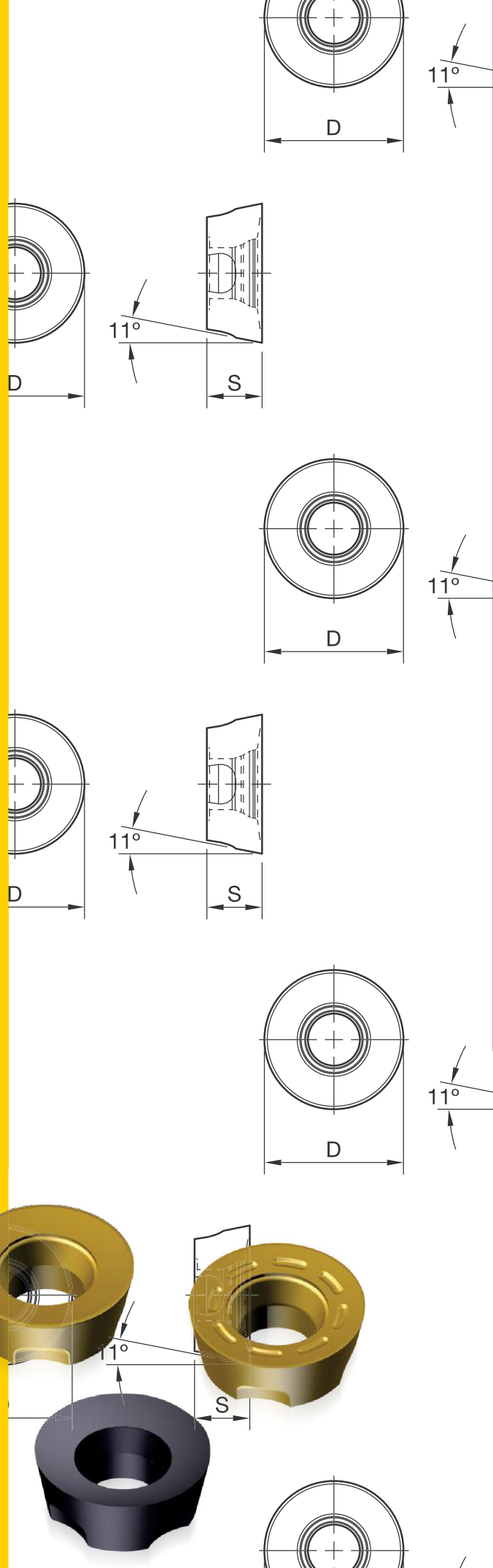


General
Engineering

Applications



The new 7713VR round insert cutter series is designed with a new silver-satin surface treatment that reduces body degradation during high-performance applications and enhances tool body life. This cutter series has an anti-rotation design that ensures a precise number of indexes per insert, enabling maximum use of available edges for roughing applications.



7713VR10:

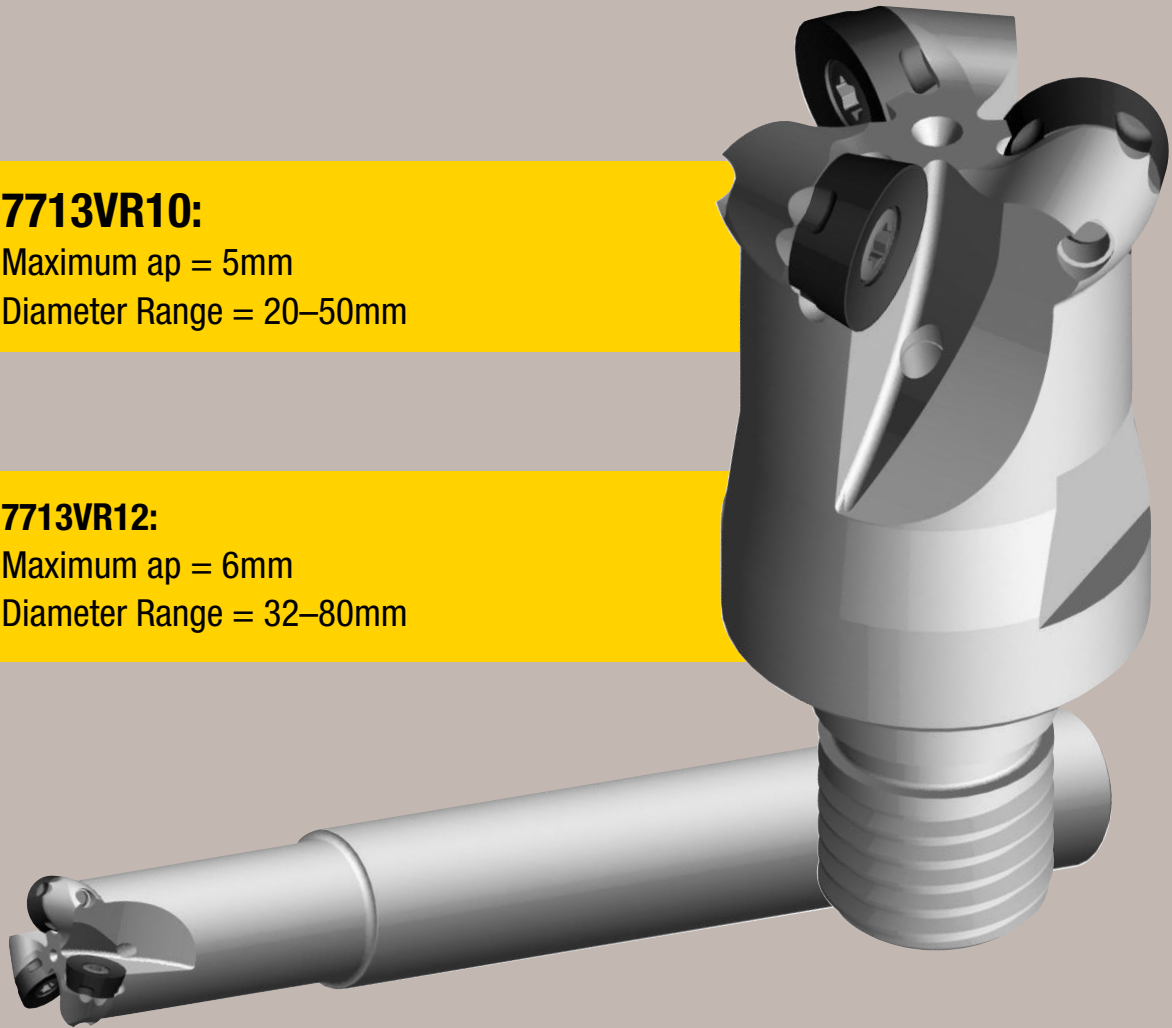
Maximum $a_p = 5\text{mm}$

Diameter Range = 20–50mm

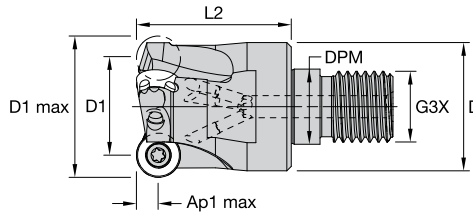
7713VR12:

Maximum $a_p = 6\text{mm}$

Diameter Range = 32–80mm



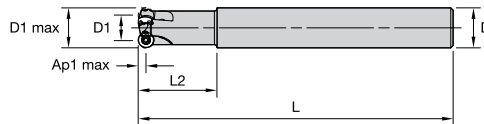
The unique patented pocket system prevents the inserts from rotating in the pocket during heavy-feed machining and unstable conditions. The 7713VR cutter is excellent for roughing and semi-finishing of all materials, especially stainless steels and high-temp alloys, as well as for steel and tool steel.



7713VR10 Modular Head Screw-On • Medium and Fine Pitch • Metric

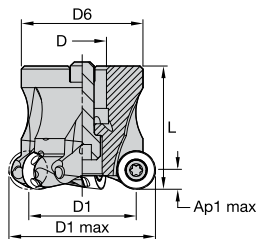
Order Number	ISO Catalog Number	D1	D1 max	D	DPM	G3X	L	L2	Ap1 max	Z	max ramp angle	max RPM	kg
5673768	7713VR10SA025Z3R35	15	25,0	21	12,50	M12	57	35	5,0	3	5.22	64000	0.09
5673050	7713VR10SA032Z4R35	22	32,0	29	17,00	M16	58	35	5,0	4	1.42	14500	0.16
5673341	7713VR10SA035Z5R35	25	35,0	29	17,00	M16	58	35	5,0	5	7.20	53500	0.17

INDEXABLE MILLING



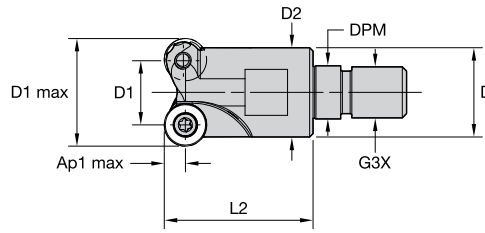
7713VR10 Cylindrical Shank • Medium and Fine Pitch • Metric

Order Number	ISO Catalog Number	D1	D1 max	D	L	L2	Ap1 max	Z	max ramp angle	max RPM	kg
5672811	7713VR10CA020Z2R40	10	20,0	20	180	40	5,0	2	7.28	45500	0.38
5673047	7713VR10CA025Z3R50	15	25,0	25	200	50	5,0	3	5.22	64500	0.66
5673048	7713VR10CA032Z4R70	22	32,0	32	250	70	5,0	4	8.64	53500	1.39



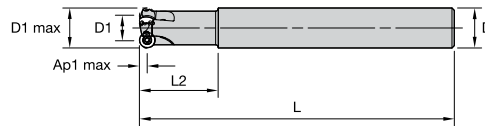
7713VR10 Shell Mill • Fine Pitch • Metric

Order Number	ISO Catalog Number	D1	D1 max	D	D6	L	Ap1 max	Z	max ramp angle	max RPM	kg
5672813	7713VR10-A040Z05R	30	40,0	16	36	40	5,0	5	7.28	45500	0.19
5672625	7713VR10-A042Z06R	32	42,0	16	38	40	5,0	6	6.71	44500	0.22
5673340	7713VR10-A050Z06R	40	50,0	22	41	40	5,0	6	5.22	38500	0.28



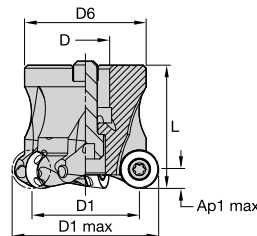
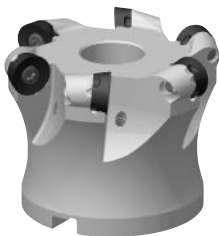
7713VR12 Modular Head Screw-On • Medium and Fine Pitch • Metric

Order Number	ISO Catalog Number	D1	D1 max	D	DPM	G3X	L	L2	Ap1 max	Z	max ramp angle	max RPM	kg
5673052	7713VR12SA032Z3R35	20	32,0	29	17,00	M16	58	35	6,0	3	10.80	40000	0.15
5673439	7713VR12SA040Z4R43	28	40,0	29	17,00	M16	66	43	6,0	4	7.90	34000	0.23



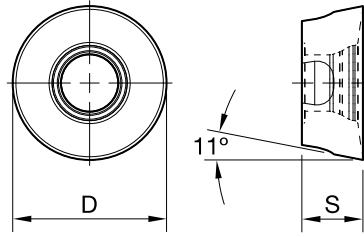
7713VR12 Cylindrical Shank • Metric

Order Number	ISO Catalog Number	D1	D1 max	D	L	L2	Ap1 max	Z	max ramp angle	max RPM	kg
5673830	7713VR12CA032Z3R70	20	32,0	32	250	70	6,0	3	10.80	40000	1.38



7713VR12 Shell Mill • Medium and Fine Pitch • Metric

Order Number	ISO Catalog Number	D1	D1 max	D	D6	L	Ap1 max	Z	max ramp angle	max RPM	kg
5672232	7713VR12-A040Z04R	28	40,0	16	34	40	6,0	4	7.90	34000	0.14
5672233	7713VR12-A050Z05R	38	50,0	22	43	40	6,0	5	5.50	29000	0.24
5673769	7713VR12-A052Z05R	40	52,0	22	45	40	6,0	5	5.15	28000	0.31
5672234	7713VR12-A063Z06R	51	63,0	22	56	50	6,0	6	3.85	24500	0.66
5672235	7713VR12-A066Z06R	54	66,0	27	56	50	6,0	6	3.60	24000	0.68
5673829	7713VR12-A080Z08R	68	80,0	27	68	50	6,0	8	2.75	21500	1.08



		SP6519	X500	X700
P	○	○	○	○
M	●	●	●	●
K	○	○	○	○
N	○	○	○	○
S	●	●	●	●
H	○	○	○	○

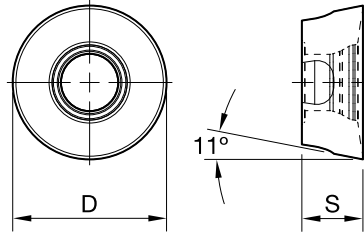
RPHT10-422-X4 • Precision Ground • 4 Indexes

For Machining Stainless Steels and Heat Resistant Alloys

● Primary
○ Secondary

ISO Catalog Number	D	S	hm	Cutting Edges	SP6519	X500	X700
RPHT10T3M0E422X4	10.00	3.97	0.03	4	5659867	5660462	5665491

INDEXABLE MILLING



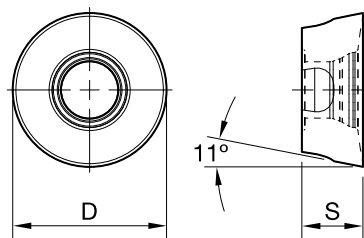
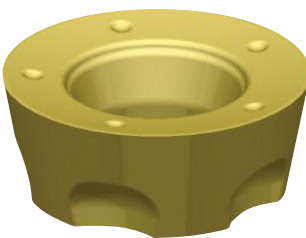
		KCSM40
P	○	○
M	●	●
K	○	○
N	○	○
S	●	●
H	○	○

RPPT10-432-X4 • Precision Pressed • 4 Indexes

For Machining Stainless Steels and Heat-Resistant Alloys

● Primary
○ Secondary

ISO Catalog Number	D	S	hm	Cutting Edges	KCSM40
RPPT10T3M0E432X4	10.00	3.97	0.04	4	6201907



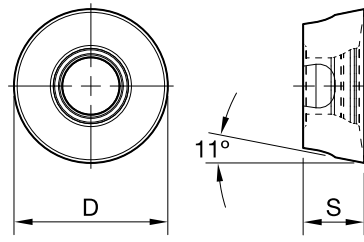
		X500
P	○	○
M	●	●
K	○	○
N	○	○
S	●	●
H	○	○

RPPT10-432-X5 • Precision Pressed • 5 Indexes

For Machining Stainless Steels and Heat Resistant Alloys

● Primary
○ Secondary

ISO Catalog Number	D	S	hm	Cutting Edges	X500
RPPT10T3M0E432X5	10.00	3.97	0.03	5	5894139



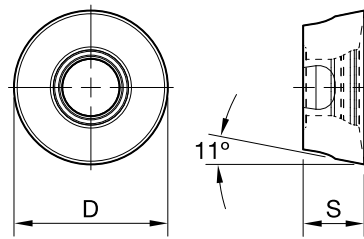
RPHT10-422-X8 • Precision Ground • 8 Indexes
 For Machining Stainless Steels and Heat Resistant Alloys

SP6519

P	Blue	○
M	Yellow	●
K	Red	○
N	Green	○
S	Orange	●
H	Grey	○

● Primary
○ Secondary

ISO Catalog Number	D	S	hm	Cutting Edges	SP6519
RPHT10T3M0E422X8	10.00	3.96	0.03	8	5660778



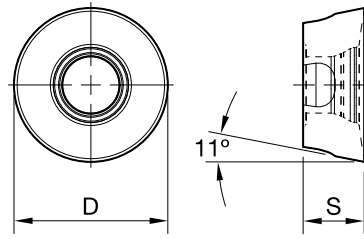
RPHT12-T-X4 • Precision Ground • 4 Indexes
 General Purpose Roughing

X500

P	Blue	○
M	Yellow	●
K	Red	○
N	Green	○
S	Orange	●
H	Grey	○

● Primary
○ Secondary

ISO Catalog Number	D	S	hm	Cutting Edges	X500
RPHT1204M0TX4	12.00	4.76	0.10	4	5654371



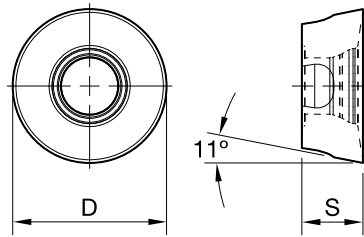
RPPT12-432-X4 • Precision Pressed • 4 Indexes
 For Machining Stainless Steels and Heat Resistant Alloys

X500

P	Blue	○
M	Yellow	●
K	Red	○
N	Green	○
S	Orange	●
H	Grey	○

● Primary
○ Secondary

ISO Catalog Number	D	S	hm	Cutting Edges	X500
RPPT1204M0E432X4	12.00	4.76	0.04	4	5970235



RPHT12-442-X4 • Precision Ground • 4 Indexes

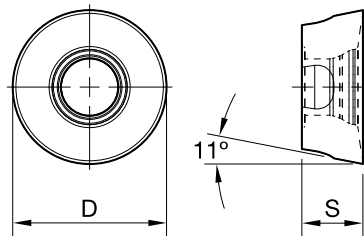
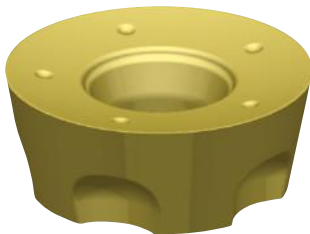
For Machining Stainless Steels and Heat-Resistant Alloys

- Primary
- Secondary

					SP6519	X500
P	●	○	○	○		
M	●	○	○	○		
K	●	○	○	○		
N	○	○	○	○		
S	○	○	○	○		
H	○	○	○	○		

ISO Catalog Number	D	S	hm	Cutting Edges	SP6519	X500
RPHT1204M0E442X4	12.00	4.76	0.04	4	5659264	5660351

INDEXABLE MILLING



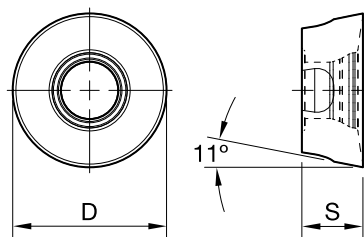
RPPT12-432-X5 • Precision Pressed • 5 Indexes

For Machining Stainless Steels and Heat Resistant Alloys

- Primary
- Secondary

					X500	X700
P	○	○	○	○		
M	○	○	○	○		
K	○	○	○	○		
N	○	○	○	○		
S	○	○	○	○		
H	○	○	○	○		

ISO Catalog Number	D	S	hm	Cutting Edges	X500	X700
RPPT1204M0E432X5	12.00	4.76	0.04	5	5675038	5674803



RPHT12-442-X5 • Precision Ground • 5 Indexes

For machining Stainless Steels and Heat Resistant Alloys

- Primary
- Secondary

					SP6519	X500
P	○	○	○	○		
M	○	○	○	○		
K	○	○	○	○		
N	○	○	○	○		
S	○	○	○	○		
H	○	○	○	○		

ISO Catalog Number	D	S	hm	Cutting Edges	SP6519	X500
RPHT1204M0E442X5	12.00	4.76	0.04	5	5658324	5657681

COPY MILLING • KSR 7713VR10 SERIES - RECOMMENDED STARTING FEEDS

Recommended Starting Feeds [mm]

Light Machining	General Purpose	Heavy Machining
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At 5,00 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
422-X8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	422-X8
432-X5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	432-X5
422-X4	0,12	0,29	0,57	0,08	0,21	0,40	0,06	0,16	0,30	0,05	0,14	0,26	0,05	0,13	0,24	422-X4
432-X4	0,12	0,29	0,57	0,08	0,21	0,40	0,06	0,16	0,30	0,05	0,14	0,26	0,05	0,13	0,24	432-X4

At 2,50 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
422-X8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	422-X8
432-X5	0,13	0,34	0,66	0,10	0,24	0,47	0,07	0,18	0,35	0,06	0,16	0,30	0,06	0,15	0,28	432-X5
422-X4	0,13	0,34	0,66	0,10	0,24	0,47	0,07	0,18	0,35	0,06	0,16	0,30	0,06	0,15	0,28	422-X4
432-X4	0,13	0,34	0,66	0,10	0,24	0,47	0,07	0,18	0,35	0,06	0,16	0,30	0,06	0,15	0,28	432-X4

At 2,00 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
422-X8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	422-X8
432-X5	0,14	0,37	0,71	0,10	0,26	0,51	0,08	0,20	0,38	0,07	0,17	0,33	0,06	0,16	0,30	432-X5
422-X4	0,14	0,37	0,71	0,10	0,26	0,51	0,08	0,20	0,38	0,07	0,17	0,33	0,06	0,16	0,30	422-X4
432-X4	0,14	0,37	0,71	0,10	0,26	0,51	0,08	0,20	0,38	0,07	0,17	0,33	0,06	0,16	0,30	432-X4

At 1,50 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	10%			20%			30%			40%			50-100%			
422-X8	0,16	0,41	0,80	0,12	0,30	0,57	0,09	0,22	0,42	0,08	0,19	0,37	0,07	0,18	0,34	422-X8
432-X5	0,16	0,41	0,80	0,12	0,30	0,57	0,09	0,22	0,42	0,08	0,19	0,37	0,07	0,18	0,34	432-X5
422-X4	0,16	0,41	0,80	0,12	0,30	0,57	0,09	0,22	0,42	0,08	0,19	0,37	0,07	0,18	0,34	422-X4
432-X4	0,16	0,41	0,80	0,12	0,30	0,57	0,09	0,22	0,42	0,08	0,19	0,37	0,07	0,18	0,34	432-X4

Recommended Starting Speeds for Dry Machining • Metric

Material Group		KCSM40			SP6519			X500			X700		
P	1	275	240	205	355	260	155	325	240	155	-	-	-
	2	240	205	160	310	230	140	290	215	140	-	-	-
	3	205	180	160	275	200	120	250	185	120	-	-	-
	4	180	160	145	210	150	90	190	145	90	-	-	-
	5	160	145	125	170	125	85	155	120	85	160	125	85
	6	125	110	90	145	100	60	130	95	60	140	100	60
M	1	275	220	180	325	235	140	300	220	140	310	230	140
	2	180	145	125	280	205	125	265	190	120	275	205	125
	3	145	125	110	235	170	100	215	155	95	230	170	100
K	1	-	-	-	355	265	170	310	265	205	-	-	-
	2	-	-	-	290	210	130	265	215	155	-	-	-
	3	-	-	-	265	190	120	205	170	120	-	-	-
N	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-	-	-	-
H	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-

NOTE:
 FIRST choice starting speeds are in **bold** type.
 As the average chip thickness increases, the speed should be decreased.

Recommended Starting Speeds for Wet Machining • Metric

Material Group		KCSM40			SP6519			X500			X700		
P	1	-	-	-	285	210	125	260	190	125	-	-	-
	2	-	-	-	250	185	110	230	170	110	-	-	-
	3	-	-	-	220	160	95	200	150	95	-	-	-
	4	-	-	-	170	120	70	150	115	70	-	-	-
	5	165	140	115	135	100	70	125	95	70	130	100	70
	6	145	105	75	115	80	50	105	75	50	110	80	50
M	1	200	165	135	260	190	110	240	175	110	250	185	110
	2	170	140	115	225	165	100	210	150	95	220	165	100
	3	140	105	80	190	135	80	170	125	75	185	135	80
K	1	-	-	-	285	210	135	250	210	165	-	-	-
	2	-	-	-	230	170	105	210	170	125	-	-	-
	3	-	-	-	210	150	95	165	135	95	-	-	-
N	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-
S	1	40	30	25	50	40	25	50	30	25	50	40	25
	2	40	30	25	50	30	20	45	30	20	45	30	20
	3	50	40	25	50	40	25	50	40	25	50	40	25
	4	55	50	30	75	55	35	70	50	30	70	50	35
H	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-

NOTE:
 FIRST choice starting speeds are in **bold** type.
 As the average chip thickness increases, the speed should be decreased.

INDEXABLE MILLING



COPY MILLING • KSR 7713VR12 SERIES - RECOMMENDED STARTING FEEDS

Recommended Starting Feeds [mm]

Light Machining	General Purpose	Heavy Machining
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At 6,00 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
432-X5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	432-X5
442-X4	0,23	0,41	0,66	0,17	0,30	0,47	0,13	0,22	0,35	0,11	0,19	0,31	0,10	0,18	0,28	442-X4
432-X4	0,23	0,41	0,66	0,17	0,30	0,47	0,13	0,22	0,35	0,11	0,19	0,31	0,10	0,18	0,28	432-X4
T-X4	0,23	0,41	0,66	0,17	0,30	0,47	0,13	0,22	0,35	0,11	0,19	0,31	0,10	0,18	0,28	T-X4

At 3,00 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
432-X5	0,16	0,49	0,93	0,12	0,35	0,66	0,09	0,26	0,49	0,08	0,23	0,43	0,07	0,21	0,39	432-X5
442-X4	0,16	0,49	0,93	0,12	0,35	0,66	0,09	0,26	0,49	0,08	0,23	0,43	0,07	0,21	0,39	442-X4
432-X4	0,16	0,49	0,93	0,12	0,35	0,66	0,09	0,26	0,49	0,08	0,23	0,43	0,07	0,21	0,39	432-X4
T-X4	0,27	0,68	1,10	0,19	0,49	0,78	0,14	0,36	0,58	0,13	0,32	0,50	0,12	0,29	0,46	T-X4

At 2,50 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
432-X5	0,17	0,52	1,00	0,12	0,37	0,71	0,09	0,28	0,53	0,08	0,24	0,46	0,07	0,22	0,42	432-X5
442-X4	0,17	0,52	1,00	0,12	0,37	0,71	0,09	0,28	0,53	0,08	0,24	0,46	0,07	0,22	0,42	442-X4
432-X4	0,17	0,52	1,00	0,12	0,37	0,71	0,09	0,28	0,53	0,08	0,24	0,46	0,07	0,22	0,42	432-X4
T-X4	0,29	0,73	1,18	0,21	0,52	0,84	0,15	0,39	0,62	0,13	0,34	0,54	0,12	0,31	0,49	T-X4

At 1,50 Axial Depth of Cut (ap)

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40-100%			
432-X5	0,21	0,64	1,23	0,15	0,46	0,87	0,11	0,34	0,65	0,10	0,30	0,56	0,09	0,27	0,51	432-X5
442-X4	0,21	0,64	1,23	0,15	0,46	0,87	0,11	0,34	0,65	0,10	0,30	0,56	0,09	0,27	0,51	442-X4
432-X4	0,21	0,64	1,23	0,15	0,46	0,87	0,11	0,34	0,65	0,10	0,30	0,56	0,09	0,27	0,51	432-X4
T-X4	0,35	0,90	1,47	0,25	0,64	1,03	0,19	0,47	0,76	0,17	0,41	0,66	0,15	0,38	0,60	T-X4

Recommended Starting Speeds for Dry Machining • Metric

Material Group		SP6519			X500			X700		
P	1	355	260	155	325	240	155	-	-	-
	2	310	230	140	290	215	140	-	-	-
	3	275	200	120	250	185	120	-	-	-
	4	210	150	90	190	145	90	-	-	-
	5	170	125	85	155	120	85	160	125	85
	6	145	100	60	130	95	60	140	100	60
M	1	325	235	140	300	220	140	310	230	140
	2	280	205	125	265	190	120	275	205	125
	3	235	170	100	215	155	95	230	170	100
K	1	355	265	170	310	265	205	-	-	-
	2	290	210	130	265	215	155	-	-	-
	3	265	190	120	205	170	120	-	-	-
N	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-
	4	-	-	-	-	-	-	-	-	-
H	1	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-

NOTE:
 FIRST choice starting speeds are in **bold** type.
 As the average chip thickness increases, the speed should be decreased.

Recommended Starting Speeds for Wet Machining • Metric

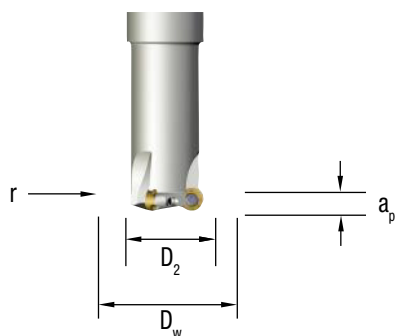
Material Group		KCSM40			SP6519			X500			X700		
P	1	-	-	-	285	210	125	260	190	125	-	-	-
	2	-	-	-	250	185	110	230	170	110	-	-	-
	3	-	-	-	220	160	95	200	150	95	-	-	-
	4	-	-	-	170	120	70	150	115	70	-	-	-
	5	165	140	115	135	100	70	125	95	70	130	100	70
	6	145	105	75	115	80	50	105	75	50	110	80	50
M	1	200	165	135	260	190	110	240	175	110	250	185	110
	2	170	140	115	225	165	100	210	150	95	220	165	100
	3	140	105	80	190	135	80	170	125	75	185	135	80
K	1	-	-	-	285	210	135	250	210	165	-	-	-
	2	-	-	-	230	170	105	210	170	125	-	-	-
	3	-	-	-	210	150	95	165	135	95	-	-	-
N	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-
S	1	40	30	25	50	40	25	50	30	25	50	40	25
	2	40	30	25	50	30	20	45	30	20	45	30	20
	3	50	40	25	50	40	25	50	40	25	50	40	25
	4	55	50	30	75	55	35	70	50	30	70	50	35
H	1	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-

NOTE:
 FIRST choice starting speeds are in **bold** type.
 As the average chip thickness increases, the speed should be decreased.

INDEXABLE MILLING



7713VR TECHNICAL INFORMATION



Working Diameter:

- Formula to evaluate the correct working diameter based on axial depth of cut (ap).

$$D_w = D_2 + 2 \times \sqrt{r^2 - (r - a_p)^2}$$

where:

- D_w = Working diameter
- D_2 = Diameter of cutter insert center to center
- r = Insert radius
- a_p = Axial depth of cut

where:

- f_z = Feed per tooth
- h_m = Average chip thickness
- r = Insert radius
- a_e = Radial depth of cut
- a_p = Axial depth of cut

- Formula to find programmed feed rate based on radial engagement and axial depth of cut.

$$f_z = \frac{h_m}{\frac{\sqrt{r^2 - (r - a_e)^2}}{r} \times \frac{\sqrt{r^2 - (r - a_p)^2}}{r}}$$

- Formula to calculate the average chip thickness h_m in relation with radial engagement and depth of cut.

$$h_m = f_z \times \frac{\sqrt{r^2 - (r - a_e)^2}}{r} \times \frac{\sqrt{r^2 - (r - a_p)^2}}{r}$$

Simplified formulas to evaluate h_m and f_z based on radial engagement or depth of cut.

- Calculation of the average chip thickness in relation with the D.O.C. (Axial)

Formula: Program Feed Rate (f_z)

$$f_z = h_m \times \sqrt{\frac{d}{a_p}}$$

- h_m = Average chip thickness
- a_p = Depth of cut
- f_z = Feed per tooth
- d = Insert diameter

Formula: Average Chip Thickness (h_m)

$$h_m = f_z \times \sqrt{\frac{a_e}{d}}$$

Calculation of the average chip thickness in relation to the a_e (Radial Engagement) if a_e is less than 50% of diameter

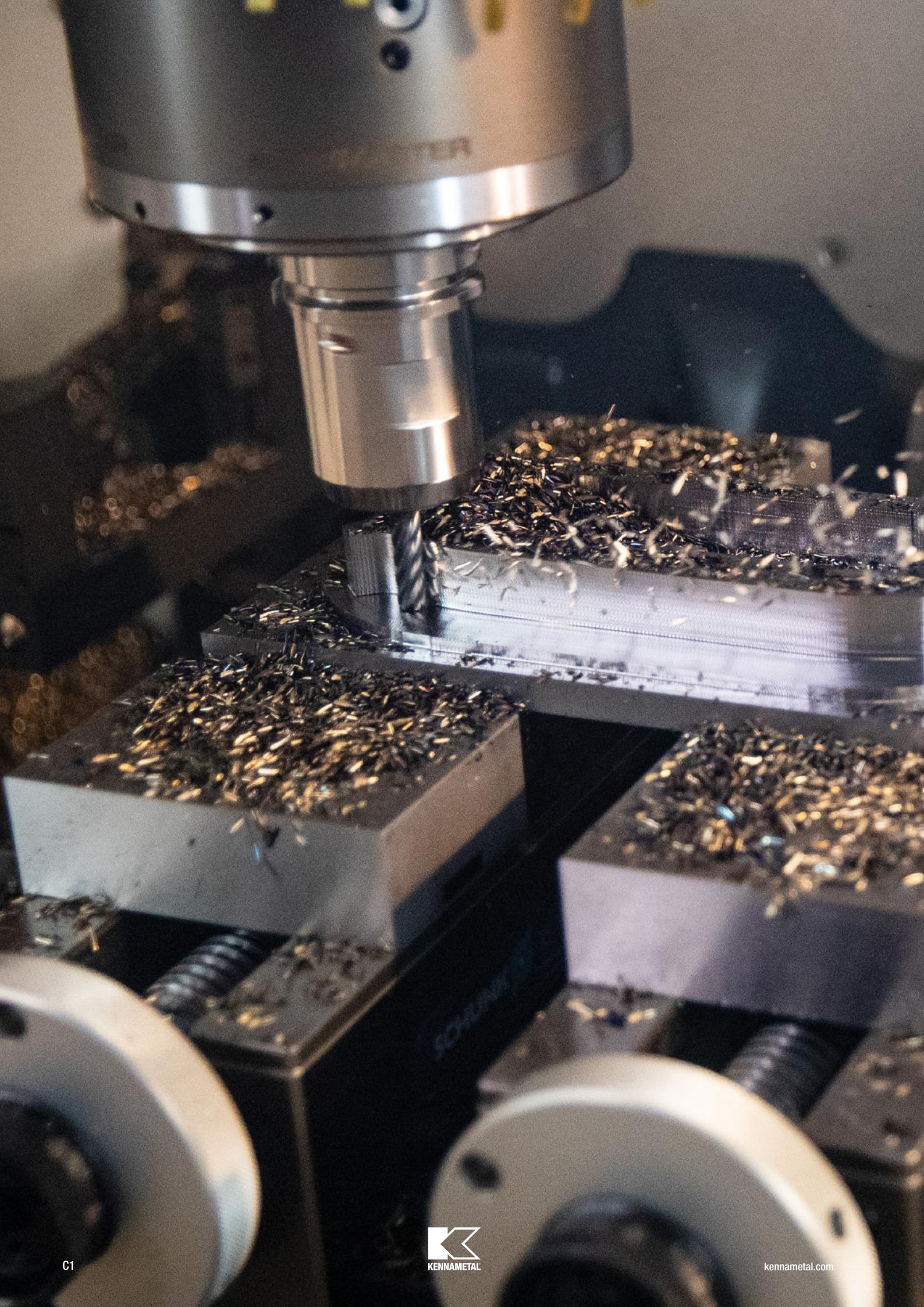
Formula: Program Feed Rate (f_z)

$$f_z = h_m \times \sqrt{\frac{d}{a_e}}$$

- h_m = Average chip thickness
- a_e = Radial engagement
- f_z = Feed per tooth
- d = Cutter diameter

Formula: Average Chip Thickness (h_m)

$$h_m = f_z \times \sqrt{\frac{d}{a_p}}$$



SOLID END MILLING





SOLID END MILLING

HARVI™ I TE	C5
HARVI SERIES	C17
KOR™ 5 ^{DS}	C35
KenCut™ RR	C41
MaxiMet™ and KenCut Aluminum	C49
GOmill™ PRO	C61
GOmill	C69
GOmill GP	C73
DUO-LOCK™	C85



High Performance

HARVI I TE

**HIGH-PERFORMANCE ROUGHING AND FINISHING WITH
MAXIMUM VERSATILITY**



Materials



Industries



Automotive



General
Engineering



Oil & Gas



Aerospace



Medical



Wind & Solar

Applications



Explore
HARVI I TE

- 4-flute end mill for roughing and finishing covering the broadest range of applications and materials
- Maximum MRR in a variety of operations, including dynamic milling and extreme ramping, and deep plunging operations
- Applicable in steels, stainless steels, cast iron, high-temp alloys and hardened materials

**HARVI I TE — Maximum metal removal.
Maximum productivity.
Maximum benefit.**

CHAMFERED



FACETED ECCENTRIC
RELIEF

CHAMFERED
SHARP EDGE
SHORT VERSION



CHIP GASHES WITHIN
THE FLUTES

NECKED
CHAMFERED
RADIUSED
SHARP EDGE



TWISTED END FACE

EXTENDED NECK
RADIUSED



BALL NOSE
LONG VERSION
WITHOUT NECK



ASYMMETRICAL
DIVIDED FLUTES AND
VARIABLE HELIX

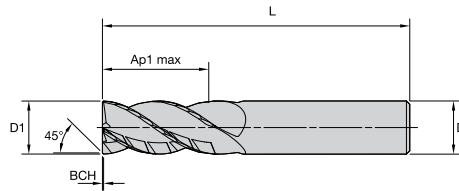
Proprietary end face design — Twisted cutting edge increases corner stability, enabling soft cutting action even at highest ramping angles

Asymmetrical divided flutes and variable helix — Enables vibration dampening and unmatched feed rates

Proprietary relief — Precision-faceted eccentric relief reduces vibrations and friction for excellent cutting conditions in multiple materials

Proprietary flute design — Innovative chip gashes within the flutes reduce cutting forces and support efficient chip evacuation

Proprietary core design — Increases tool stability



HARVI I TE • Chamfered • 4 Flutes • Plain Shank • Metric

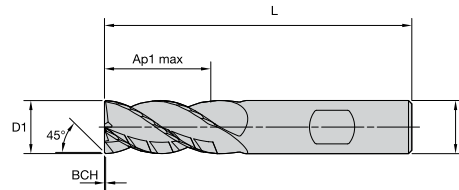
KCPM15

P	●
M	●
K	●
N	●
S	●
H	●

● Primary
○ Secondary

Catalog Number	D1	D	Ap1 max	L	BCH	KCPM15
H1TE4CH0400S008HAM	4,00	6,00	8,00	54,00	0,15	6769611
H1TE4CH0400R012HAM	4,00	6,00	12,00	55,00	0,40	6675697
H1TE4CH0500S009HAM	5,00	6,00	9,00	54,00	0,15	6769613
H1TE4CH0500R013HAM	5,00	6,00	13,00	57,00	0,40	6675698
H1TE4CH0600S010HAM	6,00	6,00	10,00	54,00	0,15	6769614
H1TE4CH0600R013HAM	6,00	6,00	13,00	57,00	0,40	6675699
H1TE4CH0800S012HAM	8,00	8,00	12,00	58,00	0,20	6769615
H1TE4CH0800R016HAM	8,00	8,00	16,00	63,00	0,40	6675700
H1TE4CH1000S014HAM	10,00	10,00	14,00	66,00	0,25	6769616
H1TE4CH1000R022HAM	10,00	10,00	22,00	72,00	0,50	6675742
H1TE4CH1200S016HAM	12,00	12,00	16,00	73,00	0,25	6769617
H1TE4CH1200R026HAM	12,00	12,00	26,00	83,00	0,50	6675743
H1TE4CH1400S018HAM	14,00	14,00	18,00	75,00	0,25	6769619
H1TE4CH1600S022HAM	16,00	16,00	22,00	82,00	0,35	6769620
H1TE4CH1600R032HAM	16,00	16,00	32,00	92,00	0,50	6675745
H1TE4CH1800R032HAM	18,00	18,00	32,00	92,00	0,50	6675746
H1TE4CH2000R038HAM	20,00	20,00	38,00	104,00	0,50	6675747
H1TE4CH2500R045HAM	25,00	25,00	45,00	121,00	0,50	6675748

SOLID END MILLING



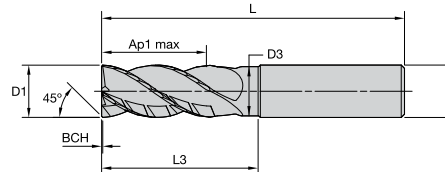
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KCPM15

P	●
M	●
K	●
N	●
S	●
H	●

● Primary
○ Secondary

Catalog Number	D1	D	Ap1 max	L	BCH	KCPM15
H1TE4CH0400R012HBM	4,00	6,00	12,00	55,00	0,40	6675749
H1TE4CH0500R013HBM	5,00	6,00	13,00	57,00	0,40	6675750
H1TE4CH0600S010HBM	6,00	6,00	10,00	54,00	0,15	6769631
H1TE4CH0600R013HBM	6,00	6,00	13,00	57,00	0,40	6675751
H1TE4CH0800S012HBM	8,00	8,00	12,00	58,00	0,20	6769632
H1TE4CH0800R016HBM	8,00	8,00	16,00	63,00	0,40	6675752
H1TE4CH1000S014HBM	10,00	10,00	14,00	66,00	0,25	6769633
H1TE4CH1000R022HBM	10,00	10,00	22,00	72,00	0,50	6675753
H1TE4CH1200S016HBM	12,00	12,00	16,00	73,00	0,25	6769634
H1TE4CH1200R026HBM	12,00	12,00	26,00	83,00	0,50	6675754
H1TE4CH1600S022HBM	16,00	16,00	22,00	82,00	0,35	6769636
H1TE4CH1600R032HBM	16,00	16,00	32,00	92,00	0,50	6675756
H1TE4CH1800R032HBM	18,00	18,00	32,00	92,00	0,50	6675757
H1TE4CH2000S026HBM	20,00	20,00	26,00	92,00	0,35	6769638
H1TE4CH2000R038HBM	20,00	20,00	38,00	104,00	0,50	6675758
H1TE4CH2500R045HBM	25,00	25,00	45,00	121,00	0,50	6687137



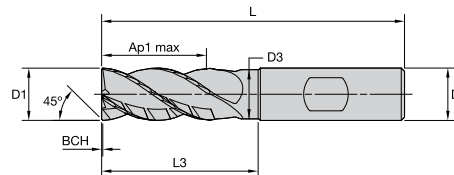
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● Primary
○ Secondary

KCPM15

P	●
M	●
K	●
N	●
S	●
H	●

Catalog Number	D1	D	Ap1 max	D3	L3	L	BCH	KCPM15
H1TE4CH0300N008HAM	3,00	6,00	8,00	2,82	0,63	57,00	0,10	6767961
H1TE4CH0400N011HAM	4,00	6,00	11,00	3,76	0,63	57,00	0,15	6676308
H1TE4CH0500N013HAM	5,00	6,00	13,00	4,70	0,71	57,00	0,15	6676310
H1TE4CH0600N013HAM	6,00	6,00	13,00	5,64	0,72	57,00	0,15	6676332
H1TE4CH0800N016HAM	8,00	8,00	16,00	7,52	0,95	63,00	0,20	6676334
H1TE4CH1000N022HAM	10,00	10,00	22,00	9,40	1,19	72,00	0,20	6676336
H1TE4CH1200N026HAM	12,00	12,00	26,00	11,28	1,43	83,00	0,20	6676338
H1TE4CH1600N032HAM	16,00	16,00	32,00	15,04	1,91	92,00	0,35	6676342
H1TE4CH2000N038HAM	20,00	20,00	38,00	18,80	2,39	104,00	0,35	6676344



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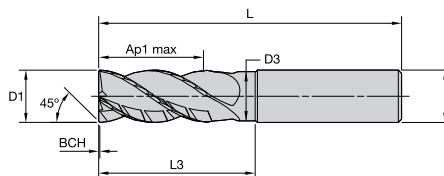
● Primary
○ Secondary

KCPM15

P	●
M	●
K	●
N	●
S	●
H	●

Catalog Number	D1	D	Ap1 max	D3	L3	L	BCH	KCPM15
H1TE4CH0400N011HBM	4,00	6,00	11,00	3,76	0,63	57,00	0,15	6676309
H1TE4CH0500N013HBM	5,00	6,00	13,00	4,70	0,71	57,00	0,15	6676331
H1TE4CH0600N013HBM	6,00	6,00	13,00	5,64	0,71	57,00	0,15	6676333
H1TE4CH0800N016HBM	8,00	8,00	16,00	7,52	0,94	63,00	0,20	6676335
H1TE4CH1000N022HBM	10,00	10,00	22,00	9,40	1,19	72,00	0,20	6676337
H1TE4CH1200N026HBM	12,00	12,00	26,00	11,28	1,43	83,00	0,20	6676339
H1TE4CH1600N032HBM	16,00	16,00	32,00	15,04	1,91	92,00	0,35	6676343
H1TE4CH2000N038HBM	20,00	20,00	38,00	18,80	2,39	104,00	0,35	6676345

SOLID END MILLING



KCSM15

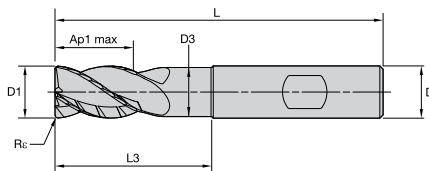
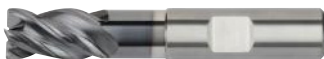
P	Blue	●
M	Yellow	●
K	Red	●
N	Green	●
S	Orange	●
H	Grey	●

- Primary
- Secondary

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Catalog Number	D1	D	Ap1 max	D3	L3	L	R _c	KCSM15
H1TE4RA0600N009HAR050M	6,00	6,00	9,00	5,64	0,72	63,00	0,50	6676190
H1TE4RA0600N009HAR100M	6,00	6,00	9,00	5,64	0,71	63,00	1,00	6676231
H1TE4RA0800N012HAR050M	8,00	8,00	12,00	7,52	0,95	68,00	0,50	6676234
H1TE4RA0800N012HAR100M	8,00	8,00	12,00	7,52	0,95	68,00	1,00	6676235
H1TE4RA1000N015HAR050M	10,00	10,00	15,00	9,40	1,19	76,00	0,50	6676238
H1TE4RA1000N015HAR100M	10,00	10,00	15,00	9,40	1,19	76,00	1,00	6676239
H1TE4RA1000N015HAR200M	10,00	10,00	15,00	9,40	1,19	76,00	2,00	6676240
H1TE4RA1000N015HAR300M	10,00	10,00	15,00	9,40	1,18	76,00	3,00	6676251
H1TE4RA1200N018HAR050M	12,00	12,00	18,00	11,28	1,43	83,00	0,50	6676257
H1TE4RA1200N018HAR100M	12,00	12,00	18,00	11,28	1,43	83,00	1,00	6676258
H1TE4RA1200N018HAR200M	12,00	12,00	18,00	11,28	1,43	83,00	2,00	6676259
H1TE4RA1200N018HAR300M	12,00	12,00	18,00	11,28	1,42	83,00	3,00	6676260
H1TE4RA1600N024HAR050M	16,00	16,00	24,00	15,04	1,91	100,00	0,50	6676277
H1TE4RA1600N024HAR100M	16,00	16,00	24,00	15,04	1,91	100,00	1,00	6676278
H1TE4RA1600N024HAR200M	16,00	16,00	24,00	15,04	1,91	100,00	2,00	6676279
H1TE4RA1600N024HAR400M	16,00	16,00	24,00	15,04	1,89	100,00	4,00	6676281
H1TE4RA2000N030HAR050M	20,00	20,00	30,00	18,80	2,39	115,00	0,50	6676289
H1TE4RA2000N030HAR100M	20,00	20,00	30,00	18,80	2,39	115,00	1,00	6676290
H1TE4RA2000N030HAR200M	20,00	20,00	30,00	18,80	2,39	115,00	2,00	6676291
H1TE4RA2500N038HAR050M	25,00	25,00	37,50	24,00	2,95	135,00	0,50	6676299
H1TE4RA2500N038HAR100M	25,00	25,00	37,50	24,00	2,95	135,00	1,00	6676300
H1TE4RA2500N038HAR200M	25,00	25,00	37,50	24,00	2,95	135,00	2,00	6676301

SOLID END MILLING



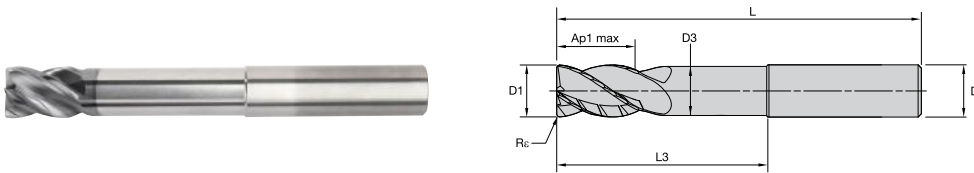
KCSM15

P	Blue	●
M	Yellow	●
K	Red	●
N	Green	●
S	Orange	●
H	Grey	●

- Primary
- Secondary

HARVI TE • Radiused • 4 Flutes • Necked • Weldon Shank • Metric

Catalog Number	D1	D	Ap1 max	D3	L3	L	R _c	KCSM15
H1TE4RA0600N009HBR050M	6,00	6,00	9,00	5,64	0,71	63,00	0,50	6676232
H1TE4RA0600N009HBR100M	6,00	6,00	9,00	5,64	0,71	63,00	1,00	6676233
H1TE4RA0800N012HBR050M	8,00	8,00	12,00	7,52	0,94	68,00	0,50	6676236
H1TE4RA0800N012HBR100M	8,00	8,00	12,00	7,52	0,94	68,00	1,00	6676237
H1TE4RA1000N015HBR050M	10,00	10,00	15,00	9,40	1,18	76,00	0,50	6676253
H1TE4RA1000N015HBR100M	10,00	10,00	15,00	9,40	1,18	76,00	1,00	6676254
H1TE4RA1200N018HBR050M	12,00	12,00	18,00	11,28	1,42	83,00	0,50	6676272
H1TE4RA1200N018HBR100M	12,00	12,00	18,00	11,28	1,42	83,00	1,00	6676273
H1TE4RA1200N018HBR200M	12,00	12,00	18,00	11,28	1,42	83,00	2,00	6676274
H1TE4RA1200N018HBR300M	12,00	12,00	18,00	11,28	1,42	83,00	3,00	6676275
H1TE4RA1600N024HBR050M	16,00	16,00	24,00	15,04	1,91	100,00	0,50	6676283
H1TE4RA1600N024HBR100M	16,00	16,00	24,00	15,04	1,91	100,00	1,00	6676284
H1TE4RA1600N024HBR200M	16,00	16,00	24,00	15,04	1,91	100,00	2,00	6676285
H1TE4RA2000N030HBR050M	20,00	20,00	30,00	18,80	2,39	115,00	0,50	6676295
H1TE4RA2000N030HBR100M	20,00	20,00	30,00	18,80	2,39	115,00	1,00	6676296
H1TE4RA2000N030HBR200M	20,00	20,00	30,00	18,80	2,39	115,00	2,00	6676297
H1TE4RA2000N030HBR300M	20,00	20,00	30,00	18,80	2,39	115,00	3,00	6676298
H1TE4RA2500N038HBR100M	25,00	25,00	37,50	24,00	2,95	135,00	1,00	6687152
H1TE4RA2500N038HBR200M	25,00	25,00	37,50	24,00	2,95	135,00	2,00	6687153
H1TE4RA2500N038HBR300M	25,00	25,00	37,50	24,00	2,95	135,00	3,00	6687154

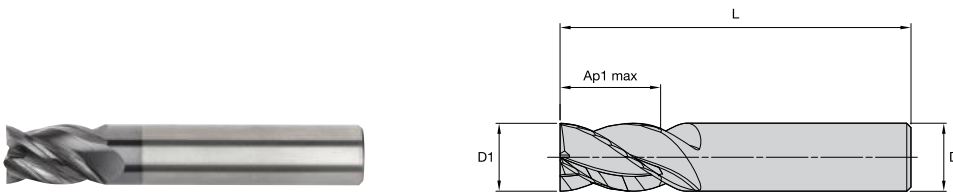


HARVI I TE • Radiused • 4 Flutes • Extended Neck • Plain Shank • Metric

● Primary
○ Secondary

KCSM15	
P	●
M	●
K	●
N	●
S	●
H	●

Catalog Number	D1	D	Ap1 max	D3	L3	L	Rc	KCSM15
H1TE4RA1000E022HAR050M	10,00	10,00	22,00	9,40	2,28	100,00	0,50	6929447

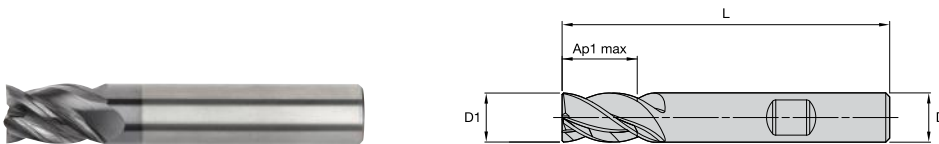


HARVI I TE • Square End • 4 Flutes • Short • Plain Shank • Metric

● Primary
○ Secondary

KCPM15	
P	●
M	●
K	●
N	●
S	●
H	●

Catalog Number	D1	D	Ap1 max	L	KCPM15
H1TE4SE0400S008HAM	4,00	6,00	8,00	54,00	6769682
H1TE4SE0500S009HAM	5,00	6,00	9,00	54,00	6769683
H1TE4SE0600S010HAM	6,00	6,00	10,00	54,00	6769684
H1TE4SE0800S012HAM	8,00	8,00	12,00	58,00	6769685
H1TE4SE1000S014HAM	10,00	10,00	14,00	66,00	6769686
H1TE4SE1200S016HAM	12,00	12,00	16,00	73,00	6769687



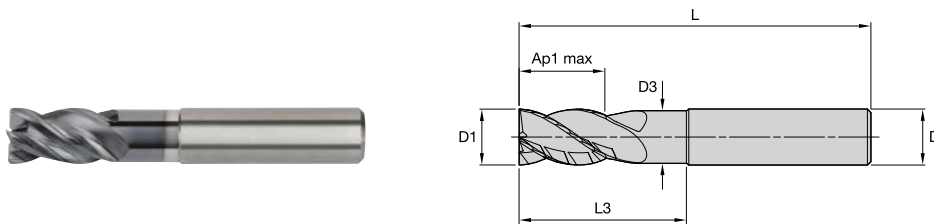
HARVI I TE • Square End • 4 Flutes • Short • Weldon Shank • Metric

● Primary
○ Secondary

KCPM15	
P	●
M	●
K	●
N	●
S	●
H	●

Catalog Number	D1	D	Ap1 max	L	KCPM15
H1TE4SE1000S014HBM	10,00	10,00	14,00	66,00	6769713
H1TE4SE1200S016HBM	12,00	12,00	16,00	73,00	6769714
H1TE4SE1600S022HBM	16,00	16,00	22,00	82,00	6769716

SOLID END MILLING



HARVI | TE • Square End • 4 Flutes • Necked • Plain Shank • Metric

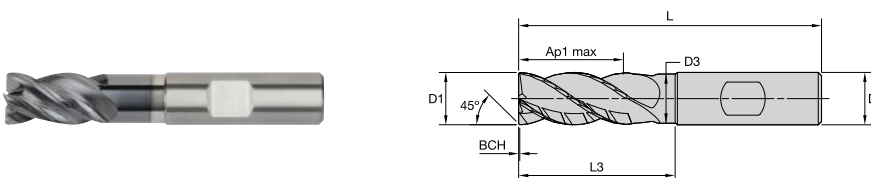
KCPM15

P	●
M	●
K	●
N	●
S	●
H	●

● Primary
○ Secondary

Catalog Number	D1	D	Ap1 max	D3	L3	L	KCPM15
H1TE4SE0200N006HAM	2,00	6,00	6,00	—	0,32	57,00	6769543
H1TE4SE0300N008HAM	3,00	6,00	8,00	2,82	0,63	57,00	6769545
H1TE4SE0400N011HAM	4,00	6,00	11,00	3,76	0,63	57,00	6769547
H1TE4SE0500N013HAM	5,00	6,00	13,00	4,70	0,71	57,00	6769548
H1TE4SE0600N013HAM	6,00	6,00	13,00	5,64	0,71	57,00	6769549
H1TE4SE0800N016HAM	8,00	8,00	16,00	7,52	0,94	63,00	6769563
H1TE4SE1000N022HAM	10,00	10,00	22,00	9,40	1,18	72,00	6769564
H1TE4SE1200N026HAM	12,00	12,00	26,00	11,28	1,42	83,00	6769565
H1TE4SE1400N026HAM	14,00	14,00	26,00	13,16	1,65	83,00	6769566
H1TE4SE1600N032HAM	16,00	16,00	32,00	15,04	1,89	92,00	6769567
H1TE4SE1800N035HAM	18,00	18,00	35,00	16,92	2,13	92,00	6769568
H1TE4SE2000N038HAM	20,00	20,00	38,00	18,80	2,36	104,00	6769569

SOLID END MILLING



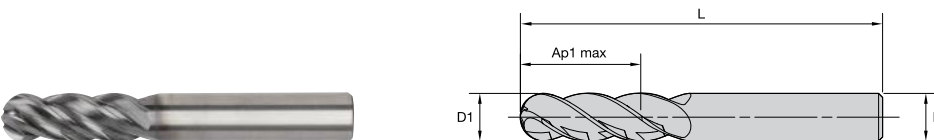
HARVI | TE • Square End • 4 Flutes • Necked • Weldon Shank • Metric

KCPM15

P	●
M	●
K	●
N	●
S	●
H	●

● Primary
○ Secondary

Catalog Number	D1	D	Ap1 max	D3	L3	L	KCPM15
H1TE4SE0400N011HBM	4,00	6,00	11,00	3,76	0,63	57,00	6769586
H1TE4SE0600N013HBM	6,00	6,00	13,00	5,64	0,71	57,00	6769588
H1TE4SE0800N016HBM	8,00	8,00	16,00	7,52	0,94	63,00	6769589
H1TE4SE1000N022HBM	10,00	10,00	22,00	9,40	1,18	72,00	6769590
H1TE4SE1200N026HBM	12,00	12,00	26,00	11,28	1,42	83,00	6769591
H1TE4SE1400N026HBM	14,00	14,00	26,00	13,16	1,65	83,00	6769592
H1TE4SE1600N032HBM	16,00	16,00	32,00	15,04	1,89	92,00	6769593
H1TE4SE2000N038HBM	20,00	20,00	38,00	18,80	2,36	104,00	6769595
H1TE4SE2500N045HBM	25,00	25,00	45,00	24,00	2,95	121,00	6769596



HARVI | TE • Ball Nose • 4 Flutes • Long • Plain Shank • Metric

KCPM15

P	●
M	●
K	●
N	●
S	○
H	●

● Primary
○ Secondary

Catalog Number	D1	D	Ap1 max	L	R	KCPM15
H1TE4BN0600L015HAM	6,00	6,00	15,00	55,00	3,00	6767988
H1TE4BN0800L020HAM	8,00	8,00	20,00	63,00	4,00	6767989
H1TE4BN1000L025HAM	10,00	10,00	25,00	76,00	5,00	6767990
H1TE4BN1200L030HAM	12,00	12,00	30,00	83,00	6,00	6768001

APPLICATION DATA



HARVI I TE

Side Milling/Slotting • Application Data

Material Group					KCPM15–KCSM15		Recommended feed per tooth (Fz = mm/th) for side milling (A). For slotting (B), reduce Fz by 20%.											
	A		B		Cutting Speed — Vc m/min		D1 — Diameter											
	Ap	Ae	Ap		min	max	mm	2,0	3,0	4,0	5,0	6,0	8,0	10,0	12,0	16,0	20,0	25,0
P	0	1,5 x D1	0,5 x D1	1,25 x D1	150	200	Fz	0,015	0,023	0,031	0,040	0,048	0,066	0,079	0,091	0,111	0,125	0,136
	1	1,5 x D1	0,5 x D1	1,25 x D1	150	200	Fz	0,015	0,023	0,031	0,040	0,048	0,066	0,079	0,091	0,111	0,125	0,136
	2	1,5 x D1	0,5 x D1	1,25 x D1	140	190	Fz	0,015	0,023	0,031	0,040	0,048	0,066	0,079	0,091	0,111	0,125	0,136
	3	1,5 x D1	0,5 x D1	1,25 x D1	120	160	Fz	0,012	0,019	0,026	0,033	0,040	0,055	0,067	0,077	0,096	0,111	0,125
	4	1,5 x D1	0,5 x D1	1,25 x D1	90	150	Fz	0,012	0,018	0,024	0,030	0,036	0,049	0,059	0,069	0,084	0,097	0,107
	5	1,5 x D1	0,5 x D1	1,25 x D1	60	100	Fz	0,010	0,016	0,021	0,027	0,032	0,044	0,053	0,062	0,077	0,089	0,100
M	6	1,5 x D1	0,5 x D1	1,25 x D1	50	75	Fz	0,009	0,013	0,018	0,022	0,027	0,037	0,044	0,051	0,063	0,071	0,078
	1	1,5 x D1	0,5 x D1	1,25 x D1	90	115	Fz	0,012	0,019	0,026	0,033	0,040	0,055	0,067	0,077	0,096	0,111	0,125
	2	1,5 x D1	0,5 x D1	1,25 x D1	60	80	Fz	0,010	0,016	0,021	0,027	0,032	0,044	0,053	0,062	0,077	0,089	0,100
K	3	1,5 x D1	0,5 x D1	1,0 x D1	60	70	Fz	0,009	0,013	0,018	0,022	0,027	0,037	0,044	0,051	0,063	0,071	0,078
	1	1,5 x D1	0,5 x D1	1,0 x D1	120	150	Fz	0,015	0,023	0,031	0,040	0,048	0,066	0,079	0,091	0,111	0,125	0,136
	2	1,5 x D1	0,5 x D1	1,0 x D1	110	140	Fz	0,012	0,019	0,026	0,033	0,040	0,055	0,067	0,077	0,096	0,111	0,125
S	3	1,5 x D1	0,5 x D1	1,0 x D1	110	130	Fz	0,010	0,016	0,021	0,027	0,032	0,044	0,053	0,062	0,077	0,089	0,100
	1	1,5 x D1	0,5 x D1	0,75 x D1	50	90	Fz	0,012	0,019	0,026	0,033	0,040	0,055	0,067	0,077	0,096	0,111	0,125
	2	1,5 x D1	0,5 x D1	0,75 x D1	50	80	Fz	0,010	0,016	0,021	0,027	0,032	0,044	0,053	0,062	0,077	0,089	0,100
	3	1,5 x D1	0,5 x D1	0,50 x D1	25	40	Fz	0,007	0,010	0,014	0,018	0,021	0,029	0,035	0,041	0,051	0,059	0,067
H	4	1,5 x D1	0,5 x D1	1,25 x D1	50	60	Fz	0,008	0,013	0,017	0,023	0,028	0,040	0,049	0,057	0,071	0,082	0,092
	1	1,5 x D1	0,5 x D1	1,0 x D1	80	140	Fz	0,012	0,018	0,024	0,030	0,036	0,049	0,059	0,069	0,084	0,097	0,107
	2	1,5 x D1	0,5 x D1	1,0 x D1	70	120	Fz	0,009	0,013	0,018	0,022	0,027	0,037	0,044	0,051	0,063	0,071	0,078

SOLID END MILLING

HARVI I TE

Adjustment Factor Table for Feed and Speed Calculation

	Ae/D	2%	4%	5%	8%	10%	12%	20%	30%	40%	50%	100%
Speed factor	Kv	2,1–3,6	1,6–3	1,6–2,5	1,6	1,4	1,38	1,3	1,2	1,1	1	0,9
Feed factor	KFz	3,58	2,56	2,3	1,84	1,67	1,54	1,25	1,09	1,02	1	1

NOTE: For an Ae/D ratio of 5% or less there is a range given for speed factor Kv, which allows the user to either be more conservative at the lower value or more aggressive with the higher value.

This can also be considered based on the machinability of the material, from difficult to free cutting.

These calculations are for roughing/semi-finishing cuts when used with the recommended base Fz.

For light finishing cuts requiring improved surface quality it is recommended to reduce the base Fz approximately 50% and then apply these factors.

To calculate application-specific cutting data, please use Kv coefficient table above for adaptation of cutting speed and KFz for feed respectively.

Vc new = Vc * Kv
Fz new = Fz * KFz

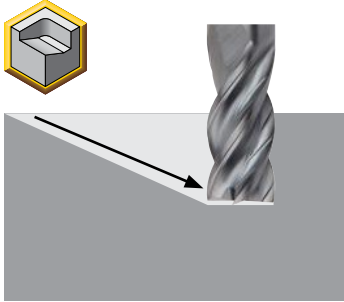
Calculation example:
Application: D = 20mm;
M2 material group;
Ae = 2mm
Cutting data recommendation: Vc = 80 m/min;
Fz = 0,089 mm/th
Adjustment coefficients: Ae = 2mm equals 10,0%;
Kv = 1,4; KFz = 1,67

Final cutting data recommendation:
Vc new = 80 * 1,4 = 112 m/min
Fz new = 0,089 * 1,67 = 0,15 mm/min

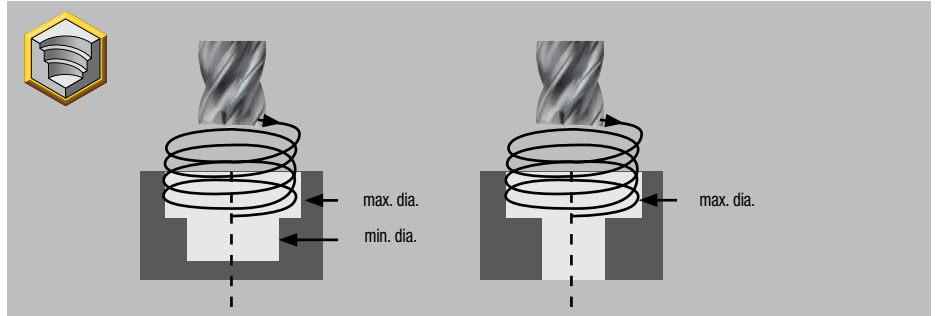
HARVI | TE

Application Information • Ramping

Linear Ramping



Helical Ramping



ATTENTION!

For helical ramping operations, the min. and max. hole diameter can be calculated with the following formula:

Min. hole \emptyset = End mill $-\emptyset \times 1,1 + 2 \times$ corner configuration (Re/CHF) size. Hole $-\emptyset$ /End mill $-\emptyset$ min 1:1,15



Max. hole \emptyset = $2 \times$ End mill $-\emptyset \times 2 \times$ corner configuration (Re/CHF) size. Hole $-\emptyset$ /End mill $-\emptyset$ max 1:1,9

SOLID END MILLING



HARVI | TE

Ramping 0°-15° • Application Data

Material Group	Max Depth	 		Recommended feed per tooth ($F_z = \text{mm}/z$) for Helical Interpolation and Ramping — $z_{eff} = 2$														
		KCPM15–KCSM15		Diameter – D1 [\emptyset_{min} – \emptyset_{max}] for helical interpolation														
		Cutting Speed — Vc m/min		mm	2,0	3,0	4,0	5,0	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0	25,0	
		min	max															
P	0	1,25 x D1	150	200	Fz	0,015	0,023	0,031	0,040	0,048	0,066	0,079	0,091	0,102	0,111	0,119	0,125	0,136
	1	1,25 x D1	150	200	Fz	0,015	0,023	0,031	0,040	0,048	0,066	0,079	0,091	0,102	0,111	0,119	0,125	0,136
	2	1,25 x D1	140	190	Fz	0,015	0,023	0,031	0,040	0,048	0,066	0,079	0,091	0,102	0,111	0,119	0,125	0,136
	3	1,25 x D1	120	160	Fz	0,012	0,019	0,026	0,033	0,040	0,055	0,067	0,077	0,087	0,096	0,104	0,111	0,125
	4	1,25 x D1	90	150	Fz	0,012	0,018	0,024	0,030	0,036	0,049	0,059	0,069	0,077	0,084	0,091	0,097	0,107
	5	1,25 x D1	60	100	Fz	0,010	0,016	0,021	0,027	0,032	0,044	0,053	0,062	0,070	0,077	0,083	0,089	0,100
M	6	1,25 x D1	50	75	Fz	0,009	0,013	0,018	0,022	0,027	0,037	0,044	0,051	0,057	0,063	0,067	0,071	0,078
	1	1,25 x D1	90	115	Fz	0,012	0,019	0,026	0,033	0,040	0,055	0,067	0,077	0,087	0,096	0,104	0,111	0,125
K	2	1,0 x D1	60	80	Fz	0,010	0,016	0,021	0,027	0,032	0,044	0,053	0,062	0,070	0,077	0,083	0,089	0,100
	3	1,0 x D1	60	70	Fz	0,009	0,013	0,018	0,022	0,027	0,037	0,044	0,051	0,057	0,063	0,067	0,071	0,078
S	1	1,0 x D1	120	150	Fz	0,015	0,023	0,031	0,040	0,048	0,066	0,079	0,091	0,102	0,111	0,119	0,125	0,136
	2	1,0 x D1	110	140	Fz	0,012	0,019	0,026	0,033	0,040	0,055	0,067	0,077	0,087	0,096	0,104	0,111	0,125
	3	1,0 x D1	110	130	Fz	0,010	0,016	0,021	0,027	0,032	0,044	0,053	0,062	0,070	0,077	0,083	0,089	0,100
H	1	0,75 x D1	50	90	Fz	0,012	0,019	0,026	0,033	0,040	0,055	0,067	0,077	0,087	0,096	0,104	0,111	0,125
	2	0,75 x D1	50	80	Fz	0,010	0,016	0,021	0,027	0,032	0,044	0,053	0,062	0,070	0,077	0,083	0,089	0,100
	3	0,5 x D1	25	40	Fz	0,007	0,010	0,014	0,018	0,021	0,029	0,035	0,041	0,046	0,051	0,055	0,059	0,067
H	4	1,25 x D1	50	60	Fz	0,008	0,013	0,017	0,023	0,028	0,040	0,049	0,057	0,064	0,071	0,076	0,082	0,092
	1	1,0 x D1	80	140	Fz	0,012	0,018	0,024	0,030	0,036	0,049	0,059	0,069	0,077	0,084	0,091	0,097	0,107
H	2	1,0 x D1	70	120	Fz	0,009	0,013	0,018	0,022	0,027	0,037	0,044	0,051	0,057	0,063	0,067	0,071	0,078

NOTE: \emptyset min and \emptyset max to be calculated with formula for helical ramping above.



HARVI I TE
Ramping 15°-30° • Application Data

Material Group	Max Depth			Recommended feed per tooth (Fz = mm/z) for Helical Interpolation and Ramping — z _{eff} = 2															
				KCPM15–KCSM15		Diameter – D1 [Ømin–Ømax] for helical interpolation													
		Cutting Speed — Vc m/min		mm															
		min	max		2,0	3,0	4,0	5,0	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0	25,0		
P	0	1,25 x D1	150	175	Fz	0,011	0,017	0,023	0,030	0,036	0,050	0,059	0,068	0,076	0,083	0,089	0,094	0,102	
	1	1,25 x D1	150	175	Fz	0,011	0,017	0,023	0,030	0,036	0,050	0,059	0,068	0,076	0,083	0,089	0,094	0,102	
	2	1,25 x D1	140	165	Fz	0,011	0,017	0,023	0,030	0,036	0,050	0,059	0,068	0,076	0,083	0,089	0,094	0,102	
	3	1,25 x D1	120	140	Fz	0,009	0,014	0,019	0,025	0,030	0,041	0,050	0,058	0,065	0,072	0,078	0,083	0,094	
	4	1,25 x D1	90	120	Fz	0,009	0,013	0,018	0,022	0,027	0,037	0,045	0,051	0,058	0,063	0,068	0,073	0,080	
	5	1,25 x D1	60	80	Fz	0,008	0,012	0,016	0,020	0,024	0,033	0,040	0,046	0,052	0,058	0,062	0,067	0,075	
M	6	1,25 x D1	50	65	Fz	0,007	0,010	0,013	0,017	0,020	0,028	0,033	0,038	0,043	0,047	0,050	0,053	0,059	
	1	1,25 x D1	90	100	Fz	0,009	0,014	0,019	0,025	0,030	0,041	0,050	0,058	0,065	0,072	0,078	0,083	0,094	
	2	1,25 x D1	60	70	Fz	0,008	0,012	0,016	0,020	0,024	0,033	0,040	0,046	0,052	0,058	0,062	0,067	0,075	
K	3	1,0 x D1	60	65	Fz	0,007	0,010	0,013	0,017	0,020	0,028	0,033	0,038	0,043	0,047	0,050	0,053	0,059	
	1	1,0 x D1	120	135	Fz	0,011	0,017	0,023	0,030	0,036	0,050	0,059	0,068	0,076	0,083	0,089	0,094	0,102	
	2	1,0 x D1	110	125	Fz	0,009	0,014	0,019	0,025	0,030	0,041	0,050	0,058	0,065	0,072	0,078	0,083	0,094	
S	3	1,0 x D1	110	120	Fz	0,008	0,012	0,016	0,020	0,024	0,033	0,040	0,046	0,052	0,058	0,062	0,067	0,075	
	1	0,75 x D1	50	70	Fz	0,009	0,014	0,019	0,025	0,030	0,041	0,050	0,058	0,065	0,072	0,078	0,083	0,094	
	2	0,75 x D1	50	65	Fz	0,008	0,012	0,016	0,020	0,024	0,033	0,040	0,046	0,052	0,058	0,062	0,067	0,075	
	3	0,5 x D1	25	30	Fz	0,005	0,008	0,010	0,013	0,016	0,022	0,026	0,031	0,035	0,038	0,042	0,045	0,051	
H	4	1,25 x D1	50	55	Fz	0,006	0,009	0,013	0,017	0,021	0,030	0,037	0,043	0,048	0,053	0,057	0,061	0,069	
	1	1,0 x D1	80	110	Fz	0,009	0,013	0,018	0,022	0,027	0,037	0,045	0,051	0,058	0,063	0,068	0,073	0,080	
	2	1,0 x D1	70	90	Fz	0,007	0,010	0,013	0,017	0,020	0,028	0,033	0,038	0,043	0,047	0,050	0,053	0,059	

NOTE: Ø min and Ø max to be calculated with formula for helical ramping above.



HARVI I TE
Ramping 30°-45° • Application Data



Material Group	Max Depth			Recommended feed per tooth (Fz = mm/z) for Helical Interpolation and Ramping — z _{eff} = 2															
				KCPM15–KCSM15		Diameter – D1 [Ømin–Ømax] for helical interpolation													
		Cutting Speed — Vc m/min		mm															
		min	max		2,0	3,0	4,0	5,0	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0	25,0		
P	0	1,25 x D1	140	165	Fz	0,009	0,014	0,019	0,024	0,029	0,040	0,048	0,055	0,061	0,067	0,071	0,075	0,082	
	1	1,25 x D1	140	165	Fz	0,009	0,014	0,019	0,024	0,029	0,040	0,048	0,055	0,061	0,067	0,071	0,075	0,082	
	2	1,25 x D1	140	165	Fz	0,009	0,014	0,019	0,024	0,029	0,040	0,048	0,055	0,061	0,067	0,071	0,075	0,082	
	3	1,25 x D1	105	120	Fz	0,007	0,011	0,015	0,020	0,024	0,033	0,040	0,046	0,052	0,058	0,062	0,067	0,075	
	4	1,25 x D1	90	110	Fz	0,007	0,011	0,014	0,018	0,022	0,030	0,036	0,041	0,046	0,051	0,055	0,058	0,064	
	5	1,25 x D1	70	80	Fz	0,006	0,009	0,013	0,016	0,019	0,026	0,032	0,037	0,042	0,046	0,050	0,053	0,060	
M	6	1,25 x D1	55	65	Fz	0,005	0,008	0,011	0,013	0,016	0,022	0,027	0,031	0,034	0,038	0,040	0,043	0,047	
	1	1,25 x D1	75	90	Fz	0,007	0,011	0,015	0,020	0,024	0,033	0,040	0,046	0,052	0,058	0,062	0,067	0,075	
	2	1,25 x D1	50	60	Fz	0,006	0,009	0,013	0,016	0,019	0,026	0,032	0,037	0,042	0,046	0,050	0,053	0,060	
K	3	1,0 x D1	45	55	Fz	0,005	0,008	0,011	0,013	0,016	0,022	0,027	0,031	0,034	0,038	0,040	0,043	0,047	
	1	1,0 x D1	110	130	Fz	0,009	0,014	0,019	0,024	0,029	0,040	0,048	0,055	0,061	0,067	0,071	0,075	0,082	
	2	1,0 x D1	100	120	Fz	0,007	0,011	0,015	0,020	0,024	0,033	0,040	0,046	0,052	0,058	0,062	0,067	0,075	
S	3	1,0 x D1	90	110	Fz	0,006	0,009	0,013	0,016	0,019	0,026	0,032	0,037	0,042	0,046	0,050	0,053	0,060	
	1	0,75 x D1	80	90	Fz	0,007	0,011	0,015	0,020	0,024	0,033	0,040	0,046	0,052	0,058	0,062	0,067	0,075	
	2	0,75 x D1	55	65	Fz	0,006	0,009	0,013	0,016	0,019	0,026	0,032	0,037	0,042	0,046	0,050	0,053	0,060	
	3	0,5 x D1	20	28	Fz	0,004	0,006	0,008	0,011	0,013	0,017	0,021	0,025	0,028	0,031	0,033	0,036	0,040	
H	4	1,25 x D1	35	45	Fz	0,005	0,008	0,010	0,014	0,017	0,024	0,029	0,034	0,038	0,042	0,046	0,049	0,055	
	1	1,0 x D1	75	85	Fz	0,007	0,011	0,014	0,018	0,022	0,030	0,036	0,041	0,046	0,051	0,055	0,058	0,064	
	2	1,0 x D1	65	75	Fz	0,005	0,008	0,011	0,013	0,016	0,022	0,027	0,031	0,034	0,038	0,040	0,043	0,047	

NOTE: Ø min and Ø max to be calculated with formula for helical ramping above.



HARVI | TE

Plunging/Drilling • Application Data

Material Group	 		KCPM15–KCSM15		Recommended feed per revolution (fn =mm/rev) for plunging and drilling															
	Max Depth	Applicable	Coolant	Cutting Speed — Vc m/min		D1 — Diameter														
				min	max	mm	2,0	3,0	4,0	5,0	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0	25,0	
P	0	1,5 x D	●	Preferred	140	165	fn	0,028	0,033	0,040	0,045	0,055	0,065	0,080	0,095	0,110	0,120	0,140	0,160	0,180
	1	1,5 x D	●	Required	140	165	fn	0,028	0,033	0,040	0,045	0,055	0,065	0,080	0,095	0,110	0,120	0,140	0,160	0,180
	2	1,5 x D	●	Required	140	165	fn	0,028	0,033	0,040	0,045	0,055	0,065	0,080	0,095	0,110	0,120	0,140	0,160	0,180
	3	1 x D	●	Required	105	120	fn	0,015	0,020	0,028	0,033	0,040	0,050	0,060	0,070	0,085	0,100	0,110	0,125	0,150
	4	1 x D	●	Required	90	110	fn	0,015	0,020	0,028	0,033	0,040	0,050	0,060	0,070	0,085	0,100	0,110	0,125	0,150
	5	0,5 x D	●	Required	70	80	fn	0,010	0,014	0,018	0,020	0,025	0,035	0,040	0,050	0,055	0,065	0,075	0,085	0,100
M	6	0,5 x D	●	Required	55	65	fn	0,010	0,014	0,018	0,020	0,025	0,035	0,040	0,050	0,055	0,065	0,075	0,085	0,100
	1	0,75 x D	●	Required	75	90	fn	0,015	0,020	0,028	0,033	0,040	0,050	0,060	0,070	0,085	0,100	0,110	0,125	0,150
	2	0,5 x D	●	Required	50	60	fn	0,010	0,014	0,018	0,020	0,025	0,035	0,040	0,050	0,055	0,065	0,075	0,085	0,100
K	3	0,5 x D	●	Required	45	55	fn	0,010	0,014	0,018	0,020	0,025	0,035	0,040	0,050	0,055	0,065	0,075	0,085	0,100
	1	1,5 x D	●	Preferred	110	130	fn	0,028	0,033	0,040	0,045	0,055	0,065	0,080	0,095	0,110	0,120	0,140	0,160	0,180
	2	1 x D	●	Required	100	120	fn	0,015	0,020	0,028	0,033	0,040	0,050	0,060	0,070	0,085	0,100	0,110	0,125	0,150
S	3	1 x D	●	Required	90	110	fn	0,015	0,020	0,028	0,033	0,040	0,050	0,060	0,070	0,085	0,100	0,110	0,125	0,150
	1	0,3 x D	○	Required	80	90	fn	0,015	0,020	0,028	0,033	0,040	0,050	0,060	0,070	0,085	0,100	0,110	0,125	0,150
	2	0,1 x D	○	Required	55	65	fn	0,010	0,014	0,018	0,020	0,025	0,035	0,040	0,050	0,055	0,065	0,075	0,085	0,100
	3	0,1 x D	○	Required	20	28	fn	0,008	0,010	0,012	0,015	0,018	0,022	0,028	0,033	0,040	0,045	0,050	0,060	0,070
H	4	0,2 x D	○	Required	35	45	fn	0,010	0,014	0,018	0,020	0,025	0,035	0,040	0,050	0,055	0,065	0,075	0,085	0,100
	1	0,3 x D	○	Required	75	85	fn	0,015	0,020	0,028	0,033	0,040	0,050	0,060	0,070	0,085	0,100	0,110	0,125	0,150
	2	0,2 x D	○	Required	65	75	fn	0,010	0,014	0,018	0,020	0,025	0,035	0,040	0,050	0,055	0,065	0,075	0,085	0,100

SOLID END MILLING

APPLICATION RECOMMENDATION

for Surface Profiling with HARVI I TE



At the tip of the tool, only the center cutting edges exist.
The rotational velocity is zero in the center.



Not all four cutting edges reach the center of the HARVI I TE ball nose end mill. Due to this, certain tilt angles will engage different numbers of cutting edges and can alter the required cutting parameters. This will also be altered by the depths of cut, which will change the contact area and resulting number of edges engaged.

When surface profiling with any ball nose end mill, optimum performance will be achieved by tilting away from the center of the tool if possible. This is due to the fact that at the tip of the tool only the center cutting edges exist (two in the case of HARVI I TE), and also that the rotational velocity is zero in the center. Kennametal recommends tilting the end mill to engage more cutting edges and avoid the zero-speed condition.

As the HARVI I TE ball nose end mills do have two center cutting edges, it is possible to machine without tilting if the application requires this. Just factor the reduced number of cutting edges into the cutting parameter calculations.

HARVI I TE

Ball Nose



0°

In the case of the HARVI I TE ball nose end mill, it is possible to take much larger depths of cut than other standard ball nose end mills.

Therefore, a large depth of cut can result in partial engagement of all four edges at small or zero-tilt angles.



24°

For tilt angles less than 24° and shallow profiling depths, only two cutting edges will be typically engaged.

As the end mill is tilted above this, then all four edges will at least be partially engaged.



52° – 55°

For maximum profiling performance, a tilt angle of 52°-55° will result in full engagement of all edges with a wide range of cutting depths.

High Performance

HARVI SERIES

**HIGH-PERFORMANCE
ROUGHING AND FINISHING**



Materials



Industries



Automotive



General
Engineering



Oil & Gas



Aerospace



Medical



Wind & Solar

Applications



ROUGHING AND FINISHING IN MULTIPLE MATERIALS

- Unequally spaced flutes minimize vibrations and provide high tool life and superior surface quality
- Proprietary tapered-core design improves tool stability in roughing and finishing applications



Explore HARVI II &
HARVI II Long



Explore HARVI III

HARVI II & HARVI II Long



HARVI II: Non-center cutting

HARVI II Long: High feed rate capability for corner machining operations delivers additional productivity

HARVI III



HARVI III: Tailored axial and radial rake angles result in lower cutting forces and lower pressure on cutting edge, providing smooth cutting action and best surface finishes

Center cutting design enables radial and axial finishing pass after roughing operation

HARVI II

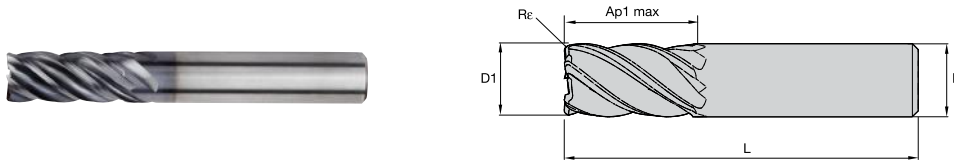
- 5-flute end mill for high-feed roughing and finishing with one tool in multiple materials

HARVI II Long

- 5-flute end mill for semi-finishing and finishing of thin walls and deep pockets in titanium, steels and stainless steels with excellent surface finishes

HARVI III

- 6-flute end mill for high-feed roughing and finishing with maximum MRR in titanium and stainless steels with excellent surface finishes

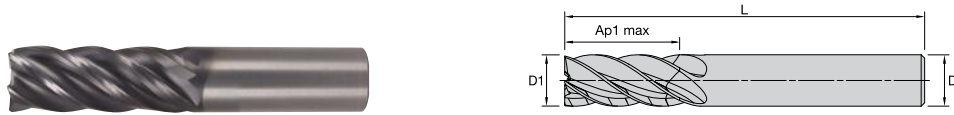


HARVI II • Radiused • 5 Flutes • Plain Shank • Metric

● Primary
○ Secondary

P	●	●	●
M	●	●	●
K	●	●	●
N	○	○	○
S	○	○	○
H	●	●	●

Catalog Number	D1	D	Ap1 max	L	Re	KC643M	KCPM15
UCDE0400A5ARA	4,00	6,00	11,00	55,00	0,25	3524411	4046284
UCDE0500A5ARA	5,00	6,00	13,00	57,00	0,25	3524433	4046288
UCDE0600A5ARA	6,00	6,00	13,00	57,00	0,40	3524435	4046291
UCDE0700A5ARA	7,00	8,00	16,00	63,00	0,40	3524437	4046374
UCDE0800A5ARA	8,00	8,00	19,00	63,00	0,50	3524439	4046377
UCDE0900A5ARA	9,00	10,00	19,00	72,00	0,50	3524441	4046380
UCDE1000A5ARA	10,00	10,00	22,00	72,00	0,50	3524443	4046383
UCDE1200A5ARA	12,00	12,00	26,00	83,00	0,75	3524445	4046386
UCDE1400A5ARA	14,00	14,00	26,00	83,00	0,75	3524447	4046389
UCDE1600A5ARA	16,00	16,00	32,00	92,00	0,75	3524449	4046392
UCDE1800A5ARA	18,00	18,00	32,00	92,00	0,75		4046395
UCDE2000A5ARA	20,00	20,00	38,00	104,00	0,75	3524453	4046398
UCDE2500A5ARA	25,00	25,00	45,00	121,00	0,75	3524455	4046401

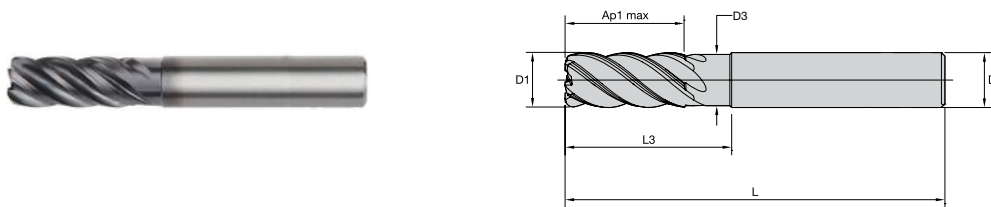


HARVI II • Square End • 5 Flutes • Plain Shank • Metric

● Primary
○ Secondary

P	●	●	●
M	●	●	●
K	●	●	●
N	○	○	○
S	○	○	○
H	●	●	●

Catalog Number	D1	D	Ap1 max	L	KC643M	KCPM15
UCDE0400A5ASA	4,00	6,00	11,00	55,00	3524456	4046285
UCDE0500A5ASA	5,00	6,00	13,00	57,00	3524412	4046289
UCDE0600A5ASA	6,00	6,00	13,00	57,00	3524434	4046292
UCDE0700A5ASA	7,00	8,00	16,00	63,00	3524436	4046375
UCDE0800A5ASA	8,00	8,00	19,00	63,00	3524438	4046378
UCDE0900A5ASA	9,00	10,00	19,00	72,00		4046381
UCDE1000A5ASA	10,00	10,00	22,00	72,00	3524442	4046384
UCDE1200A5ASA	12,00	12,00	26,00	83,00	3524444	4046387
UCDE1400A5ASA	14,00	14,00	26,00	83,00	3524446	4046390
UCDE1600A5ASA	16,00	16,00	32,00	92,00	3524448	4046393
UCDE1800A5ASA	18,00	18,00	32,00	92,00		4046396
UCDE2000A5ASA	20,00	20,00	38,00	104,00	3524452	4046399
UCDE2500A5ASA	25,00	25,00	45,00	121,00	3524454	



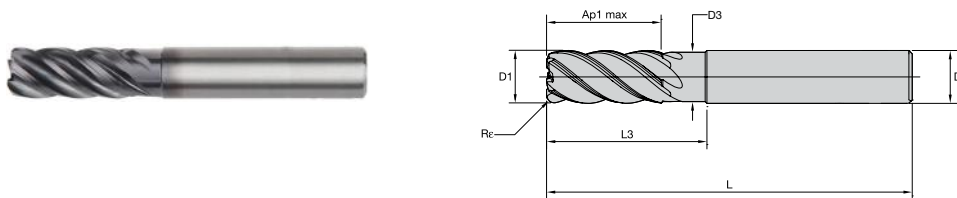
HARVI II • Square End • 5 Flutes • Necked • Plain Shank • Metric

● Primary
○ Secondary

P	●	●	●
M	●	●	●
K	●	●	●
N	○	○	○
S	○	○	○
H	●	●	●

Catalog Number	D1	D	Ap1 max	D3	L3	L	KC643M
UDDE0600A5ASA	6,00	6,00	13,00	5,64	0,71	63,00	3524485
UDDE0800A5ASA	8,00	8,00	19,00	7,52	0,94	76,00	3524489
UDDE1000A5ASA	10,00	10,00	22,00	9,40	1,18	76,00	3524513
UDDE1200A5ASA	12,00	12,00	26,00	11,28	1,42	83,00	3524518
UDDE1400A5ASA	14,00	14,00	26,00	13,15	1,65	84,00	3873931
UDDE1600A5ASA	16,00	16,00	32,00	15,04	1,89	100,00	3524523
UDDE2000A5ASA	20,00	20,00	38,00	18,80	2,36	115,00	3524529

SOLID END MILLING



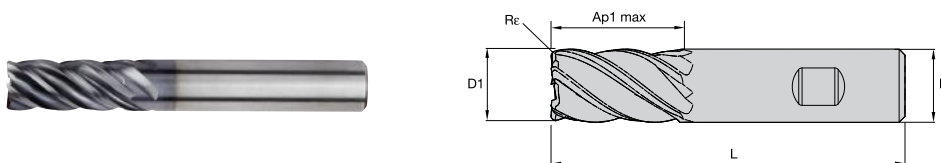
HARVI II • Radiused • 5 Flutes • Necked • Plain Shank • Metric

KC643M

P	●	●
M	●	●
K	●	●
N	○	○
S	○	○
H	○	○

- Primary
- Secondary

Catalog Number	D1	D	Ap1 max	D3	L3	L	Re	KC643M
UDDE0600A5ARA	6,00	6,00	13,00	5,64	0,71	63,00	0,50	3524486
UDDE0600A5ARB	6,00	6,00	13,00	5,64	0,71	63,00	1,00	3524487
UDDE0600A5ARC	6,00	6,00	13,00	5,64	0,71	63,00	1,50	3524488
UDDE0800A5ARA	8,00	8,00	19,00	7,52	0,94	76,00	0,50	3524490
UDDE0800A5ARB	8,00	8,00	19,00	7,52	0,94	76,00	1,00	3524491
UDDE0800A5ARC	8,00	8,00	19,00	7,52	0,94	76,00	2,00	3524492
UDDE1000A5ARA	10,00	10,00	22,00	9,40	1,18	76,00	0,50	3524514
UDDE1000A5ARB	10,00	10,00	22,00	9,40	1,18	76,00	1,00	3524515
UDDE1000A5ARC	10,00	10,00	22,00	9,40	1,18	76,00	2,00	3524516
UDDE1000A5ARD	10,00	10,00	22,00	9,40	1,18	76,00	2,50	3524517
UDDE1200A5ARA	12,00	12,00	26,00	11,28	1,42	84,00	0,50	3524519
UDDE1200A5ARB	12,00	12,00	26,00	11,28	1,42	83,00	1,00	3524520
UDDE1200A5ARC	12,00	12,00	26,00	11,28	1,42	83,00	2,00	3524521
UDDE1200A5ARD	12,00	12,00	26,00	11,28	1,42	83,00	3,00	3524522
UDDE1400A5ARA	14,00	14,00	26,00	13,15	1,65	84,00	0,50	3873932
UDDE1400A5ARC	14,00	14,00	26,00	13,15	1,65	84,00	2,00	3874034
UDDE1400A5ARD	14,00	14,00	26,00	13,15	1,65	84,00	3,00	3874035
UDDE1600A5ARA	16,00	16,00	32,00	15,04	1,89	100,00	0,50	3524524
UDDE1600A5ARB	16,00	16,00	32,00	15,04	1,89	100,00	1,00	3524525
UDDE1600A5ARC	16,00	16,00	32,00	15,04	1,89	100,00	2,00	3524526
UDDE1600A5ARD	16,00	16,00	32,00	15,04	1,89	100,00	3,00	3524527
UDDE1600A5ARE	16,00	16,00	32,00	15,04	1,89	100,00	4,00	3524528
UDDE1600A5ARP	16,00	16,00	32,00	15,04	1,89	100,00	6,00	6063443
UDDE2000A5ARA	20,00	20,00	38,00	18,80	2,36	115,00	0,50	3524530
UDDE2000A5ARB	20,00	20,00	38,00	18,80	2,36	115,00	1,00	3524531
UDDE2000A5ARC	20,00	20,00	38,00	18,80	2,36	115,00	2,00	3524532
UDDE2000A5ARD	20,00	20,00	38,00	18,80	2,36	115,00	3,00	3524533
UDDE2000A5ARE	20,00	20,00	38,00	18,80	2,36	115,00	4,00	3524534
UDDE2000A5ARP	20,00	20,00	38,00	18,80	2,36	115,00	6,00	6063444
UDDE2500A5ARA	25,00	25,00	45,00	23,50	2,95	135,00	0,50	3524536
UDDE2500A5ARC	25,00	25,00	45,00	23,50	2,95	135,00	2,00	3524538
UDDE2500A5ARD	25,00	25,00	45,00	23,50	2,95	135,00	3,00	3524539
UDDE2500A5ARE	25,00	25,00	45,00	23,50	2,95	135,00	4,00	3524540



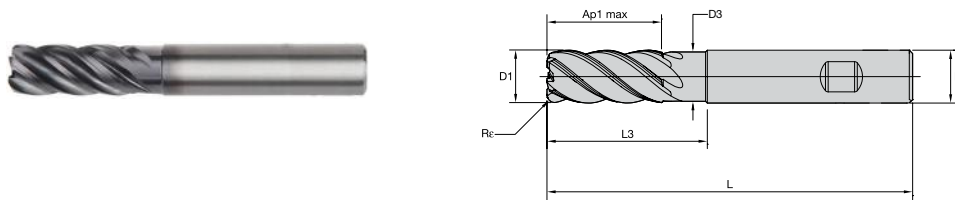
HARVI II • Radiused • 5 Flutes • Weldon Shank • Metric

KC643M
KCPM15

P	●	●
M	●	●
K	●	●
N	○	○
S	○	○
H	○	○

- Primary
- Secondary

Catalog Number	D1	D	Ap1 max	L	Re	KC643M	KCPM15
UCDE0400B5ARA	4,00	6,00	11,00	55,00	0,25		4046286
UCDE0500B5ARA	5,00	6,00	13,00	57,00	0,25		4046290
UCDE0600B5ARA	6,00	6,00	13,00	57,00	0,40	3524474	4046373
UCDE0700B5ARA	7,00	8,00	16,00	63,00	0,40		4046376
UCDE0800B5ARA	8,00	8,00	19,00	63,00	0,50	3524476	4046379
UCDE0900B5ARA	9,00	10,00	19,00	72,00	0,50		4046382
UCDE1000B5ARA	10,00	10,00	22,00	72,00	0,50	3524478	4046385
UCDE1200B5ARA	12,00	12,00	26,00	83,00	0,75	3524479	4046388
UCDE1400B5ARA	14,00	14,00	26,00	83,00	0,75	3524480	4046391
UCDE1600B5ARA	16,00	16,00	32,00	92,00	0,75	3524481	4046394
UCDE1800B5ARA	18,00	18,00	32,00	92,00	0,75		4046397
UCDE2000B5ARA	20,00	20,00	38,00	104,00	0,75	3524483	4046400
UCDE2500B5ARA	25,00	25,00	45,00	121,00	0,75	3524484	4046403



HARVI II • Radiused • 5 Flutes • Necked • Weldon Shank • Metric

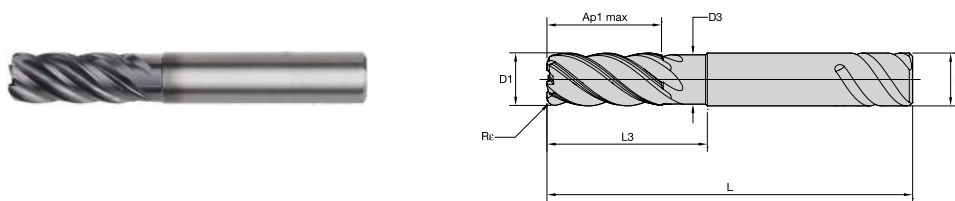
KC643M

P	Blue	●
M	Yellow	●
K	Red	●
N	Green	○
S	Orange	○
H	Grey	●

● Primary
○ Secondary

Catalog Number	D1	D	Ap1 max	D3	L3	L	Rc	KC643M
UDDE0600B5ARA	6,00	6,00	13,00	5,64	0,71	63,00	0,20	3524542
UDDE0600B5ARB	6,00	6,00	13,00	5,64	0,71	63,00	0,50	3524543
UDDE0600B5ARC	6,00	6,00	13,00	5,64	0,71	63,00	1,00	3524544
UDDE0600B5ARD	6,00	6,00	13,00	5,64	0,71	63,00	1,50	3524545
UDDE0800B5ARA	8,00	8,00	19,00	7,52	0,94	76,00	0,20	3524546
UDDE0800B5ARB	8,00	8,00	19,00	7,52	0,94	76,00	0,50	3524547
UDDE0800B5ARC	8,00	8,00	19,00	7,52	0,94	76,00	1,00	3524548
UDDE0800B5ARD	8,00	8,00	19,00	7,52	0,94	76,00	2,00	3524549
UDDE1000B5ARA	10,00	10,00	22,00	9,40	1,18	76,00	0,50	3524550
UDDE1000B5ARB	10,00	10,00	22,00	9,40	1,18	76,00	1,00	3524551
UDDE1000B5ARD	10,00	10,00	22,00	9,40	1,18	76,00	2,50	3524553
UDDE1200B5ARA	12,00	12,00	26,00	11,28	1,42	83,00	0,50	3524554
UDDE1200B5ARB	12,00	12,00	26,00	11,28	1,42	83,00	1,00	3524555
UDDE1200B5ARC	12,00	12,00	26,00	11,28	1,42	83,00	2,00	3524556
UDDE1200B5ARD	12,00	12,00	26,00	11,28	1,42	83,00	3,00	3524557
UDDE1400B5ARB	14,00	14,00	26,00	13,15	1,65	84,00	1,00	3874037
UDDE1600B5ARA	16,00	16,00	32,00	15,04	1,89	100,00	0,50	3524558
UDDE1600B5ARB	16,00	16,00	32,00	15,04	1,89	100,00	1,00	3524559
UDDE1600B5ARC	16,00	16,00	32,00	15,04	1,89	100,00	2,00	3524560
UDDE1600B5ARD	16,00	16,00	32,00	15,04	1,89	100,00	3,00	3524561
UDDE1600B5ARE	16,00	16,00	32,00	15,04	1,89	100,00	4,00	3524562
UDDE1600B5ARP	16,00	16,00	32,00	15,04	1,89	100,00	6,00	6064694
UDDE2000B5ARA	20,00	20,00	38,00	18,80	2,36	115,00	0,50	3524563
UDDE2000B5ARB	20,00	20,00	38,00	18,80	2,36	115,00	1,00	3524564
UDDE2000B5ARC	20,00	20,00	38,00	18,80	2,36	115,00	2,00	3524565
UDDE2000B5ARD	20,00	20,00	38,00	18,80	2,36	115,00	3,00	3524566
UDDE2000B5ARE	20,00	20,00	38,00	18,80	2,36	115,00	4,00	3524567
UDDE2000B5ARP	20,00	20,00	38,00	18,80	2,36	115,00	6,00	6064695
UDDE2500B5ARA	25,00	25,00	45,00	23,50	2,95	135,00	0,50	3524568
UDDE2500B5ARB	25,00	25,00	45,00	23,50	2,95	135,00	1,00	3524569
UDDE2500B5ARC	25,00	25,00	45,00	23,50	2,95	135,00	2,00	3524570
UDDE2500B5ARD	25,00	25,00	45,00	23,50	2,95	135,00	3,00	3524571
UDDE2500B5ARE	25,00	25,00	45,00	23,50	2,95	135,00	4,00	3524572
UDDE2500B5ARP	25,00	25,00	45,00	23,50	2,95	135,00	6,00	6064696

SOLID END MILLING



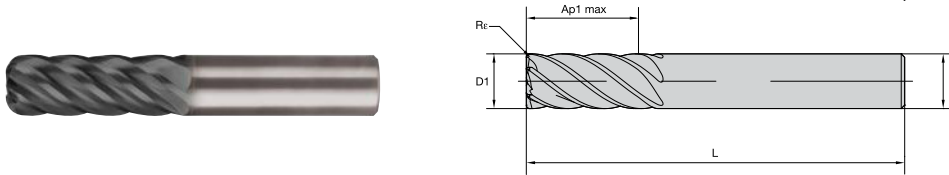
HARVI II • Radiused • 5 Flutes • Necked • SAFE- LOCK™ Shank • Metric

KCSM15

P	Blue	●
M	Yellow	●
K	Red	●
N	Green	○
S	Orange	○
H	Grey	●

● Primary
○ Secondary

Catalog Number	D1	D	Ap1 max	D3	L3	L	Rc	KCSM15
UDDE1200E5AQE	12,00	12,00	26,00	11,28	1,42	83,00	0,50	5358354



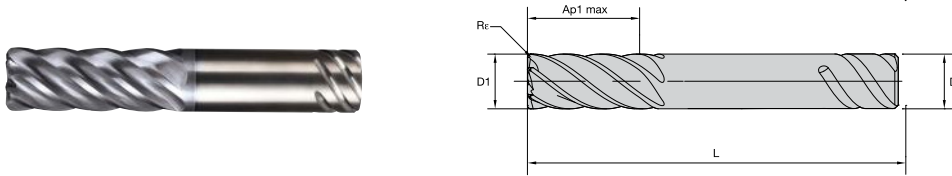
HARVI III • Radiused • 6 Flutes • Plain Shank • Metric

KCSM15

P	Blue	○
M	Yellow	●
K	Red	○
N	Green	○
S	Orange	●
H	Grey	●

● Primary
○ Secondary

Catalog Number	D1	D	Ap1 max	L	Re	KCSM15
UJDE1000A6ARE	10,00	10,00	22,00	72,00	0,50	5350287
UJDE1200A6ARF	12,00	12,00	26,00	83,00	0,75	5350324
UJDE1400A6ARF	14,00	14,00	26,00	83,00	0,75	5350336
UJDE1600A6ARF	16,00	16,00	32,00	92,00	0,75	5350339
UJDE2000A6ARF	20,00	20,00	38,00	104,00	0,75	5350613
UJDE2500A6ARF	25,00	25,00	45,00	121,00	0,75	5350649



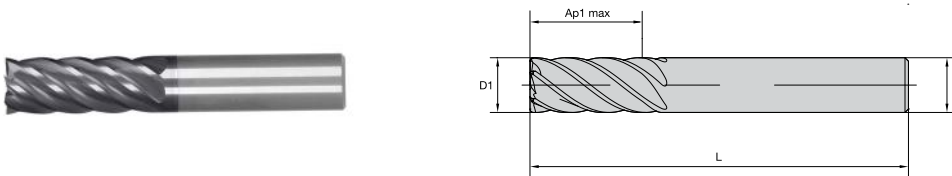
HARVI III • Radiused • 6 Flutes • SAFE- LOCK Shank • Metric

KCSM15

P	Blue	○
M	Yellow	●
K	Red	○
N	Green	○
S	Orange	●
H	Grey	●

● Primary
○ Secondary

Catalog Number	D1	D	Ap1 max	L	Re	KCSM15
UJDE1200E6ARF	12,00	12,00	26,00	83,00	0,75	5350326
UJDE1600E6ARF	16,00	16,00	32,00	92,00	0,75	5350340
UJDE2000E6ARF	20,00	20,00	38,00	104,00	0,75	5350615
UJDE2500E6ARF	25,00	25,00	45,00	121,00	0,75	5350650



HARVI III • Square End • 6 Flutes • Plain Shank • Metric

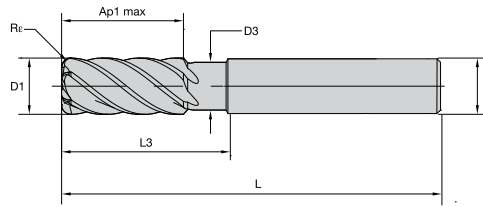
KCSM15

P	Blue	○
M	Yellow	●
K	Red	○
N	Green	○
S	Orange	●
H	Grey	●

● Primary
○ Secondary

Catalog Number	D1	D	Ap1 max	L	KCSM15
UJDE1000A6AS	10,00	10,00	22,00	72,00	5350288
UJDE1200A6AS	12,00	12,00	26,00	83,00	5350325
UJDE1400A6AS	14,00	14,00	26,00	83,00	5350338
UJDE1600A6AS	16,00	16,00	32,00	92,00	5350341
UJDE2000A6AS	20,00	20,00	38,00	104,00	5350616

SOLID END MILLING



HARVI III • Radiused • 6 Flutes • Necked • Plain Shank • Metric

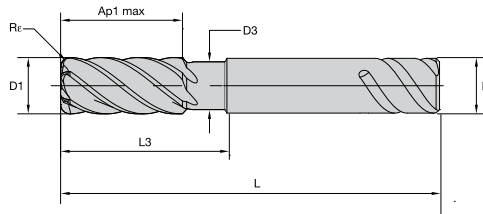
KCSM15

P	Blue	○
M	Yellow	●
K	Red	○
N	Green	○
S	Orange	●
H	Grey	●

● Primary
○ Secondary

Catalog Number	D1	D	Ap1 max	D3	L3	L	Rc	KCSM15
UJDE1000A6AQE	10,00	10,00	22,00	9,40	1,19	76,00	0,50	5350289
UJDE1000A6AQG	10,00	10,00	22,00	9,40	1,19	76,00	1,00	5350320
UJDE1000A6AQK	10,00	10,00	22,00	9,40	1,19	76,00	2,00	5350321
UJDE1200A6AQE	12,00	12,00	26,00	11,28	1,42	83,00	0,50	5350327
UJDE1200A6AQG	12,00	12,00	26,00	11,28	1,42	83,00	1,00	5350328
UJDE1200A6AQK	12,00	12,00	26,00	11,28	1,43	83,00	2,00	5350329
UJDE1200A6AQM	12,00	12,00	26,00	11,28	1,43	83,00	3,00	5350330
UJDE1600A6AQE	16,00	16,00	32,00	15,04	1,89	100,00	0,50	5350342
UJDE1600A6AQG	16,00	16,00	32,00	15,04	1,89	100,00	1,00	5350343
UJDE1600A6AQK	16,00	16,00	32,00	15,04	1,89	100,00	2,00	5350344
UJDE1600A6AQM	16,00	16,00	32,00	15,04	1,91	100,00	3,00	5350345
UJDE1600A6AQN	16,00	16,00	32,00	15,04	1,89	100,00	4,00	5350346
UJDE1600A6AQP	16,00	16,00	32,00	15,04	1,89	100,00	6,00	6063446
UJDE2000A6AQE	20,00	20,00	38,00	18,80	2,39	115,00	0,50	5350617
UJDE2000A6AQG	20,00	20,00	38,00	18,80	2,39	115,00	1,00	5350618
UJDE2000A6AQK	20,00	20,00	38,00	18,80	2,39	115,00	2,00	5350619
UJDE2000A6AQM	20,00	20,00	38,00	18,80	2,39	115,00	3,00	5350640
UJDE2000A6AQP	20,00	20,00	38,00	18,80	2,36	115,00	6,00	6063447
UJDE2500A6AQN	25,00	25,00	45,00	23,50	2,95	135,00	4,00	5350656

SOLID END MILLING



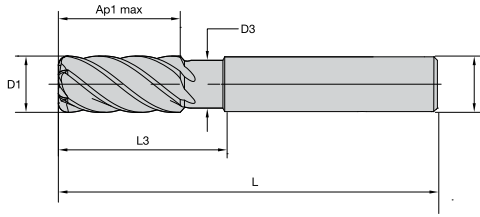
HARVI III • Radiused • 6 Flutes • Necked • SAFE- LOCK Shank • Metric

KCSM15

P	Blue	○
M	Yellow	●
K	Red	○
N	Green	○
S	Orange	●
H	Grey	●

● Primary
○ Secondary

Catalog Number	D1	D	Ap1 max	D3	L3	L	Rc	KCSM15
UJDE1200E6AQE	12,00	12,00	26,00	11,28	1,42	83,00	0,50	5350332
UJDE1200E6AQG	12,00	12,00	26,00	11,28	1,42	83,00	1,00	5350333
UJDE1600E6AQE	16,00	16,00	32,00	15,04	1,89	100,00	0,50	5350348
UJDE1600E6AQG	16,00	16,00	32,00	15,04	1,89	100,00	1,00	5350349
UJDE1600E6AQK	16,00	16,00	32,00	15,04	1,89	100,00	2,00	5350350
UJDE1600E6AQN	16,00	16,00	32,00	15,04	1,89	100,00	4,00	5350352
UJDE2000E6AQE	20,00	20,00	38,00	18,80	2,36	115,00	0,50	5350644
UJDE2000E6AQK	20,00	20,00	38,00	18,80	2,36	115,00	2,00	5350646
UJDE2000E6AQN	20,00	20,00	38,00	18,80	2,36	115,00	4,00	5350648
UJDE2500E6AQE	25,00	25,00	45,00	23,50	2,95	135,00	0,50	5350658



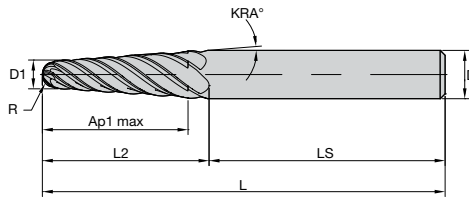
HARVI III • Square End • 6 Flutes • Necked • Plain Shank • Metric

KCSM15

P	Blue	○
M	Yellow	●
K	Red	○
N	Green	○
S	Orange	●
H	Grey	●

● Primary
○ Secondary

Catalog Number	D1	D	Ap1 max	D3	L3	L	KCSM15
UJDE1000A6ANS	10,00	10,00	22,00	9,40	1,18	76,00	5350323
UJDE1200A6ANS	12,00	12,00	26,00	11,28	1,42	83,00	5350331
UJDE1600A6ANS	16,00	16,00	32,00	15,04	1,89	100,00	5350347
UJDE2000A6ANS	20,00	20,00	38,00	18,80	2,36	115,00	5350642



HARVI III • Taper Ball Nose • 6 Flutes • Plain Shank • Metric

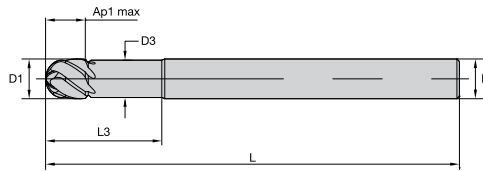
KCSM15

P	Blue	●
M	Yellow	●
K	Red	○
N	Green	○
S	Orange	●
H	Grey	●

● Primary
○ Secondary

Catalog Number	D1	D	Ap1 max	L2	LS	L	R	KRA°	KCSM15
UJBE0400A6BP	4,00	10,00	25,00	30,44	58,56	89,00	2,00	6,0	5970211
UJBE0400A6CP	4,00	8,00	26,00	30,53	45,47	76,00	2,00	4,0	5970180
UJBE0600A6BP	6,00	12,00	39,00	45,80	54,20	100,00	3,00	4,0	5970214
UJBE0600A6CP	6,00	16,00	42,00	50,42	59,59	110,00	3,00	6,0	5970215
UJBE0800A6CP	8,00	14,00	39,00	46,76	53,24	100,00	4,00	4,0	5970218
UJBE1000A6BP	10,00	16,00	25,00	33,28	76,72	110,00	5,00	6,0	5970221
UJBE1000A6CP	10,00	16,00	39,00	47,73	62,27	110,00	5,00	4,0	5970220

SOLID END MILLING



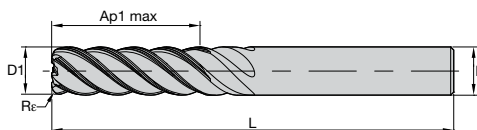
HARVI III • Ball Nose • 6 Flutes • Necked • Plain Shank • Metric

● Primary
○ Secondary

KCSM15	
P	●
M	●
K	●
N	●
S	●
H	●

Catalog Number	D1	D	Ap1 max	D3	L3	L	R	KCSM15
UJBE1000A6AL	10,00	10,00	10,00	9,40	1,18	121,50	5,00	5606542
UJBE1000A6AN	10,00	10,00	10,00	9,40	1,18	72,00	5,00	5606546
UJBE1200A6AL	12,00	12,00	12,00	11,28	1,42	125,00	6,00	5606543
UJBE1200A6AN	12,00	12,00	12,00	11,28	1,42	83,00	6,00	5606547
UJBE1600A6AL	16,00	16,00	16,00	15,04	1,89	150,00	8,00	5606544
UJBE1600A6AN	16,00	16,00	16,00	15,04	1,89	100,00	8,00	5606548
UJBE2000A6AN	20,00	20,00	20,00	18,80	2,36	115,00	10,00	5606549

SOLID END MILLING



KC643M

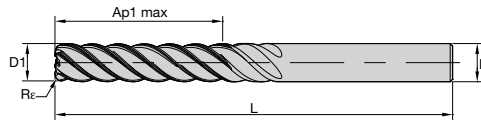
P	●
M	●
K	●
N	○
S	●
H	●

HARVI II Long • Radiused • 5 Flutes • 3xD • Plain Shank • Metric

- Primary
- Secondary

Catalog Number	D1	D	Ap1 max	L	Rε	KC643M
UGDE0600A5ARA	6,00	6,00	18,00	63,00	0,20	4124324
UGDE0600A5ARB	6,00	6,00	18,00	63,00	0,50	4124325
UGDE0600A5ARC	6,00	6,00	18,00	63,00	1,00	4124326
UGDE0800A5ARA	8,00	8,00	24,00	67,00	0,20	4124330
UGDE0800A5ARB	8,00	8,00	24,00	67,00	0,50	4124331
UGDE0800A5ARC	8,00	8,00	24,00	67,00	1,00	4124332
UGDE1000A5ARA	10,00	10,00	30,00	76,00	0,50	4124346
UGDE1000A5ARB	10,00	10,00	30,00	76,00	1,00	4124347
UGDE1000A5ARC	10,00	10,00	30,00	76,00	2,00	4124348
UGDE1000A5ARD	10,00	10,00	30,00	76,00	2,50	4124349
UGDE1200A5ARA	12,00	12,00	36,00	100,00	0,50	4124354
UGDE1200A5ARB	12,00	12,00	36,00	100,00	1,00	4124355
UGDE1200A5ARC	12,00	12,00	36,00	100,00	2,00	4124356
UGDE1200A5ARD	12,00	12,00	36,00	100,00	2,50	4124357
UGDE1400A5ARD	14,00	14,00	42,00	100,00	3,00	4156131
UGDE1600A5ARA	16,00	16,00	48,00	110,00	1,00	4124362
UGDE1600A5ARB	16,00	16,00	48,00	110,00	2,00	4124363
UGDE1600A5ARC	16,00	16,00	48,00	110,00	2,50	4124364
UGDE1600A5ARD	16,00	16,00	48,00	110,00	3,00	4124365
UGDE1600A5ARE	16,00	16,00	48,00	110,00	4,00	4124366
UGDE2000A5ARA	20,00	20,00	60,00	125,00	1,00	4124372
UGDE2000A5ARB	20,00	20,00	60,00	125,00	2,00	4124373
UGDE2000A5ARC	20,00	20,00	60,00	125,00	2,50	4124374
UGDE2000A5ARD	20,00	20,00	60,00	125,00	3,00	4124375
UGDE2000A5ARE	20,00	20,00	60,00	125,00	4,00	4124376
UGDE2000A5ARP	20,00	20,00	60,00	125,00	6,00	6064701
UGDE2500A5ARA	25,00	25,00	75,00	150,00	1,00	4124382
UGDE2500A5ARB	25,00	25,00	75,00	150,00	2,00	4124383
UGDE2500A5ARD	25,00	25,00	75,00	150,00	3,00	4124385
UGDE2500A5ARE	25,00	25,00	75,00	150,00	4,00	4124386
UGDE2500A5ARP	25,00	25,00	75,00	150,00	6,00	6064702

SOLID END MILLING



HARVI II Long • Radiused • 5 Flutes • 5xD • Plain Shank • Metric

- Primary
- Secondary

KC643M

P	●
M	●
K	●
N	○
S	●
H	●

Catalog Number	D1	D	Ap1 max	L	Rε	KC643M
UGDE0600A5BRA	6,00	6,00	30,00	76,00	0,20	4124327
UGDE0600A5BRB	6,00	6,00	30,00	76,00	0,50	4124328
UGDE0600A5BRC	6,00	6,00	30,00	76,00	1,00	4124329
UGDE0800A5BRA	8,00	8,00	40,00	87,00	0,20	4124343
UGDE0800A5BRB	8,00	8,00	40,00	87,00	0,50	4124344
UGDE0800A5BRC	8,00	8,00	40,00	87,00	1,00	4124345
UGDE1000A5BRA	10,00	10,00	50,00	100,00	0,50	4124350
UGDE1000A5BRB	10,00	10,00	50,00	100,00	1,00	4124351
UGDE1000A5BRC	10,00	10,00	50,00	100,00	2,00	4124352
UGDE1000A5BRD	10,00	10,00	50,00	100,00	2,50	4124353
UGDE1200A5BRA	12,00	12,00	60,00	125,00	0,50	4124358
UGDE1200A5BRB	12,00	12,00	60,00	125,00	1,00	4124359
UGDE1200A5BRC	12,00	12,00	60,00	125,00	2,00	4124360
UGDE1200A5BRD	12,00	12,00	60,00	125,00	2,50	4124361
UGDE1400A5BRD	14,00	14,00	70,00	120,00	3,00	4156132
UGDE1600A5BRA	16,00	16,00	80,00	141,00	1,00	4124367
UGDE1600A5BRB	16,00	16,00	80,00	141,00	2,00	4124368
UGDE1600A5BRC	16,00	16,00	80,00	141,00	2,50	4124369
UGDE1600A5BRD	16,00	16,00	80,00	141,00	3,00	4124370
UGDE1600A5BRE	16,00	16,00	80,00	141,00	4,00	4124371
UGDE1600A5BRP	16,00	16,00	80,00	141,00	6,00	6063449
UGDE2000A5BRA	20,00	20,00	100,00	166,00	1,00	4124377
UGDE2000A5BRB	20,00	20,00	100,00	166,00	2,00	4124378
UGDE2000A5BRC	20,00	20,00	100,00	166,00	2,50	4124379
UGDE2000A5BRD	20,00	20,00	100,00	166,00	3,00	4124380
UGDE2000A5BRE	20,00	20,00	100,00	166,00	4,00	4124381
UGDE2000A5BRP	20,00	20,00	100,00	166,00	6,00	6063450
UGDE2500A5BRA	25,00	25,00	125,00	190,00	1,00	4124387
UGDE2500A5BRB	25,00	25,00	125,00	190,00	2,00	4124388
UGDE2500A5BRD	25,00	25,00	125,00	190,00	3,00	4124390
UGDE2500A5BRE	25,00	25,00	125,00	190,00	4,00	4124391
UGDE2500A5BRP	25,00	25,00	125,00	190,00	6,00	6063471

SOLID END MILLING

APPLICATION DATA



HARVI II

UCDE • Application Data

Material Group					KC643M		KCPM15		Recommended feed per tooth (Fz = mm/th) for side milling (A). For slotting (B), reduce Fz by 10%.										
	A		B		Cutting Speed — Vc m/min		Cutting Speed — Vc m/min		mm	D1 — Diameter									
	ap	ae	ap		min	max	min	max		5,0	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0	25,0
P	0	1,5 x D	0,5 x D	1 x D	150	200	150	200	Fz	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114	0,124
	1	1,5 x D	0,5 x D	1 x D	150	200	150	200	Fz	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114	0,124
	2	1,5 x D	0,5 x D	1 x D	140	190	140	190	Fz	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114	0,124
	3	1,5 x D	0,5 x D	1 x D	120	160	120	160	Fz	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101	0,114
	4	1,5 x D	0,5 x D	0,75 x D	90	150	90	150	Fz	0,027	0,033	0,045	0,054	0,062	0,070	0,077	0,083	0,088	0,098
	5	1,5 x D	0,5 x D	1 x D	60	100	60	100	Fz	0,024	0,029	0,040	0,048	0,056	0,063	0,070	0,076	0,081	0,091
M	1	1,5 x D	0,5 x D	1 x D	90	115	90	115	Fz	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101	0,114
	2	1,5 x D	0,5 x D	1 x D	60	80	60	80	Fz	0,024	0,029	0,040	0,048	0,056	0,063	0,070	0,076	0,081	0,091
	3	1,5 x D	0,5 x D	1 x D	60	70	60	70	Fz	0,020	0,025	0,034	0,040	0,047	0,052	0,057	0,061	0,065	0,071
K	1	1,5 x D	0,5 x D	1 x D	120	150	120	150	Fz	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114	0,124
	2	1,5 x D	0,5 x D	1 x D	110	140	110	140	Fz	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101	0,114
	3	1,5 x D	0,5 x D	1 x D	110	130	110	130	Fz	0,024	0,029	0,040	0,048	0,056	0,063	0,070	0,076	0,081	0,091
S	1	1,5 x D	0,3 x D	0,3 x D	50	90	—	—	Fz	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101	0,114
	2	1,5 x D	0,3 x D	0,3 x D	25	40	—	—	Fz	0,016	0,019	0,026	0,032	0,037	0,042	0,046	0,050	0,054	0,061
	3	1,5 x D	0,3 x D	0,3 x D	25	40	—	—	Fz	0,016	0,019	0,026	0,032	0,037	0,042	0,046	0,050	0,054	0,061
	4	1,5 x D	0,5 x D	1 x D	50	60	—	—	Fz	0,021	0,026	0,037	0,045	0,052	0,058	0,064	0,069	0,074	0,084
H	1	1,5 x D	0,5 x D	0,75 x D	80	140	80	140	Fz	0,027	0,033	0,045	0,054	0,062	0,070	0,077	0,083	0,088	0,098

NOTE: These guidelines may require variations to achieve optimum results.

Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.

Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.

Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >12mm diameter.

SOLID END MILLING



HARVI II
UDDE • Application Data

Material Group						KCSM15/ KC643M	Recommended feed per tooth (Fz = mm/th) for side milling (A). For slotting (B), reduce Fz by 10%.											
		A		B			Cutting Speed — Vc m/min		D1 — Diameter									
		ap	ae	ap			min	max	mm	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0	25,0
P	5	1,5 x D	0,5 x D	1 x D		60	100	Fz	0,029	0,040	0,048	0,056	0,063	0,070	0,076	0,081	0,091	
	6	1,5 x D	0,5 x D	0,75 x D		50	75	Fz	0,025	0,034	0,040	0,047	0,052	0,057	0,061	0,065	0,071	
K	1	1,5 x D	0,5 x D	1 x D		120	150	Fz	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114	0,124	
	2	1,5 x D	0,5 x D	1 x D		110	140	Fz	0,036	0,050	0,061	0,07	0,079	0,087	0,095	0,101	0,114	
S	3	1,5 x D	0,5 x D	1 x D		110	130	Fz	0,029	0,040	0,048	0,056	0,063	0,070	0,076	0,081	0,091	
	1	1,5 x D	0,3 x D	0,3 x D		50	90	Fz	0,036	0,050	0,061	0,07	0,079	0,087	0,095	0,101	0,114	
	2	1,5 x D	0,3 x D	0,3 x D		25	40	Fz	0,019	0,026	0,032	0,037	0,042	0,046	0,050	0,054	0,061	
	3	1,5 x D	0,3 x D	0,3 x D		25	40	Fz	0,019	0,026	0,032	0,037	0,042	0,046	0,050	0,054	0,061	
H	4	1,5 x D	0,5 x D	1 x D		50	60	Fz	0,026	0,037	0,045	0,052	0,058	0,064	0,069	0,074	0,084	
	1	1,5 x D	0,5 x D	0,75 x D		80	140	Fz	0,033	0,045	0,054	0,062	0,070	0,077	0,083	0,088	0,098	

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >12mm diameter.
 Side milling applications — for longest reach (L3) tools, reduce Ae by 30%.
 Slot milling applications — for longest reach (L3) tools, reduce Ae by 30%.

SOLID END MILLING

HARVI II UCDE & UDDE
Adjustment Factor for Feed and Speed Calculation

	Ae/D	2%	4%	5%	8%	10%	12%	20%	30%	40%	50%	100%
Speed factor	Kv	2,1–3,6	1,6–3	1,6–2,5	1,6	1,4	1,38	1,3	1,2	1,1	1	0,9
Feed factor	KFz	3,58	2,56	2,3	1,84	1,67	1,54	1,25	1,09	1,02	1	1

NOTE: For an Ae/D ratio of 5% or less there is a range given for speed factor Kv, which allows the user to either be more conservative at the lower value or more aggressive with the higher value.
 This can also be considered based on the machinability of the material, from difficult to free cutting.
 These calculations are for roughing/semi-finishing cuts when used with the recommended base Fz.
 For light finishing cuts requiring improved surface quality it is recommended to reduce the base Fz approximately 50% and then apply these factors.

To calculate application-specific cutting data, please use Kv coefficient table above for adaptation of cutting speed and KFz for feed respectively.

Vc new = Vc * Kv
 Fz new = Fz * KFz

Calculation example:
 Application: D = 20mm, HARVI II UCDE;
 M2 material group;
 Ae = 2mm
 Cutting data recommendation: Vc = 80 m/min;
 Fz = 0,089 mm/th
 Adjustment coefficients: Ae = 2mm equals 10,0%;
 Kv = 1,4; KFz = 1,67

Final cutting data recommendation:
 Vc new = 80 * 1,4 = 112 m/min
 Fz new = 0,089 * 1,67 = 0,15 mm/min




3xD Lengths of Cut



5xD Lengths of Cut

HARVI II Long

3xD and 5xD • Application Data

Material Group			KC643M		Recommended feed per tooth (Fz = mm/th) for side milling (A).									
			Cutting Speed — Vc m/min		mm	D1 — Diameter								
	ap	ae	Min	Max		6,0	8,0	10,0	12,0	14,0	16,0	20,0	25,0	
P	1	ap max	0,05 x D*	300	400	Fz	0,044	0,060	0,072	0,083	0,092	0,101	0,114	0,124
	2	ap max	0,05 x D*	280	380	Fz	0,044	0,060	0,072	0,083	0,092	0,101	0,114	0,124
	3	ap max	0,05 x D*	240	320	Fz	0,036	0,050	0,061	0,070	0,079	0,087	0,101	0,114
	4	ap max	0,05 x D*	180	300	Fz	0,033	0,045	0,054	0,062	0,070	0,077	0,088	0,098
	5	ap max	0,05 x D*	120	200	Fz	0,029	0,040	0,048	0,056	0,063	0,070	0,081	0,091
	6	ap max	0,05 x D*	100	150	Fz	0,025	0,034	0,040	0,047	0,052	0,057	0,065	0,071
M	1	ap max	0,05 x D*	180	230	Fz	0,036	0,050	0,061	0,070	0,079	0,087	0,101	0,114
	2	ap max	0,05 x D*	120	160	Fz	0,029	0,040	0,048	0,056	0,063	0,070	0,081	0,091
K	3	ap max	0,05 x D*	120	140	Fz	0,025	0,034	0,040	0,047	0,052	0,057	0,065	0,071
	1	ap max	0,05 x D*	240	300	Fz	0,044	0,060	0,072	0,083	0,092	0,101	0,114	0,124
S	2	ap max	0,05 x D*	220	280	Fz	0,036	0,050	0,061	0,070	0,079	0,087	0,101	0,114
	3	ap max	0,05 x D*	220	260	Fz	0,029	0,040	0,048	0,056	0,063	0,070	0,081	0,091
H	1	ap max	0,05 x D*	100	180	Fz	0,036	0,050	0,061	0,070	0,079	0,087	0,101	0,114
	2	ap max	0,05 x D*	50	100	Fz	0,019	0,026	0,032	0,037	0,042	0,046	0,054	0,061
H	3	ap max	0,05 x D*	50	80	Fz	0,019	0,026	0,032	0,037	0,042	0,046	0,054	0,061
	4	ap max	0,05 x D*	100	120	Fz	0,026	0,037	0,045	0,052	0,058	0,064	0,074	0,084
H	1	ap max	0,05 x D*	160	280	Fz	0,033	0,045	0,054	0,062	0,070	0,077	0,088	0,098

* For the above cutting data, do not exceed an overall ae of 0,8mm.

NOTE: These guidelines may require variations to achieve optimum results.

Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.

Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.

Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >12mm diameter.

SOLID END MILLING



With Neck



Without Neck

HARVI III

Application Data

Material Group		KCSM15		Recommended feed per tooth (Fz = mm/th) for side milling.								
				Cutting Speed — Vc m/min		mm	D1 — Diameter					
				ap	ae		Min	Max	10,0	12,0	16,0	18,0
P	4	ap max	0,4 x D	90	150	Fz	0,054	0,062	0,077	0,083	0,088	0,098
	5	ap max	0,4 x D	60	100	Fz	0,048	0,056	0,070	0,076	0,081	0,091
M	1	ap max	0,4 x D	90	115	Fz	0,061	0,070	0,087	0,095	0,101	0,114
	2	ap max	0,4 x D	60	80	Fz	0,048	0,056	0,070	0,076	0,081	0,091
S	3	ap max	0,4 x D	60	70	Fz	0,040	0,047	0,057	0,061	0,065	0,071
	1	ap max	0,4 x D	50	90	Fz	0,061	0,070	0,087	0,095	0,101	0,114
H	2	ap max	0,4 x D	25	40	Fz	0,032	0,037	0,046	0,050	0,054	0,061
	3	ap max	0,4 x D	25	40	Fz	0,032	0,037	0,046	0,050	0,054	0,061
H	4	ap max	0,4 x D	50	60	Fz	0,045	0,052	0,064	0,069	0,074	0,084
	1	ap max	0,4 x D	80	140	Fz	0,054	0,062	0,077	0,083	0,088	0,098

NOTE: These guidelines may require variations to achieve optimum results.

Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.

Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.

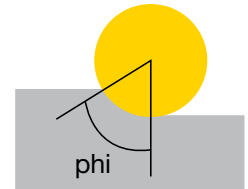
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >12mm diameter.

SOLID END MILLING

HARVI III

Adjustment Factor for Feed and Speed Calculation

	Ae/D	2%	4%	5%	8%	10%	12%	20%	30%
Speed factor	Kv	1,75–3,0	1,33–2,52	1,33–2,1	1,33	1,17	1,15	1,08	1,00
Feed factor	KFz	3,28	2,35	2,11	1,69	1,53	1,41	1,15	1,00
phi [°]		16,26	23,07	25,84	32,86	36,87	40,54	53,13	66,42



NOTE: For an Ae/D ratio of 5% or less there is a range given for speed factor Kv, which allows the user to either be more conservative at the lower value or more aggressive with the higher value.

This can also be considered based on the machinability of the material, from difficult to free cutting.

These calculations are for roughing/semi-finishing cuts when used with the recommended base Fz.

For light finishing cuts requiring improved surface quality it is recommended to reduce the base Fz approximately 50% and then apply these factors.

To calculate application specific cutting data, please use above Kv coefficient for adaptation of cutting speed and KFz for feed respectively.

$$Vc_{new} = Vc * Kv$$

$$Fz_{new} = Fz * KFz$$

Calculation example:

Application: D1 = 16,0mm;

S4 material group;

Ae 1,6mm (Ae = 10% of D)

Cutting data recommendation: Vc = 60m/min;

Fz = 0,064mm/th

Adjustment coefficients: Kv = 1,17mm;

KFz = 1,53

Final cutting data recommendation:

Vc new = 60 * 1,17 = 70m/min

Fz new = 0,064128 * 1,53 = 0,098mm/th



Ball Nose With Neck



Taper Ball Nose

HARVI III

Ball Nose & Taper Ball Nose • Application Data • Roughing

Material Group	ap	ae	KCSM15		Recommended feed per tooth (fz = mm/th) for side milling.												
			Cutting Speed — Vc m/min		mm	D1 — Diameter											
			Min	Max		4,0	5,0	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0	25,0	
P	0	Ap max	0,4 x D	150	200	Fz	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114	0,124
	1	Ap max	0,4 x D	150	200	Fz	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114	0,124
	2	Ap max	0,4 x D	140	190	Fz	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114	0,124
	3	Ap max	0,4 x D	120	160	Fz	0,023	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101	0,114
	4	Ap max	0,4 x D	90	150	Fz	0,021	0,027	0,033	0,045	0,054	0,062	0,070	0,077	0,083	0,088	0,098
	5	Ap max	0,4 x D	60	100	Fz	0,019	0,024	0,029	0,040	0,048	0,056	0,063	0,070	0,076	0,081	0,091
M	6	Ap max	0,4 x D	50	75	Fz	0,016	0,020	0,025	0,034	0,040	0,047	0,052	0,057	0,061	0,065	0,071
	1	Ap max	0,4 x D	90	115	Fz	0,023	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101	0,114
	2	Ap max	0,4 x D	60	80	Fz	0,019	0,024	0,029	0,040	0,048	0,056	0,063	0,070	0,076	0,081	0,091
S	3	Ap max	0,4 x D	60	70	Fz	0,016	0,020	0,025	0,034	0,040	0,047	0,052	0,057	0,061	0,065	0,071
	1	Ap max	0,4 x D	50	90	Fz	0,023	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101	0,114
	2	Ap max	0,4 x D	25	50	Fz	0,013	0,016	0,019	0,026	0,032	0,037	0,042	0,046	0,050	0,054	0,061
	3	Ap max	0,4 x D	25	40	Fz	0,013	0,016	0,019	0,026	0,032	0,037	0,042	0,046	0,050	0,054	0,061
H	4	Ap max	0,4 x D	50	60	Fz	0,016	0,021	0,026	0,037	0,045	0,052	0,058	0,064	0,069	0,074	0,084
	1	Ap max	0,4 x D	80	140	Fz	0,021	0,027	0,033	0,045	0,054	0,062	0,070	0,077	0,083	0,088	0,098

NOTE: These guidelines may require variations to achieve optimum results.
 Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >12mm diameter.



Ball Nose With Neck



Taper Ball Nose

HARVI III

Ball Nose & Taper Ball Nose • Application Data • Finishing

Material Group	ap	ae	KCSM15		Recommended feed per tooth (fz = mm/th) for side milling.												
			Cutting Speed — Vc m/min		mm	D1 — Diameter											
			Min	Max		4,0	5,0	6,0	8,0	10,0	12,0	16,0	18,0	20,0	25,0		
P	0	Ap max	0,06 x D	285	380	Fz	0,034	0,043	0,053	0,072	0,086	0,099	0,121	0,130	0,137	0,149	
	1	Ap max	0,06 x D	285	380	Fz	0,034	0,043	0,053	0,072	0,086	0,099	0,121	0,130	0,137	0,149	
	2	Ap max	0,06 x D	266	361	Fz	0,034	0,043	0,053	0,072	0,086	0,099	0,121	0,130	0,137	0,149	
	3	Ap max	0,06 x D	228	304	Fz	0,028	0,036	0,044	0,060	0,073	0,084	0,105	0,113	0,121	0,137	
	4	Ap max	0,06 x D	171	285	Fz	0,026	0,033	0,039	0,054	0,065	0,075	0,092	0,099	0,106	0,117	
	5	Ap max	0,06 x D	114	190	Fz	0,023	0,029	0,035	0,048	0,058	0,067	0,084	0,091	0,097	0,109	
M	6	Ap max	0,06 x D	95	142,5	Fz	0,019	0,024	0,030	0,040	0,048	0,056	0,068	0,073	0,078	0,085	
	1	Ap max	0,06 x D	171	218,5	Fz	0,028	0,036	0,044	0,060	0,073	0,084	0,105	0,113	0,121	0,137	
	2	Ap max	0,06 x D	114	152	Fz	0,023	0,029	0,035	0,048	0,058	0,067	0,084	0,091	0,097	0,109	
S	3	Ap max	0,06 x D	114	133	Fz	0,019	0,024	0,030	0,040	0,048	0,056	0,068	0,073	0,078	0,085	
	1	Ap max	0,06 x D	95	171	Fz	0,028	0,036	0,044	0,060	0,073	0,084	0,105	0,113	0,121	0,137	
	2	Ap max	0,06 x D	47,5	95	Fz	0,015	0,019	0,023	0,032	0,038	0,045	0,056	0,060	0,065	0,074	
	3	Ap max	0,06 x D	47,5	76	Fz	0,015	0,019	0,023	0,032	0,038	0,045	0,056	0,060	0,065	0,074	
H	4	Ap max	0,06 x D	95	114	Fz	0,019	0,025	0,031	0,044	0,053	0,062	0,077	0,083	0,089	0,100	
	1	Ap max	0,06 x D	152	266	Fz	0,026	0,033	0,039	0,054	0,065	0,075	0,092	0,099	0,106	0,117	

NOTE: These guidelines may require variations to achieve optimum results.
 Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >12mm diameter.

APPLICATION RECOMMENDATION

for Surface Profiling with HARVI III Ball Nose & Taper Ball Nose



At the tip of the tool, only the center cutting edges exist. The rotational velocity is zero in the center.



Not all six cutting edges reach the center of the HARVI III ball nose end mill. Due to this, certain tilt angles will engage different numbers of cutting edges and can alter the required cutting parameters. This will also be altered by the depths of cut, which will change the contact area and resulting number of edges engaged.

When surface profiling with any ball nose end mill, optimum performance will be achieved by tilting away from the center of the tool if possible. This is due to the fact that at the tip of the tool only the center cutting edges exist (two in the case of HARVI III), and also that the rotational velocity is zero in the center. Kennametal recommends tilting the end mill to engage more cutting edges and avoid the zero-speed condition.

As the HARVI III ball nose end mills do have two center cutting edges, it is possible to machine without tilting if the application requires this. Just factor the reduced number of cutting edges into the cutting parameter calculations.

SOLID END MILLING

HARVI III

Ball Nose & Taper Ball Nose



For tilt angles less than 15° and shallow profiling depths, only two cutting edges will be typically engaged. As the end mill is tilted above this, the next two edges will engage.



After reaching a tilt angle of at least 22°, then all six edges will at least be partially engaged.



For maximum profiling performance, a tilt angle of 40°–45° will result in full engagement of all edges with a wide range of cutting depths.



MT 3/8x3/8L-2 1/8x1 1/2 R.06 002019
PART 6161826 1209255A-038L

High Performance

KOR 5^{DS}

**HIGH-PERFORMANCE
DYNAMIC MILLING**

Materials



Industries



Automotive



General
Engineering



Oil & Gas



Aerospace



Medical



Wind & Solar

Applications



Designed for dynamic milling with low radial engagement and full length of cut

Maximizes capabilities of 5-axis machines using CAM tool path generation software





Flute form reduces vibrations and improves tool life

Helix angles tailored specifically for steels and stainless steels to minimize vibration and optimize tool life

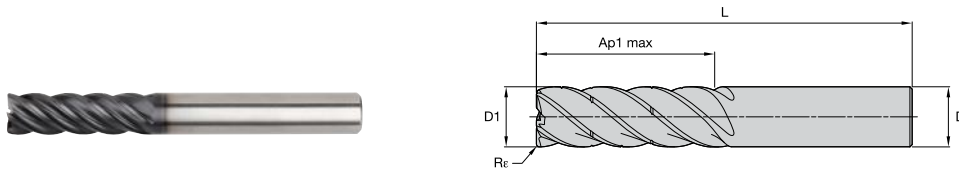
Front end geometry for maximum tool life in helical and ramping operations

DYNAMIC ROUGHER FOR STEELS AND STAINLESS STEELS

- With chip deformers for near-perfect chip management at high surface quality
- Weldon shanks for pullout protection
- 3xD and 5xD with length of cut options



Explore KOR5 DS



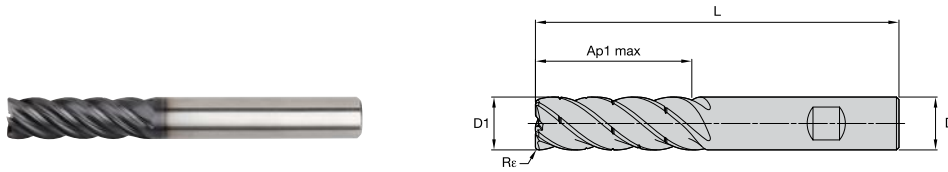
KOR 5^{DS} • Radiused • 5 Flutes • 3xD • Plain Shank • Metric

● Primary
○ Secondary

KC643M

P	○
M	●
K	○
N	○
S	○
H	○

Catalog Number	D1	D	Ap1 max	L	Re	KC643M
KOR5RA0800R024HAR050CM	8,00	8,00	24,00	67,00	0,50	6763959
KOR5RA1000R030HAR050CM	10,00	10,00	30,00	80,00	0,50	6763960
KOR5RA1200R036HAR075CM	12,00	12,00	36,00	100,00	0,75	6763981
KOR5RA1600R048HAR100CM	16,00	16,00	48,00	110,00	1,00	6763982
KOR5RA2000R060HAR100CM	20,00	20,00	60,00	125,00	1,00	6763984



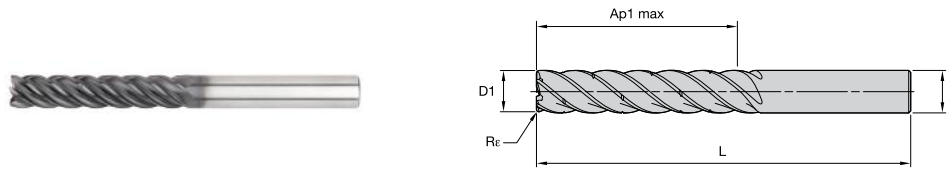
KOR 5^{DS} • Radiused • 5 Flutes • 3xD • Weldon Shank • Metric

● Primary
○ Secondary

KC643M

P	○
M	●
K	○
N	○
S	○
H	○

Catalog Number	D1	D	Ap1 max	L	Re	KC643M
KOR5RA0800R024HBR050CM	8,00	8,00	24,00	67,00	0,50	6763986
KOR5RA1000R030HBR050CM	10,00	10,00	30,00	80,00	0,50	6763987
KOR5RA1200R036HBR075CM	12,00	12,00	36,00	100,00	0,75	6763988
KOR5RA1600R048HBR100CM	16,00	16,00	48,00	110,00	1,00	6763989
KOR5RA2000R060HBR100CM	20,00	20,00	60,00	125,00	1,00	6763992



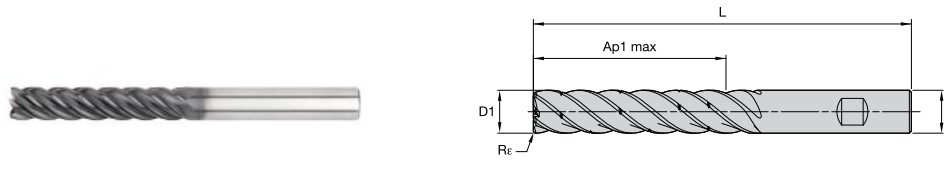
KOR 5^{DS} • Radiused • 5 Flutes • 5xD • Plain Shank • Metric

● Primary
○ Secondary

KC643M

P	○
M	●
K	○
N	○
S	○
H	○

Catalog Number	D1	D	Ap1 max	L	Re	KC643M
KOR5RA0800L040HAR050CM	8,00	8,00	40,00	87,00	0,50	6768036
KOR5RA1000L050HAR050CM	10,00	10,00	50,00	100,00	0,50	6768037
KOR5RA1200L060HAR075CM	12,00	12,00	60,00	125,00	0,75	6768038
KOR5RA1600L080HAR100CM	16,00	16,00	80,00	141,00	1,00	6768039
KOR5RA2000L100HAR100CM	20,00	20,00	100,00	170,00	1,00	6768040



KOR 5^{DS} • Radiused • 5 Flutes • 5xD • Weldon Shank • Metric

● Primary
○ Secondary

KC643M

P	○
M	●
K	○
N	○
S	○
H	○

Catalog Number	D1	D	Ap1 max	L	Re	KC643M
KOR5RA0800L040HBR050CM	8,00	8,00	40,00	87,00	0,50	6768043
KOR5RA1000L050HBR050CM	10,00	10,00	50,00	100,00	0,50	6768044
KOR5RA1200L060HBR075CM	12,00	12,00	60,00	125,00	0,75	6768045
KOR5RA1600L080HBR100CM	16,00	16,00	80,00	141,00	1,00	6768046
KOR5RA2000L100HBR100CM	20,00	20,00	100,00	170,00	1,00	6768047

SOLID END MILLING

APPLICATION DATA

KOR 5^{DS} 3xDKOR 5^{DS}

3xD Application Data

Material Group				KC643M		Recommended feed per tooth (Fz = mm/th) for side milling (A).						
				Cutting Speed — Vc m/min		mm	D1 — Diameter					
				min	max		8,0	10,0	12,0	16,0	20,0	25,0
A		ap	ae									
P	0	3 x D	0,1 x D	150	440	Fz	0,072	0,086	0,099	0,121	0,137	0,149
	1	3 x D	0,1 x D	150	440	Fz	0,072	0,086	0,099	0,121	0,137	0,149
	2	3 x D	0,1 x D	140	418	Fz	0,072	0,086	0,099	0,121	0,137	0,149
	3	3 x D	0,1 x D	120	352	Fz	0,060	0,073	0,084	0,105	0,121	0,137
	4	3 x D	0,1 x D	90	330	Fz	0,054	0,065	0,075	0,092	0,106	0,117
	5	3 x D	0,1 x D	60	220	Fz	0,048	0,058	0,067	0,084	0,097	0,109
M	6	3 x D	0,1 x D	50	165	Fz	0,040	0,048	0,056	0,068	0,078	0,085
	1	3 x D	0,1 x D	90	253	Fz	0,060	0,073	0,084	0,105	0,121	0,137
K	2	3 x D	0,1 x D	60	176	Fz	0,048	0,058	0,067	0,084	0,097	0,109
	3	3 x D	0,1 x D	60	154	Fz	0,040	0,048	0,056	0,068	0,078	0,085
S	1	3 x D	0,1 x D	120	330	Fz	0,072	0,086	0,099	0,121	0,137	0,149
	2	3 x D	0,1 x D	110	308	Fz	0,060	0,073	0,084	0,105	0,121	0,137
	3	3 x D	0,1 x D	110	286	Fz	0,048	0,058	0,067	0,084	0,097	0,109
	4	3 x D	0,1 x D	50	198	Fz	0,060	0,073	0,084	0,105	0,121	0,137
H	2	3 x D	0,1 x D	25	88	Fz	0,032	0,038	0,045	0,056	0,065	0,074
	3	3 x D	0,1 x D	25	88	Fz	0,032	0,038	0,045	0,056	0,065	0,074
	4	3 x D	0,1 x D	50	132	Fz	0,044	0,053	0,062	0,077	0,089	0,100
	1	3 x D	0,1 x D	80	308	Fz	0,054	0,065	0,075	0,092	0,106	0,117
	2	3 x D	0,1 x D	70	264	Fz	0,040	0,048	0,056	0,068	0,078	0,085

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Side milling applications — for longest reach (L3) tools, reduce Ae by 30%.
 For better surface finish, reduce feed per tooth.



KOR 5^{DS} 5xD

KOR 5^{DS} 5xD Application Data

Material Group			KC643M		Recommended feed per tooth (Fz = mm/th) for side milling (A).							
			Cutting Speed — Vc m/min		D1 — Diameter							
	ap	ae	min	max	mm	8,0	10,0	12,0	16,0	20,0	25,0	
P	0	5 x D	0,05 x D	150	540	Fz	0,097	0,117	0,134	0,163	0,185	0,200
	1	5 x D	0,05 x D	150	540	Fz	0,097	0,117	0,134	0,163	0,185	0,200
	2	5 x D	0,05 x D	140	513	Fz	0,097	0,117	0,134	0,163	0,185	0,200
	3	5 x D	0,05 x D	120	432	Fz	0,081	0,098	0,114	0,141	0,164	0,184
	4	5 x D	0,05 x D	90	405	Fz	0,073	0,087	0,101	0,124	0,143	0,158
	5	5 x D	0,05 x D	60	270	Fz	0,065	0,078	0,091	0,113	0,131	0,147
M	6	5 x D	0,05 x D	50	202,5	Fz	0,054	0,065	0,075	0,092	0,105	0,115
	1	5 x D	0,05 x D	90	310,5	Fz	0,081	0,098	0,114	0,141	0,164	0,184
	2	5 x D	0,05 x D	60	216	Fz	0,065	0,078	0,091	0,113	0,131	0,147
K	3	5 x D	0,05 x D	60	189	Fz	0,054	0,065	0,075	0,092	0,105	0,115
	1	5 x D	0,05 x D	120	405	Fz	0,097	0,117	0,134	0,163	0,185	0,200
	2	5 x D	0,05 x D	110	378	Fz	0,081	0,098	0,114	0,141	0,164	0,184
S	3	5 x D	0,05 x D	110	351	Fz	0,065	0,078	0,091	0,113	0,131	0,147
	1	5 x D	0,05 x D	50	243	Fz	0,081	0,098	0,114	0,141	0,164	0,184
	2	5 x D	0,05 x D	25	108	Fz	0,043	0,052	0,060	0,075	0,087	0,099
	3	5 x D	0,05 x D	25	108	Fz	0,043	0,052	0,060	0,075	0,087	0,099
H	4	5 x D	0,05 x D	50	162	Fz	0,060	0,072	0,084	0,104	0,120	0,135
	1	5 x D	0,05 x D	80	378	Fz	0,073	0,087	0,101	0,124	0,143	0,158
	2	5 x D	0,05 x D	70	324	Fz	0,054	0,065	0,075	0,092	0,105	0,115

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Side milling applications — for longest reach (L3) tools, reduce Ae by 30%.
For better surface finish, reduce feed per tooth.

SOLID END MILLING

KOR 5^{DS} Adjustment Factor for Feed and Speed Calculation

	Ae/D	2%	4%	5%	8%	10%	12%	20%	30%	40%	50%	100%
Speed factor	Kv	2,1—3,6	1,6—3	1,6—2,5	1,6	1,4	1,38	1,3	1,2	1,1	1	0,9
Feed factor	KFz	3,58	2,56	2,3	1,84	1,67	1,54	1,25	1,09	1,02	1	1

NOTE: For an Ae/D ratio of 5% or less there is a range given for speed factor Kv, which allows the user to either be more conservative at the lower value or more aggressive with the higher value.
This can also be considered based on the machinability of the material, from difficult to free cutting.
These calculations are for roughing/semi-finishing cuts when used with the recommended base Fz.
For light finishing cuts requiring improved surface quality it is recommended to reduce the base Fz approximately 50% and then apply these factors.

To calculate application specific cutting data, please use KV coefficient table to the right for adaptation of cutting speed and KFz for feed respectively.

Vc new = Vc * Kv
Fz new = IPT * KFz

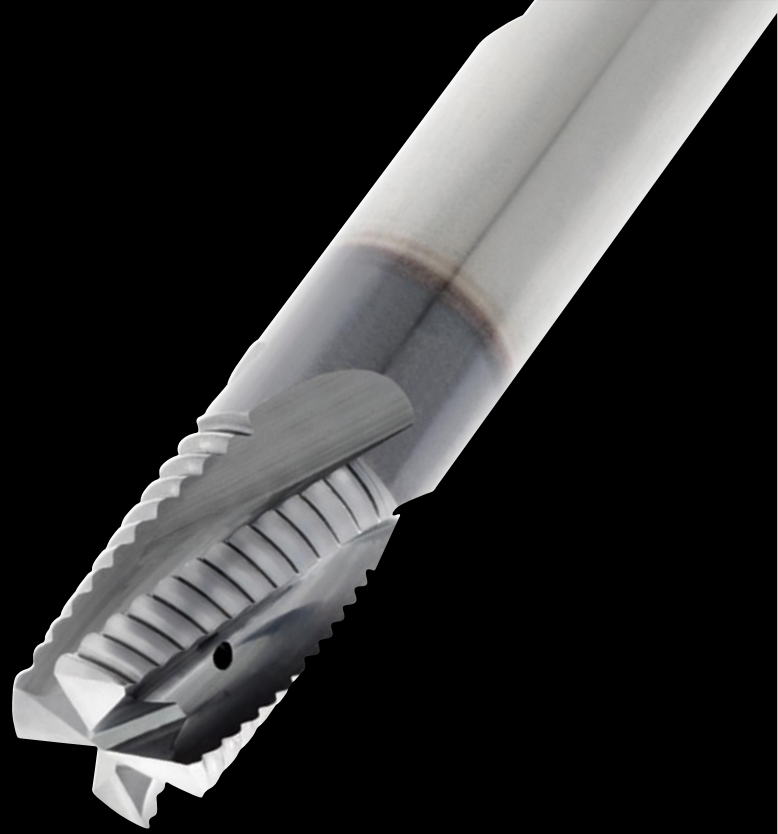
Calculation example:
Application: D1 = 25mm, KOR5DS 3 x D;
P5 material group;
Ae 2,5mm (Ae = 10% of D1)
Cutting data recommendation: 220m/min;
Fz = 0,109 mm/z
Adjustment coefficients: Ae = 2,5mm equals 10%; Kv = 1,4;
KFz = 1,67

Final cutting data recommendation:
Vc new = 220 * 1,4 = 308mm/min
Fz new = 0,109 * 1,67 = 0,182mm/z



High Performance

KENCUT RR



Materials



Industries



Automotive



General Engineering



Oil & Gas



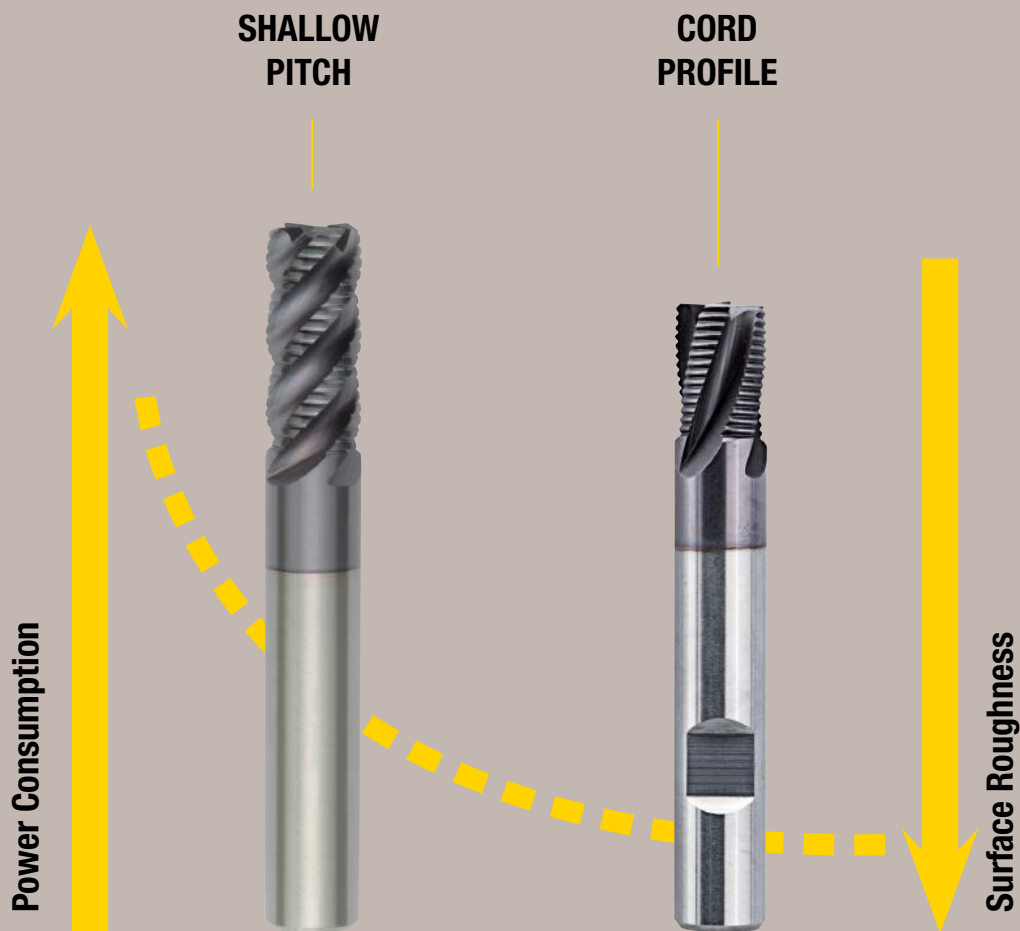
Wind & Solar

Applications



Explore KenCut RR

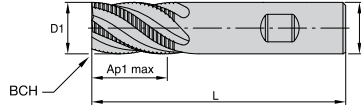
- Solid carbide end mills with roughing geometries for low cutting forces and low spindle power consumption even in unstable conditions.
- Designed for high MRR in a wide range of workpiece materials such as steels, stainless steels, cast iron, high-temp alloys and, in certain cases, hardened materials.



Tailored geometries for low cutting forces and low spindle power consumption

Center cutting for plunging, ramping, profiling, high-feed slotting and side milling

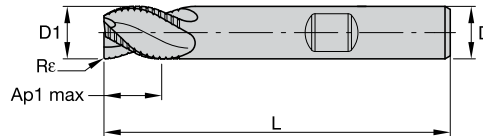
Roughing and semi-finishing for fewer tool changes and less downtime
Internal coolant for improved chip evacuation and extended tool life



KenCut RR • F3BH-F4BJ-F5BJ-WSMLX • Chamfered
• 3 - 5 Flutes • Weldon Shank • Metric

P M K N S H KCPM15
 ● Primary
 ○ Secondary

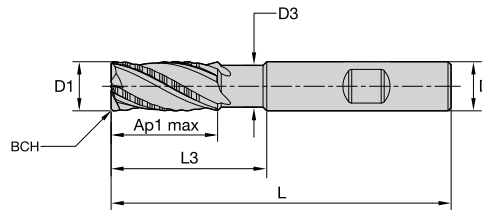
Catalog Number	D1	D	Ap1 max	L	BCH	KCPM15
F3BH0500BWS20L130	5,00	6,00	13,00	57,00	0,30	4047066
F3BH0600BWS20L130	6,00	6,00	13,00	57,00	0,30	4047068
F4BJ1000BWM20L220	10,00	10,00	22,00	72,00	0,50	4047072
F4BJ1200BWL20L260	12,00	12,00	26,00	83,00	0,50	4047073
F4BJ1400BWL20L260	14,00	14,00	26,00	83,00	0,50	4047075
F4BJ1600BWL20L320	16,00	16,00	32,00	92,00	0,50	4047077
F4BJ2000BWX20L380	20,00	20,00	38,00	104,00	0,50	4047079
F5BJ2500BWX20L450	25,00	25,00	45,00	121,00	0,50	4047080



KenCut RR • F3BS-DL • Radiused • 3 Flutes • Short • Long
• Weldon Shank • Metric

P M K N S H KCPM15
 ● Primary
 ○ Secondary

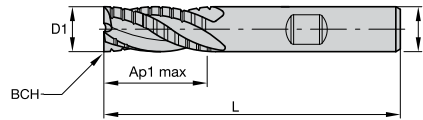
Catalog Number	D1	D	Ap1 max	L	Re	KCPM15
F3BS0600BDL35	6,00	6,00	10,00	57,00	0,45	4046479
F3BS0800BDL35	8,00	8,00	16,00	63,00	0,45	4046481
F3BS1000BDL35	10,00	10,00	19,00	72,00	0,45	4046493
F3BS1200BDL35	12,00	12,00	22,00	83,00	0,45	4046495



KenCut RR • RUDC • Chamfered • 3 Flutes • Necked
• Weldon Shank • Metric

P M K N S H KCPM15
 ● Primary
 ○ Secondary

Catalog Number	D1	D	Ap1 max	D3	L3	L	BCH	KCPM15
RUDC0400B3BN	4,00	6,00	8,00	3,60	0,83	57,00	0,30	5357041
RUDC0500B3BN	5,00	6,00	13,00	4,60	0,83	57,00	0,30	5357042
RUDC0600B3BN	6,00	6,00	13,00	5,50	0,83	57,00	0,30	5357043
RUDC0800B3BN	8,00	8,00	16,00	7,50	1,06	63,00	0,30	5357044
RUDC1000B4BN	10,00	10,00	22,00	9,50	1,26	72,00	0,50	5357045
RUDC1200B4BN	12,00	12,00	26,00	11,00	1,50	83,00	0,50	5357046
RUDC1400B4BN	14,00	14,00	26,00	13,00	1,50	83,00	0,50	5357047
RUDC1600B4BN	16,00	16,00	32,00	15,00	1,73	92,00	0,50	5357048
RUDC1800B4BN	18,00	18,00	32,00	17,00	1,73	92,00	0,50	5357049
RUDC2000B4BN	20,00	20,00	38,00	19,00	2,13	104,00	0,50	5357090
RUDC2500B5BN	25,00	25,00	45,00	24,00	2,56	121,00	0,50	5357091



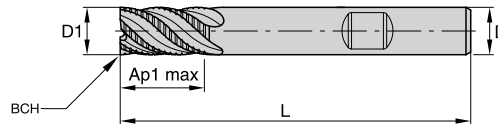
KenCut RR • F4BJ-DL • Chamfered • 4 Flutes • Short
• Long • Weldon Shank • Metric

KCPM15

P	●
M	●
K	●
N	●
S	●
H	○

● Primary
○ Secondary

Catalog Number	D1	D	Ap1 max	L	BCH	KCPM15
F4BJ0600BDL30	6,00	6,00	13,00	57,00	0,10	4046856
F4BJ0800BDL30	8,00	8,00	19,00	63,00	0,20	4046857
F4BJ1000BDL30	10,00	10,00	22,00	72,00	0,30	4046858
F4BJ1200BDL30	12,00	12,00	26,00	83,00	0,30	4046859
F4BJ1400BDL30	14,00	14,00	26,00	83,00	0,30	4046860
F4BJ1600BDL30	16,00	16,00	32,00	92,00	0,40	4046861
F4BJ2000BDL30	20,00	20,00	38,00	104,00	0,40	4047063



KenCut RR • F4BJ-F6BJ-DL • Chamfered • 4 Flutes • Long
• Weldon Shank • Metric

KCPM15

P	●
M	●
K	●
N	●
S	●
H	○

● Primary
○ Secondary

Catalog Number	D1	D	Ap1 max	L	BCH	KCPM15
F4BJ0600BDL45	6,00	6,00	13,00	57,00	0,10	4047275
F4BJ0800BDL45	8,00	8,00	19,00	63,00	0,20	4047276
F4BJ1000BDL45	10,00	10,00	22,00	72,00	0,30	4047277
F4BJ1200BDL45	12,00	12,00	26,00	83,00	0,30	4047278
F6BJ1600BDL45	16,00	16,00	32,00	92,00	0,40	4047279
F6BJ2000BDL45	20,00	20,00	38,00	104,00	0,40	4047280
F6BJ2500BDL45	25,00	25,00	45,00	121,00	0,40	4047281

SOLID END MILLING

APPLICATION DATA



KenCut RR – F3BH-F4BJ-F5BJ...WS-WM-WL-WX

KenCut RR

F3BH-F4BJ-F5BJ...WS-WM-WL-WX • Application Data

Material Group					KCPM15		Recommended feed per tooth (Fz = mm/th) for side milling (A). For slotting (B), reduce Fz by 20%.											
	A		B	Cutting Speed — vc m/min		mm	D1 — Diameter											
	ap	ae	ap	min	max		4,0	5,0	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0	25,0	
P	0	1,5 x D	0,5 x D	1 x D	150	200	Fz	0,024	0,031	0,037	0,051	0,061	0,070	0,079	0,086	0,092	0,097	0,105
	1	1,5 x D	0,5 x D	1 x D	150	200	Fz	0,024	0,031	0,037	0,051	0,061	0,070	0,079	0,086	0,092	0,097	0,105
	2	1,5 x D	0,5 x D	1 x D	140	190	Fz	0,024	0,031	0,037	0,051	0,061	0,070	0,079	0,086	0,092	0,097	0,105
	3	1,5 x D	0,4 x D	0,75 x D	120	160	Fz	0,020	0,025	0,031	0,043	0,051	0,060	0,067	0,074	0,080	0,086	0,097
	4	1,5 x D	0,3 x D	0,3 x D	90	150	Fz	0,018	0,023	0,028	0,038	0,046	0,053	0,060	0,065	0,070	0,075	0,083
M	1	1,5 x D	0,4 x D	0,75 x D	90	115	Fz	0,020	0,025	0,031	0,043	0,051	0,060	0,067	0,074	0,080	0,086	0,097
	2	1,5 x D	0,4 x D	0,75 x D	60	80	Fz	0,016	0,021	0,025	0,034	0,041	0,048	0,054	0,059	0,064	0,069	0,077
	3	1,5 x D	0,4 x D	0,75 x D	60	70	Fz	0,014	0,017	0,021	0,029	0,034	0,040	0,044	0,048	0,052	0,055	0,060
K	1	1,5 x D	0,5 x D	1 x D	120	150	Fz	0,024	0,031	0,037	0,051	0,061	0,070	0,079	0,086	0,092	0,097	0,105
	2	1,5 x D	0,4 x D	1 x D	110	140	Fz	0,020	0,025	0,031	0,043	0,051	0,060	0,067	0,074	0,080	0,086	0,097
	3	1,5 x D	0,4 x D	1 x D	110	130	Fz	0,016	0,021	0,025	0,034	0,041	0,048	0,054	0,059	0,064	0,069	0,077
H	1	1,5 x D	0,3 x D	0,3 x D	80	140	Fz	0,018	0,023	0,028	0,038	0,046	0,053	0,060	0,065	0,070	0,075	0,083

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >12mm diameter.

SOLID END MILLING



KenCut RR

RUDC • Application Data

Material Group					KCPM15		Recommended feed per tooth (Fz = mm/th) for side milling (A). For slotting (B), reduce Fz by 10%.											
	A		B	Cutting Speed — Vc m/min		mm	D1 — Diameter											
	ap	ae	ap	min	max		4,0	5,0	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0	25,0	
P	0	1,5 x D	0,5 x D	1 x D	150	200	Fz	0,024	0,031	0,037	0,051	0,061	0,070	0,079	0,086	0,092	0,097	0,105
	1	1,5 x D	0,5 x D	1 x D	150	200	Fz	0,024	0,031	0,037	0,051	0,061	0,070	0,079	0,086	0,092	0,097	0,105
	2	1,5 x D	0,5 x D	1 x D	140	190	Fz	0,024	0,031	0,037	0,051	0,061	0,070	0,079	0,086	0,092	0,097	0,105
	3	1,5 x D	0,4 x D	0,75 x D	120	160	Fz	0,020	0,025	0,031	0,043	0,051	0,060	0,067	0,074	0,080	0,086	0,097
	4	1,5 x D	0,3 x D	0,3 x D	90	150	Fz	0,018	0,023	0,028	0,038	0,046	0,053	0,060	0,065	0,070	0,075	0,083
M	1	1,5 x D	0,4 x D	0,75 x D	90	115	Fz	0,020	0,025	0,031	0,043	0,051	0,060	0,067	0,074	0,080	0,086	0,097
	2	1,5 x D	0,4 x D	0,75 x D	60	80	Fz	0,016	0,021	0,025	0,034	0,041	0,048	0,054	0,059	0,064	0,069	0,077
	3	1,5 x D	0,4 x D	0,75 x D	60	70	Fz	0,014	0,017	0,021	0,029	0,034	0,040	0,044	0,048	0,052	0,055	0,060
K	1	1,5 x D	0,5 x D	1 x D	120	150	Fz	0,024	0,031	0,037	0,051	0,061	0,070	0,079	0,086	0,092	0,097	0,105
	2	1,5 x D	0,4 x D	1 x D	110	140	Fz	0,020	0,025	0,031	0,043	0,051	0,060	0,067	0,074	0,080	0,086	0,097
	3	1,5 x D	0,4 x D	1 x D	110	130	Fz	0,016	0,021	0,025	0,034	0,041	0,048	0,054	0,059	0,064	0,069	0,077
S	1	1,5 x D	0,4 x D	0,75 x D	50	90	Fz	0,020	0,025	0,031	0,043	0,051	0,060	0,067	0,074	0,080	0,086	0,097
	3	1,5 x D	0,3 x D	0,3 x D	25	40	Fz	0,011	0,014	0,017	0,022	0,027	0,032	0,036	0,039	0,043	0,046	0,052
H	1	1,5 x D	0,3 x D	0,3 x D	80	140	Fz	0,018	0,023	0,028	0,038	0,046	0,053	0,060	0,065	0,070	0,075	0,083

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >12mm diameter.



KenCut RR
F4BJ...DL • Application Data

Material Group					KCPM15		Feed per Tooth — Fz information is for side milling (A). For slotting (B), reduce Fz by 20%.								
	A		B		Cutting Speed — Vc m/min		D1 — Diameter								
	ap	ae	ap		min	max	mm	4,0	5,0	6,0	8,0	10,0	12,0	16,0	20,0
P	3	0,8 x D	0,5 x D	0,75 x D	160	180	Fz	0,020	0,025	0,031	0,043	0,051	0,063	0,078	0,101
	4	0,8 x D	0,4 x D	0,5 x D	140	160	Fz	0,018	0,023	0,028	0,038	0,046	0,056	0,069	0,088
	5	0,8 x D	0,5 x D	0,75 x D	60	100	Fz	0,016	0,021	0,025	0,034	0,041	0,051	0,063	0,081
	6	0,8 x D	0,4 x D	0,5 x D	50	80	Fz	0,014	0,017	0,021	0,029	0,034	0,042	0,051	0,065
M	1	0,8 x D	0,5 x D	0,75 x D	80	100	Fz	0,020	0,025	0,031	0,043	0,051	0,063	0,078	0,101
	2	0,8 x D	0,4 x D	0,75 x D	60	80	Fz	0,016	0,021	0,025	0,034	0,041	0,051	0,063	0,081
	3	0,8 x D	0,4 x D	0,75 x D	60	80	Fz	0,014	0,017	0,021	0,029	0,034	0,042	0,051	0,065
K	1	0,8 x D	0,5 x D	0,75 x D	120	160	Fz	0,024	0,031	0,037	0,051	0,061	0,075	0,091	0,114
	2	0,8 x D	0,5 x D	0,75 x D	110	140	Fz	0,020	0,025	0,031	0,043	0,051	0,063	0,078	0,101
	3	0,8 x D	0,4 x D	0,75 x D	100	130	Fz	0,016	0,021	0,025	0,034	0,041	0,051	0,063	0,081
S	1	0,8 x D	0,4 x D	0,75 x D	90	115	Fz	0,020	0,025	0,031	0,043	0,051	0,063	0,078	0,101
	2	0,8 x D	0,25 x D	0,3 x D	20	40	Fz	0,011	0,014	0,017	0,022	0,027	0,033	0,042	0,054
	3	0,8 x D	0,4 x D	0,75 x D	50	80	Fz	0,016	0,021	0,025	0,034	0,041	0,051	0,063	0,081
	4	0,8 x D	0,3 x D	0,5 x D	45	65	Fz	0,013	0,018	0,022	0,031	0,038	0,046	0,058	0,074
H	1	0,8 x D	0,5 x D	0,5 x D	120	140	Fz	0,018	0,023	0,028	0,038	0,046	0,056	0,069	0,088
	2	0,8 x D	0,2 x D	0,3 x D	80	130	Fz	0,014	0,017	0,021	0,029	0,034	0,042	0,051	0,065
	3	0,8 x D	0,15 x D	0,2 x D	70	100	Fz	0,011	0,014	0,017	0,023	0,027	0,034	0,041	0,052

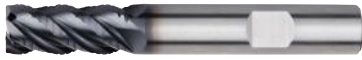
NOTE: These guidelines may require variations to achieve optimum results.
 Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 For rougher tool with six flutes, use Ap in slotting 60% of table value.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >12mm diameter.



KenCut RR
F3BS...DK-DL • Application Data

Material Group					KCPM15		Recommended feed per tooth (Fz = mm/th) for side milling (A). For slotting (B), reduce Fz by 20%.						
	A		B		Cutting Speed — Vc m/min		D1 — Diameter						
	ap	ae	ap		min	max	mm	6,0	8,0	10,0	12,0	16,0	20,0
P	1	1 x D	0,4 x D	0,75 x D	150	200	Fz	0,044	0,060	0,072	0,083	0,101	0,114
	2	1 x D	0,4 x D	0,75 x D	140	190	Fz	0,044	0,060	0,072	0,083	0,101	0,114
	3	1 x D	0,4 x D	0,75 x D	120	160	Fz	0,036	0,050	0,061	0,070	0,087	0,101
	4	1 x D	0,3 x D	0,3 x D	90	150	Fz	0,033	0,045	0,054	0,062	0,077	0,088
	5	1 x D	0,4 x D	0,75 x D	60	100	Fz	0,029	0,040	0,048	0,056	0,070	0,081
	6	1 x D	0,3 x D	0,3 x D	50	75	Fz	0,025	0,034	0,040	0,047	0,057	0,065
M	1	1 x D	0,4 x D	0,75 x D	80	100	Fz	0,036	0,050	0,061	0,070	0,087	0,101
	2	1 x D	0,4 x D	0,75 x D	60	80	Fz	0,029	0,040	0,048	0,056	0,070	0,081
	3	1 x D	0,4 x D	0,75 x D	60	80	Fz	0,025	0,034	0,040	0,047	0,057	0,065
K	1	1 x D	0,4 x D	0,75 x D	120	160	Fz	0,044	0,060	0,072	0,083	0,101	0,114
	2	1 x D	0,4 x D	0,75 x D	110	140	Fz	0,036	0,050	0,061	0,070	0,087	0,101
	3	1 x D	0,4 x D	0,75 x D	100	130	Fz	0,029	0,040	0,048	0,056	0,070	0,081
H	1	1 x D	0,3 x D	0,3 x D	100	140	Fz	0,033	0,045	0,054	0,062	0,077	0,088

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >12mm diameter.



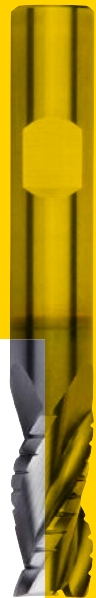
KenCut RR

F4BJ-F6BJ...DL • Application Data

Material Group					KCPM15		Recommended feed per tooth (Fz = mm/th) for side milling (A). For slotting (B), reduce Fz by 20%.							
	A		B		Cutting Speed — Vc m/min		mm	D1 — Diameter						
	ap	ae	ap		min	max		6,0	8,0	10,0	12,0	16,0	20,0	25,0
P	3	1,0 x D	0,5 x D	0,75 x D	120	160	Fz	0,036	0,050	0,061	0,070	0,087	0,101	0,114
	4	1,0 x D	0,3 x D	0,75 x D	90	150	Fz	0,033	0,045	0,054	0,062	0,077	0,088	0,098
	5	1,0 x D	0,5 x D	0,75 x D	60	100	Fz	0,029	0,040	0,048	0,056	0,070	0,081	0,091
	6	1,0 x D	0,3 x D	0,3 x D	50	75	Fz	0,025	0,034	0,040	0,047	0,057	0,065	0,071
M	1	1,0 x D	0,5 x D	0,75 x D	80	100	Fz	0,036	0,050	0,061	0,070	0,087	0,101	0,114
	2	1,0 x D	0,5 x D	0,75 x D	60	80	Fz	0,029	0,040	0,048	0,056	0,070	0,081	0,091
	3	1,0 x D	0,5 x D	0,75 x D	60	80	Fz	0,025	0,034	0,040	0,047	0,057	0,065	0,071
K	1	1,0 x D	0,5 x D	1 x D	120	160	Fz	0,044	0,060	0,072	0,083	0,101	0,114	0,124
	2	1,0 x D	0,5 x D	1 x D	110	140	Fz	0,036	0,050	0,061	0,070	0,087	0,101	0,114
	3	1,0 x D	0,5 x D	1 x D	100	130	Fz	0,029	0,040	0,048	0,056	0,070	0,081	0,091
S	1	1,0 x D	0,3 x D	0,75 x D	50	90	Fz	0,036	0,050	0,061	0,070	0,087	0,101	0,114
	2	1,0 x D	0,3 x D	0,75 x D	50	90	Fz	0,019	0,026	0,032	0,037	0,046	0,054	0,061
	3	1,0 x D	0,3 x D	0,75 x D	20	40	Fz	0,019	0,026	0,032	0,037	0,046	0,054	0,061
	4	1,0 x D	0,4 x D	0,75 x D	45	65	Fz	0,026	0,037	0,045	0,052	0,064	0,074	0,084
H	1	1,0 x D	0,3 x D	0,3 x D	80	140	Fz	0,033	0,045	0,054	0,062	0,077	0,088	0,098
	2	1,0 x D	0,2 x D	0,2 x D	70	120	Fz	0,025	0,034	0,040	0,047	0,057	0,065	0,071
	3	1,0 x D	0,2 x D	0,2 x D	60	90	Fz	0,019	0,026	0,032	0,037	0,046	0,054	0,061

NOTE: These guidelines may require variations to achieve optimum results. Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group. Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group. Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >12mm diameter. For rougher tool with 6 flutes, use Ap in slotting 60% of table value.

SOLID END MILLING



High Performance

MAXIMET AND KENCUT ALUMINUM

**HIGH-PERFORMANCE ALUMINUM
ROUGHING AND FINISHING**

Materials

N

Industries



Automotive



General
Engineering



Oil & Gas



Wind & Solar



Aerospace

Applications



- Center-cutting design enables plunging, slotting and profiling applications in any type of aluminum workpiece materials
- Designed to deliver exceptional chip evacuation and generate the highest floor-to-wall straightness



Explore MaxiMet and
KenCut Aluminum

KenCut AL & ALR



One-, two- and three-fluted roughers and finishers for a variety of aluminum applications.

MaxiMet



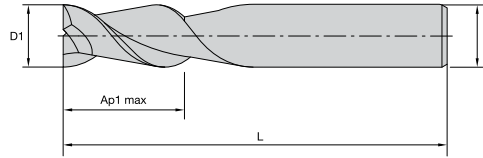
Provides exceptional MRR and combines roughing and finishing operations in any aluminum plunging, slotting and profiling application

KenCut AL & ALR

- Roughers with cord profile available.
- Multiple corner radii and extended neck configurations available.

MaxiMet

- Unequal 3-flute spacing reduces vibrations and provides chatter-free machining
- 1xD slotting capability and side milling capability up to 0,5xD radial and 1,5xD axial engagement result in fewer tool passes and increased productivity
- Suitable for minimum quantity lubrication
- Exceptional wall-to-floor perpendicularity in thin-wall applications
- Also available in 2 flutes

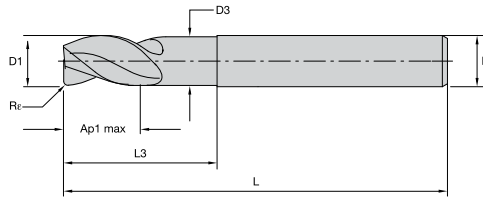


MaxiMet • Square End • 2 Flutes • Plain Shank • Metric

- Primary
- Secondary



Catalog Number	D1	D	Ap1 max	L	K600
ABDF0150A2AS	1,50	3,00	6,00	38,00	3637552
ABDF0200A2AS	2,00	3,00	8,00	38,00	3637553
ABDF0250A2AS	2,50	3,00	9,00	38,00	3637554
ABDF0300A2AS	3,00	3,00	12,00	38,00	3637555
ABDF0400A2AS	4,00	4,00	12,00	50,00	3637556
ABDF0500A2AS	5,00	6,00	14,00	50,00	3637557
ABDF0600A2AS	6,00	6,00	16,00	50,00	3637558
ABDF0800A2AS	8,00	8,00	20,00	63,00	3637559
ABDF1000A2AS	10,00	10,00	22,00	76,00	3637560
ABDF1200A2AS	12,00	12,00	25,00	76,00	3637561
ABDF1400A2AS	14,00	14,00	32,00	83,00	3637562
ABDF1600A2AS	16,00	16,00	32,00	89,00	3637563
ABDF2000A2AS	20,00	20,00	38,00	104,00	3637565



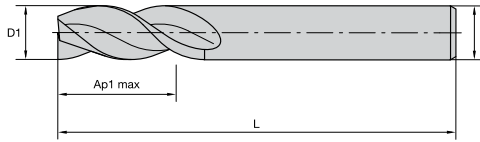
MaxiMet • Radiused • 3 Flutes • Necked • Plain Shank • Metric

- Primary
- Secondary



Catalog Number	D1	D	Ap1 max	D3	L3	L	Rc	K600
ABDE0600A3ARA	6,00	6,00	9,00	5,40	0,71	63,00	0,20	3637389
ABDE0600A3ARB	6,00	6,00	9,00	5,40	0,71	63,00	0,50	3637390
ABDE0600A3ARC	6,00	6,00	9,00	5,40	0,71	63,00	1,00	3637391
ABDE0800A3ARA	8,00	8,00	12,00	7,20	0,94	76,00	0,20	3637392
ABDE0800A3ARB	8,00	8,00	12,00	7,20	0,94	76,00	0,50	3637413
ABDE0800A3ARC	8,00	8,00	12,00	7,20	0,94	76,00	1,00	3637414
ABDE1000A3ARA	10,00	10,00	15,00	9,00	1,18	89,00	0,20	3637415
ABDE1000A3ARB	10,00	10,00	15,00	9,00	1,18	89,00	0,50	3637416
ABDE1000A3ARG	10,00	10,00	15,00	9,50	1,18	76,00	1,00	5414455
ABDE1000A3ARC	10,00	10,00	15,00	9,00	1,18	89,00	1,50	3637417
ABDE1000A3ARK	10,00	10,00	15,00	9,50	1,18	76,00	2,00	5414456
ABDE1000A3ARN	10,00	10,00	15,00	9,50	1,18	76,00	4,00	5414458
ABDE1200A3ARA	12,00	12,00	18,00	10,80	1,42	100,00	0,20	3637418
ABDE1200A3ARB	12,00	12,00	18,00	10,80	1,42	100,00	0,50	3637419
ABDE1200A3ARG	12,00	12,00	18,00	11,50	1,42	83,00	1,00	5414459
ABDE1200A3ARC	12,00	12,00	18,00	10,80	1,42	100,00	1,50	3637420
ABDE1200A3ARK	12,00	12,00	18,00	11,50	1,42	83,00	2,00	5414470
ABDE1200A3ARL	12,00	12,00	18,00	11,50	1,42	100,00	2,50	6066131
ABDE1200A3ARM	12,00	12,00	18,00	11,50	1,42	83,00	3,00	5414471
ABDE1200A3ARN	12,00	12,00	18,00	11,50	1,42	83,00	4,00	5414473
ABDE1600A3ARA	16,00	16,00	24,00	14,40	1,89	110,00	0,20	3637421
ABDE1600A3ARB	16,00	16,00	24,00	14,40	1,89	110,00	0,50	3637422
ABDE1600A3ARC	16,00	16,00	24,00	14,40	1,89	110,00	1,00	3637423
ABDE1600A3ARD	16,00	16,00	24,00	14,40	1,89	110,00	2,00	3637424
ABDE1600A3ARM	16,00	16,00	24,00	15,00	1,89	100,00	3,00	5414474
ABDE1600A3ARN	16,00	16,00	24,00	15,00	1,89	100,00	4,00	5414475
ABDE2000A3ARA	20,00	20,00	30,00	18,80	2,36	125,00	0,20	3637425
ABDE2000A3ARB	20,00	20,00	30,00	18,80	2,36	125,00	0,50	3637426
ABDE2000A3ARK	20,00	20,00	30,00	19,00	2,36	115,00	2,00	5414477
ABDE2000A3ARM	20,00	20,00	30,00	19,00	2,36	115,00	3,00	5414478
ABDE2000A3ARD	20,00	20,00	30,00	18,80	2,36	125,00	4,00	3637428
ABDE2500A3ARE	25,00	25,00	37,50	24,00	2,95	135,00	0,50	5414479

SOLID END MILLING



K600

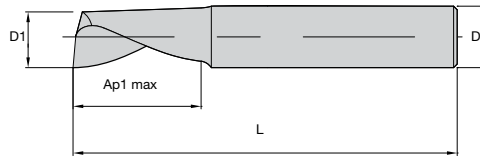
P	Blue
M	Yellow
K	Red
N	Green
S	Orange
H	Grey

- Primary
- Secondary

MaxiMet • Square End • 3 Flutes • Plain Shank • Metric

Catalog Number	D1	D	Ap1 max	L	K600
ABDE0300A3AS	3,00	3,00	12,00	38,00	3637429
ABDE0400A3AS	4,00	4,00	12,00	50,00	3637430
ABDE0500A3AS	5,00	5,00	14,00	50,00	3637431
ABDE0600A3AS	6,00	6,00	16,00	50,00	3637432
ABDE0800A3AS	8,00	8,00	20,00	63,00	3637463
ABDE1000A3AS	10,00	10,00	22,00	76,00	3637464
ABDE1200A3AS	12,00	12,00	25,00	76,00	3637465
ABDE1400A3AS	14,00	14,00	32,00	83,00	3637466
ABDE1600A3AS	16,00	16,00	32,00	89,00	3637467
ABDE1800A3AS	18,00	18,00	38,00	100,00	3637468
ABDE2000A3AS	20,00	20,00	38,00	104,00	3637469

SOLID END MILLING



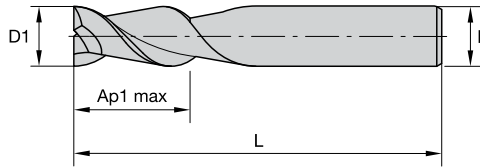
KenCut AL • F1AA-WS-M • Square End • 1 Flute • Plain Shank • Metric

- Primary
- Secondary

K600

P	Blue
M	Yellow
K	Red
N	Green
S	Orange
H	Grey

Catalog Number	D1	D	Ap1 max	L	K600
F1AA0200AWS30	2,00	2,00	10,00	40,00	2433330
F1AA0300AWS30	3,00	3,00	10,00	40,00	2433331
F1AA0400AWS30	4,00	4,00	14,00	50,00	2433332
F1AA0500AWS30	5,00	5,00	16,00	60,00	2433343
F1AA0600AWS30	6,00	6,00	20,00	60,00	2433344
F1AA0800AWM30	8,00	8,00	25,00	75,00	2433345
F1AA1000AWM30	10,00	10,00	25,00	75,00	2433346
F1AA1200AWM30	12,00	12,00	25,00	75,00	2433347



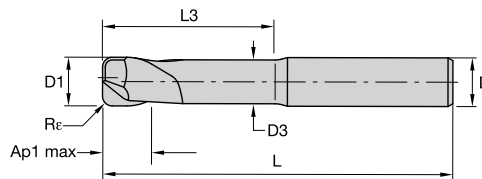
KenCut AL • F2AA-ADL45 • Square End • 2 Flutes • Plain Shank • Metric

- Primary
- Secondary

K600

P	Blue
M	Yellow
K	Red
N	Green
S	Orange
H	Grey

Catalog Number	D1	D	Ap1 max	L	K600
F2AA0400ADL45	4,00	6,00	8,00	57,00	1199807
F2AA0500ADL45	5,00	6,00	10,00	57,00	1199808
F2AA0600ADL45	6,00	6,00	10,00	57,00	1199811
F2AA0800ADL45	8,00	8,00	16,00	63,00	1199812
F2AA1000ADL45	10,00	10,00	19,00	72,00	1199815
F2AA1200ADL45	12,00	12,00	22,00	83,00	1199816
F2AA1400ADL45	14,00	14,00	22,00	83,00	1199819



KenCut AL • F2AA-WMLX • Square End • Extended Neck • 2 Flutes • Plain Shank • Metric

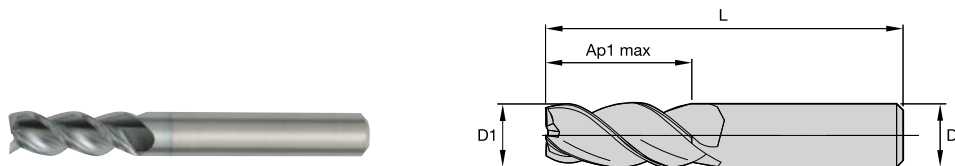
- Primary
- Secondary

K600

P	Blue
M	Yellow
K	Red
N	Green
S	Orange
H	Grey

Catalog Number	D1	D	Ap1 max	D3	L3	L	Rε	K600
F2AA0600AWM45R050	6,00	6,00	9,00	5,80	0.71	63,00	0,50	2445703
F2AA0800AWM45R050	8,00	8,00	12,00	7,80	0.94	68,00	0,50	2445705
F2AA1000AWL45R050	10,00	10,00	15,00	9,50	1.18	76,00	0,50	2430467
F2AA1000AWL45R200	10,00	10,00	15,00	9,50	1.18	76,00	2,00	2430507
F2AA1000AWL45R300	10,00	10,00	15,00	9,50	1.18	76,00	3,00	2430517
F2AA1200AWL45R300	12,00	12,00	18,00	11,50	1.42	83,00	3,00	2430518
F2AA1200AWL45R400	12,00	12,00	18,00	11,50	1.42	83,00	4,00	2430513
F2AA1600AWX45R050	16,00	16,00	24,00	15,00	1.89	100,00	0,50	2430469
F2AA1600AWX45R200	16,00	16,00	24,00	15,00	1.89	100,00	2,00	2430509
F2AA1600AWX45R400	16,00	16,00	24,00	15,00	1.89	100,00	4,00	2430514
F2AA2000AWX45R050	20,00	20,00	30,00	19,00	2.36	115,00	0,50	2430470
F2AA2000AWX45R400	20,00	20,00	30,00	19,00	2.36	115,00	4,00	2430515

SOLID END MILLING

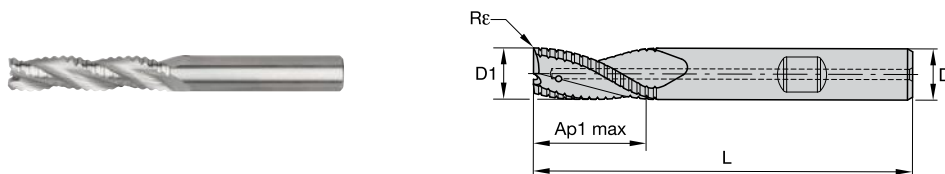


KenCut AL • F3AA-AWSL45 • Square End • 3 Flutes • Plain Shank • Metric

- Primary
- Secondary

P	■	■	■	■
M	■	■	■	■
K	■	■	■	■
N	■	■	■	■
S	■	■	■	■
H	■	■	■	■

Catalog Number	D1	D	Ap1 max	L	K600
F3AA0300AWS45	3,00	3,00	12,00	38,00	1805750
F3AA0400AWS45	4,00	4,00	12,00	50,00	1805929
F3AA0500AWS45	5,00	6,00	14,00	50,00	1805930
F3AA0600AWS45	6,00	6,00	16,00	50,00	1805931
F3AA0800AWM45	8,00	8,00	20,00	63,00	1805932
F3AA1000AWL45	10,00	10,00	22,00	76,00	1805983
F3AA1200AWL45	12,00	12,00	25,00	76,00	1805984
F3AA1400AWL45	14,00	14,00	32,00	83,00	1805985
F3AA1600AWL45	16,00	16,00	32,00	89,00	1805986
F3AA1800AWL45	18,00	18,00	38,00	100,00	1805987
F3AA2000AWX45	20,00	20,00	38,00	104,00	1805988



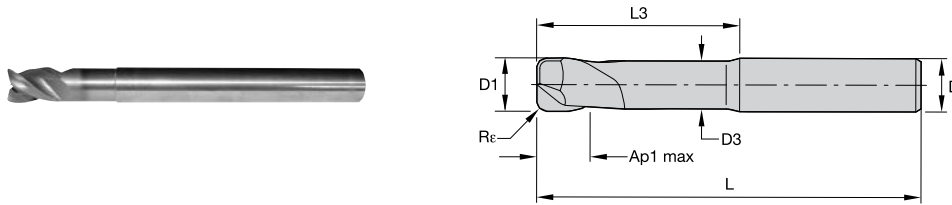
**KenCut ALR • F3BA-WSMLX • Radiused • 3 Flutes
• Internal Coolant • Weldon Shank • Metric**

- Primary
- Secondary

P	■	■	■	■
M	■	■	■	■
K	■	■	■	■
N	■	■	■	■
S	■	■	■	■
H	■	■	■	■

Catalog Number	D1	D	Ap1 max	L	Rc	K600
F3BA0800BWM40C160	8,00	8,00	16,00	63,00	0,25	1805825
F3BA1000BWM40C220	10,00	10,00	22,00	72,00	0,50	1807346
F3BA1200BWL40C260	12,00	12,00	26,00	83,00	0,50	1807347
F3BA1600BWL40C320	16,00	16,00	32,00	92,00	1,00	1807348
F3BA2000BWX40C380	20,00	20,00	38,00	104,00	1,00	1807349
F3BA2500BWX40C450	25,00	25,00	45,00	121,00	1,50	1807350

SOLID END MILLING



KenCut AL • F3AA-WSMLX • Radiused • 3 Flutes
• Extended Neck • Plain Shank • Metric

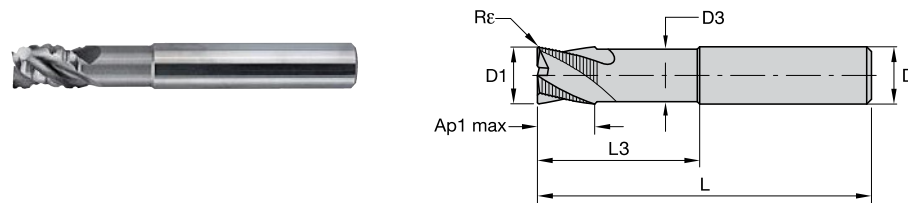
K600

P	Blue
M	Yellow
K	Red
N	Green
S	Orange
H	Grey

- Primary
- Secondary

Catalog Number	D1	D	Ap1 max	D3	L3	L	Rε	K600
F3AA0600AWM45R050	6,00	6,00	9,00	5,80	0,71	63,00	0,50	2445707
F3AA0600AWM45R100	6,00	6,00	9,00	5,80	0,71	63,00	1,00	2445708
F3AA0800AWM45R050	8,00	8,00	12,00	7,80	0,94	68,00	0,50	2445709
F3AA0800AWM45R100	8,00	8,00	12,00	7,80	0,94	68,00	1,00	2445710
F3AA1000AWL45R050	10,00	10,00	15,00	9,50	1,18	76,00	0,50	2404945
F3AA1000AWL45R100	10,00	10,00	15,00	9,50	1,18	76,00	1,00	2404950
F3AA1000AWL45R200	10,00	10,00	15,00	9,50	1,18	76,00	2,00	2406115
F3AA1000AWL45R300	10,00	10,00	15,00	9,50	1,18	76,00	3,00	2429642
F3AA1200AWL45R050	12,00	12,00	18,00	11,50	1,42	84,00	0,50	2404946
F3AA1200AWL45R100	12,00	12,00	18,00	11,50	1,42	83,00	1,00	2404951
F3AA1200AWL45R200	12,00	12,00	18,00	11,50	1,42	83,00	2,00	2406116
F3AA1200AWL45R400	12,00	12,00	18,00	11,50	1,42	83,00	4,00	2406121
F3AA1600AWX45R050	16,00	16,00	24,00	15,00	1,89	100,00	0,50	2404947
F3AA1600AWX45R100	16,00	16,00	24,00	15,00	1,89	100,00	1,00	2404952
F3AA1600AWX45R200	16,00	16,00	24,00	15,00	1,89	100,00	2,00	2406117
F3AA1600AWX45R300	16,00	16,00	24,00	15,00	1,89	100,00	3,00	2429674
F3AA1600AWX45R400	16,00	16,00	24,00	15,00	1,89	100,00	4,00	2406122
F3AA2000AWX45R050	20,00	20,00	30,00	19,00	2,36	115,00	0,50	2404948
F3AA2000AWX45R100	20,00	20,00	30,00	19,00	2,36	115,00	1,00	2406113
F3AA2000AWX45R200	20,00	20,00	30,00	19,00	2,36	115,00	2,00	2406118
F3AA2500AWX45R100	25,00	25,00	37,50	24,00	2,95	135,00	1,00	2406114

SOLID END MILLING



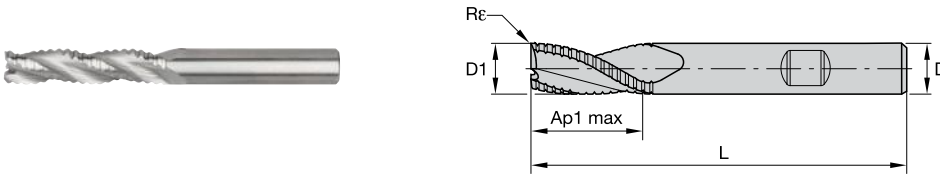
KenCut ALR • F3BA-DL • Radiused • 3 Flutes • Long
• Extended Neck • Plain Shank • Metric

K600

P	Blue
M	Yellow
K	Red
N	Green
S	Orange
H	Grey

- Primary
- Secondary

Catalog Number	D1	D	Ap1 max	D3	L3	L	Rε	K600
F3BA0600ADL40E180	6,00	6,00	8,00	5,00	0,71	57,00	0,25	2625713
F3BA0800ADL40E240	8,00	8,00	10,00	7,00	0,94	63,00	0,25	2625714
F3BA1000ADL40E300	10,00	10,00	12,00	9,00	1,18	72,00	0,25	2625715
F3BA1200ADL40E360	12,00	12,00	15,00	11,00	1,42	83,00	0,50	2625716
F3BA1600ADL40E480	16,00	16,00	20,00	15,00	1,89	92,00	1,00	2625717
F3BA2000ADL40E600	20,00	20,00	24,00	19,00	2,36	104,00	1,00	2625718



KenCut ALR • F3BA-WSMLX • Radiused • 3 Flutes
• Weldon Shank • Metric

KG00

P	Blue	
M	Yellow	
K	Red	
N	Green	●
S	Orange	
H	Grey	

● Primary
○ Secondary

Catalog Number	D1	D	Ap1 max	L	Rc	KG00
F3BA0600BWS40	6,00	6,00	13,00	57,00	0,25	1805808
F3BA0800BWM40	8,00	8,00	16,00	63,00	0,25	1807047
F3BA1000BWM40	10,00	10,00	22,00	72,00	0,50	1807048
F3BA1200BWL40	12,00	12,00	26,00	83,00	0,50	1807049
F3BA1600BWL40	16,00	16,00	32,00	92,00	1,00	1807050
F3BA2000BWX40	20,00	20,00	38,00	104,00	1,00	1807051
F3BA2500BWX40	25,00	25,00	45,00	121,00	1,50	1807052

APPLICATION DATA



MaxiMet ABDE



MaxiMet ABDF

MaxiMet
ABDE-ABDF • Application Data

Material Group					K600		Feed per Tooth — Fz information is for side milling (A). For slotting (B), reduce Fz by 20%.													
	A		B	Cutting Speed — Vc m/min		mm	D1 — Diameter													
	ap	ae	ap	min	max		1,5	2,0	3,0	4,0	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0	25,0	
N	1	1,5 x D	0,5 x D	1,0 x D	500	2000	Fz	0,014	0,018	0,027	0,036	0,054	0,072	0,090	0,108	0,126	0,144	0,162	0,180	0,225
	2	1,5 x D	0,5 x D	1,0 x D	500	1500	Fz	0,012	0,016	0,024	0,032	0,049	0,065	0,081	0,097	0,113	0,130	0,146	0,162	0,203
	3	1,5 x D	0,5 x D	1,0 x D	500	1500	Fz	0,009	0,013	0,019	0,025	0,038	0,050	0,063	0,076	0,088	0,101	0,113	0,126	0,158
	4	1,5 x D	0,5 x D	1,0 x D	400	750	Fz	0,009	0,013	0,019	0,025	0,038	0,050	0,063	0,076	0,088	0,101	0,113	0,126	0,158
	5	1,5 x D	0,5 x D	1,0 x D	250	1000	Fz	0,012	0,016	0,024	0,032	0,049	0,065	0,081	0,097	0,113	0,130	0,146	0,162	0,203



MaxiMet
ABDE • Necked • Application Data

Material Group					K600		Feed per Tooth — Fz information is for side milling (A). For slotting (B), reduce Fz by 20%.						
	A		B	Cutting Speed — Vc m/min		mm	D1 — Diameter						
	ap	ae	ap	min	max		6,0	8,0	10,0	12,0	16,0	20,0	
N	1	1 x D	0,5 x D	1,0 x D	500	2000	Fz	0,060	0,080	0,100	0,120	0,160	0,200
	2	1 x D	0,5 x D	1,0 x D	500	1500	Fz	0,054	0,072	0,090	0,108	0,144	0,180
	3	1 x D	0,5 x D	1,0 x D	500	1500	Fz	0,042	0,056	0,070	0,084	0,112	0,140
	4	1 x D	0,5 x D	1,0 x D	400	750	Fz	0,042	0,056	0,070	0,084	0,112	0,140
	5	1 x D	0,5 x D	1,0 x D	250	1000	Fz	0,054	0,072	0,090	0,108	0,144	0,180

NOTE: These guidelines may require variations to achieve optimum results. For better surface finish, reduce feed per tooth.
 For cutting aluminum with high silicon, TiCN coating is recommended.
 Ap for milling machine with ceramic bearings spindle, multiply by 0,5.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >12mm diameter.
 For tools with reach >3xD, reduce Fz by 20%.
 For tools with reach >5xD, reduce Fz by 30%.
 For tools with reach >10xD, reduce Vc and Fz by 30%.

SOLID END MILLING



KenCut AL

F1AA...WS-WM • Application Data

Material Group					K600		Feed per Tooth — Fz information is for side milling (A). For slotting (B), reduce Fz by 20%.								
	A		B		Cutting Speed — Vc m/min		D1 — Diameter								
	ap	ae	ap		min	max	mm	2,0	3,0	4,0	5,0	6,0	8,0	10,0	12,0
N	1	1,2 x D	0,5 x D	1,0 x D	500	2000	Fz	0,014	0,021	0,028	0,035	0,042	0,056	0,070	0,084
	2	1,2 x D	0,5 x D	1,0 x D	500	1500	Fz	0,013	0,019	0,025	0,032	0,038	0,050	0,063	0,076
	3	1,2 x D	0,5 x D	1,0 x D	500	1500	Fz	0,010	0,015	0,020	0,025	0,029	0,039	0,049	0,059
	4	1,2 x D	0,5 x D	1,0 x D	400	750	Fz	0,010	0,015	0,020	0,025	0,029	0,039	0,049	0,059
	5	1,2 x D	0,5 x D	1,0 x D	250	1000	Fz	0,013	0,019	0,025	0,032	0,038	0,050	0,063	0,076

NOTE: Ap for milling machine with ceramic bearings spindle, multiply by 0,5. For better surface finish, reduce feed per tooth. Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >12mm diameter.



KenCut AL – F2AA..ADL



KenCut AL – F3AA..AWS/L45



KenCut AL – F2AA..WM-WL-WX



KenCut AL – F3AA..WSMLX



KenCut AL – F3BA..WS-WM-WL-WX

KenCut AL

F3BA-F3AA-F2AA • Application Data

Material Group					K600		Feed per Tooth — Fz information is for side milling (A). For slotting (B), reduce Fz by 20%.													
	A		B		Cutting Speed — Vc m/min		D1 — Diameter													
	ap	ae	ap		min	max	mm	1,5	2,0	3,0	4,0	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0	25,0
N	1	1,5 x D	0,5 x D	1,0 x D	500	2000	Fz	0,014	0,018	0,027	0,036	0,054	0,072	0,090	0,108	0,126	0,144	0,162	0,180	0,225
	2	1,5 x D	0,5 x D	1,0 x D	500	1500	Fz	0,012	0,016	0,024	0,032	0,049	0,065	0,081	0,097	0,113	0,130	0,146	0,162	0,203
	3	1,5 x D	0,5 x D	1,0 x D	500	1500	Fz	0,009	0,013	0,019	0,025	0,038	0,050	0,063	0,076	0,088	0,101	0,113	0,126	0,158
	4	1,5 x D	0,5 x D	1,0 x D	400	750	Fz	0,009	0,013	0,019	0,025	0,038	0,050	0,063	0,076	0,088	0,101	0,113	0,126	0,158
	5	1,5 x D	0,5 x D	1,0 x D	250	1000	Fz	0,012	0,016	0,024	0,032	0,049	0,065	0,081	0,097	0,113	0,130	0,146	0,162	0,203



KenCut ALR

F3BA...BWS/M/L/X40... • Application Data

Material Group					K600		Feed per Tooth — Fz information is for side milling (A). For slotting (B), reduce Fz by 20%.								
	A		B		Cutting Speed — Vc m/min		D1 — Diameter								
	ap	ae	ap		min	max	mm	6,0	8,0	10,0	12,0	16,0	18,0	20,0	25,0
N	1	1,5 x D	0,5 x D	1,0 x D	500	2000	Fz	0,072	0,096	0,120	0,144	0,192	0,216	0,240	0,300
	2	1,5 x D	0,5 x D	1,0 x D	500	1500	Fz	0,065	0,086	0,108	0,130	0,173	0,194	0,216	0,270
	3	1,5 x D	0,5 x D	1,0 x D	500	1500	Fz	0,050	0,067	0,084	0,101	0,134	0,151	0,168	0,210
	4	1,5 x D	0,5 x D	1,0 x D	400	750	Fz	0,050	0,067	0,084	0,101	0,134	0,151	0,168	0,210
	5	1,5 x D	0,5 x D	1,0 x D	250	1000	Fz	0,065	0,086	0,108	0,130	0,173	0,194	0,216	0,270

NOTE: Ap for milling machine with ceramic bearings spindle, multiply by 0,5.

For better surface finish, reduce feed per tooth.

Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >12mm diameter.

MaxiMet & KenCut

AL/ALR-Series • Adjustment Factor for Feed and Speed Calculation

	Ae/D	2%	4%	5%	8%	10%	12%	20%	30%	40%	50%	100%
Speed factor	Kv	2,1—3,6	1,6—3	1,6—2,5	1,6	1,4	1,38	1,3	1,2	1,1	1	0,9
Feed factor	KFz	3,58	2,56	2,3	1,84	1,67	1,54	1,25	1,09	1,02	1	1

NOTE: For an Ae/D ratio of 5% or less there is a range given for speed factor Kv, which allows the user to either be more conservative at the lower value or more aggressive with the higher value.

This can also be considered based on the machinability of the material, from difficult to free cutting. These calculations are for roughing/semi-finishing cuts when used with the recommended base Fz. For light finishing cuts requiring improved surface quality it is recommended to reduce the base Fz approximately 50% and then apply these factors.

To calculate application specific cutting data, please use Kv coefficient table to the right for adaptation of cutting speed and KFz for feed respectively.

$$Vc_{new} = Vc * Kv$$

$$Fz_{new} = IPT * KFz$$

Calculation example:
 Application: D1 = 20mm;
 N2 material group (Maximet ABDE);
 Ae 2,0mm (Ae = 10% of D1)
 Cutting data recommendation: 1500m/min;
 Fz = 0,180mm/z
 Adjustment coefficients: Ae = 2,0mm equals 10%;
 Kv = 1,4; KFz = 1,67

Final cutting data recommendation:
 Vc new = 1500 * 1,4 = 2100mm/min
 Fz new = 0,180 * 1,67 = 0,301mm/z



General Purpose

G0mill PRO

SOLID CARBIDE END MILLS



Materials

Primary



Secondary



Industries



General
Engineering



Automotive



Wind & Solar



Oil & Gas



Medical

Applications



Explore G0mill PRO

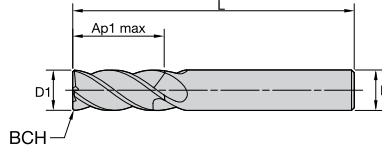
Kennametal's 4-flute G0mill PRO solid carbide end mills are a go-to solution for small- and medium-sized shops. Designed for side and shoulder milling, helical milling, pocketing, slotting and shallow ramping, G0mill PRO delivers affordability, versatility and high performance when cutting steels, stainless steels and cast iron.

- Asymmetric divided flute for better vibration control and tool life and smoother cutting
- Variable helix angle for better vibration control and tool life
- Tapered core for better chip evacuation and tool strength
- Multilayer TiN/TiALN coating for high performance at medium-high cutting on steels, stainless steels and cast iron
- Special relief design for higher edge strength, better vibration control and workpiece material flexibility

YOUR GO-TO END MILL FOR PRICE, PERFORMANCE & VERSATILITY

Ideal for shops working in the general engineering, transportation, energy and medical industries, GOmill PRO serves as a do-it-all end mill where price, performance and versatility meet for next level operations.





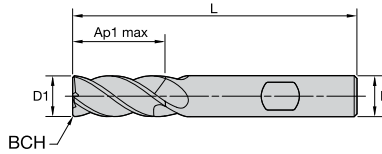
G0mill PRO • Chamfered • 4 Flutes • Plain Shank • Metric

- Primary
- Secondary

KCU20	
P	●
M	●
K	●
N	○
S	○
H	●

Catalog Number	D1	D	Ap1 max	L	BCH	KCU20
GOPR4CH0300R008HAM	3,00	6,00	8,00	57,00	0,15	7231597
GOPR4CH0400R011HAM	4,00	6,00	11,00	57,00	0,15	7231599
GOPR4CH0500R013HAM	5,00	6,00	13,00	57,00	0,15	7231601
GOPR4CH0600R013HAM	6,00	6,00	13,00	57,00	0,15	7231603
GOPR4CH0600X032HAM	6,00	6,00	32,00	76,00	0,15	7231605
GOPR4CH0700R019HAM	7,00	8,00	19,00	63,00	0,15	7231606
GOPR4CH0800R019HAM	8,00	8,00	19,00	63,00	0,20	7231676
GOPR4CH0800L032HAM	8,00	8,00	32,00	87,00	0,20	7231678
GOPR4CH0900R022HAM	9,00	10,00	22,00	72,00	0,20	7231679
GOPR4CH1000R022HAM	10,00	10,00	22,00	72,00	0,20	7231680
GOPR4CH1000L038HAM	10,00	10,00	38,00	89,00	0,20	7231712
GOPR4CH1200R026HAM	12,00	12,00	26,00	83,00	0,20	7231713
GOPR4CH1200L051HAM	12,00	12,00	51,00	100,00	0,20	7231715
GOPR4CH1400S026HAM	14,00	14,00	26,00	83,00	0,35	7231716
GOPR4CH1600R032HAM	16,00	16,00	32,00	92,00	0,35	7231718
GOPR4CH1600L057HAM	16,00	16,00	57,00	125,00	0,35	7231721
GOPR4CH2000S038HAM	20,00	20,00	38,00	104,00	0,35	7231722
GOPR4CH2000R057HAM	20,00	20,00	57,00	125,00	0,35	7231724
GOPR4CH2500S045HAM	25,00	25,00	45,00	121,00	0,35	7231726

SOLID END MILLING

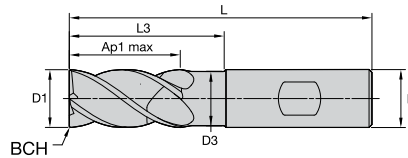


G0mill PRO • Chamfered • 4 Flutes • Weldon Shank • Metric

- Primary
- Secondary

KCU20	
P	●
M	●
K	●
N	○
S	○
H	●

Catalog Number	D1	D	Ap1 max	L	BCH	KCU20
GOPR4CH0300R008HBM	3,00	6,00	8,00	57,00	0,15	7231598
GOPR4CH0400R011HBM	4,00	6,00	11,00	57,00	0,15	7231600
GOPR4CH0500R013HBM	5,00	6,00	13,00	57,00	0,15	7231602
GOPR4CH0600R013HBM	6,00	6,00	13,00	57,00	0,15	7231604
GOPR4CH0800R019HBM	8,00	8,00	19,00	63,00	0,20	7231677
GOPR4CH1000R022HBM	10,00	10,00	22,00	72,00	0,20	7231711
GOPR4CH1200R026HBM	12,00	12,00	26,00	83,00	0,20	7231714
GOPR4CH1400S026HBM	14,00	14,00	26,00	83,00	0,35	7231717
GOPR4CH1600R032HBM	16,00	16,00	32,00	92,00	0,35	7231719
GOPR4CH2000S038HBM	20,00	20,00	38,00	104,00	0,35	7231723



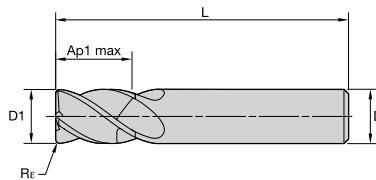
KCU20

P	●
M	●
K	●
N	○
S	○
H	○

● Primary
○ Secondary

G0mill PRO • Chamfered • 4 Flutes • Necked • Weldon Shank • Metric

Catalog Number	D1	D	Ap1 max	D3	L3	L	BCH	KCU20
GOPR4CH0200N004HBM	2,00	6,00	4,00	1,88	0,32	57,00	0,15	7230995
GOPR4CH0300N008HBM	3,00	6,00	8,00	2,82	0,59	57,00	0,15	7231184
GOPR4CH0400N011HBM	4,00	6,00	11,00	3,76	0,63	57,00	0,15	7231185
GOPR4CH0500N013HBM	5,00	6,00	13,00	4,70	0,71	57,00	0,15	7231186
GOPR4CH0600N013HBM	6,00	6,00	13,00	5,64	0,83	57,00	0,15	7231187
GOPR4CH0800N019HBM	8,00	8,00	19,00	7,52	1,06	63,00	0,20	7231188
GOPR4CH1000N022HBM	10,00	10,00	22,00	9,40	1,26	72,00	0,20	7231189
GOPR4CH1200N026HBM	12,00	12,00	26,00	11,28	1,50	83,00	0,20	7231190
GOPR4CH1600N032HBM	16,00	16,00	32,00	15,04	1,73	92,00	0,35	7231191
GOPR4CH2000N038HBM	20,00	20,00	38,00	18,80	2,09	104,00	0,35	7231192
GOPR4CH2500N045HBM	25,00	25,00	45,00	23,50	2,56	121,00	0,35	7231725



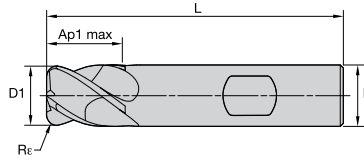
KCU20

P	●
M	●
K	●
N	○
S	○
H	○

● Primary
○ Secondary

G0mill PRO • Radiused • 4 Flutes • Plain Shank • Metric

Catalog Number	D1	D	Ap1 max	L	Re	KCU20
GOPR4RA0600S007HAR040M	6,00	6,00	7,00	50,00	0,40	7231579
GOPR4RA0800S010HAR040M	8,00	8,00	10,00	50,00	0,40	7231641
GOPR4RA1000S012HAR040M	10,00	10,00	12,00	66,00	0,40	7231643
GOPR4RA1200S015HAR050M	12,00	12,00	15,00	73,00	0,50	7231646
GOPR4RA1600S020HAR050M	16,00	16,00	20,00	82,00	0,50	7231664
GOPR4RA1600R035HAR050M	16,00	16,00	35,00	92,00	0,50	7231662
GOPR4RA2000S025HAR050M	20,00	20,00	25,00	92,00	0,50	7231670
GOPR4RA2000R042HAR050M	20,00	20,00	42,00	104,00	0,50	7231668
GOPR4RA2500R052HAR050M	25,00	25,00	52,00	121,00	0,50	7231674



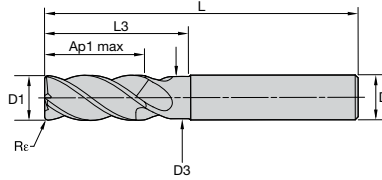
G0mill PRO • Radiused • 4 Flutes • Weldon Shank • Metric

- Primary
- Secondary

P	●
M	●
K	●
N	○
S	○
H	●

KCU20

Catalog Number	D1	D	Ap1 max	L	Re	KCU20
GOPR4RA0600S007HBR040M	6,00	6,00	7,00	50,00	0,40	7231580
GOPR4RA0800S010HBR040M	8,00	8,00	10,00	50,00	0,40	7231642
GOPR4RA1000S012HBR040M	10,00	10,00	12,00	66,00	0,40	7231644
GOPR4RA1200S015HBR050M	12,00	12,00	15,00	73,00	0,50	7231647
GOPR4RA1600S020HBR050M	16,00	16,00	20,00	82,00	0,50	7231665
GOPR4RA1600R035HBR050M	16,00	16,00	35,00	92,00	0,50	7231663
GOPR4RA2000S025HBR050M	20,00	20,00	25,00	92,00	0,50	7231671
GOPR4RA2000R042HBR050M	20,00	20,00	42,00	104,00	0,50	7231669
GOPR4RA2500R052HBR050M	25,00	25,00	52,00	121,00	0,50	7231675



G0mill PRO • Radiused • 4 Flutes • Necked • Plain Shank • Metric

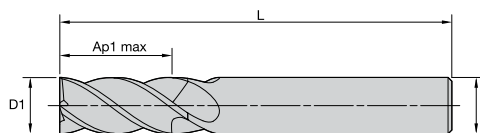
- Primary
- Secondary

P	●
M	●
K	●
N	○
S	○
H	●

KCU20

Catalog Number	D1	D	Ap1 max	D3	L3	L	Re	KCU20
GOPR4RA0300N008HAR020M	3,00	6,00	8,00	2,82	0.59	57,00	0,20	7231153
GOPR4RA0400N011HAR020M	4,00	6,00	11,00	3,76	0.63	57,00	0,20	7231154
GOPR4RA0400N011HAR050M	4,00	6,00	11,00	3,76	0.63	57,00	0,50	7231155
GOPR4RA0500N013HAR020M	5,00	6,00	13,00	4,70	0.71	57,00	0,20	7231156
GOPR4RA0500N013HAR050M	5,00	6,00	13,00	4,70	0.71	57,00	0,50	7231157
GOPR4RA0500N013HAR100M	5,00	6,00	13,00	4,70	0.71	57,00	1,00	7231158
GOPR4RA0600N013HAR050M	6,00	6,00	13,00	5,64	0.83	57,00	0,50	7231159
GOPR4RA0600N013HAR100M	6,00	6,00	13,00	5,64	0.83	57,00	1,00	7231160
GOPR4RA0600N013HAR150M	6,00	6,00	13,00	5,64	0.83	57,00	1,50	7231161
GOPR4RA0800N019HAR050M	8,00	8,00	19,00	7,52	1.06	63,00	0,50	7231163
GOPR4RA0800N019HAR100M	8,00	8,00	19,00	7,52	1.06	63,00	1,00	7231164
GOPR4RA0800N019HAR150M	8,00	8,00	19,00	7,52	1.06	63,00	1,50	7231165
GOPR4RA0800N019HAR200M	8,00	8,00	19,00	7,52	1.06	63,00	2,00	7231166
GOPR4RA1000N022HAR050M	10,00	10,00	22,00	9,40	1.26	72,00	0,50	7231167
GOPR4RA1000N022HAR100M	10,00	10,00	22,00	9,40	1.26	72,00	1,00	7231168
GOPR4RA1000N022HAR150M	10,00	10,00	22,00	9,40	1.26	72,00	1,50	7231169
GOPR4RA1000N022HAR200M	10,00	10,00	22,00	9,40	1.26	72,00	2,00	7231170
GOPR4RA1000N022HAR250M	10,00	10,00	22,00	9,40	1.26	72,00	2,50	7231645
GOPR4RA1200N026HAR050M	12,00	12,00	26,00	11,28	1.50	83,00	0,50	7231171
GOPR4RA1200N026HAR100M	12,00	12,00	26,00	11,28	1.50	83,00	1,00	7231172
GOPR4RA1200N026HAR150M	12,00	12,00	26,00	11,28	1.50	83,00	1,50	7231173
GOPR4RA1200N026HAR200M	12,00	12,00	26,00	11,28	1.50	83,00	2,00	7231174
GOPR4RA1200N026HAR250M	12,00	12,00	26,00	11,28	1.50	83,00	2,50	7231648
GOPR4RA1200N026HAR300M	12,00	12,00	26,00	11,28	1.50	83,00	3,00	7231649
GOPR4RA1200N026HAR400M	12,00	12,00	26,00	11,28	1.50	83,00	4,00	7231175
GOPR4RA1400N026HAR050M	14,00	14,00	26,00	13,16	1.57	89,00	0,50	7231650
GOPR4RA1400N026HAR100M	14,00	14,00	26,00	13,16	1.57	89,00	1,00	7231661
GOPR4RA1600N032HAR050M	16,00	16,00	32,00	15,04	1.73	92,00	0,50	7231666
GOPR4RA1600N032HAR100M	16,00	16,00	32,00	15,04	1.73	92,00	1,00	7231176
GOPR4RA1600N032HAR200M	16,00	16,00	32,00	15,04	1.73	92,00	2,00	7231177
GOPR4RA1600N032HAR250M	16,00	16,00	32,00	15,04	1.73	92,00	2,50	7231667
GOPR4RA1600N032HAR300M	16,00	16,00	32,00	15,04	1.73	92,00	3,00	7231178
GOPR4RA1600N032HAR400M	16,00	16,00	32,00	15,04	1.73	92,00	4,00	7231179
GOPR4RA2000N038HAR050M	20,00	20,00	38,00	18,80	2.09	104,00	0,50	7231672
GOPR4RA2000N038HAR100M	20,00	20,00	38,00	18,80	2.09	104,00	1,00	7231180
GOPR4RA2000N038HAR200M	20,00	20,00	38,00	18,80	2.09	104,00	2,00	7231181
GOPR4RA2000N038HAR250M	20,00	20,00	38,00	18,80	2.09	104,00	2,50	7231673
GOPR4RA2000N038HAR300M	20,00	20,00	38,00	18,80	2.09	104,00	3,00	7231182
GOPR4RA2000N038HAR400M	20,00	20,00	38,00	18,80	2.09	104,00	4,00	7231183

SOLID END MILLING



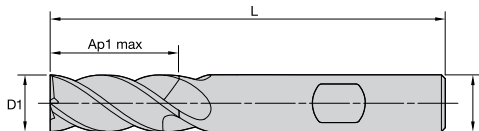
G0mill PRO • Square End • 4 Flutes • Plain Shank • Metric

- Primary
- Secondary

KCU20

P	●
M	●
K	●
N	○
S	○
H	●

Catalog Number	D1	D	Ap1 max	L	KCU20
GOPR4SE0200R006HAM	2,00	6,00	6,00	57,00	7230994
GOPR4SE0300R008HAM	3,00	6,00	8,00	57,00	7231062
GOPR4SE0400R011HAM	4,00	6,00	11,00	57,00	7231064
GOPR4SE0500R013HAM	5,00	6,00	13,00	57,00	7231066
GOPR4SE0600R013HAM	6,00	6,00	13,00	57,00	7231068
GOPR4SE0800R019HAM	8,00	8,00	19,00	63,00	7231070
GOPR4SE1000R022HAM	10,00	10,00	22,00	72,00	7231132
GOPR4SE1000R025HAM	10,00	10,00	25,00	72,00	7231133
GOPR4SE1200R026HAM	12,00	12,00	26,00	83,00	7231135
GOPR4SE1200R030HAM	12,00	12,00	30,00	83,00	7231137
GOPR4SE1400S026HAM	14,00	14,00	26,00	83,00	7231578
GOPR4SE1600R032HAM	16,00	16,00	32,00	92,00	7231139
GOPR4SE2000S038HAM	20,00	20,00	38,00	104,00	7231151



G0mill PRO • Square End • 4 Flutes • Weldon Shank • Metric

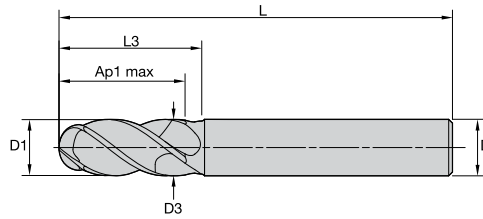
- Primary
- Secondary

KCU20

P	●
M	●
K	●
N	○
S	○
H	●

Catalog Number	D1	D	Ap1 max	L	KCU20
GOPR4SE0300R008HBM	3,00	6,00	8,00	57,00	7231063
GOPR4SE0400R011HBM	4,00	6,00	11,00	57,00	7231065
GOPR4SE0500R013HBM	5,00	6,00	13,00	57,00	7231067
GOPR4SE0600R013HBM	6,00	6,00	13,00	57,00	7231069
GOPR4SE0800R019HBM	8,00	8,00	19,00	63,00	7231131
GOPR4SE1000R022HBM	10,00	10,00	22,00	72,00	7231134
GOPR4SE1200R026HBM	12,00	12,00	26,00	83,00	7231136
GOPR4SE1600R032HBM	16,00	16,00	32,00	92,00	7231140
GOPR4SE2000S038HBM	20,00	20,00	38,00	104,00	7231152

SOLID END MILLING



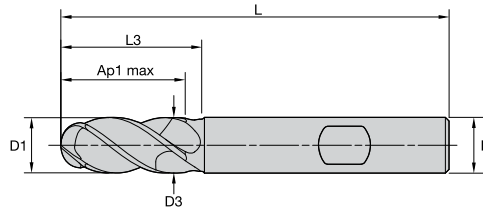
G0mill PRO • Ball Nose • 4 Flutes • Necked • Plain Shank • Metric

KCU20

P	Blue	●
M	Yellow	●
K	Red	●
N	Green	○
S	Orange	○
H	Grey	●

● Primary
○ Secondary

Catalog Number	D1	D	Ap1 max	D3	L3	L	R	KCU20
GOPR4BN0500R013HAM	5,00	6,00	13,00	4,70	0,71	57,00	2,50	7231264
GOPR4BN0600R013HAM	6,00	6,00	13,00	5,64	0,83	57,00	3,00	7231266
GOPR4BN0800R019HAM	8,00	8,00	19,00	7,52	1,06	63,00	4,00	7231268
GOPR4BN1000R022HAM	10,00	10,00	22,00	9,40	1,26	72,00	5,00	7231270
GOPR4BN1200R026HAM	12,00	12,00	26,00	11,28	1,18	83,00	6,00	7231272
GOPR4BN1600R032HAM	16,00	16,00	32,00	15,04	1,50	92,00	8,00	7231274
GOPR4BN2000S038HAM	20,00	20,00	38,00	18,80	1,97	104,00	10,00	7231276



G0mill PRO • Ball Nose • 4 Flutes • Necked • Weldon Shank • Metric

KCU20

P	Blue	●
M	Yellow	●
K	Red	●
N	Green	○
S	Orange	○
H	Grey	●

● Primary
○ Secondary

Catalog Number	D1	D	Ap1 max	D3	L3	L	R	KCU20
GOPR4BN0500R013HBM	5,00	6,00	13,00	4,70	0,71	57,00	2,50	7231265
GOPR4BN0600R013HBM	6,00	6,00	13,00	5,64	0,83	57,00	3,00	7231267
GOPR4BN0800R019HBM	8,00	8,00	19,00	7,52	1,06	63,00	4,00	7231269
GOPR4BN1000R022HBM	10,00	10,00	22,00	9,40	1,26	72,00	5,00	7231271
GOPR4BN1200R026HBM	12,00	12,00	26,00	11,28	1,18	83,00	6,00	7231273
GOPR4BN1600R032HBM	16,00	16,00	32,00	15,04	1,50	92,00	8,00	7231275
GOPR4BN2000S038HBM	20,00	20,00	38,00	18,80	1,97	104,00	10,00	7231277

SOLID END MILLING

APPLICATION DATA



G0mill PRO - Ball Nose



G0mill PRO - Square End

G0mill PRO
Application Data

Material Group	Side Milling		Slotting		KCU20 Cutting Speed Vc		Recommended Feed per Tooth (Fz=mm/th) is for Side Milling (A). For Slotting (B) Reduce Fz by 20%														
	Ap		Ae		m/min		D1 - Diameter														
	mm		mm		mm		2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	25.0		
	Min	Max	Min	Max	Min	Max															
P	P0	Ap1Max	0.4xD	1xD	150	200	Fz	0.014	0.021	0.028	0.036	0.044	0.060	0.072	0.083	0.092	0.101	0.108	0.114	0.124	
	P1	Ap1Max	0.4xD	1xD	150	200	Fz	0.014	0.021	0.028	0.036	0.044	0.060	0.072	0.083	0.092	0.101	0.108	0.114	0.124	
	P2	Ap1Max	0.4xD	1xD	140	190	Fz	0.014	0.021	0.028	0.036	0.044	0.060	0.072	0.083	0.092	0.101	0.108	0.114	0.124	
	P3	Ap1Max	0.4xD	1xD	120	160	Fz	0.011	0.017	0.023	0.030	0.036	0.050	0.061	0.070	0.079	0.087	0.095	0.101	0.114	
	P4	Ap1Max	0.4xD	0.75xD	90	150	Fz	0.010	0.016	0.021	0.027	0.033	0.045	0.054	0.062	0.070	0.077	0.083	0.088	0.098	
	P5	Ap1Max	0.4xD	1xD	60	100	Fz	0.009	0.014	0.019	0.024	0.029	0.040	0.048	0.056	0.063	0.070	0.076	0.081	0.091	
M	P6	Ap1Max	0.4xD	0.75xD	50	75	Fz	0.008	0.012	0.016	0.020	0.025	0.034	0.040	0.047	0.052	0.057	0.061	0.065	0.071	
	M1	Ap1Max	0.4xD	1xD	90	115	Fz	0.011	0.017	0.023	0.030	0.036	0.050	0.061	0.070	0.079	0.087	0.095	0.101	0.114	
	M2	Ap1Max	0.4xD	1xD	60	80	Fz	0.009	0.014	0.019	0.024	0.029	0.040	0.048	0.056	0.063	0.070	0.076	0.081	0.091	
K	M3	Ap1Max	0.4xD	1xD	60	70	Fz	0.008	0.012	0.016	0.020	0.025	0.034	0.040	0.047	0.052	0.057	0.061	0.065	0.071	
	K1	Ap1Max	0.4xD	1xD	120	150	Fz	0.014	0.021	0.028	0.036	0.044	0.060	0.072	0.083	0.092	0.101	0.108	0.114	0.124	
	K2	Ap1Max	0.4xD	1xD	110	140	Fz	0.011	0.017	0.023	0.030	0.036	0.050	0.061	0.070	0.079	0.087	0.095	0.101	0.114	
S	K3	Ap1Max	0.4xD	1xD	110	130	Fz	0.009	0.014	0.019	0.024	0.029	0.040	0.048	0.056	0.063	0.070	0.076	0.081	0.091	
	S1	Ap1Max	0.4xD	0.3xD	50	90	Fz	0.011	0.017	0.023	0.030	0.036	0.050	0.061	0.070	0.079	0.087	0.095	0.101	0.114	
	S2	Ap1Max	0.4xD	0.3xD	25	50	Fz	0.006	0.009	0.013	0.016	0.019	0.026	0.032	0.037	0.042	0.046	0.050	0.054	0.061	
	S3	Ap1Max	0.4xD	1xD	25	40	Fz	0.006	0.009	0.013	0.016	0.019	0.026	0.032	0.037	0.042	0.046	0.050	0.054	0.061	
H	S4	Ap1Max	0.4xD	1xD	50	60	Fz	0.007	0.011	0.016	0.021	0.026	0.037	0.045	0.052	0.058	0.064	0.069	0.074	0.084	
	H1	Ap1Max	0.4xD	0.75xD	80	140	Fz	0.010	0.016	0.021	0.027	0.033	0.045	0.054	0.062	0.070	0.077	0.083	0.088	0.098	
	H2	Ap1Max	0.4xD	0.5xD	70	120	Fz	0.008	0.012	0.016	0.020	0.025	0.034	0.040	0.047	0.052	0.057	0.061	0.065	0.071	

NOTE:

These guidelines may require variations to achieve optimum results.

Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.

Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.

Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on diameters >12mm.

For better surface finish, reduce feed per tooth.

Side milling applications - for longest reach (L3) tools, reduce Ae by 30%.

Slot milling applications - for longest reach (L3) tools, reduce Ae by 30%.

Sharp corner tools are not recommended for slotting applications.

SOLID END MILLING

G0mill PRO Adjustment Factor Table for Feed and Speed Calculation

	Ae/D	2%	4%	5%	8%	10%	12%	20%	30%	40%	50%	100%
Speed Factor	Kv	2.1 - 3.6	1.6 - 3	1.6 - 2.5	1.6	1.4	1.38	1.3	1.2	1.1	1	1
Feed Factor	KFz	3.58	2.56	2.3	1.84	1.67	1.54	1.25	1.09	1.02	1	0.9
phi [°]		16.26	23.07	25.84	32.86	36.87	40.54	53.13	66.42	78.46	90.00	180.00

NOTE: These calculations are for roughing/semi-finishing cuts when used with the recommended base Fz. For light finishing cuts requiring improved surface quality it is recommended to reduce the base Fz approximately 50% and then apply these factors.

For an Ae/D ratio of 5% or less there is range given for speed factor Kv, which allows the user to either be more conservative at the lower value or more aggressive with the higher value. This can also be considered based on machinability of the material, from difficult to free cutting.

To calculate application specific cutting data, please use above Kv coefficient for adaptation of cutting speed and KFz for feed respectively.

Vc new=Vc*Kv
Fz new=Fz*KFz

Calculation example:
Application: D1 = 14.0mm;
P5 material group;
Ae = 20% of D
Cutting data recommendation: Vc = 80 m/min;
Fz = 0.063 mm/th
Adjustment coefficients: ;Kv = 1.30; KFz = 1.25

Final cutting data recommendation:
Vc new = 80 * 1.30 = 104 m/min
Fz new = 0.06328 * 1.25 = 0.0791 mm/th



G0mill PRO - Ball Nose



G0mill PRO - Square End

G0mill PRO Long • Application Data

Material Group	Side Milling	Recommended Feed per Tooth (Fz=mm/th) is for Side Milling (A). No Slotting operations recommended.																
		KCU20		D1 - Diameter														
		Cutting Speed Vc																
		ap	ae	Min	Max	mm	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	18.0	20.0	25.0
P	P0	Ap1Max	0.2xD	150	200	Fz	0.014	0.021	0.028	0.036	0.044	0.060	0.072	0.083	0.092	0.108	0.114	0.124
	P1	Ap1Max	0.2xD	150	200	Fz	0.014	0.021	0.028	0.036	0.044	0.060	0.072	0.083	0.092	0.108	0.114	0.124
	P2	Ap1Max	0.2xD	140	190	Fz	0.014	0.021	0.028	0.036	0.044	0.060	0.072	0.083	0.092	0.108	0.114	0.124
	P3	Ap1Max	0.2xD	120	160	Fz	0.011	0.017	0.023	0.030	0.036	0.050	0.061	0.070	0.079	0.095	0.101	0.114
	P4	Ap1Max	0.2xD	90	150	Fz	0.010	0.016	0.021	0.027	0.033	0.045	0.054	0.062	0.070	0.083	0.088	0.098
	P5	Ap1Max	0.2xD	60	100	Fz	0.009	0.014	0.019	0.024	0.029	0.040	0.048	0.056	0.063	0.076	0.081	0.091
M	P6	Ap1Max	0.15xD	50	75	Fz	0.008	0.012	0.016	0.020	0.025	0.034	0.040	0.047	0.052	0.061	0.065	0.071
	M1	Ap1Max	0.2xD	90	115	Fz	0.011	0.017	0.023	0.030	0.036	0.050	0.061	0.070	0.079	0.095	0.101	0.114
	M2	Ap1Max	0.2xD	60	80	Fz	0.009	0.014	0.019	0.024	0.029	0.040	0.048	0.056	0.063	0.076	0.081	0.091
K	M3	Ap1Max	0.2xD	60	70	Fz	0.008	0.012	0.016	0.020	0.025	0.034	0.040	0.047	0.052	0.061	0.065	0.071
	K1	Ap1Max	0.2xD	120	150	Fz	0.014	0.021	0.028	0.036	0.044	0.060	0.072	0.083	0.092	0.108	0.114	0.124
	K2	Ap1Max	0.2xD	110	140	Fz	0.011	0.017	0.023	0.030	0.036	0.050	0.061	0.070	0.079	0.095	0.101	0.114
S	K3	Ap1Max	0.2xD	110	130	Fz	0.009	0.014	0.019	0.024	0.029	0.040	0.048	0.056	0.063	0.076	0.081	0.091
	S1	Ap1Max	0.1xD	50	90	Fz	0.011	0.017	0.023	0.030	0.036	0.050	0.061	0.070	0.079	0.095	0.101	0.114
	S2	Ap1Max	0.1xD	25	50	Fz	0.006	0.009	0.013	0.016	0.019	0.026	0.032	0.037	0.042	0.050	0.054	0.061
	S3	Ap1Max	0.1xD	25	40	Fz	0.006	0.009	0.013	0.016	0.019	0.026	0.032	0.037	0.042	0.050	0.054	0.061
H	S4	Ap1Max	0.15xD	50	60	Fz	0.007	0.011	0.016	0.021	0.026	0.037	0.045	0.052	0.058	0.069	0.074	0.084
	H1	Ap1Max	0.15xD	80	140	Fz	0.010	0.016	0.021	0.027	0.033	0.045	0.054	0.062	0.070	0.083	0.088	0.098
	H2	Ap1Max	0.15xD	70	120	Fz	0.008	0.012	0.016	0.020	0.025	0.034	0.040	0.047	0.052	0.061	0.065	0.071

NOTE:

These guidelines may require variations to achieve optimum results.

Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.

Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.

For better surface finish, reduce feed per tooth.



General Purpose

G0mill

ECONOMIC ROUGHING AND FINISHING

Materials



Explore G0mill

Industries



Automotive



General
Engineering



Oil & Gas



Aerospace



Medical



Wind & Solar

Applications

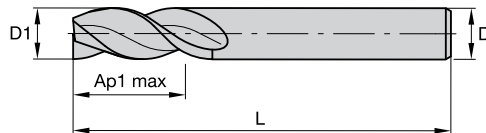


ECONOMIC, SHORT LENGTH-OF-CUT SOLID CARBIDE END MILLS FOR ROUGHING AND FINISHING IN MULTIPLE MATERIALS

The G0mill solid carbide end mill series provides extremely stable cutting conditions. Their short overall length and soft cutting geometry make this line ideal for mill-turn machines and driven units in lathes. The end mills work with any adapter and a clamping sleeve in hydraulic chucks is recommended.



- Unequally spaced 3- and 4-flute versions minimize vibrations and provide high tool life and superior surface quality
- Economic solution due to shorter than regular shanks, reducing overall tooling cost
- Short length and high-performance geometry enable chatter-free, 1xD full slot machining in multiple materials
- Center cutting for plunging and ramping



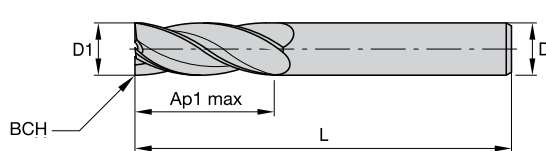
KC643M

P	Blue	●
M	Yellow	●
K	Red	●
N	Green	○
S	Orange	○
H	Grey	○

● Primary
○ Secondary

G0mill • Square End • 3 Flutes • Plain Shank • Metric

Catalog Number	D1	D	Ap1 max	L	KC643M
UEDE0200A3AS	2,00	6,00	4,00	38,00	4032783
UEDE0300A3AS	3,00	6,00	5,00	38,00	4032784
UEDE0400A3AS	4,00	6,00	7,00	38,00	4032785
UEDE0500A3AS	5,00	6,00	8,00	38,00	4032786
UEDE0600A3AS	6,00	6,00	8,00	38,00	4032787
UEDE0800A3AS	8,00	8,00	11,00	43,00	4032788
UEDE1000A3AS	10,00	10,00	13,00	50,00	4032789
UEDE1200A3AS	12,00	12,00	15,00	55,00	4032790



KC643M

P	Blue	●
M	Yellow	●
K	Red	●
N	Green	○
S	Orange	○
H	Grey	●

● Primary
○ Secondary

G0mill • Chamfered • 4 Flutes • Plain Shank • Metric

Catalog Number	D1	D	Ap1 max	L	BCH	KC643M
UEDE0400A4AH	4,00	6,00	7,00	38,00	0,40	4032802
UEDE0600A4AH	6,00	6,00	8,00	38,00	0,40	4032813
UEDE0800A4AH	8,00	8,00	11,00	43,00	0,40	4032814
UEDE1000A4AH	10,00	10,00	13,00	50,00	0,50	4032815
UEDE1200A4AH	12,00	12,00	15,00	55,00	0,50	4032816

SOLID END MILLING

APPLICATION DATA



G0mill – 3 Flutes – UEDE



G0mill – 4 Flutes – UEDE

G0mill

UEDE • Application Data

Material Group					KC643M		Recommended feed per tooth (Fz = mm/th) for side milling (A). For slotting (B), reduce Fz by 10%.								
	A		B	Cutting Speed — Vc m/min		mm	D1 — Diameter								
	ap	ae	ae	min	max		2,0	3,0	4,0	5,0	6,0	8,0	10,0	12,0	
P	0	1,5 x D	0,5 x D	1 x D	150	200	Fz	0,014	0,022	0,028	0,036	0,044	0,060	0,072	0,083
	1	1,5 x D	0,5 x D	1 x D	150	200	Fz	0,014	0,022	0,028	0,036	0,044	0,060	0,072	0,083
	2	1,5 x D	0,5 x D	1 x D	140	190	Fz	0,014	0,022	0,028	0,036	0,044	0,060	0,072	0,083
	3	1,5 x D	0,5 x D	1 x D	120	160	Fz	0,012	0,018	0,023	0,030	0,036	0,050	0,061	0,070
	4	1,5 x D	0,5 x D	0,75 x D	90	150	Fz	0,011	0,016	0,021	0,027	0,033	0,045	0,054	0,062
	5	1,5 x D	0,5 x D	1 x D	60	100	Fz	0,010	0,015	0,019	0,024	0,029	0,040	0,048	0,056
M	1	1,5 x D	0,5 x D	1 x D	90	115	Fz	0,012	0,018	0,023	0,030	0,036	0,050	0,061	0,070
	2	1,5 x D	0,5 x D	1 x D	60	80	Fz	0,010	0,015	0,019	0,024	0,029	0,040	0,048	0,056
K	1	1,5 x D	0,5 x D	1 x D	120	150	Fz	0,014	0,022	0,028	0,036	0,044	0,060	0,072	0,083
	2	1,5 x D	0,5 x D	1 x D	110	140	Fz	0,012	0,018	0,023	0,030	0,036	0,050	0,061	0,070
S	1	1,5 x D	0,3 x D	0,3 x D	50	90	Fz	0,012	0,018	0,023	0,030	0,036	0,050	0,061	0,070
	2	1,5 x D	0,3 x D	0,3 x D	25	40	Fz	0,006	0,010	0,013	0,016	0,019	0,026	0,032	0,037
H	1	1,5 x D	0,5 x D	1 x D	50	60	Fz	0,008	0,013	0,016	0,021	0,026	0,037	0,045	0,052
	2	1,5 x D	0,5 x D	0,75 x D	80	140	Fz	0,011	0,016	0,021	0,027	0,033	0,045	0,054	0,062

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.

G0mill Series

Adjustment Factor for Feed and Speed Calculation

	Ae/D	2%	4%	5%	8%	10%	12%	20%	30%	40%	50%	100%
Speed factor	Kv	2,1—3,6	1,6—3	1,6—2,5	1,6	1,4	1,38	1,3	1,2	1,1	1	0,9
Feed factor	KFz	3,58	2,56	2,3	1,84	1,67	1,54	1,25	1,09	1,02	1	1

NOTE: For an Ae/D ratio of 5% or less there is a range given for speed factor Kv, which allows the user to either be more conservative at the lower value or more aggressive with the higher value.

This can also be considered based on the machinability of the material, from difficult to free cutting.

These calculations are for roughing/semi-finishing cuts when used with the recommended base Fz.

For light finishing cuts requiring improved surface quality it is recommended to reduce the base Fz approximately 50% and then apply these factors.

To calculate application specific cutting data, please use Kv coefficient table to the right for adaptation of cutting speed and KFz for feed respectively.

$$Vc_{new} = Vc * Kv$$

$$Fz_{new} = IPT * KFz$$

Calculation example:

Application: D1 = 12mm;

P4 material group;

Ae 1,2mm (Ae = 10% of D1)

Cutting data recommendation: 150m/min;

Fz = 0,062mm/z

Adjustment coefficients: Ae = 1,2mm equals 10%;

Kv = 1,4; KFz = 1,67

Final cutting data recommendation:

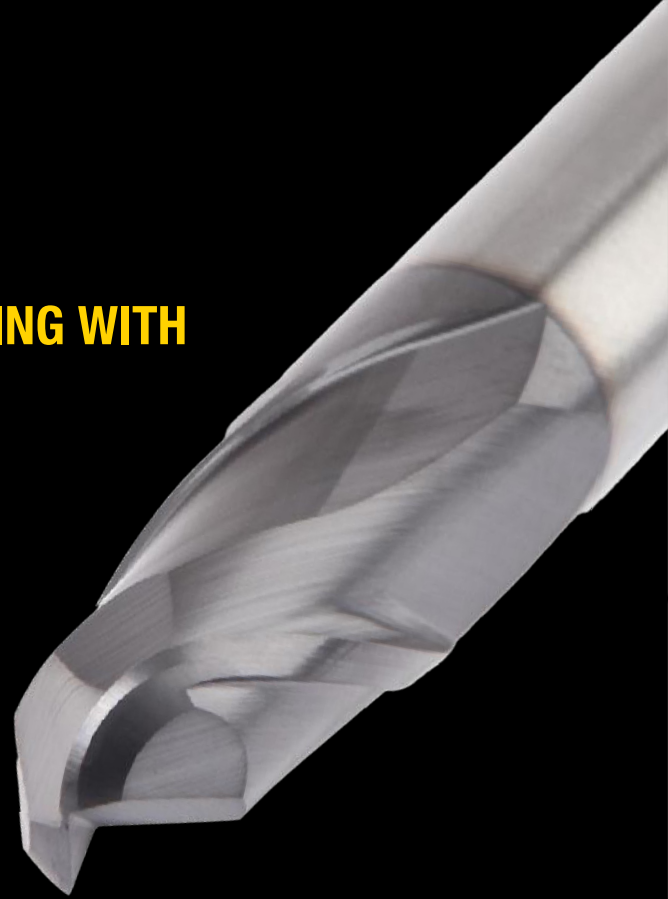
Vc new = 150 * 1,4 = 210mm/min

Fz new = 0,062 * 1,67 = 0,103mm/z

General Purpose

GOmill GP

**DESIGNED FOR ROUGHING AND FINISHING WITH
ONE TOOL AT AN ECONOMICAL PRICE**



Materials



Industries



Automotive



General
Engineering



Oil & Gas



Aerospace



Medical



Wind & Solar

Applications



Explore GOmill GP

Primary Application

The GOmill GP series offers plunging, slotting and profiling with long tool life on a wide range of materials.

- Designed to provide high MRR and to achieve good surface conditions at excellent cost-benefit ratio
- Available in a wide range of diameters and lengths
- Roughing and finishing with one tool
- Multilayer KC633M grade for long tool life



Eccentric Relief

Long tool life and economic regrinding

Center Cutting

For plunging and ramping

Dubbing

For extended tool life

30° Helix Angle

For roughing and finishing

Thick TiAlN PVD Coating

High cutting parameters and long tool life

High Quality Substrate

For long tool life and high MRR

ADVANCED TECHNOLOGY

- Roughing and finishing with one tool reduces tool changes and unnecessary tooling inventory
- Eccentric relief increases edge stability for longer tool life and better surface quality
- Eccentric relief eases regrinding and enables higher flexibility and lower reconditioning cost
- 2 & 3 flute designs for maximum manufacturing flexibility

TAILORED GRADE

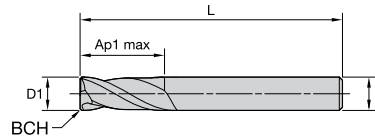
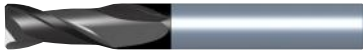
- Universal multilayer KC633M coating for cutting steels, stainless steels and cast irons

CUSTOMIZATION

- Intermediate diameters available

EXTENSIVE STANDARD OFFERING

- Diameter range 2–20mm
- Chamfered corner and ball nose as standard offerings
- Two different lengths as DIN standard in stock



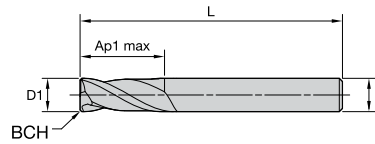
G0mill GP • Chamfered • 2 Flutes • Plain Shank • Regular • Metric

- Primary
- Secondary

KC633M

P	●
M	○
K	○
N	○
S	○
H	○

Catalog Number	D1	D	Ap1 max	L	BCH	KC633M
2CH0400DD008A	4,00	4,00	8,00	50,00	0,10	5872996
2CH0600DD010A	6,00	6,00	10,00	57,00	0,10	5872998
2CH1500DD026A	15,00	15,00	26,00	92,00	0,30	5873006



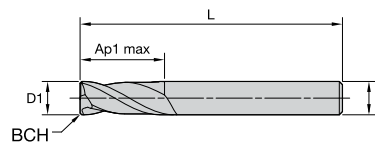
G0mill GP • Chamfered • 2 Flutes • Plain Shank • Short/Regular • Metric

- Primary
- Secondary

KC633M

P	●
M	○
K	○
N	○
S	○
H	○

Catalog Number	D1	D	Ap1 max	L	BCH	KC633M
2CH0400DK005A	4,00	6,00	5,00	54,00	0,10	5872947
2CH0400DL008A	4,00	6,00	8,00	57,00	0,10	5872948
2CH0500DK006A	5,00	6,00	6,00	54,00	0,10	5872961
2CH0500DL010A	5,00	6,00	10,00	57,00	0,10	5872962
2CH0600DK007A	6,00	6,00	7,00	54,00	0,10	5872963
2CH0600DL010A	6,00	6,00	10,00	57,00	0,10	5872964
2CH0700DL013A	7,00	8,00	13,00	63,00	0,10	5872966
2CH0800DK009A	8,00	8,00	9,00	58,00	0,20	5872967
2CH0800DL016A	8,00	8,00	16,00	63,00	0,20	5872968
2CH1000DK011A	10,00	10,00	11,00	66,00	0,20	5872972
2CH1000DL019A	10,00	10,00	19,00	72,00	0,20	5872974
2CH1200DK012A	12,00	12,00	12,00	73,00	0,30	5872975
2CH1200DL022A	12,00	12,00	22,00	83,00	0,30	5872976
2CH1400DK014A	14,00	14,00	14,00	75,00	0,30	5872977



G0mill GP • Square End • 2 Flutes • Plain Shank • Metric

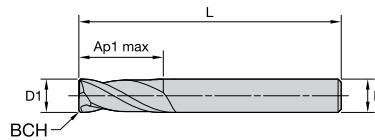
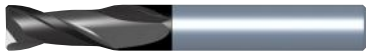
- Primary
- Secondary

KC633M

P	●
M	○
K	○
N	○
S	○
H	○

Catalog Number	D1	D	Ap1 max	L	KC633M
2CH0300DD007A	3,00	3,00	8,00	50,00	5872995

SOLID END MILLING



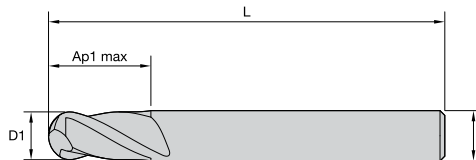
KC633M

P	●
M	○
K	○
N	○
S	○
H	○

● Primary
○ Secondary

G0mill GP • Square End • 2 Flutes • Plain Shank • Short/Long • Metric

Catalog Number	D1	D	Ap1 max	L	KC633M
2CH0200DK003A	2,00	6,00	3,00	50,00	5872943
2CH0300DK004A	3,00	6,00	4,00	50,00	5872944
2CH0300DL007A	3,00	6,00	7,00	57,00	5872945



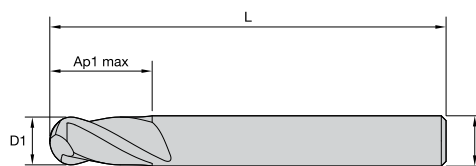
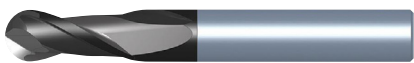
KC633M

P	●
M	○
K	○
N	○
S	○
H	○

● Primary
○ Secondary

G0mill GP • DD Ball Nose • 2 Flutes • Plain Shank • Metric

Catalog Number	D1	D	Ap1 max	L	R	KC633M
2BN0200DD007A	2,00	2,00	7,00	50,00	1,00	5874170
2BN0300DD007A	3,00	3,00	7,00	50,00	1,50	5874171
2BN0400DD008A	4,00	4,00	8,00	50,00	2,00	5874172
2BN0500DD010A	5,00	5,00	10,00	50,00	2,50	5874173
2BN0600DD010A	6,00	6,00	10,00	57,00	3,00	5874174
2BN0800DD016A	8,00	8,00	16,00	63,00	4,00	5874175
2BN1000DD019A	10,00	10,00	19,00	72,00	5,00	5874176
2BN1200DD022A	12,00	12,00	22,00	83,00	6,00	5874177



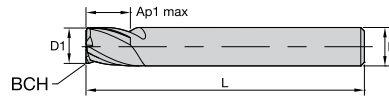
KC633M

P	●
M	○
K	○
N	○
S	○
H	○

● Primary
○ Secondary

G0mill GP • DK-DL Ball Nose • 2 Flutes • Plain Shank • Metric

Catalog Number	D1	D	Ap1 max	L	R	KC633M
2BN0200DL006A	2,00	6,00	6,00	57,00	1,00	5874065
2BN0300DK004A	3,00	6,00	4,00	50,00	1,50	5874066
2BN0300DL007A	3,00	6,00	7,00	57,00	1,50	5874067
2BN0400DL008A	4,00	6,00	8,00	57,00	2,00	5874069
2BN0500DL010A	5,00	6,00	10,00	57,00	2,50	5874070
2BN0600DL010A	6,00	6,00	10,00	57,00	3,00	5874161
2BN0700DL013A	7,00	8,00	13,00	63,00	3,50	5874162
2BN0800DL016A	8,00	8,00	16,00	63,00	4,00	5874163
2BN1000DL019A	10,00	10,00	19,00	72,00	5,00	5874164
2BN1200DL022A	12,00	12,00	22,00	83,00	6,00	5874165
2BN2000DL032A	20,00	20,00	32,00	104,00	10,00	5874169

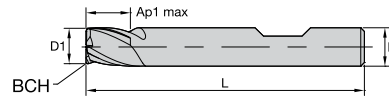


G0mill GP • Chamfered • 3 Flutes • Plain Shank • Short/Long • Metric

- Primary
- Secondary

P	●	KC633M
M	○	
K	○	
N	○	
S	○	
H	○	

Catalog Number	D1	D	Ap1 max	L	BCH	KC633M
3CH0400DK005A	4,00	6,00	5,00	54,00	0,10	6146875
3CH0400DL008A	4,00	6,00	8,00	57,00	0,10	6146944
3CH0450DK005A	4,50	6,00	5,00	54,00	0,10	6146876
3CH0500DK006A	5,00	6,00	6,00	54,00	0,10	6146877
3CH0500DL010A	5,00	6,00	10,00	57,00	0,10	6146946
3CH0550DK007A	5,50	6,00	7,00	54,00	0,10	6146878
3CH0600DK007A	6,00	6,00	7,00	54,00	0,10	6146879
3CH0600DL010A	6,00	6,00	10,00	57,00	0,10	6146948
3CH0700DL013A	7,00	8,00	13,00	63,00	0,10	6146949
3CH0800DL016A	8,00	8,00	16,00	63,00	0,20	6146950
3CH1000DL019A	10,00	10,00	19,00	72,00	0,20	6146951
3CH1200DK012A	12,00	12,00	12,00	73,00	0,30	6146883
3CH1200DL022A	12,00	12,00	22,00	83,00	0,30	6146952
3CH1400DL022A	14,00	14,00	22,00	83,00	0,30	6146953
3CH1600DL026A	16,00	16,00	26,00	92,00	0,30	6146954
3CH1800DL026A	18,00	18,00	26,00	92,00	0,30	6146955



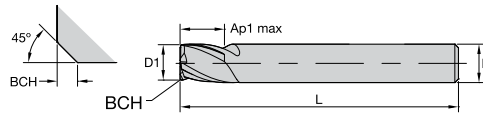
G0mill GP • Chamfered • 3 Flutes • Weldon Shank • Short/Long • Metric

- Primary
- Secondary

P	●	KC633M
M	○	
K	○	
N	○	
S	○	
H	○	

Catalog Number	D1	D	Ap1 max	L	BCH	KC633M
3CH0400DK005B	4,00	6,00	5,00	54,00	0,10	6146893
3CH0400DL008B	4,00	6,00	8,00	57,00	0,10	6146961
3CH0500DK006B	5,00	6,00	6,00	54,00	0,10	6146895
3CH0500DL010B	5,00	6,00	10,00	57,00	0,10	6146963
3CH0600DK007B	6,00	6,00	7,00	54,00	0,10	6146897
3CH0600DL010B	6,00	6,00	10,00	57,00	0,10	6146965
3CH0800DL016B	8,00	8,00	16,00	63,00	0,20	6146967
3CH1000DK011B	10,00	10,00	11,00	66,00	0,20	6146900
3CH1000DL019B	10,00	10,00	19,00	72,00	0,20	6146968
3CH1200DL022B	12,00	12,00	22,00	83,00	0,30	6146969
3CH1400DL022B	14,00	14,00	22,00	83,00	0,30	6146970
3CH1600DL026B	16,00	16,00	26,00	92,00	0,30	6146971
3CH2000DL032B	20,00	20,00	32,00	104,00	0,30	6146973

SOLID END MILLING

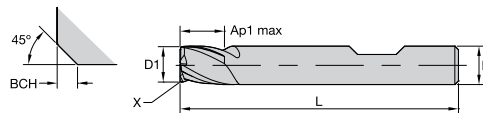


KC633M	
P	●
M	○
K	○
N	○
S	○
H	○

- Primary
- Secondary

G0mill GP • Square End • 3 Flutes • Plain Shank • Short/Long • Metric

Catalog Number	D1	D	Ap1 max	L	KC633M
3CH0200DL006A	2,00	6,00	6,00	57,00	6146940
3CH0250DL007A	2,50	6,00	7,00	57,00	6146941
3CH0300DK004A	3,00	6,00	4,00	50,00	6146872
3CH0300DL007A	3,00	6,00	7,00	57,00	6146942
3CH0350DK004A	3,50	6,00	4,00	50,00	6146874



KC633M	
P	●
M	○
K	○
N	○
S	○
H	○

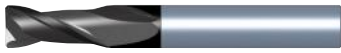
- Primary
- Secondary

G0mill GP • Square End • 3 Flutes • Weldon Shank • Metric

Catalog Number	D1	D	Ap1 max	L	KC633M
3CH0200DL006B	2,00	6,00	6,00	57,00	6146957
3CH0300DL007B	3,00	6,00	7,00	57,00	6146959

SOLID END MILLING

APPLICATION DATA



G0mill GP

2 Flute • Short • Regular

Material Group					KC633M		Recommended feed per tooth (Fz = mm/th) for side milling (A). For slotting (B), reduce Fz by 20%.												
	A		B		Cutting Speed — Vc m/min		D1 — Diameter												
	Ap	Ae	Ap		min	max	mm	2,0	3,0	4,0	5,0	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0
P	0	Ap1 max	0,1 x D	0,5 x D	150	200	Fz	0,014	0,021	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114
	1	Ap1 max	0,1 x D	0,5 x D	150	200	Fz	0,014	0,021	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114
	2	Ap1 max	0,1 x D	0,5 x D	140	190	Fz	0,014	0,021	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114
	3	Ap1 max	0,1 x D	0,5 x D	120	160	Fz	0,011	0,017	0,023	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101
M	4	Ap1 max	0,1 x D	0,5 x D	90	150	Fz	0,010	0,016	0,021	0,027	0,033	0,045	0,054	0,062	0,070	0,077	0,083	0,088
	1	Ap1 max	0,1 x D	0,5 x D	90	115	Fz	0,011	0,017	0,023	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101
K	2	Ap1 max	0,1 x D	0,5 x D	60	80	Fz	0,009	0,014	0,019	0,024	0,029	0,040	0,048	0,056	0,063	0,070	0,076	0,081
	1	Ap1 max	0,1 x D	0,5 x D	120	150	Fz	0,014	0,021	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114
N	2	Ap1 max	0,1 x D	0,5 x D	110	140	Fz	0,011	0,017	0,023	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101
	1	Ap1 max	0,1 x D	0,5 x D	250	1000	Fz	0,020	0,030	0,040	0,050	0,060	0,080	0,100	0,120	0,140	0,160	0,180	0,200
	2	Ap1 max	0,1 x D	0,5 x D	250	750	Fz	0,016	0,024	0,032	0,040	0,048	0,064	0,080	0,096	0,112	0,128	0,144	0,160
	4	Ap1 max	0,1 x D	0,5 x D	250	750	Fz	0,018	0,027	0,036	0,045	0,054	0,072	0,090	0,108	0,126	0,144	0,162	0,180

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >12mm diameter.

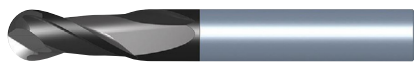
SOLID END MILLING



GOmill GP
2 Flute • Long

Material Group			KC633M		Recommended feed per tooth (Fz = mm/th) for side milling (A).														
	A		Cutting Speed — Vc m/min		mm	D1 — Diameter													
	Ap	Ae	min	max		3,0	4,0	5,0	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0			
P	0	Ap1 max	0,1 x D	150	200	Fz	0,021	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114		
	1	Ap1 max	0,1 x D	150	200	Fz	0,021	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114		
	2	Ap1 max	0,1 x D	140	190	Fz	0,021	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114		
	3	Ap1 max	0,1 x D	120	160	Fz	0,017	0,023	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101		
	4	Ap1 max	0,1 x D	90	150	Fz	0,016	0,021	0,027	0,033	0,045	0,054	0,062	0,070	0,077	0,083	0,088		
M	1	Ap1 max	0,1 x D	90	115	Fz	0,017	0,023	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101		
	2	Ap1 max	0,1 x D	60	80	Fz	0,014	0,019	0,024	0,029	0,040	0,048	0,056	0,063	0,070	0,076	0,081		
K	1	Ap1 max	0,1 x D	120	150	Fz	0,021	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114		
	2	Ap1 max	0,1 x D	110	140	Fz	0,017	0,023	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101		
N	1	Ap1 max	0,1 x D	250	1000	Fz	0,030	0,040	0,050	0,060	0,080	0,100	0,120	0,140	0,160	0,180	0,200		
	2	Ap1 max	0,1 x D	250	750	Fz	0,024	0,032	0,040	0,048	0,064	0,080	0,096	0,112	0,128	0,144	0,160		
	4	Ap1 max	0,1 x D	250	750	Fz	0,027	0,036	0,045	0,054	0,072	0,090	0,108	0,126	0,144	0,162	0,180		

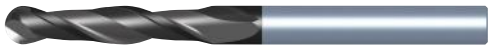
NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >12mm diameter.



GOmill GP
2 Flute • Ball Nose • Short • Regular

Material Group					KC633M		Recommended feed per tooth (Fz = mm/th) for side milling (A). For slotting (B), reduce Fz by 20%.													
	A		B	Cutting Speed — Vc m/min		mm	D1 — Diameter													
	Ap	Ae	Ap	min	max		1,0	2,0	3,0	4,0	5,0	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0	
P	0	Ap1 max	0,1 x D	0,5 x D	150	200	Fz	0,007	0,014	0,021	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114
	1	Ap1 max	0,1 x D	0,5 x D	150	200	Fz	0,007	0,014	0,021	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114
	2	Ap1 max	0,1 x D	0,5 x D	140	190	Fz	0,007	0,014	0,021	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114
	3	Ap1 max	0,1 x D	0,5 x D	120	160	Fz	0,006	0,011	0,017	0,023	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101
	4	Ap1 max	0,1 x D	0,5 x D	90	150	Fz	0,005	0,010	0,016	0,021	0,027	0,033	0,045	0,054	0,062	0,070	0,077	0,083	0,088
M	1	Ap1 max	0,1 x D	0,5 x D	90	115	Fz	0,006	0,011	0,017	0,023	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101
	2	Ap1 max	0,1 x D	0,5 x D	60	80	Fz	0,005	0,009	0,014	0,019	0,024	0,029	0,040	0,048	0,056	0,063	0,070	0,076	0,081
K	1	Ap1 max	0,1 x D	0,5 x D	120	150	Fz	0,007	0,014	0,021	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114
	2	Ap1 max	0,1 x D	0,5 x D	110	140	Fz	0,006	0,011	0,017	0,023	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101
N	1	Ap1 max	0,1 x D	0,5 x D	250	1000	Fz	0,010	0,020	0,030	0,040	0,050	0,060	0,080	0,100	0,120	0,140	0,160	0,180	0,200
	2	Ap1 max	0,1 x D	0,5 x D	250	750	Fz	0,008	0,016	0,024	0,032	0,040	0,048	0,064	0,080	0,096	0,112	0,128	0,144	0,160
	4	Ap1 max	0,1 x D	0,5 x D	250	750	Fz	0,009	0,018	0,027	0,036	0,045	0,054	0,072	0,090	0,108	0,126	0,144	0,162	0,180

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >12mm diameter.



G0mill GP

2 Flute • Ball Nose • Long

Material Group			KC633M		Recommended feed per tooth (Fz = mm/th) for side milling (A).														
	A		Cutting Speed — Vc m/min		mm	D1 — Diameter													
	Ap	Ae	min	max		2,0	3,0	4,0	5,0	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0		
P	0	Ap1 max	0,1 x D	150	200	Fz	0,014	0,021	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114	
	1	Ap1 max	0,1 x D	150	200	Fz	0,014	0,021	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114	
	2	Ap1 max	0,1 x D	140	190	Fz	0,014	0,021	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114	
	3	Ap1 max	0,1 x D	120	160	Fz	0,011	0,017	0,023	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101	
	4	Ap1 max	0,1 x D	90	150	Fz	0,010	0,016	0,021	0,027	0,033	0,045	0,054	0,062	0,070	0,077	0,083	0,088	
M	1	Ap1 max	0,1 x D	90	115	Fz	0,011	0,017	0,023	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101	
	2	Ap1 max	0,1 x D	60	80	Fz	0,009	0,014	0,019	0,024	0,029	0,040	0,048	0,056	0,063	0,070	0,076	0,081	
K	1	Ap1 max	0,1 x D	120	150	Fz	0,014	0,021	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114	
	2	Ap1 max	0,1 x D	110	140	Fz	0,011	0,017	0,023	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101	
N	1	Ap1 max	0,1 x D	250	1000	Fz	0,020	0,030	0,040	0,050	0,060	0,080	0,100	0,120	0,140	0,160	0,180	0,200	
	2	Ap1 max	0,1 x D	250	750	Fz	0,016	0,024	0,032	0,040	0,048	0,064	0,080	0,096	0,112	0,128	0,144	0,160	
	4	Ap1 max	0,1 x D	250	750	Fz	0,018	0,027	0,036	0,045	0,054	0,072	0,090	0,108	0,126	0,144	0,162	0,180	

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >12mm diameter.

SOLID END MILLING



G0mill GP

3 Flute • Short • Regular

Material Group					KC633M		Recommended feed per tooth (Fz = mm/th) for side milling (A). For slotting (B), reduce Fz by 20%.													
	A		B	Cutting Speed — Vc m/min		mm	D1 — Diameter													
	Ap	Ae	Ap	min	max		2,0	3,0	4,0	5,0	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0		
P	0	Ap1 max	0,1 x D	0,5 x D	150	200	Fz	0,014	0,021	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114	
	1	Ap1 max	0,1 x D	0,5 x D	150	200	Fz	0,014	0,021	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114	
	2	Ap1 max	0,1 x D	0,5 x D	140	190	Fz	0,014	0,021	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114	
	3	Ap1 max	0,1 x D	0,5 x D	120	160	Fz	0,011	0,017	0,023	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101	
	4	Ap1 max	0,1 x D	0,5 x D	90	150	Fz	0,010	0,016	0,021	0,027	0,033	0,045	0,054	0,062	0,070	0,077	0,083	0,088	
M	1	Ap1 max	0,1 x D	0,5 x D	90	115	Fz	0,011	0,017	0,023	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101	
	2	Ap1 max	0,1 x D	0,5 x D	60	80	Fz	0,009	0,014	0,019	0,024	0,029	0,040	0,048	0,056	0,063	0,070	0,076	0,081	
K	1	Ap1 max	0,1 x D	0,5 x D	120	150	Fz	0,014	0,021	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114	
	2	Ap1 max	0,1 x D	0,5 x D	110	140	Fz	0,011	0,017	0,023	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101	
N	1	Ap1 max	0,1 x D	0,5 x D	250	1000	Fz	0,020	0,030	0,040	0,050	0,060	0,080	0,100	0,120	0,140	0,160	0,180	0,200	
	2	Ap1 max	0,1 x D	0,5 x D	250	750	Fz	0,016	0,024	0,032	0,040	0,048	0,064	0,080	0,096	0,112	0,128	0,144	0,160	
	4	Ap1 max	0,1 x D	0,5 x D	250	750	Fz	0,018	0,027	0,036	0,045	0,054	0,072	0,090	0,108	0,126	0,144	0,162	0,180	

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
 Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
 Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on diameters >12mm.



Modular End Milling

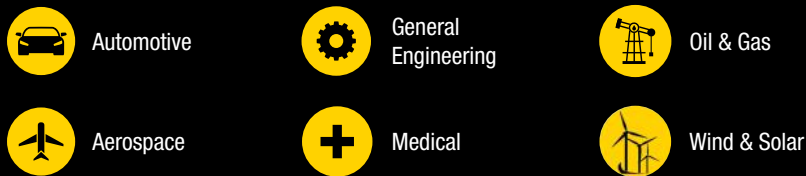
DUO-LOCK

THE ONLY MODULAR SYSTEM WITH THE PERFORMANCE OF A SOLID CARBIDE END MILL

Materials



Industries



Applications

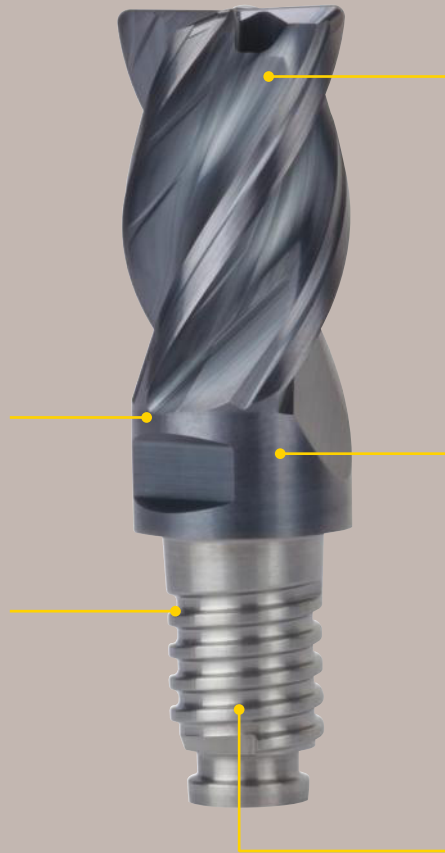


Explore DUO-LOCK

DUO-LOCK is a revolutionary coupling for solid carbide end milling applications. This replaceable head design combines a high accuracy in runout and length repeatability with maximum stability, making it a precise and virtually unbreakable interface.

Double cone eliminates extensive presetting processes by providing an axial 10µm repeatability. Length repeatability from insert tip-to-tip within 50µm

Third contact surface delivers high stiffness and highest accuracy for >5µm runout



HARVI I TE solid carbide end mills ensure maximum MRR in a variety of operations

Intelligent thread ensures stress level remains below critical values, allowing >25% higher transmittable torque

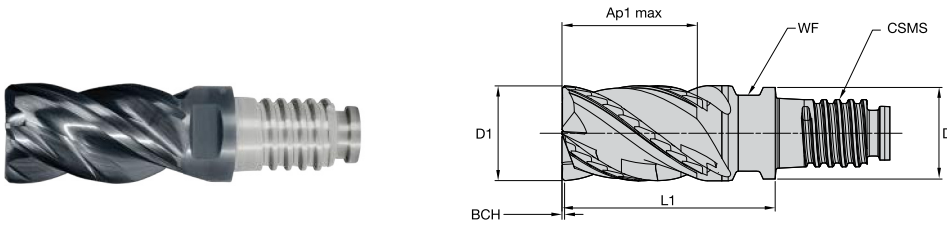
With a DUO-LOCK wrench, the tool change becomes easy and can be done in a few seconds



SAFE-LOCK

Extensions

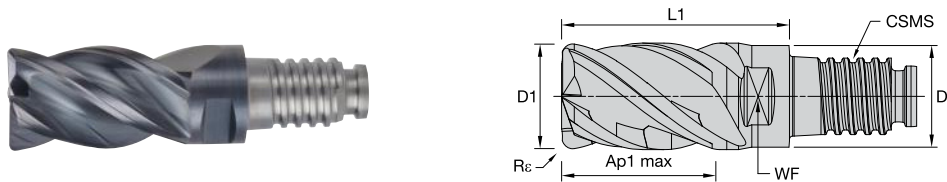
To adapt DUO-LOCK to your spindle, standard-length extensions with cylindrical SAFE-LOCK are available



DUO-LOCK • HARVI I TE • Chamfered • 4 Flutes • Metric

- Primary
 - Secondary
- | | |
|---|---|
| P | ● |
| M | ● |
| K | ● |
| N | ● |
| S | ● |
| H | ● |
- KCPM15**

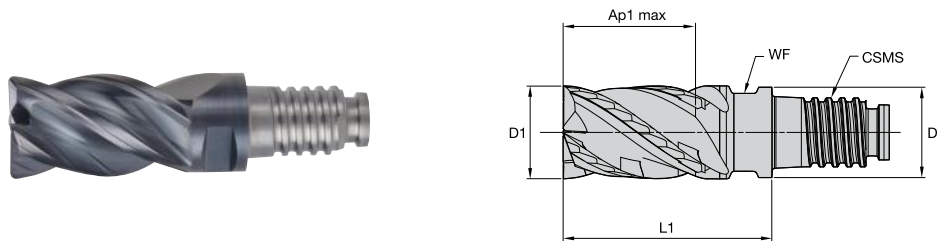
Catalog Number	D1	D	Ap1 max	L1	BCH	CSMS	WF	KCPM15
H1TE4CH1000R015DLM	10,00	10,00	15,00	22,50	0,50	DL10	8,00	6953204
H1TE4CH1200R018DLM	12,00	12,00	18,00	27,00	0,50	DL12	9,50	6953205
H1TE4CH1600R024DLM	16,00	16,00	24,00	36,00	0,50	DL16	13,00	6953206
H1TE4CH2000R030DLM	20,00	19,30	30,00	45,00	0,50	DL20	16,00	6953207
H1TE4CH2500R038DLM	25,00	25,00	37,50	56,50	0,50	DL25	21,00	6953208
H1TE4CH3200R048DLM	32,00	31,00	48,00	72,00	0,50	DL32	28,00	6953209



DUO-LOCK • HARVI I TE • Radiused • 4 Flutes • Metric

- Primary
 - Secondary
- | | |
|---|---|
| P | ● |
| M | ● |
| K | ● |
| N | ● |
| S | ● |
| H | ● |
- KCSM15**

Catalog Number	D1	D	Ap1 max	L1	Rε	CSMS	WF	KCSM15
H1TE4RA1000R015DLR050M	10,00	10,00	15,00	22,50	0,50	DL10	8,00	6953210
H1TE4RA1200R018DLR050M	12,00	12,00	18,00	27,00	0,50	DL12	9,50	6953261
H1TE4RA1200R018DLR100M	12,00	12,00	18,00	27,00	1,00	DL12	9,50	6953262
H1TE4RA1600R024DLR100M	16,00	16,00	24,00	36,00	1,00	DL16	13,00	6953263
H1TE4RA1600R024DLR300M	16,00	16,00	24,00	36,00	3,00	DL16	13,00	6953264
H1TE4RA2000R030DLR100M	20,00	19,30	30,00	45,00	1,00	DL20	16,00	7136488
H1TE4RA2500R038DLR100M	25,00	24,00	37,50	56,50	1,00	DL25	21,00	7136489



DUO-LOCK • HARVI I TE • Square End • 4 Flutes • Inch

- Primary
 - Secondary
- | | |
|---|---|
| P | ● |
| M | ● |
| K | ● |
| N | ● |
| S | ● |
| H | ● |
- KCPM15**

Catalog Number	D1	D	Ap1 max	L1	WF	CSMS	KCPM15
H1TE4SE0500R075DL	1/2	1/2	3/4	1.126	0.374	DL12	6953267

SOLID END MILLING

APPLICATION DATA



DUO-LOCK • HARVI I TE
Side Milling/Slotting • Application Data

Material Group					Short	Medium	Long	Recommended feed per tooth (Fz = mm/th) for side milling (A). For slotting (B), reduce Fz by 20%.										
	A		B					adapter reach			D1 — Diameter							
	Ap	Ae	Ap	Ae	KCPM15		KCPM15		KCPM15		mm	10,0	12,0	16,0	18,0	20,0	25,0	32,0
					Cutting Speed — Vc m/min		Cutting Speed — Vc m/min		Cutting Speed — Vc m/min									
				min	max	min	max	min	max									
P	0	1,5 x D	0,5 x D	1 x D	150	200	135	180	135	180	Fz	0,072	0,083	0,101	0,108	0,114	0,124	0,125
	1	1,5 x D	0,5 x D	1 x D	150	200	135	180	135	180	Fz	0,072	0,083	0,101	0,108	0,114	0,124	0,125
	2	1,5 x D	0,5 x D	1 x D	140	190	126	171	126	171	Fz	0,072	0,083	0,101	0,108	0,114	0,124	0,125
	3	1,5 x D	0,5 x D	1 x D	120	160	108	144	108	144	Fz	0,061	0,070	0,087	0,095	0,101	0,114	0,123
	4	1,5 x D	0,5 x D	0,75 x D	90	150	81	135	81	135	Fz	0,054	0,062	0,077	0,083	0,088	0,098	0,102
	5	1,5 x D	0,5 x D	1 x D	60	100	51	85	48	80	Fz	0,048	0,056	0,070	0,076	0,081	0,091	0,099
M	1	1,5 x D	0,5 x D	1 x D	90	115	72	92	63	81	Fz	0,061	0,070	0,087	0,095	0,101	0,114	0,123
	2	1,5 x D	0,5 x D	1 x D	60	80	48	64	42	56	Fz	0,048	0,056	0,070	0,076	0,081	0,091	0,099
	3	1,5 x D	0,5 x D	1 x D	60	70	48	56	42	49	Fz	0,040	0,047	0,057	0,061	0,065	0,071	0,073
K	1	1,5 x D	0,5 x D	1 x D	120	150	108	135	108	135	Fz	0,072	0,083	0,101	0,108	0,114	0,124	0,125
	2	1,5 x D	0,5 x D	1 x D	110	140	99	126	99	126	Fz	0,061	0,070	0,087	0,095	0,101	0,114	0,123
	3	1,5 x D	0,5 x D	1 x D	110	130	99	117	99	117	Fz	0,048	0,056	0,070	0,076	0,081	0,091	0,099
S	1	1,5 x D	0,3 x D	0,3 x D	50	90	40	72	30	54	Fz	0,061	0,070	0,087	0,095	0,101	0,114	0,123
	2	1,5 x D	0,3 x D	0,3 x D	50	80	40	64	30	48	Fz	0,048	0,056	0,070	0,076	0,081	0,091	0,099
	3	1,5 x D	0,3 x D	0,3 x D	50	80	40	64	30	48	Fz	0,032	0,037	0,046	0,050	0,054	0,061	0,067
	4	1,5 x D	0,5 x D	1 x D	50	60	40	48	30	36	Fz	0,045	0,052	0,064	0,069	0,074	0,084	0,090
H	1	1,5 x D	0,5 x D	0,75 x D	80	140	64	112	48	84	Fz	0,054	0,062	0,077	0,083	0,088	0,098	0,102
	2	1,5 x D	0,2 x D	0,5 x D	70	120	56	96	42	72	Fz	0,040	0,047	0,057	0,061	0,065	0,071	0,073

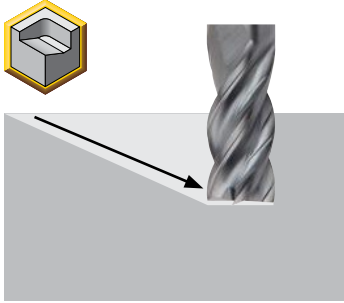
NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >12mm diameter.
For side milling with Ap larger than 1xD, reduce Fz by 20%.
Cylindrical shanks are not recommended for full slotting.

SOLID END MILLING

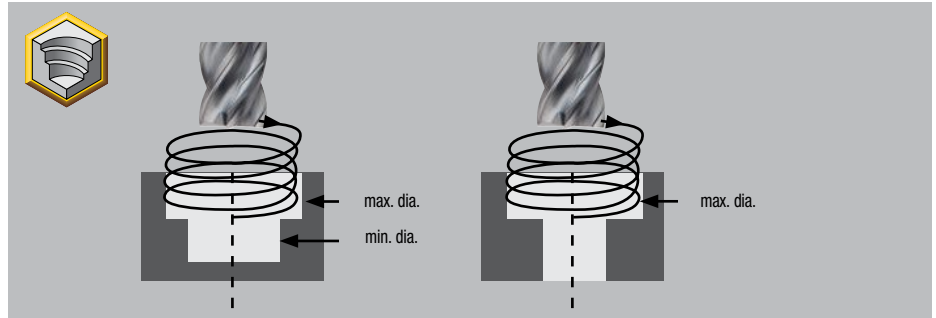
HARVI I TE

Application Information • Ramping

Linear Ramping



Helical Ramping



ATTENTION!

For helical ramping operations, the min. and max. hole diameter can be calculated with the following formula:

Min. hole \emptyset = End mill $-\emptyset \times 1.1 + 2 \times$ corner configuration (Re/CHF) size. Hole $-\emptyset$ /End mill $-\emptyset$ min 1:1.15

Max. hole \emptyset = $2 \times$ End mill $-\emptyset \times 2 \times$ corner configuration (Re/CHF) size. Hole $-\emptyset$ /End mill $-\emptyset$ max 1:1.9



DUO-LOCK • HARVI I TE



Ramping 0°-15° • Application Data

Material Group	Max Depth			Recommended feed per tooth ($F_z = \text{mm/z}$) for Helical Interpolation and Ramping — $z_{\text{eff}} = 2$							
		KCPM15–KCSM15		Diameter – D1 [$\emptyset_{\text{min}}-\emptyset_{\text{max}}$] for helical interpolation							
		Cutting Speed — V_c m/min		mm	10,0	12,0	16,0	20,0	25,0	32,0	
		min	max								
P	0	1 x D	125	175	Fz	0,055	0,065	0,075	0,087	0,095	0,105
	1	1 x D	125	175	Fz	0,055	0,065	0,075	0,087	0,095	0,105
	2	1 x D	125	175	Fz	0,055	0,065	0,075	0,087	0,095	0,105
	3	1 x D	110	150	Fz	0,047	0,054	0,067	0,078	0,088	0,095
	4	1 x D	75	140	Fz	0,041	0,048	0,059	0,068	0,075	0,080
	5	0,75 x D	50	90	Fz	0,037	0,043	0,054	0,062	0,070	0,075
M	6	0,75 x D	40	70	Fz	0,031	0,036	0,044	0,050	0,055	0,060
	1	0,75 x D	75	105	Fz	0,047	0,054	0,067	0,078	0,088	0,095
	2	0,75 x D	45	70	Fz	0,037	0,043	0,054	0,062	0,070	0,075
K	3	0,5 x D	40	65	Fz	0,031	0,036	0,044	0,050	0,055	0,060
	1	1 x D	110	140	Fz	0,055	0,065	0,075	0,087	0,095	0,105
	2	1 x D	100	130	Fz	0,047	0,054	0,067	0,078	0,088	0,095
S	3	0,75 x D	90	120	Fz	0,037	0,043	0,054	0,062	0,070	0,075
	1	0,5 x D	40	80	Fz	0,047	0,054	0,067	0,078	0,088	0,095
	2	0,5 x D	40	70	Fz	0,037	0,043	0,054	0,062	0,070	0,075
	3	0,3 x D	20	35	Fz	0,024	0,029	0,036	0,041	0,047	0,050
H	4	0,75 x D	40	50	Fz	0,034	0,040	0,050	0,057	0,064	0,070
	1	0,75 x D	70	120	Fz	0,041	0,048	0,059	0,068	0,075	0,080
	2	0,75 x D	60	110	Fz	0,029	0,034	0,041	0,048	0,053	0,056

NOTE: \emptyset min and \emptyset max to be calculated with formula for helical ramping above.



DUO-LOCK • HARVI TE
Plunging/Drilling • Application Data

Material Group	 		KCPM15–KCSM15		Recommended feed per revolution (fn =mm/rev) for plunging and drilling								
	Max Depth	Applicable	Coolant	Cutting Speed — Vc m/min		D1 — Diameter							
				min	max	mm	10,0	12,0	16,0	20,0	25,0	32,0	
P	0	1 x D	●	Preferred	110	150	fn	0,056	0,067	0,084	0,112	0,126	0,150
	1	1 x D	●	Required	110	150	fn	0,056	0,067	0,084	0,112	0,126	0,150
	2	1 x D	●	Required	110	150	fn	0,056	0,067	0,084	0,112	0,126	0,150
	3	1 x D	●	Required	100	120	fn	0,042	0,049	0,075	0,088	0,105	0,135
	4	1 x D	●	Required	70	100	fn	0,042	0,049	0,075	0,088	0,105	0,135
	5	0,75 x D	○	Required	45	65	fn	0,028	0,035	0,046	0,060	0,070	0,076
M	6	0,75 x D	○	Required	40	60	fn	0,028	0,035	0,046	0,060	0,070	0,076
	1	0,75 x D	●	Required	60	80	fn	0,042	0,049	0,075	0,088	0,105	0,135
	2	0,75 x D	○	Required	40	60	fn	0,028	0,035	0,046	0,060	0,070	0,076
K	3	0,5xD	○	Required	35	50	fn	0,028	0,035	0,046	0,060	0,070	0,076
	1	1 x D	●	Preferred	100	120	fn	0,056	0,067	0,084	0,112	0,126	0,150
	2	1 x D	●	Required	90	110	fn	0,042	0,049	0,075	0,088	0,105	0,135
S	3	0,75 x D	○	Required	75	100	fn	0,042	0,049	0,075	0,088	0,105	0,135
	1	0,5 x D	○	Required	35	55	fn	0,042	0,049	0,075	0,088	0,105	0,135
	2	0,5 x D	○	Required	30	45	fn	0,028	0,035	0,046	0,060	0,070	0,076
	3	0,3 x D	○	Required	15	28	fn	0,019	0,023	0,031	0,042	0,049	0,058
H	4	0,75 x D	○	Required	30	40	fn	0,031	0,035	0,045	0,058	0,070	0,076
	1	0,75 x D	○	Required	60	80	fn	0,042	0,049	0,075	0,088	0,105	0,135
	2	0,75 x D	○	Required	50	70	fn	0,029	0,034	0,053	0,062	0,074	0,095

NOTE: Other available diameters are not recommended for plunging applications.



HOLEMAKING





HOLEMAKING

GOdrill™	D5
KENNA UNIVERSAL™	D17
KENTIP™ FS	D27
KSEM™ MODULAR DRILL SYSTEM	D39
KSEM PLUS™ MODULAR DRILL SYSTEM	D51
DRILL FIX PRO™	D59
DRILL FIX™ DFR INSERTS	D79
DRILL FIX DFSP INSERTS	D85
DRILL FIX DFT INSERTS	D93



Solid Carbide Drilling

G0drill

**HIGH-PERFORMANCE SOLID
CARBIDE DRILL TAILORED TO
SMALL-TO-MEDIUM-DIAMETER
DRILLING APPLICATIONS**

Materials

Primary



Secondary



Industries



General
Engineering



Oil & Gas



Wind & Solar



Aerospace

Applications



The G0drill platform addresses drilling operations in a diameter range of 1–20mm for a broad variety of materials and applications when machining products like fuel systems or medical components. The G0drill is based on a unique design: high-end grades, wear indicator coating and proprietary geometries that enable full utilization of the drill's tool life capacity. This drilling platform qualifies as a very cost-effective, throwaway-type tool in the given diameter range.



Explore G0drill



FEATURES AND BENEFITS

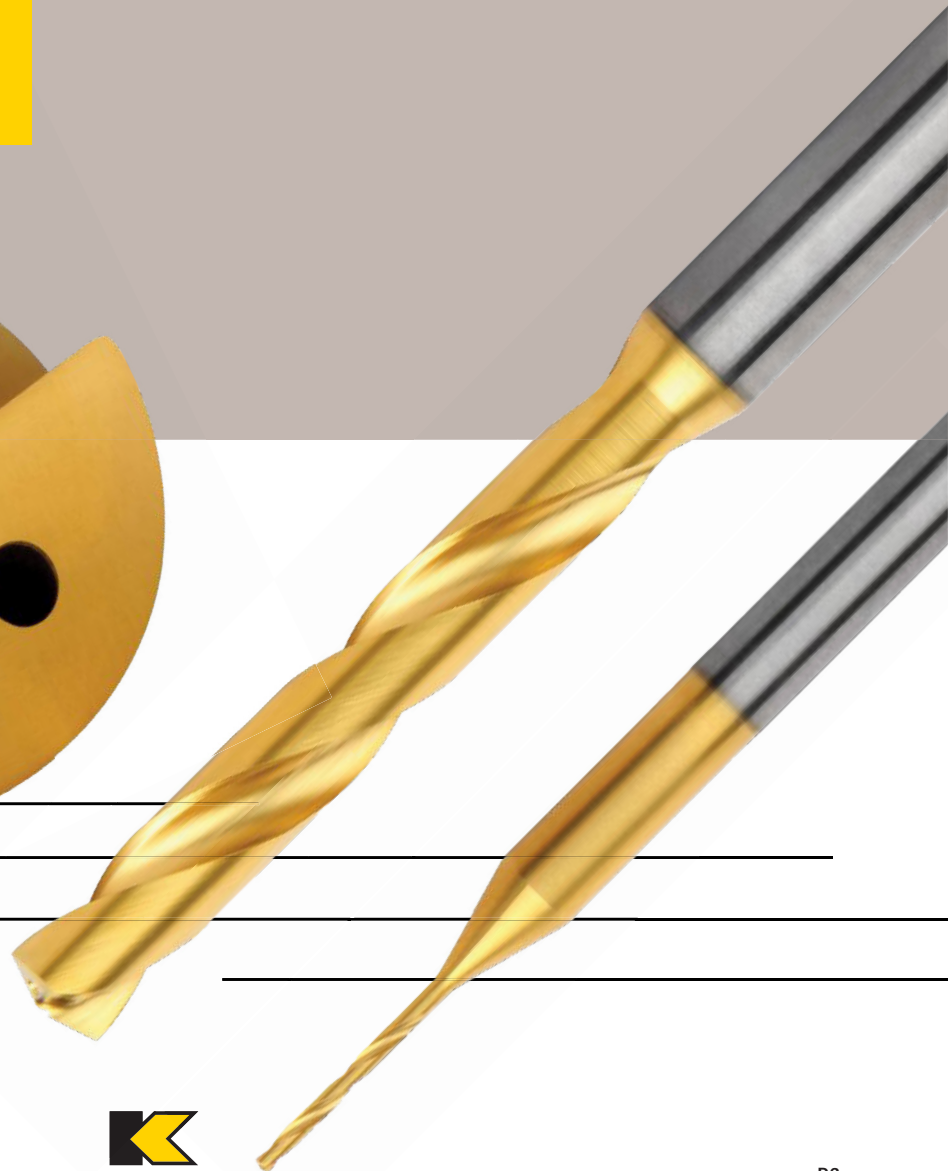
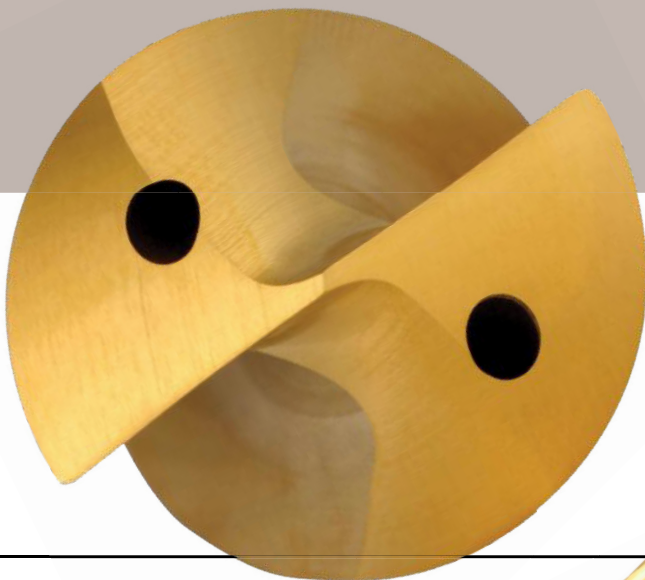
Cost effective, disposable solution

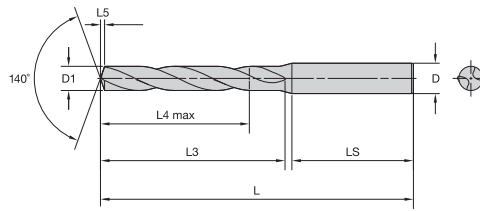
Solid carbide drilling for diameter 1–20mm and 5xD drilling capability

Marginless design reduces friction and heat

Through-coolant through the point is available down to 1,5mm

TiN top layer serves as wear indicator





G0drill • 3xD • Straight Shank • Metric

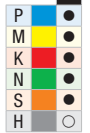
- Primary
- Secondary

KC7325

P	●
M	●
K	●
N	●
S	●
H	○

catalog number	D1		L4 max	L3	L	L5	LS	D	KC7325
	mm	in							
B041A01000CPG	1.000	0.0394	5.00	7.00	58.00	0.15	44.00	4.00	4151623
B041A01100CPG	1.100	0.0433	5.00	7.00	58.00	0.16	28.00	4.00	4151628
B041A01200CPG	1.200	0.0472	5.00	7.00	58.00	0.18	28.00	4.00	4151631
B041A01300CPG	1.300	0.0512	5.00	7.00	58.00	0.20	28.00	4.00	4151632
B041A01400CPG	1.400	0.0551	5.00	7.00	58.00	0.21	28.00	4.00	4151635
B041A01500CPG	1.500	0.0591	6.00	9.00	58.00	0.23	28.00	4.00	4151636
B041A01600CPG	1.600	0.0630	6.00	9.00	58.00	0.25	28.00	4.00	4151637
B041A01700CPG	1.700	0.0669	6.00	9.00	58.00	0.26	28.00	4.00	4151638
B041A01800CPG	1.800	0.0709	6.00	9.00	58.00	0.28	28.00	4.00	4151639
B041A01900CPG	1.900	0.0748	6.00	9.00	58.00	0.30	28.00	4.00	4151640
B041A02000CPG	2.000	0.0787	10.00	13.00	58.00	0.31	28.00	4.00	4151642
B041A02100CPG	2.100	0.0827	10.00	13.00	58.00	0.33	28.00	4.00	4151643
B041A02200CPG	2.200	0.0866	10.00	13.00	58.00	0.35	28.00	4.00	4151644
B041A02300CPG	2.300	0.0906	10.00	13.00	58.00	0.36	28.00	4.00	4151645
B041A02400CPG	2.400	0.0945	12.00	17.00	58.00	0.38	28.00	4.00	4151647
B041A02500CPG	2.500	0.0984	12.00	17.00	58.00	0.40	28.00	4.00	4151650
B041A02600CPG	2.600	0.1024	12.00	17.00	58.00	0.42	28.00	4.00	4151652
B041A02700CPG	2.700	0.1063	12.00	17.00	58.00	0.43	28.00	4.00	4151654
B041A02800CPG	2.800	0.1102	12.00	17.00	58.00	0.45	28.00	4.00	4151657
B041A02900CPG	2.900	0.1142	12.00	17.00	58.00	0.47	28.00	4.00	4151660
B041A03000CPG	3.000	0.1181	14.00	20.00	62.00	0.48	36.00	6.00	4150155
B041A03100CPG	3.100	0.1220	14.00	20.00	62.00	0.50	36.00	6.00	4150157
B041A03200CPG	3.200	0.1260	14.00	20.00	62.00	0.52	36.00	6.00	4150159
B041A03300CPG	3.300	0.1299	14.00	20.00	62.00	0.54	36.00	6.00	4150161
B041A03400CPG	3.400	0.1339	14.00	20.00	62.00	0.55	36.00	6.00	4150162
B041A03500CPG	3.500	0.1378	14.00	20.00	62.00	0.57	36.00	6.00	4150184
B041A03600CPG	3.600	0.1417	14.00	20.00	62.00	0.59	36.00	6.00	4150186
B041A03700CPG	3.700	0.1457	14.00	20.00	62.00	0.60	36.00	6.00	4150188
B041A03800CPG	3.800	0.1496	17.00	24.00	66.00	0.62	36.00	6.00	4150190
B041A03900CPG	3.900	0.1535	17.00	24.00	66.00	0.64	36.00	6.00	4150191
B041A04000CPG	4.000	0.1575	17.00	24.00	66.00	0.66	36.00	6.00	4150193
B041A04100CPG	4.100	0.1614	17.00	24.00	66.00	0.67	36.00	6.00	4150196
B041A04200CPG	4.200	0.1654	17.00	24.00	66.00	0.69	36.00	6.00	4150197
B041A04300CPG	4.300	0.1693	17.00	24.00	66.00	0.71	36.00	6.00	4150199
B041A04400CPG	4.400	0.1732	17.00	24.00	66.00	0.73	36.00	6.00	4150201
B041A04500CPG	4.500	0.1772	17.00	24.00	66.00	0.74	36.00	6.00	4150202
B041A04600CPG	4.600	0.1811	17.00	24.00	66.00	0.76	36.00	6.00	4150203
B041A04700CPG	4.700	0.1850	17.00	24.00	66.00	0.78	36.00	6.00	4150205
B041A04800CPG	4.800	0.1890	20.00	28.00	66.00	0.80	36.00	6.00	4150207
B041A04900CPG	4.900	0.1929	20.00	28.00	66.00	0.81	36.00	6.00	4150209
B041A05000CPG	5.000	0.1969	20.00	28.00	66.00	0.83	36.00	6.00	4150210
B041A05100CPG	5.100	0.2008	20.00	28.00	66.00	0.85	36.00	6.00	4150211
B041A05200CPG	5.200	0.2047	20.00	28.00	66.00	0.86	36.00	6.00	4150214
B041A05300CPG	5.300	0.2087	20.00	28.00	66.00	0.88	36.00	6.00	4150215
B041A05500CPG	5.500	0.2165	20.00	28.00	66.00	0.92	36.00	6.00	4150218
B041A05600CPG	5.600	0.2205	20.00	28.00	66.00	0.93	36.00	6.00	4150220
B041A05700CPG	5.700	0.2244	20.00	28.00	66.00	0.95	36.00	6.00	4150222
B041A05800CPG	5.800	0.2283	20.00	28.00	66.00	0.97	36.00	6.00	4150223
B041A05900CPG	5.900	0.2323	20.00	28.00	66.00	0.99	36.00	6.00	4150224
B041A06000CPG	6.000	0.2362	20.00	28.00	66.00	1.00	36.00	6.00	4150226
B041A06100CPG	6.100	0.2402	24.00	34.00	79.00	1.02	36.00	8.00	4150227
B041A06200CPG	6.200	0.2441	24.00	34.00	79.00	1.04	36.00	8.00	4150228
B041A06300CPG	6.300	0.2480	24.00	34.00	79.00	1.06	36.00	8.00	4150229
B041A06400CPG	6.400	0.2520	24.00	34.00	79.00	1.07	36.00	8.00	4150231
B041A06500CPG	6.500	0.2559	24.00	34.00	79.00	1.12	36.00	8.00	4150232
B041A06600CPG	6.600	0.2598	24.00	34.00	79.00	1.11	36.00	8.00	4150234
B041A06700CPG	6.700	0.2638	24.00	34.00	79.00	1.13	36.00	8.00	4150236
B041A06800CPG	6.800	0.2677	24.00	34.00	79.00	1.14	36.00	8.00	4150238
B041A06900CPG	6.900	0.2717	24.00	34.00	79.00	1.16	36.00	8.00	4150239
B041A07000CPG	7.000	0.2756	24.00	34.00	79.00	1.18	36.00	8.00	4150240
B041A07100CPG	7.100	0.2795	29.00	41.00	79.00	1.20	36.00	8.00	4150241

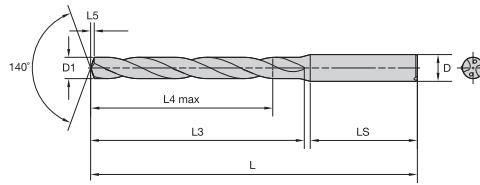
HOLEMAKING



● Primary
○ Secondary

G0drill • 3xD • Straight Shank • Metric - continued

catalog number	D1		L4 max	L3	L	L5	LS	D	KC7325
	mm	in							
B041A07200CPG	7.200	0.2835	29.00	41.00	79.00	1.21	36.00	8.00	4150243
B041A07300CPG	7.300	0.2874	29.00	41.00	79.00	1.23	36.00	8.00	4150244
B041A07400CPG	7.400	0.2913	29.00	41.00	79.00	1.25	36.00	8.00	4150245
B041A07500CPG	7.500	0.2953	29.00	41.00	79.00	1.27	36.00	8.00	4150246
B041A07700CPG	7.700	0.3031	29.00	41.00	79.00	1.30	36.00	8.00	4150249
B041A07800CPG	7.800	0.3071	29.00	41.00	79.00	1.32	36.00	8.00	4150250
B041A07900CPG	7.900	0.3110	29.00	41.00	79.00	1.34	36.00	8.00	4150251
B041A08000CPG	8.000	0.3150	29.00	41.00	79.00	1.35	36.00	8.00	4150253
B041A08100CPG	8.100	0.3189	35.00	47.00	89.00	1.37	40.00	10.00	4150254
B041A08200CPG	8.200	0.3228	35.00	47.00	89.00	1.39	40.00	10.00	4150255
B041A08300CPG	8.300	0.3268	35.00	47.00	89.00	1.41	40.00	10.00	4150256
B041A08400CPG	8.400	0.3307	35.00	47.00	89.00	1.43	40.00	10.00	4150258
B041A08500CPG	8.500	0.3346	35.00	47.00	89.00	1.44	40.00	10.00	4150260
B041A08600CPG	8.600	0.3386	35.00	47.00	89.00	1.46	40.00	10.00	4150261
B041A08700CPG	8.700	0.3425	35.00	47.00	89.00	1.48	40.00	10.00	4150262
B041A08800CPG	8.800	0.3465	35.00	47.00	89.00	1.50	40.00	10.00	4150264
B041A08900CPG	8.900	0.3504	35.00	47.00	89.00	1.51	40.00	10.00	4150265
B041A09000CPG	9.000	0.3543	35.00	47.00	89.00	1.53	40.00	10.00	4150266
B041A09100CPG	9.100	0.3583	35.00	47.00	89.00	1.55	40.00	10.00	4150267
B041A09200CPG	9.200	0.3622	35.00	47.00	89.00	1.57	40.00	10.00	4150269
B041A09300CPG	9.300	0.3661	35.00	47.00	89.00	1.58	40.00	10.00	4150270
B041A09400CPG	9.400	0.3701	35.00	47.00	89.00	1.60	40.00	10.00	4150272
B041A09500CPG	9.500	0.3740	35.00	47.00	89.00	1.62	40.00	10.00	4150273
B041A09700CPG	9.700	0.3819	35.00	47.00	89.00	1.65	40.00	10.00	4150276
B041A09800CPG	9.800	0.3858	35.00	47.00	89.00	1.67	40.00	10.00	4150277
B041A09900CPG	9.900	0.3898	35.00	47.00	89.00	1.69	40.00	10.00	4150278
B041A10000CPG	10.000	0.3937	35.00	47.00	89.00	1.71	40.00	10.00	4150176
B041A10100CPG	10.100	0.3976	40.00	55.00	102.00	1.72	45.00	12.00	4150177
B041A10200CPG	10.200	0.4016	40.00	55.00	102.00	1.74	45.00	12.00	4150178
B041A10300CPG	10.300	0.4055	40.00	55.00	102.00	1.76	45.00	12.00	4150179
B041A10500CPG	10.500	0.4134	40.00	55.00	102.00	1.80	45.00	12.00	4150182
B041A10600CPG	10.600	0.4173	40.00	55.00	102.00	1.81	45.00	12.00	4150293
B041A10700CPG	10.700	0.4213	40.00	55.00	102.00	1.83	45.00	12.00	4150294
B041A10800CPG	10.800	0.4252	40.00	55.00	102.00	1.85	45.00	12.00	4150296
B041A11000CPG	11.000	0.4331	40.00	55.00	102.00	1.88	45.00	12.00	4150298
B041A11100CPG	11.100	0.4370	40.00	55.00	102.00	1.90	45.00	12.00	4150299
B041A11300CPG	11.300	0.4449	40.00	55.00	102.00	1.94	45.00	12.00	4150302
B041A11400CPG	11.400	0.4488	40.00	55.00	102.00	1.95	45.00	12.00	4150303
B041A11500CPG	11.500	0.4528	40.00	55.00	102.00	1.97	45.00	12.00	4150304
B041A11700CPG	11.700	0.4606	40.00	55.00	102.00	2.01	45.00	12.00	4150307
B041A11800CPG	11.800	0.4646	40.00	55.00	102.00	2.02	45.00	12.00	4150308
B041A11900CPG	11.900	0.4685	40.00	55.00	102.00	2.04	45.00	12.00	4150309
B041A12000CPG	12.000	0.4724	40.00	55.00	102.00	2.06	45.00	12.00	4150311
B041A12100CPG	12.100	0.4764	43.00	60.00	107.00	2.08	45.00	14.00	4150312
B041A12200CPG	12.200	0.4803	43.00	60.00	107.00	2.10	45.00	14.00	4150313
B041A12500CPG	12.500	0.4921	43.00	60.00	107.00	2.15	45.00	14.00	4150317
B041A12700CPG	12.700	0.5000	43.00	60.00	107.00	2.18	45.00	14.00	4150319
B041A12800CPG	12.800	0.5039	43.00	60.00	107.00	2.20	45.00	14.00	4150320
B041A13000CPG	13.000	0.5118	43.00	60.00	107.00	2.24	45.00	14.00	4150322
B041A13100CPG	13.100	0.5157	43.00	60.00	107.00	2.25	45.00	14.00	4150324
B041A13500CPG	13.500	0.5315	43.00	60.00	107.00	2.33	45.00	14.00	4150328
B041A13800CPG	13.800	0.5433	43.00	60.00	107.00	2.38	45.00	14.00	4150331
B041A14000CPG	14.000	0.5512	43.00	60.00	107.00	2.41	45.00	14.00	4150334
B041A14200CPG	14.200	0.5591	45.00	65.00	115.00	2.45	48.00	16.00	4150336
B041A14500CPG	14.500	0.5709	45.00	65.00	115.00	2.50	48.00	16.00	4150340
B041A15000CPG	15.000	0.5906	45.00	65.00	115.00	2.59	48.00	16.00	4150346
B041A15500CPG	15.500	0.6102	45.00	65.00	115.00	2.68	48.00	16.00	4150353
B041A16000CPG	16.000	0.6299	45.00	65.00	115.00	2.77	48.00	16.00	4150359
B041A16100CPG	16.100	0.6339	51.00	73.00	123.00	2.79	48.00	18.00	4150360
B041A16500CPG	16.500	0.6496	51.00	73.00	123.00	2.86	48.00	18.00	4150365
B041A17000CPG	17.000	0.6693	51.00	73.00	123.00	2.95	48.00	18.00	4150371
B041A17500CPG	17.500	0.6890	51.00	73.00	123.00	3.04	48.00	18.00	4150377
B041A18000CPG	18.000	0.7087	51.00	73.00	123.00	3.12	48.00	18.00	4150403
B041A18500CPG	18.500	0.7283	55.00	79.00	131.00	3.21	50.00	20.00	4150409
B041A20000CPG	20.000	0.7874	55.00	79.00	131.00	3.48	50.00	20.00	4150426



G0drill • 3xD • Internal Coolant • Straight Shank • Metric

● Primary
○ Secondary

KC7325

P	●
M	●
K	●
N	●
S	●
H	○

Catalog Number	D1		L4 max	L3	L	L5	LS	D	KC7325
	mm	in							
B051A01500CPG	1.500	0.0591	6.00	9.00	58.00	0.23	28.00	4.00	4148804
B051A01700CPG	1.700	0.0669	6.00	9.00	58.00	0.26	28.00	4.00	4148806
B051A02000CPG	2.000	0.0787	10.00	13.00	58.00	0.31	40.00	4.00	4124962
B051A02100CPG	2.100	0.0827	10.00	13.00	58.00	0.33	28.00	4.00	4148810
B051A02200CPG	2.200	0.0866	10.00	13.00	58.00	0.35	28.00	4.00	4148811
B051A02300CPG	2.300	0.0906	10.00	13.00	58.00	0.36	28.00	4.00	4148812
B051A02400CPG	2.400	0.0945	12.00	17.00	58.00	0.38	28.00	4.00	4148844
B051A02500CPG	2.500	0.0984	12.00	17.00	58.00	0.40	28.00	4.00	4148847
B051A02600CPG	2.600	0.1024	12.00	17.00	58.00	0.42	28.00	4.00	4148849
B051A02700CPG	2.700	0.1063	12.00	17.00	58.00	0.43	28.00	4.00	4148851
B051A02800CPG	2.800	0.1102	12.00	17.00	58.00	0.45	28.00	4.00	4148854
B051A02900CPG	2.900	0.1142	12.00	17.00	58.00	0.47	28.00	4.00	4148857
B051A03000CPG	3.000	0.1181	14.00	20.00	62.00	0.48	36.00	6.00	4151081
B051A03200CPG	3.200	0.1260	14.00	20.00	62.00	0.52	36.00	6.00	4121528
B051A03300CPG	3.300	0.1299	14.00	20.00	62.00	0.54	36.00	6.00	4151106
B051A03400CPG	3.400	0.1339	14.00	20.00	62.00	0.55	36.00	6.00	4151107
B051A03500CPG	3.500	0.1378	14.00	20.00	62.00	0.57	36.00	6.00	4151109
B051A03600CPG	3.600	0.1417	14.00	20.00	62.00	0.59	36.00	6.00	4151111
B051A03700CPG	3.700	0.1457	14.00	20.00	62.00	0.60	36.00	6.00	4151113
B051A03800CPG	3.800	0.1496	17.00	24.00	66.00	0.62	36.00	6.00	4151115
B051A03900CPG	3.900	0.1535	17.00	24.00	66.00	0.64	36.00	6.00	4151116
B051A03970CPG	3.970	0.1563	17.00	24.00	66.00	0.65	36.00	6.00	4151117
B051A04000CPG	4.000	0.1575	17.00	24.00	66.00	0.66	36.00	6.00	4121529
B051A04100CPG	4.100	0.1614	17.00	24.00	66.00	0.67	36.00	6.00	4151120
B051A04200CPG	4.200	0.1654	17.00	24.00	66.00	0.69	36.00	6.00	4151121
B051A04300CPG	4.300	0.1693	17.00	24.00	66.00	0.71	36.00	6.00	4151123
B051A04400CPG	4.400	0.1732	17.00	24.00	66.00	0.73	36.00	6.00	4151125
B051A04500CPG	4.500	0.1772	17.00	24.00	66.00	0.74	36.00	6.00	4151126
B051A04700CPG	4.700	0.1850	17.00	24.00	66.00	0.78	36.00	6.00	4151129
B051A04800CPG	4.800	0.1890	20.00	28.00	66.00	0.80	36.00	6.00	4151131
B051A04900CPG	4.900	0.1929	20.00	28.00	66.00	0.81	36.00	6.00	4151133
B051A05000CPG	5.000	0.1969	20.00	28.00	66.00	0.83	36.00	6.00	4151134
B051A05100CPG	5.100	0.2008	20.00	28.00	66.00	0.85	36.00	6.00	4151135
B051A05200CPG	5.200	0.2047	20.00	28.00	66.00	0.86	36.00	6.00	4151138
B051A05300CPG	5.300	0.2087	20.00	28.00	66.00	0.88	36.00	6.00	4151139
B051A05400CPG	5.400	0.2126	20.00	28.00	66.00	0.90	36.00	6.00	4151140
B051A05500CPG	5.500	0.2165	20.00	28.00	66.00	0.92	36.00	6.00	4151142
B051A05600CPG	5.600	0.2205	20.00	28.00	66.00	0.93	36.00	6.00	4151144
B051A05700CPG	5.700	0.2244	20.00	28.00	66.00	0.95	36.00	6.00	4151146
B051A05800CPG	5.800	0.2283	20.00	28.00	66.00	0.97	36.00	6.00	4151147
B051A06000CPG	6.000	0.2362	20.00	28.00	66.00	1.00	36.00	6.00	4121534
B051A06100CPG	6.100	0.2402	24.00	34.00	79.00	1.02	36.00	8.00	4151149
B051A06400CPG	6.400	0.2520	24.00	34.00	79.00	1.07	36.00	8.00	4151153
B051A06500CPG	6.500	0.2559	24.00	34.00	79.00	1.09	36.00	8.00	4151154
B051A06600CPG	6.600	0.2598	24.00	34.00	79.00	1.11	36.00	8.00	4151156
B051A06700CPG	6.700	0.2638	24.00	34.00	79.00	1.13	36.00	8.00	4151158
B051A06800CPG	6.800	0.2677	24.00	34.00	79.00	1.14	36.00	8.00	4151160
B051A06900CPG	6.900	0.2717	24.00	34.00	79.00	1.16	36.00	8.00	4151161
B051A07000CPG	7.000	0.2756	24.00	34.00	79.00	1.18	36.00	8.00	4151162
B051A07100CPG	7.100	0.2795	29.00	41.00	79.00	1.20	36.00	8.00	4151163
B051A07200CPG	7.200	0.2835	29.00	41.00	79.00	1.21	36.00	8.00	4151165
B051A07400CPG	7.400	0.2913	29.00	41.00	79.00	1.25	36.00	8.00	4151167
B051A07500CPG	7.500	0.2953	29.00	41.00	79.00	1.27	36.00	8.00	4151168
B051A07700CPG	7.700	0.3031	29.00	41.00	79.00	1.30	36.00	8.00	4151171
B051A07800CPG	7.800	0.3071	29.00	41.00	79.00	1.32	36.00	8.00	4151172
B051A07900CPG	7.900	0.3110	29.00	41.00	79.00	1.34	36.00	8.00	4151173
B051A08000CPG	8.000	0.3150	29.00	41.00	79.00	1.35	36.00	8.00	4151175
B051A08100CPG	8.100	0.3189	35.00	47.00	89.00	1.37	40.00	10.00	4151176
B051A08200CPG	8.200	0.3228	35.00	47.00	89.00	1.39	40.00	10.00	4151177
B051A08300CPG	8.300	0.3268	35.00	47.00	89.00	1.41	40.00	10.00	4151178

HOEMAKING

KC7325

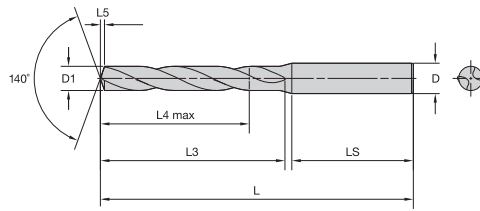
P	●
M	●
K	●
N	●
S	●
H	○

● Primary
○ Secondary

G0drill • 3xD • Internal Coolant • Straight Shank • Metric - continued

Catalog Number	D1		L4 max	L3	L	L5	LS	D	KC7325
	mm	in							
B051A08400CPG	8.400	0.3307	35.00	47.00	89.00	1.43	40.00	10.00	4151180
B051A08500CPG	8.500	0.3346	35.00	47.00	89.00	1.44	40.00	10.00	4151182
B051A08600CPG	8.600	0.3386	35.00	47.00	89.00	1.46	40.00	10.00	4151183
B051A08700CPG	8.700	0.3425	35.00	47.00	89.00	1.48	40.00	10.00	4151184
B051A08800CPG	8.800	0.3465	35.00	47.00	89.00	1.50	40.00	10.00	4151186
B051A08900CPG	8.900	0.3504	35.00	47.00	89.00	1.51	40.00	10.00	4151187
B051A09000CPG	9.000	0.3543	35.00	47.00	89.00	1.53	40.00	10.00	4151188
B051A09100CPG	9.100	0.3583	35.00	47.00	89.00	1.55	40.00	10.00	4151189
B051A09300CPG	9.300	0.3661	35.00	47.00	89.00	1.58	40.00	10.00	4151192
B051A09400CPG	9.400	0.3701	35.00	47.00	89.00	1.60	40.00	10.00	4151194
B051A09500CPG	9.500	0.3740	35.00	47.00	89.00	1.62	40.00	10.00	4151195
B051A09600CPG	9.600	0.3780	35.00	47.00	89.00	1.64	40.00	10.00	4151197
B051A09700CPG	9.700	0.3819	35.00	47.00	89.00	1.65	40.00	10.00	4151198
B051A09800CPG	9.800	0.3858	35.00	47.00	89.00	1.67	40.00	10.00	4151199
B051A09900CPG	9.900	0.3898	35.00	47.00	89.00	1.69	40.00	10.00	4151200
B051A10000CPG	10.000	0.3937	35.00	47.00	89.00	1.71	40.00	10.00	4151202
B051A10100CPG	10.100	0.3976	40.00	55.00	102.00	1.72	45.00	12.00	4151203
B051A10200CPG	10.200	0.4016	40.00	55.00	102.00	1.74	45.00	12.00	4150456
B051A10300CPG	10.300	0.4055	40.00	55.00	102.00	1.76	45.00	12.00	4150457
B051A10400CPG	10.400	0.4094	40.00	55.00	102.00	1.78	45.00	12.00	4150459
B051A10500CPG	10.500	0.4134	40.00	55.00	102.00	1.80	45.00	12.00	4150460
B051A10600CPG	10.600	0.4173	40.00	55.00	102.00	1.81	45.00	12.00	4150461
B051A10800CPG	10.800	0.4252	40.00	55.00	102.00	1.85	45.00	12.00	4151214
B051A10900CPG	10.900	0.4291	40.00	55.00	102.00	1.87	45.00	12.00	4151215
B051A11000CPG	11.000	0.4331	40.00	55.00	102.00	1.88	45.00	12.00	4151216
B051A11100CPG	11.100	0.4370	40.00	55.00	102.00	1.90	45.00	12.00	4151217
B051A11500CPG	11.500	0.4528	40.00	55.00	102.00	1.97	45.00	12.00	4151222
B051A11600CPG	11.600	0.4567	40.00	55.00	102.00	1.99	45.00	12.00	4151224
B051A11800CPG	11.800	0.4646	40.00	55.00	102.00	2.02	45.00	12.00	4151226
B051A12000CPG	12.000	0.4724	40.00	55.00	102.00	2.06	45.00	12.00	4151229
B051A12100CPG	12.100	0.4764	43.00	60.00	107.00	2.08	45.00	14.00	4151230
B051A12200CPG	12.200	0.4803	43.00	60.00	107.00	2.10	45.00	14.00	4151231
B051A12300CPG	12.300	0.4843	43.00	60.00	107.00	2.11	45.00	14.00	4151232
B051A12500CPG	12.500	0.4921	43.00	60.00	107.00	2.15	45.00	14.00	4151235
B051A12600CPG	12.600	0.4961	43.00	60.00	107.00	2.17	45.00	14.00	4151236
B051A12800CPG	12.800	0.5039	43.00	60.00	107.00	2.20	45.00	14.00	4151238
B051A13000CPG	13.000	0.5118	43.00	60.00	107.00	2.24	45.00	14.00	4151240
B051A13500CPG	13.500	0.5315	43.00	60.00	107.00	2.33	45.00	14.00	4151246
B051A14000CPG	14.000	0.5512	43.00	60.00	107.00	2.41	45.00	14.00	4121491
B051A14200CPG	14.200	0.5591	45.00	65.00	115.00	2.45	48.00	16.00	4151253
B051A14300CPG	14.300	0.5630	45.00	65.00	115.00	2.47	48.00	16.00	4151255
B051A14500CPG	14.500	0.5709	45.00	65.00	115.00	2.50	48.00	16.00	4151257
B051A14800CPG	14.800	0.5827	45.00	65.00	115.00	2.56	48.00	16.00	4151261
B051A15000CPG	15.000	0.5906	45.00	65.00	115.00	2.59	48.00	16.00	4151263
B051A16000CPG	16.000	0.6299	45.00	65.00	115.00	2.77	48.00	16.00	4151276
B051A16500CPG	16.500	0.6496	51.00	73.00	123.00	2.86	48.00	18.00	4151282
B051A17000CPG	17.000	0.6693	51.00	73.00	123.00	2.95	48.00	18.00	4151288
B051A17500CPG	17.500	0.6890	51.00	73.00	123.00	3.04	48.00	18.00	4151294
B051A18000CPG	18.000	0.7087	51.00	73.00	123.00	3.12	48.00	18.00	4148475
B051A20000CPG	20.000	0.7874	55.00	79.00	131.00	3.48	50.00	20.00	4148598

HOLEMAKING



KC7325

P	●
M	●
K	●
N	●
S	●
H	○

G0drill • 5xD • Straight Shank • Metric

● Primary
○ Secondary

Catalog Number	D1		L4 max	L3	L	L5	LS	D	KC7325
	mm	in							
B042A01000CPG	1.000	0.0394	6.00	9.00	58.00	0.15	28.00	4.00	4151774
B042A01100CPG	1.100	0.0433	6.00	9.00	58.00	0.16	28.00	4.00	4151780
B042A01200CPG	1.200	0.0472	6.00	9.00	58.00	0.18	28.00	4.00	4151783
B042A01300CPG	1.300	0.0512	6.00	9.00	58.00	0.20	28.00	4.00	4151784
B042A01400CPG	1.400	0.0551	6.00	9.00	58.00	0.21	28.00	4.00	4151787
B042A01500CPG	1.500	0.0591	9.00	12.00	58.00	0.23	28.00	4.00	4151788
B042A01600CPG	1.600	0.0630	9.00	12.00	58.00	0.25	28.00	4.00	4151789
B042A01700CPG	1.700	0.0669	9.00	12.00	58.00	0.26	28.00	4.00	4151790
B042A01800CPG	1.800	0.0709	9.00	12.00	58.00	0.28	28.00	4.00	4151791
B042A01900CPG	1.900	0.0748	9.00	12.00	58.00	0.30	28.00	4.00	4151792
B042A02000CPG	2.000	0.0787	14.00	18.00	58.00	0.31	28.00	4.00	4151794
B042A02100CPG	2.100	0.0827	14.00	18.00	58.00	0.33	28.00	4.00	4151795
B042A02200CPG	2.200	0.0866	14.00	18.00	58.00	0.35	28.00	4.00	4151796
B042A02300CPG	2.300	0.0906	14.00	18.00	58.00	0.36	28.00	4.00	4151797
B042A02400CPG	2.400	0.0945	17.00	22.00	58.00	0.38	28.00	4.00	4151799
B042A02500CPG	2.500	0.0984	17.00	22.00	58.00	0.40	28.00	4.00	4151802
B042A02600CPG	2.600	0.1024	17.00	22.00	58.00	0.42	28.00	4.00	4151804
B042A02700CPG	2.700	0.1063	17.00	22.00	58.00	0.43	28.00	4.00	4151806
B042A02800CPG	2.800	0.1102	17.00	22.00	58.00	0.45	28.00	4.00	4151809
B042A02870CPG	2.870	0.1130	17.00	22.00	58.00	0.46	28.00	4.00	4151811
B042A02900CPG	2.900	0.1142	17.00	22.00	58.00	0.47	28.00	4.00	4151812
B042A03000CPG	3.000	0.1181	23.00	28.00	66.00	0.48	36.00	6.00	4150602
B042A03100CPG	3.100	0.1220	23.00	28.00	66.00	0.50	36.00	6.00	4150634
B042A03200CPG	3.200	0.1260	23.00	28.00	66.00	0.52	36.00	6.00	4150636
B042A03300CPG	3.300	0.1299	23.00	28.00	66.00	0.54	36.00	6.00	4150638
B042A03400CPG	3.400	0.1339	23.00	28.00	66.00	0.55	36.00	6.00	4150639
B042A03500CPG	3.500	0.1378	23.00	28.00	66.00	0.57	36.00	6.00	4150641
B042A03600CPG	3.600	0.1417	23.00	28.00	66.00	0.59	36.00	6.00	4150643
B042A03700CPG	3.700	0.1457	23.00	28.00	66.00	0.60	36.00	6.00	4150645
B042A03800CPG	3.800	0.1496	29.00	36.00	74.00	0.62	36.00	6.00	4150647
B042A03900CPG	3.900	0.1535	29.00	36.00	74.00	0.64	36.00	6.00	4150648
B042A04000CPG	4.000	0.1575	29.00	36.00	74.00	0.66	36.00	6.00	4150650
B042A04100CPG	4.100	0.1614	29.00	36.00	74.00	0.67	36.00	6.00	4150653
B042A04200CPG	4.200	0.1654	29.00	36.00	74.00	0.69	36.00	6.00	4150654
B042A04300CPG	4.300	0.1693	29.00	36.00	74.00	0.71	36.00	6.00	4150656
B042A04400CPG	4.400	0.1732	29.00	36.00	74.00	0.73	36.00	6.00	4150658
B042A04500CPG	4.500	0.1772	29.00	36.00	74.00	0.74	36.00	6.00	4150659
B042A04800CPG	4.800	0.1890	35.00	44.00	82.00	0.80	36.00	6.00	4150664
B042A04900CPG	4.900	0.1929	35.00	44.00	82.00	0.81	36.00	6.00	4150666
B042A05000CPG	5.000	0.1969	35.00	44.00	82.00	0.83	36.00	6.00	4150667
B042A05100CPG	5.100	0.2008	35.00	44.00	82.00	0.85	36.00	6.00	4150668
B042A05200CPG	5.200	0.2047	35.00	44.00	82.00	0.86	36.00	6.00	4150671
B042A05300CPG	5.300	0.2087	35.00	44.00	82.00	0.88	36.00	6.00	4150672
B042A05400CPG	5.400	0.2126	35.00	44.00	82.00	0.90	36.00	6.00	4150673
B042A05500CPG	5.500	0.2165	35.00	44.00	82.00	0.92	36.00	6.00	4150675
B042A05600CPG	5.600	0.2205	35.00	44.00	82.00	0.93	36.00	6.00	4150677
B042A05700CPG	5.700	0.2244	35.00	44.00	82.00	0.95	36.00	6.00	4150679
B042A05800CPG	5.800	0.2283	35.00	44.00	82.00	0.97	36.00	6.00	4150680
B042A05900CPG	5.900	0.2323	35.00	44.00	82.00	0.99	36.00	6.00	4150681
B042A06000CPG	6.000	0.2362	35.00	44.00	82.00	1.00	36.00	6.00	4150683
B042A06100CPG	6.100	0.2402	43.00	53.00	91.00	1.02	36.00	8.00	4150684
B042A06200CPG	6.200	0.2441	43.00	53.00	91.00	1.04	36.00	8.00	4150685
B042A06300CPG	6.300	0.2480	43.00	53.00	91.00	1.06	36.00	8.00	4150686
B042A06400CPG	6.400	0.2520	43.00	53.00	91.00	1.07	36.00	8.00	4150689
B042A06500CPG	6.500	0.2559	43.00	53.00	91.00	1.09	36.00	8.00	4150690
B042A06600CPG	6.600	0.2598	43.00	53.00	91.00	1.11	36.00	8.00	4150692
B042A06700CPG	6.700	0.2638	43.00	53.00	91.00	1.13	36.00	8.00	4150694
B042A06800CPG	6.800	0.2677	43.00	53.00	91.00	1.14	36.00	8.00	4150696
B042A06900CPG	6.900	0.2717	43.00	53.00	91.00	1.16	36.00	8.00	4150697
B042A07000CPG	7.000	0.2756	43.00	53.00	91.00	1.18	36.00	8.00	4150698

HOEMAKING

KC7325

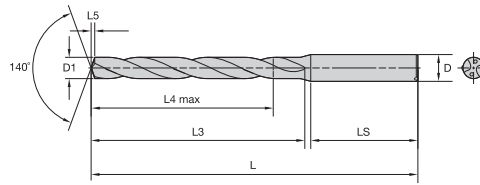
P	●
M	●
K	●
N	●
S	●
H	○

● Primary
○ Secondary

G0drill • 5xD • Straight Shank • Metric - continued

Catalog Number	D1		L4 max	L3	L	L5	LS	D	KC7325
	mm	in							
B042A07400CPG	7.400	0.2913	43.00	53.00	91.00	1.25	36.00	8.00	4150703
B042A07500CPG	7.500	0.2953	43.00	53.00	91.00	1.27	36.00	8.00	4150704
B042A07800CPG	7.800	0.3071	43.00	53.00	91.00	1.32	36.00	8.00	4150708
B042A08000CPG	8.000	0.3150	43.00	53.00	91.00	1.35	36.00	8.00	4150711
B042A08100CPG	8.100	0.3189	49.00	61.00	103.00	1.37	40.00	10.00	4150712
B042A08200CPG	8.200	0.3228	49.00	61.00	103.00	1.39	40.00	10.00	4150713
B042A08300CPG	8.300	0.3268	49.00	61.00	103.00	1.41	40.00	10.00	4150714
B042A08500CPG	8.500	0.3346	49.00	61.00	103.00	1.44	40.00	10.00	4150718
B042A08600CPG	8.600	0.3386	49.00	61.00	103.00	1.46	40.00	10.00	4150719
B042A08700CPG	8.700	0.3425	49.00	61.00	103.00	1.48	40.00	10.00	4150720
B042A08800CPG	8.800	0.3465	49.00	61.00	103.00	1.50	40.00	10.00	4150722
B042A09000CPG	9.000	0.3543	49.00	61.00	103.00	1.53	40.00	10.00	4150724
B042A09100CPG	9.100	0.3583	49.00	61.00	103.00	1.55	40.00	10.00	4150725
B042A09300CPG	9.300	0.3661	49.00	61.00	103.00	1.58	40.00	10.00	4150728
B042A09400CPG	9.400	0.3701	49.00	61.00	103.00	1.60	40.00	10.00	4150730
B042A09500CPG	9.500	0.3740	49.00	61.00	103.00	1.62	40.00	10.00	4150731
B042A09800CPG	9.800	0.3858	49.00	61.00	103.00	1.67	40.00	10.00	4150735
B042A10000CPG	10.000	0.3937	49.00	61.00	103.00	1.71	40.00	10.00	4150739
B042A10200CPG	10.200	0.4016	56.00	71.00	118.00	1.74	45.00	12.00	4150741
B042A10300CPG	10.300	0.4055	56.00	71.00	118.00	1.76	45.00	12.00	4150742
B042A10400CPG	10.400	0.4094	56.00	71.00	118.00	1.78	45.00	12.00	4150744
B042A10500CPG	10.500	0.4134	56.00	71.00	118.00	1.80	45.00	12.00	4150745
B042A10800CPG	10.800	0.4252	56.00	71.00	118.00	1.85	45.00	12.00	4150749
B042A11000CPG	11.000	0.4331	56.00	71.00	118.00	1.88	45.00	12.00	4150751
B042A11100CPG	11.100	0.4370	56.00	71.00	118.00	1.90	45.00	12.00	4150752
B042A11500CPG	11.500	0.4528	56.00	71.00	118.00	1.97	45.00	12.00	4150757
B042A11800CPG	11.800	0.4646	56.00	71.00	118.00	2.02	45.00	12.00	4150761
B042A12000CPG	12.000	0.4724	56.00	71.00	118.00	2.06	45.00	12.00	4150764
B042A12100CPG	12.100	0.4764	60.00	77.00	124.00	2.08	45.00	14.00	4150765
B042A12500CPG	12.500	0.4921	60.00	77.00	124.00	2.15	45.00	14.00	4150770
B042A13000CPG	13.000	0.5118	60.00	77.00	124.00	2.24	45.00	14.00	4150775
B042A13500CPG	13.500	0.5315	60.00	77.00	124.00	2.33	45.00	14.00	4150781
B042A14000CPG	14.000	0.5512	60.00	77.00	124.00	2.41	45.00	14.00	4150787
B042A14500CPG	14.500	0.5709	63.00	83.00	133.00	2.50	48.00	16.00	4150793
B042A15000CPG	15.000	0.5906	63.00	83.00	133.00	2.59	48.00	16.00	4150799
B042A16000CPG	16.000	0.6299	63.00	83.00	133.00	2.77	48.00	16.00	4150812
B042A17000CPG	17.000	0.6693	71.00	93.00	143.00	2.95	48.00	18.00	4150824
B042A17500CPG	17.500	0.6890	71.00	93.00	143.00	3.04	48.00	18.00	4150830

HOLEMAKING



G0drill • 5xD • Internal Coolant • Straight Shank • Metric

● Primary
○ Secondary

KC7325

P	●
M	●
K	●
N	●
S	●
H	○

Catalog Number	D1		L4 max	L3	L	L5	LS	D	KC7325
	mm	in							
B052A01500CPG	1.500	0.0591	9.00	12.00	58.00	0.23	28.00	4.00	4149143
B052A01600CPG	1.600	0.0630	9.00	12.00	58.00	0.25	28.00	4.00	4149144
B052A01700CPG	1.700	0.0669	9.00	12.00	58.00	0.26	28.00	4.00	4149145
B052A01800CPG	1.800	0.0709	9.00	12.00	58.00	0.28	28.00	4.00	4149146
B052A01900CPG	1.900	0.0748	9.00	12.00	58.00	0.30	28.00	4.00	4149147
B052A02000CPG	2.000	0.0787	14.00	18.00	58.00	0.31	28.00	4.00	4149149
B052A02100CPG	2.100	0.0827	14.00	18.00	58.00	0.33	28.00	4.00	4149150
B052A02200CPG	2.200	0.0866	14.00	18.00	58.00	0.35	28.00	4.00	4149151
B052A02300CPG	2.300	0.0906	14.00	18.00	58.00	0.36	28.00	4.00	4149152
B052A02400CPG	2.400	0.0945	17.00	22.00	58.00	0.38	28.00	4.00	4149154
B052A02500CPG	2.500	0.0984	17.00	22.00	58.00	0.40	28.00	4.00	4149157
B052A02600CPG	2.600	0.1024	17.00	22.00	58.00	0.42	28.00	4.00	4149159
B052A02700CPG	2.700	0.1063	17.00	22.00	58.00	0.43	28.00	4.00	4149161
B052A02800CPG	2.800	0.1102	17.00	22.00	58.00	0.45	28.00	4.00	4149164
B052A02900CPG	2.900	0.1142	17.00	22.00	58.00	0.47	28.00	4.00	4149167
B052A03000CPG	3.000	0.1181	23.00	28.00	66.00	0.48	36.00	6.00	4149125
B052A03048CPG	3.048	0.1200	23.00	28.00	66.00	0.49	36.00	6.00	4149126
B052A03200CPG	3.200	0.1260	23.00	28.00	66.00	0.52	36.00	6.00	4149130
B052A03300CPG	3.300	0.1299	23.00	28.00	66.00	0.54	36.00	6.00	4121505
B052A03400CPG	3.400	0.1339	23.00	28.00	66.00	0.55	36.00	6.00	4149132
B052A03500CPG	3.500	0.1378	23.00	28.00	66.00	0.57	36.00	6.00	4149184
B052A03600CPG	3.600	0.1417	23.00	28.00	66.00	0.59	36.00	6.00	4149186
B052A03700CPG	3.700	0.1457	23.00	28.00	66.00	0.60	36.00	6.00	4149188
B052A03800CPG	3.800	0.1496	29.00	36.00	74.00	0.62	36.00	6.00	4149190
B052A03900CPG	3.900	0.1535	29.00	36.00	74.00	0.64	36.00	6.00	4149191
B052A04000CPG	4.000	0.1575	29.00	36.00	74.00	0.66	36.00	6.00	4149193
B052A04100CPG	4.100	0.1614	29.00	36.00	74.00	0.67	36.00	6.00	4149196
B052A04200CPG	4.200	0.1654	29.00	36.00	74.00	0.69	36.00	6.00	4149197
B052A04300CPG	4.300	0.1693	29.00	36.00	74.00	0.71	36.00	6.00	4149199
B052A04400CPG	4.400	0.1732	29.00	36.00	74.00	0.73	36.00	6.00	4149201
B052A04500CPG	4.500	0.1772	29.00	36.00	74.00	0.74	36.00	6.00	4149202
B052A04600CPG	4.600	0.1811	29.00	36.00	74.00	0.76	36.00	6.00	4149203
B052A04700CPG	4.700	0.1850	29.00	36.00	74.00	0.78	36.00	6.00	4149205
B052A04800CPG	4.800	0.1890	35.00	44.00	82.00	0.80	36.00	6.00	4149207
B052A04900CPG	4.900	0.1929	35.00	44.00	82.00	0.81	36.00	6.00	4149209
B052A05000CPG	5.000	0.1969	35.00	44.00	82.00	0.83	36.00	6.00	4149210
B052A05100CPG	5.100	0.2008	35.00	44.00	82.00	0.85	36.00	6.00	4149211
B052A05200CPG	5.200	0.2047	35.00	44.00	82.00	0.86	36.00	6.00	4149214
B052A05300CPG	5.300	0.2087	35.00	44.00	82.00	0.88	36.00	6.00	4149215
B052A05500CPG	5.500	0.2165	35.00	44.00	82.00	0.92	36.00	6.00	4149218
B052A05558CPG	5.558	0.2188	35.00	44.00	82.00	0.93	36.00	6.00	4149219
B052A05600CPG	5.600	0.2205	35.00	44.00	82.00	0.93	36.00	6.00	4149220
B052A05700CPG	5.700	0.2244	35.00	44.00	82.00	0.95	36.00	6.00	4149222
B052A05800CPG	5.800	0.2283	35.00	44.00	82.00	0.97	36.00	6.00	4149223
B052A06000CPG	6.000	0.2362	35.00	44.00	82.00	1.00	36.00	6.00	4149226
B052A06100CPG	6.100	0.2402	43.00	53.00	91.00	1.02	36.00	8.00	4149227
B052A06200CPG	6.200	0.2441	43.00	53.00	91.00	1.04	36.00	8.00	4149228
B052A06300CPG	6.300	0.2480	43.00	53.00	91.00	1.06	36.00	8.00	4149229
B052A06350CPG	6.350	0.2500	43.00	53.00	91.00	1.07	36.00	8.00	4149230
B052A06400CPG	6.400	0.2520	43.00	53.00	91.00	1.07	36.00	8.00	4149231
B052A06500CPG	6.500	0.2559	43.00	53.00	91.00	1.09	36.00	8.00	4149232
B052A06600CPG	6.600	0.2598	43.00	53.00	91.00	1.11	36.00	8.00	4149234
B052A06700CPG	6.700	0.2638	43.00	53.00	91.00	1.13	36.00	8.00	4149236
B052A06800CPG	6.800	0.2677	43.00	53.00	91.00	1.14	36.00	8.00	4149238
B052A06900CPG	6.900	0.2717	43.00	53.00	91.00	1.16	36.00	8.00	4149239
B052A07000CPG	7.000	0.2756	43.00	53.00	91.00	1.18	36.00	8.00	4149240
B052A07200CPG	7.200	0.2835	43.00	53.00	91.00	1.21	36.00	8.00	4149243
B052A07300CPG	7.300	0.2874	43.00	53.00	91.00	1.23	36.00	8.00	4149244
B052A07400CPG	7.400	0.2913	43.00	53.00	91.00	1.25	36.00	8.00	4149245
B052A07500CPG	7.500	0.2953	43.00	53.00	91.00	1.27	36.00	8.00	4149246

HOLEMAKING

KC7325

P	●
M	●
K	●
N	●
S	●
H	○

● Primary
○ Secondary

G0drill • 5xD • Internal Coolant • Straight Shank • Metric - continued

Catalog Number	D1		L4 max	L3	L	L5	LS	D	KC7325
	mm	in							
B052A07800CPG	7.800	0.3071	43.00	53.00	91.00	1.32	36.00	8.00	4149250
B052A08000CPG	8.000	0.3150	43.00	53.00	91.00	1.35	36.00	8.00	4149253
B052A08100CPG	8.100	0.3189	49.00	61.00	103.00	1.37	40.00	10.00	4149254
B052A08200CPG	8.200	0.3228	49.00	61.00	103.00	1.39	40.00	10.00	4149255
B052A08400CPG	8.400	0.3307	49.00	61.00	103.00	1.43	40.00	10.00	4149258
B052A08500CPG	8.500	0.3346	49.00	61.00	103.00	1.44	40.00	10.00	4149260
B052A08600CPG	8.600	0.3386	49.00	61.00	103.00	1.46	40.00	10.00	4149261
B052A08700CPG	8.700	0.3425	49.00	61.00	103.00	1.48	40.00	10.00	4149262
B052A08800CPG	8.800	0.3465	49.00	61.00	103.00	1.50	40.00	10.00	4149264
B052A09000CPG	9.000	0.3543	49.00	61.00	103.00	1.53	40.00	10.00	4149266
B052A09100CPG	9.100	0.3583	49.00	61.00	103.00	1.55	40.00	10.00	4149267
B052A09200CPG	9.200	0.3622	49.00	61.00	103.00	1.57	40.00	10.00	4149269
B052A09300CPG	9.300	0.3661	49.00	61.00	103.00	1.58	40.00	10.00	4149270
B052A09400CPG	9.400	0.3701	49.00	61.00	103.00	1.60	40.00	10.00	4149272
B052A09500CPG	9.500	0.3740	49.00	61.00	103.00	1.62	40.00	10.00	4149273
B052A09600CPG	9.600	0.3780	49.00	61.00	103.00	1.64	40.00	10.00	4149275
B052A09800CPG	9.800	0.3858	49.00	61.00	103.00	1.67	40.00	10.00	4149277
B052A09900CPG	9.900	0.3898	49.00	61.00	103.00	1.69	40.00	10.00	4149278
B052A10000CPG	10.000	0.3937	49.00	61.00	103.00	1.71	40.00	10.00	4149110
B052A10100CPG	10.100	0.3976	56.00	71.00	118.00	1.72	45.00	12.00	4149111
B052A10200CPG	10.200	0.4016	56.00	71.00	118.00	1.74	45.00	12.00	4149112
B052A10300CPG	10.300	0.4055	56.00	71.00	118.00	1.76	45.00	12.00	4149293
B052A10400CPG	10.400	0.4094	56.00	71.00	118.00	1.78	45.00	12.00	4149295
B052A10500CPG	10.500	0.4134	56.00	71.00	118.00	1.80	45.00	12.00	4149296
B052A10800CPG	10.800	0.4252	56.00	71.00	118.00	1.85	45.00	12.00	4149300
B052A11000CPG	11.000	0.4331	56.00	71.00	118.00	1.88	45.00	12.00	4149302
B052A11200CPG	11.200	0.4409	56.00	71.00	118.00	1.92	45.00	12.00	4149305
B052A11500CPG	11.500	0.4528	56.00	71.00	118.00	1.97	45.00	12.00	4149308
B052A11800CPG	11.800	0.4646	56.00	71.00	118.00	2.02	45.00	12.00	4149312
B052A12000CPG	12.000	0.4724	56.00	71.00	118.00	2.06	45.00	12.00	4149315
B052A12100CPG	12.100	0.4764	60.00	77.00	124.00	2.08	45.00	14.00	4149316
B052A12200CPG	12.200	0.4803	60.00	77.00	124.00	2.10	45.00	14.00	4149317
B052A12300CPG	12.300	0.4843	60.00	77.00	124.00	2.11	45.00	14.00	4149318
B052A12500CPG	12.500	0.4921	60.00	77.00	124.00	2.15	45.00	14.00	4149321
B052A13000CPG	13.000	0.5118	60.00	77.00	124.00	2.24	45.00	14.00	4149326
B052A13100CPG	13.100	0.5157	60.00	77.00	124.00	2.25	45.00	14.00	4149328
B052A13500CPG	13.500	0.5315	60.00	77.00	124.00	2.33	45.00	14.00	4149332
B052A14000CPG	14.000	0.5512	60.00	77.00	124.00	2.41	45.00	14.00	4149338
B052A14200CPG	14.200	0.5591	63.00	83.00	133.00	2.45	48.00	16.00	4149340
B052A14500CPG	14.500	0.5709	63.00	83.00	133.00	2.50	48.00	16.00	4149344
B052A15100CPG	15.100	0.5945	63.00	83.00	133.00	2.61	48.00	16.00	4149352
B052A15800CPG	15.800	0.6220	63.00	83.00	133.00	2.73	48.00	16.00	4149360
B052A16000CPG	16.000	0.6299	63.00	83.00	133.00	2.77	48.00	16.00	4149363
B052A16500CPG	16.500	0.6496	71.00	93.00	143.00	2.86	48.00	18.00	4149369

HOLEMAKING

G0drill - B04_CPG SERIES APPLICATION DATA

Grade KC7325 - Flood Coolant

Drill Diameters 1,0 mm to 20 mm (.0394" - .7874")



	Cutting Speed - Vc			METRIC											
	Range - m/min			Recommended Feed Rate by Revolution											
	min	Starting Value	max		1.0	2.0	3.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	
P	0	70	80	115	mm/r	0.03 - 0.08	0.04 - 0.09	0.05 - 0.11	0.08 - 0.14	0.09 - 0.19	0.11 - 0.22	0.13 - 0.26	0.15 - 0.30	0.19 - 0.36	0.24 - 0.46
	1	60	70	100	mm/r	0.04 - 0.09	0.05 - 0.11	0.06 - 0.13	0.09 - 0.16	0.11 - 0.22	0.13 - 0.26	0.15 - 0.31	0.18 - 0.35	0.22 - 0.42	0.28 - 0.54
	2	80	90	100	mm/r	0.04 - 0.09	0.05 - 0.11	0.06 - 0.13	0.08 - 0.16	0.12 - 0.22	0.14 - 0.26	0.17 - 0.31	0.20 - 0.35	0.24 - 0.42	0.31 - 0.53
	3	50	70	90	mm/r	0.05 - 0.11	0.06 - 0.13	0.07 - 0.15	0.09 - 0.17	0.13 - 0.23	0.15 - 0.28	0.19 - 0.33	0.22 - 0.38	0.26 - 0.47	0.34 - 0.59
	4	50	70	100	mm/r	0.04 - 0.12	0.05 - 0.13	0.06 - 0.15	0.08 - 0.17	0.12 - 0.23	0.14 - 0.28	0.17 - 0.33	0.19 - 0.38	0.23 - 0.47	0.29 - 0.59
	5	30	40	60	mm/r	0.03 - 0.05	0.04 - 0.06	0.05 - 0.07	0.06 - 0.10	0.08 - 0.14	0.10 - 0.18	0.12 - 0.22	0.14 - 0.24	0.18 - 0.32	0.23 - 0.41
M	1	20	30	40	mm/r	0.02 - 0.05	0.03 - 0.06	0.04 - 0.07	0.05 - 0.09	0.08 - 0.11	0.09 - 0.12	0.10 - 0.14	0.12 - 0.16	0.14 - 0.18	0.16 - 0.20
	2	30	40	50	mm/r	0.02 - 0.06	0.03 - 0.07	0.04 - 0.08	0.06 - 0.10	0.08 - 0.12	0.09 - 0.14	0.10 - 0.16	0.12 - 0.18	0.14 - 0.20	0.16 - 0.22
	3	20	30	40	mm/r	0.02 - 0.05	0.03 - 0.06	0.04 - 0.07	0.06 - 0.09	0.08 - 0.11	0.09 - 0.12	0.10 - 0.14	0.12 - 0.16	0.14 - 0.18	0.16 - 0.20
K	1	80	110	140	mm/r	0.09 - 0.18	0.10 - 0.20	0.11 - 0.22	0.12 - 0.24	0.16 - 0.31	0.20 - 0.38	0.23 - 0.44	0.25 - 0.49	0.31 - 0.60	0.38 - 0.74
	2	70	90	110	mm/r	0.06 - 0.13	0.08 - 0.15	0.10 - 0.17	0.12 - 0.19	0.16 - 0.25	0.20 - 0.31	0.23 - 0.36	0.25 - 0.40	0.31 - 0.48	0.38 - 0.60
	3	60	70	80	mm/r	0.05 - 0.11	0.06 - 0.13	0.07 - 0.15	0.09 - 0.19	0.12 - 0.25	0.14 - 0.30	0.17 - 0.35	0.19 - 0.40	0.25 - 0.48	0.30 - 0.60
N	1	90	230	270	mm/r	0.05 - 0.12	0.06 - 0.13	0.08 - 0.14	0.10 - 0.16	0.12 - 0.20	0.16 - 0.24	0.20 - 0.28	0.24 - 0.32	0.28 - 0.40	0.32 - 0.48
	2	90	220	270	mm/r	0.04 - 0.08	0.06 - 0.12	0.08 - 0.16	0.10 - 0.20	0.12 - 0.24	0.16 - 0.28	0.20 - 0.32	0.24 - 0.36	0.28 - 0.44	0.32 - 0.52
	3	90	180	225	mm/r	0.10 - 0.13	0.11 - 0.14	0.12 - 0.14	0.13 - 0.16	0.14 - 0.20	0.16 - 0.24	0.20 - 0.28	0.24 - 0.32	0.28 - 0.40	0.32 - 0.44
	4	90	130	270	mm/r	0.04 - 0.08	0.06 - 0.12	0.08 - 0.16	0.10 - 0.20	0.12 - 0.24	0.16 - 0.28	0.20 - 0.32	0.24 - 0.36	0.28 - 0.40	0.32 - 0.48
S	1	10	20	30	mm/r	0.01 - 0.03	0.02 - 0.05	0.03 - 0.06	0.04 - 0.07	0.05 - 0.09	0.06 - 0.10	0.07 - 0.12	0.08 - 0.13	0.10 - 0.15	0.11 - 0.17
	2	10	20	30	mm/r	0.01 - 0.03	0.02 - 0.05	0.03 - 0.06	0.04 - 0.07	0.05 - 0.09	0.06 - 0.10	0.07 - 0.12	0.08 - 0.13	0.10 - 0.15	0.11 - 0.17
	3	15	25	35	mm/r	0.01 - 0.03	0.02 - 0.05	0.03 - 0.06	0.04 - 0.07	0.05 - 0.09	0.06 - 0.10	0.07 - 0.12	0.08 - 0.13	0.10 - 0.15	0.11 - 0.17
	4	20	30	40	mm/r	0.01 - 0.03	0.01 - 0.03	0.02 - 0.04	0.03 - 0.05	0.04 - 0.07	0.05 - 0.09	0.05 - 0.10	0.07 - 0.12	0.08 - 0.13	0.08 - 0.13
H	1	10	15	30	mm/r	0.01 - 0.03	0.02 - 0.03	0.02 - 0.04	0.03 - 0.06	0.05 - 0.08	0.07 - 0.10	0.08 - 0.11	0.09 - 0.12	0.10 - 0.14	0.11 - 0.16
	2	10	10	30	mm/r	0.01 - 0.03	0.02 - 0.03	0.02 - 0.04	0.02 - 0.05	0.04 - 0.07	0.06 - 0.09	0.07 - 0.10	0.08 - 0.11	0.09 - 0.13	0.10 - 0.15

G0drill - B05_CPG Series - Grade KC7325 - Through Coolant Drill Diameters 1,0 mm to 20 mm (.0394" - .7874")



		Cutting Speed - Vc			METRIC										
		Range - m/min			Recommended Feed Rate by Revolution										
		min	Starting Value	max		1.0	2.0	3.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0
P	0	70	80	115	mm/r	0.03 - 0.08	0.04 - 0.09	0.05 - 0.11	0.08 - 0.14	0.09 - 0.19	0.11 - 0.22	0.13 - 0.26	0.15 - 0.30	0.19 - 0.36	0.24 - 0.46
	1	70	100	140	mm/r	0.04 - 0.09	0.05 - 0.12	0.07 - 0.14	0.08 - 0.16	0.11 - 0.22	0.13 - 0.26	0.15 - 0.31	0.18 - 0.35	0.22 - 0.42	0.28 - 0.54
	2	90	120	140	mm/r	0.04 - 0.09	0.05 - 0.12	0.07 - 0.14	0.08 - 0.16	0.12 - 0.22	0.14 - 0.26	0.17 - 0.31	0.20 - 0.35	0.24 - 0.42	0.31 - 0.53
	3	60	80	100	mm/r	0.05 - 0.10	0.06 - 0.13	0.08 - 0.15	0.09 - 0.17	0.13 - 0.23	0.15 - 0.28	0.19 - 0.33	0.22 - 0.38	0.26 - 0.47	0.34 - 0.59
	4	50	80	100	mm/r	0.05 - 0.10	0.06 - 0.13	0.07 - 0.15	0.08 - 0.17	0.12 - 0.23	0.14 - 0.28	0.17 - 0.33	0.19 - 0.38	0.23 - 0.47	0.29 - 0.59
	5	30	40	60	mm/r	0.03 - 0.05	0.04 - 0.06	0.05 - 0.07	0.06 - 0.10	0.08 - 0.14	0.10 - 0.18	0.12 - 0.22	0.14 - 0.24	0.18 - 0.32	0.23 - 0.41
M	6	40	50	70	mm/r	0.03 - 0.05	0.04 - 0.06	0.05 - 0.08	0.06 - 0.10	0.08 - 0.14	0.10 - 0.18	0.13 - 0.22	0.14 - 0.24	0.18 - 0.32	0.23 - 0.41
	1	20	30	40	mm/r	0.02 - 0.05	0.03 - 0.06	0.04 - 0.07	0.05 - 0.09	0.08 - 0.11	0.09 - 0.12	0.10 - 0.14	0.12 - 0.16	0.14 - 0.18	0.16 - 0.20
	2	30	40	50	mm/r	0.02 - 0.06	0.03 - 0.07	0.04 - 0.08	0.06 - 0.10	0.08 - 0.12	0.09 - 0.14	0.10 - 0.16	0.12 - 0.18	0.14 - 0.20	0.16 - 0.22
K	3	20	30	40	mm/r	0.02 - 0.05	0.03 - 0.06	0.04 - 0.07	0.05 - 0.09	0.08 - 0.11	0.09 - 0.12	0.10 - 0.14	0.12 - 0.16	0.14 - 0.18	0.16 - 0.20
	1	80	120	160	mm/r	0.08 - 0.16	0.09 - 0.17	0.11 - 0.22	0.12 - 0.24	0.16 - 0.31	0.20 - 0.38	0.23 - 0.44	0.25 - 0.49	0.31 - 0.60	0.38 - 0.74
	2	80	110	140	mm/r	0.10 - 0.14	0.11 - 0.15	0.12 - 0.16	0.13 - 0.19	0.16 - 0.25	0.20 - 0.31	0.23 - 0.36	0.25 - 0.40	0.31 - 0.48	0.38 - 0.60
N	3	70	80	100	mm/r	0.05 - 0.13	0.07 - 0.15	0.08 - 0.17	0.09 - 0.19	0.12 - 0.25	0.14 - 0.30	0.17 - 0.35	0.19 - 0.40	0.24 - 0.48	0.30 - 0.60
	1	90	230	315	mm/r	0.05 - 0.12	0.06 - 0.13	0.08 - 0.14	0.10 - 0.16	0.12 - 0.20	0.16 - 0.24	0.20 - 0.28	0.24 - 0.32	0.28 - 0.40	0.32 - 0.48
	2	90	225	270	mm/r	0.04 - 0.08	0.06 - 0.12	0.08 - 0.16	0.10 - 0.20	0.12 - 0.24	0.16 - 0.28	0.20 - 0.32	0.24 - 0.36	0.28 - 0.44	0.32 - 0.52
	3	90	180	270	mm/r	0.10 - 0.13	0.11 - 0.14	0.12 - 0.14	0.13 - 0.16	0.14 - 0.20	0.16 - 0.24	0.20 - 0.28	0.24 - 0.32	0.28 - 0.40	0.32 - 0.44
S	4	90	135	180	mm/r	0.04 - 0.08	0.06 - 0.12	0.08 - 0.16	0.10 - 0.20	0.12 - 0.24	0.16 - 0.28	0.20 - 0.32	0.24 - 0.36	0.28 - 0.40	0.32 - 0.48
	1	10	20	30	mm/r	0.01 - 0.03	0.02 - 0.05	0.03 - 0.06	0.04 - 0.07	0.05 - 0.09	0.06 - 0.10	0.07 - 0.12	0.08 - 0.13	0.10 - 0.15	0.11 - 0.17
	2	10	20	30	mm/r	0.01 - 0.03	0.02 - 0.05	0.03 - 0.06	0.04 - 0.07	0.05 - 0.09	0.06 - 0.10	0.07 - 0.12	0.08 - 0.13	0.10 - 0.15	0.11 - 0.17
	3	15	25	35	mm/r	0.01 - 0.03	0.02 - 0.05	0.03 - 0.06	0.04 - 0.07	0.05 - 0.09	0.06 - 0.10	0.07 - 0.12	0.08 - 0.13	0.10 - 0.15	0.11 - 0.17
H	4	20	30	40	mm/r	0.01 - 0.03	0.01 - 0.03	0.02 - 0.04	0.03 - 0.05	0.04 - 0.07	0.05 - 0.09	0.05 - 0.10	0.07 - 0.12	0.08 - 0.13	0.08 - 0.13
	1	10	15	30	mm/r	0.01 - 0.03	0.02 - 0.03	0.02 - 0.04	0.03 - 0.06	0.05 - 0.08	0.07 - 0.10	0.08 - 0.11	0.09 - 0.12	0.10 - 0.14	0.11 - 0.16
	2	10	10	30	mm/r	0.01 - 0.03	0.02 - 0.03	0.02 - 0.04	0.02 - 0.05	0.04 - 0.07	0.06 - 0.09	0.07 - 0.10	0.08 - 0.11	0.09 - 0.13	0.10 - 0.15

Solid Carbide Drilling

KENNA UNIVERSAL

VERSATILE HIGH-PERFORMANCE
SOLID CARBIDE DRILL

Materials

Primary



Secondary



Industries



General
Engineering



Oil & Gas



Wind & Solar



Aerospace



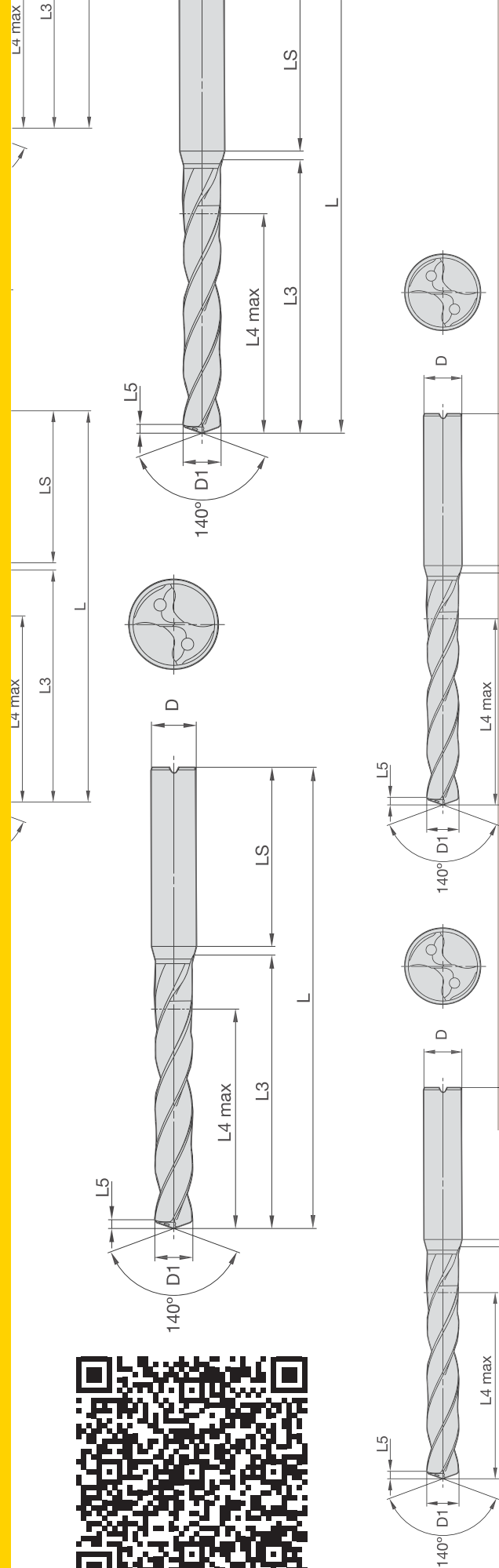
Automotive

Applications

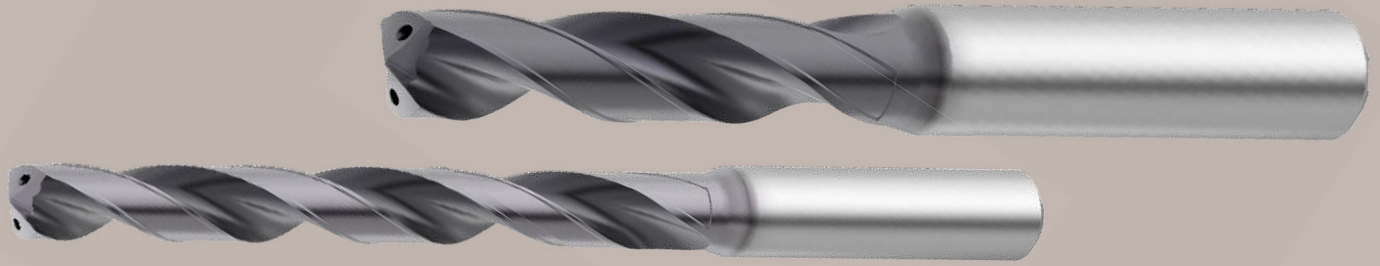


The Kenna Universal drill series covers a diameter range from 2,5 - 20 mm and provides 12xD drilling capability.

Applicable in many materials for cross-hole drilling, inclined-exit drilling, deep-hole drilling and chamfer-hole drilling. The Kenna Universal drill series offers long tool life, fewer tool changes and requires less tool inventory, making it an excellent alternative to other high-performance material-specific drills. The cone point design is ideal for piloting applications.



Explore Kenna Universal



FEATURES AND BENEFITS

A four-margin land design provides hole straightness and roundness, even when drilling cross holes

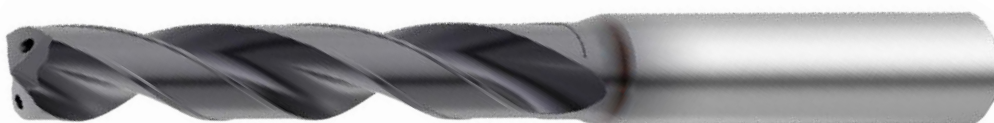
The low thrust drill point design has excellent centering capabilities, ideal for less stable machining conditions

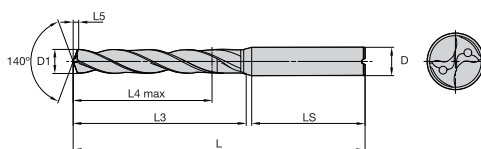
Easy to recondition, delivering extended tool life

MQL-ready! All shanks fulfill the DIN 6535 and 69090-03 requirements for minimum quantity lubrication

Enhanced Drilling Depth: 12xD drilling in multiple materials without a pilot drill

Grade Enhancement: Grade KCU15 for excellent wear resistance and excellent coating adhesion even in tough cutting conditions





**Kenna Universal Drill • 3xD • Internal Coolant •
Straight Shank • Metric**

KCU15

P	●
M	●
K	●
N	●
S	●
H	●

● Primary
○ Secondary

Catalog Number	D1		L4 max	L3	L	L5	LS	D	KCU15
	mm	in							
B976Z02500	2.500	0.0984	11.00	16.00	50.00	0.40	28.00	3.00	4042542
B976Z02800	2.800	0.1102	11.00	16.00	50.00	0.45	28.00	3.00	4042548
B976A03000	3.000	0.1181	14.00	20.00	62.00	0.48	36.00	6.00	2878592
B976A03300	3.300	0.1299	14.00	20.00	62.00	0.54	36.00	6.00	2878591
B976A03500	3.500	0.1378	14.00	20.00	62.00	0.57	36.00	6.00	3528125
B976A04000	4.000	0.1575	17.00	24.00	66.00	0.66	36.00	6.00	1913515
B976A04200	4.200	0.1654	17.00	24.00	66.00	0.69	36.00	6.00	1913516
B976A04300	4.300	0.1693	17.00	24.00	66.00	0.71	36.00	6.00	2276088
B976A04500	4.500	0.1772	17.00	24.00	66.00	0.74	36.00	6.00	1913517
B976A04800	4.800	0.1890	20.00	28.00	66.00	0.80	36.00	6.00	1913519
B976A05000	5.000	0.1969	20.00	28.00	66.00	0.83	36.00	6.00	1913520
B976A05100	5.100	0.2008	20.00	28.00	66.00	0.85	36.00	6.00	2385356
B976A05200	5.200	0.2047	20.00	28.00	66.00	0.86	36.00	6.00	1984183
B976A05300	5.300	0.2087	20.00	28.00	66.00	0.88	36.00	6.00	1988932
B976A05500	5.500	0.2165	20.00	28.00	66.00	0.92	36.00	6.00	1913521
B976A05600	5.600	0.2205	20.00	28.00	66.00	0.93	36.00	6.00	2224587
B976A05700	5.700	0.2244	20.00	28.00	66.00	0.95	36.00	6.00	1913522
B976A05800	5.800	0.2283	20.00	28.00	66.00	0.97	36.00	6.00	1913523
B976A06000	6.000	0.2362	20.00	28.00	66.00	1.00	36.00	6.00	1913524
B976A06200	6.200	0.2441	24.00	34.00	79.00	1.04	36.00	8.00	1986773
B976A06350	6.350	0.2500	24.00	34.00	79.00	1.07	36.00	8.00	2649366
B976A06500	6.500	0.2559	24.00	34.00	79.00	1.09	36.00	8.00	1913525
B976A06600	6.600	0.2598	24.00	34.00	79.00	1.11	36.00	8.00	2231776
B976A06800	6.800	0.2677	24.00	34.00	79.00	1.14	36.00	8.00	1913526
B976A07000	7.000	0.2756	24.00	34.00	79.00	1.18	36.00	8.00	1913527
B976A07400	7.400	0.2913	29.00	41.00	79.00	1.25	36.00	8.00	1913528
B976A07500	7.500	0.2953	29.00	41.00	79.00	1.27	36.00	8.00	1913529
B976A07800	7.800	0.3071	29.00	41.00	79.00	1.32	36.00	8.00	1913530
B976A08000	8.000	0.3150	29.00	41.00	79.00	1.35	36.00	8.00	1913531
B976A08100	8.100	0.3189	35.00	47.00	89.00	1.37	40.00	10.00	2036154
B976A08200	8.200	0.3228	35.00	47.00	89.00	1.39	40.00	10.00	2390961
B976A08500	8.500	0.3346	35.00	47.00	89.00	1.44	40.00	10.00	1913532
B976A08600	8.600	0.3386	35.00	47.00	89.00	1.46	40.00	10.00	2222651
B976A08800	8.800	0.3465	35.00	47.00	89.00	1.50	40.00	10.00	1913533
B976A09000	9.000	0.3543	35.00	47.00	89.00	1.53	40.00	10.00	1913534
B976A09100	9.100	0.3583	35.00	47.00	89.00	1.55	40.00	10.00	2224588
B976A09300	9.300	0.3661	35.00	47.00	89.00	1.58	40.00	10.00	1913535
B976A09500	9.500	0.3740	35.00	47.00	89.00	1.62	40.00	10.00	1913536
B976A09800	9.800	0.3858	35.00	47.00	89.00	1.67	40.00	10.00	1913537
B976A10000	10.000	0.3937	35.00	47.00	89.00	1.71	40.00	10.00	1913538
B976A10200	10.200	0.4016	40.00	55.00	102.00	1.74	45.00	12.00	1913539
B976A10300	10.300	0.4055	40.00	55.00	102.00	1.76	45.00	12.00	3119977
B976A10500	10.500	0.4134	40.00	55.00	102.00	1.80	45.00	12.00	1913540
B976A10800	10.800	0.4252	40.00	55.00	102.00	1.85	45.00	12.00	2388784
B976A11000	11.000	0.4331	40.00	55.00	102.00	1.88	45.00	12.00	1913542
B976A11200	11.200	0.4409	40.00	55.00	102.00	1.92	45.00	12.00	1913543
B976A11500	11.500	0.4528	40.00	55.00	102.00	1.97	45.00	12.00	1913544
B976A11700	11.700	0.4606	40.00	55.00	102.00	2.01	45.00	12.00	1913545
B976A12000	12.000	0.4724	40.00	55.00	102.00	2.06	45.00	12.00	1913546
B976A12500	12.500	0.4921	43.00	60.00	107.00	2.15	45.00	14.00	1913547
B976A13000	13.000	0.5118	43.00	60.00	107.00	2.24	45.00	14.00	1913549
B976A13500	13.500	0.5315	43.00	60.00	107.00	2.33	45.00	14.00	1913550
B976A14000	14.000	0.5512	43.00	60.00	107.00	2.41	45.00	14.00	1913552
B976A14100	14.100	0.5551	45.00	65.00	115.00	2.43	48.00	16.00	2226630
B976A14200	14.200	0.5591	45.00	65.00	115.00	2.45	48.00	16.00	2404108
B976A14500	14.500	0.5709	45.00	65.00	115.00	2.50	48.00	16.00	1913553
B976A15000	15.000	0.5906	45.00	65.00	115.00	2.59	48.00	16.00	1913555
B976A15500	15.500	0.6102	45.00	65.00	115.00	2.68	48.00	16.00	1913556

HOLEMAKING



KCU15

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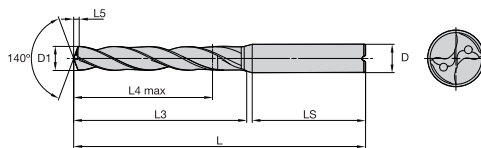
● Primary
○ Secondary

Kenna Universal Drill • 3xD • Internal Coolant • Straight Shank
• Metric - continued

Catalog Number	D1		L4 max	L3	L	L5	LS	D	KCU15
	mm	in							
B976A16000	16.000	0.6299	45.00	65.00	115.00	2.77	48.00	16.00	1913558
B976A16200	16.200	0.6378	51.00	73.00	123.00	2.80	48.00	18.00	2882164
B976A16500	16.500	0.6496	51.00	73.00	123.00	2.86	48.00	18.00	1913559
B976A17000	17.000	0.6693	51.00	73.00	123.00	2.95	48.00	18.00	1913560
B976A18000	18.000	0.7087	51.00	73.00	123.00	3.12	48.00	18.00	1913562
B976A20000	20.000	0.7874	55.00	79.00	131.00	3.48	50.00	20.00	1913566



HOLEMAKING



Kenna Universal Drill • 5xD • Internal Coolant • Straight Shank • Metric

catalog number	D1		L4 max	L3	L	L5	LS	D	KCU15
	mm	in							
B977A03000	3.000	0.1181	23.00	28.00	66.00	0.48	36.00	6.00	2425285
B977A03100	3.100	0.1220	23.00	28.00	66.00	0.50	36.00	6.00	2425288
B977A03200	3.200	0.1260	23.00	28.00	66.00	0.52	36.00	6.00	2425290
B977A03300	3.300	0.1299	23.00	28.00	66.00	0.54	36.00	6.00	1959665
B977A03400	3.400	0.1339	23.00	28.00	66.00	0.55	36.00	6.00	2425292
B977A03500	3.500	0.1378	23.00	28.00	66.00	0.57	36.00	6.00	2425303
B977A03700	3.700	0.1457	23.00	28.00	66.00	0.60	36.00	6.00	2425305
B977A03800	3.800	0.1496	29.00	36.00	74.00	0.62	36.00	6.00	2425306
B977A04000	4.000	0.1575	29.00	36.00	74.00	0.66	36.00	6.00	1913567
B977A04039	4.039	0.1590	29.00	36.00	74.00	0.66	36.00	6.00	4054518
B977A04100	4.100	0.1614	29.00	36.00	74.00	0.67	36.00	6.00	2416279
B977A04200	4.200	0.1654	29.00	36.00	74.00	0.69	36.00	6.00	1913568
B977A04300	4.300	0.1693	29.00	36.00	74.00	0.71	36.00	6.00	2040680
B977A04400	4.400	0.1732	29.00	36.00	74.00	0.73	36.00	6.00	2425309
B977A04500	4.500	0.1772	29.00	36.00	74.00	0.74	36.00	6.00	1913569
B977A04600	4.600	0.1811	29.00	36.00	74.00	0.76	36.00	6.00	1913570
B977A04700	4.700	0.1850	29.00	36.00	74.00	0.78	36.00	6.00	2425310
B977A04800	4.800	0.1890	35.00	44.00	82.00	0.80	36.00	6.00	1913571
B977A04900	4.900	0.1929	35.00	44.00	82.00	0.81	36.00	6.00	2396971
B977A05000	5.000	0.1969	35.00	44.00	82.00	0.83	36.00	6.00	1913572
B977A05100	5.100	0.2008	35.00	44.00	82.00	0.85	36.00	6.00	2049487
B977A05200	5.200	0.2047	35.00	44.00	82.00	0.86	36.00	6.00	1975006
B977A05300	5.300	0.2087	35.00	44.00	82.00	0.88	36.00	6.00	2202510
B977A05500	5.500	0.2165	35.00	44.00	82.00	0.92	36.00	6.00	1913573
B977A05558	5.558	0.2188	35.00	44.00	82.00	0.93	36.00	6.00	2649391
B977A05600	5.600	0.2205	35.00	44.00	82.00	0.93	36.00	6.00	1959664
B977A05700	5.700	0.2244	35.00	44.00	82.00	0.95	36.00	6.00	1988931
B977A05800	5.800	0.2283	35.00	44.00	82.00	0.97	36.00	6.00	1913574
B977A05900	5.900	0.2323	35.00	44.00	82.00	0.99	36.00	6.00	2228362
B977A06000	6.000	0.2362	35.00	44.00	82.00	1.00	36.00	6.00	1913575
B977A06100	6.100	0.2402	43.00	53.00	91.00	1.02	36.00	8.00	2043779
B977A06150	6.150	0.2421	43.00	53.00	91.00	1.03	36.00	8.00	4132877
B977A06200	6.200	0.2441	43.00	53.00	91.00	1.04	36.00	8.00	2425323
B977A06300	6.300	0.2480	43.00	53.00	91.00	1.06	36.00	8.00	2425324
B977A06400	6.400	0.2520	43.00	53.00	91.00	1.07	36.00	8.00	2383778
B977A06500	6.500	0.2559	43.00	53.00	91.00	1.09	36.00	8.00	1913576
B977A06600	6.600	0.2598	43.00	53.00	91.00	1.11	36.00	8.00	2425325
B977A06700	6.700	0.2638	43.00	53.00	91.00	1.13	36.00	8.00	2230539
B977A06800	6.800	0.2677	43.00	53.00	91.00	1.14	36.00	8.00	1913577
B977A06900	6.900	0.2717	43.00	53.00	91.00	1.16	36.00	8.00	1959666
B977A07000	7.000	0.2756	43.00	53.00	91.00	1.18	36.00	8.00	1913578
B977A07100	7.100	0.2795	43.00	53.00	91.00	1.20	36.00	8.00	2203579
B977A07200	7.200	0.2835	43.00	53.00	91.00	1.21	36.00	8.00	2264019
B977A07400	7.400	0.2913	43.00	53.00	91.00	1.25	36.00	8.00	1913579
B977A07500	7.500	0.2953	43.00	53.00	91.00	1.27	36.00	8.00	1913580
B977A07700	7.700	0.3031	43.00	53.00	91.00	1.30	36.00	8.00	1992230
B977A07800	7.800	0.3071	43.00	53.00	91.00	1.32	36.00	8.00	1913581
B977A08000	8.000	0.3150	43.00	53.00	91.00	1.35	36.00	8.00	1913582
B977A08100	8.100	0.3189	49.00	61.00	103.00	1.37	40.00	10.00	2244229
B977A08200	8.200	0.3228	49.00	61.00	103.00	1.39	40.00	10.00	1986652
B977A08300	8.300	0.3268	49.00	61.00	103.00	1.41	40.00	10.00	2390123
B977A08500	8.500	0.3346	49.00	61.00	103.00	1.44	40.00	10.00	1913583
B977A08600	8.600	0.3386	49.00	61.00	103.00	1.46	40.00	10.00	2425331
B977A08700	8.700	0.3425	49.00	61.00	103.00	1.48	40.00	10.00	2203834
B977A08800	8.800	0.3465	49.00	61.00	103.00	1.50	40.00	10.00	1913584
B977A09000	9.000	0.3543	49.00	61.00	103.00	1.53	40.00	10.00	1913585
B977A09100	9.100	0.3583	49.00	61.00	103.00	1.55	40.00	10.00	2425332
B977A09200	9.200	0.3622	49.00	61.00	103.00	1.57	40.00	10.00	2218492
B977A09300	9.300	0.3661	49.00	61.00	103.00	1.58	40.00	10.00	1913586
B977A09500	9.500	0.3740	49.00	61.00	103.00	1.62	40.00	10.00	1913587

HOEMAKING

KCU15

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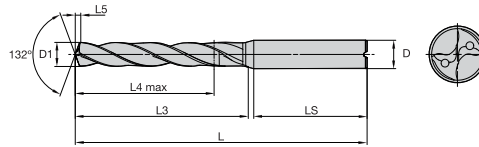
● Primary
○ Secondary

Kenna Universal Drill • 5xD • Internal Coolant • Straight Shank
• Metric - continued

catalog number	D1		L4 max	L3	L	L5	LS	D	KCU15
	mm	in							
B977A09600	9.600	0.3780	49.00	61.00	103.00	1.64	40.00	10.00	2425344
B977A09700	9.700	0.3819	49.00	61.00	103.00	1.65	40.00	10.00	1939528
B977A09800	9.800	0.3858	49.00	61.00	103.00	1.67	40.00	10.00	1913588
B977A09900	9.900	0.3898	49.00	61.00	103.00	1.69	40.00	10.00	2245191
B977A10000	10.000	0.3937	49.00	61.00	103.00	1.71	40.00	10.00	1913589
B977A10100	10.100	0.3976	56.00	71.00	118.00	1.72	45.00	12.00	2407294
B977A10200	10.200	0.4016	56.00	71.00	118.00	1.74	45.00	12.00	1913590
B977A10300	10.300	0.4055	56.00	71.00	118.00	1.76	45.00	12.00	2240351
B977A10400	10.400	0.4094	56.00	71.00	118.00	1.78	45.00	12.00	2425455
B977A10500	10.500	0.4134	56.00	71.00	118.00	1.80	45.00	12.00	1913591
B977A10700	10.700	0.4213	56.00	71.00	118.00	1.83	45.00	12.00	1913592
B977A10800	10.800	0.4252	56.00	71.00	118.00	1.85	45.00	12.00	2256918
B977A11000	11.000	0.4331	56.00	71.00	118.00	1.88	45.00	12.00	1913593
B977A11100	11.100	0.4370	56.00	71.00	118.00	1.90	45.00	12.00	2264020
B977A11200	11.200	0.4409	56.00	71.00	118.00	1.92	45.00	12.00	1913594
B977A11300	11.300	0.4449	56.00	71.00	118.00	1.94	45.00	12.00	2425456
B977A11400	11.400	0.4488	56.00	71.00	118.00	1.95	45.00	12.00	2425381
B977A11500	11.500	0.4528	56.00	71.00	118.00	1.97	45.00	12.00	1913595
B977A11800	11.800	0.4646	56.00	71.00	118.00	2.02	45.00	12.00	2049488
B977A12000	12.000	0.4724	56.00	71.00	118.00	2.06	45.00	12.00	1913597
B977A12100	12.100	0.4764	60.00	77.00	124.00	2.08	45.00	14.00	2384430
B977A12200	12.200	0.4803	60.00	77.00	124.00	2.10	45.00	14.00	2049489
B977A12300	12.300	0.4843	60.00	77.00	124.00	2.11	45.00	14.00	2045820
B977A12400	12.400	0.4882	60.00	77.00	124.00	2.13	45.00	14.00	2425380
B977A12500	12.500	0.4921	60.00	77.00	124.00	2.15	45.00	14.00	1913598
B977A12600	12.600	0.4961	60.00	77.00	124.00	2.17	45.00	14.00	2203577
B977A12700	12.700	0.5000	60.00	77.00	124.00	2.18	45.00	14.00	1913599
B977A13000	13.000	0.5118	60.00	77.00	124.00	2.24	45.00	14.00	1913600
B977A13100	13.100	0.5157	60.00	77.00	124.00	2.25	45.00	14.00	2401853
B977A13300	13.300	0.5236	60.00	77.00	124.00	2.29	45.00	14.00	2229138
B977A13500	13.500	0.5315	60.00	77.00	124.00	2.33	45.00	14.00	1913601
B977A13700	13.700	0.5394	60.00	77.00	124.00	2.36	45.00	14.00	1913602
B977A14000	14.000	0.5512	60.00	77.00	124.00	2.41	45.00	14.00	1913603
B977A14500	14.500	0.5709	63.00	83.00	133.00	2.50	48.00	16.00	1913604
B977A15000	15.000	0.5906	63.00	83.00	133.00	2.59	48.00	16.00	1913606
B977A15100	15.100	0.5945	63.00	83.00	133.00	2.61	48.00	16.00	1960079
B977A15500	15.500	0.6102	63.00	83.00	133.00	2.68	48.00	16.00	1913607
B977A16000	16.000	0.6299	63.00	83.00	133.00	2.77	48.00	16.00	1913609
B977A16500	16.500	0.6496	71.00	93.00	143.00	2.86	48.00	18.00	1913610
B977A17000	17.000	0.6693	71.00	93.00	143.00	2.95	48.00	18.00	1913611
B977A17500	17.500	0.6890	71.00	93.00	143.00	3.04	48.00	18.00	1913612
B977A17700	17.700	0.6969	71.00	93.00	143.00	3.07	48.00	18.00	2391872
B977A18000	18.000	0.7087	71.00	93.00	143.00	3.12	48.00	18.00	1913613
B977A18500	18.500	0.7283	77.00	101.00	153.00	3.21	50.00	20.00	1913614
B977A19000	19.000	0.7480	77.00	101.00	153.00	3.30	50.00	20.00	1913615
B977A19500	19.500	0.7677	77.00	101.00	153.00	3.39	50.00	20.00	1913616
B977A20000	20.000	0.7874	77.00	101.00	153.00	3.48	50.00	20.00	1913617

HOLEMAKING





KCU15

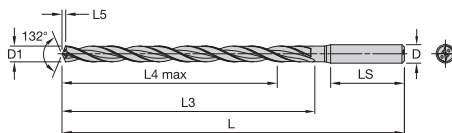
P	●
M	●
K	●
N	●
S	●
H	●

● Primary
○ Secondary

Kenna Universal Drill • 8xD • Internal Coolant • Straight Shank • Metric

Catalog Number	D1		L4 max	L3	L	L5	LS	D	KCU15
	mm	in							
B978A03000	3.000	0.1181	33.00	40.00	78.00	0.61	36.00	6.00	3782458
B978A04000	4.000	0.1575	41.00	49.00	87.00	0.82	36.00	6.00	2888306
B978A04200	4.200	0.1654	41.00	49.00	87.00	0.86	36.00	6.00	3858210
B978A04500	4.500	0.1772	41.00	49.00	87.00	0.93	36.00	6.00	3593089
B978A05000	5.000	0.1969	48.00	56.00	94.00	1.03	36.00	6.00	1913618
B978A05100	5.100	0.2008	48.00	56.00	94.00	1.05	36.00	6.00	2264933
B978A05200	5.200	0.2047	48.00	56.00	94.00	1.08	36.00	6.00	2264934
B978A05500	5.500	0.2165	48.00	56.00	94.00	1.14	36.00	6.00	1913619
B978A06000	6.000	0.2362	48.00	56.00	94.00	1.25	36.00	6.00	1913620
B978A06100	6.100	0.2402	57.00	67.00	105.00	1.27	36.00	8.00	2261701
B978A06350	6.350	0.2500	57.00	67.00	105.00	1.32	36.00	8.00	2658396
B978A06500	6.500	0.2559	57.00	67.00	105.00	1.36	36.00	8.00	1913621
B978A06800	6.800	0.2677	57.00	67.00	105.00	1.42	36.00	8.00	1913622
B978A07000	7.000	0.2756	57.00	67.00	105.00	1.46	36.00	8.00	1913623
B978A07500	7.500	0.2953	64.00	74.00	113.00	1.57	36.00	8.00	1913624
B978A08000	8.000	0.3150	64.00	74.00	113.00	1.68	36.00	8.00	1913626
B978A08100	8.100	0.3189	80.00	92.00	135.00	1.70	40.00	10.00	2264953
B978A08500	8.500	0.3346	80.00	92.00	135.00	1.79	40.00	10.00	1913627
B978A08600	8.600	0.3386	80.00	92.00	135.00	1.81	40.00	10.00	2264954
B978A08700	8.700	0.3425	80.00	92.00	135.00	1.83	40.00	10.00	2264955
B978A09000	9.000	0.3543	80.00	92.00	135.00	1.90	40.00	10.00	1913628
B978A09500	9.500	0.3740	80.00	92.00	135.00	2.00	40.00	10.00	1913629
B978A09800	9.800	0.3858	80.00	92.00	135.00	2.07	40.00	10.00	2050230
B978A10000	10.000	0.3937	80.00	92.00	135.00	2.11	40.00	10.00	1913630
B978A10200	10.200	0.4016	96.00	110.00	158.00	2.16	45.00	12.00	1913631
B978A10300	10.300	0.4055	96.00	110.00	158.00	2.18	45.00	12.00	2264939
B978A10500	10.500	0.4134	96.00	110.00	158.00	2.22	45.00	12.00	1913632
B978A11000	11.000	0.4331	96.00	110.00	158.00	2.33	45.00	12.00	1913633
B978A11400	11.400	0.4488	96.00	110.00	158.00	2.42	45.00	12.00	2045616
B978A11500	11.500	0.4528	96.00	110.00	158.00	2.44	45.00	12.00	1913634
B978A11800	11.800	0.4646	96.00	110.00	158.00	2.50	45.00	12.00	2044606
B978A12000	12.000	0.4724	96.00	110.00	158.00	2.55	45.00	12.00	1913635
B978A12500	12.500	0.4921	112.00	128.00	176.00	2.66	45.00	14.00	1913636
B978A13000	13.000	0.5118	112.00	128.00	176.00	2.77	45.00	14.00	1913637
B978A13500	13.500	0.5315	112.00	128.00	176.00	2.87	45.00	14.00	1913638
B978A14000	14.000	0.5512	112.00	128.00	176.00	2.98	45.00	14.00	1913639
B978A15000	15.000	0.5906	128.00	146.00	197.00	3.20	48.00	16.00	1913641
B978A16000	16.000	0.6299	128.00	146.00	197.00	3.42	48.00	16.00	1913643
B978A17000	17.000	0.6693	144.00	163.00	214.00	3.64	48.00	18.00	1913645
B978A17500	17.500	0.6890	144.00	163.00	214.00	3.75	48.00	18.00	1913646

HOEMAKING



KCU15A

P	●
M	●
K	●
N	●
S	●
H	●

● Primary
○ Secondary

Kenna Universal Drill • 12xD • Internal Coolant • Straight Shank • Metric

Catalog Number	D1		L4 max	L3	L	L5	LS	D	KCU15A
	mm	in							
B979A02500	2.500	0.0984	35.00	42.00	75.00	0.51	28.00	4.00	7038956
B979A03000	3.000	0.1181	44.00	52.00	93.00	0.62	36.00	6.00	7038960
B979A03500	3.500	0.1378	44.00	53.00	93.00	0.73	36.00	6.00	7038974
B979A04000	4.000	0.1575	56.00	66.00	107.00	0.83	36.00	6.00	7038976
B979A04500	4.500	0.1772	56.00	67.00	107.00	0.94	36.00	6.00	7038979
B979A05000	5.000	0.1969	70.00	83.00	125.00	1.05	36.00	6.00	7038984
B979A05500	5.500	0.2165	71.00	84.00	125.00	1.16	36.00	6.00	7038989
B979A06000	6.000	0.2362	72.00	86.00	125.00	1.27	36.00	6.00	7038994
B979A06500	6.500	0.2559	83.00	98.00	139.00	1.37	36.00	8.00	7038997
B979A06800	6.800	0.2677	83.00	99.00	139.00	1.44	36.00	8.00	7039000
B979A07000	7.000	0.2756	84.00	100.00	139.00	1.48	36.00	8.00	7039002
B979A07500	7.500	0.2953	95.00	112.00	153.00	1.59	36.00	8.00	7039004
B979A08000	8.000	0.3150	96.00	114.00	153.00	1.70	36.00	8.00	7039007
B979A08500	8.500	0.3346	117.00	137.00	185.00	1.81	40.00	10.00	7039010
B979A09000	9.000	0.3543	118.00	139.00	185.00	1.92	40.00	10.00	7039013
B979A09500	9.500	0.3740	119.00	140.00	185.00	2.02	40.00	10.00	7039014
B979A10000	10.000	0.3937	120.00	142.00	185.00	2.13	40.00	10.00	7039017
B979A11000	11.000	0.4331	142.00	167.00	218.00	2.35	45.00	12.00	7039020
B979A12000	12.000	0.4724	144.00	170.00	218.00	2.57	45.00	12.00	7039025
B979A13000	13.000	0.5118	166.00	195.00	246.00	2.79	45.00	14.00	7039029
B979A14000	14.000	0.5512	168.00	198.00	246.00	3.00	45.00	14.00	7039031

KENNA UNIVERSAL DRILLS - B97*/B73*KMG SERIES APPLICATION DATA

Grade KCU15/KCU15A - Through Coolant
Drill Diameters 2,0 mm to 20 mm (.0787" - .7874")



	Cutting Speed - Vc			METRIC										
	Range - m/min			Recommended Feed Rate by Revolution										
	min	Starting Value	max		2.0	3.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	
P	0	80	120	160	mm/r	0.04 - 0.10	0.06 - 0.12	0.07 - 0.14	0.09 - 0.19	0.11 - 0.22	0.13 - 0.26	0.15 - 0.30	0.19 - 0.36	0.24 - 0.46
	1	70	100	140	mm/r	0.05 - 0.12	0.07 - 0.14	0.08 - 0.16	0.11 - 0.22	0.13 - 0.26	0.15 - 0.31	0.18 - 0.35	0.22 - 0.42	0.28 - 0.54
	2	90	120	140	mm/r	0.05 - 0.12	0.07 - 0.14	0.08 - 0.16	0.12 - 0.22	0.14 - 0.26	0.17 - 0.31	0.20 - 0.35	0.24 - 0.42	0.31 - 0.53
	3	60	80	100	mm/r	0.06 - 0.13	0.08 - 0.15	0.09 - 0.17	0.13 - 0.23	0.15 - 0.28	0.19 - 0.33	0.22 - 0.38	0.26 - 0.47	0.34 - 0.59
	4	50	80	100	mm/r	0.06 - 0.13	0.07 - 0.15	0.08 - 0.17	0.12 - 0.23	0.14 - 0.28	0.17 - 0.33	0.19 - 0.38	0.23 - 0.47	0.29 - 0.59
	5	50	60	80	mm/r	0.06 - 0.12	0.08 - 0.13	0.10 - 0.15	0.12 - 0.19	0.16 - 0.24	0.20 - 0.27	0.24 - 0.30	0.28 - 0.38	0.32 - 0.44
6	40	50	70	mm/r	0.04 - 0.06	0.05 - 0.08	0.06 - 0.10	0.08 - 0.14	0.10 - 0.18	0.13 - 0.22	0.14 - 0.24	0.18 - 0.32	0.23 - 0.41	
M	1	30	40	50	mm/r	0.03 - 0.06	0.04 - 0.07	0.05 - 0.09	0.08 - 0.11	0.09 - 0.12	0.10 - 0.14	0.12 - 0.16	0.14 - 0.18	0.16 - 0.20
	2	40	50	60	mm/r	0.03 - 0.07	0.04 - 0.08	0.06 - 0.10	0.08 - 0.12	0.09 - 0.14	0.10 - 0.16	0.12 - 0.18	0.14 - 0.20	0.16 - 0.22
	3	30	40	50	mm/r	0.03 - 0.06	0.04 - 0.07	0.05 - 0.09	0.08 - 0.11	0.09 - 0.12	0.10 - 0.14	0.12 - 0.16	0.14 - 0.18	0.16 - 0.20
K	1	90	130	170	mm/r	0.09 - 0.17	0.11 - 0.22	0.12 - 0.24	0.16 - 0.31	0.20 - 0.38	0.23 - 0.44	0.25 - 0.49	0.31 - 0.60	0.38 - 0.74
	2	80	120	150	mm/r	0.11 - 0.15	0.12 - 0.16	0.13 - 0.19	0.16 - 0.25	0.20 - 0.31	0.23 - 0.36	0.25 - 0.40	0.31 - 0.48	0.38 - 0.60
	3	70	90	110	mm/r	0.07 - 0.15	0.08 - 0.17	0.09 - 0.19	0.12 - 0.25	0.14 - 0.30	0.17 - 0.35	0.19 - 0.40	0.24 - 0.48	0.30 - 0.60
N	1	90	230	315	mm/r	0.06 - 0.13	0.08 - 0.14	0.10 - 0.16	0.12 - 0.20	0.16 - 0.24	0.20 - 0.28	0.24 - 0.32	0.28 - 0.40	0.32 - 0.48
	2	90	225	270	mm/r	0.06 - 0.12	0.08 - 0.16	0.10 - 0.20	0.12 - 0.24	0.16 - 0.28	0.20 - 0.32	0.24 - 0.36	0.28 - 0.44	0.32 - 0.52
	3	90	180	270	mm/r	0.11 - 0.14	0.12 - 0.14	0.13 - 0.16	0.14 - 0.20	0.16 - 0.24	0.20 - 0.28	0.24 - 0.32	0.28 - 0.40	0.32 - 0.44
	4	90	135	180	mm/r	0.06 - 0.12	0.08 - 0.16	0.01 - 0.20	0.12 - 0.24	0.16 - 0.28	0.20 - 0.32	0.24 - 0.36	0.28 - 0.40	0.32 - 0.48
S	1	10	20	30	mm/r	0.02 - 0.07	0.03 - 0.08	0.04 - 0.09	0.06 - 0.11	0.07 - 0.12	0.09 - 0.14	0.10 - 0.15	0.12 - 0.17	0.14 - 0.19
	2	10	20	30	mm/r	0.02 - 0.07	0.03 - 0.08	0.04 - 0.09	0.06 - 0.11	0.07 - 0.12	0.09 - 0.14	0.10 - 0.15	0.12 - 0.17	0.14 - 0.19
	3	15	25	35	mm/r	0.02 - 0.07	0.03 - 0.08	0.04 - 0.09	0.06 - 0.11	0.07 - 0.12	0.09 - 0.14	0.10 - 0.15	0.12 - 0.17	0.14 - 0.19
	4	20	30	40	mm/r	0.02 - 0.04	0.03 - 0.05	0.03 - 0.05	0.04 - 0.08	0.05 - 0.09	0.05 - 0.11	0.07 - 0.12	0.08 - 0.13	0.09 - 0.14



Modular Drilling

KENTIP FS

THE PERFECT FUSION OF A SOLID CARBIDE AND INDEXABLE DRILL

Materials



Industries



General
Engineering



Automotive

Applications



Explore KentIP FS

HPG Inserts

- HPG geometry for maximum performance in steel applications
- Great positioning and centering capabilities for drilling without precentering, even in deeper holes
- Features KCP15A™ AlTiN PVD monolayer coating
- Enhanced thermal stability

GTP Inserts

- For universal applications in steels, stainless steels and cast iron
- Functions as pilot for deep-hole drilling applications
- GOdrill geometry with 140° point angle
- Provides excellent centering capabilities and low axial forces
- Features a through coolant design for reducing heat and efficient cooling

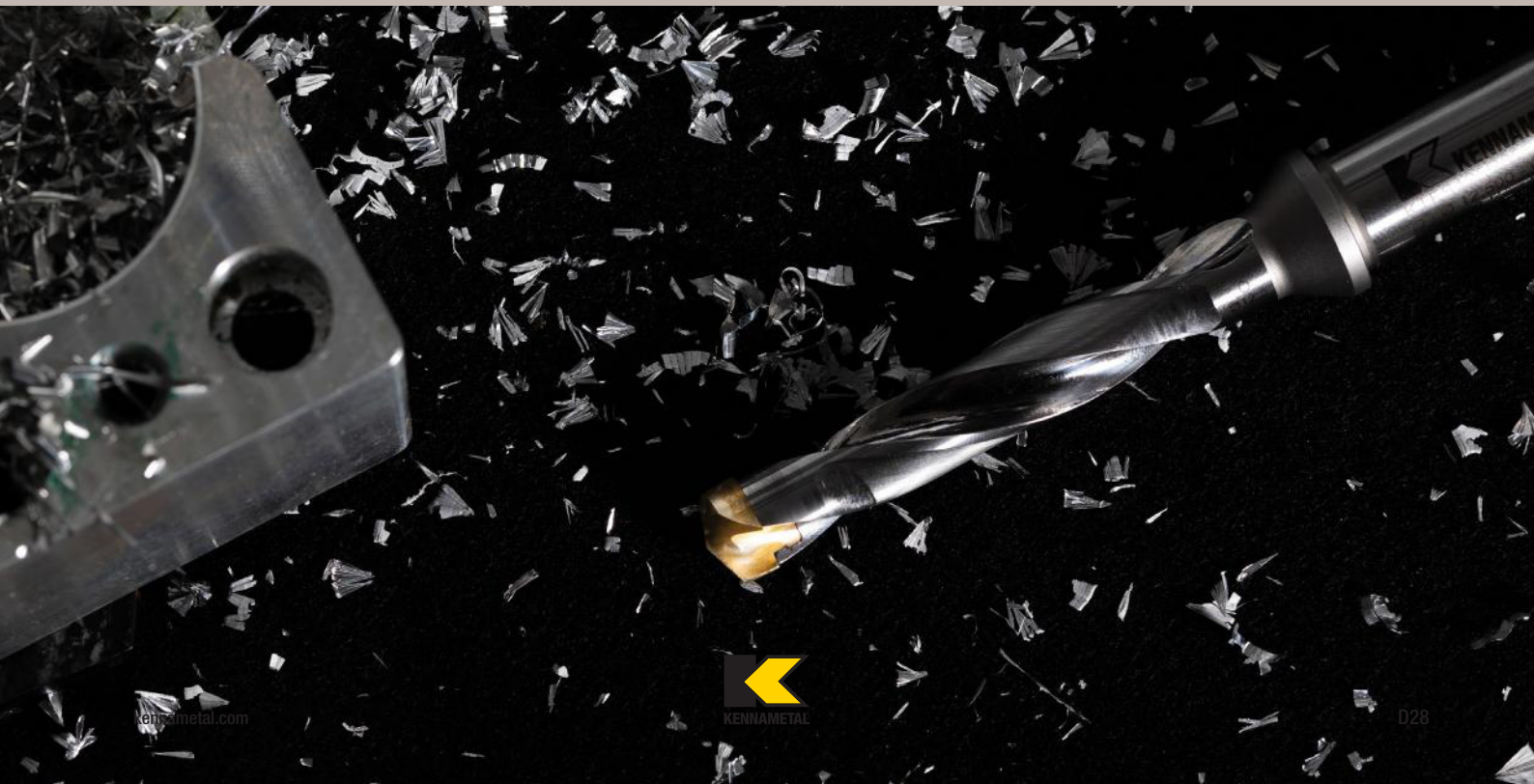
Modular Drilling with Solid Carbide Performance

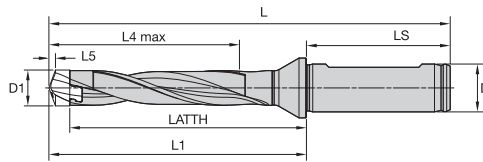
The KenTIP FS modular drill covers more applications and provides better performance than any other modular system, delivering substantial cost savings and process simplifications on your shop floor.

***Carbide where it matters* – KenTIP FS inserts cover the entire front part of the drill. The coupling is completely protected from chip flow and contact with the workpiece.**

Features & Benefits

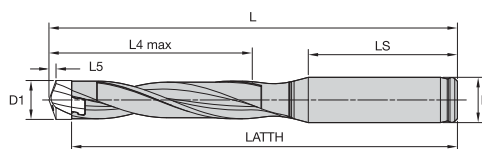
- This modular drilling system covers a 8-26mm diameter range
- Up to 5xD drilling depths
- Large, ultra-high polished chip flutes guarantee hassle-free chip evacuation, enhancing tool life and performance
- Advanced clamping mechanism allows quick and easy insert change without any clamping screws
- Coolant delivery to the drill point and to the rake for guaranteed coolant delivery where it is needed





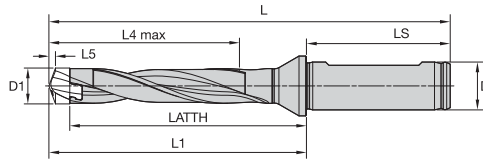
KentTIP FS • Drill Body • 3xD • SCF Shank • Metric

Order Number	Catalog Number	D1		D1 max		L	L4 max	L3	L1	LS	D	SSC
		mm	in	mm	in							
6389436	KTFS080R03SCF12M	8,00	.315	8,50	.335	92,0	26,0	34,1	47,0	45,0	12,0	F
6389437	KTFS085R03SCF12M	8,50	.335	9,00	.354	93,0	27,0	35,4	48,0	45,0	12,0	G
6389438	KTFS090R03SCF12M	9,00	.354	9,50	.374	95,0	29,0	37,8	50,0	45,0	12,0	H
6389439	KTFS095R03SCF12M	9,50	.374	10,00	.394	96,0	30,0	39,2	51,0	45,0	12,0	I
6372514	KTFS100R03SCF16M	10,00	.394	10,50	.413	104,0	32,0	41,7	56,0	48,0	16,0	J
6372515	KTFS105R03SCF16M	10,50	.413	11,00	.433	105,0	33,0	43,1	57,0	48,0	16,0	K
6372516	KTFS110R03SCF16M	11,00	.433	11,50	.453	107,0	35,0	45,6	59,0	48,0	16,0	L
6372517	KTFS115R03SCF16M	11,50	.453	12,00	.472	108,0	36,0	46,9	60,0	48,0	16,0	M
6372518	KTFS120R03SCF16M	12,00	.473	12,50	.492	110,0	38,0	49,4	62,0	48,0	16,0	N
6372519	KTFS125R03SCF16M	12,50	.492	13,00	.512	111,0	39,0	50,8	63,0	48,0	16,0	O
6372520	KTFS130R03SCF16M	13,00	.512	13,50	.531	113,0	41,0	53,3	65,0	48,0	16,0	P
6372591	KTFS135R03SCF16M	13,50	.532	14,00	.551	114,0	42,0	54,6	66,0	48,0	16,0	Q
6372592	KTFS140R03SCF16M	14,00	.551	14,50	.571	116,0	44,0	57,0	68,0	48,0	16,0	R
6372593	KTFS145R03SCF16M	14,50	.571	15,00	.591	117,0	45,0	58,5	69,0	48,0	16,0	S
6372594	KTFS150R03SCF20M	15,00	.591	16,00	.630	125,0	48,0	58,6	75,0	50,0	20,0	T
6372595	KTFS160R03SCF20M	16,00	.630	17,00	.669	128,0	51,0	62,5	78,0	50,0	20,0	U
6372596	KTFS170R03SCF20M	17,00	.669	18,00	.709	131,0	54,0	66,2	81,0	50,0	20,0	V
6389279	KTFS180R03SCF25M	18,00	.709	19,00	.748	143,0	57,0	69,0	87,0	56,0	25,0	W
6389280	KTFS190R03SCF25M	19,00	.748	20,00	.787	146,0	60,0	72,5	90,0	56,0	25,0	X
6389281	KTFS200R03SCF25M	20,00	.787	21,00	.827	149,0	63,0	76,2	93,0	56,0	25,0	Y
6389282	KTFS210R03SCF25M	21,00	.827	22,00	.866	152,0	66,0	79,8	96,0	56,0	25,0	Z
6389283	KTFS220R03SCF25M	22,00	.866	23,00	.905	155,0	69,0	83,5	99,0	56,0	25,0	ZA
6389284	KTFS230R03SCF25M	23,00	.906	24,00	.945	158,0	72,0	87,2	102,0	56,0	25,0	ZB
6389285	KTFS240R03SCF25M	24,00	.945	25,00	.984	161,0	75,0	90,8	105,0	56,0	25,0	ZC
6389286	KTFS250R03SCF25M	25,00	.984	26,00	1.024	164,0	78,0	94,5	108,0	56,0	25,0	ZD



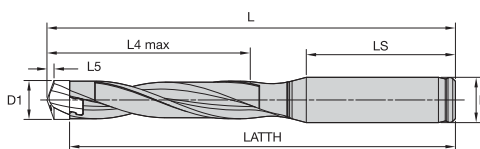
KenTIP FS • Drill Body • 3xD • SS Shank • Metric

Order Number	Catalog Number	D1		D1 max		L	L4 max	L3	LS	D	SSC
		mm	in	mm	in						
6389366	KTFS080R03SS10M	8,00	.315	8,50	.335	81,0	26,0	35,7	41,0	10,0	F
6389367	KTFS085R03SS10M	8,50	.335	9,00	.354	82,0	27,0	37,2	41,0	10,0	G
6389368	KTFS090R03SS10M	9,00	.354	9,50	.374	84,0	29,0	39,7	41,0	10,0	H
6389369	KTFS095R03SS10M	9,50	.374	10,00	.394	85,0	30,0	41,2	41,0	10,0	I
6371340	KTFS100R03SS12M	10,00	.394	10,50	.413	94,0	32,0	43,7	46,0	12,0	J
6371961	KTFS105R03SS12M	10,50	.413	11,00	.433	95,0	33,0	45,1	46,0	12,0	K
6371962	KTFS110R03SS12M	11,00	.433	11,50	.453	97,0	35,0	47,6	46,0	12,0	L
6371963	KTFS115R03SS12M	11,50	.453	12,00	.472	98,0	36,0	49,0	46,0	12,0	M
6371964	KTFS120R03SS14M	12,00	.473	12,50	.492	102,0	38,0	51,5	46,0	14,0	N
6371965	KTFS125R03SS14M	12,50	.492	13,00	.512	103,0	39,0	52,9	46,0	14,0	O
6371966	KTFS130R03SS14M	13,00	.512	13,50	.531	105,0	41,0	55,4	46,0	14,0	P
6371967	KTFS135R03SS14M	13,50	.532	14,00	.551	106,0	42,0	56,8	46,0	14,0	Q
6371968	KTFS140R03SS16M	14,00	.551	14,50	.571	112,0	44,0	59,8	49,0	16,0	R
6371969	KTFS145R03SS16M	14,50	.571	15,00	.591	113,0	45,0	60,9	49,0	16,0	S
6371970	KTFS150R03SS16M	15,00	.591	16,00	.630	116,0	48,0	64,1	49,0	16,0	T
6371971	KTFS160R03SS16M	16,00	.630	17,00	.669	119,0	51,0	68,0	49,0	16,0	U
6371972	KTFS170R03SS20M	17,00	.669	18,00	.709	127,0	54,0	73,3	51,0	20,0	V
6389147	KTFS180R03SS20M	18,00	.709	19,00	.748	130,0	57,0	76,3	51,0	20,0	W
6389148	KTFS190R03SS20M	19,00	.748	20,00	.787	133,0	60,0	79,5	51,0	20,0	X



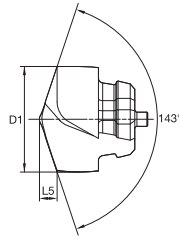
KentTIP FS • Drill Body • 5xD • SCF Shank • Metric

Order Number	Catalog Number	D1		D1 max		L	L4 max	L3	L1	L2	D	SSC
		mm	in	mm	in							
6389440	KTFS080R05SCF12M	8,00	.315	8,50	.335	109,0	43,0	51,1	64,0	45,0	12,0	F
6389441	KTFS085R05SCF12M	8,50	.335	9,00	.354	111,0	45,0	53,4	66,0	45,0	12,0	G
6389442	KTFS090R05SCF12M	9,00	.354	9,50	.374	114,0	48,0	56,8	69,0	45,0	12,0	H
6389443	KTFS095R05SCF12M	9,50	.374	10,00	.394	116,0	50,0	59,2	71,0	45,0	12,0	I
6372597	KTFS100R05SCF16M	10,00	.394	10,50	.413	125,0	53,0	62,7	77,0	48,0	16,0	J
6372598	KTFS105R05SCF16M	10,50	.413	11,00	.433	127,0	55,0	65,1	79,0	48,0	16,0	K
6372599	KTFS110R05SCF16M	11,00	.433	11,50	.453	130,0	58,0	68,6	82,0	48,0	16,0	L
6372600	KTFS115R05SCF16M	11,50	.453	12,00	.472	132,0	60,0	70,9	84,0	48,0	16,0	M
6372601	KTFS120R05SCF16M	12,00	.473	12,50	.492	135,0	63,0	74,4	87,0	48,0	16,0	N
6372602	KTFS125R05SCF16M	12,50	.492	13,00	.512	137,0	65,0	76,8	89,0	48,0	16,0	O
6372603	KTFS130R05SCF16M	13,00	.512	13,50	.531	140,0	68,0	80,3	92,0	48,0	16,0	P
6372604	KTFS135R05SCF16M	13,50	.532	14,00	.551	142,0	70,0	82,6	94,0	48,0	16,0	Q
6372605	KTFS140R05SCF16M	14,00	.551	14,50	.571	145,0	73,0	86,0	97,0	48,0	16,0	R
6372606	KTFS145R05SCF16M	14,50	.571	15,00	.591	147,0	75,0	88,5	99,0	48,0	16,0	S
6372607	KTFS150R05SCF20M	15,00	.591	16,00	.630	157,0	80,0	90,6	107,0	50,0	20,0	T
6372608	KTFS160R05SCF20M	16,00	.630	17,00	.669	162,0	85,0	96,5	112,0	50,0	20,0	U
6372609	KTFS170R05SCF20M	17,00	.669	18,00	.709	167,0	90,0	102,2	117,0	50,0	20,0	V
6389287	KTFS180R05SCF25M	18,00	.709	19,00	.748	181,0	95,0	107,0	125,0	56,0	25,0	W
6389288	KTFS190R05SCF25M	19,00	.748	20,00	.787	186,0	100,0	112,5	130,0	56,0	25,0	X
6389289	KTFS200R05SCF25M	20,00	.787	21,00	.827	191,0	105,0	118,2	135,0	56,0	25,0	Y
6389290	KTFS210R05SCF25M	21,00	.827	22,00	.866	196,0	110,0	123,8	140,0	56,0	25,0	Z
6389311	KTFS220R05SCF25M	22,00	.866	23,00	.905	201,0	115,0	129,5	145,0	56,0	25,0	ZA
6389312	KTFS230R05SCF25M	23,00	.906	24,00	.945	206,0	120,0	135,2	150,0	56,0	25,0	ZB
6389313	KTFS240R05SCF25M	24,00	.945	25,00	.984	211,0	125,0	140,8	155,0	56,0	25,0	ZC
6389314	KTFS250R05SCF25M	25,00	.984	26,00	1.024	216,0	130,0	146,5	160,0	56,0	25,0	ZD



KenTIP FS • Drill Body • 5xD • SS Shank • Metric

Order Number	Catalog Number	D1		D1 max		L	L4 max	L3	LS	D	SSC
		mm	in	mm	in						
6389385	KTFS080R05SS10M	8,00	.315	8,50	.335	98,0	43,0	52,7	41,0	10,0	F
6389386	KTFS085R05SS10M	8,50	.335	9,00	.354	100,0	45,0	55,2	41,0	10,0	G
6389387	KTFS090R05SS10M	9,00	.354	9,50	.374	103,0	48,0	58,7	41,0	10,0	H
6389388	KTFS095R05SS10M	9,50	.374	10,00	.394	105,0	50,0	61,2	41,0	10,0	I
6371973	KTFS100R05SS12M	10,00	.394	10,50	.413	115,0	53,0	64,7	46,0	12,0	J
6371974	KTFS105R05SS12M	10,50	.413	11,00	.433	117,0	55,0	67,1	46,0	12,0	K
6371975	KTFS110R05SS12M	11,00	.433	11,50	.453	120,0	58,0	70,6	46,0	12,0	L
6371976	KTFS115R05SS12M	11,50	.453	12,00	.472	122,0	60,0	73,0	46,0	12,0	M
6371977	KTFS120R05SS14M	12,00	.473	12,50	.492	127,0	63,0	76,5	46,0	14,0	N
6371978	KTFS125R05SS14M	12,50	.492	13,00	.512	129,0	65,0	78,9	46,0	14,0	O
6371979	KTFS130R05SS14M	13,00	.512	13,50	.531	132,0	68,0	82,4	46,0	14,0	P
6371980	KTFS135R05SS14M	13,50	.532	14,00	.551	134,0	70,0	84,8	46,0	14,0	Q
6371981	KTFS140R05SS16M	14,00	.551	14,50	.571	141,0	73,0	88,8	49,0	16,0	R
6371982	KTFS145R05SS16M	14,50	.571	15,00	.591	143,0	75,0	90,9	49,0	16,0	S
6371983	KTFS150R05SS16M	15,00	.591	16,00	.630	148,0	80,0	96,1	49,0	16,0	T
6371984	KTFS160R05SS16M	16,00	.630	17,00	.669	153,0	85,0	102,0	49,0	16,0	U
6371985	KTFS170R05SS20M	17,00	.669	18,00	.709	163,0	90,0	109,3	51,0	20,0	V
6389149	KTFS180R05SS20M	18,00	.709	19,00	.748	168,0	95,0	114,3	51,0	20,0	W
6389150	KTFS190R05SS20M	19,00	.748	20,00	.787	173,0	100,0	119,5	51,0	20,0	X



KentTIP FS • Insert • HPG Geometry

KCP15A

P	●
M	○
K	○
N	○
S	○
H	○

● Primary
○ Secondary

ISO Catalog Number	D1		L5		Insert Size	KCP15A
	mm	in	mm	in		
KTFSS08000HPGM	8,00	0.315	1,80	0.071	F	6388596
KTFSS08500HPGM	8,50	0.335	1,89	0.074	G	6388611
KTFSS08700HPGM	8,70	0.343	1,92	0.076	G	6388617
KTFSS09000HPGM	9,00	0.354	2,01	0.079	H	6388628
KTFSS09100HPGM	9,10	0.358	2,03	0.080	H	6388642
KTFSS09300HPGM	9,30	0.366	2,06	0.081	H	6388648
KTFSS09500HPGM	9,50	0.374	2,10	0.083	I	6388654
KTFSS10000HPGM	10,00	0.394	2,22	0.087	J	6388670
KTFSS10200HPGM	10,20	0.402	2,25	0.089	J	6388678
KTFSS10300HPGM	10,30	0.406	2,27	0.089	J	6388682
KTFSS10400HPGM	10,40	0.409	2,29	0.090	J	6388686
KTFSS10490HPGM	10,49	0.413	2,30	0.091	J	6388688
KTFSS10500HPGM	10,50	0.413	2,31	0.091	K	6388690
KTFSS10600HPGM	10,60	0.417	2,33	0.092	K	6388692
KTFSS10700HPGM	10,70	0.421	2,34	0.092	K	6388694
KTFSS11000HPGM	11,00	0.433	2,43	0.096	L	6388702
KTFSS11200HPGM	11,20	0.441	2,46	0.097	L	6388708
KTFSS11300HPGM	11,30	0.445	2,48	0.098	L	6388710
KTFSS11400HPGM	11,40	0.449	2,50	0.098	L	6388712
KTFSS11500HPGM	11,50	0.453	2,52	0.099	M	6388714
KTFSS11800HPGM	11,80	0.465	2,57	0.101	M	6388722
KTFSS12000HPGM	12,00	0.472	2,64	0.104	N	6388728
KTFSS12100HPGM	12,10	0.476	2,65	0.104	N	6388730
KTFSS12200HPGM	12,20	0.480	2,67	0.105	N	6388732
KTFSS12304HPGM	12,30	0.484	2,69	0.106	N	6388734
KTFSS12500HPGM	12,50	0.492	2,73	0.108	O	6388740
KTFSS12600HPGM	12,60	0.496	2,74	0.108	O	6388742
KTFSS12700HPGM	12,70	0.500	2,76	0.109	O	6388744
KTFSS12800HPGM	12,80	0.504	2,78	0.109	O	6388746
KTFSS13000HPGM	13,00	0.512	2,85	0.112	P	6388751
KTFSS13096HPGM	13,10	0.516	2,86	0.113	P	6388753
KTFSS13300HPGM	13,30	0.524	2,90	0.114	P	6388759
KTFSS13500HPGM	13,50	0.532	2,93	0.115	Q	6388767
KTFSS13600HPGM	13,60	0.535	2,95	0.116	Q	6388769
KTFSS13800HPGM	13,80	0.543	2,98	0.117	Q	6388773
KTFSS14000HPGM	14,00	0.551	3,05	0.120	R	6388781
KTFSS14100HPGM	14,10	0.555	3,07	0.121	R	6388784
KTFSS14200HPGM	14,20	0.559	3,09	0.122	R	6388786
KTFSS14300HPGM	14,30	0.563	3,10	0.122	R	6388789
KTFSS14500HPGM	14,50	0.571	3,14	0.124	S	6388792
KTFSS14600HPGM	14,60	0.575	3,16	0.124	S	6388793
KTFSS14800HPGM	14,80	0.583	3,19	0.126	S	6388798
KTFSS15000HPGM	15,00	0.591	3,26	0.128	T	6388800
KTFSS15100HPGM	15,10	0.595	3,28	0.129	T	6388822
KTFSS15300HPGM	15,30	0.602	3,31	0.130	T	6388824
KTFSS15500HPGM	15,50	0.610	3,34	0.132	T	6388829
KTFSS15700HPGM	15,70	0.618	3,38	0.133	T	6388831
KTFSS15800HPGM	15,80	0.622	3,39	0.134	T	6388832
KTFSS16000HPGM	16,00	0.630	3,48	0.137	U	6388420
KTFSS16100HPGM	16,10	0.634	3,50	0.138	U	6388534
KTFSS16271HPGM	16,27	0.641	3,53	0.139	U	6388536
KTFSS16300HPGM	16,30	0.642	3,53	0.139	U	6388537
KTFSS16500HPGM	16,50	0.650	3,57	0.141	U	6388540
KTFSS16600HPGM	16,60	0.654	3,58	0.141	U	6388542
KTFSS16700HPGM	16,70	0.658	3,60	0.142	U	6388546
KTFSS16800HPGM	16,80	0.661	3,62	0.143	U	6388548
KTFSS17000HPGM	17,00	0.669	3,66	0.144	V	6388552
KTFSS17200HPGM	17,20	0.677	3,69	0.145	V	6388558
KTFSS17500HPGM	17,50	0.689	3,74	0.147	V	6388568
KTFSS17600HPGM	17,60	0.693	3,76	0.148	V	6388570

HOLEMAKING

KCP15A

P	●
M	○
K	○
N	○
S	○
H	○

● Primary
○ Secondary

KenTIP FS • Insert • HPG Geometry - continued

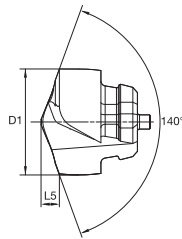
ISO Catalog Number	D1		L5		Insert Size	KCP15A
	mm	in	mm	in		
KTFSS17700HPGM	17,70	0.697	3,77	0.148	V	6388572
KTFSS17800HPGM	17,80	0.701	3,79	0.149	V	6388574
KTFSS18000HPGM	18,00	0.709	3,89	0.153	W	6388579
KTFSS18300HPGM	18,30	0.721	3,94	0.155	W	6388587
KTFSS18500HPGM	18,50	0.728	3,98	0.157	W	6388591
KTFSS18600HPGM	18,60	0.732	3,99	0.157	W	6388593
KTFSS18800HPGM	18,80	0.740	4,03	0.159	W	6388600
KTFSS18900HPGM	18,90	0.744	4,04	0.159	W	6388601
KTFSS19000HPGM	19,00	0.748	4,07	0.160	X	6388603
KTFSS19050HPGM	19,05	0.750	4,08	0.161	X	6388605
KTFSS19100HPGM	19,10	0.752	4,09	0.161	X	6388607
KTFSS19200HPGM	19,20	0.756	4,10	0.161	X	6388609
KTFSS19300HPGM	19,30	0.760	4,12	0.162	X	6388618
KTFSS19500HPGM	19,50	0.768	4,15	0.163	X	6388627
KTFSS19800HPGM	19,80	0.780	4,20	0.165	X	6388643
KTFSS20000HPGM	20,00	0.787	4,31	0.170	Y	6388649
KTFSS20500HPGM	20,50	0.807	4,39	0.173	Y	6388659
KTFSS21000HPGM	21,00	0.827	4,48	0.176	Z	6388673
KTFSS21500HPGM	21,50	0.847	4,56	0.180	Z	6388685
KTFSS22000HPGM	22,00	0.866	4,72	0.186	ZA	6388695
KTFSS22500HPGM	22,50	0.886	4,80	0.189	ZA	6388705
KTFSS23000HPGM	23,00	0.906	4,89	0.193	ZB	6388715
KTFSS23500HPGM	23,50	0.925	4,98	0.196	ZB	6388727
KTFSS24000HPGM	24,00	0.945	5,13	0.202	ZC	6388739
KTFSS24500HPGM	24,50	0.965	5,21	0.205	ZC	6388750
KTFSS25000HPGM	25,00	0.984	5,30	0.209	ZD	6388762
KTFSS26000HPGM	26,00	1.024	5,47	0.215	ZD	6388790

HPG • Tolerances

Tolerance • Metric	
D1 metric	tolerance k8
6	0,000/+0,018
>6-10	0,000/+0,022
>10-18	0,000/+0,027
>18-26	0,000/+0,033

KENTIP FS HPG - APPLICATION DATA

Material Group	Cutting Speed — vc			Metric										
	Range — m/min			Recommended Feed Rate per Rev										
	min	Starting Value	max		6,0	8,0	10,0	12,0	14,0	16,0	20,0	24,0	26,0	
P	0	95	125	175	mm/r	0,10-0,19	0,11-0,22	0,13-0,30	0,15-0,37	0,17-0,41	0,19-0,45	0,24-0,52	0,28-0,60	0,29-0,62
	1	90	130	170	mm/r	0,10-0,19	0,11-0,22	0,13-0,30	0,15-0,37	0,17-0,41	0,19-0,45	0,24-0,52	0,28-0,60	0,29-0,62
	2	100	140	180	mm/r	0,10-0,19	0,11-0,26	0,13-0,34	0,15-0,41	0,17-0,45	0,19-0,49	0,24-0,56	0,28-0,64	0,29-0,62
	3	60	100	130	mm/r	0,10-0,17	0,11-0,31	0,12-0,36	0,14-0,41	0,16-0,44	0,18-0,46	0,23-0,51	0,30-0,56	0,31-0,58
	4	60	100	130	mm/r	0,10-0,17	0,11-0,31	0,12-0,36	0,14-0,41	0,16-0,44	0,18-0,46	0,23-0,51	0,25-0,56	0,26-0,58
	5	60	80	100	mm/r	0,09-0,16	0,10-0,22	0,11-0,28	0,12-0,34	0,14-0,37	0,16-0,40	0,20-0,46	0,24-0,52	0,25-0,54
K	6	60	70	80	mm/r	0,09-0,16	0,10-0,22	0,11-0,28	0,12-0,34	0,14-0,37	0,16-0,40	0,20-0,46	0,24-0,52	0,25-0,54
	1	80	120	170	mm/r	0,12-0,21	0,14-0,34	0,16-0,39	0,19-0,45	0,23-0,50	0,26-0,58	0,30-0,64	0,36-0,76	0,37-0,79
	2	80	110	120	mm/r	0,12-0,21	0,14-0,34	0,16-0,39	0,19-0,45	0,23-0,50	0,26-0,58	0,30-0,64	0,36-0,76	0,37-0,79
	3	50	80	100	mm/r	0,11-0,19	0,13-0,27	0,15-0,33	0,17-0,37	0,19-0,42	0,21-0,46	0,28-0,54	0,32-0,63	0,33-0,66



KentTIP FS • Insert • GTP Geometry

KC7325

P	●
M	●
K	●
N	●
S	○
H	○

● Primary
○ Secondary

ISO Catalog Number	D1		L5		Insert Size	KC7325
	mm	in	mm	in		
KTFST0800GTPM	8,00	0.315	1,28	0.050	F	7002025
KTFST08300GTPM	8,30	0.327	1,33	0.052	F	7002028
KTFST08500GTPM	8,50	0.335	1,36	0.054	G	7002030
KTFST08600GTPM	8,60	0.339	1,38	0.054	G	7002051
KTFST08700GTPM	8,70	0.343	1,39	0.055	G	7002052
KTFST09000GTPM	9,00	0.354	1,44	0.057	H	7002056
KTFST09300GTPM	9,30	0.366	1,49	0.059	H	7002058
KTFST09500GTPM	9,50	0.374	1,53	0.060	I	7002071
KTFST09600GTPM	9,60	0.378	1,54	0.061	I	7002074
KTFST09800GTPM	9,80	0.386	1,58	0.062	I	7002076
KTFST10000GTPM	10,00	0.394	1,61	0.063	J	7002079
KTFST10200GTPM	10,20	0.402	1,64	0.065	J	7002081
KTFST10300GTPM	10,30	0.406	1,66	0.065	J	7002430
KTFST10500GTPM	10,50	0.413	1,69	0.067	K	7002513
KTFST10700GTPM	10,70	0.421	1,73	0.068	K	7002515
KTFST11000GTPM	11,00	0.433	1,78	0.070	L	7002519
KTFST11100GTPM	11,10	0.437	1,79	0.071	L	7002520
KTFST11200GTPM	11,20	0.441	1,81	0.071	L	7002522
KTFST11300GTPM	11,30	0.445	1,83	0.072	L	7002523
KTFST11500GTPM	11,50	0.453	1,86	0.073	M	7002524
KTFST11800GTPM	11,80	0.465	1,91	0.075	M	7002528
KTFST11900GTPM	11,90	0.469	1,93	0.076	M	7002529
KTFST12000GTPM	12,00	0.472	1,94	0.076	N	7002531
KTFST12100GTPM	12,10	0.476	1,96	0.077	N	7002532
KTFST12200GTPM	12,20	0.480	1,98	0.078	N	7002533
KTFST12304GTPM	12,30	0.484	1,99	0.078	N	7002535
KTFST12500GTPM	12,50	0.492	2,03	0.080	O	7002539
KTFST12600GTPM	12,60	0.496	2,04	0.080	O	7002540
KTFST12700GTPM	12,70	0.500	2,06	0.081	O	7002541
KTFST12900GTPM	12,90	0.508	2,09	0.082	O	7002543
KTFST13000GTPM	13,00	0.512	2,11	0.083	P	7002544
KTFST13096GTPM	13,10	0.516	2,13	0.084	P	7002545
KTFST13200GTPM	13,20	0.520	2,14	0.084	P	7002546
KTFST13300GTPM	13,30	0.524	2,16	0.085	P	7005301
KTFST13492GTPM	13,49	0.531	2,19	0.086	P	7005304
KTFST13500GTPM	13,50	0.532	2,19	0.086	Q	7005305
KTFST13600GTPM	13,60	0.535	2,21	0.087	Q	7005306
KTFST13700GTPM	13,70	0.539	2,23	0.088	Q	7005307
KTFST14000GTPM	14,00	0.551	2,28	0.090	R	7005311
KTFST14100GTPM	14,10	0.555	2,29	0.090	R	7005312
KTFST14200GTPM	14,20	0.559	2,31	0.091	R	7005313
KTFST14400GTPM	14,40	0.567	2,34	0.092	R	7005316
KTFST14500GTPM	14,50	0.571	2,36	0.093	S	7005317
KTFST14600GTPM	14,60	0.575	2,38	0.094	S	7005318
KTFST15000GTPM	15,00	0.591	2,44	0.096	T	7005321
KTFST15100GTPM	15,10	0.595	2,46	0.097	T	7005323
KTFST15200GTPM	15,20	0.598	2,48	0.098	T	7005324
KTFST15300GTPM	15,30	0.602	2,49	0.098	T	7005325
KTFST15500GTPM	15,50	0.610	2,53	0.100	T	7005327
KTFST15600GTPM	15,60	0.614	2,54	0.100	T	7005328
KTFST15700GTPM	15,70	0.618	2,56	0.101	T	7005329
KTFST15800GTPM	15,80	0.622	2,58	0.102	T	7005330
KTFST15875GTPM	15,88	0.625	2,59	0.102	T	7005331
KTFST16000GTPM	16,00	0.630	2,61	0.103	U	7005332
KTFST16100GTPM	16,10	0.634	2,63	0.104	U	7005333
KTFST16200GTPM	16,20	0.638	2,65	0.104	U	7005334
KTFST16300GTPM	16,30	0.642	2,66	0.105	U	7005335
KTFST16500GTPM	16,50	0.650	2,70	0.106	U	7004192
KTFST16700GTPM	16,70	0.658	2,73	0.108	U	7004195
KTFST17000GTPM	17,00	0.669	2,78	0.109	V	7004198

HOLEMAKING

KC7325

P	●
M	●
K	●
N	●
S	○
H	○

● Primary
○ Secondary

KenTIP FS • Insert • GTP Geometry - continued

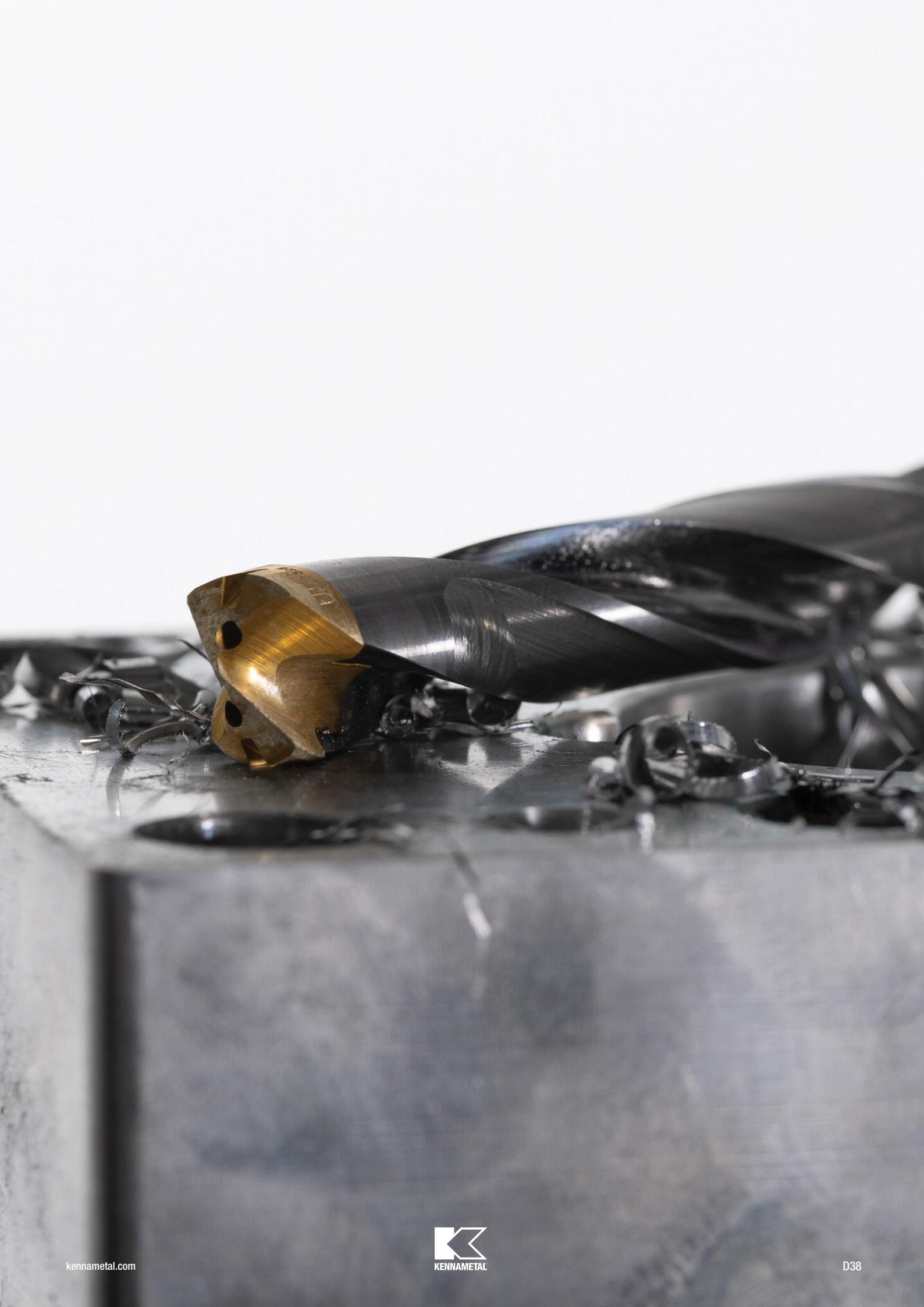
ISO Catalog Number	D1		L5		Insert Size	KC7325
	mm	in	mm	in		
KTFST17100GTPM	17,10	0.673	2,80	0.110	V	7004200
KTFST17300GTPM	17,30	0.681	2,83	0.111	V	7004222
KTFST17500GTPM	17,50	0.689	2,86	0.113	V	7004225
KTFST17600GTPM	17,60	0.693	2,88	0.113	V	7004226
KTFST17700GTPM	17,70	0.697	2,90	0.114	V	7004227
KTFST17800GTPM	17,80	0.701	2,91	0.115	V	7004228
KTFST17900GTPM	17,90	0.705	2,93	0.115	V	7004230
KTFST18000GTPM	18,00	0.709	2,95	0.116	W	7004231
KTFST18400GTPM	18,40	0.724	3,01	0.119	W	7004235
KTFST18500GTPM	18,50	0.728	3,03	0.119	W	7004236
KTFST18700GTPM	18,70	0.736	3,07	0.121	W	7004238
KTFST18800GTPM	18,80	0.740	3,08	0.121	W	7004239
KTFST19000GTPM	19,00	0.748	3,12	0.123	X	7004241
KTFST19100GTPM	19,10	0.752	3,13	0.123	X	7004243
KTFST19200GTPM	19,20	0.756	3,15	0.124	X	7004244
KTFST19300GTPM	19,30	0.760	3,17	0.125	X	7002302
KTFST19500GTPM	19,50	0.768	3,20	0.126	X	7002303
KTFST19700GTPM	19,70	0.776	3,23	0.127	X	7002304
KTFST19800GTPM	19,80	0.780	3,25	0.128	X	7002305
KTFST20000GTPM	20,00	0.787	3,28	0.129	Y	7002308
KTFST20100GTPM	20,10	0.791	3,30	0.130	Y	7002309
KTFST20200GTPM	20,20	0.795	3,32	0.131	Y	7002310
KTFST20300GTPM	20,30	0.799	3,33	0.131	Y	7002451
KTFST20500GTPM	20,50	0.807	3,37	0.133	Y	7002452
KTFST21000GTPM	21,00	0.827	3,45	0.136	Z	7002455
KTFST21200GTPM	21,20	0.835	3,49	0.137	Z	7002457
KTFST21500GTPM	21,50	0.847	3,54	0.139	Z	7002458
KTFST21800GTPM	21,80	0.858	3,59	0.141	Z	7002459
KTFST22000GTPM	22,00	0.866	3,62	0.143	ZA	7002460
KTFST22200GTPM	22,20	0.874	3,65	0.144	ZA	7002461
KTFST22500GTPM	22,50	0.886	3,70	0.146	ZA	7002463
KTFST22800GTPM	22,80	0.898	3,75	0.148	ZA	7002464
KTFST23000GTPM	23,00	0.906	3,79	0.149	ZB	7002465
KTFST23500GTPM	23,50	0.925	3,87	0.152	ZB	7002467
KTFST24000GTPM	24,00	0.945	3,96	0.156	ZC	7002469
KTFST24500GTPM	24,50	0.965	4,04	0.159	ZC	7002470
KTFST25000GTPM	25,00	0.984	4,13	0.163	ZD	7002472
KTFST25400GTPM	25,40	1.000	4,19	0.165	ZD	7002473
KTFST25500GTPM	25,50	1.004	4,21	0.166	ZD	7002474
KTFST26000GTPM	26,00	1.024	4,29	0.169	ZD	7002476

GTP • Tolerances

Tolerance • Metric	
D1 metric	tolerance S8
6	0,019/+0,037
>6-10	0,023/+0,045
>10-18	0,028/+0,055
>18-26	0,035/+0,068

KENTIP FS GTP - RECOMMENDED FEED RATES

Material Group	Cutting Speed — vc				Metric								
	Range — m/min				Recommended Feed Rate (f) by Diameter								
	min	Starting Value	max		6,0	8,0	10,0	12,0	16,0	20,0	24,0	26,0	
P	0	70	125	175	mm/r	0,09–0,18	0,10–0,21	0,12–0,24	0,14–0,30	0,18–0,36	0,23–0,42	0,27–0,48	0,28–0,50
	1	70	120	170	mm/r	0,09–0,18	0,10–0,22	0,12–0,24	0,14–0,30	0,18–0,36	0,23–0,42	0,27–0,48	0,28–0,50
	2	90	135	180	mm/r	0,09–0,18	0,10–0,25	0,12–0,27	0,14–0,33	0,18–0,39	0,23–0,45	0,27–0,51	0,28–0,50
	3	60	95	130	mm/r	0,09–0,16	0,10–0,28	0,11–0,29	0,13–0,33	0,17–0,37	0,22–0,41	0,28–0,45	0,30–0,46
	4	50	90	130	mm/r	0,09–0,16	0,10–0,28	0,11–0,29	0,13–0,33	0,17–0,37	0,22–0,41	0,24–0,45	0,25–0,46
	5	30	65	100	mm/r	0,09–0,15	0,10–0,18	0,10–0,22	0,11–0,27	0,15–0,32	0,19–0,37	0,23–0,42	0,24–0,43
M	6	40	60	80	mm/r	0,09–0,15	0,09–0,18	0,10–0,22	0,10–0,27	0,15–0,32	0,19–0,37	0,23–0,42	0,24–0,43
	1	20	55	90	mm/r	0,07–0,12	0,08–0,13	0,08–0,14	0,10–0,18	0,12–0,22	0,15–0,26	0,18–0,27	0,19–0,28
	2	30	60	90	mm/r	0,07–0,12	0,08–0,13	0,08–0,16	0,10–0,18	0,12–0,22	0,15–0,26	0,18–0,27	0,19–0,28
K	3	20	40	60	mm/r	0,07–0,12	0,08–0,12	0,08–0,14	0,10–0,16	0,12–0,22	0,15–0,26	0,18–0,27	0,19–0,28
	1	80	140	200	mm/r	0,11–0,26	0,13–0,32	0,15–0,44	0,18–0,49	0,25–0,58	0,29–0,64	0,35–0,70	0,36–0,75
	2	80	130	180	mm/r	0,11–0,26	0,13–0,31	0,15–0,36	0,18–0,40	0,25–0,48	0,29–0,60	0,35–0,70	0,36–0,75
S	3	70	95	120	mm/r	0,10–0,22	0,12–0,25	0,15–0,35	0,16–0,40	0,20–0,48	0,26–0,60	0,30–0,63	0,32–0,65
	1	10	20	30	mm/r	0,05–0,09	0,06–0,10	0,07–0,12	0,08–0,13	0,10–0,15	0,11–0,17	0,12–0,19	0,13–0,21
	2	10	20	30	mm/r	0,05–0,09	0,06–0,10	0,07–0,12	0,08–0,13	0,10–0,15	0,11–0,17	0,12–0,19	0,13–0,21
	3	15	25	35	mm/r	0,05–0,09	0,06–0,10	0,07–0,12	0,08–0,13	0,10–0,15	0,11–0,17	0,12–0,19	0,13–0,21
	4	20	30	40	mm/r	0,04–0,07	0,05–0,09	0,05–0,10	0,07–0,12	0,08–0,13	0,08–0,13	0,09–0,15	0,10–0,17



Modular Drilling

KSEM

FOR INTERMEDIATE
DIAMETER RANGE

Materials



Industries



General
Engineering



Oil & Gas



Wind & Solar



Aerospace



Automotive

Applications



KSEM MODULAR DRILL FOR THE INTERMEDIATE DIAMETER RANGE

The KSEM modular drill covers drilling applications in a diameter range of 12,5-32mm up to 7xD. KSEM enables maximum feed rates for the highest productivity.

With four large contact surfaces, the insert pocket seat provides maximum stability, even in challenging conditions like stacked plates, cross holes and inclined exits.





HPG geometry for alloyed steels. With straight cutting edge for maximum stability in short chipping steels and interrupted cuts



HPL geometry for stainless steels. The innovative cutting geometry creates two chips in each chip flute for perfect chip evacuation



FEG geometry for flat bottom hole drilling and piloting on inclined entries in steels and cast iron

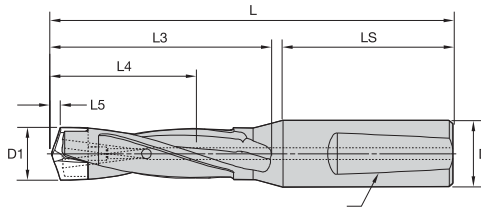
The central locking screw mechanism ensures secure clamping of the insert, resulting in process safety and long tool life for both the drill body and the insert. Material specific point geometries provide versatility in a wide range of materials

The KSEM carbide inserts can be reconditioned, further extending the tool life, reducing tool inventory and tool cost



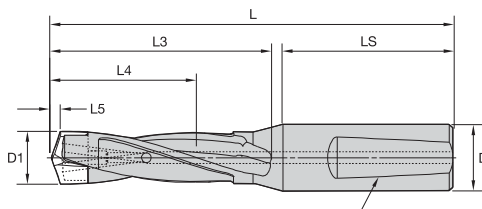
Explore KSEM Modular Drill System

Internal coolant supply delivered directly to the cutting zone for extended tool life and efficient chip evacuation



KSEM • Drill Body • 3xD • WN Shank • Metric

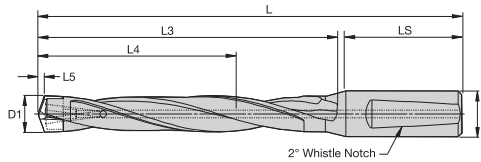
Order Number	Catalog Number	D1		D1 max		L	L4 max	L3	LS	L5	D	SSC
		mm	in	mm	in							
1774499	KSEM125R3WN16M	12,50	.492	13,00	.512	111,0	42,0	59,0	48,0	2,0	16,0	C
1792262	KSEM130R3WN16M	13,00	.512	13,50	.531	111,0	42,0	59,0	48,0	2,1	16,0	C
1792293	KSEM135R3WN16M	13,50	.532	13,50	.531	111,0	42,0	59,0	48,0	2,1	16,0	C
1792295	KSEM140R3WN16M	14,00	.551	14,50	.571	111,0	42,0	59,0	48,0	2,2	16,0	B
1792298	KSEM150R3WN20M	15,00	.591	15,50	.610	122,0	48,0	68,0	50,0	2,4	20,0	A
1245980	KSEM160R3WN20M	16,00	.630	16,50	.650	122,0	48,0	67,0	50,0	2,5	20,0	1
1245986	KSEM165R3WN20M	16,50	.650	17,00	.669	130,0	54,0	75,0	50,0	2,6	20,0	1
1245991	KSEM170R3WN20M	17,00	.669	17,50	.689	130,0	54,0	75,0	50,0	2,7	20,0	1
1245995	KSEM175R3WN20M	17,50	.689	18,00	.709	130,0	54,0	75,0	50,0	2,8	20,0	1
1245999	KSEM180R3WN20M	18,00	.709	18,00	.709	130,0	54,0	75,0	50,0	2,9	20,0	1
1246003	KSEM185R3WN25M	18,50	.728	19,00	.748	144,0	60,0	83,0	56,0	2,9	25,0	2
1246007	KSEM190R3WN25M	19,00	.748	19,50	.768	144,0	60,0	83,0	56,0	3,0	25,0	2
1246011	KSEM195R3WN25M	19,50	.768	20,00	.787	144,0	60,0	83,0	56,0	3,1	25,0	2
1246014	KSEM200R3WN25M	20,00	.787	20,50	.807	153,0	60,0	92,0	56,0	3,2	25,0	3
1246018	KSEM205R3WN25M	20,50	.807	21,00	.827	153,0	66,0	92,0	56,0	3,3	25,0	3
1246022	KSEM210R3WN25M	21,00	.827	21,50	.847	153,0	66,0	92,0	56,0	3,3	25,0	3
1246026	KSEM215R3WN25M	21,50	.847	22,00	.866	153,0	66,0	92,0	56,0	3,4	25,0	3
1246031	KSEM220R3WN25M	22,00	.866	22,00	.866	153,0	66,0	92,0	56,0	3,5	25,0	3
1246034	KSEM225R3WN25M	22,50	.886	23,00	.906	161,0	72,0	100,0	56,0	3,6	25,0	4
1246037	KSEM230R3WN25M	23,00	.906	23,50	.925	161,0	72,0	100,0	56,0	3,7	25,0	4
1246041	KSEM235R3WN25M	23,50	.925	24,00	.945	161,0	72,0	100,0	56,0	3,7	25,0	4
1246046	KSEM240R3WN25M	24,00	.945	24,00	.945	161,0	72,0	100,0	56,0	3,8	25,0	4
1246051	KSEM245R3WN32M	24,50	.965	25,00	.984	174,0	78,0	109,0	60,0	3,9	32,0	5
1246055	KSEM250R3WN32M	25,00	.984	25,50	1.004	174,0	78,0	109,0	60,0	3,8	32,0	5
1246059	KSEM255R3WN32M	25,50	1.004	26,00	1.024	174,0	78,0	109,0	60,0	3,9	32,0	5
1246063	KSEM260R3WN32M	26,00	1.024	26,00	1.024	174,0	78,0	109,0	60,0	4,0	32,0	5
1246067	KSEM265R3WN32M	26,50	1.043	27,00	1.063	182,0	84,0	117,0	60,0	4,1	32,0	6
1246071	KSEM270R3WN32M	27,00	1.063	27,50	1.083	182,0	84,0	117,0	60,0	4,2	32,0	6
1246075	KSEM275R3WN32M	27,50	1.083	28,00	1.102	182,0	84,0	117,0	60,0	4,2	32,0	6
1246079	KSEM280R3WN32M	28,00	1.102	28,00	1.102	182,0	84,0	117,0	60,0	4,3	32,0	6
1279902	KSEM285R3WN32M	28,50	1.122	29,00	1.142	190,0	90,0	125,0	60,0	4,4	32,0	7
1246085	KSEM290R3WN32M	29,00	1.142	29,50	1.161	190,0	90,0	125,0	60,0	4,5	32,0	7
1246089	KSEM295R3WN32M	29,50	1.161	30,00	1.181	190,0	90,0	125,0	60,0	4,5	32,0	7
1246093	KSEM300R3WN32M	30,00	1.181	30,00	1.181	190,0	90,0	125,0	60,0	4,6	32,0	7
1246098	KSEM305R3WN32M	30,50	1.201	31,00	1.221	200,0	96,0	135,0	60,0	4,7	32,0	8
1246102	KSEM310R3WN32M	31,00	1.221	31,50	1.240	200,0	96,0	135,0	60,0	4,8	32,0	8



KSEM • Drill Body • 5xD • WN Shank • Metric

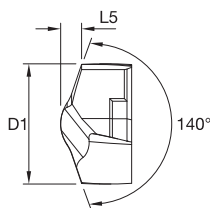
Order Number	Catalog Number	D1		D1 max		L	L4 max	L3	LS	L5	D	SSC
		mm	in	mm	in							
1772747	KSEM125R5WN16M	12,50	.492	13,00	.512	139,0	70,0	87,0	48,0	2,0	16,0	C
1792301	KSEM130R5WN16M	13,00	.512	13,50	.532	139,0	70,0	87,0	48,0	2,1	16,0	C
1792323	KSEM135R5WN16M	13,50	.532	13,60	.535	139,0	70,0	87,0	48,0	2,4	16,0	C
1792302	KSEM136R5WN16M	13,51	.532	14,00	.551	139,0	70,0	87,0	48,0	2,2	16,0	B
1772748	KSEM140R5WN16M	14,00	.551	14,50	.571	139,0	70,0	87,0	48,0	2,2	16,0	B
1792325	KSEM145R5WN20M	14,50	.571	14,50	.571	154,0	80,0	100,0	50,0	2,3	20,0	B
1792326	KSEM146R5WN20M	14,51	.571	15,00	.591	154,0	80,0	100,0	50,0	2,3	20,0	A
1772749	KSEM150R5WN20M	15,00	.591	15,50	.610	154,0	80,0	100,0	50,0	2,4	20,0	A
1792328	KSEM155R5WN20M	15,50	.610	15,87	.625	154,0	80,0	100,0	50,0	2,5	20,0	A
1245983	KSEM160R5WN20M	16,00	.630	16,50	.650	154,0	80,0	99,0	50,0	2,5	20,0	1
1245988	KSEM165R5WN20M	16,50	.650	17,00	.669	166,0	90,0	111,0	50,0	2,6	20,0	1
1245993	KSEM170R5WN20M	17,00	.669	17,50	.689	166,0	90,0	111,0	50,0	2,7	20,0	1
1245997	KSEM175R5WN20M	17,50	.689	18,00	.709	166,0	90,0	112,0	50,0	3,1	20,0	1
1246001	KSEM180R5WN20M	18,00	.709	18,00	.709	166,0	90,0	111,0	50,0	2,9	20,0	1
1592465	KSEM181R5WN25M	18,01	.709	18,50	.728	184,0	100,0	124,0	56,0	3,2	25,0	2
1246005	KSEM185R5WN25M	18,50	.728	19,00	.748	184,0	100,0	123,0	56,0	2,9	25,0	2
1246008	KSEM190R5WN25M	19,00	.749	19,50	.768	184,0	100,0	124,0	56,0	3,3	25,0	2
1246013	KSEM195R5WN25M	19,50	.768	20,00	.787	184,0	100,0	123,0	56,0	3,1	25,0	2
1246017	KSEM200R5WN25M	20,00	.788	20,50	.807	197,0	100,0	137,0	56,0	3,2	25,0	3
1246021	KSEM205R5WN25M	20,50	.807	21,00	.827	197,0	110,0	137,0	56,0	3,3	25,0	3
1246024	KSEM210R5WN25M	21,00	.827	21,50	.847	197,0	106,3	137,0	56,0	3,7	25,0	3
1246028	KSEM215R5WN25M	21,50	.847	22,00	.866	197,0	110,0	136,0	56,0	3,4	25,0	3
1246032	KSEM220R5WN25M	22,00	.866	22,00	.866	197,0	110,0	136,0	56,0	3,5	25,0	3
1592466	KSEM221R5WN25M	22,01	.867	22,50	.886	209,0	120,0	148,0	56,0	3,9	25,0	4
1246036	KSEM225R5WN25M	22,50	.886	23,00	.906	209,0	120,0	148,0	56,0	3,6	25,0	4
1246040	KSEM230R5WN25M	23,00	.906	23,50	.925	209,0	120,0	148,0	56,0	3,7	25,0	4
1246044	KSEM235R5WN25M	23,50	.925	24,00	.945	209,0	120,0	148,0	56,0	3,7	25,0	4
1246048	KSEM240R5WN25M	24,00	.945	24,00	.945	209,0	120,0	148,0	56,0	3,8	25,0	4
1592467	KSEM241R5WN32M	24,01	.945	24,50	.965	226,0	130,0	161,0	60,0	4,2	32,0	5
1246053	KSEM245R5WN32M	24,50	.965	25,00	.984	226,0	130,0	161,0	60,0	3,9	32,0	5
1246057	KSEM250R5WN32M	25,00	.984	25,50	1.004	226,0	130,0	161,0	60,0	3,8	32,0	5
1246061	KSEM255R5WN32M	25,50	1.004	26,00	1.024	226,0	130,0	161,0	60,0	3,9	32,0	5
1246065	KSEM260R5WN32M	26,00	1.024	26,00	1.024	226,0	130,0	161,0	60,0	4,0	32,0	5
1592468	KSEM261R5WN32M	26,01	1.024	26,50	1.043	238,0	140,0	174,0	60,0	4,6	32,0	6
1246069	KSEM265R5WN32M	26,50	1.043	27,00	1.063	238,0	140,0	173,0	60,0	4,1	32,0	6
1246073	KSEM270R5WN32M	27,00	1.063	27,50	1.083	238,0	140,0	174,0	60,0	4,7	32,0	6
1246077	KSEM275R5WN32M	27,50	1.083	28,00	1.102	238,0	140,0	173,0	60,0	4,2	32,0	6
1246081	KSEM280R5WN32M	28,00	1.102	28,00	1.102	238,0	140,0	173,0	60,0	4,3	32,0	6
1592469	KSEM281R5WN32M	28,02	1.103	28,50	1.122	250,0	150,0	186,0	60,0	4,3	32,0	7
1246083	KSEM285R5WN32M	28,50	1.122	29,00	1.142	250,0	150,0	185,0	60,0	4,4	32,0	7
1246088	KSEM290R5WN32M	29,00	1.142	29,50	1.161	250,0	150,0	185,0	60,0	4,5	32,0	7
1246092	KSEM295R5WN32M	29,50	1.161	30,00	1.181	250,0	150,0	185,0	60,0	4,5	32,0	7
1246095	KSEM300R5WN32M	30,00	1.181	30,00	1.181	250,0	150,0	185,0	60,0	4,6	32,0	7
1592491	KSEM301R5WN32M	30,01	1.182	30,50	1.201	264,0	160,0	200,0	60,0	5,3	32,0	8
1246099	KSEM305R5WN32M	30,50	1.201	31,00	1.221	264,0	160,0	199,0	60,0	4,7	32,0	8
1246103	KSEM310R5WN32M	31,00	1.221	31,50	1.240	264,0	160,0	199,0	60,0	4,8	32,0	8

HOLEMAKING



KSEM • Drill Body • 7xD • WN Shank • Metric

Order Number	Catalog Number	D1		D1 max		L	L4 max	L3	LS	L5	D	SSC
		mm	in	mm	in							
1797157	KSEM125R7WN16M	12,50	.492	13,00	.512	167,0	98,0	115,0	48,0	2,0	16,0	C
1797158	KSEM130R7WN16M	13,00	.512	13,50	.531	167,0	98,0	115,0	48,0	2,1	16,0	C
1797159	KSEM135R7WN16M	13,50	.532	13,50	.531	167,0	98,0	115,0	48,0	2,1	16,0	C
1797161	KSEM140R7WN16M	14,00	.551	14,50	.570	167,0	95,5	115,0	48,0	2,5	16,0	B
1797203	KSEM146R7WN20M	14,51	.571	15,00	.591	186,0	112,0	132,0	50,0	2,3	20,0	A
1797204	KSEM150R7WN20M	15,00	.591	15,50	.610	186,0	112,0	132,0	50,0	2,4	20,0	A
1797205	KSEM155R7WN20M	15,50	.610	15,87	.625	186,0	112,0	132,0	50,0	2,5	20,0	A
1311193	KSEM160R7WN20M	16,00	.630	16,50	.650	186,0	112,0	131,0	50,0	2,5	20,0	1
1279856	KSEM165R7WN20M	16,50	.650	17,00	.669	202,0	126,0	147,0	50,0	2,6	20,0	1
1279857	KSEM170R7WN20M	17,00	.669	17,50	.689	202,0	126,0	147,0	50,0	2,7	20,0	1
1279858	KSEM175R7WN20M	17,50	.689	18,00	.709	202,0	126,0	147,0	50,0	2,8	20,0	1
1279859	KSEM180R7WN20M	18,00	.709	18,00	.709	202,0	126,0	147,0	50,0	2,9	20,0	1
1279863	KSEM185R7WN25M	18,50	.728	19,00	.748	224,0	140,0	163,0	56,0	2,9	25,0	2
1279864	KSEM190R7WN25M	19,00	.748	19,50	.768	224,0	140,0	163,0	56,0	3,0	25,0	2
1279866	KSEM195R7WN25M	19,50	.768	20,00	.787	224,0	140,0	163,0	56,0	3,1	25,0	2
1279867	KSEM200R7WN25M	20,00	.787	20,50	.807	241,0	140,0	179,0	56,0	3,2	25,0	3
1279872	KSEM210R7WN25M	21,00	.827	21,50	.847	241,0	154,0	180,0	56,0	3,3	25,0	3
1279874	KSEM220R7WN25M	22,00	.866	22,00	.866	241,0	154,0	180,0	56,0	3,5	25,0	3
1279878	KSEM225R7WN25M	22,50	.886	23,00	.906	257,0	168,0	196,0	56,0	3,6	25,0	4
1279881	KSEM230R7WN25M	23,00	.906	23,50	.925	257,0	168,0	196,0	56,0	3,7	25,0	4
1279882	KSEM235R7WN25M	23,50	.925	24,00	.945	257,0	168,0	196,0	56,0	3,7	25,0	4
1282677	KSEM240R7WN25M	24,00	.945	24,00	.945	257,0	168,0	196,0	56,0	3,8	25,0	4



KC7315
KCPM45

P	●	○
M	●	○
K	○	○
N	○	○
S	○	○
H	○	○

● Primary
○ Secondary

KSEM • Center Insert • HPG Geometry

ISO Catalog Number	D1		L5		Insert Size	KC7315	KCPM45
	mm	in	mm	in			
KSEM1250HPGM	12,50	0.492	2,20	0.087	C	2449924	5626642
KSEM1260HPGM	12,60	0.496	2,22	0.087	C	2499723	—
KSEM1300HPGM	13,00	0.512	2,29	0.090	C	2499727	5626644
KSEM1350HPGM	13,50	0.532	2,37	0.093	C	2499730	—
KSEM1360HPGM	13,60	0.535	2,39	0.094	B	2499731	—
KSEM1400HPGM	14,00	0.551	2,46	0.097	B	2499735	5397387
KSEM1410HPGM	14,10	0.555	2,48	0.098	B	2499736	—
KSEM1420HPGM	14,20	0.559	2,50	0.098	B	2499737	—
KSEM1429HPGM	14,29	0.563	2,51	0.099	B	2499611	—
KSEM1450HPGM	14,50	0.571	2,55	0.101	B	2499740	—
KSEM1500HPGM	15,00	0.591	2,64	0.104	A	2499744	5626703
KSEM1508HPGM	15,08	0.594	2,65	0.104	A	2499843	—
KSEM1530HPGM	15,30	0.602	2,69	0.106	A	2499746	—
KSEM1550HPGM	15,50	0.610	2,73	0.108	A	2499748	—
KSEM1560HPGM	15,60	0.614	2,74	0.108	A	2499749	—
KSEM1600HPGM	16,00	0.630	2,81	0.111	1	2499753	5626708
KSEM1609HPGM	16,09	0.634	2,83	0.111	1	2499846	—
KSEM1650HPGM	16,50	0.650	2,90	0.114	1	2499757	5626710
KSEM1700HPGM	17,00	0.669	2,99	0.118	1	2499759	5626711
KSEM1750HPGM	17,50	0.689	3,08	0.121	1	2487433	5626713
KSEM1760HPGM	17,60	0.693	3,09	0.122	1	3027980	—
KSEM1800HPGM	18,00	0.709	3,17	0.125	1	2499763	5397474
KSEM1850HPGM	18,50	0.728	3,25	0.128	2	2499765	—
KSEM1860HPGM	18,60	0.732	3,27	0.129	2	3097295	—
KSEM1865HPGM	18,65	0.734	3,28	0.129	2	2499853	—
KSEM1900HPGM	19,00	0.748	3,34	0.132	2	2499767	5397476
KSEM1925HPGM	19,25	0.758	3,38	0.133	2	—	5397479
KSEM1950HPGM	19,50	0.768	3,43	0.135	2	2499771	5397481
KSEM1970HPGM	19,70	0.776	3,46	0.136	2	2504223	—
KSEM1984HPGM	19,84	0.781	3,49	0.137	2	—	5397482
KSEM2000HPGM	20,00	0.787	3,52	0.139	3	2450909	5397483
KSEM2024HPGM	20,24	0.797	3,56	0.140	3	2499858	—
KSEM2050HPGM	20,50	0.807	3,60	0.142	3	2465988	—
KSEM2100HPGM	21,00	0.827	3,69	0.145	3	2499775	5397485
KSEM2120HPGM	21,20	0.835	3,73	0.147	3	2887393	—
KSEM2150HPGM	21,50	0.847	3,78	0.149	3	2499777	—
KSEM2170HPGM	21,70	0.854	3,82	0.150	3	3120318	—
KSEM2200HPGM	22,00	0.866	3,87	0.152	3	2499779	5397486
KSEM2250HPGM	22,50	0.886	3,96	0.156	4	2499782	—
KSEM2300HPGM	23,00	0.906	4,04	0.159	4	2449518	5397488
KSEM2400HPGM	24,00	0.945	4,22	0.166	4	2499786	5397490
KSEM2430HPGM	24,30	0.957	4,27	0.168	5	2603030	—
KSEM2450HPGM	24,50	0.965	4,31	0.170	5	2499787	—
KSEM2500HPGM	25,00	0.984	4,40	0.173	5	2499789	5397491
KSEM2550HPGM	25,50	1.004	4,48	0.176	5	2499791	—
KSEM2567HPGM	25,67	1.011	4,51	0.178	5	2499868	5397495
KSEM2600HPGM	26,00	1.024	4,57	0.180	5	2449473	5397497
KSEM2619HPGM	26,19	1.031	4,61	0.182	6	2499869	—
KSEM2650HPGM	26,50	1.043	4,66	0.184	6	2494500	5626731
KSEM2659HPGM	26,59	1.047	4,68	0.184	6	2499870	—
KSEM2700HPGM	27,00	1.063	4,75	0.187	6	2499795	5397499
KSEM2750HPGM	27,50	1.083	4,84	0.191	6	2499796	—
KSEM2800HPGM	28,00	1.102	4,92	0.194	6	2499798	5397500
KSEM2900HPGM	29,00	1.142	5,10	0.201	7	2499802	5515226
KSEM2950HPGM	29,50	1.161	5,19	0.204	7	2499803	—
KSEM3000HPGM	30,00	1.181	5,28	0.208	7	2449475	5397502
KSEM3050HPGM	30,50	1.201	5,36	0.211	8	—	5626740
KSEM3100HPGM	31,00	1.221	5,45	0.215	8	2499810	5626742
KSEM3200HPGM	32,00	1.260	5,63	0.222	8	2499813	5397505

HPG • Tolerances

Tolerance HPG • Metric	
D1 metric	tolerance h8
12,5–18	+0,000/-0,027
>18–30	+0,000/-0,033
>30–40	+0,000/-0,039

RECOMMENDED FEED RATES KSEM MODULAR DRILL CARBIDE INSERT BLADES

HPG Geometry • Grade KC7315 • Through Coolant

Material Group	Cutting Speed — vc				Metric						
	Range — m/min				Recommended Feed Rate (f) by Diameter						
	min	Starting Value	max		12,5	16,0	20,0	25,4	32,0	40,0	
P	1	75	110	140	mm/r	0,15–0,34	0,17–0,40	0,19–0,45	0,25–0,58	0,29–0,66	0,33–0,76
	2	90	120	150	mm/r	0,15–0,34	0,17–0,40	0,19–0,45	0,25–0,58	0,29–0,66	0,33–0,76
	3	50	75	100	mm/r	0,15–0,28	0,17–0,34	0,19–0,40	0,25–0,51	0,29–0,58	0,33–0,66
	4	55	75	95	mm/r	0,12–0,31	0,14–0,34	0,16–0,40	0,20–0,51	0,23–0,58	0,26–0,66
	5	50	65	80	mm/r	0,09–0,17	0,11–0,20	0,12–0,23	0,15–0,28	0,17–0,32	0,20–0,36
	6	50	65	80	mm/r	0,12–0,25	0,14–0,29	0,16–0,32	0,20–0,42	0,23–0,47	0,26–0,54
K	1	90	135	175	mm/r	0,17–0,35	0,21–0,42	0,25–0,48	0,31–0,59	0,37–0,70	0,43–0,81
	2	90	110	125	mm/r	0,17–0,33	0,21–0,41	0,25–0,48	0,31–0,59	0,37–0,70	0,43–0,81
	3	40	95	125	mm/r	0,18–0,36	0,20–0,41	0,21–0,44	0,23–0,48	0,25–0,53	0,27–0,57

RECOMMENDED FEED RATES KSEM MODULAR DRILL CARBIDE INSERT BLADES

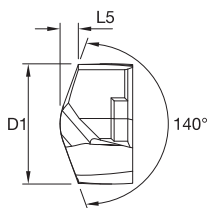
HPG Geometry • Grade KCPM45 • Through Coolant

Material Group	Cutting Speed — vc				Metric						
	Range — m/min				Recommended Feed Rate (f) by Diameter						
	min	Starting Value	max		12,5	16,0	20,0	25,4	32,0	40,0	
P	1	100	110	120	mm/r	0,15–0,31	0,17–0,36	0,19–0,41	0,25–0,53	0,29–0,60	0,33–0,69
	2	80	95	110	mm/r	0,15–0,31	0,17–0,36	0,19–0,41	0,25–0,53	0,29–0,60	0,33–0,69
	3	65	70	80	mm/r	0,15–0,31	0,17–0,36	0,19–0,41	0,25–0,53	0,29–0,60	0,33–0,69
M	1	30	60	90	mm/r	0,09–0,14	0,11–0,17	0,13–0,20	0,16–0,25	0,18–0,28	0,21–0,31
	2	30	50	90	mm/r	0,09–0,14	0,11–0,17	0,13–0,20	0,16–0,25	0,18–0,28	0,21–0,31
	3	20	40	60	mm/r	0,09–0,14	0,11–0,17	0,13–0,20	0,16–0,25	0,18–0,28	0,21–0,31

HPG Geometry • Grade KCPM45 • MQL*

Material Group	Cutting Speed — vc				Metric						
	Range — m/min				Recommended Feed Rate (f) by Diameter						
	min	Starting Value	max		12,5	16,0	20,0	25,4	32,0	40,0	
P	1	60	70	80	mm/r	0,15–0,31	0,17–0,36	0,19–0,41	0,25–0,53	0,29–0,60	0,33–0,69
	2	50	60	70	mm/r	0,15–0,31	0,17–0,36	0,19–0,41	0,25–0,53	0,29–0,60	0,33–0,69
	3	65	45	80	mm/r	0,15–0,31	0,17–0,36	0,19–0,41	0,25–0,53	0,29–0,60	0,33–0,69
M	1	30	40	50	mm/r	0,09–0,14	0,11–0,17	0,13–0,20	0,16–0,25	0,18–0,28	0,21–0,31
	2	25	30	35	mm/r	0,09–0,14	0,11–0,17	0,13–0,20	0,16–0,25	0,18–0,28	0,21–0,31
	3	20	25	30	mm/r	0,09–0,14	0,11–0,17	0,13–0,20	0,16–0,25	0,18–0,28	0,21–0,31

*Recommended for drilling depths ≤1.5xD.



KSEM • Center Insert • HPL Geometry

ISO Catalog Number	D1		L5		Insert Size	KCMS15
	mm	in	mm	in		
KSEM1300HPLM	13,00	0.512	2,06	0.081	C	3381103
KSEM1400HPLM	14,00	0.551	2,22	0.087	B	3381108
KSEM1450HPLM	14,50	0.571	2,30	0.091	B	3381113
KSEM1500HPLM	15,00	0.591	2,38	0.094	A	3381117
KSEM1600HPLM	16,00	0.630	2,54	0.100	1	3381123
KSEM1615HPLM	16,15	0.636	2,56	0.101	1	3381126
KSEM1650HPLM	16,50	0.650	2,62	0.103	1	3381129
KSEM1700HPLM	17,00	0.669	2,70	0.106	1	3381131
KSEM1750HPLM	17,50	0.689	2,78	0.109	1	3381134
KSEM1800HPLM	18,00	0.709	2,86	0.113	1	3381139
KSEM1900HPLM	19,00	0.748	3,02	0.119	2	3381146
KSEM1984HPLM	19,84	0.781	3,15	0.124	2	3381156
KSEM2000HPLM	20,00	0.787	3,17	0.125	3	3381157
KSEM2010HPLM	20,10	0.791	3,19	0.126	3	3381158
KSEM2100HPLM	21,00	0.827	3,33	0.131	3	3381163
KSEM2150HPLM	21,50	0.847	3,41	0.134	3	3381169
KSEM2200HPLM	22,00	0.866	3,49	0.137	3	3381173
KSEM2277HPLM	22,77	0.897	3,61	0.142	4	3381181
KSEM2300HPLM	23,00	0.906	3,65	0.144	4	3381183
KSEM2400HPLM	24,00	0.945	3,51	0.138	4	3381191
KSEM2500HPLM	25,00	0.984	3,97	0.156	5	3381616
KSEM2565HPLM	25,65	1.010	3,95	0.156	5	3381626
KSEM2600HPLM	26,00	1.024	4,00	0.158	5	3381630
KSEM2650HPLM	26,50	1.043	4,08	0.161	6	3381635
KSEM2700HPLM	27,00	1.063	4,15	0.163	6	3381640
KSEM2800HPLM	28,00	1.102	4,31	0.170	6	3381644
KSEM2900HPLM	29,00	1.142	4,46	0.176	7	3381172
KSEM3000HPLM	30,00	1.181	4,62	0.182	7	3381180
KSEM3200HPLM	32,00	1.260	4,92	0.194	8	3381192

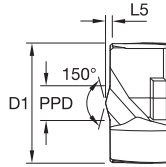
HPL • Tolerances

Tolerance HPL • Metric	
D1 metric	tolerance h8
12,5–18	+0,000/-0,027
>18–30	+0,000/-0,033
>30–40	+0,000/-0,039

RECOMMENDED FEED RATES KSEM MODULAR DRILL CARBIDE INSERT BLADES

HPL Geometry • Grade KC7320 • Through Coolant

Material Group	Cutting Speed — vc				Metric						
	Range — m/min				Recommended Feed Rate (f) by Diameter						
	min	Starting Value	max		12,5	16,0	20,0	25,4	32,0	40,0	
M	1	30	60	90	mm/r	0,09–0,14	0,11–0,17	0,13–0,20	0,16–0,25	0,18–0,28	0,21–0,31
	2	30	50	90	mm/r	0,09–0,14	0,11–0,17	0,13–0,20	0,16–0,25	0,18–0,28	0,21–0,31
	3	20	40	60	mm/r	0,09–0,14	0,11–0,17	0,13–0,20	0,16–0,25	0,18–0,28	0,21–0,31



KCPM45

P	Blue	●
M	Yellow	●
K	Red	●
N	Green	●
S	Orange	●
H	Grey	○

● Primary
○ Secondary

KSEM • Center Insert • FEG Geometry

ISO Catalog Number	D1		L5		PPD		Insert Size	KCPM45
	mm	in	mm	in	in	in		
KSEM1300FEGM	13,00	0.512	0,50	0.019	0.15	0.154	C	6381877
KSEM1400FEGM	14,00	0.551	0,60	0.024	0.17	0.165	B	6381879
KSEM1500FEGM	15,00	0.591	0,60	0.024	0.18	0.177	A	6381921
KSEM1600FEGM	16,00	0.630	1,16	0.046	0.20	0.201	1	5949382
KSEM1650FEGM	16,50	0.650	0,70	0.027	0.20	0.200	1	5981500
KSEM1700FEGM	17,00	0.669	1,18	0.047	0.20	0.201	1	5981571
KSEM1750FEGM	17,50	0.689	1,19	0.047	0.20	0.201	1	5981572
KSEM1800FEGM	18,00	0.709	0,70	0.027	0.20	0.200	1	5981573
KSEM1900FEGM	19,00	0.748	1,29	0.051	0.22	0.224	2	5981575
KSEM2000FEGM	20,00	0.787	1,39	0.055	0.25	0.248	3	5981578
KSEM2050FEGM	20,50	0.807	1,40	0.055	0.25	0.248	3	5981579
KSEM2100FEGM	21,00	0.827	1,40	0.055	0.25	0.248	3	5981580
KSEM2150FEGM	21,50	0.847	1,41	0.056	0.25	0.248	3	5981581
KSEM2200FEGM	22,00	0.866	1,42	0.056	0.25	0.248	3	5981582
KSEM2250FEGM	22,50	0.886	1,51	0.059	0.27	0.272	4	5981583
KSEM2300FEGM	23,00	0.906	1,51	0.059	0.27	0.272	4	5981584
KSEM2350FEGM	23,50	0.925	1,52	0.060	0.27	0.272	4	5981585
KSEM2400FEGM	24,00	0.945	1,53	0.060	0.27	0.272	4	5981586
KSEM2500FEGM	25,00	0.984	1,62	0.064	0.30	0.295	5	5981588
KSEM2550FEGM	25,50	1.004	1,63	0.064	0.30	0.295	5	5981591
KSEM2600FEGM	26,00	1.024	1,64	0.065	0.30	0.295	5	5981592
KSEM2650FEGM	26,50	1.043	1,72	0.068	0.32	0.319	6	5981593
KSEM2700FEGM	27,00	1.063	1,73	0.068	0.32	0.319	6	5981594
KSEM2800FEGM	28,00	1.102	1,75	0.069	0.32	0.319	6	5949383
KSEM2900FEGM	29,00	1.142	1,84	0.072	0.34	0.343	7	5981597
KSEM2950FEGM	29,50	1.161	1,85	0.073	0.34	0.343	7	5981598
KSEM3000FEGM	30,00	1.181	1,85	0.073	0.34	0.343	7	5981599
KSEM3100FEGM	31,00	1.221	1,94	0.076	0.37	0.366	8	5981600
KSEM3200FEGM	32,00	1.260	1,96	0.077	0.37	0.366	8	5981602

FEG • Tolerances

Tolerance FEG • Metric	
D1 metric	tolerance k7
12,5–18	+0,001/+ 0,019
>18–30	+0,002/+ 0,023
>30–40	+0,002/+ 0,027

RECOMMENDED FEED RATES KSEM MODULAR DRILL CARBIDE INSERT BLADES

FEG Geometry • Grade KCPM45 • Through Coolant

Material Group	Cutting Speed — vc				Metric						
	Range — m/min				Recommended Feed Rate (f) by Diameter						
	min	Starting Value	max			12,5	16,0	20,0	25,4	32,0	40,0
P	1	110	140	170	mm/r	0,14–0,23	0,17–0,25	0,19–0,29	0,23–0,38	0,26–0,43	0,33–0,76
	2	100	120	140	mm/r	0,17–0,23	0,19–0,25	0,22–0,29	0,29–0,38	0,32–0,43	0,33–0,76
	3	80	100	120	mm/r	0,14–0,20	0,15–0,23	0,17–0,25	0,23–0,34	0,26–0,38	0,33–0,66
	4	70	90	110	mm/r	0,11–0,20	0,13–0,23	0,14–0,25	0,18–0,34	0,21–0,38	0,26–0,66
M	1	40	60	80	mm/r	0,09–0,14	0,11–0,17	0,13–0,20	0,16–0,25	0,18–0,28	0,21–0,31
	2	35	55	70	mm/r	0,09–0,14	0,11–0,17	0,13–0,20	0,16–0,25	0,18–0,28	0,21–0,31
	3	20	40	60	mm/r	0,09–0,14	0,11–0,17	0,13–0,20	0,16–0,25	0,18–0,28	0,21–0,31
K	1	90	135	175	mm/r	0,17–0,23	0,19–0,25	0,22–0,29	0,29–0,38	0,32–0,43	0,33–0,76
	2	80	120	140	mm/r	0,17–0,23	0,19–0,25	0,22–0,29	0,29–0,38	0,32–0,43	0,33–0,76
	3	70	110	125	mm/r	0,15–0,24	0,18–0,26	0,21–0,29	0,23–0,37	0,25–0,42	0,27–0,57
S	1	20	40	60	mm/r	0,09–0,14	0,11–0,17	0,13–0,20	0,16–0,25	0,18–0,28	0,21–0,31
	3	15	30	45	mm/r	0,09–0,14	0,11–0,17	0,13–0,20	0,16–0,25	0,18–0,28	0,21–0,31

HOLEMAKING

Modular Drills

KSEM PLUS

FOR LARGE DIAMETER DRILLING

Materials



Industries



General
Engineering



Oil & Gas



Wind & Solar

Applications



The KSEM PLUS modular drill covers drilling applications in a diameter range from 28mm to 52mm up to 10xD. KSEM PLUS combines the advantages of a modular drill and an indexable drill, providing high speed and feed capability with large length-to-diameter ratio at low consumable cost. This modular system is a versatile solution that allows quick tool setup and helps to keep tool inventory at a minimum.





Explore KSEM PLUS
Modular Drill System



Interchangeable head styles with two fully effective cutting edges deliver excellent productivity in all cutting conditions and many materials:

The KSEM PLUS A1 head for lowest cost per hole

The KSEM PLUS B1 head for challenging conditions like stacked plates, cross holes and inclined exits

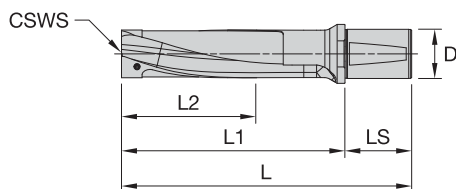
Interchangeable head styles with two fully effective cutting edges deliver excellent productivity in all cutting conditions and many materials



**KSEM PLUS A1
Heads -
with DFT outboard
inserts**

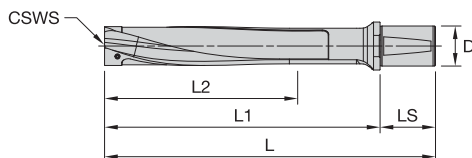
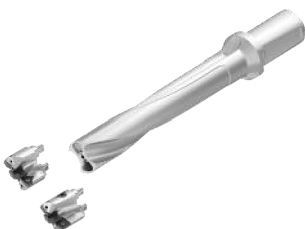


**KSEM PLUS B1
Heads -
with DFC
outboard inserts
and DPA carbide
guide pads**



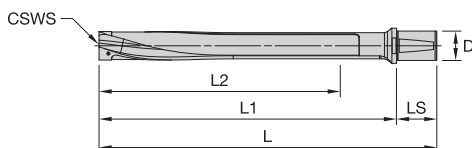
KSEM PLUS • Drill Body • 3xD • WD Shank • Metric

Order Number	Catalog Number	L	L1	LS	L2	D	CSWS system size
4000409	WD32FDS28128M	186,0	128,0	58,0	71,0	32,0	FDS28
3950219	WD32FDS32146M	204,0	146,0	58,0	85,0	32,0	FDS32
3950220	WD32FDS36166M	224,0	166,0	58,0	97,0	32,0	FDS36
3872075	WD50FDS40183M	251,0	183,0	68,0	107,0	50,0	FDS40
3872079	WD50FDS45206M	274,0	206,0	68,0	122,0	50,0	FDS45
3950221	WD50FDS50228M	296,0	228,0	68,0	135,0	50,0	FDS50



KSEM PLUS • Drill Body • 5xD • WD Shank • Metric

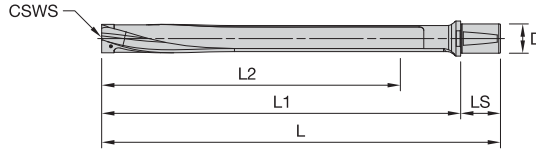
Order Number	Catalog Number	L	L1	LS	L2	D	CSWS system size
4051136	WD32FDS28190M	248,0	190,0	58,0	133,0	32,0	FDS28
3794428	WD32FDS32216M	274,0	216,0	58,0	155,0	32,0	FDS32
3794430	WD32FDS36244M	302,0	244,0	58,0	175,0	32,0	FDS36
3794443	WD50FDS40271M	339,0	271,0	68,0	195,0	50,0	FDS40
3794446	WD50FDS45304M	372,0	304,0	68,0	220,0	50,0	FDS45
3794449	WD50FDS50338M	406,0	338,0	68,0	245,0	50,0	FDS50



KSEM PLUS • Drill Body • 8xD • WD Shank • Metric

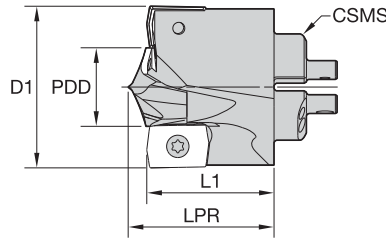
Order Number	Catalog Number	L	L1	LS	L2	D	CSWS system size
3742293	WD32FDS32321M	379,0	321,0	58,0	260,0	32,0	FDS32
3794431	WD32FDS36361M	419,0	361,0	58,0	292,0	32,0	FDS36
3794444	WD50FDS40403M	471,0	403,0	68,0	327,0	50,0	FDS40
3794447	WD50FDS45451M	519,0	451,0	68,0	367,0	50,0	FDS45
3742294	WD50FDS50503M	571,0	503,0	68,0	410,0	50,0	FDS50

HOLEMAKING



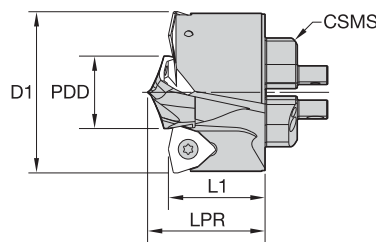
KSEM PLUS • Drill Body • 10xD • WD Shank • Metric

Order Number	Catalog Number	L	L1	LS	L2	D	CSWS system size
3794429	WD32FDS32391M	449,0	391,0	58,0	330,0	32,0	FDS32
3794432	WD32FDS36439M	497,0	439,0	58,0	370,0	32,0	FDS36
3794445	WD50FDS40491M	559,0	491,0	68,0	415,0	50,0	FDS40



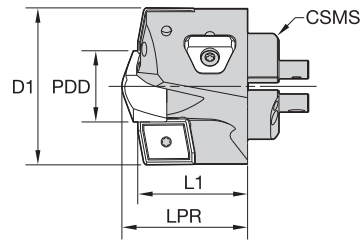
KSEM PLUS • A1 Head • Diameter 28.00 - 31.74mm / 1.102 - 1.249"

Order Number	Catalog Number	D1		PDD		LPR		L1		CSMS	SSC
		mm	in	mm	in	mm	in	mm	in		
4047824	KSEMP3000FDS28A1M	30,00	1.181	16,00	0.6299	25,2	0.992	22,0	0.866	FDS28	1



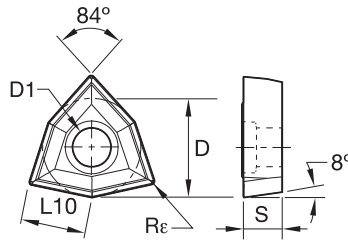
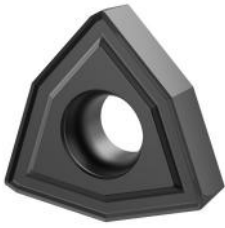
KSEM PLUS • A1 Head • Diameter 31.75 - 70.99mm / 1.250 - 2.794"

Order Number	Catalog Number	D1		PDD		LPR		L1		CSMS	SSC
		mm	in	mm	in	mm	in	mm	in		
3794393	KSEMP3500FDS32A1M	35,00	1.378	18,00	0.7087	23,6	0.928	20,0	0.787	FDS32	1
3794394	KSEMP3600FDS36A1M	36,00	1.417	13,00	0.5118	22,7	0.893	20,0	0.787	FDS36	C
3794427	KSEMP3750FDS36A1M	37,50	1.476	15,00	0.5906	23,0	0.907	20,0	0.787	FDS36	A
3794397	KSEMP3900FDS36A1M	39,00	1.535	16,00	0.6299	23,2	0.913	20,0	0.787	FDS36	1
3793950	KSEMP3920FDS36A1M	39,20	1.543	16,00	0.6299	23,2	0.913	20,0	0.787	FDS36	1
3794398	KSEMP4000FDS40A1M	40,00	1.575	17,00	0.6693	28,6	1.125	25,0	0.984	FDS40	1
3794400	KSEMP4200FDS40A1M	42,00	1.654	19,00	0.7480	28,9	1.139	25,0	0.984	FDS40	2
3794401	KSEMP4300FDS40A1M	43,00	1.693	20,00	0.7874	29,1	1.146	25,0	0.984	FDS40	3
3794403	KSEMP4500FDS45A1M	45,00	1.772	18,00	0.7087	28,8	1.132	25,0	0.984	FDS45	1
3794406	KSEMP4800FDS45A1M	48,00	1.890	21,00	0.8268	29,3	1.153	25,0	0.984	FDS45	3
3742211	KSEMP5000FDS50A1M	50,00	1.969	23,00	0.9055	34,8	1.372	30,0	1.181	FDS50	4
3794409	KSEMP5200FDS50A1M	52,00	2.047	25,00	0.9843	35,2	1.386	30,0	1.181	FDS50	5



KSEM PLUS • B1 Head • Diameter 28.00 - 70.99mm / 1.102 - 2.794”

Order Number	Catalog Number	D1		PDD		LPR		L1		CSMS	SSC
		mm	in	mm	in	mm	in	mm	in		
5115736	KSEMP2800FDS28B1M	28,00	1.102	14,00	0.5512	28,1	1.105	25,0	0.984	FDS28	B
5116010	KSEMP3000FDS28B1M	30,00	1.181	16,00	0.6299	28,4	1.118	25,0	0.984	FDS28	1
5116015	KSEMP3200FDS32B1M	32,00	1.260	15,00	0.5906	28,2	1.111	25,0	0.984	FDS32	A
5116019	KSEMP3400FDS32B1M	34,00	1.339	17,00	0.6693	28,6	1.125	25,0	0.984	FDS32	1
5116031	KSEMP3500FDS32B1M	35,00	1.378	18,00	0.7087	28,8	1.132	25,0	0.984	FDS32	1
5116032	KSEMP3600FDS36B1M	36,00	1.417	13,00	0.5118	27,9	1.098	25,0	0.984	FDS36	C
5116034	KSEMP3700FDS36B1M	37,00	1.457	14,00	0.5512	28,1	1.105	25,0	0.984	FDS36	B
5116038	KSEMP3900FDS36B1M	39,00	1.535	16,00	0.6299	28,4	1.118	25,0	0.984	FDS36	1
5116041	KSEMP4000FDS40B1M	40,00	1.575	17,00	0.6693	33,8	1.330	30,0	1.181	FDS40	1
5116044	KSEMP4200FDS40B1M	42,00	1.654	19,00	0.7480	34,1	1.344	30,0	1.181	FDS40	2
5116045	KSEMP4300FDS40B1M	43,00	1.693	20,00	0.7874	34,3	1.351	30,0	1.181	FDS40	3
5116098	KSEMP4500FDS45B1M	45,00	1.772	18,00	0.7087	34,0	1.337	30,0	1.181	FDS45	1
5116099	KSEMP4600FDS45B1M	46,00	1.811	19,00	0.7480	34,1	1.344	30,0	1.181	FDS45	2
5116112	KSEMP4800FDS45B1M	48,00	1.890	21,00	0.8268	34,5	1.358	30,0	1.181	FDS45	3
5116113	KSEMP4900FDS45B1M	49,00	1.929	22,00	0.8661	34,7	1.365	30,0	1.181	FDS45	3
5116114	KSEMP5000FDS50B1M	50,00	1.969	23,00	0.9055	40,0	1.577	35,0	1.378	FDS50	4
5116117	KSEMP5200FDS50B1M	52,00	2.047	25,00	0.9843	40,4	1.590	35,0	1.378	FDS50	5

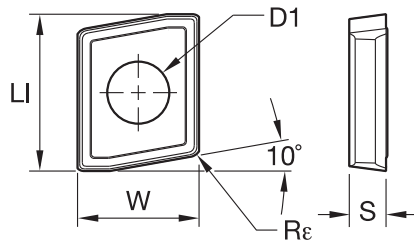


		KCU25	KCU40
P	●	○	○
M	●	○	○
K	●	○	○
N	●	○	○
S	●	○	○
H	●	○	○

● Primary
○ Secondary

KSEM PLUS • Outboard Insert • DFT-HP Geometry

ISO Catalog Number	D		D1		L10		S		Re		KCU25	KCU40
	mm	in	mm	in	mm	in	mm	in	mm	in		
DFT05T308D32HP	8.00	0.315	3.40	0.134	5.29	0.208	3.75	0.148	0.80	0.031	5067487	5066193
DFT05T308D33HP	8.00	0.315	3.40	0.134	5.29	0.208	3.75	0.148	0.80	0.031	5067488	5066195
DFT06T308D36HP	10.00	0.395	4.40	0.173	6.62	0.260	3.75	0.148	0.80	0.031	5067489	5066196
DFT06T308D39HP	10.00	0.394	4.40	0.173	6.62	0.260	3.75	0.148	0.80	0.031	5067520	5066197
DFT06T308D44HP	10.00	0.394	4.40	0.173	6.62	0.260	3.75	0.148	0.80	0.031	5067522	5066198
DFT070408D45HP	12.00	0.472	4.40	0.173	7.94	0.313	4.75	0.187	0.80	0.031	5067523	5066199
DFT070408D50HP	12.00	0.472	4.40	0.173	7.94	0.313	4.75	0.187	0.80	0.031	5067524	5066220
DFT090508D56HP	15.00	0.591	5.50	0.217	9.92	0.391	5.25	0.207	0.80	0.031	—	5066221
DFT090508D63HP	15.00	0.591	5.50	0.217	9.92	0.391	5.25	0.207	0.80	0.031	5067527	5066222

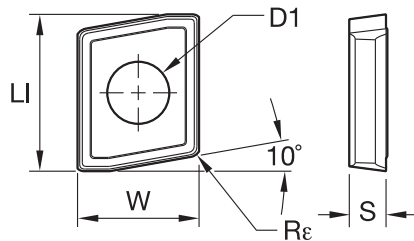


		KCU40
P	●	○
M	●	○
K	●	○
N	●	○
S	●	○
H	●	○

● Primary
○ Secondary

KSEM PLUS • Outboard Insert • DFC-HPF Geometry

ISO Catalog Number	LI		W		D1		S		Re		KCU40
	mm	in	mm	in	mm	in	mm	in	mm	in	
DFC040310D28HPF	10.00	0.394	7.64	0.301	2.85	0.112	3.18	0.125	1.00	0.040	6379468
DFC05T312D32HPF	12.00	0.472	9.45	0.372	3.40	0.134	3.75	0.148	1.20	0.047	6379469
DFC06T312D36HPF	16.00	0.630	12.47	0.491	4.40	0.173	3.75	0.148	1.20	0.047	6379470
DFC070416D45HPF	18.00	0.709	14.57	0.574	4.40	0.173	4.75	0.187	1.60	0.063	6379611
DFC090520D56HPF	24.00	0.945	19.10	0.752	5.50	0.217	5.25	0.207	2.00	0.079	6379612

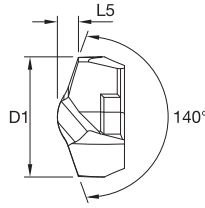


		KCU25	KCU40
P	●	○	○
M	●	○	○
K	●	○	○
N	●	○	○
S	●	○	○
H	●	○	○

● Primary
○ Secondary

KSEM PLUS • Outboard Insert • DFC-HP Geometry

ISO Catalog Number	LI		W		D1		S		Re		KCU25	KCU40
	mm	in	mm	in	mm	in	mm	in	mm	in		
DFC040310D28HP	10.00	0.394	7.60	0.299	2.85	0.112	3.18	0.125	1.00	0.040	5118327	5118452
DFC05T312D32HP	12.00	0.472	9.40	0.370	3.40	0.134	3.75	0.148	1.20	0.047	5118328	5118453
DFC06T312D36HP	16.00	0.630	12.40	0.488	4.40	0.173	3.75	0.148	1.20	0.047	5118329	5118454
DFC070416D45HP	18.00	0.709	14.50	0.571	4.40	0.173	4.75	0.187	1.60	0.0625	5118450	5118455
DFC090520D56HP	24.00	0.945	19.00	0.748	5.50	0.217	5.25	0.207	2.00	0.079	5118451	5118456



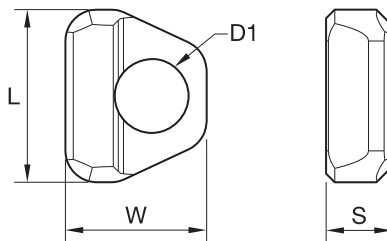
KSEM PLUS • Center Insert • HPG Geometry

KC7315

P	Blue	●
M	Yellow	●
K	Red	○
N	Green	○
S	Orange	○
H	Grey	○

● Primary
○ Secondary

ISO Catalog Number	D1		L5		insert size	KC7315
	mm	in	mm	in		
KSEMP1300HPGM	13,00	0.512	2,29	0.090	C	3660154
KSEMP1400HPGM	14,00	0.551	2,46	0.097	B	3690478
KSEMP1500HPGM	15,00	0.591	2,64	0.104	A	3690479
KSEMP1600HPGM	16,00	0.630	2,81	0.111	1	3690480
KSEMP1700HPGM	17,00	0.669	2,99	0.118	1	3690481
KSEMP1800HPGM	18,00	0.709	3,17	0.125	1	3690482
KSEMP1900HPGM	19,00	0.748	3,34	0.132	2	3690713
KSEMP2000HPGM	20,00	0.787	3,52	0.139	3	3660156
KSEMP2100HPGM	21,00	0.827	3,69	0.145	3	3690714
KSEMP2200HPGM	22,00	0.866	3,87	0.152	3	3690715
KSEMP2300HPGM	23,00	0.906	4,04	0.159	4	3690716
KSEMP2400HPGM	24,00	0.945	4,22	0.166	4	3690717
KSEMP2500HPGM	25,00	0.984	4,40	0.173	5	3690718
KSEMP2600HPGM	26,00	1.024	4,57	0.180	5	3690719
KSEMP2700HPGM	27,00	1.063	4,75	0.187	6	3690720
KSEMP2800HPGM	28,00	1.102	4,92	0.194	6	3690721
KSEMP2900HPGM	29,00	1.142	5,10	0.201	7	3690722
KSEMP3000HPGM	30,00	1.181	5,28	0.208	7	3690723
KSEMP3100HPGM	31,00	1.221	5,45	0.215	8	3690724
KSEMP3200HPGM	32,00	1.260	5,63	0.222	8	3690725
KSEMP3300HPGM	33,00	1.299	5,80	0.228	9	3690726
KSEMP3400HPGM	34,00	1.339	5,98	0.235	9	3660157
KSEMP3500HPGM	35,00	1.378	6,15	0.242	9	5515220
KSEMP3600HPGM	36,00	1.417	6,33	0.249	9	5515221
KSEMP3700HPGM	37,00	1.457	6,51	0.256	10	5515222
KSEMP3800HPGM	38,00	1.496	6,68	0.263	10	5515223
KSEMP3900HPGM	39,00	1.535	6,86	0.270	10	5515224
KSEMP4000HPGM	40,00	1.575	7,03	0.277	10	5515225



Guide Pads • Modular Drilling

KCU40

P	Blue	●
M	Yellow	●
K	Red	●
N	Green	●
S	Orange	●
H	Grey	●

● Primary
○ Secondary

Order Number	[L] Overall Length		W		D1		S		KCU40
	mm	in	mm	in	mm	mm	mm	in	
5118324	8,60	0.339	7,00	0.276	2,85	2,850	3,50	0.138	5118324
5118325	11,00	0.433	9,00	0.354	3,40	3,400	4,20	0.165	5118325
5118326	16,00	0.630	13,00	0.512	4,40	4,400	5,20	0.205	5118326

KSEM PLUS RECOMMENDED FEED RATES

Modular Drill • KSEM PLUS • A1 and B1 Style

Material Group		Condition	Metric								
			Cutting Speed — vc			Recommended Feed Rate (fz) by Diameter					
			Range — m/min			Ø	KSEM 14....17 DFR/DFC04... 28,00–31,74	KSEM 15....18 DFT/DFC05... 31,74–35,99	KSEM 13....22 DFT/DFC06... 36,00–44,99	KSEM 18....28 DFT/DFC07... 45,00–55,99	KSEM 20....34 DFT/DFC09... 56,00–102,35
min	Starting Value	max									
P	1	S	115	235	290	mm/r	0,130–0,250	0,130–0,250	0,160–0,280	0,160–0,320	0,200–0,360
		U	90	160	215	mm/r	0,130–0,250	0,130–0,250	0,160–0,280	0,160–0,320	0,200–0,360
		I	65	100	140	mm/r	0,130–0,250	0,130–0,250	0,160–0,280	0,160–0,320	0,200–0,360
	2	S	90	190	230	mm/r	0,160–0,280	0,160–0,280	0,200–0,360	0,200–0,400	0,200–0,450
		U	71	130	170	mm/r	0,160–0,280	0,160–0,280	0,200–0,360	0,200–0,400	0,200–0,450
		I	50	80	110	mm/r	0,160–0,280	0,160–0,280	0,200–0,320	0,200–0,400	0,200–0,450
	3	S	90	180	230	mm/r	0,160–0,280	0,160–0,280	0,200–0,320	0,200–0,400	0,200–0,450
		U	70	120	170	mm/r	0,160–0,280	0,160–0,280	0,200–0,320	0,200–0,400	0,200–0,450
		I	50	70	106	mm/r	0,160–0,280	0,160–0,280	0,200–0,320	0,200–0,400	0,200–0,450
	4	S	90	140	220	mm/r	0,160–0,280	0,160–0,280	0,200–0,320	0,200–0,400	0,200–0,450
		U	70	110	160	mm/r	0,160–0,280	0,160–0,280	0,200–0,320	0,200–0,400	0,200–0,450
		I	50	80	110	mm/r	0,160–0,280	0,160–0,280	0,200–0,320	0,200–0,400	0,200–0,450
	5	S	90	130	210	mm/r	0,160–0,280	0,160–0,280	0,200–0,320	0,200–0,400	0,200–0,450
		U	70	100	150	mm/r	0,160–0,280	0,160–0,280	0,200–0,320	0,200–0,400	0,200–0,450
		I	50	70	100	mm/r	0,160–0,280	0,160–0,280	0,200–0,320	0,200–0,400	0,200–0,450
6	S	70	90	180	mm/r	0,160–0,280	0,160–0,280	0,200–0,320	0,200–0,400	0,200–0,450	
	U	50	75	120	mm/r	0,160–0,280	0,160–0,280	0,200–0,320	0,200–0,400	0,200–0,450	
	I	40	60	100	mm/r	0,160–0,280	0,160–0,280	0,200–0,320	0,200–0,400	0,200–0,450	
M	1	S	60	110	135	mm/r	0,130–0,250	0,130–0,250	0,160–0,280	0,160–0,320	0,200–0,360
		U	40	70	90	mm/r	0,130–0,250	0,130–0,250	0,160–0,280	0,160–0,320	0,200–0,360
		I	30	50	65	mm/r	0,130–0,250	0,130–0,250	0,160–0,280	0,160–0,320	0,200–0,360
	2	S	60	100	135	mm/r	0,130–0,250	0,130–0,250	0,160–0,280	0,160–0,320	0,200–0,360
		U	40	60	90	mm/r	0,130–0,250	0,130–0,250	0,160–0,280	0,160–0,320	0,200–0,360
		I	30	50	65	mm/r	0,130–0,250	0,130–0,250	0,160–0,280	0,160–0,320	0,200–0,360
	3	S	50	90	135	mm/r	0,130–0,250	0,130–0,250	0,160–0,280	0,160–0,320	0,200–0,360
		U	40	60	90	mm/r	0,130–0,250	0,130–0,250	0,160–0,280	0,160–0,320	0,200–0,360
		I	25	40	65	mm/r	0,130–0,250	0,130–0,250	0,160–0,280	0,160–0,320	0,200–0,360
K	1	S	90	170	230	mm/r	0,180–0,300	0,180–0,300	0,216–0,360	0,240–0,420	0,300–0,480
		U	60	120	160	mm/r	0,180–0,300	0,180–0,300	0,216–0,360	0,240–0,420	0,300–0,480
		I	40	70	90	mm/r	0,180–0,300	0,180–0,300	0,216–0,360	0,240–0,420	0,300–0,480
	2	S	90	160	220	mm/r	0,180–0,300	0,180–0,300	0,216–0,360	0,240–0,420	0,300–0,480
		U	60	110	160	mm/r	0,180–0,300	0,180–0,300	0,216–0,360	0,240–0,420	0,300–0,480
		I	40	70	100	mm/r	0,180–0,300	0,180–0,300	0,216–0,360	0,240–0,420	0,300–0,480
	3	S	90	150	210	mm/r	0,180–0,300	0,180–0,300	0,216–0,360	0,240–0,420	0,300–0,480
		U	60	100	150	mm/r	0,180–0,300	0,180–0,300	0,216–0,360	0,240–0,420	0,300–0,480
		I	35	60	90	mm/r	0,180–0,300	0,180–0,300	0,216–0,360	0,240–0,420	0,300–0,480
N	1	S	150	240	360	mm/r	0,120–0,200	0,120–0,200	0,144–0,280	0,160–0,320	0,200–0,400
		U	100	160	240	mm/r	0,120–0,200	0,120–0,200	0,144–0,280	0,160–0,320	0,200–0,400
		I	60	100	160	mm/r	0,120–0,200	0,120–0,200	0,144–0,280	0,160–0,320	0,200–0,400
	2	S	150	220	360	mm/r	0,120–0,200	0,120–0,200	0,144–0,280	0,160–0,320	0,200–0,400
		U	100	150	240	mm/r	0,120–0,200	0,120–0,200	0,144–0,280	0,160–0,320	0,200–0,400
		I	60	100	160	mm/r	0,120–0,200	0,120–0,200	0,144–0,280	0,160–0,320	0,200–0,400
	3	S	150	200	360	mm/r	0,120–0,200	0,120–0,200	0,144–0,280	0,160–0,320	0,200–0,400
		U	100	140	240	mm/r	0,120–0,200	0,120–0,200	0,144–0,280	0,160–0,320	0,200–0,400
		I	60	90	160	mm/r	0,120–0,200	0,120–0,200	0,144–0,280	0,160–0,320	0,200–0,400
	4	S	150	200	360	mm/r	0,120–0,200	0,120–0,200	0,144–0,280	0,160–0,320	0,200–0,400
		U	100	140	240	mm/r	0,120–0,200	0,120–0,200	0,144–0,280	0,160–0,320	0,200–0,400
		I	60	90	160	mm/r	0,120–0,200	0,120–0,200	0,144–0,280	0,160–0,320	0,200–0,400
	5	S	150	200	360	mm/r	0,120–0,200	0,120–0,200	0,144–0,280	0,160–0,320	0,200–0,400
		U	100	140	240	mm/r	0,120–0,200	0,120–0,200	0,144–0,280	0,160–0,320	0,200–0,400
		I	60	90	160	mm/r	0,120–0,200	0,120–0,200	0,144–0,280	0,160–0,320	0,200–0,400
6	S	150	200	360	mm/r	0,120–0,200	0,120–0,200	0,144–0,280	0,160–0,320	0,200–0,400	
	U	100	140	240	mm/r	0,120–0,200	0,120–0,200	0,144–0,280	0,160–0,320	0,200–0,400	
	I	60	90	160	mm/r	0,120–0,200	0,120–0,200	0,144–0,280	0,160–0,320	0,200–0,400	
7	S	110	220	260	mm/r	0,120–0,200	0,120–0,200	0,144–0,280	0,160–0,320	0,200–0,400	
	U	70	140	170	mm/r	0,120–0,200	0,120–0,200	0,144–0,280	0,160–0,320	0,200–0,400	
	I	45	90	110	mm/r	0,120–0,200	0,120–0,200	0,144–0,280	0,160–0,320	0,200–0,400	
S	1	S	25	50	75	mm/r	0,130–0,250	0,130–0,250	0,160–0,280	0,160–0,320	0,200–0,360
		U	20	40	60	mm/r	0,130–0,250	0,130–0,250	0,160–0,280	0,160–0,320	0,200–0,360
		I	15	30	50	mm/r	0,130–0,250	0,130–0,250	0,160–0,280	0,160–0,320	0,200–0,360
	2	S	20	40	60	mm/r	0,130–0,250	0,130–0,250	0,160–0,280	0,160–0,320	0,200–0,360
		U	15	30	45	mm/r	0,130–0,250	0,130–0,250	0,160–0,280	0,160–0,320	0,200–0,360
		I	12	25	35	mm/r	0,130–0,250	0,130–0,250	0,160–0,280	0,160–0,320	0,200–0,360
	3	S	20	40	60	mm/r	0,130–0,250	0,130–0,250	0,160–0,280	0,160–0,320	0,200–0,360
		U	15	30	45	mm/r	0,130–0,250	0,130–0,250	0,160–0,280	0,160–0,320	0,200–0,360
		I	12	25	40	mm/r	0,130–0,250	0,130–0,250	0,160–0,280	0,160–0,320	0,200–0,360
	4	S	20	40	60	mm/r	0,130–0,250	0,130–0,250	0,160–0,280	0,160–0,320	0,200–0,360
		U	15	30	45	mm/r	0,130–0,250	0,130–0,250	0,160–0,280	0,160–0,320	0,200–0,360
		I	12	25	40	mm/r	0,130–0,250	0,130–0,250	0,160–0,280	0,160–0,320	0,200–0,360

HOLEMAKING

Indexable Drilling

DRILL FIX PRO

**OUR MOST ROBUST, VERSATILE & ECONOMIC
INDEXABLE DRILLING PLATFORM**



Materials



Industries



General
Engineering



Automotive



Oil & Gas

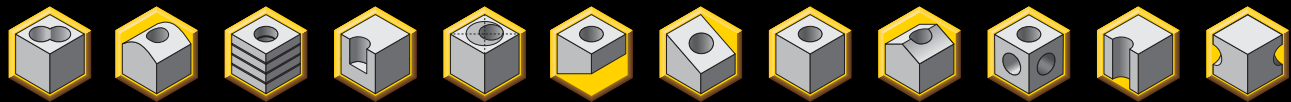


Aerospace



Wind & Solar

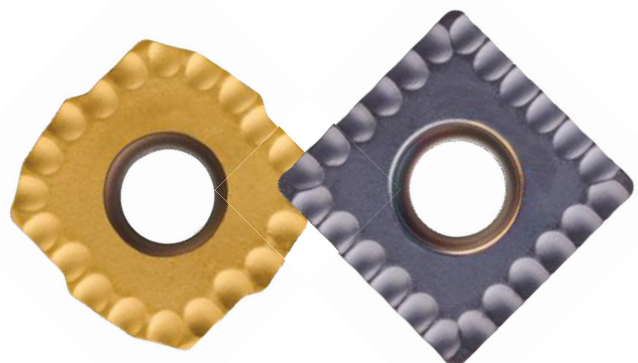
Applications



Our Drill Fix PRO indexable drilling platform comes standard with a wiper included in every outboard insert. The platform's versatility is also elevated with four cutting edges on its inboard and outboard inserts, resulting in an extended application range that makes Drill Fix PRO incredibly cost effective. It also features larger coolant channels for higher-volume coolant flow. This innovative design element brings customers not only a strong, quiet drilling experience but also a longer tool life.



Explore Drill Fix PRO



Features and Benefits

➤ **Cost-Effective & Versatile Indexable Drilling**

Drill Fix PRO offers an economic drilling platform that covers a broad spectrum of materials and applications

➤ **Diameter range covering 12-54mm**

2xD and 3xD ratios as standard

➤ **Insert type:** Squared inboard, squared outboard

➤ **Shank Styles:**

SSF Shank

KM Shank

➤ **Grades:** KCPK10, KCU25, KCU40, KC7140, KCMS35 and KCMS40

➤ **Robust Tool Holder Design**

Extreme rigidity resulting in less deviations, vibrations and noise

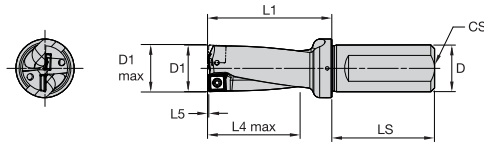
➤ **Wiper Geometry on All Outboard Inserts**

Creating superior surface finish and hole quality

➤ **Optimized Coolant Delivery System**

Large twin coolant channels provide enhanced coolant flow, resulting in superior chip evacuation and increased tool life





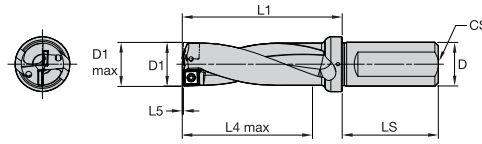
Drill Fix PRO • Drill Body • 2 x D • WB Shank • Metric

Order Number	ISO Catalog Number	D1	D1 max	L5	L1	L4 max	LS	D	CS	Insert 1 Outside	Insert 2 Inside
7034765	DFPR120R2WB20M	12,00	12,50	0,32	45,00	24,00	50,00	20,00	1/8-27 NPT	DFPR040204_0	DFPR040203_I
7034766	DFPR125R2WB20M	12,50	13,00	0,36	46,00	25,00	50,00	20,00	1/8-27 NPT	DFPR040204_0	DFPR040203_I
7034767	DFPR130R2WB20M	13,00	13,50	0,40	47,00	26,00	50,00	20,00	1/8-27 NPT	DFPR040204_0	DFPR040203_I
7034768	DFPR135R2WB20M	13,50	14,00	0,44	47,00	27,00	50,00	20,00	1/8-27 NPT	DFPR040204_0	DFPR040203_I
7034769	DFPR140R2WB20M	14,00	14,50	0,36	48,00	28,00	50,00	20,00	1/8-27 NPT	DFPR050204_0	DFPR050203_I
7034770	DFPR145R2WB20M	14,50	15,00	0,40	49,00	29,00	50,00	20,00	1/8-27 NPT	DFPR050204_0	DFPR050203_I
7034801	DFPR150R2WB20M	15,00	15,50	0,44	49,00	30,00	50,00	20,00	1/8-27 NPT	DFPR050204_0	DFPR050203_I
7034802	DFPR155R2WB20M	15,50	16,00	0,48	50,00	31,00	50,00	20,00	1/8-27 NPT	DFPR050204_0	DFPR050203_I
7034803	DFPR160R2WB20M	16,00	16,50	0,52	51,00	32,00	50,00	20,00	1/8-27 NPT	DFPR050204_0	DFPR050203_I
7034132	DFPR165R2WB20M	16,50	17,00	0,21	53,00	33,00	50,00	20,00	1/8-27 NPT	DFPR060304_0	DFPR060304_I
7034133	DFPR170R2WB20M	17,00	17,50	0,26	53,00	34,00	50,00	20,00	1/8-27 NPT	DFPR060304_0	DFPR060304_I
7034134	DFPR175R2WB25M	17,50	18,00	0,49	55,00	35,00	56,00	25,00	1/4-18 NPT	DFPR060304_0	DFPR060304_I
7034135	DFPR180R2WB25M	18,00	18,50	0,54	56,00	36,00	56,00	25,00	1/4-18 NPT	DFPR060304_0	DFPR060304_I
7034136	DFPR185R2WB25M	18,50	19,00	0,58	57,00	37,00	56,00	25,00	1/4-18 NPT	DFPR060304_0	DFPR060304_I
7034137	DFPR190R2WB25M	19,00	19,50	0,62	57,00	38,00	56,00	25,00	1/4-18 NPT	DFPR060304_0	DFPR060304_I
7034138	DFPR195R2WB25M	19,50	20,00	0,48	58,00	39,00	56,00	25,00	1/4-18 NPT	DFPR060304_0	DFPR060304_I
7030338	DFPR200R2WB25M	20,00	21,00	0,50	59,00	40,00	56,00	25,00	1/4-18 NPT	DFPR070305_0	DFPR080304_I
7030339	DFPR210R2WB25M	21,00	22,00	0,58	60,00	42,00	56,00	25,00	1/4-18 NPT	DFPR070305_0	DFPR080304_I
7030340	DFPR220R2WB25M	22,00	23,00	0,67	62,00	44,00	56,00	25,00	1/4-18 NPT	DFPR070305_0	DFPR080304_I
7030351	DFPR230R2WB25M	23,00	24,00	0,76	62,24	46,00	56,00	25,00	1/4-18 NPT	DFPR070305_0	DFPR080304_I
7030352	DFPR240R2WB25M	24,00	25,00	0,84	64,16	48,00	56,00	25,00	1/4-18 NPT	DFPR070305_0	DFPR080304_I
7034139	DFPR250R2WB25M	25,00	26,00	0,35	67,00	50,00	56,00	25,00	1/4-18 NPT	DFPR090305_0	DFPR100305_I
7034140	DFPR260R2WB32M	26,00	27,00	0,44	76,00	52,00	60,00	32,00	1/4-18 NPT	DFPR090305_0	DFPR100305_I
7214601	DFPR265R2WB32M	26,50	27,50	0,78	77,00	53,00	60,00	32,00	1/4-18 NPT	DFPR090305_0	DFPR100305_I
7034141	DFPR270R2WB32M	27,00	28,00	0,52	78,00	54,00	60,00	32,00	1/4-18 NPT	DFPR090305_0	DFPR100305_I
7034142	DFPR280R2WB32M	28,00	29,00	0,61	79,00	56,00	60,00	32,00	1/4-18 NPT	DFPR090305_0	DFPR100305_I
7034143	DFPR290R2WB32M	29,00	30,00	0,70	81,00	58,00	60,00	32,00	1/4-18 NPT	DFPR090305_0	DFPR100305_I
7034144	DFPR300R2WB32M	30,00	31,00	0,79	82,00	60,00	60,00	32,00	1/4-18 NPT	DFPR090305_0	DFPR100305_I
7030353	DFPR310R2WB40M	31,00	32,00	0,40	88,00	62,00	70,00	40,00	1/4-18 NPT	DFPR110406_0	DFPR120405_I
7030354	DFPR320R2WB40M	32,00	33,00	0,48	89,00	64,00	70,00	40,00	1/4-18 NPT	DFPR110406_0	DFPR120405_I
7030355	DFPR330R2WB40M	33,00	34,00	0,93	91,00	66,00	70,00	40,00	1/4-18 NPT	DFPR110406_0	DFPR120405_I
7030356	DFPR340R2WB40M	34,00	35,00	1,02	92,00	68,00	70,00	40,00	1/4-18 NPT	DFPR110406_0	DFPR120405_I
7030357	DFPR350R2WB40M	35,00	36,00	1,11	94,00	70,00	70,00	40,00	1/4-18 NPT	DFPR110406_0	DFPR120405_I
7030358	DFPR360R2WB40M	36,00	37,00	1,19	95,00	72,00	70,00	40,00	1/4-18 NPT	DFPR110406_0	DFPR120405_I
7030359	DFPR370R2WB40M	37,00	38,00	1,28	97,00	74,00	70,00	40,00	1/4-18 NPT	DFPR110406_0	DFPR120405_I
7030569	DFPR380R2WB40M	38,00	39,00	0,91	103,00	76,00	70,00	40,00	1/4-18 NPT	DFPR140408_0	DFPR140406_I
7030570	DFPR390R2WB40M	39,00	40,00	0,99	104,00	78,00	70,00	40,00	1/4-18 NPT	DFPR140408_0	DFPR140406_I
7030571	DFPR400R2WB40M	40,00	41,00	1,08	106,00	80,00	70,00	40,00	1/4-18 NPT	DFPR140408_0	DFPR140406_I
7030573	DFPR410R2WB40M	41,00	42,00	1,16	107,00	82,00	70,00	40,00	1/4-18 NPT	DFPR140408_0	DFPR140406_I
7030574	DFPR420R2WB40M	42,00	43,00	1,25	110,00	84,00	70,00	40,00	1/4-18 NPT	DFPR140408_0	DFPR140406_I
7030575	DFPR430R2WB40M	43,00	44,00	1,33	111,00	86,00	70,00	40,00	1/4-18 NPT	DFPR140408_0	DFPR140406_I
7030576	DFPR440R2WB40M	44,00	45,00	1,42	113,00	88,00	70,00	40,00	1/4-18 NPT	DFPR140408_0	DFPR140406_I
7214527	DFPR450R2WB40M	45,00	46,00	1,50	116,00	90,00	70,00	40,00	1/4-18 NPT	DFPR140408_0	DFPR140406_I
7030577	DFPR450R2WB50M	45,00	46,00	1,50	122,00	90,00	80,00	50,00	1/4-18 NPT	DFPR140408_0	DFPR140406_I
7214769	DFPR460R2WB40M	46,00	47,00	1,20	120,00	92,00	70,00	40,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7030578	DFPR460R2WB50M	46,00	47,00	1,20	122,00	92,00	80,00	50,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7214770	DFPR470R2WB40M	47,00	48,00	1,28	122,00	94,00	70,00	40,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7030579	DFPR470R2WB50M	47,00	48,00	1,28	124,00	94,00	80,00	50,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7214811	DFPR480R2WB40M	48,00	49,00	1,36	125,00	96,00	70,00	40,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7030580	DFPR480R2WB50M	48,00	49,00	1,36	125,00	96,00	80,00	50,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7214812	DFPR490R2WB40M	49,00	50,00	1,44	126,00	98,00	70,00	40,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7030581	DFPR490R2WB50M	49,00	50,00	1,44	127,00	98,00	80,00	50,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7214813	DFPR500R2WB40M	50,00	51,00	1,52	128,00	100,00	70,00	40,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7030582	DFPR500R2WB50M	50,00	51,00	1,52	130,00	100,00	80,00	50,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7214814	DFPR510R2WB40M	51,00	52,00	1,60	132,00	102,00	70,00	40,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7030584	DFPR510R2WB50M	51,00	52,00	1,60	131,00	102,00	80,00	50,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7214815	DFPR520R2WB40M	52,00	53,00	1,69	134,00	104,00	70,00	40,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7030585	DFPR520R2WB50M	52,00	53,00	1,69	133,00	104,00	80,00	50,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7214816	DFPR530R2WB40M	53,00	54,00	1,77	136,00	106,00	70,00	40,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7030586	DFPR530R2WB50M	53,00	54,00	1,77	134,00	106,00	80,00	50,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7214817	DFPR540R2WB40M	54,00	55,00	1,85	138,00	108,00	70,00	40,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I

HOEMAKING

Drill Fix PRO • Drill Body • 2 x D • WB Shank - continued

Order Number	ISO Catalog Number	D1	D1 max	L5	L1	L4 max	LS	D	CS	Insert 1 Outside	Insert 2 Inside
7030587	DFPR540R2WB50M	54,00	55,00	1,85	136,00	108,00	80,00	50,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7214653	DFPR550R2WB40M	55,00	56,00	1,37	142,00	110,00	70,00	40,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7030715	DFPR550R2WB50M	55,00	56,00	1,37	144,00	110,00	80,00	50,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7214654	DFPR560R2WB40M	56,00	57,00	1,45	144,00	112,00	70,00	40,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7030716	DFPR560R2WB50M	56,00	57,00	1,45	146,00	112,00	80,00	50,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7214655	DFPR570R2WB40M	57,00	58,00	1,53	146,00	114,00	70,00	40,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7030717	DFPR570R2WB50M	57,00	58,00	1,53	147,00	114,00	80,00	50,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7214656	DFPR580R2WB40M	58,00	59,00	1,61	148,00	116,00	70,00	40,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7030718	DFPR580R2WB50M	58,00	59,00	1,61	149,00	116,00	80,00	50,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7214657	DFPR590R2WB40M	59,00	60,00	1,70	152,00	118,00	70,00	40,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7030719	DFPR590R2WB50M	59,00	60,00	1,70	153,00	118,00	80,00	50,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7214659	DFPR600R2WB40M	60,00	61,00	1,78	154,00	120,00	70,00	40,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7030720	DFPR600R2WB50M	60,00	61,00	1,78	155,00	120,00	80,00	50,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7214660	DFPR610R2WB40M	61,00	62,00	1,86	156,00	122,00	70,00	40,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7030721	DFPR610R2WB50M	61,00	62,00	1,86	157,00	122,00	80,00	50,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7214671	DFPR620R2WB40M	62,00	63,00	1,94	158,00	124,00	70,00	40,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7030722	DFPR620R2WB50M	62,00	63,00	1,94	159,00	124,00	80,00	50,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7214672	DFPR630R2WB40M	63,00	64,00	2,02	161,00	126,00	70,00	40,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7030723	DFPR630R2WB50M	63,00	64,00	2,02	161,00	126,00	80,00	50,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7214673	DFPR640R2WB40M	64,00	65,00	2,10	163,00	128,00	70,00	40,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7030724	DFPR640R2WB50M	64,00	65,00	2,10	163,00	128,00	80,00	50,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7214674	DFPR650R2WB40M	65,00	66,00	2,19	165,00	130,00	70,00	40,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7030725	DFPR650R2WB50M	65,00	66,00	2,19	165,00	130,00	80,00	50,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I



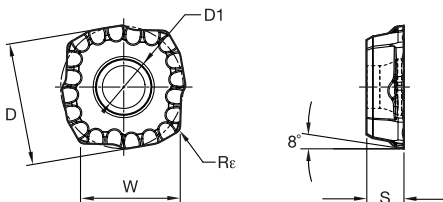
Drill Fix PRO • Drill Body • 3xD • WB Shank • Metric

Order Number	ISO Catalog Number	D1	D1 max	L5	L1	L4 max	LS	D	CS	Insert 1 Outside	Insert 2 Inside
7034804	DFPR120R3WB20M	12,00	12,50	0,32	57,00	36,00	50,00	20,00	1/8-27 NPT	DFPR040204_0	DFPR040203_I
7034805	DFPR125R3WB20M	12,50	13,00	0,36	58,50	37,50	50,00	20,00	1/8-27 NPT	DFPR040204_0	DFPR040203_I
7034806	DFPR130R3WB20M	13,00	13,50	0,40	60,00	39,00	50,00	20,00	1/8-27 NPT	DFPR040204_0	DFPR040203_I
7034807	DFPR135R3WB20M	13,50	14,00	0,44	60,50	40,50	50,00	20,00	1/8-27 NPT	DFPR040204_0	DFPR040203_I
7034808	DFPR140R3WB20M	14,00	14,50	0,36	62,00	42,00	50,00	20,00	1/8-27 NPT	DFPR050204_0	DFPR050203_I
7034809	DFPR145R3WB20M	14,50	15,00	0,40	63,50	43,50	50,00	20,00	1/8-27 NPT	DFPR050204_0	DFPR050203_I
7034810	DFPR150R3WB20M	15,00	15,50	0,44	64,00	45,00	50,00	20,00	1/8-27 NPT	DFPR050204_0	DFPR050203_I
7034811	DFPR155R3WB20M	15,50	16,00	0,48	65,50	46,50	50,00	20,00	1/8-27 NPT	DFPR050204_0	DFPR050203_I
7034812	DFPR160R3WB20M	16,00	16,50	0,52	67,00	48,00	50,00	20,00	1/8-27 NPT	DFPR050204_0	DFPR050203_I
7034145	DFPR165R3WB20M	16,50	17,00	0,21	69,50	49,50	50,00	20,00	1/8-27 NPT	DFPR060304_0	DFPR060304_I
7034146	DFPR170R3WB20M	17,00	17,50	0,26	70,00	51,00	50,00	20,00	1/8-27 NPT	DFPR060304_0	DFPR060304_I
7034147	DFPR175R3WB25M	17,50	18,00	0,30	72,50	52,50	56,00	25,00	1/4-18 NPT	DFPR060304_0	DFPR060304_I
7034148	DFPR180R3WB25M	18,00	18,50	0,35	74,00	54,00	56,00	25,00	1/4-18 NPT	DFPR060304_0	DFPR060304_I
7034149	DFPR185R3WB25M	18,50	19,00	0,39	75,50	55,50	56,00	25,00	1/4-18 NPT	DFPR060304_0	DFPR060304_I
7034150	DFPR190R3WB25M	19,00	19,50	0,62	76,00	57,00	56,00	25,00	1/4-18 NPT	DFPR060304_0	DFPR060304_I
7034151	DFPR195R3WB25M	19,50	20,00	0,48	77,50	58,50	56,00	25,00	1/4-18 NPT	DFPR060304_0	DFPR060304_I
7030360	DFPR200R3WB25M	20,00	21,00	0,50	79,00	60,00	56,00	25,00	1/4-18 NPT	DFPR070305_0	DFPR080304_I
7030361	DFPR210R3WB25M	21,00	22,00	0,58	81,00	63,00	56,00	25,00	1/4-18 NPT	DFPR070305_0	DFPR080304_I
7030362	DFPR220R3WB25M	22,00	23,00	0,67	84,00	66,00	56,00	25,00	1/4-18 NPT	DFPR070305_0	DFPR080304_I
7030363	DFPR230R3WB25M	23,00	24,00	0,75	86,00	69,00	56,00	25,00	1/4-18 NPT	DFPR070305_0	DFPR080304_I
7030364	DFPR240R3WB25M	24,00	25,00	0,84	89,00	72,00	56,00	25,00	1/4-18 NPT	DFPR070305_0	DFPR080304_I
7034152	DFPR250R3WB25M	25,00	26,00	0,35	92,00	75,00	56,00	25,00	1/4-18 NPT	DFPR090305_0	DFPR100305_I
7034153	DFPR260R3WB32M	26,00	27,00	0,44	102,00	78,00	60,00	32,00	1/4-18 NPT	DFPR090305_0	DFPR100305_I
7214602	DFPR265R3WB32M	26,50	27,50	0,78	103,50	79,50	60,00	32,00	1/4-18 NPT	DFPR090305_0	DFPR100305_I
7034154	DFPR270R3WB32M	27,00	28,00	0,52	105,00	81,00	60,00	32,00	1/4-18 NPT	DFPR090305_0	DFPR100305_I
7034155	DFPR280R3WB32M	28,00	29,00	0,61	107,00	84,00	60,00	32,00	1/4-18 NPT	DFPR090305_0	DFPR100305_I
7034156	DFPR290R3WB32M	29,00	30,00	0,70	110,00	87,00	60,00	32,00	1/4-18 NPT	DFPR090305_0	DFPR100305_I
7034157	DFPR300R3WB32M	30,00	31,00	0,79	112,00	90,00	60,00	32,00	1/4-18 NPT	DFPR090305_0	DFPR100305_I
7030365	DFPR310R3WB40M	31,00	32,00	0,40	119,00	93,00	70,00	40,00	1/4-18 NPT	DFPR110406_0	DFPR120405_I
7030366	DFPR320R3WB40M	32,00	33,00	0,48	121,00	96,00	70,00	40,00	1/4-18 NPT	DFPR110406_0	DFPR120405_I
7030367	DFPR330R3WB40M	33,00	34,00	0,93	124,00	99,00	70,00	40,00	1/4-18 NPT	DFPR110406_0	DFPR120405_I
7030368	DFPR340R3WB40M	34,00	35,00	1,02	126,00	102,00	70,00	40,00	1/4-18 NPT	DFPR110406_0	DFPR120405_I
7030369	DFPR350R3WB40M	35,00	36,00	1,11	129,00	105,00	70,00	40,00	1/4-18 NPT	DFPR110406_0	DFPR120405_I
7030370	DFPR360R3WB40M	36,00	37,00	1,19	131,00	108,00	70,00	40,00	1/4-18 NPT	DFPR110406_0	DFPR120405_I
7030381	DFPR370R3WB40M	37,00	38,00	1,28	134,00	111,00	70,00	40,00	1/4-18 NPT	DFPR110406_0	DFPR120405_I
7030588	DFPR380R3WB40M	38,00	39,00	0,91	141,00	114,00	70,00	40,00	1/4-18 NPT	DFPR140408_0	DFPR140406_I
7030589	DFPR390R3WB40M	39,00	40,00	0,99	143,00	117,00	70,00	40,00	1/4-18 NPT	DFPR140408_0	DFPR140406_I
7030590	DFPR400R3WB40M	40,00	41,00	1,08	146,00	120,00	70,00	40,00	1/4-18 NPT	DFPR140408_0	DFPR140406_I
7030604	DFPR410R3WB40M	41,00	42,00	1,16	148,00	123,00	70,00	40,00	1/4-18 NPT	DFPR140408_0	DFPR140406_I
7030605	DFPR420R3WB40M	42,00	43,00	1,25	152,00	126,00	70,00	40,00	1/4-18 NPT	DFPR140408_0	DFPR140406_I
7030606	DFPR430R3WB40M	43,00	44,00	1,33	154,00	129,00	70,00	40,00	1/4-18 NPT	DFPR140408_0	DFPR140406_I
7030607	DFPR440R3WB40M	44,00	45,00	1,42	157,00	132,00	70,00	40,00	1/4-18 NPT	DFPR140408_0	DFPR140406_I
7214528	DFPR450R3WB40M	45,00	46,00	1,50	161,00	135,00	70,00	40,00	1/4-18 NPT	DFPR140408_0	DFPR140406_I
7030608	DFPR450R3WB50M	45,00	46,00	1,50	167,00	135,00	80,00	50,00	1/4-18 NPT	DFPR140408_0	DFPR140406_I
7214818	DFPR460R3WB40M	46,00	47,00	1,20	166,00	138,00	70,00	40,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7030609	DFPR460R3WB50M	46,00	47,00	1,20	168,00	138,00	80,00	50,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7214819	DFPR470R3WB40M	47,00	48,00	1,28	169,00	141,00	70,00	40,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7030610	DFPR470R3WB50M	47,00	48,00	1,28	171,00	141,00	80,00	50,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7214820	DFPR480R3WB40M	48,00	49,00	1,36	173,00	144,00	70,00	40,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7030611	DFPR480R3WB50M	48,00	49,00	1,36	173,00	144,00	80,00	50,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7214821	DFPR490R3WB40M	49,00	50,00	1,44	175,00	147,00	70,00	40,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7030612	DFPR490R3WB50M	49,00	50,00	1,40	176,00	147,00	80,00	50,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7214822	DFPR500R3WB40M	50,00	51,00	1,52	178,00	150,00	70,00	40,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7030613	DFPR500R3WB50M	50,00	51,00	1,52	180,00	150,00	80,00	50,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7214823	DFPR510R3WB40M	51,00	52,00	1,60	183,00	153,00	70,00	40,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7030614	DFPR510R3WB50M	51,00	52,00	1,60	182,00	153,00	80,00	50,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7214824	DFPR520R3WB40M	52,00	53,00	1,69	186,00	156,00	70,00	40,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7030615	DFPR520R3WB50M	52,00	53,00	1,69	185,00	156,00	80,00	50,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7214825	DFPR530R3WB40M	53,00	54,00	1,77	189,00	159,00	70,00	40,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7030617	DFPR530R3WB50M	53,00	54,00	1,77	187,00	159,00	80,00	50,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7214826	DFPR540R3WB40M	54,00	55,00	1,85	192,00	162,00	70,00	40,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I

HOEMAKING

Drill Fix PRO • Drill Body • 3xD • WB Shank - continued

Order Number	ISO Catalog Number	D1	D1 max	L5	L1	L4 max	LS	D	CS	Insert 1 Outside	Insert 2 Inside
7030618	DFPR540R3WB50M	54,00	55,00	1,85	190,00	162,00	80,00	50,00	1/4-18 NPT	DFPR150508_0	DFPR170508_I
7214675	DFPR550R3WB40M	55,00	56,00	1,37	197,00	165,00	70,00	40,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7030726	DFPR550R3WB50M	55,00	56,00	1,37	199,00	165,00	80,00	50,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7214676	DFPR560R3WB40M	56,00	57,00	1,45	200,00	200,00	70,00	40,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7030727	DFPR560R3WB50M	56,00	57,00	1,45	202,00	168,00	80,00	50,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7214678	DFPR570R3WB40M	57,00	58,00	1,53	203,00	203,00	70,00	40,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7030729	DFPR570R3WB50M	57,00	58,00	1,53	204,00	171,00	80,00	50,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7214679	DFPR580R3WB40M	58,00	59,00	1,61	206,00	174,00	70,00	40,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7030730	DFPR580R3WB50M	58,00	59,00	1,61	207,00	174,00	80,00	50,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7214680	DFPR590R3WB40M	59,00	60,00	1,70	211,00	177,00	70,00	40,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7030751	DFPR590R3WB50M	59,00	60,00	1,70	212,00	177,00	80,00	50,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7214681	DFPR600R3WB40M	60,00	61,00	1,78	214,00	180,00	70,00	40,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7030752	DFPR600R3WB50M	60,00	61,00	1,78	215,00	180,00	80,00	50,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7214683	DFPR610R3WB40M	61,00	62,00	1,86	217,00	183,00	70,00	40,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7030753	DFPR610R3WB50M	61,00	62,00	1,86	218,00	183,00	80,00	50,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7214684	DFPR620R3WB40M	62,00	63,00	1,94	220,00	186,00	70,00	40,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7030754	DFPR620R3WB50M	62,00	63,00	1,94	221,00	186,00	80,00	50,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7214685	DFPR630R3WB40M	63,00	64,00	2,02	224,00	189,00	70,00	40,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7030755	DFPR630R3WB50M	63,00	64,00	2,02	224,00	189,00	80,00	50,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7214686	DFPR640R3WB40M	64,00	65,00	2,10	227,00	192,00	70,00	40,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7030756	DFPR640R3WB50M	64,00	65,00	2,10	227,00	192,00	80,00	50,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7214687	DFPR650R3WB40M	65,00	66,00	2,19	230,00	195,00	70,00	40,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I
7030757	DFPR650R3WB50M	65,00	66,00	2,19	230,00	195,00	80,00	50,00	1/4-18 NPT	DFPR180610_0	DFPR200608_I

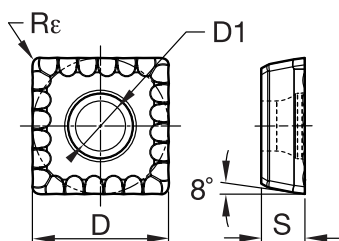


												KC7140	KCMS40
P	●	○	○	○	○	○	○	○	○	○	○	○	○
M	●	○	○	○	○	○	○	○	○	○	○	○	○
K	●	○	○	○	○	○	○	○	○	○	○	○	○
N	●	○	○	○	○	○	○	○	○	○	○	○	○
S	●	○	○	○	○	○	○	○	○	○	○	○	○
H	●	○	○	○	○	○	○	○	○	○	○	○	○

Drill Fix PRO • Carbide Insert • Inboard • LC Geometry

- Primary
- Secondary

ISO Catalog Number	D		D1		W		S		Re		KC7140	KCMS40
	mm	in	mm	in	mm	in	mm	in	mm	in		
DFPR040203LCI	4.57	0.180	2.13	0.084	3.81	0.150	2.00	0.084	0.30	0.012	7034325	7064664
DFPR050203LCI	5.30	0.209	2.43	0.096	4.42	0.174	2.40	0.094	0.30	0.012	7034326	7064665
DFPR060304LCI	6.50	0.256	2.54	0.100	5.37	0.212	2.60	0.102	0.40	0.016	7034241	7064666
DFPR080304LCI	8.04	0.317	2.84	0.112	6.58	0.259	2.80	0.110	0.40	0.016	7034303	7064667
DFPR100305LCI	9.90	0.390	3.45	0.136	8.09	0.318	3.00	0.118	0.50	0.020	7034242	7064668
DFPR120405LCI	11.90	0.469	4.85	0.191	9.83	0.387	3.60	0.142	0.50	0.020	7034304	7064669
DFPR140406LCI	14.45	0.569	5.55	0.219	12.00	0.473	4.40	0.173	0.60	0.024	7034355	7064670
DFPR170508LCI	17.30	0.681	6.05	0.238	14.35	0.565	5.20	0.205	0.80	0.032	7034356	7064671

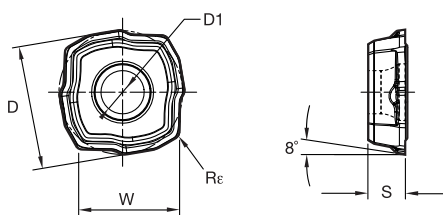
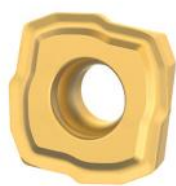


P	●	○	○	○	○	○	○	○	○	○	○	○	○
M	●	○	○	○	○	○	○	○	○	○	○	○	○
K	●	○	○	○	○	○	○	○	○	○	○	○	○
N	●	○	○	○	○	○	○	○	○	○	○	○	○
S	●	○	○	○	○	○	○	○	○	○	○	○	○
H	●	○	○	○	○	○	○	○	○	○	○	○	○

Drill Fix PRO • Carbide Insert • Outboard • LC Geometry

- Primary
- Secondary

ISO Catalog Number	D		D1		S		Re		KCMS35	KCU40
	mm	in	mm	in	mm	in	mm	in		
DFPR040204LCO	4.60	0.181	2.13	0.084	2.00	0.079	0.40	0.016	7064682	7034332
DFPR050204LCO	5.25	0.207	2.43	0.096	2.40	0.094	0.40	0.016	7064683	7034333
DFPR060304LCO	6.20	0.244	2.54	0.100	2.60	0.102	0.40	0.016	7064684	7034247
DFPR070305LCO	7.71	0.304	2.84	0.112	2.80	0.110	0.50	0.019	7064685	7034309
DFPR090305LCO	9.40	0.370	3.45	0.136	3.00	0.118	0.50	0.019	7064686	7034248
DFPR110406LCO	11.30	0.445	4.85	0.191	3.60	0.142	0.60	0.023	7064687	7034310
DFPR140408LCO	13.55	0.533	5.55	0.219	4.40	0.173	0.80	0.031	7064688	7034364
DFPR150508LCO	15.85	0.624	6.05	0.238	5.20	0.205	0.80	0.031	7064689	7034365



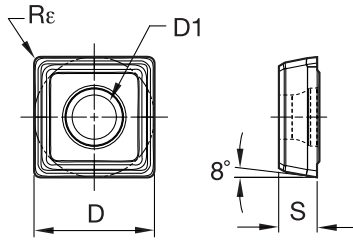
P	●	○	○	○	○	○	○	○	○	○	○	○	○
M	●	○	○	○	○	○	○	○	○	○	○	○	○
K	●	○	○	○	○	○	○	○	○	○	○	○	○
N	●	○	○	○	○	○	○	○	○	○	○	○	○
S	●	○	○	○	○	○	○	○	○	○	○	○	○
H	●	○	○	○	○	○	○	○	○	○	○	○	○

Drill Fix PRO • Carbide Insert • Inboard • MS Geometry

- Primary
- Secondary

ISO Catalog Number	D		D1		W		S		Re		KC7140	KCMS40
	mm	in	mm	in	mm	in	mm	in	mm	in		
DFPR040203MSI	4.57	0.180	2.13	0.084	3.81	0.150	2.00	0.084	0.30	0.012	7034323	7064645
DFPR050203MSI	5.30	0.209	2.43	0.096	4.42	0.174	2.40	0.094	0.30	0.012	7034324	7064646
DFPR060304MSI	6.50	0.256	2.54	0.100	5.37	0.212	2.60	0.102	0.40	0.016	7034099	7064647
DFPR080304MSI	8.04	0.317	2.84	0.112	6.58	0.259	2.80	0.110	0.40	0.016	7034301	7064648
DFPR100305MSI	9.90	0.390	3.45	0.136	8.09	0.318	3.00	0.118	0.50	0.020	7034100	7064649
DFPR120405MSI	11.90	0.469	4.85	0.191	9.83	0.387	3.60	0.142	0.50	0.020	7034302	7064650
DFPR140406MSI	14.45	0.569	5.55	0.219	12.00	0.473	4.40	0.173	0.60	0.024	7034300	7064661
DFPR170508MSI	17.30	0.681	6.05	0.238	14.35	0.565	5.20	0.205	0.80	0.032	7034352	7064662

HOLEMAKING

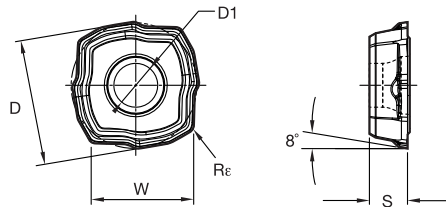


	KC7140	KCMS35	KCMS40	KCU40
P	○	○	○	○
M	●	●	●	●
K	○	○	○	○
N	○	○	○	○
S	○	○	○	○
H	○	○	○	○

● Primary
○ Secondary

Drill Fix PRO • Carbide Insert • Outboard • MS Geometry

ISO Catalog Number	D		D1		S		Re		KC7140	KCMS35	KCMS40	KCU40
	mm	in	mm	in	mm	in	mm	in				
DFPR040204MSO	4.60	0.181	2.13	0.084	2.00	0.079	0.40	0.016	7034340	7064673	7064691	7034330
DFPR050204MSO	5.25	0.207	2.43	0.096	2.40	0.094	0.40	0.016	7034341	7064674	7064693	7034331
DFPR060304MSO	6.20	0.244	2.54	0.100	2.60	0.102	0.40	0.016	7034256	7064675	7064694	7034245
DFPR070305MSO	7.71	0.304	2.84	0.112	2.80	0.110	0.50	0.019	7034319	7064676	7064695	7034307
DFPR090305MSO	9.40	0.370	3.45	0.136	3.00	0.118	0.50	0.019	7034257	7064677	7064696	7034246
DFPR110406MSO	11.30	0.445	4.85	0.191	3.60	0.142	0.60	0.023	7034320	7064678	7064697	7034308
DFPR140408MSO	13.55	0.533	5.55	0.219	4.40	0.173	0.80	0.031	7034387	7064679	7064698	7034361
DFPR150508MSO	15.85	0.624	6.05	0.238	5.20	0.205	0.80	0.031	7034388	7064680	7064699	7034362

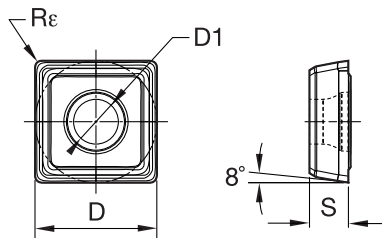


	KC7140
P	○
M	●
K	○
N	○
S	○
H	○

● Primary
○ Secondary

Drill Fix PRO • Carbide Insert • Inboard • PK Geometry

ISO Catalog Number	D		D1		W		S		Re		KC7140
	mm	in	mm	in	mm	in	mm	in	mm	in	
DFPR040203PKI	4.57	0.180	2.13	0.084	3.81	0.150	2.00	0.084	0.30	0.012	7034321
DFPR050203PKI	5.30	0.209	2.43	0.096	4.42	0.174	2.40	0.094	0.30	0.012	7034322
DFPR060304PKI	6.50	0.256	2.54	0.100	5.37	0.212	2.60	0.102	0.40	0.016	7034097
DFPR080304PKI	8.04	0.317	2.84	0.112	6.58	0.259	2.80	0.110	0.40	0.016	7034269
DFPR100305PKI	9.90	0.390	3.45	0.136	8.09	0.318	3.00	0.118	0.50	0.020	7034098
DFPR120405PKI	11.90	0.469	4.85	0.191	9.83	0.387	3.60	0.142	0.50	0.020	7034270
DFPR140406PKI	14.45	0.569	5.55	0.219	12.00	0.473	4.40	0.173	0.60	0.024	7034297
DFPR170508PKI	17.30	0.681	6.05	0.238	14.35	0.565	5.20	0.205	0.80	0.032	7034298



	KC7140	KCPK10	KCU25	KCU40
P	○	○	○	○
M	●	●	●	●
K	○	○	○	○
N	○	○	○	○
S	○	○	○	○
H	○	○	○	○

● Primary
○ Secondary

Drill Fix PRO • Carbide Insert • Outboard • PK Geometry

ISO Catalog Number	D		D1		S		Re		KC7140	KCPK10	KCU25	KCU40
	mm	in	mm	in	mm	in	mm	in				
DFPR040204PKO	4.60	0.181	2.13	0.084	2.00	0.079	0.40	0.016	7034338	7034334	7034336	7034328
DFPR050204PKO	5.25	0.207	2.43	0.096	2.40	0.094	0.40	0.016	7034339	7034335	7034337	7034329
DFPR060304PKO	6.20	0.244	2.54	0.100	2.60	0.102	0.40	0.016	7034254	7034249	7034252	7034243
DFPR070305PKO	7.71	0.304	2.84	0.112	2.80	0.110	0.50	0.019	7034317	7034311	7034315	7034305
DFPR090305PKO	9.40	0.370	3.45	0.136	3.00	0.118	0.50	0.019	7034255	7034250	7034253	7034244
DFPR110406PKO	11.30	0.445	4.85	0.191	3.60	0.142	0.60	0.023	7034318	7034312	7034316	7034306
DFPR140408PKO	13.55	0.533	5.55	0.219	4.40	0.173	0.80	0.031	7034383	7034367	7034370	7034358
DFPR150508PKO	15.85	0.624	6.05	0.238	5.20	0.205	0.80	0.031	7034384	7034368	7034381	7034359

DRILL FIX PRO APPLICATION DATA - SPEED VC IN M/MIN AND FEED FZ IN MM/REV

MG = Material Group CC = Cutting Condition S = Stable U = Unstable I = Interrupted IP = Insert Position O = Outboard I = Inboard GEO = Insert Geometry

MG	CC	IP	GEO	Grade	Ø 12-13,99mm		Ø 14-16,49mm		Ø 16,5-19,99mm			
					Min	Max	Min	Max	Min	Max		
P0												
	S	O	LC	KCMS35	310	360	0,05	0,10	0,05	0,12	0,05	0,13
	S	I	LC	KCMS40	310	360	0,05	0,10	0,05	0,12	0,05	0,13
	U	O	LC	KCMS35	200	240	0,04	0,07	0,04	0,08	0,04	0,09
	U	I	LC	KCMS40	200	240	0,04	0,07	0,04	0,08	0,04	0,09
	I	O	LC	KCMS35	125	145	0,04	0,06	0,04	0,07	0,04	0,08
	I	I	LC	KCMS40	125	145	0,04	0,06	0,04	0,07	0,04	0,08
P1												
	S	O	PK	KCPK10	310	360	0,06	0,16	0,07	0,18	0,07	0,20
	S	I	PK	KC7140	310	360	0,06	0,16	0,07	0,18	0,07	0,20
	U	O	PK	KCU25	200	240	0,05	0,11	0,06	0,13	0,06	0,14
	U	I	PK	KC7140	200	240	0,05	0,11	0,06	0,13	0,06	0,14
	I	O	PK	KCU40	125	145	0,05	0,10	0,06	0,11	0,06	0,12
	I	I	PK	KC7140	125	145	0,05	0,10	0,06	0,11	0,06	0,12
P2												
	S	O	PK	KCPK10	310	360	0,06	0,16	0,07	0,18	0,07	0,20
	S	I	PK	KC7140	310	360	0,06	0,16	0,07	0,18	0,07	0,20
	U	O	PK	KCU25	200	240	0,05	0,11	0,06	0,13	0,06	0,14
	U	I	PK	KC7140	200	240	0,05	0,11	0,06	0,13	0,06	0,14
	I	O	PK	KCU40	125	145	0,05	0,10	0,06	0,11	0,06	0,12
	I	I	PK	KC7140	125	145	0,05	0,10	0,06	0,11	0,06	0,12
P3												
	S	O	PK	KCPK10	260	320	0,06	0,16	0,07	0,18	0,07	0,20
	S	I	PK	KC7140	260	320	0,06	0,16	0,07	0,18	0,07	0,20
	U	O	PK	KCU25	170	210	0,05	0,11	0,06	0,13	0,06	0,14
	U	I	PK	KC7140	170	210	0,05	0,11	0,06	0,13	0,06	0,14
	I	O	PK	KCU40	105	135	0,05	0,10	0,06	0,11	0,06	0,12
	I	I	PK	KC7140	105	135	0,05	0,10	0,06	0,11	0,06	0,12
P4												
	S	O	PK	KCPK10	220	300	0,06	0,16	0,07	0,18	0,07	0,20
	S	I	PK	KC7140	220	300	0,06	0,16	0,07	0,18	0,07	0,20
	U	O	PK	KCU25	145	195	0,05	0,11	0,06	0,13	0,06	0,14
	U	I	PK	KC7140	145	195	0,05	0,11	0,06	0,13	0,06	0,14
	I	O	PK	KCU40	90	120	0,05	0,10	0,06	0,11	0,06	0,12
	I	I	PK	KC7140	90	120	0,05	0,10	0,06	0,11	0,06	0,12
P5												
	S	O	PK	KCU25	180	220	0,06	0,16	0,07	0,18	0,07	0,20
	S	I	PK	KC7140	180	220	0,06	0,16	0,07	0,18	0,07	0,20
	U	O	PK	KCU40	115	145	0,05	0,11	0,06	0,13	0,06	0,14
	U	I	PK	KC7140	115	145	0,05	0,11	0,06	0,13	0,06	0,14
	I	O	PK	KC7140	70	90	0,05	0,10	0,06	0,11	0,06	0,12
	I	I	PK	KC7140	70	90	0,05	0,10	0,06	0,11	0,06	0,12
P6												
	S	O	PK	KCU25	180	220	0,06	0,16	0,07	0,18	0,07	0,20
	S	I	PK	KC7140	180	220	0,06	0,16	0,07	0,18	0,07	0,20
	U	O	PK	KCU40	115	145	0,05	0,11	0,06	0,13	0,06	0,14
	U	I	PK	KC7140	115	145	0,05	0,11	0,06	0,13	0,06	0,14
	I	O	PK	KC7140	70	90	0,05	0,10	0,06	0,11	0,06	0,12
	I	I	PK	KC7140	70	90	0,05	0,10	0,06	0,11	0,06	0,12

HOEMAKING

MG = Material Group CC = Cutting Condition S = Stable U = Unstable I = Interrupted IP = Insert Position O = Outboard I = Inboard GEO = Insert Geometry

MG	CC	IP	GEO	Grade	Min	Max	Ø 20-24,49mm		Ø 25-30,49mm		Ø 30,5-37,49mm	
							Min	Max	Min	Max	Min	Max
P0												
	S	O	LC	KCMS35	310	360	0,05	0,14	0,06	0,16	0,07	0,18
	S	I	LC	KCMS40	310	360	0,05	0,14	0,06	0,16	0,07	0,18
	U	O	LC	KCMS35	200	240	0,04	0,10	0,05	0,11	0,06	0,13
	U	I	LC	KCMS40	200	240	0,04	0,10	0,05	0,11	0,06	0,13
	I	O	LC	KCMS35	125	145	0,04	0,08	0,05	0,10	0,06	0,11
	I	I	LC	KCMS40	125	145	0,04	0,08	0,05	0,10	0,06	0,11
P1												
	S	O	PK	KCPK10	310	360	0,08	0,22	0,08	0,25	0,09	0,28
	S	I	PK	KC7140	310	360	0,08	0,22	0,08	0,25	0,09	0,28
	U	O	PK	KCU25	200	240	0,06	0,15	0,06	0,18	0,07	0,20
	U	I	PK	KC7140	200	240	0,06	0,15	0,06	0,18	0,07	0,20
	I	O	PK	KCU40	125	145	0,06	0,13	0,06	0,15	0,07	0,17
	I	I	PK	KC7140	125	145	0,06	0,13	0,06	0,15	0,07	0,17
P2												
	S	O	PK	KCPK10	310	360	0,08	0,22	0,08	0,25	0,09	0,28
	S	I	PK	KC7140	310	360	0,08	0,22	0,08	0,25	0,09	0,28
	U	O	PK	KCU25	200	240	0,06	0,15	0,06	0,18	0,07	0,20
	U	I	PK	KC7140	200	240	0,06	0,15	0,06	0,18	0,07	0,20
	I	O	PK	KCU40	125	145	0,06	0,13	0,06	0,15	0,07	0,17
	I	I	PK	KC7140	125	145	0,06	0,13	0,06	0,15	0,07	0,17
P3												
	S	O	PK	KCPK10	260	320	0,08	0,22	0,08	0,25	0,09	0,28
	S	I	PK	KC7140	260	320	0,08	0,22	0,08	0,25	0,09	0,28
	U	O	PK	KCU25	170	210	0,06	0,15	0,06	0,18	0,07	0,20
	U	I	PK	KC7140	170	210	0,06	0,15	0,06	0,18	0,07	0,20
	I	O	PK	KCU40	105	135	0,06	0,13	0,06	0,15	0,07	0,17
	I	I	PK	KC7140	105	135	0,06	0,13	0,06	0,15	0,07	0,17
P4												
	S	O	PK	KCPK10	220	300	0,08	0,22	0,08	0,25	0,09	0,28
	S	I	PK	KC7140	220	300	0,08	0,22	0,08	0,25	0,09	0,28
	U	O	PK	KCU25	145	195	0,06	0,15	0,06	0,18	0,07	0,20
	U	I	PK	KC7140	145	195	0,06	0,15	0,06	0,18	0,07	0,20
	I	O	PK	KCU40	90	120	0,06	0,13	0,06	0,15	0,07	0,17
	I	I	PK	KC7140	90	120	0,06	0,13	0,06	0,15	0,07	0,17
P5												
	S	O	PK	KCU25	180	220	0,08	0,22	0,08	0,25	0,09	0,28
	S	I	PK	KC7140	180	220	0,08	0,22	0,08	0,25	0,09	0,28
	U	O	PK	KCU40	115	145	0,06	0,15	0,06	0,18	0,07	0,20
	U	I	PK	KC7140	115	145	0,06	0,15	0,06	0,18	0,07	0,20
	I	O	PK	KC7140	70	90	0,06	0,13	0,06	0,15	0,07	0,17
	I	I	PK	KC7140	70	90	0,06	0,13	0,06	0,15	0,07	0,17
P6												
	S	O	PK	KCU25	180	220	0,08	0,22	0,08	0,25	0,09	0,28
	S	I	PK	KC7140	180	220	0,08	0,22	0,08	0,25	0,09	0,28
	U	O	PK	KCU40	115	145	0,06	0,15	0,06	0,18	0,07	0,20
	U	I	PK	KC7140	115	145	0,06	0,15	0,06	0,18	0,07	0,20
	I	O	PK	KC7140	70	90	0,06	0,13	0,06	0,15	0,07	0,17
	I	I	PK	KC7140	70	90	0,06	0,13	0,06	0,15	0,07	0,17

HOLEMAKING

MG = Material Group CC = Cutting Condition S = Stable U = Unstable I = Interrupted IP = Insert Position O = Outboard I = Inboard GEO = Insert Geometry

MG	CC	IP	GEO	Grade	Min	Max	Ø 37,5–45,49mm		Ø 45,5–54,49mm		Ø 54,5–65mm	
							Min	Max	Min	Max	Min	Max
P0												
	S	O	LC	KCMS35	310	360	0,07	0,20	0,08	0,21	0,08	0,23
	S	I	LC	KCMS40	310	360	0,07	0,20	0,08	0,21	0,08	0,23
	U	O	LC	KCMS35	200	240	0,06	0,14	0,06	0,15	0,06	0,16
	U	I	LC	KCMS40	200	240	0,06	0,14	0,06	0,15	0,06	0,16
	I	O	LC	KCMS35	125	145	0,06	0,12	0,06	0,13	0,06	0,14
	I	I	LC	KCMS40	125	145	0,06	0,12	0,06	0,13	0,06	0,14
P1												
	S	O	PK	KCPK10	310	360	0,10	0,31	0,10	0,33	0,11	0,36
	S	I	PK	KC7140	310	360	0,10	0,31	0,10	0,33	0,11	0,36
	U	O	PK	KCU25	200	240	0,08	0,22	0,08	0,23	0,09	0,25
	U	I	PK	KC7140	200	240	0,08	0,22	0,08	0,23	0,09	0,25
	I	O	PK	KCU40	125	145	0,08	0,19	0,08	0,20	0,09	0,22
	I	I	PK	KC7140	125	145	0,08	0,19	0,08	0,20	0,09	0,22
P2												
	S	O	PK	KCPK10	310	360	0,10	0,31	0,10	0,33	0,11	0,36
	S	I	PK	KC7140	310	360	0,10	0,31	0,10	0,33	0,11	0,36
	U	O	PK	KCU25	200	240	0,08	0,22	0,08	0,23	0,09	0,25
	U	I	PK	KC7140	200	240	0,08	0,22	0,08	0,23	0,09	0,25
	I	O	PK	KCU40	125	145	0,08	0,19	0,08	0,20	0,09	0,22
	I	I	PK	KC7140	125	145	0,08	0,19	0,08	0,20	0,09	0,22
P3												
	S	O	PK	KCPK10	260	320	0,10	0,31	0,10	0,33	0,11	0,36
	S	I	PK	KC7140	260	320	0,10	0,31	0,10	0,33	0,11	0,36
	U	O	PK	KCU25	170	210	0,08	0,22	0,08	0,23	0,09	0,25
	U	I	PK	KC7140	170	210	0,08	0,22	0,08	0,23	0,09	0,25
	I	O	PK	KCU40	105	135	0,08	0,19	0,08	0,20	0,09	0,22
	I	I	PK	KC7140	105	135	0,08	0,19	0,08	0,20	0,09	0,22
P4												
	S	O	PK	KCPK10	220	300	0,10	0,31	0,10	0,33	0,11	0,36
	S	I	PK	KC7140	220	300	0,10	0,31	0,10	0,33	0,11	0,36
	U	O	PK	KCU25	145	195	0,08	0,22	0,08	0,23	0,09	0,25
	U	I	PK	KC7140	145	195	0,08	0,22	0,08	0,23	0,09	0,25
	I	O	PK	KCU40	90	120	0,08	0,19	0,08	0,20	0,09	0,22
	I	I	PK	KC7140	90	120	0,08	0,19	0,08	0,20	0,09	0,22
P5												
	S	O	PK	KCU25	180	220	0,10	0,31	0,10	0,33	0,11	0,36
	S	I	PK	KC7140	180	220	0,10	0,31	0,10	0,33	0,11	0,36
	U	O	PK	KCU40	115	145	0,08	0,22	0,08	0,23	0,09	0,25
	U	I	PK	KC7140	115	145	0,08	0,22	0,08	0,23	0,09	0,25
	I	O	PK	KC7140	70	90	0,08	0,19	0,08	0,20	0,09	0,22
	I	I	PK	KC7140	70	90	0,08	0,19	0,08	0,20	0,09	0,22
P6												
	S	O	PK	KCU25	180	220	0,10	0,31	0,10	0,33	0,11	0,36
	S	I	PK	KC7140	180	220	0,10	0,31	0,10	0,33	0,11	0,36
	U	O	PK	KCU40	115	145	0,08	0,22	0,08	0,23	0,09	0,25
	U	I	PK	KC7140	115	145	0,08	0,22	0,08	0,23	0,09	0,25
	I	O	PK	KC7140	70	90	0,08	0,19	0,08	0,20	0,09	0,22
	I	I	PK	KC7140	70	90	0,08	0,19	0,08	0,20	0,09	0,22

MG = Material Group CC = Cutting Condition S = Stable U = Unstable I = Interrupted IP = Insert Position O = Outboard I = Inboard GEO = Insert Geometry

MG	CC	IP	GEO	Grade	Min	Max	Ø 12-13,99mm		Ø 14-16,49mm		Ø 16,5-19,99mm	
							Min	Max	Min	Max	Min	Max
M1												
	S	O	MS	KCMS35	150	230	0,05	0,10	0,05	0,12	0,05	0,14
	S	I	MS	KCMS40	150	230	0,05	0,10	0,05	0,12	0,05	0,14
	U	O	MS	KCMS40	100	150	0,04	0,07	0,04	0,08	0,04	0,10
	U	I	MS	KCMS40	100	150	0,04	0,07	0,04	0,08	0,04	0,10
	I	O	MS	KCMS40	60	90	0,04	0,06	0,04	0,07	0,04	0,08
	I	I	MS	KCMS40	60	90	0,04	0,06	0,04	0,07	0,04	0,08
M2												
	S	O	MS	KCMS35	150	210	0,05	0,10	0,05	0,12	0,05	0,14
	S	I	MS	KCMS40	150	210	0,05	0,10	0,05	0,12	0,05	0,14
	U	O	MS	KCMS40	100	140	0,04	0,07	0,04	0,08	0,04	0,10
	U	I	MS	KCMS40	100	140	0,04	0,07	0,04	0,08	0,04	0,10
	I	O	MS	KCMS40	60	90	0,04	0,06	0,04	0,07	0,04	0,08
	I	I	MS	KCMS40	60	90	0,04	0,06	0,04	0,07	0,04	0,08
M3												
	S	O	MS	KCMS35	100	160	0,04	0,09	0,04	0,10	0,04	0,12
	S	I	MS	KCMS40	100	160	0,04	0,09	0,04	0,10	0,04	0,12
	U	O	MS	KCMS40	65	105	0,03	0,06	0,03	0,07	0,03	0,08
	U	I	MS	KCMS40	65	105	0,03	0,06	0,03	0,07	0,03	0,08
	I	O	MS	KCMS40	40	70	0,03	0,05	0,03	0,06	0,03	0,07
	I	I	MS	KCMS40	40	70	0,03	0,05	0,03	0,06	0,03	0,07
MG	CC	IP	GEO	Grade	Min	Max	Ø 20-24,49mm		Ø 25-30,49mm		Ø 30,5-37,49mm	
							Min	Max	Min	Max	Min	Max
M1												
	S	O	MS	KCMS35	150	230	0,05	0,15	0,06	0,16	0,07	0,18
	S	I	MS	KCMS40	150	230	0,05	0,15	0,06	0,16	0,07	0,18
	U	O	MS	KCMS40	100	150	0,04	0,11	0,05	0,11	0,06	0,13
	U	I	MS	KCMS40	100	150	0,04	0,11	0,05	0,11	0,06	0,13
	I	O	MS	KCMS40	60	90	0,04	0,09	0,05	0,10	0,06	0,11
	I	I	MS	KCMS40	60	90	0,04	0,09	0,05	0,10	0,06	0,11
M2												
	S	O	MS	KCMS35	150	210	0,05	0,15	0,06	0,16	0,07	0,18
	S	I	MS	KCMS40	150	210	0,05	0,15	0,06	0,16	0,07	0,18
	U	O	MS	KCMS40	100	140	0,04	0,11	0,05	0,11	0,06	0,13
	U	I	MS	KCMS40	100	140	0,04	0,11	0,05	0,11	0,06	0,13
	I	O	MS	KCMS40	60	90	0,04	0,09	0,05	0,10	0,06	0,11
	I	I	MS	KCMS40	60	90	0,04	0,09	0,05	0,10	0,06	0,11
M3												
	S	O	MS	KCMS35	100	160	0,04	0,13	0,05	0,14	0,06	0,15
	S	I	MS	KCMS40	100	160	0,04	0,13	0,05	0,14	0,06	0,15
	U	O	MS	KCMS40	65	105	0,03	0,09	0,04	0,10	0,05	0,11
	U	I	MS	KCMS40	65	105	0,03	0,09	0,04	0,10	0,05	0,11
	I	O	MS	KCMS40	40	70	0,03	0,08	0,04	0,08	0,05	0,09
	I	I	MS	KCMS40	40	70	0,03	0,08	0,04	0,08	0,05	0,09
MG	CC	IP	GEO	Grade	Min	Max	Ø 37,5-45,49mm		Ø 45,5-54,49mm		Ø 54,5-65mm	
							Min	Max	Min	Max	Min	Max
M1												
	S	O	MS	KCMS35	150	230	0,07	0,20	0,08	0,22	0,08	0,24
	S	I	MS	KCMS40	150	230	0,07	0,20	0,08	0,22	0,08	0,24
	U	O	MS	KCMS40	100	150	0,06	0,14	0,06	0,15	0,06	0,17
	U	I	MS	KCMS40	100	150	0,06	0,14	0,06	0,15	0,06	0,17
	I	O	MS	KCMS40	60	90	0,06	0,12	0,06	0,13	0,06	0,14
	I	I	MS	KCMS40	60	90	0,06	0,12	0,06	0,13	0,06	0,14
M2												
	S	O	MS	KCMS35	150	210	0,07	0,20	0,08	0,22	0,08	0,24
	S	I	MS	KCMS40	150	210	0,07	0,20	0,08	0,22	0,08	0,24
	U	O	MS	KCMS40	100	140	0,06	0,14	0,06	0,15	0,06	0,17
	U	I	MS	KCMS40	100	140	0,06	0,14	0,06	0,15	0,06	0,17
	I	O	MS	KCMS40	60	90	0,06	0,12	0,06	0,13	0,06	0,14
	I	I	MS	KCMS40	60	90	0,06	0,12	0,06	0,13	0,06	0,14
M3												
	S	O	MS	KCMS35	100	160	0,06	0,17	0,07	0,19	0,07	0,20
	S	I	MS	KCMS40	100	160	0,06	0,17	0,07	0,19	0,07	0,20
	U	O	MS	KCMS40	65	105	0,05	0,12	0,05	0,13	0,05	0,14
	U	I	MS	KCMS40	65	105	0,05	0,12	0,05	0,13	0,05	0,14
	I	O	MS	KCMS40	40	70	0,05	0,10	0,05	0,11	0,05	0,12
	I	I	MS	KCMS40	40	70	0,05	0,10	0,05	0,11	0,05	0,12

HOLEMAKING

MG = Material Group CC = Cutting Condition S = Stable U = Unstable I = Interrupted IP = Insert Position O = Outboard I = Inboard GEO = Insert Geometry

MG	CC	IP	GEO	Grade	Min	Max	Ø 12–13,99mm		Ø 14–16,49mm		Ø 16,5–19,99mm	
							Min	Max	Min	Max	Min	Max
K1												
	S	O	PK	KCPK10	200	300	0,07	0,18	0,08	0,20	0,08	0,22
	S	I	PK	KC7140	200	300	0,07	0,18	0,08	0,20	0,08	0,22
	U	O	PK	KCU25	130	200	0,05	0,12	0,06	0,14	0,06	0,15
	U	I	PK	KC7140	130	200	0,05	0,12	0,06	0,14	0,06	0,15
	I	O	PK	KCU40	80	120	0,05	0,11	0,06	0,12	0,06	0,13
	I	I	PK	KC7140	80	120	0,05	0,11	0,06	0,12	0,06	0,13
K2												
	S	O	PK	KCPK10	180	260	0,07	0,18	0,08	0,20	0,08	0,22
	S	I	PK	KC7140	180	260	0,07	0,18	0,08	0,20	0,08	0,22
	U	O	PK	KCU25	120	170	0,05	0,12	0,06	0,14	0,06	0,15
	U	I	PK	KC7140	120	170	0,05	0,12	0,06	0,14	0,06	0,15
	I	O	PK	KCU40	70	110	0,05	0,11	0,06	0,12	0,06	0,13
	I	I	PK	KC7140	70	110	0,05	0,11	0,06	0,12	0,06	0,13
K3												
	S	O	PK	KCPK10	180	260	0,07	0,18	0,08	0,20	0,08	0,22
	S	I	PK	KC7140	180	260	0,07	0,18	0,08	0,20	0,08	0,22
	U	O	PK	KCU25	120	170	0,05	0,12	0,06	0,14	0,06	0,15
	U	I	PK	KC7140	120	170	0,05	0,12	0,06	0,14	0,06	0,15
	I	O	PK	KCU40	70	110	0,05	0,11	0,06	0,12	0,06	0,13
	I	I	PK	KC7140	70	110	0,05	0,11	0,06	0,12	0,06	0,13
MG	CC	IP	GEO	Grade	Min	Max	Ø 20–24,49mm		Ø 25–30,49mm		Ø 30,5–37,49mm	
							Min	Max	Min	Max	Min	Max
K1												
	S	O	PK	KCPK10	200	300	0,09	0,24	0,09	0,28	0,10	0,31
	S	I	PK	KC7140	200	300	0,09	0,24	0,09	0,28	0,10	0,31
	U	O	PK	KCU25	130	200	0,07	0,17	0,07	0,19	0,08	0,22
	U	I	PK	KC7140	130	200	0,07	0,17	0,07	0,19	0,08	0,22
	I	O	PK	KCU40	80	120	0,07	0,15	0,07	0,17	0,08	0,18
	I	I	PK	KC7140	80	120	0,07	0,15	0,07	0,17	0,08	0,18
K2												
	S	O	PK	KCPK10	180	260	0,09	0,24	0,09	0,28	0,10	0,31
	S	I	PK	KC7140	180	260	0,09	0,24	0,09	0,28	0,10	0,31
	U	O	PK	KCU25	120	170	0,07	0,17	0,07	0,19	0,08	0,22
	U	I	PK	KC7140	120	170	0,07	0,17	0,07	0,19	0,08	0,22
	I	O	PK	KCU40	70	110	0,07	0,15	0,07	0,17	0,08	0,18
	I	I	PK	KC7140	70	110	0,07	0,15	0,07	0,17	0,08	0,18
K3												
	S	O	PK	KCPK10	180	260	0,09	0,24	0,09	0,28	0,10	0,31
	S	I	PK	KC7140	180	260	0,09	0,24	0,09	0,28	0,10	0,31
	U	O	PK	KCU25	120	170	0,07	0,17	0,07	0,19	0,08	0,22
	U	I	PK	KC7140	120	170	0,07	0,17	0,07	0,19	0,08	0,22
	I	O	PK	KCU40	70	110	0,07	0,15	0,07	0,17	0,08	0,18
	I	I	PK	KC7140	70	110	0,07	0,15	0,07	0,17	0,08	0,18
MG	CC	IP	GEO	Grade	Min	Max	Ø 37,5–45,49mm		Ø 45,5–54,49mm		Ø 54,5–65mm	
							Min	Max	Min	Max	Min	Max
K1												
	S	O	PK	KCPK10	200	300	0,11	0,34	0,11	0,36	0,12	0,40
	S	I	PK	KC7140	200	300	0,11	0,34	0,11	0,36	0,12	0,40
	U	O	PK	KCU25	130	200	0,09	0,24	0,09	0,25	0,10	0,28
	U	I	PK	KC7140	130	200	0,09	0,24	0,09	0,25	0,10	0,28
	I	O	PK	KCU40	80	120	0,09	0,20	0,09	0,22	0,10	0,24
	I	I	PK	KC7140	80	120	0,09	0,20	0,09	0,22	0,10	0,24
K2												
	S	O	PK	KCPK10	180	260	0,11	0,34	0,11	0,36	0,12	0,40
	S	I	PK	KC7140	180	260	0,11	0,34	0,11	0,36	0,12	0,40
	U	O	PK	KCU25	120	170	0,09	0,24	0,09	0,25	0,10	0,28
	U	I	PK	KC7140	120	170	0,09	0,24	0,09	0,25	0,10	0,28
	I	O	PK	KCU40	70	110	0,09	0,20	0,09	0,22	0,10	0,24
	I	I	PK	KC7140	70	110	0,09	0,20	0,09	0,22	0,10	0,24
K3												
	S	O	PK	KCPK10	180	260	0,11	0,34	0,11	0,36	0,12	0,40
	S	I	PK	KC7140	180	260	0,11	0,34	0,11	0,36	0,12	0,40
	U	O	PK	KCU25	120	170	0,09	0,24	0,09	0,25	0,10	0,28
	U	I	PK	KC7140	120	170	0,09	0,24	0,09	0,25	0,10	0,28
	I	O	PK	KCU40	70	110	0,09	0,20	0,09	0,22	0,10	0,24
	I	I	PK	KC7140	70	110	0,09	0,20	0,09	0,22	0,10	0,24

MG = Material Group CC = Cutting Condition S = Stable U = Unstable I = Interrupted IP = Insert Position O = Outboard I = Inboard GEO = Insert Geometry

MG	CC	IP	GEO	Grade	Min	Max	Ø 37,5–45,49mm		Ø 45,5–54,49mm		Ø 54,5–65mm	
							Min	Max	Min	Max	Min	Max
N1												
	S	O	MS	KCMS35	350	650	0,10	0,31	0,10	0,33	0,11	0,36
	S	I	MS	KCMS40	350	650	0,10	0,31	0,10	0,33	0,11	0,36
	U	O	MS	KCMS35	300	550	0,08	0,22	0,08	0,23	0,09	0,25
	U	I	MS	KCMS40	300	550	0,08	0,22	0,08	0,23	0,09	0,25
	I	O	MS	KCMS40	210	390	0,08	0,19	0,08	0,20	0,09	0,22
	I	I	MS	KCMS40	210	390	0,08	0,19	0,08	0,20	0,09	0,22
N2												
	S	O	MS	KCMS35	300	500	0,10	0,31	0,10	0,33	0,11	0,36
	S	I	MS	KCMS40	300	500	0,10	0,31	0,10	0,33	0,11	0,36
	U	O	MS	KCMS35	250	420	0,08	0,22	0,08	0,23	0,09	0,25
	U	I	MS	KCMS40	250	420	0,08	0,22	0,08	0,23	0,09	0,25
	I	O	MS	KCMS40	180	300	0,08	0,19	0,08	0,20	0,09	0,22
	I	I	MS	KCMS40	180	300	0,08	0,19	0,08	0,20	0,09	0,22
N3												
	S	O	MS	KCMS35	300	500	0,10	0,31	0,10	0,33	0,11	0,36
	S	I	MS	KCMS40	300	500	0,10	0,31	0,10	0,33	0,11	0,36
	U	O	MS	KCMS35	250	420	0,08	0,22	0,08	0,23	0,09	0,25
	U	I	MS	KCMS40	250	420	0,08	0,22	0,08	0,23	0,09	0,25
	I	O	MS	KCMS40	180	300	0,08	0,19	0,08	0,20	0,09	0,22
	I	I	MS	KCMS40	180	300	0,08	0,19	0,08	0,20	0,09	0,22
N4												
	S	O	MS	KCMS35	300	500	0,10	0,31	0,10	0,33	0,11	0,36
	S	I	MS	KCMS40	300	500	0,10	0,31	0,10	0,33	0,11	0,36
	U	O	MS	KCMS35	250	420	0,08	0,22	0,08	0,23	0,09	0,25
	U	I	MS	KCMS40	250	420	0,08	0,22	0,08	0,23	0,09	0,25
	I	O	MS	KCMS40	180	300	0,08	0,19	0,08	0,20	0,09	0,22
	I	I	MS	KCMS40	180	300	0,08	0,19	0,08	0,20	0,09	0,22
N5												
	S	O	MS	KCMS35	300	500	0,10	0,31	0,10	0,33	0,11	0,36
	S	I	MS	KCMS40	300	500	0,10	0,31	0,10	0,33	0,11	0,36
	U	O	MS	KCMS35	250	420	0,08	0,22	0,08	0,23	0,09	0,25
	U	I	MS	KCMS40	250	420	0,08	0,22	0,08	0,23	0,09	0,25
	I	O	MS	KCMS40	180	300	0,08	0,19	0,08	0,20	0,09	0,22
	I	I	MS	KCMS40	180	300	0,08	0,19	0,08	0,20	0,09	0,22
N6												
	S	O	MS	KCMS35	400	500	0,10	0,31	0,10	0,33	0,11	0,36
	S	I	MS	KCMS40	400	500	0,10	0,31	0,10	0,33	0,11	0,36
	U	O	MS	KCMS35	340	420	0,08	0,22	0,08	0,23	0,09	0,25
	U	I	MS	KCMS40	340	420	0,08	0,22	0,08	0,23	0,09	0,25
	I	O	MS	KCMS40	240	300	0,08	0,19	0,08	0,20	0,09	0,22
	I	I	MS	KCMS40	240	300	0,08	0,19	0,08	0,20	0,09	0,22

MG = Material Group CC = Cutting Condition S = Stable U = Unstable I = Interrupted IP = Insert Position O = Outboard I = Inboard GEO = Insert Geometry

MG	CC	IP	GEO	Grade	Min	Max	Ø 12-13,99mm		Ø 14-16,49mm		Ø 16,5-19,99mm	
							Min	Max	Min	Max	Min	Max
S1												
	S	O	MS	KCMS35	60	80	0,05	0,08	0,05	0,10	0,05	0,11
	S	I	MS	KCMS40	60	80	0,05	0,08	0,05	0,10	0,05	0,11
	U	O	MS	KCMS40	40	50	0,04	0,06	0,04	0,07	0,04	0,08
	U	I	MS	KCMS40	40	50	0,04	0,06	0,04	0,07	0,04	0,08
	I	O	MS	KCMS40	25	40	0,04	0,05	0,04	0,06	0,04	0,07
	I	I	MS	KCMS40	25	40	0,04	0,05	0,04	0,06	0,04	0,07
S2												
	S	O	MS	KCMS35	50	70	0,05	0,08	0,05	0,10	0,05	0,11
	S	I	MS	KCMS40	50	70	0,05	0,08	0,05	0,10	0,05	0,11
	U	O	MS	KCMS40	30	50	0,04	0,06	0,04	0,07	0,04	0,08
	U	I	MS	KCMS40	30	50	0,04	0,06	0,04	0,07	0,04	0,08
	I	O	MS	KCMS40	25	40	0,04	0,05	0,04	0,06	0,04	0,07
	I	I	MS	KCMS40	25	40	0,04	0,05	0,04	0,06	0,04	0,07
S3												
	S	O	MS	KCMS35	70	90	0,05	0,08	0,05	0,10	0,05	0,11
	S	I	MS	KCMS40	70	90	0,05	0,08	0,05	0,10	0,05	0,11
	U	O	MS	KCMS40	50	70	0,04	0,06	0,04	0,07	0,04	0,08
	U	I	MS	KCMS40	50	70	0,04	0,06	0,04	0,07	0,04	0,08
	I	O	MS	KCMS40	30	40	0,04	0,05	0,04	0,06	0,04	0,07
	I	I	MS	KCMS40	30	40	0,04	0,05	0,04	0,06	0,04	0,07
S4												
	S	O	MS	KCMS35	70	90	0,05	0,08	0,05	0,10	0,05	0,11
	S	I	MS	KCMS40	70	90	0,05	0,08	0,05	0,10	0,05	0,11
	U	O	MS	KCMS40	45	65	0,04	0,06	0,04	0,07	0,04	0,08
	U	I	MS	KCMS40	45	65	0,04	0,06	0,04	0,07	0,04	0,08
	I	O	MS	KCMS40	30	50	0,04	0,05	0,04	0,06	0,04	0,07
	I	I	MS	KCMS40	30	50	0,04	0,05	0,04	0,06	0,04	0,07
MG	CC	IP	GEO	Grade	Min	Max	Ø 20-24,49mm		Ø 25-30,49mm		Ø 30,5-37,49mm	
							Min	Max	Min	Max	Min	Max
S1												
	S	O	MS	KCMS35	60	80	0,05	0,12	0,06	0,13	0,07	0,14
	S	I	MS	KCMS40	60	80	0,05	0,12	0,06	0,13	0,07	0,14
	U	O	MS	KCMS40	40	50	0,04	0,08	0,05	0,09	0,06	0,10
	U	I	MS	KCMS40	40	50	0,04	0,08	0,05	0,09	0,06	0,10
	I	O	MS	KCMS40	25	40	0,04	0,07	0,05	0,08	0,06	0,09
	I	I	MS	KCMS40	25	40	0,04	0,07	0,05	0,08	0,06	0,09
S2												
	S	O	MS	KCMS35	50	70	0,05	0,12	0,06	0,13	0,07	0,14
	S	I	MS	KCMS40	50	70	0,05	0,12	0,06	0,13	0,07	0,14
	U	O	MS	KCMS40	30	50	0,04	0,08	0,05	0,09	0,06	0,10
	U	I	MS	KCMS40	30	50	0,04	0,08	0,05	0,09	0,06	0,10
	I	O	MS	KCMS40	25	40	0,04	0,07	0,05	0,08	0,06	0,09
	I	I	MS	KCMS40	25	40	0,04	0,07	0,05	0,08	0,06	0,09
S3												
	S	O	MS	KCMS35	70	90	0,05	0,12	0,06	0,13	0,07	0,14
	S	I	MS	KCMS40	70	90	0,05	0,12	0,06	0,13	0,07	0,14
	U	O	MS	KCMS40	50	70	0,04	0,08	0,05	0,09	0,06	0,10
	U	I	MS	KCMS40	50	70	0,04	0,08	0,05	0,09	0,06	0,10
	I	O	MS	KCMS40	30	40	0,04	0,07	0,05	0,08	0,06	0,09
	I	I	MS	KCMS40	30	40	0,04	0,07	0,05	0,08	0,06	0,09
S4												
	S	O	MS	KCMS35	70	90	0,05	0,12	0,06	0,13	0,07	0,14
	S	I	MS	KCMS40	70	90	0,05	0,12	0,06	0,13	0,07	0,14
	U	O	MS	KCMS40	45	65	0,04	0,08	0,05	0,09	0,06	0,10
	U	I	MS	KCMS40	45	65	0,04	0,08	0,05	0,09	0,06	0,10
	I	O	MS	KCMS40	30	50	0,04	0,07	0,05	0,08	0,06	0,09
	I	I	MS	KCMS40	30	50	0,04	0,07	0,05	0,08	0,06	0,09

HOLEMAKING

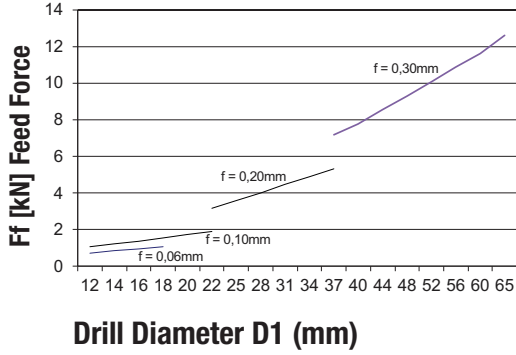
MG = Material Group CC = Cutting Condition S = Stable U = Unstable I = Interrupted IP = Insert Position O = Outboard I = Inboard GEO = Insert Geometry

MG	CC	IP	GEO	Grade	Min	Max	Ø 37,5–45,49mm		Ø 45,5–54,49mm		Ø 54,5–65mm	
							Min	Max	Min	Max	Min	Max
S1												
	S	O	MS	KCMS35	60	80	0,07	0,16	0,08	0,18	0,08	0,19
	S	I	MS	KCMS40	60	80	0,07	0,16	0,08	0,18	0,08	0,19
	U	O	MS	KCMS40	40	50	0,06	0,11	0,06	0,12	0,06	0,13
	U	I	MS	KCMS40	40	50	0,06	0,11	0,06	0,12	0,06	0,13
	I	O	MS	KCMS40	25	40	0,06	0,10	0,06	0,11	0,06	0,12
	I	I	MS	KCMS40	25	40	0,06	0,10	0,06	0,11	0,06	0,12
S2												
	S	O	MS	KCMS35	50	70	0,07	0,16	0,08	0,18	0,08	0,19
	S	I	MS	KCMS40	50	70	0,07	0,16	0,08	0,18	0,08	0,19
	U	O	MS	KCMS40	30	50	0,06	0,11	0,06	0,12	0,06	0,13
	U	I	MS	KCMS40	30	50	0,06	0,11	0,06	0,12	0,06	0,13
	I	O	MS	KCMS40	25	40	0,06	0,10	0,06	0,11	0,06	0,12
	I	I	MS	KCMS40	25	40	0,06	0,10	0,06	0,11	0,06	0,12
S3												
	S	O	MS	KCMS35	70	90	0,07	0,16	0,08	0,18	0,08	0,19
	S	I	MS	KCMS40	70	90	0,07	0,16	0,08	0,18	0,08	0,19
	U	O	MS	KCMS40	50	70	0,06	0,11	0,06	0,12	0,06	0,13
	U	I	MS	KCMS40	50	70	0,06	0,11	0,06	0,12	0,06	0,13
	I	O	MS	KCMS40	30	40	0,06	0,10	0,06	0,11	0,06	0,12
	I	I	MS	KCMS40	30	40	0,06	0,10	0,06	0,11	0,06	0,12
S4												
	S	O	MS	KCMS35	70	90	0,07	0,16	0,08	0,18	0,08	0,19
	S	I	MS	KCMS40	70	90	0,07	0,16	0,08	0,18	0,08	0,19
	U	O	MS	KCMS40	45	65	0,06	0,11	0,06	0,12	0,06	0,13
	U	I	MS	KCMS40	45	65	0,06	0,11	0,06	0,12	0,06	0,13
	I	O	MS	KCMS40	30	50	0,06	0,10	0,06	0,11	0,06	0,12
	I	I	MS	KCMS40	30	50	0,06	0,10	0,06	0,11	0,06	0,12

FEED FORCE REQUIREMENT METRIC

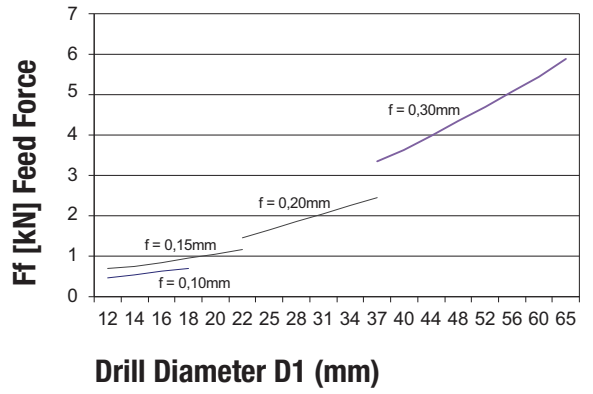
P

Steel 42CrMo4



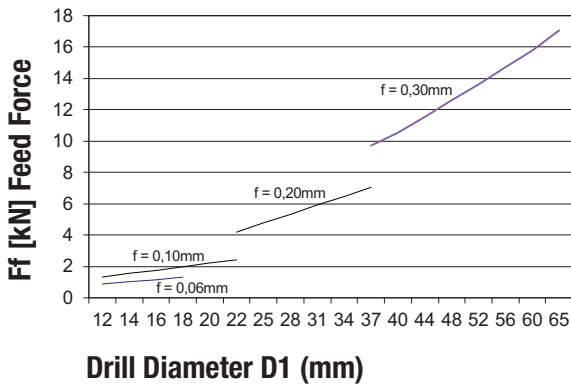
N

Non-Ferrous Material 1.3535 AlMg3



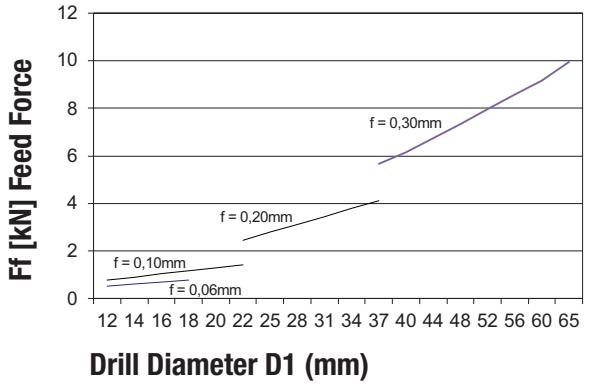
M

Stainless Steel 1.4301 (304H)



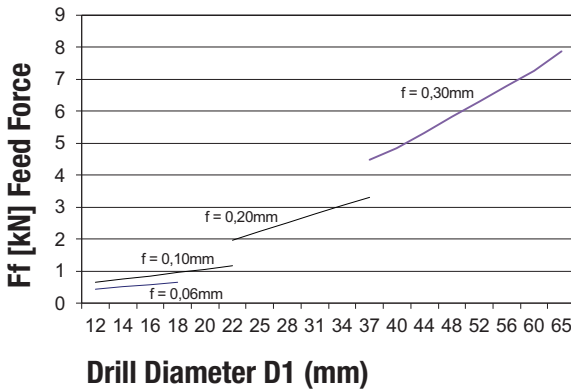
S

High-Temperature Alloys 3.7164 TiAl6V4



K

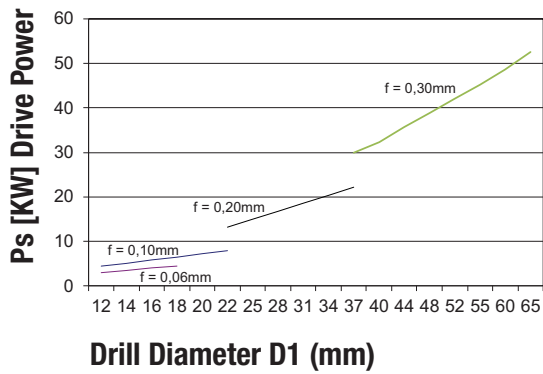
Cast Iron GGG 40



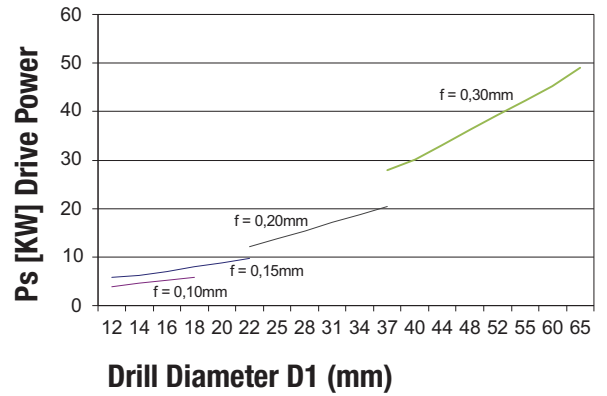
HOLEMAKING

POWER RECOMMENDATION METRIC

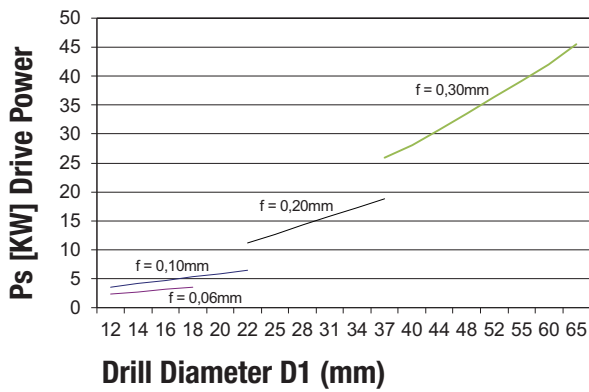
P Steel 42CrMo4



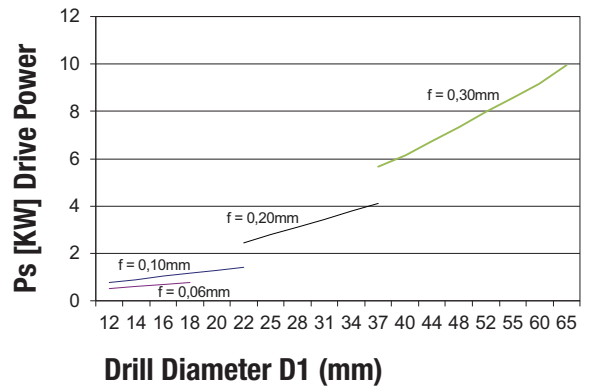
N Non-Ferrous Material 1.3535 AlMg3



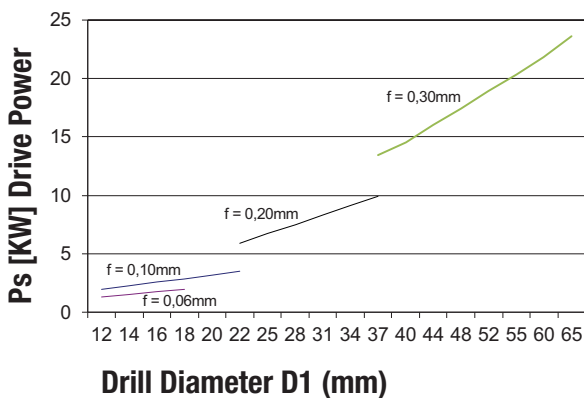
M Stainless Steel 1.4301 (304H)



S High-Temperature Alloys 3.7164 TiAl6V4



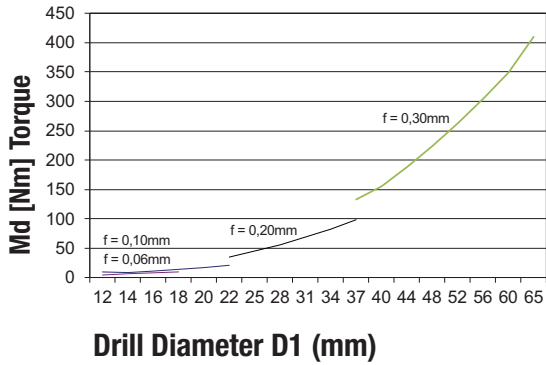
K Cast Iron GGG 40



TORQUE RECOMMENDATION METRIC

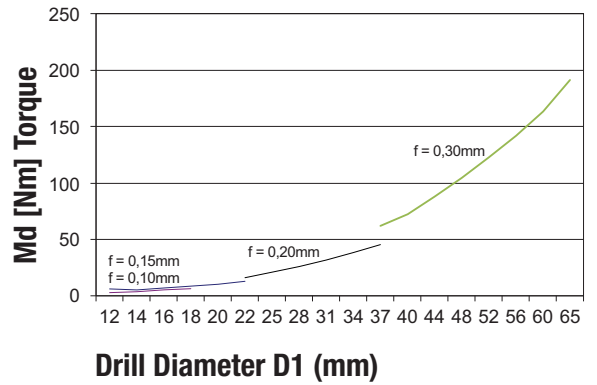
P

Steel 42CrMo4



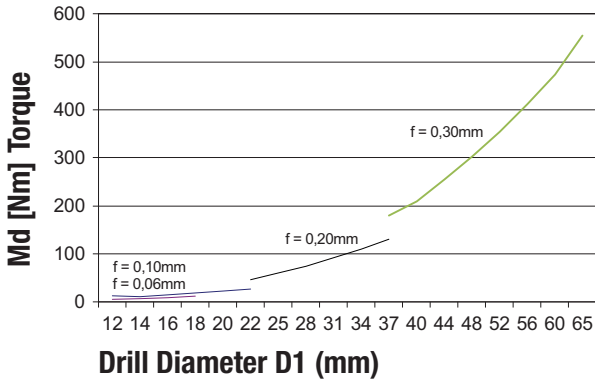
N

Non-Ferrous Material 1.3535 AlMg3



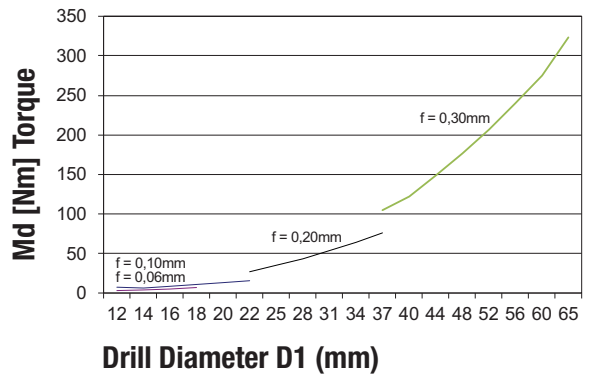
M

Stainless Steel 1.4301 (304H)



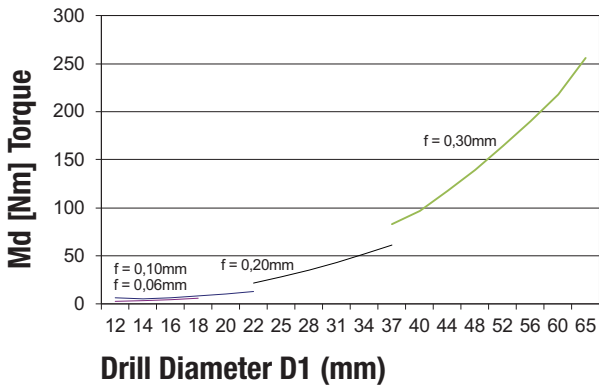
S

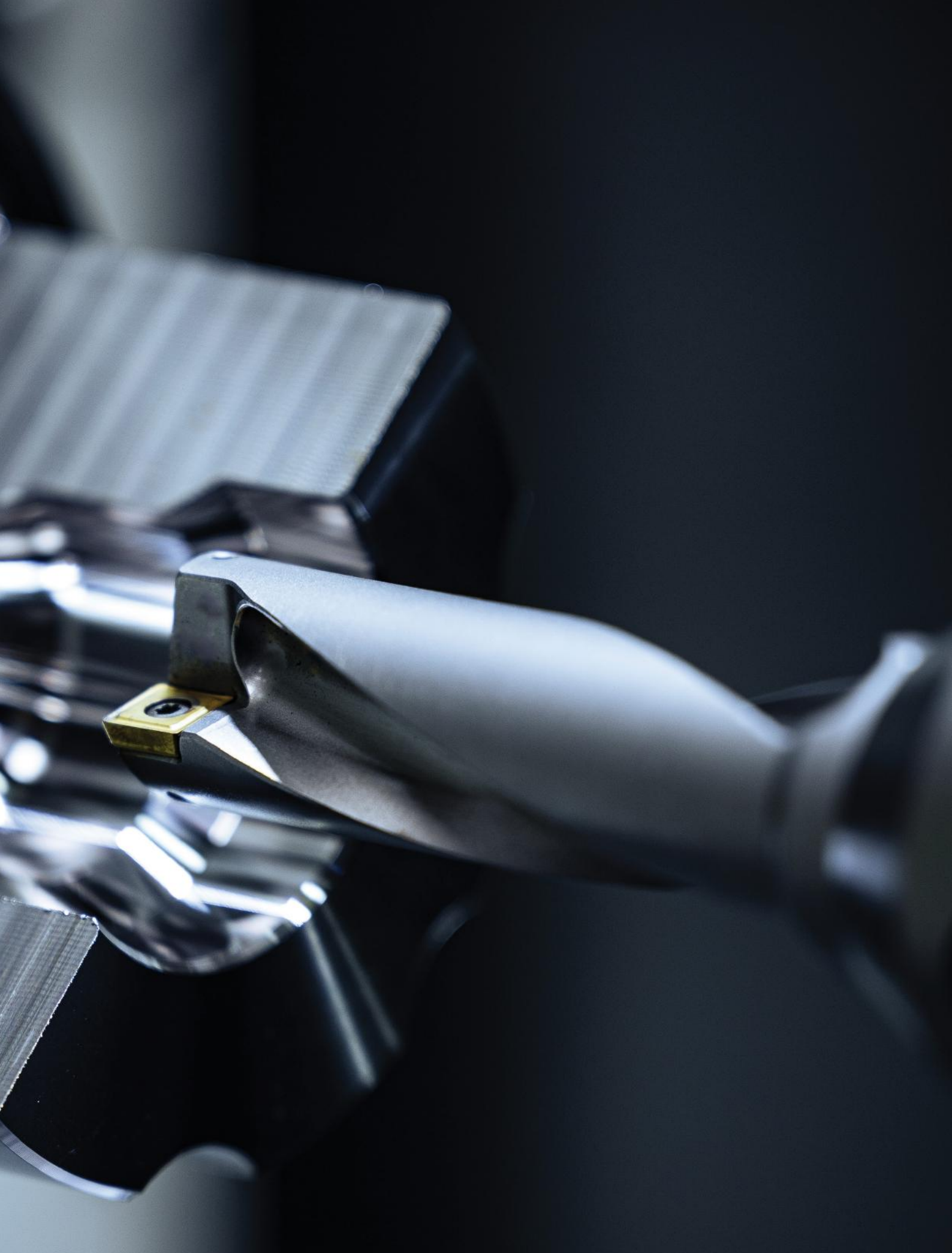
High-Temperature Alloys 3.7164 TiAl6V4



K

Cast Iron GGG 40





Indexable Drilling

DRILL FIX DFR INSERTS



Explore Drill Fix DFR

Materials



Industries



General Engineering



Automotive



Wind & Solar



Oil & Gas

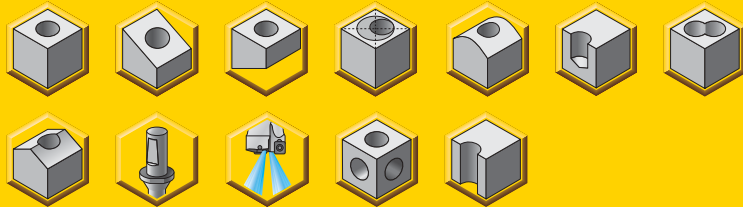


Aerospace & Defense

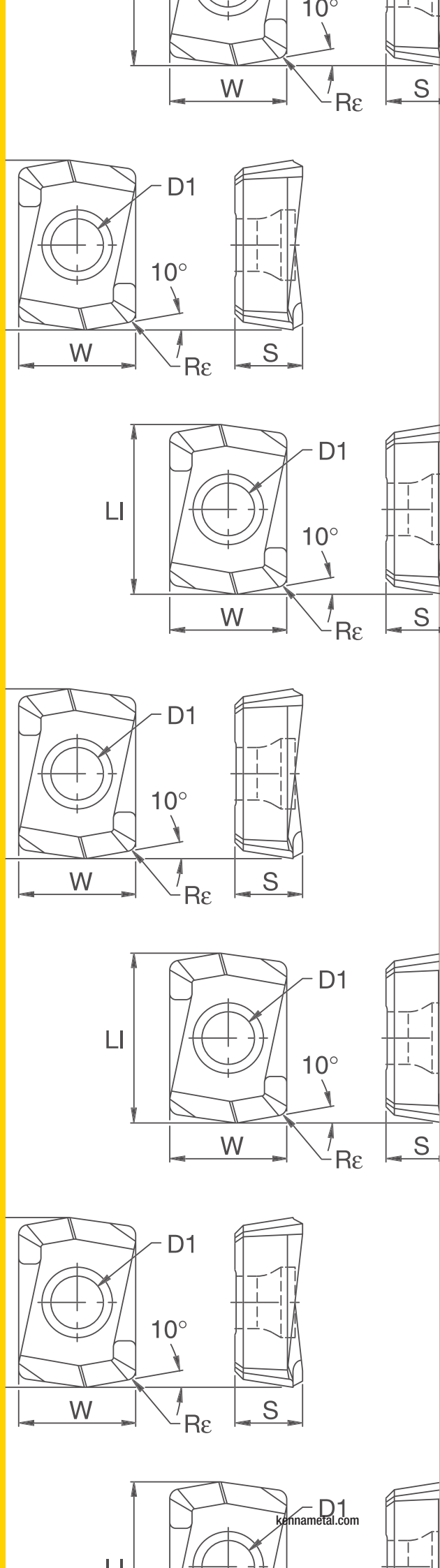


Earthworks

Applications



The Drill Fix DFR platform offers maximum feed rates. Using rectangular-shaped inboard and outboard inserts enables soft starting cuts, short chips and higher feed rates compared to small-size symmetrical-trigon or square inserts.



FEATURES AND BENEFITS

Productivity and Profitability

- Achieve high feed rates with rectangular-shaped inserts that offer a soft starting cut and greater stability
- Same insert size is used in each pocket, reducing inventory costs



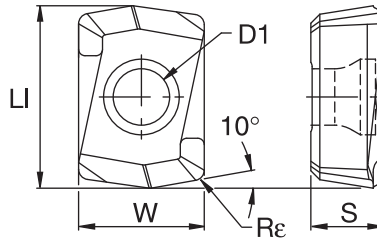
Versatility

- Diameter range covering 12,5–24mm
- Multiple insert grades and geometries available
- Use where feed rates are the limiting factor
- Apply in straight holes, inclined entries and exits, interrupted cuts and rough or welded entry surfaces

Reliability

- High stability in smaller sizes due to rectangular-shaped insert
- Same insert can be used as inboard or outboard insert
- Low cutting forces result in long tool body life



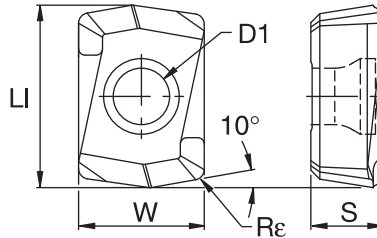


												KCU25	KCU40
P	●	○	●	○	●	○	●	○	●	○	●	○	○
M	●	○	●	○	●	○	●	○	●	○	●	○	○
K	●	○	●	○	●	○	●	○	●	○	●	○	○
N	●	○	●	○	●	○	●	○	●	○	●	○	○
S	●	○	●	○	●	○	●	○	●	○	●	○	○
H	●	○	●	○	●	○	●	○	●	○	●	○	○

Drill Fix DFR • GD Inserts

● Primary
○ Secondary

ISO Catalog Number	LI		W		D1		S		Re		KCU25	KCU40
	mm	in	mm	in	mm	in	mm	in	mm	in		
DFR020204GD	7.12	0.280	4.90	0.193	2.30	0.091	2.79	0.110	0.40	0.016	5066798	5065554
DFR030204GD	8.71	0.343	6.00	0.236	2.50	0.098	2.88	0.113	0.40	0.016	5067312	5065558
DFR040304GD	10.76	0.424	7.38	0.291	2.85	0.112	3.79	0.149	0.40	0.016	5067314	5065661

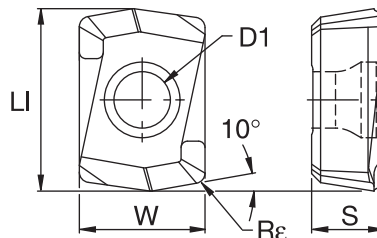


													KC7140	KCU40
P	●	○	●	○	●	○	●	○	●	○	●	○	○	○
M	●	○	●	○	●	○	●	○	●	○	●	○	○	○
K	●	○	●	○	●	○	●	○	●	○	●	○	○	○
N	●	○	●	○	●	○	●	○	●	○	●	○	○	○
S	●	○	●	○	●	○	●	○	●	○	●	○	○	○
H	●	○	●	○	●	○	●	○	●	○	●	○	○	○

Drill Fix DFR • LD Inserts

● Primary
○ Secondary

ISO Catalog Number	LI		W		D1		S		Re		KC7140	KCU40
	mm	in	mm	in	mm	in	mm	in	mm	in		
DFR020204LD	7.12	0.280	4.90	0.193	2.30	0.091	2.79	0.110	0.40	0.016	1730321	5065552
DFR030204LD	8.71	0.343	6.00	0.236	2.50	0.098	2.86	0.113	0.40	0.016	5533632	5065557
DFR040304LD	10.76	0.424	7.38	0.291	2.85	0.112	3.76	0.148	0.40	0.016	5533633	5065660



														KCU40
P	●	○	●	○	●	○	●	○	●	○	●	○	○	○
M	●	○	●	○	●	○	●	○	●	○	●	○	○	○
K	●	○	●	○	●	○	●	○	●	○	●	○	○	○
N	●	○	●	○	●	○	●	○	●	○	●	○	○	○
S	●	○	●	○	●	○	●	○	●	○	●	○	○	○
H	●	○	●	○	●	○	●	○	●	○	●	○	○	○

Drill Fix DFR • MD Inserts

● Primary
○ Secondary

ISO Catalog Number	LI		W		D1		S		Re		KCU40
	mm	in	mm	in	mm	in	mm	in	mm	in	
DFR020204MD	7.12	0.280	4.90	0.193	2.30	0.091	2.79	0.110	0.40	0.016	5065556
DFR030204MD	8.71	0.343	6.00	0.236	2.50	0.098	2.88	0.113	0.40	0.016	5065559
DFR040304MD	10.76	0.424	7.38	0.291	2.85	0.112	3.79	0.149	0.40	0.016	5065662

DRILL FIX DFR RECOMMENDED FEED RATES

Material Group	Condition	Pocket Seat	Geometry	Grade	Metric							
					Cutting Speed — vc			Recommended Feed Rate (fz) by Diameter				
					Range — m/min			Ø	DFR02... 12,50–16,00mm	DFR03... 16,50–20,00mm	DFR04... 20,50–24,00mm	
					min	Starting Value	max					
P	1	S	0	MD	KCU25	310	325	360	mm/r	0,09–0,15	0,11–0,18	0,15–0,25
			I	MD	KC7140							
		U	0	MD	KCU40	200	215	230				
			I	MD	KC7140							
		I	0	MD	KC7140	130	135	150				
			I	MD	KC7140							
	2	S	0	GD	KCPK10	310	325	360				
			I	LD	KC7140							
		U	0	GD	KCU40	200	215	230				
			I	LD	KC7140							
		I	0	MD	KC7140	130	135	150				
			I	LD	KC7140							
	3	S	0	GD	KCPK10	260	285	320				
			I	LD	KC7140							
		U	0	GD	KCU40	180	195	220				
			I	LD	KC7140							
		I	0	GD	KC7140	110	120	140				
			I	LD	KC7140							
	4	S	0	GD	KCU25	220	250	300				
			I	LD	KC7140							
		U	0	GD	KCU40	150	180	220				
			I	LD	KC7140							
		I	0	GD	KC7140	90	110	140				
			I	LD	KC7140							
5	S	0	GD	KCU25	180	200	220					
		I	LD	KC7140								
	U	0	GD	KCU40	120	135	150					
		I	LD	KC7140								
	I	0	GD	KC7140	70	85	100					
		I	LD	KC7140								
6	S	0	GD	KCU25	180	200	220					
		I	LD	KC7140								
	U	0	GD	KCU40	120	135	150					
		I	LD	KC7140								
	I	0	GD	KC7140	70	85	100					
		I	LD	KC7140								
M	1	S	0	MD	KC7140	150	190	230	mm/r	0,07–0,13	0,08–0,16	0,10–0,18
			I	MD	KC7140							
		U	0	MD	KC7140	100	130	160				
			I	MD	KC7140							
		I	0	MD	KC7140	60	80	100				
			I	MD	KC7140							
	2	S	0	MD	KC7140	150	180	210				
			I	MD	KC7140							
		U	0	MD	KC7140	100	130	160				
			I	MD	KC7140							
		I	0	MD	KC7140	60	80	100				
			I	MD	KC7140							
3	S	0	MD	KC7140	100	130	160					
		I	MD	KC7140								
	U	0	MD	KC7140	80	110	140					
		I	MD	KC7140								
	I	0	MD	KC7140	50	70	90					
		I	MD	KC7140								

Condition: S = Stable cutting conditions;
 U = Unstable cutting conditions;
 I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
 O = Outboard insert

Material Group	Condition	Pocket Seat	Geometry	Grade	Metric							
					Cutting Speed — vc			Recommended Feed Rate (fz) by Diameter				
					Range — m/min			Ø	DFR02... 12,50–16,00mm	DFR03... 16,50–20,00mm	DFR04... 20,50–24,00mm	
					min	Starting Value	max					
K	1	S	0	GD	KCPK10	200	240	300	mm/r	0,10–0,18	0,12–0,20	0,14–0,24
			1	LD	KCU40							
		U	0	GD	KCU25	120	155	200	mm/r	0,10–0,18	0,12–0,20	0,14–0,24
	1		LD	KC7140								
	I	0	GD	KCU40	80	100	125	mm/r	0,10–0,18	0,12–0,20	0,14–0,24	
		1	LD	KC7140								
	2	S	0	GD	KCPK10	180	220	260	mm/r	0,10–0,18	0,12–0,20	0,14–0,24
			1	LD	KCU40							
		U	0	GD	KCU25	110	140	170	mm/r	0,10–0,18	0,12–0,20	0,14–0,24
	1		LD	KC7140								
	I	0	GD	KCU40	80	100	120	mm/r	0,10–0,18	0,12–0,20	0,14–0,24	
		1	LD	KC7140								
3	S	0	GD	KCPK10	180	220	260	mm/r	0,10–0,18	0,12–0,20	0,14–0,24	
		1	LD	KCU40								
	U	0	GD	KCU25	110	140	170	mm/r	0,10–0,18	0,12–0,20	0,14–0,24	
1		LD	KC7140									
I	0	GD	KCU40	80	100	120	mm/r	0,10–0,18	0,12–0,20	0,14–0,24		
	1	LD	KC7140									
N	1	S	0	ST	KD1425	400	600	800	mm/r	0,07–0,09	0,10–0,14	0,12–0,16
			1	LD	KCU40							
		U	0	LD	KCU40	300	400	500	mm/r	0,07–0,09	0,10–0,14	0,12–0,16
	1		LD	KCU40								
	I	0	LD	KCU40	200	300	400	mm/r	0,07–0,09	0,10–0,14	0,12–0,16	
		1	LD	KCU40								
	2	S	0	ST	KD1425	375	550	775	mm/r	0,07–0,09	0,10–0,14	0,12–0,16
			1	ST	KD1425							
		U	0	LD	KCU40	250	350	450	mm/r	0,07–0,09	0,10–0,14	0,12–0,16
	1		LD	KCU40								
	I	0	LD	KCU40	175	250	325	mm/r	0,07–0,09	0,10–0,14	0,12–0,16	
		1	LD	KCU40								
	3	S	0	ST	KD1425	350	500	650	mm/r	0,07–0,09	0,10–0,14	0,12–0,16
			1	ST	KD1425							
		U	0	LD	KCU40	250	350	450	mm/r	0,07–0,09	0,10–0,14	0,12–0,16
	1		LD	KCU40								
	I	0	LD	KCU40	150	250	350	mm/r	0,07–0,09	0,10–0,14	0,12–0,16	
		1	LD	KCU40								
	4	S	0	ST	KD1425	400	600	800	mm/r	0,07–0,09	0,10–0,14	0,12–0,16
			1	ST	KD1425							
		U	0	LD	KCU40	250	350	450	mm/r	0,07–0,09	0,10–0,14	0,12–0,16
	1		LD	KCU40								
	I	0	LD	KCU40	200	300	400	mm/r	0,07–0,09	0,10–0,14	0,12–0,16	
		1	LD	KCU40								
5	S	0	ST	KD1425	400	600	800	mm/r	0,07–0,09	0,10–0,14	0,12–0,16	
		1	ST	KD1425								
	U	0	LD	KCU40	250	350	450	mm/r	0,07–0,09	0,10–0,14	0,12–0,16	
1		LD	KCU40									
I	0	LD	KCU40	200	300	400	mm/r	0,07–0,09	0,10–0,14	0,12–0,16		
	1	LD	KCU40									
6	S	0	ST	KD1425	400	600	800	mm/r	0,07–0,09	0,10–0,14	0,12–0,16	
		1	ST	KD1425								
	U	0	GD	KCU40	250	350	450	mm/r	0,07–0,09	0,10–0,14	0,12–0,16	
1		GD	KCU40									
I	0	GD	KMF	200	300	400	mm/r	0,07–0,09	0,10–0,14	0,12–0,16		
	1	GD	KMF									

HOLEMAKING



Indexable Drilling

DRILL FIX DFSP INSERTS



Explore
Drill Fix DFSP

Materials



Industries



General
Engineering



Automotive



Wind & Solar



Oil & Gas

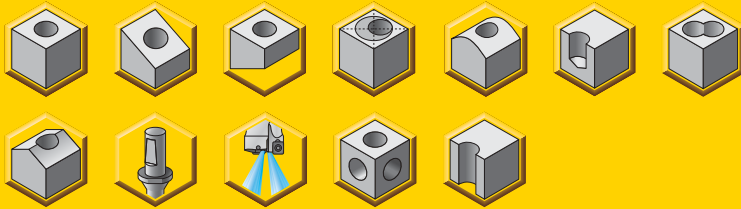


Aerospace &
Defense



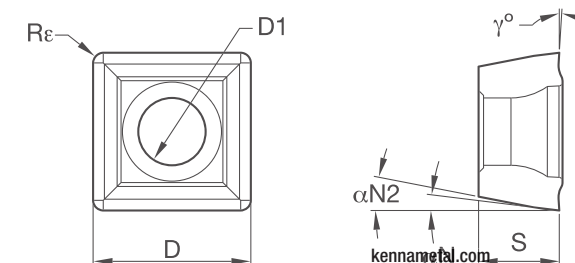
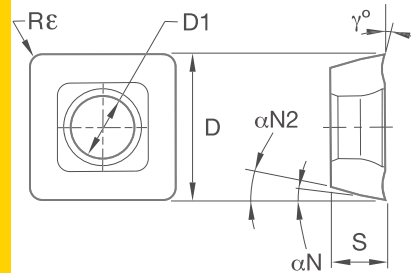
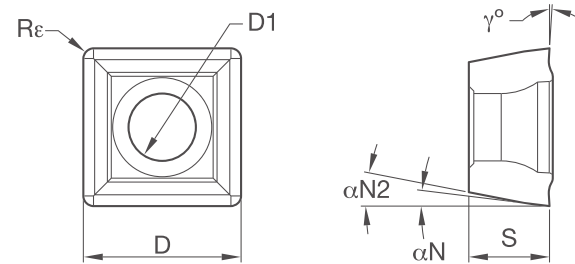
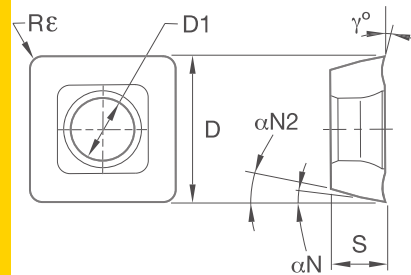
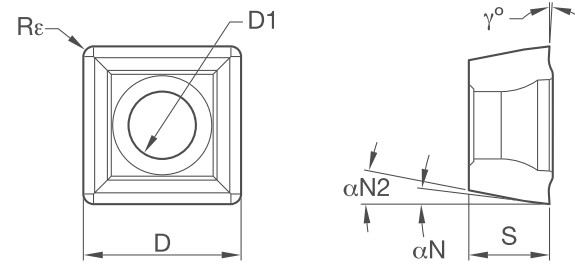
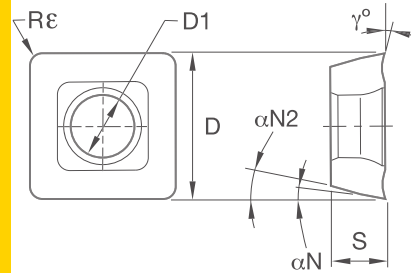
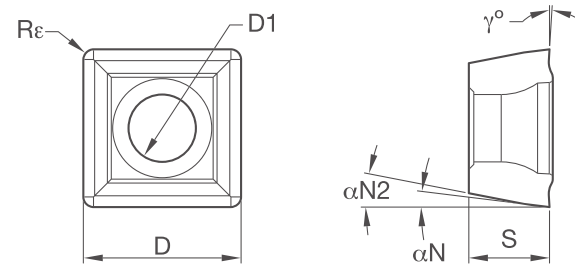
Earthworks

Applications



The DFSP platform combines the economically squared outboard insert with the superior centering capabilities of the trigon inboard insert. DFSP inserts offer increased MRR combined with high surface quality.

**BOOST YOUR PRODUCTIVITY EVEN FURTHER AND
ACHIEVE OUTSTANDING RESULTS** in steels, stainless
steels and cast iron with the latest
Beyond™ insert grades.



FEATURES AND BENEFITS

Higher Productivity and Profitability

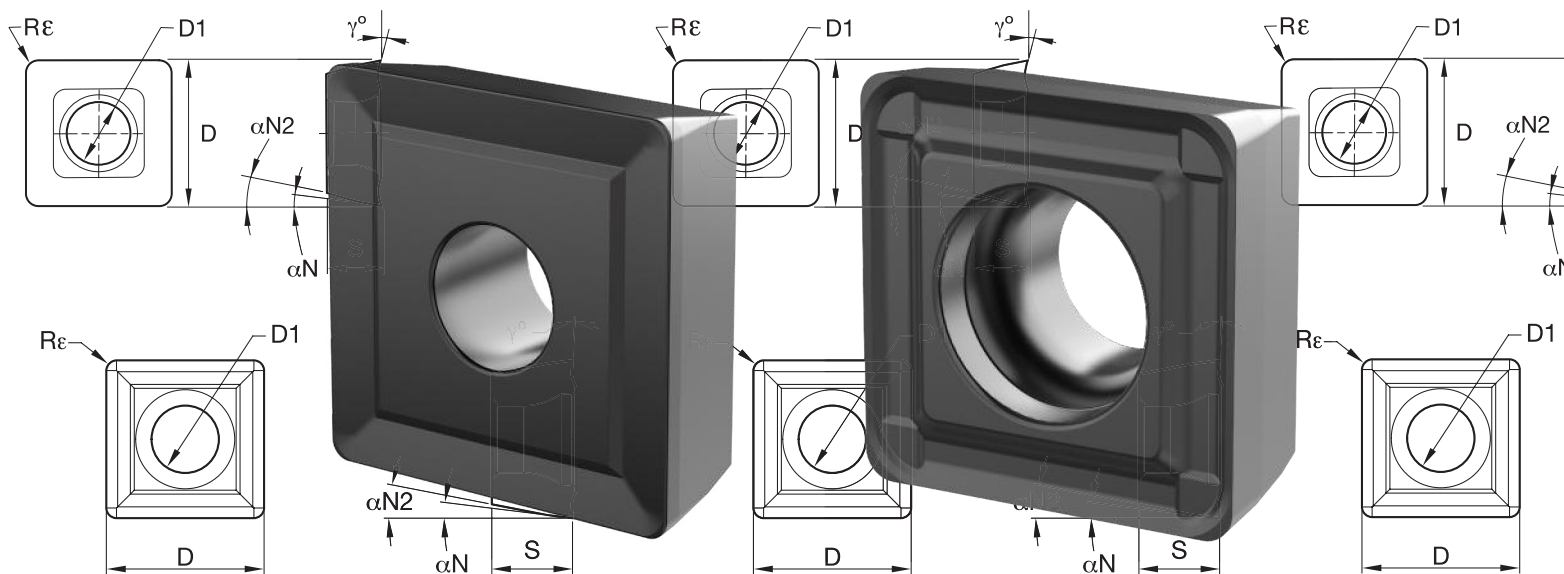
- Achieve the highest MRR and excellent chip evacuation with advanced chip flutes and non-central, increased cooling channel
- Squared outboard inserts offer four economic cutting edges

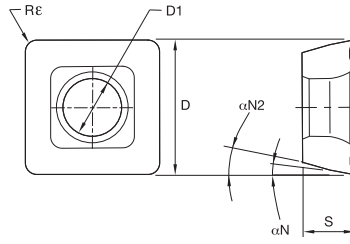
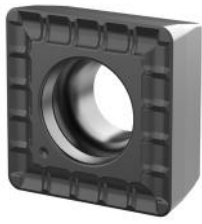
Versatility

- Use where speed and economy are prime considerations
- Use DFSP drills in straight holes, inclined entries and exits, interrupted cuts and rough or welded entry surfaces
- Quick and easy insert grade and/or geometry change to address material and application changes

Reliability

- High accuracy holes in any feed rates
- Gain outstanding results using high performance grades for DFT and SPGX/SPPX inserts
- High wear resistance in interrupted cuts due to squared outboard insert



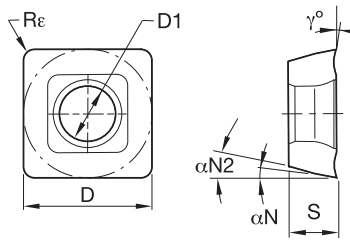


		KC7140	KCU25	KCU40
P	●	●	●	●
M	●	●	●	●
K	●	●	●	●
N	○	○	○	○
S	●	○	○	○
H	○	○	○	○

● Primary
○ Secondary

Drill Fix DFSP • MD Inserts

ISO Catalog Number	D		D1		S		Rε		KC7140	KCU25	KCU40
	mm	in	mm	in	mm	in	mm	in			
SPGX050204MD	5.56	0.219	2.25	0.089	2.38	0.094	0.40	0.016	5692802	5692728	—
SPGX050204MD	5.56	0.219	2.25	0.089	2.38	0.094	0.40	0.016	—	—	5692800
SPGX060304MD	6.35	0.250	2.65	0.104	3.18	0.125	0.40	0.016	4047829	5534254	5534149
SPGX070304MD	7.94	0.313	2.85	0.112	3.18	0.125	0.40	0.016	4047830	5534257	5534232
SPGX070308MD	7.94	0.313	2.85	0.112	3.18	0.125	0.80	0.031	—	4040133	—
SPGX070308MD	7.94	0.313	2.85	0.112	3.18	0.125	0.80	0.031	—	—	4042934
SPPX09T308MD	9.53	0.375	3.60	0.142	3.97	0.156	0.80	0.031	4047831	5534260	5534235
SPPX09T310MD	9.53	0.375	3.60	0.142	3.97	0.156	1.00	0.039	—	4040138	4042937
SPPX120408MD	12.70	0.500	4.60	0.181	4.76	0.188	0.80	0.031	4047832	5534263	5534238
SPPX120412MD	12.70	0.500	4.60	0.181	4.76	0.188	1.20	0.047	—	4040139	4042940
SPPX15T508MD	15.88	0.625	5.50	0.234	5.95	0.234	0.80	0.031	4047843	5534266	5534251
SPPX15T512MD	15.88	0.625	5.50	0.217	5.95	0.234	1.20	0.047	—	4040142	4042943



		KCPK10	KCU25	KCU40
P	●	●	●	●
M	○	○	○	○
K	●	●	●	●
N	○	○	○	○
S	●	○	○	○
H	○	○	○	○

● Primary
○ Secondary

Drill Fix DFSP • FP Inserts

ISO Catalog Number	D		D1		S		Rε		KCPK10	KCU25	KCU40
	mm	in	mm	in	mm	in	mm	in			
SPGX060304FP	6.35	0.250	2.65	0.104	3.18	0.125	0.40	0.016	—	5534252	5534147
SPGX070304FP	7.94	0.313	2.85	0.112	3.18	0.125	0.40	0.016	5534268	5534255	5534230
SPGX070308FP	7.94	0.313	2.85	0.112	3.18	0.125	0.80	0.031	—	4042840	4042933
SPPX09T308FP	9.53	0.375	3.60	0.142	3.97	0.156	0.80	0.031	—	5534258	5534233
SPPX09T310FP	9.53	0.375	3.60	0.142	3.97	0.156	1.00	0.039	—	4042841	4042936
SPPX120408FP	12.70	0.500	4.60	0.181	4.76	0.188	0.80	0.031	5534270	5534261	5534236
SPPX120412FP	12.70	0.500	4.60	0.181	4.76	0.188	1.20	0.047	—	4042913	4042939
SPPX15T508FP	15.88	0.625	5.50	0.234	5.95	0.234	0.80	0.031	—	—	5534239
SPPX15T512FP	15.88	0.625	5.50	0.217	5.95	0.234	1.20	0.047	—	4042914	—

DRILL FIX DFSP RECOMMENDED FEED RATES

										Metric				
Material Group	Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc			Recommended Feed Rate (fz) by Diameter						
					Range — m/min			Ø	SPGX05 DFTX2 14,00–18,00mm	SPGX06 DFT03 18,00–21,99mm	SPGX07 DFT05 22,00–25,99mm	SPGX09 DFT05 26,00–32,99mm	SPGX12 DFT06/.07 33,00–43,99mm	SPGX15 DFT07/.09 44,00–55,00mm
					min	Starting Value	max							
P	0	S	O LP	KCU40	310	325	360	mm/r	0,06–0,10	0,06–0,11	0,08–0,14	0,12–0,21	0,14–0,26	0,16–0,26
			I DS	KCU40										
		U	O LP	KCU40	200	215	230	mm/r	0,05–0,07	0,06–0,08	0,07–0,10	0,07–0,12	0,09–0,15	0,11–0,21
			I HP	KCU40										
	1	S	O FP	KCPK10	310	325	360	mm/r	0,06–0,11	0,08–0,14	0,10–0,18	0,14–0,25	0,16–0,30	0,18–0,30
			I HP	KC7140										
		U	O FP	KCU25	200	215	230	mm/r	0,04–0,06	0,05–0,08	0,06–0,10	0,09–0,15	0,11–0,18	0,13–0,25
			I HP	KC7140										
	2	S	O FP	KCPK10	310	325	360	mm/r	0,06–0,11	0,08–0,14	0,10–0,18	0,14–0,25	0,16–0,30	0,18–0,30
			I HP	KC7140										
		U	O FP	KCU25	200	215	230	mm/r	0,04–0,06	0,05–0,08	0,06–0,10	0,09–0,15	0,11–0,18	0,13–0,25
			I HP	KC7140										
	3	S	O FP	KCPK10	260	285	320	mm/r	0,06–0,11	0,08–0,14	0,10–0,18	0,14–0,25	0,16–0,30	0,18–0,30
			I HP	KC7140										
		U	O HP	KCU40	180	195	220	mm/r	0,04–0,06	0,05–0,08	0,06–0,10	0,09–0,15	0,11–0,18	0,13–0,25
			I HP	KC7140										
	4	S	O FP	KCPK10	220	250	300	mm/r	0,06–0,11	0,08–0,14	0,10–0,18	0,14–0,25	0,16–0,30	0,18–0,30
			I HP	KC7140										
		U	O HP	KCU40	150	180	220	mm/r	0,04–0,06	0,05–0,08	0,06–0,10	0,09–0,15	0,11–0,18	0,13–0,25
			I HP	KC7140										
	5	S	O HP	KCU25	180	200	220	mm/r	0,06–0,11	0,08–0,14	0,10–0,18	0,14–0,25	0,16–0,30	0,18–0,30
			I HP	KC7140										
		U	O HP	KCU40	120	135	150	mm/r	0,04–0,06	0,05–0,08	0,06–0,10	0,09–0,15	0,11–0,18	0,13–0,25
			I HP	KC7140										
6	S	O HP	KCU25	180	200	220	mm/r	0,06–0,11	0,08–0,14	0,10–0,18	0,14–0,25	0,16–0,30	0,18–0,30	
		I HP	KC7140											
	U	O HP	KCU40	120	135	150	mm/r	0,04–0,06	0,05–0,08	0,06–0,10	0,09–0,15	0,11–0,18	0,13–0,25	
		I HP	KC7140											
M	1	S	O LP	KCU40	150	190	230	mm/r	0,05–0,08	0,06–0,10	0,07–0,12	0,10–0,16	0,12–0,21	0,14–0,24
			I DS	KCU40										
		U	O LP	KCU40	100	130	160	mm/r	0,05–0,07	0,06–0,08	0,07–0,10	0,05–0,10	0,06–0,13	0,08–0,16
			I DS	KCU40										
	2	S	O MD	KC7140	60	80	100	mm/r	0,03–0,05	0,04–0,07	0,05–0,09	0,07–0,13	0,08–0,16	0,10–0,18
			I MD	KC7140										
		U	O LP	KCU40	150	180	210	mm/r	0,05–0,08	0,06–0,10	0,07–0,12	0,10–0,16	0,12–0,21	0,14–0,24
			I MD	KC7140										
	3	S	O LP	KCU40	100	130	160	mm/r	0,05–0,07	0,06–0,08	0,07–0,10	0,05–0,10	0,06–0,13	0,08–0,16
			I DS	KCU40										
		U	O HP	KCU40	80	110	140	mm/r	0,03–0,05	0,04–0,07	0,05–0,09	0,07–0,13	0,08–0,16	0,10–0,20
			I MD	KC7140										
4	S	O HP	KCU25	180	200	220	mm/r	0,06–0,11	0,08–0,14	0,10–0,18	0,14–0,25	0,16–0,30	0,18–0,30	
		I HP	KC7140											
	U	O HP	KCU40	120	135	150	mm/r	0,04–0,06	0,05–0,08	0,06–0,10	0,09–0,15	0,11–0,18	0,13–0,25	
		I HP	KC7140											

NOTE: Applying Drill Fix DFSP 5xD requires high stability. It is highly recommended to be conservative in regard to speeds and feeds, and start with minimum values indicated.

Condition: S = Stable cutting conditions;
 U = Unstable cutting conditions;
 I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
 O = Outboard insert

HOLEMAKING

Metric															
Material Group	Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc			Recommended Feed Rate (fz) by Diameter							
					Range — m/min			Ø	SPGX05 DFTX2 14,00–18,00mm	SPGX06 DFT03 18,00–21,99mm	SPGX07 DFT05 22,00–25,99mm	SPGX09 DFT05 26,00–32,99mm	SPGX12 DFT06/..07 33,00–43,99mm	SPGX15 DFT07/..09 44,00–55,00mm	
					min	Starting Value	max								
K	1	S	O	FP	KCPK10	200	240	300	mm/r	0,07–0,12	0,10–0,16	0,12–0,20	0,16–0,28	0,18–0,32	0,20–0,34
			I	HP	KCU40										
		U	O	FP	KCU25	120	155	200	mm/r	0,05–0,09	0,06–0,12	0,08–0,15	0,12–0,20	0,14–0,25	0,16–0,28
	2	S	O	FP	KCPK10	180	220	260	mm/r	0,07–0,12	0,10–0,16	0,12–0,20	0,16–0,28	0,18–0,32	0,20–0,34
			I	HP	KCU40										
		U	O	HP	KCU25	110	140	170	mm/r	0,05–0,09	0,06–0,12	0,08–0,15	0,12–0,20	0,14–0,25	0,16–0,28
	3	S	O	HP	KCPK10	180	220	260	mm/r	0,07–0,12	0,10–0,16	0,12–0,20	0,16–0,28	0,18–0,32	0,20–0,34
			I	HP	KCU40										
		U	O	HP	KCU25	110	140	170	mm/r	0,05–0,09	0,06–0,12	0,08–0,15	0,12–0,20	0,14–0,25	0,16–0,28
N	1	S	O	HP	KCPK10	350	500	650	mm/r	0,07–0,12	0,10–0,16	0,12–0,20	0,16–0,28	0,18–0,32	0,20–0,34
			I	HP	KMF										
		U	O	HP	KCU40	300	400	500	mm/r	0,05–0,09	0,06–0,12	0,08–0,15	0,12–0,20	0,14–0,25	0,16–0,28
	2	S	O	HP	KCPK10	300	400	500	mm/r	0,07–0,12	0,10–0,16	0,12–0,20	0,16–0,28	0,18–0,32	0,20–0,34
			I	HP	KMF										
		U	O	HP	KCU40	250	350	450	mm/r	0,05–0,09	0,06–0,12	0,08–0,15	0,12–0,20	0,14–0,25	0,16–0,28
	3	S	O	HP	KCPK10	300	400	500	mm/r	0,07–0,12	0,10–0,16	0,12–0,20	0,16–0,28	0,18–0,32	0,20–0,34
			I	HP	KMF										
		U	O	HP	KCU40	250	350	450	mm/r	0,05–0,09	0,06–0,12	0,08–0,15	0,12–0,20	0,14–0,25	0,16–0,28
4	S	O	HP	KCU25	300	400	500	mm/r	0,07–0,12	0,10–0,16	0,12–0,20	0,16–0,28	0,18–0,32	0,20–0,34	
		I	HP	KCU40											
	U	O	HP	KCU40	250	350	450	mm/r	0,05–0,09	0,06–0,12	0,08–0,15	0,12–0,20	0,14–0,25	0,16–0,28	
5	S	O	HP	KCU25	300	400	500	mm/r	0,07–0,12	0,10–0,16	0,12–0,20	0,16–0,28	0,18–0,32	0,20–0,34	
		I	HP	KCU40											
	U	O	HP	KCU40	250	350	450	mm/r	0,05–0,09	0,06–0,12	0,08–0,15	0,12–0,20	0,14–0,25	0,16–0,28	
6	S	O	HP	KCU40	400	450	500	mm/r	0,07–0,12	0,10–0,16	0,12–0,20	0,16–0,28	0,18–0,32	0,20–0,34	
		I	HP	KMF											
	U	O	HP	KCU40	250	350	450	mm/r	0,05–0,09	0,06–0,12	0,08–0,15	0,12–0,20	0,14–0,25	0,16–0,28	

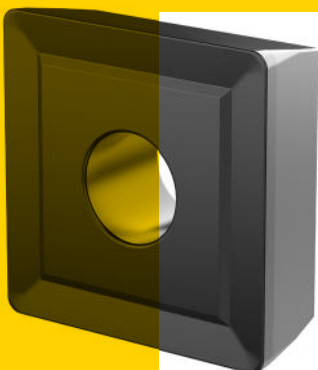
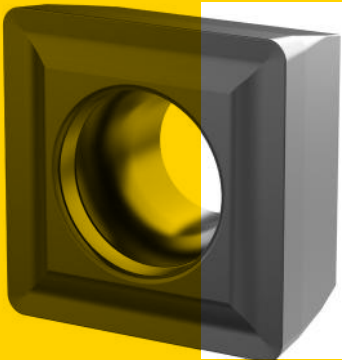
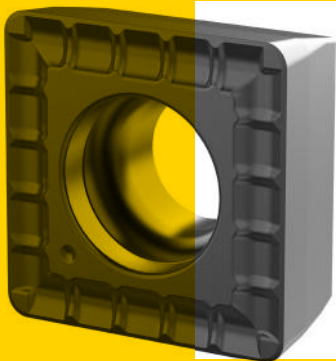
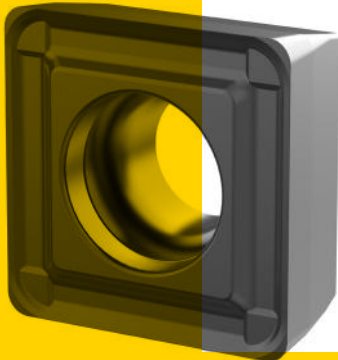
HOLEMAKING

Metric														
Material Group	Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc			Recommended Feed Rate (fz) by Diameter						
					Range — m/min			Ø	SPGX05 DFTX2 14,00–18,00mm	SPGX06 DFT03 18,00–21,99mm	SPGX07 DFT05 22,00–25,99mm	SPGX09 DFT05 26,00–32,99mm	SPGX12 DFT06/..07 33,00–43,99mm	SPGX15 DFT07/..09 44,00–55,00mm
					min	Starting Value	max							
S	1	S	O HP KCU40	60	70	75	mm/r	0,03–0,06	0,04–0,08	0,05–0,10	0,08–0,12	0,10–0,15	0,12–0,18	
			I MD KC7140											
	1	U	O HP KCU40	40	50	60	mm/r	0,02–0,03	0,02–0,04	0,03–0,05	0,04–0,06	0,05–0,08	0,06–0,10	
			I MD KC7140											
	1	I	O HP KCU40	25	30	40	mm/r	0,02–0,03	0,02–0,04	0,03–0,05	0,04–0,06	0,05–0,08	0,06–0,10	
			I MD KC7140											
	2	S	O HP KCU40	50	60	70	mm/r	0,03–0,06	0,04–0,08	0,05–0,10	0,08–0,12	0,10–0,15	0,12–0,18	
				I MD KC7140										
		U	O HP KCU40	30	40	50	mm/r	0,02–0,03	0,02–0,04	0,03–0,05	0,04–0,06	0,05–0,08	0,06–0,10	
			I MD KC7140											
	2	I	O HP KCU40	25	30	40	mm/r	0,02–0,03	0,02–0,04	0,03–0,05	0,04–0,06	0,05–0,08	0,06–0,10	
			I MD KC7140											
3	S	O LP KCU40	70	80	90	mm/r	0,03–0,06	0,04–0,08	0,05–0,10	0,08–0,12	0,10–0,15	0,12–0,18		
			I DS KC7140											
	U	O LP KCU40	50	60	70	mm/r	0,02–0,03	0,02–0,04	0,03–0,05	0,04–0,06	0,05–0,08	0,06–0,10		
		I DS KC7140												
3	I	O HP KCU40	30	40	50	mm/r	0,02–0,03	0,02–0,04	0,03–0,05	0,04–0,06	0,05–0,08	0,06–0,10		
		I MD KC7140												
4	S	O LP KCU40	70	80	90	mm/r	0,03–0,06	0,04–0,08	0,05–0,10	0,08–0,12	0,10–0,15	0,12–0,18		
			I DS KC7140											
	U	O LP KCU40	50	60	70	mm/r	0,02–0,03	0,02–0,04	0,03–0,05	0,04–0,06	0,05–0,08	0,06–0,10		
		I DS KC7140												
4	I	O HP KCU40	30	40	50	mm/r	0,02–0,03	0,02–0,04	0,03–0,05	0,04–0,06	0,05–0,08	0,06–0,10		
		I MD KC7140												

NOTE: Applying Drill Fix DFSP 5xD requires high stability. It is highly recommended to be conservative in regard to speeds and feeds, and start with minimum values indicated.

Condition: S = Stable cutting conditions;
 U = Unstable cutting conditions;
 I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
 O = Outboard insert



Indexable Drilling

DRILL FIX DFT INSERTS

Materials



Industries



General Engineering



Earthworks



Aerospace & Defense



Wind & Solar

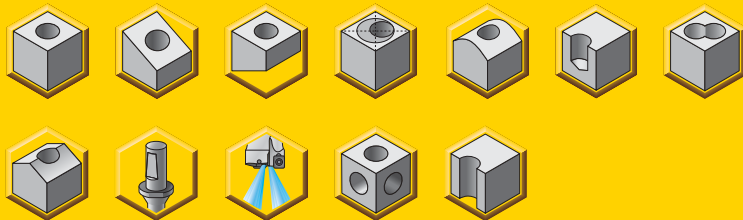


Oil & Gas

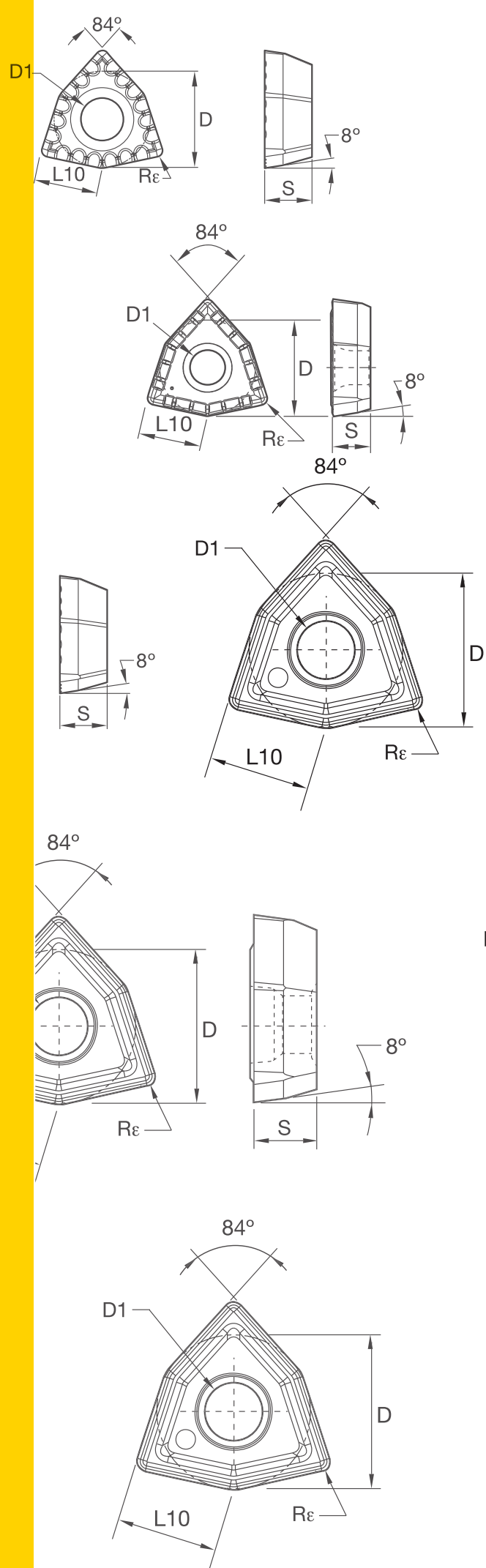


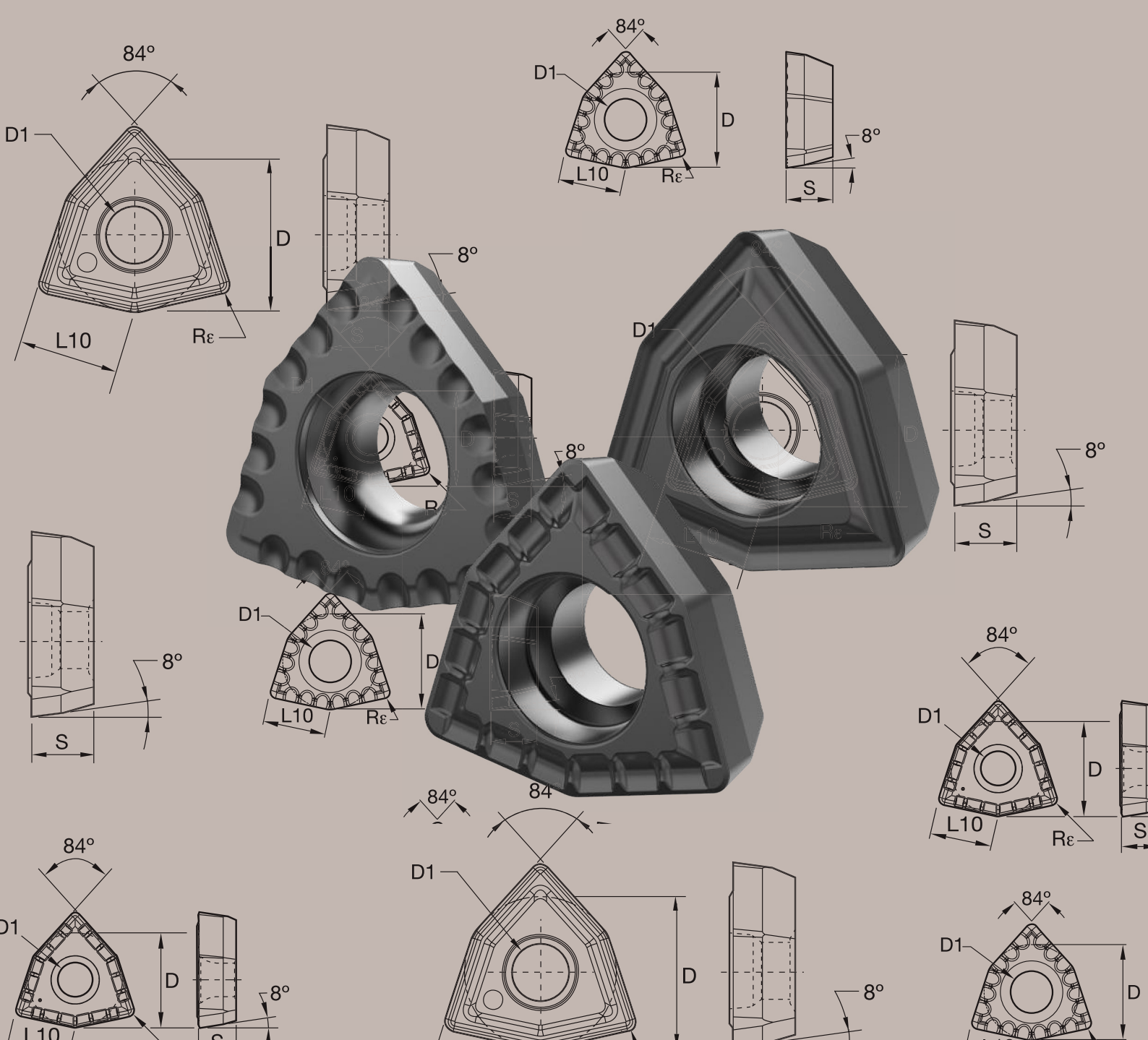
Automotive

Applications



The Drill Fix DFT holemaking inserts platform is a versatile and reliable tooling solution featuring a variety of geometries and grades. The trigon-shaped DFT inserts are used as both inboard and outboard inserts and offer the highest centering capabilities and three cutting edges. They are designed with a smooth surface to reduce forces, friction and workpiece sticking. The Drill Fix DFT system provides high hole accuracy when used on steels, stainless steels and cast iron.



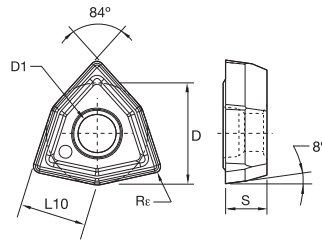


Features and Benefits

- Highest centering capabilities
- Smooth cutting action leads to best hole shape especially in straightness, avoiding deviation utmost
- High performance grades and geometry for the broadest application versatility



Explore Drill Fix DFSP



		KCU25	KCU40
P	●	●	●
M	○	●	●
K	●	●	●
N	○	○	○
S	●	●	●
H	●	●	●

● Primary
○ Secondary

Drill Fix DFT • GD Inserts

ISO Catalog Number	D		D1		L10		S		Rε		KCU25	KCU40
	mm	in	mm	in	mm	in	mm	in	mm	in		
DFT030304GD	6.00	0.236	2.65	0.104	3.97	0.156	2.95	0.116	0.40	0.016	5067404	—
DFT06T308GD	10.00	0.394	4.40	0.173	6.62	0.260	3.75	0.148	0.80	0.031	—	5066064

DRILL FIX DFT RECOMMENDED FEED RATES

Material Group		Condition	Pocket Seat	Geometry	Grade	Metric										
						Cutting Speed — vc			Recommended Feed Rate (f) by Diameter							
						Range — m/min			Ø	DFT03 16–24mm	DFT05 25–32mm	DFT06 32–40mm	DFT07 41–48mm	DFT09... 49–68mm	DFT11 69–82mm	
						min	Starting Value	max								
P	0	S	O	DS	KCU40	280	300	320	mm/r	0,05–0,08	0,07–0,12	0,09–0,15	0,13–0,21	0,17–0,27	0,17–0,27	
		I	DS	KCU40	200	215	230	mm/r	0,05–0,08	0,07–0,12	0,09–0,15	0,13–0,21	0,17–0,27	0,17–0,27		
		I	I	DS	KCU40	130	135	150	mm/r	0,05–0,08	0,07–0,12	0,09–0,15	0,13–0,21	0,17–0,27	0,19–0,31	
	1	S	O	MD	KCU25	310	325	360	mm/r	0,05–0,08	0,07–0,12	0,09–0,15	0,13–0,21	0,17–0,27	0,19–0,31	
		I	MD	KC7140	200	215	230	mm/r	0,06–0,10	0,09–0,15	0,11–0,18	0,15–0,25	0,19–0,31	0,19–0,31		
		I	I	MD	KC7140	130	135	150	mm/r	0,06–0,10	0,09–0,15	0,11–0,18	0,15–0,25	0,19–0,31	0,19–0,31	
	2	S	O	HP	KCPK10	310	325	360	mm/r	0,06–0,10	0,09–0,15	0,11–0,18	0,15–0,25	0,19–0,31	0,19–0,31	
		I	HP	KC7140	200	215	230	mm/r	0,06–0,10	0,09–0,15	0,11–0,18	0,15–0,25	0,19–0,31	0,19–0,31		
		I	I	HP	KC7140	130	135	150	mm/r	0,06–0,10	0,09–0,15	0,11–0,18	0,15–0,25	0,19–0,31	0,19–0,31	
	3	S	O	HP	KCPK10	260	285	320	mm/r	0,06–0,10	0,09–0,15	0,11–0,18	0,15–0,25	0,19–0,31	0,19–0,31	
		I	HP	KC7140	180	195	220	mm/r	0,06–0,10	0,09–0,15	0,11–0,18	0,15–0,25	0,19–0,31	0,19–0,31		
		I	I	HP	KC7140	110	120	140	mm/r	0,06–0,10	0,09–0,15	0,11–0,18	0,15–0,25	0,19–0,31	0,19–0,31	
	4	S	O	HP	KCU25	220	250	300	mm/r	0,06–0,10	0,09–0,15	0,11–0,18	0,15–0,25	0,19–0,31	0,19–0,31	
		I	HP	KC7140	150	180	220	mm/r	0,06–0,10	0,09–0,15	0,11–0,18	0,15–0,25	0,19–0,31	0,19–0,31		
		I	I	HP	KC7140	90	110	140	mm/r	0,06–0,10	0,09–0,15	0,11–0,18	0,15–0,25	0,19–0,31	0,19–0,31	
	5	S	O	HP	KCU25	180	200	220	mm/r	0,06–0,10	0,07–0,13	0,09–0,15	0,11–0,18	0,12–0,23	0,12–0,23	
		I	HP	KC7140	120	135	150	mm/r	0,06–0,10	0,07–0,13	0,09–0,15	0,11–0,18	0,12–0,23	0,12–0,23		
		I	I	HP	KC7140	70	85	100	mm/r	0,05–0,10	0,07–0,13	0,09–0,15	0,11–0,18	0,12–0,23	0,12–0,23	
	6	S	O	HP	KCU25	180	200	220	mm/r	0,05–0,10	0,07–0,13	0,09–0,15	0,11–0,18	0,12–0,23	0,12–0,23	
		I	HP	KC7140	120	135	150	mm/r	0,05–0,10	0,07–0,13	0,09–0,15	0,11–0,18	0,12–0,23	0,12–0,23		
		I	I	HP	KC7140	70	85	100	mm/r	0,05–0,10	0,07–0,13	0,09–0,15	0,11–0,18	0,12–0,23	0,12–0,23	
	M	1	S	O	DS	KCU40	150	190	230	mm/r	0,05–0,08	0,05–0,10	0,06–0,13	0,08–0,14	0,09–0,17	0,09–0,17
			I	DS	KCU40	100	130	160	mm/r	0,05–0,08	0,05–0,10	0,06–0,13	0,08–0,14	0,09–0,17	0,09–0,17	
			I	I	DS	KCU40	60	80	100	mm/r	0,05–0,08	0,05–0,10	0,06–0,13	0,08–0,14	0,09–0,17	0,09–0,17
2		S	O	DS	KCU40	150	180	210	mm/r	0,05–0,08	0,05–0,10	0,06–0,13	0,08–0,14	0,09–0,17	0,09–0,17	
		I	MD	KCU40	100	130	160	mm/r	0,05–0,08	0,05–0,10	0,06–0,13	0,08–0,14	0,09–0,17	0,09–0,17		
		I	I	MD	KC7140	60	80	100	mm/r	0,05–0,08	0,05–0,10	0,06–0,13	0,08–0,14	0,09–0,17	0,09–0,17	
3		S	O	DS	KCU40	100	130	160	mm/r	0,05–0,08	0,05–0,10	0,06–0,13	0,08–0,14	0,09–0,17	0,09–0,17	
		I	HP	KCU40	80	110	140	mm/r	0,05–0,08	0,05–0,10	0,06–0,13	0,08–0,14	0,09–0,17	0,09–0,17		
		I	I	MD	KC7140	50	70	90	mm/r	0,05–0,08	0,05–0,10	0,06–0,13	0,08–0,14	0,09–0,17	0,09–0,17	

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions
 Pocket seat: I = Inboard insert; O = Outboard insert

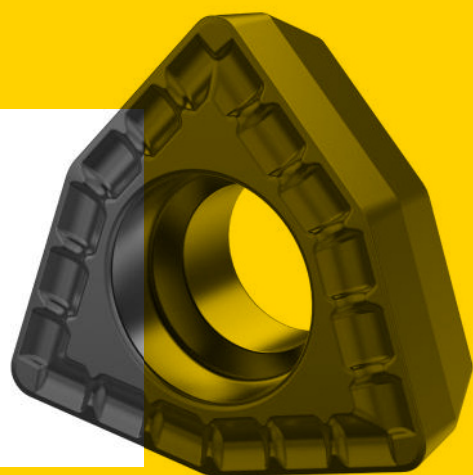
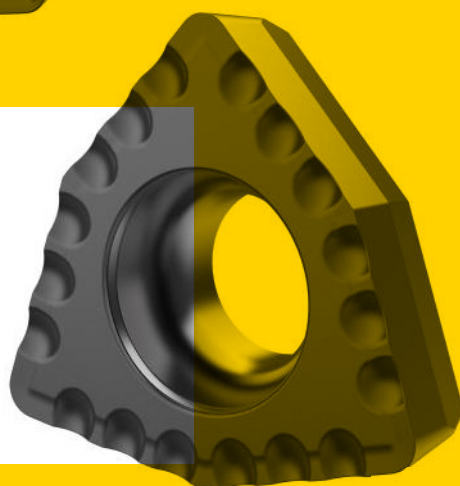
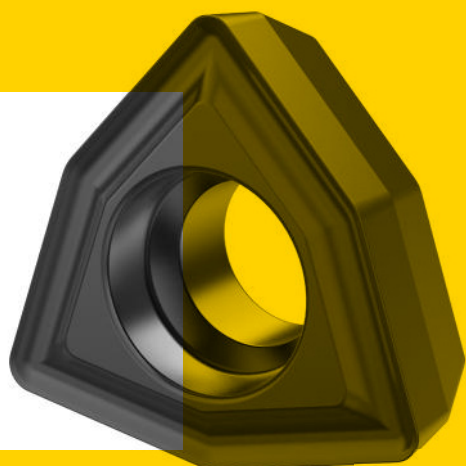
HOLEMAKING

Metric															
Material Group	Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc			Recommended Feed Rate (f) by Diameter							
					Range — m/min			Ø	DFT03 16–24mm	DFT05 25–32mm	DFT06 32–40mm	DFT07 41–48mm	DFT09... 49–68mm	DFT11 69–82mm	
					min	Starting Value	max								
K	1	S	O	HP	KCPK10	200	240	300	mm/r	0,08–0,13	0,10–0,18	0,14–0,26	0,18–0,33	0,21–0,39	0,21–0,39
			I	HP	KCU40										
		U	O	HP	KCU25	120	155	200	mm/r	0,08–0,13	0,10–0,18	0,14–0,26	0,18–0,33	0,21–0,39	0,21–0,39
	I		HP	KCU40											
	2	S	O	HP	KCPK10	180	220	260	mm/r	0,08–0,13	0,10–0,18	0,14–0,26	0,18–0,33	0,21–0,39	0,21–0,39
			I	HP	KCU40										
		U	O	HP	KCU25	110	140	170	mm/r	0,08–0,13	0,10–0,18	0,14–0,26	0,18–0,33	0,21–0,39	0,21–0,39
	I		HP	KC7140											
	3	S	O	HP	KCPK10	180	220	260	mm/r	0,08–0,13	0,10–0,18	0,14–0,26	0,18–0,33	0,21–0,39	0,21–0,39
			I	HP	KCU40										
		U	O	HP	KCU25	110	140	170	mm/r	0,08–0,13	0,10–0,18	0,14–0,26	0,18–0,33	0,21–0,39	0,21–0,39
	I		HP	KC7140											
N	1	S	O	ST	KD1425	400	600	800	mm/r	0,05–0,07	0,07–0,09	0,10–0,14	0,12–0,16	0,14–0,18	0,14–0,18
			I	ST	KD1425										
		U	O	HP	KCU40	300	400	500	mm/r	0,05–0,07	0,07–0,09	0,10–0,14	0,12–0,16	0,14–0,18	0,14–0,18
	I		HP	KCU40											
	2	S	O	HP	KMF	200	300	400	mm/r	0,05–0,07	0,07–0,09	0,10–0,14	0,12–0,16	0,14–0,18	0,14–0,18
			I	HP	KMF										
		U	O	ST	KD1425	375	550	775	mm/r	0,05–0,07	0,07–0,09	0,10–0,14	0,12–0,16	0,14–0,18	0,14–0,18
	I		ST	KD1425											
	3	S	O	HP	KMF	175	250	325	mm/r	0,05–0,07	0,07–0,09	0,10–0,14	0,12–0,16	0,14–0,18	0,14–0,18
			I	HP	KMF										
		U	O	HP	KMF	150	250	350	mm/r	0,05–0,07	0,07–0,09	0,10–0,14	0,12–0,16	0,14–0,18	0,14–0,18
	I		HP	KMF											
	4	S	O	ST	KD1425	400	600	800	mm/r	0,05–0,07	0,07–0,09	0,10–0,14	0,12–0,16	0,14–0,18	0,14–0,18
			I	ST	KD1425										
		U	O	HP	KCU40	250	350	450	mm/r	0,05–0,07	0,07–0,09	0,10–0,14	0,12–0,16	0,14–0,18	0,14–0,18
	I		HP	KCU40											
	5	S	O	HP	KMF	200	300	400	mm/r	0,05–0,07	0,07–0,09	0,10–0,14	0,12–0,16	0,14–0,18	0,14–0,18
			I	HP	KMF										
		U	O	ST	KD1425	400	600	800	mm/r	0,05–0,07	0,07–0,09	0,10–0,14	0,12–0,16	0,14–0,18	0,14–0,18
	I		ST	KD1425											
	6	S	O	HP	KMF	150	250	350	mm/r	0,05–0,07	0,07–0,09	0,10–0,14	0,12–0,16	0,14–0,18	0,14–0,18
			I	HP	KMF										
		U	O	HP	KMF	200	300	400	mm/r	0,05–0,07	0,07–0,09	0,10–0,14	0,12–0,16	0,14–0,18	0,14–0,18
	I		HP	KMF											

HOLEMAKING

Metric															
Material Group	Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc			Recommended Feed Rate (f) by Diameter							
					Range — m/min			Ø	DFT03 16–24mm	DFT05 25–32mm	DFT06 32–40mm	DFT07 41–48mm	DFT09... 49–68mm	DFT11 69–82mm	
					min	Starting Value	max								
S	1	S	0	HP	KCU40	60	70	75	mm/r	0,03–0,05	0,04–0,06	0,05–0,08	0,06–0,1	0,08–0,13	0,08–0,13
		I	HP	KCU40											
		U	0	HP	KCU40	40	50	60	mm/r	0,03–0,05	0,04–0,06	0,05–0,08	0,06–0,1	0,08–0,13	0,08–0,13
	2	I	HP	KC7140											
		I	MD	KC7140	25	30	40	mm/r	0,03–0,05	0,04–0,06	0,05–0,08	0,06–0,1	0,08–0,13	0,08–0,13	
		I	MD	KC7140											
	3	S	0	HP	KCU40	50	60	70	mm/r	0,05–0,07	0,05–0,07	0,05–0,08	0,06–0,1	0,07–0,12	0,07–0,12
		I	HP	KCU40											
		U	0	HP	KCU40	30	40	50	mm/r	0,04–0,06	0,05–0,08	0,06–0,10	0,06–0,1	0,09–0,15	0,09–0,15
	4	I	HP	KC7140											
		I	MD	KC7140	25	30	40	mm/r	0,05–0,07	0,05–0,07	0,05–0,08	0,06–0,1	0,07–0,12	0,07–0,12	
		I	MD	KC7140											
5	S	0	HP	KCU40	70	80	90	mm/r	0,03–0,05	0,04–0,06	0,05–0,08	0,06–0,1	0,08–0,13	0,08–0,13	
	I	HP	KCU40												
	U	0	HP	KCU40	50	60	70	mm/r	0,03–0,05	0,04–0,06	0,05–0,08	0,06–0,1	0,08–0,13	0,08–0,13	
6	I	HP	KC7140												
	I	MD	KC7140	30	40	50	mm/r	0,03–0,05	0,04–0,06	0,05–0,08	0,06–0,1	0,08–0,13	0,08–0,13		
	I	MD	KC7140												
7	S	0	HP	KCU40	70	80	90	mm/r	0,05–0,07	0,05–0,07	0,05–0,08	0,06–0,1	0,07–0,12	0,07–0,12	
	I	HP	KCU40												
	U	0	HP	KCU40	50	60	70	mm/r	0,04–0,06	0,05–0,08	0,06–0,10	0,06–0,1	0,09–0,15	0,09–0,15	
8	I	HP	KC7140												
	I	MD	KC7140	30	40	50	mm/r	0,05–0,07	0,05–0,07	0,05–0,08	0,06–0,1	0,07–0,12	0,07–0,12		
	I	MD	KC7140												

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions
 Pocket seat: I = Inboard insert; O = Outboard insert





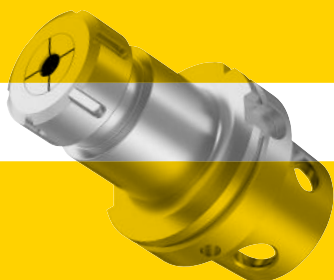
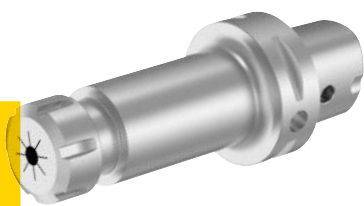
SYSTEMS





SYSTEMS

HYDRAULIC CHUCKS.....	E5
SHRINK FIT TOOLHOLDERS.....	E11
ER COLLET CHUCKS.....	E15
SHELL MILL ADAPTERS.....	E23
END MILL ADAPTERS.....	E29
SCREW-ON ADAPTERS.....	E31
CHIP FAN.....	E32



Chucks

HYDRAULIC CHUCKS

HYDROFORCE™

For any application, providing an unparalleled combination of accuracy and clamping force.

Optimum performance for round-tool applications.



Activation of the chuck is achieved by turning the piston screw, which pressurizes the hydraulic fluid and exerts force on a thin-walled membrane along the length of the clamping bore.

The highly concentric clamping force secures the tool shank, while the pressurized fluid delivers a damping effect that reduces vibration and helps prevent micro-cracking on cutting edges.

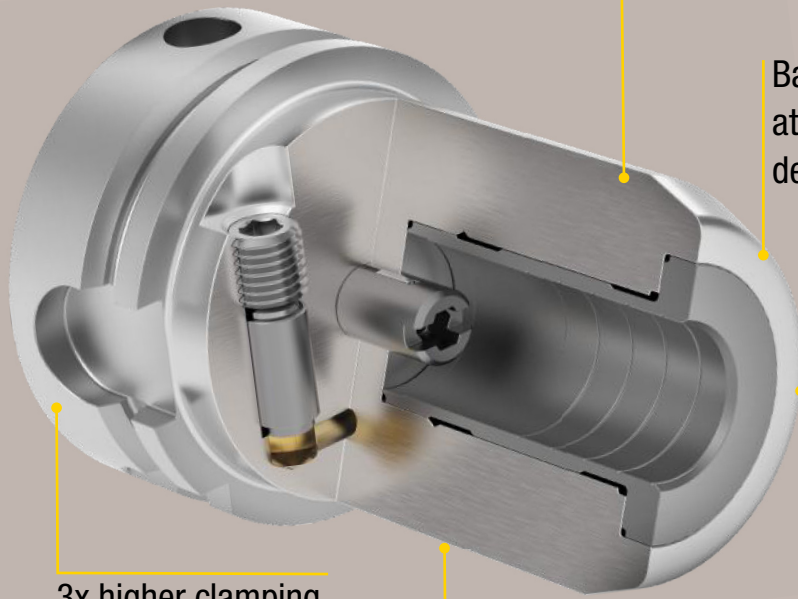


Explore Collets
and Sleeves



Explore HSK

Runout $\leq 3 \mu\text{m}$ at 2.5 \times
diameter overhang
($\leq 6 \mu\text{m}$ for 50 mm diameter)



Balanced G2.5
at 25.000 RPM,
delivering precision

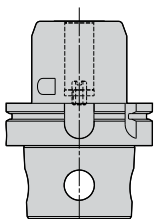
3 clamping bore sizes
for all applications. 20,
32, and 50mm

3x higher clamping
force than high-
performance line

Short projection length
and 40% thicker
front wall enable high
cutting parameters and
optimum surface quality

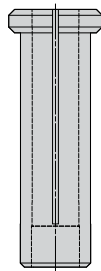
**HIGHEST CLAMPING FORCE
IN THE INDUSTRY**

Portfolio

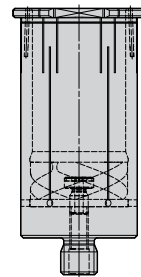


HydroForce

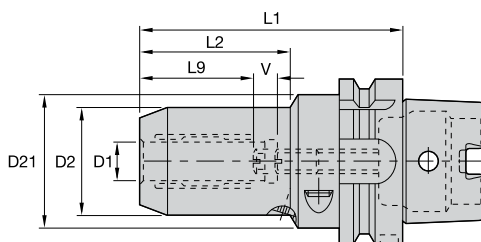
Accessories



Reducer Sleeves



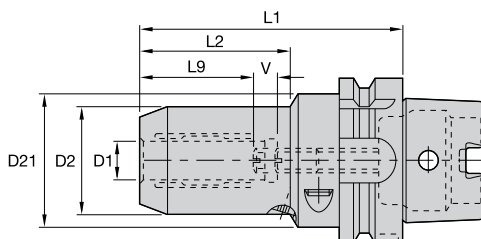
HydroForce Safe-Lock™
reducer sleeves with
pullout protection



HSK63A Hydraulic Chucks • HP Line • Metric

Advanced Hydraulic Chuck | External Axial Adjustment | Through Coolant | HSK63A Backend

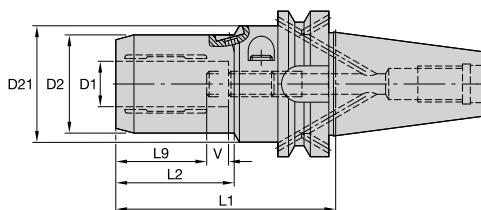
Order Number	Catalog Number	D1	D2	D21	L1	L2	L9	V	kg
1245440	HSK63AHC06080M	6	25,7	49,9	80	33	27	10	1,00
1245478	HSK63AHC12090M	12	31,5	49,9	90	45	36	10	1,10
1245480	HSK63AHC16095M	16	37,6	49,9	95	52	39	10	2,00
1245482	HSK63AHC25120M	25	49,9	62,9	120	51	47	10	1,99



HSK100A Hydraulic Chucks • HP Line • Metric

Advanced Hydraulic Chuck | External Axial Adjustment | Through Coolant | HSK100A Backend

Order Number	Catalog Number	D1	D2	D21	L1	L2	L9	V	kg
2229199	HSK100AHC20150M	20	41,6	62,9	150	100	41	10	3,31

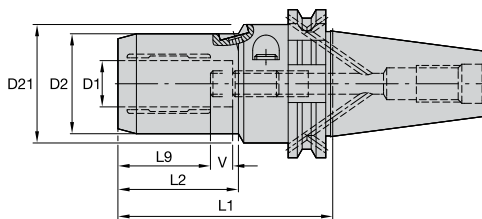


BT50 Hydraulic Chucks • HP Line • Through Coolant Form B/AD • Metric

Advanced Hydraulic Chuck | External Axial Adjustment | Flange or Through Coolant | BT50 Backend

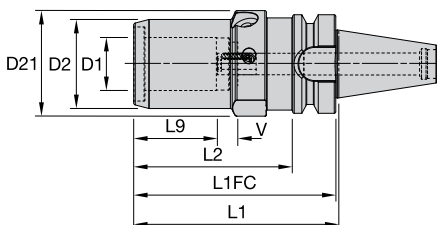
Order Number	Catalog Number	D1	D2	D21	L1	L2	L9	V	kg
1315355	BT50BHC12100M	12	31,6	49,9	100	45	36	10	2,50

SYSTEMS



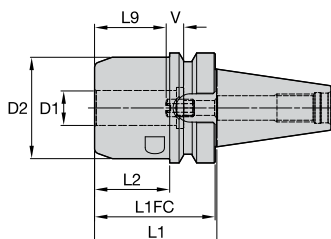
DV50B Hydraulic Chucks • HP Line • Through Coolant Form AD • Metric
 Advanced Hydraulic Chuck | External Axial Adjustment | Through Coolant | DV50B Backend

Order Number	Catalog Number	D1	D2	D21	L1	L2	L9	V	kg
1191016	DV50BHC20082M	20	41,5	49,9	82	48	40	10	3,07



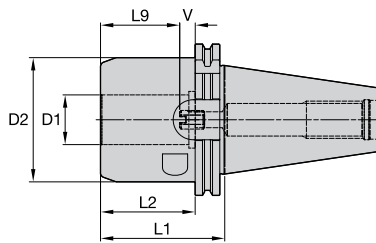
BTKV30 Hydraulic Chucks • HP Line • Through Coolant Form AD • Metric
 Advanced Hydraulic Chuck | External Axial Adjustment | Through Coolant | BTKV30 Backend

Order Number	Catalog Number	D1	D2	D21	L1	L1FC	L2	L9	V	kg
7195563	BTKV30HC12085M	12	31,5	31,9	85	84	40	36	10	0,68
7195564	BTKV30HC20100M	20	41,5	49,9	100	99	48	41	10	1,09



BTKV40 Hydraulic Chucks • HT Line • Through Coolant Form AD • Metric
 HydroForce | Heavy Duty Hydraulic Chuck | Extra Gripping Force and Rigidity | Through Coolant | BTKV40 Backend

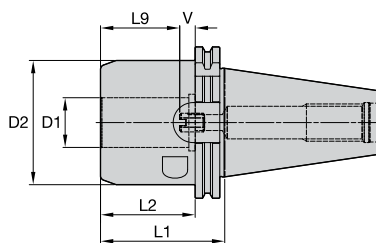
Order Number	Catalog Number	D1	D2	L1	L1FC	L2	L9	V	kg
5520993	BTKV40HCTHT20070M	20	58,0	70	69	43	41	10	1,68
6048259	BTKV40HCTHT32082M	32	80,0	82	81	81	51	10	2,32



DV40 Hydraulic Chucks • HT Line • Through Coolant Form AD • Metric

HydroForce | Heavy Duty Hydraulic Chuck | Extra Gripping Force and Rigidity | Through Coolant | DV40 Backend

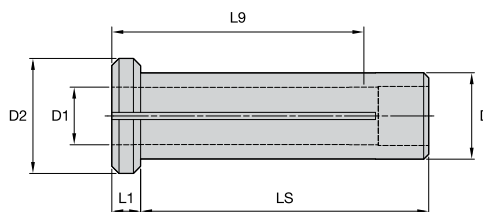
Order Number	Catalog Number	D1	D2	L1	L2	L9	V	kg
5520973	DV40HCTHT20070M	20	58,0	70	51	41	10	1,58
6048255	DV40HCTHT32080M	32	80,0	80	80	51	10	2,31



DV50 Hydraulic Chucks • HT Line • Through Coolant Form AD • Metric

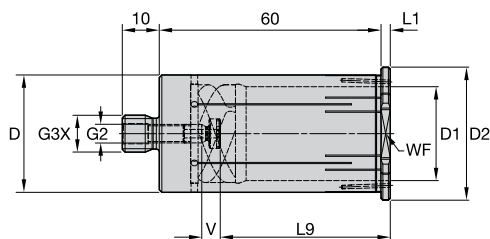
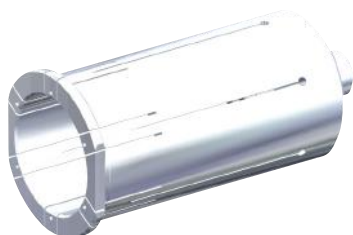
HydroForce | Heavy Duty Hydraulic Chuck | Extra Gripping Force and Rigidity | Through Coolant | DV50 Backend

Order Number	Catalog Number	D1	D2	L1	L2	L9	V	kg
5520974	DV50HCTHT32080M	32	80,0	80	61	51	10	4,45



Hydraulic Reducer Sleeves • Metric with Metric Bores
Coolant Through | Individual Sleeves

Order Number	Catalog Number	D	D1	D2	L1	L9	LS
3026648	20MHC030M	20	3	25	4	28	50
3026649	20MHC040M	20	4	25	4	28	50
3026650	20MHC050M	20	5	25	4	28	50
3026651	20MHC060M	20	6	25	4	36	50
3026652	20MHC070M	20	7	25	4	37	50
3026653	20MHC080M	20	8	25	4	37	50
3026654	20MHC090M	20	9	25	4	38	50
3026655	20MHC100M	20	10	25	4	40	50
3026656	20MHC110M	20	11	25	4	40	50
3026657	20MHC120M	20	12	25	4	45	50
3026658	20MHC130M	20	13	25	4	45	50
3026659	20MHC140M	20	14	25	4	45	50
3026660	20MHC150M	20	15	25	4	45	50
3026661	20MHC160M	20	16	25	4	48	50
3026675	32MHC060M	32	6	36	4	37	60
3026676	32MHC070M	32	7	36	4	37	60
3026677	32MHC080M	32	8	36	4	37	60
3026678	32MHC090M	32	9	36	4	37	60
3026679	32MHC100M	32	10	36	4	40	60
3026680	32MHC110M	32	11	36	4	41	60
3026681	32MHC120M	32	12	36	4	45	60
3026682	32MHC130M	32	13	36	4	45	60
3026683	32MHC140M	32	14	36	4	46	60
3026684	32MHC150M	32	15	36	4	46	60
3026685	32MHC160M	32	16	36	4	48	60
3026686	32MHC170M	32	17	36	4	48	60
3026687	32MHC180M	32	18	36	4	49	60
3026691	32MHC190M	32	19	36	4	49	60
3026688	32MHC200M	32	20	36	4	50	60
3026689	32MHC220M	32	22	36	4	51	60
3026690	32MHC250M	32	25	36	4	57	60

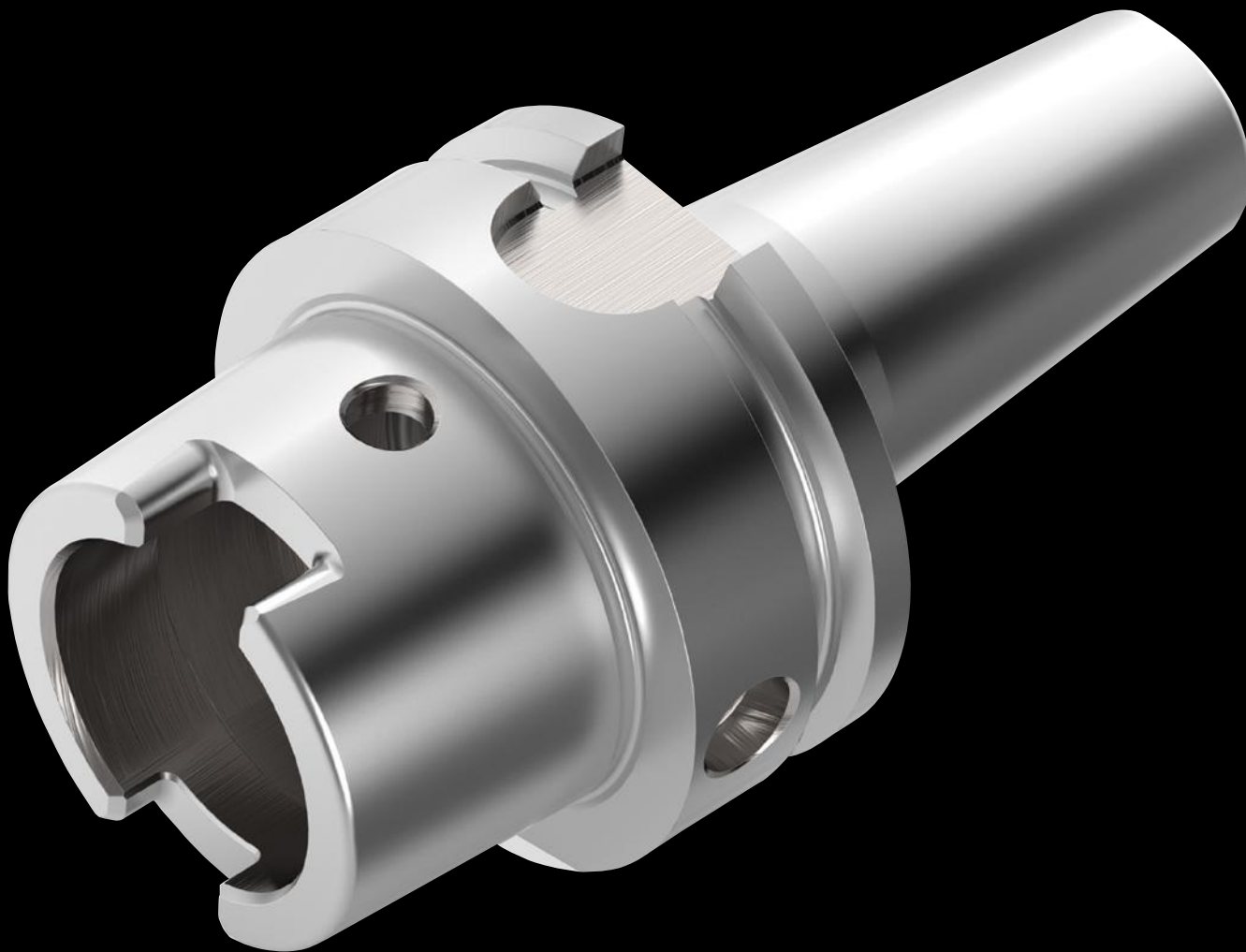


Hydraulic Reducer Sleeves • Safe-Lock • Face Coolant • Metric with Metric Bores
Face Coolant | Safe-Lock Anti Pull-Out | Individual Sleeves

Order Number	Catalog Number	D	D1	D2	L1	L9	V	G3X	G2	WF
5998607	32MHCSFC120M	32	12	36	3	41	4	M12	M6	32
5998609	32MHCSFC160M	32	16	36	3	44	4	M12	M6	32
5998610	32MHCSFC200M	32	20	36	3	46	4	M12	M6	32
7164644	32MHCSFC250M	32	25	36	3	53	4	M12	M6	32

Heat Shrink Holders

SHRINK FIT TOOLHOLDERS

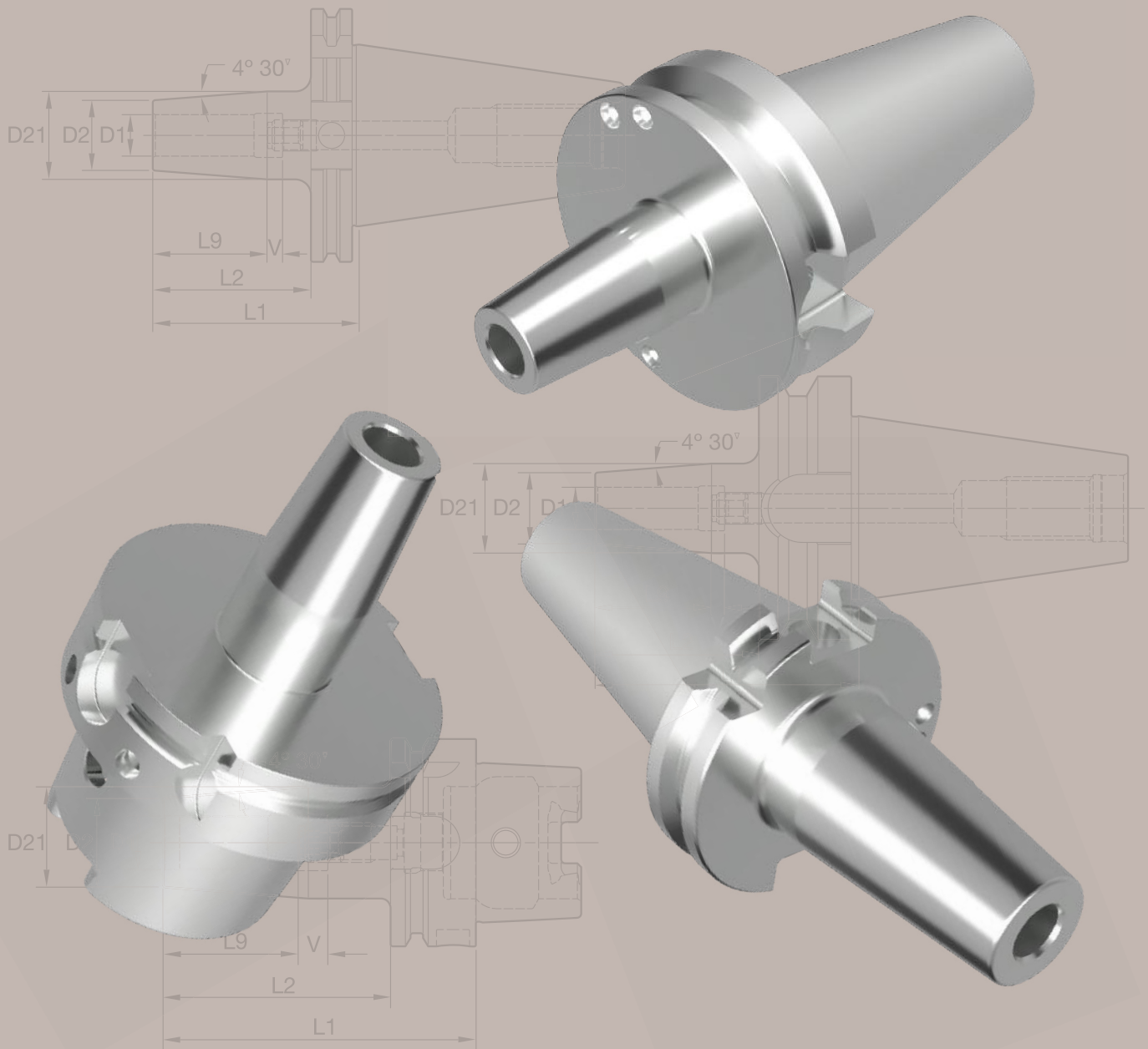


ERICKSON Shrink Fit toolholders allow for high-precision, high-productivity machining in demanding conditions while providing optimum value.

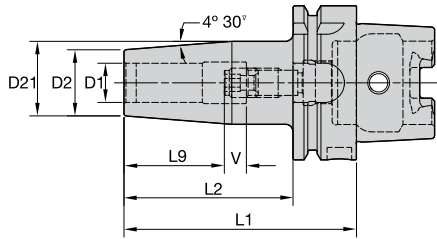
They offer stability and low runout, leading to excellent surface finish, dimensional accuracy and lower overall production times.



Explore Toolholders



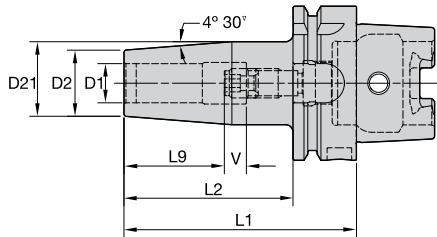
- Broad selection of backend connection types (HSK63A, HSK100A, BT50, DV40, BTKV30)
- Balanced to G2.5 @ 25,000 RPM
- Compatible with steel and carbide shanks
- Runout accuracy <math><3 \mu\text{m}</math> at 3xD for extended tool life and consistent surface finishing
- Through coolant capability



HSK63A Shrink Fit Toolholders • GL Line • Metric

Heat Shrink Holders | Carbide & HSS Compatible | No Balance Screws | Through Coolant | HSK63A Backend

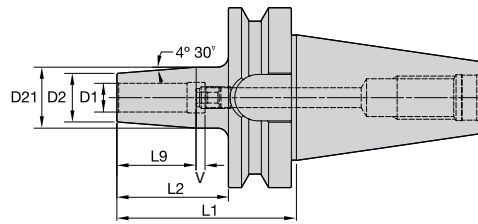
Order Number	Catalog Number	D1	D2	D21	L1	L2	L9	V	kg
6199622	HSK63ATTGL04080M	4	10	—	80	54	12	—	1
6199623	HSK63ATTGL06080M	6	21	27	80	54	26	10	1
6199624	HSK63ATTGL08080M	8	21	27	80	54	26	10	1
6199625	HSK63ATTGL10085M	10	24	32	85	59	32	10	1
6199626	HSK63ATTGL12090M	12	24	32	90	64	37	10	1
6199627	HSK63ATTGL14090M	14	27	34	90	64	37	10	1
6199628	HSK63ATTGL16095M	16	27	34	95	69	40	10	1
6199629	HSK63ATTGL18095M	18	33	42	95	69	40	10	1
6199630	HSK63ATTGL20100M	20	33	42	100	74	42	10	1
6199631	HSK63ATTGL25115M	25	44	53	115	89	48	10	2



HSK100A Shrink Fit Toolholders • GL Line • Metric

Heat Shrink Holders | Carbide & HSS Compatible | No Balance Screws | Through Coolant | HSK100A Backend

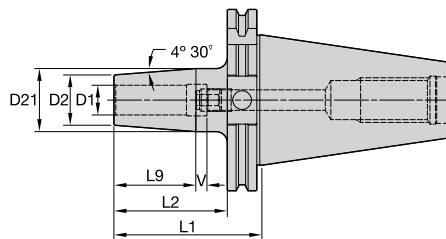
Order Number	Catalog Number	D1	D2	D21	L1	L2	L9	V	kg
6201850	HSK100ATTGL06085M	6	21	27	85	56	26	10	2
6201871	HSK100ATTGL08085M	8	21	27	85	56	26	10	2
6201872	HSK100ATTGL10090M	10	24	32	90	61	32	10	2
6201873	HSK100ATTGL12095M	12	24	32	95	66	37	10	2
6201874	HSK100ATTGL14095M	14	27	34	95	66	37	10	2
6201875	HSK100ATTGL16100M	16	27	34	100	71	40	10	2
6201877	HSK100ATTGL20105M	20	33	42	105	76	42	10	3
6201878	HSK100ATTGL25115M	25	44	53	115	86	48	10	3



BT50 Shrink Fit Toolholders • GL Line • Through Coolant Form AD • Metric

Heat Shrink Holders | Carbide & HSS Compatible | No Balance Screws | Through Coolant | BT50 Backend

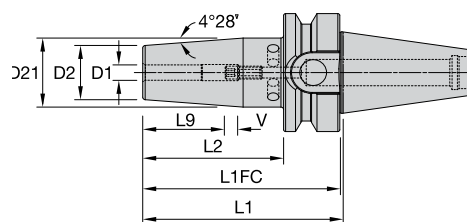
Order Number	Catalog Number	D1	D2	D21	L1	L2	L9	V	kg
6201441	BT50TTGL08100M	8	21	27	100	62	26	10	4
6201443	BT50TTGL12100M	12	24	32	100	62	37	10	4
6201445	BT50TTGL16100M	16	27	34	100	62	40	10	4
6201447	BT50TTGL20100M	20	33	42	100	62	42	10	4



DV40 Shrink Fit Toolholders • GP Line • Through Coolant Form AD • Metric

Heat Shrink Holders | Carbide & HSS Compatible | No Balance Screws | Through Coolant | DV40 Backend

Order Number	Catalog Number	D1	D2	D21	L1	L2	L9	V	kg
6201356	DV40TTGL06080M	6	21	27	80	61	26	10	1
6201357	DV40TTGL08080M	8	21	27	80	61	26	10	1
6201358	DV40TTGL10080M	10	24	32	80	61	32	10	1
6201359	DV40TTGL12080M	12	24	32	80	61	37	10	1
6201421	DV40TTGL16080M	16	27	34	80	61	40	10	1



BTKV30 Shrink Fit Toolholders • GP Line • Through Coolant Form AD • Metric

Heat Shrink Holders | Carbide & HSS Compatible | w. Balance Screws | Through Coolant | BTKV30 Backend

Order Number	Catalog Number	D1	D2	D21	L1	L1FC	L2	L9	V	kg
7195533	BTKV30HPVTT06075M	6	21	27	75	74	53	26	10	1
7195534	BTKV30HPVTT08075M	8	21	27	75	74	53	26	10	1
7195535	BTKV30HPVTT10075M	10	24	31	75	74	53	31	10	1
7195536	BTKV30HPVTT12075M	12	24	31	75	74	53	36	10	1
7195537	BTKV30HPVTT16075M	16	27	32	75	74	53	39	10	1
7195538	BTKV30HPVTT20090M	20	33	41	90	89	68	41	10	1

ER COLLET CHUCKS & COLLETS



Solid locknut
(Standard Solid Locknut)



Solid locknut slim design
(Optional Slim Locknut)

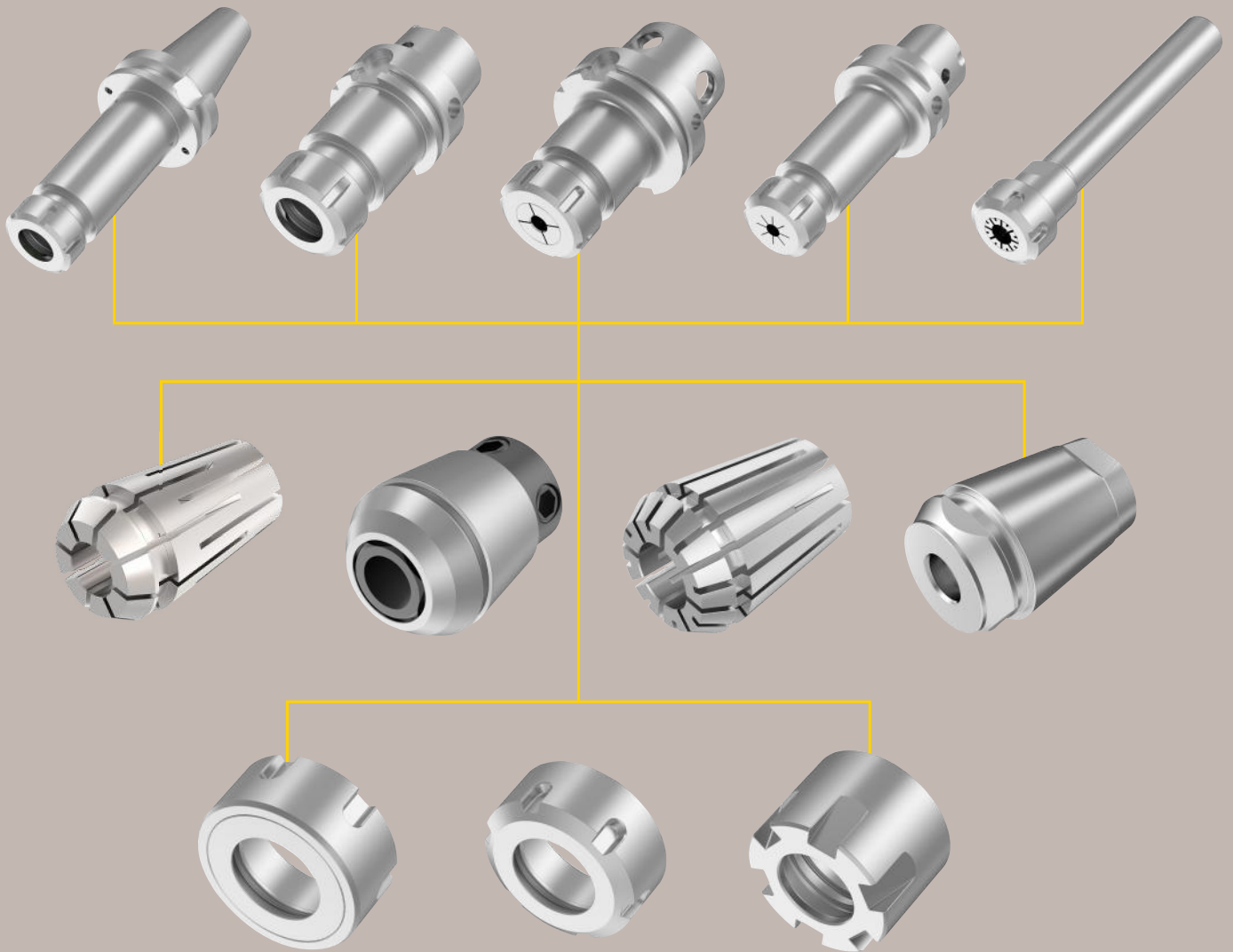


Bearing locknut*
(Optional Bearing Locknut)

The Standard Solid Locknut is balanced by design and compatible with all ER collet types.

Optional Slim Locknut for ER Chucks (sizes 11, 16, and 20) offers a narrow profile, allowing machining in limited spaces.

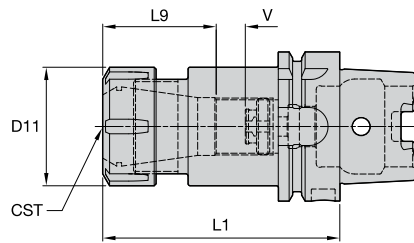
Optional Bearing Locknut improves runout and grip, enhancing tool life - ideal for demanding applications like Solid Carbide End Milling.



- The ER collet chuck portfolio, featuring all industry standard spindle connections, supports high-performance round tool applications
- All ER collet chucks are RFID ready for standard ISO data carrier and are balanced to G2.5 at 20,000 RPM
- Solid ER Collets (sizes 25, 32 and 40) enable the use of screw-on milling cutters with any standard rotating collet chuck
- Through coolant ER collets offer industry standard grip and runout for process security and improved tool life
- All collet styles work with standard adapters, reducing the need for optional tooling inventory



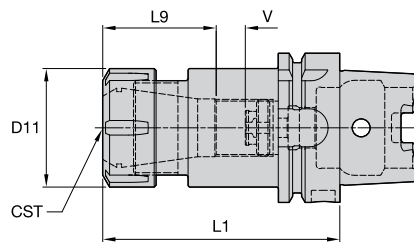
Explore ER Locknuts



HSK63A ER Collet Chucks • Metric

Regular ER Collet Chuck | Multi-Purpose and Versatile | Through Coolant | HSK63A Backend

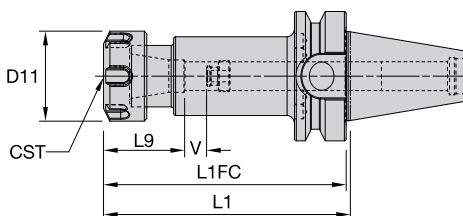
Order Number	Catalog Number	CST collet series	D11	L1	L9	V	kg
6694027	HSK63AER16080M	ER16	32	80	32	8	0,84
1086425	HSK63AER16100M	ER16	32	100	32	26	0,90
1086426	HSK63AER16160M	ER16	32	160	32	50	1,35
6694028	HSK63AER20080M	ER20	35	80	36	3	0,89
1086427	HSK63AER20100M	ER20	35	100	36	22	1,05
6694029	HSK63AER25080M	ER25	42	80	40	3	1,00
1086855	HSK63AER25100M	ER25	42	100	40	18	1,18
6694042	HSK63AER25160M	ER25	42	160	40	60	1,74
6694030	HSK63AER32080M	ER32	50	80	45	—	1,11
1086566	HSK63AER32100M	ER32	50	100	45	13	1,38
6694043	HSK63AER32160M	ER32	50	160	45	55	2,13



HSK100A ER Collet Chucks • Metric

Regular ER Collet Chuck | Multi-Purpose and Versatile | Through Coolant | HSK100A Backend

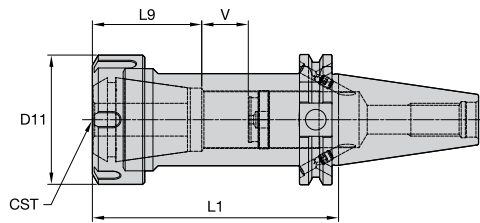
Order Number	Catalog Number	CST collet series	D11	L1	L9	V	kg
1086560	HSK100AER16100M	ER16	32	100	32	28	2,28
1086561	HSK100AER16160M	ER16	32	160	32	50	2,85
1086563	HSK100AER25100M	ER25	42	100	40	10	2,51
6694045	HSK100AER25160M	ER25	42	160	40	60	2,71
1086584	HSK100AER32100M	ER32	50	100	45	11	2,70
6694046	HSK100AER32160M	ER32	50	160	45	45	3,46



BTKV30 ER Collet Chucks • Through Coolant Form AD • Metric

Regular ER Collet Chuck | Multi-Purpose and Versatile | Through Coolant | BTKV30 Backend

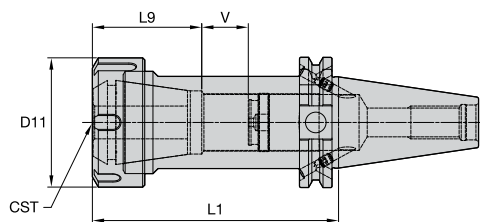
Order Number	Catalog Number	CST collet series	D11	L1	L1FC	L9	V	kg
7195558	BTKV30ER16100M	ER16	32	100	99	32	48	0,67
7195559	BTKV30ER20100M	ER20	35	100	99	36	44	0,72
7195560	BTKV30ER25100M	ER25	42	100	99	40	40	0,73
7195561	BTKV30ER32100M	ER32	50	100	99	46	34	0,94
7195562	BTKV30ER40100M	ER40	63	100	99	52	10	1,16



DV40B ER Collet Chucks • Through Coolant Form B/AD • Metric

Regular ER Collet Chuck | Multi-Purpose and Versatile | Flange or Through Coolant | DV40B Backend

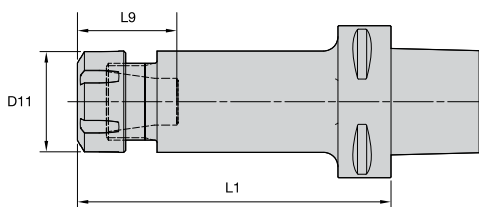
Order Number	Catalog Number	CST collet series	D11	L1	L9	V	kg
1770957	DV40BER16070M	ER16	28	70	32	48	0,96
1263807	DV40BER25065M	ER25	42	65	40	35	1,04
1263809	DV40BER32070M	ER32	50	70	46	33	1,08



DV50B ER Collet Chucks • Through Coolant Form B/AD • Metric

Regular ER Collet Chuck | Multi-Purpose and Versatile | Flange or Through Coolant | DV50B Backend

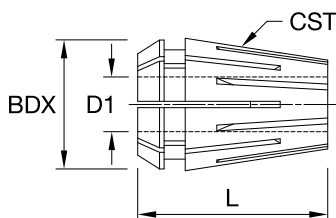
Order Number	Catalog Number	CST collet series	D11	L1	L9	V	kg
1264128	DV50BER32070M	ER32	50	70	46	54	2,91
6694913	DV50BER32100M	ER32	50	100	46	54	3,29
1264129	DV50BER32150M	ER32	50	150	46	54	3,89



PSC63 ER Collet Chucks • Metric

Regular ER Collet Chuck | Multi-Purpose and Versatile | Through Coolant | PSC63 Backend

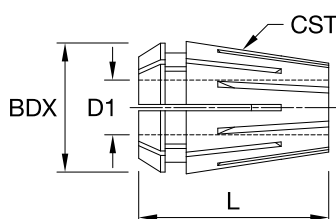
Order Number	Catalog Number	CST collet series	D11	L1	L9	kg
4098567	PSC63ER25060M	ER25	42	60	41	0,97
6341539	PSC63ER25100M	ER25	42	100	41	1,36
4098569	PSC63ER32060M	ER32	50	60	47	0,99
6341540	PSC63ER32100M	ER32	50	100	47	1,72



ER11 Collets • Steel Sealed • Metric

Coolant Through ER Collets | In Accordance with ISO 15488 | Individual Collets

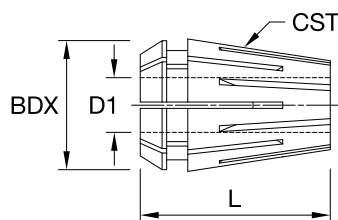
Order Number	ANSI Catalog Number	CST Collet Series	D1	BDX	L	collet capacity max mm	collet capacity min mm
7195175	11ERSS030M	ER11	3,0	11,2	18,0	3,0	3,0
7195176	11ERSS040M	ER11	4,0	11,2	18,0	4,0	4,0
7195177	11ERSS050M	ER11	5,0	11,2	18,0	5,0	5,0
7195178	11ERSS060M	ER11	6,0	11,2	18,0	6,0	6,0
7195179	11ERSS070M	ER11	7,0	11,2	18,0	7,0	7,0



ER16 Collets • Steel Sealed • Metric

Coolant Through ER Collets | In Accordance with ISO 15488 | Individual Collets

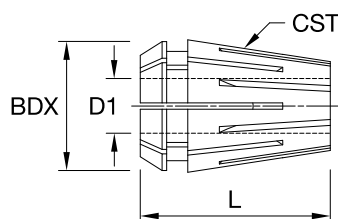
Order Number	Catalog Number	CST Collet Series	D1	BDX	L	collet capacity max mm	collet capacity min mm
7195314	16ERSS030M	ER16	3,0	16,6	27,5	3,0	3,0
7195315	16ERSS040M	ER16	4,0	16,6	27,5	4,0	4,0
7195316	16ERSS050M	ER16	5,0	16,6	27,5	5,0	5,0
7195317	16ERSS060M	ER16	6,0	16,6	27,5	6,0	6,0
7195318	16ERSS070M	ER16	7,0	16,6	27,5	7,0	7,0
7195319	16ERSS080M	ER16	8,0	16,6	27,5	8,0	8,0
7195320	16ERSS090M	ER16	9,0	16,6	27,5	9,0	9,0
7195321	16ERSS100M	ER16	10,0	16,6	27,5	10,0	10,0



ER20 Collets • Steel Sealed • Metric

Coolant Through ER Collets | In Accordance with ISO 15488 | Individual Collets

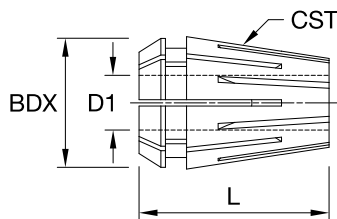
Order Number	Catalog Number	CST Collet Series	D1	BDX	L	collet capacity max mm	collet capacity min mm
7195332	20ERSS030M	ER20	3,0	31,5	31,5	3,0	3,0
7195333	20ERSS040M	ER20	4,0	31,5	31,5	4,0	4,0
7195334	20ERSS050M	ER20	5,0	31,5	31,5	5,0	5,0
7195335	20ERSS060M	ER20	6,0	31,5	31,5	6,0	6,0
7195336	20ERSS070M	ER20	7,0	31,5	31,5	7,0	7,0
7195337	20ERSS080M	ER20	8,0	31,5	31,5	8,0	8,0
7195338	20ERSS090M	ER20	9,0	31,5	31,5	9,0	9,0
7195339	20ERSS100M	ER20	10,0	31,5	31,5	10,0	10,0
7195340	20ERSS110M	ER20	11,0	31,5	31,5	11,0	11,0
7195371	20ERSS120M	ER20	12,0	31,5	31,5	12,0	12,0
7195372	20ERSS130M	ER20	13,0	31,5	31,5	13,0	13,0



ER25 Collets • Steel Sealed • Metric

Coolant Through ER Collets | In Accordance with ISO 15488 | Individual Collets

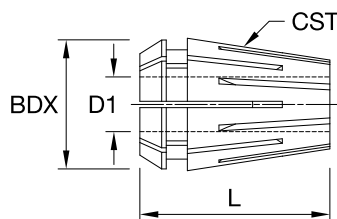
Order Number	Catalog Number	CST Collet Series	D1	BDX	L	collet capacity max mm	collet capacity min mm
7195388	25ERSS060M	ER25	6,0	25,9	34,0	6,0	6,0
7195390	25ERSS070M	ER25	7,0	25,9	34,0	7,0	7,0
7195391	25ERSS080M	ER25	8,0	25,9	34,0	8,0	8,0
7195392	25ERSS090M	ER25	9,0	25,9	34,0	9,0	9,0
7195393	25ERSS100M	ER25	10,0	25,9	34,0	10,0	10,0
7195394	25ERSS110M	ER25	11,0	25,9	34,0	11,0	11,0
7195396	25ERSS120M	ER25	12,0	25,9	34,0	12,0	12,0
7195397	25ERSS130M	ER25	13,0	25,9	34,0	13,0	13,0
7195398	25ERSS140M	ER25	14,0	25,9	34,0	14,0	14,0
7195399	25ERSS150M	ER25	15,0	25,9	34,0	15,0	15,0
7195400	25ERSS160M	ER25	16,0	25,9	34,0	16,0	16,0



ER32 Collets • Steel Sealed • Metric

Coolant Through ER Collets | In Accordance with ISO 15488 | Individual Collets

Order Number	Catalog Number	CST Collet Series	D1	BDX	L	collet capacity max mm	collet capacity min mm
7195415	32ERSS060M	ER32	6,0	32,6	40,0	6,0	6,0
7195416	32ERSS070M	ER32	7,0	32,6	40,0	7,0	7,0
7195417	32ERSS080M	ER32	8,0	32,6	40,0	8,0	8,0
7195418	32ERSS090M	ER32	9,0	32,6	40,0	9,0	9,0
7195419	32ERSS100M	ER32	10,0	32,6	40,0	10,0	10,0
7195420	32ERSS110M	ER32	11,0	32,6	40,0	11,0	11,0
7195421	32ERSS120M	ER32	12,0	32,6	40,0	12,0	12,0
7195422	32ERSS130M	ER32	13,0	32,6	40,0	13,0	13,0
7195423	32ERSS140M	ER32	14,0	32,6	40,0	14,0	14,0
7195424	32ERSS150M	ER32	15,0	32,6	40,0	15,0	15,0
7195425	32ERSS160M	ER32	16,0	32,6	40,0	16,0	16,0
7195426	32ERSS170M	ER32	17,0	32,6	40,0	17,0	17,0
7195428	32ERSS180M	ER32	18,0	32,6	40,0	18,0	18,0
7195430	32ERSS190M	ER32	19,0	32,6	40,0	19,0	19,0
7195441	32ERSS200M	ER32	20,0	32,6	40,0	20,0	20,0



ER40 Collets • Steel Sealed • Metric

Coolant Through ER Collets | In Accordance with ISO 15488 | Individual Collets

Order Number	Catalog Number	CST Collet Series	D1	BDX	L	collet capacity max mm	collet capacity min mm
7196906	40ERSS060M	ER40	6,0	40,6	46,0	6,0	6,0
7196907	40ERSS080M	ER40	8,0	40,6	46,0	8,0	8,0
7196908	40ERSS100M	ER40	10,0	40,6	46,0	10,0	10,0
7196909	40ERSS110M	ER40	11,0	40,6	46,0	11,0	11,0
7196910	40ERSS120M	ER40	12,0	40,6	46,0	12,0	12,0
7196911	40ERSS130M	ER40	13,0	40,6	46,0	13,0	13,0
7196912	40ERSS140M	ER40	14,0	40,6	46,0	14,0	14,0
7196913	40ERSS150M	ER40	15,0	40,6	46,0	15,0	15,0
7196914	40ERSS160M	ER40	16,0	40,6	46,0	16,0	16,0
7196915	40ERSS170M	ER40	17,0	40,6	46,0	17,0	17,0
7196916	40ERSS180M	ER40	18,0	40,6	46,0	18,0	18,0
7196917	40ERSS190M	ER40	19,0	40,6	46,0	19,0	19,0
7196918	40ERSS200M	ER40	20,0	40,6	46,0	20,0	20,0
7196919	40ERSS210M	ER40	21,0	40,6	46,0	21,0	21,0
7196920	40ERSS220M	ER40	22,0	40,6	46,0	22,0	22,0
7196951	40ERSS230M	ER40	23,0	40,6	46,0	23,0	23,0
7196952	40ERSS240M	ER40	24,0	40,6	46,0	24,0	24,0
7196953	40ERSS250M	ER40	25,0	40,6	46,0	25,0	25,0
7196954	40ERSS260M	ER40	26,0	40,6	46,0	26,0	26,0

SYSTEMS



SHELL MILL ADAPTERS WITH THROUGH COOLANT

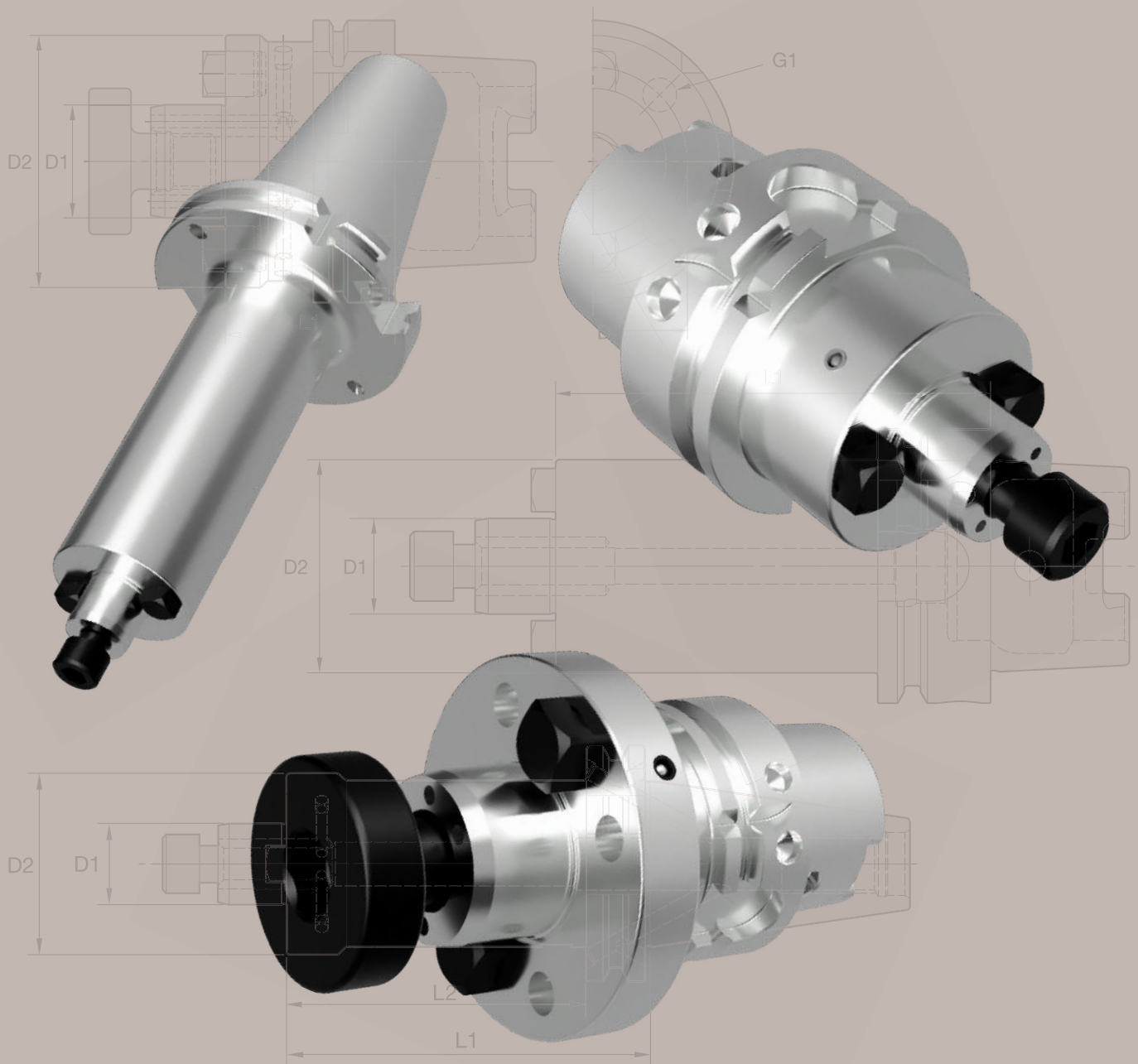


Explore Adaptors

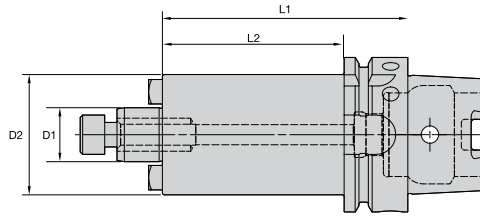
Through coolant shell mill adapters are designed to deliver coolant directly to the cutting edge where it is most effective in extending insert life.

Through coolant shell mill adapters support high-pressure, high-volume coolant supply, ideal for high-performance milling and reducing overall manufacturing costs.



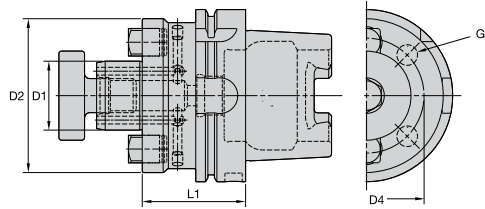


- Coolant design for maximum coolant flow channeled directly to the cutting edge or through the center of the tool
- Expanded range of smaller mounting diameters defined by “SM2” in the catalog numbers to support high-performance smaller diameter milling cutters
- Drive keys upgraded to high-strength material, allowing for high torque capability
- Includes drive keys and locking screws



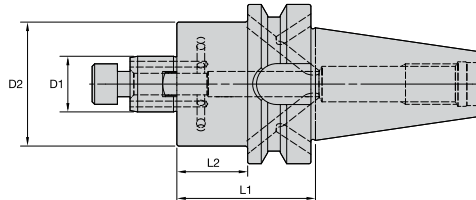
HSK63A Shell Mill Adapters • Cap Screw • Metric
Coolant Arbor | Cap Lock Screw Style | Through Coolant | HSK63A Backend

Order Number	Catalog Number	D1	D2	L1	L2	kg
3872681	HSK63ASMC16050M	16	44	50	24.05	0.95
3872683	HSK63ASMC22050M	22	49	50	24.05	1.05
3872685	HSK63ASMC22100M	22	49	100	74.05	1.77



HSK63A Shell Mill Adapters • Lock Screw • Metric
Coolant Arbor | Flange Lock Screw Style | Through Coolant | HSK63A Backend

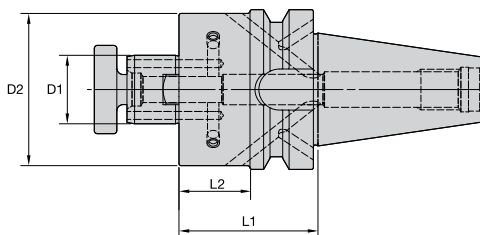
Order Number	Catalog Number	D1	D2	D4	G1	L1	kg
3872687	HSK63ASMC27060M	27	60	—	—	60	1.42
3872690	HSK63ASMC32060M	32	78	—	—	60	1.77
3872693	HSK63ASMC40060M	40	89.3	66.7	M12x1.75	60	2.14



BT40B Shell Mill Adapters • Cap Screw • Through Coolant Form B/AD • Metric
Coolant Arbor | Cap Lock Screw Style | Flange or Through Coolant | BT40 Backend

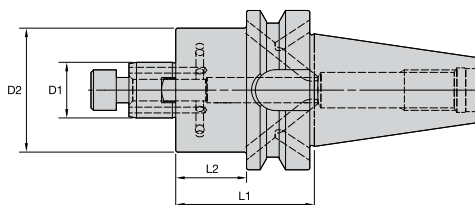
Order Number	Catalog Number	D1	D2	L1	L2	kg
3752234	BT40BSM2C16075M	16	38	75	48	1.37
3752238	BT40BSM2C22055M	22	42	55	28	1.3

SYSTEMS



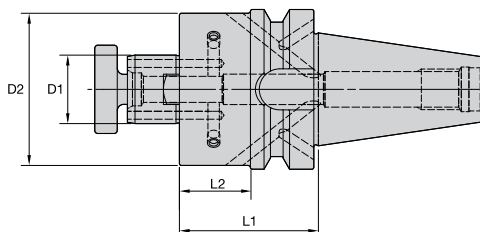
BT40B Shell Mill Adapters • Lock Screw • Through Coolant Form B/AD • Metric
Coolant Arbor | Flange Lock Screw Style | Flange or Through Coolant | BT40B Backend

Order Number	Catalog Number	D1	D2	L1	L2	kg
3752244	BT40BSMC27055M	27	60	55	28	1.68



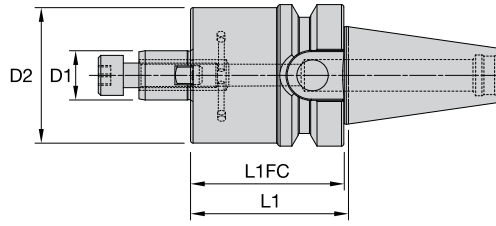
BT50B Shell Mill Adapters • Cap Screw • Through Coolant Form B/AD • Metric
Coolant Arbor | Cap Lock Screw Style | Flange or Through Coolant | BT50B Backend

Order Number	Catalog Number	D1	D2	L1	L2	kg
3750038	BT50BSM2C22045M	22	42	45	7	3.63



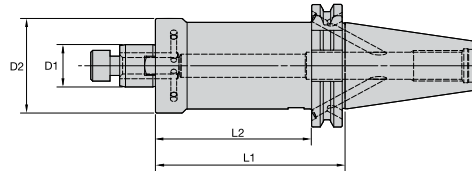
BT50B Shell Mill Adapters • Lock Screw • Through Coolant Form B/AD • Metric
Coolant Arbor | Flange Lock Screw Style | Flange or Through Coolant | BT50B Backend

Order Number	Catalog Number	D1	D2	L1	L2	kg
3750043	BT50BSMC27045M	27	60	45	7	3.76
3750044	BT50BSMC27100M	27	60	100	62	4.86
3750046	BT50BSMC32045M	32	78	45	7	3.94



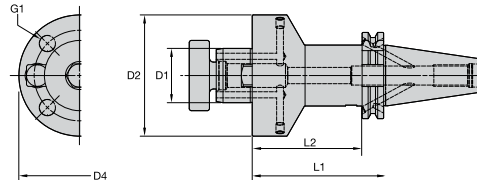
BTKV30 Shell Mill Adapters • Cap Screw • Through Coolant Form AD • Metric
Coolant Arbor | Cap Lock Screw Style | Through Coolant | BTKV30 Backend

Order Number	Catalog Number	D1	D2	L1	L1FC	kg
7195460	BTKV30SMC16050M	16	44	50	49	0.73
7195531	BTKV30SMC22040M	22	49	40	39	0.68



DV50B Shell Mill Adapters • Cap Screw • Through Coolant Form AD • Metric
Coolant Arbor | Cap Lock Screw Style | Through Coolant | DV50B Backend

Order Number	Catalog Number	D1	D2	L1	L2	kg
3767847	DV50BSMC22150M	22	49	150	130.95	4.26



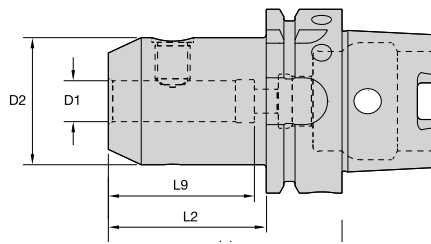
DV50B Shell Mill Adapters • Lock Screw • Through Coolant Form AD • Metric
Coolant Arbor | Flange Lock Screw Style | Through Coolant | DV50B Backend

Order Number	Catalog Number	D1	D2	D4	G1	L1	L2	kg
3767855	DV50BSMC40050M	40	89.3	66.7	M12.0X1.75	50	30.95	4.18
3767856	DV50BSMC40100M	40	89.3	66.7	M12.0X1.75	100	80.95	5.76

SYSTEMS



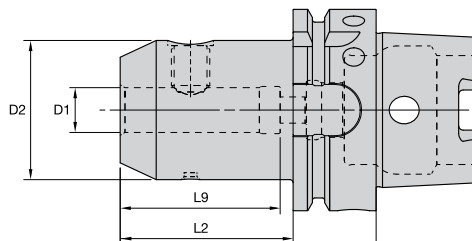
END MILL ADAPTERS



HSK63A End Mill Adapters • Metric

Weldon® Shank Tools Adapter | Internal Coolant Only | Through Coolant | HSK63A Backend

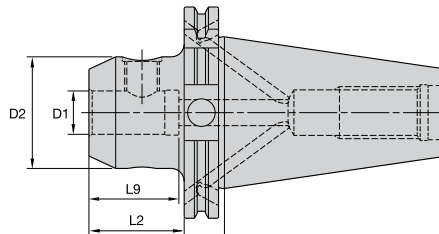
Order Number	Catalog Number	D1	D2	L1	L2	L9	kg
1125940	HSK63AEM12080M	12	41,5	80	54	50	1,13
1125958	HSK63AEM16080M	16	47,5	80	54	53	1,26
1125997	HSK63AEM20080M	20	51,5	80	54	55	1,33
1126005	HSK63AEM25110M	25	64,5	110	84	60	2,31
1126012	HSK63AEM32110M	32	71,5	110	84	65	2,52



HSK100A End Mill Adapters • Metric

Weldon Shank Tools Adapter | Internal Coolant Only | Through Coolant | HSK100A Backend

Order Number	Catalog Number	D1	D2	L1	L2	L9	kg
1155899	HSK100AEM12080M	12	41,5	80	51	49	2,45
1155900	HSK100AEM16100M	16	47,5	100	71	53	2,84
1126421	HSK100AEM20100M	20	51,5	100	71	55	2,95
1149696	HSK100AEM25100M	25	64,5	100	71	60	3,48
1126304	HSK100AEM32100M	32	71,5	100	71	65	4,11
1188814	HSK100AEM40120M	40	89,5	120	91	75	5,51
1322096	HSK100AEM50130M	50	99,5	130	—	85	6,38

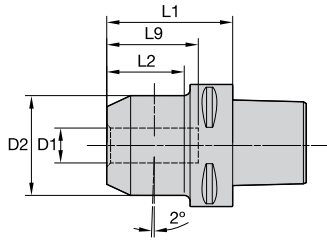


DV40B End Mill Adapters • Through Coolant Form B/AD • Metric

Weldon Shank Tools Adapter | Internal Coolant Only | Flange or Through Coolant | DV40B Backend

Order Number	Catalog Number	D1	D2	L1	L2	L9	kg
1263790	DV40BEM12050M	12	41,5	50	29,95	50	1,03
1263796	DV40BEM16063M	16	47,5	63	43,2	53	1,25
1263799	DV40BEM20063M	20	49,8	63	43,95	55	1,25
1156378	DV40BEM25100M	25	64,5	100	80,95	60	2,27
1237816	DV40BEM32100M	32	71,5	100	80,95	65	2,48

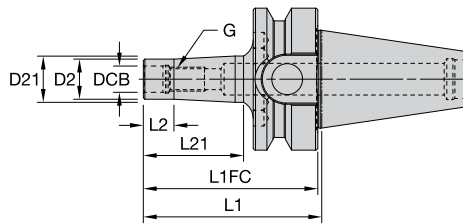




PSC63 End Mill Adapters • Metric

Weldon and Whistle Notch Tools Adapter | Internal Coolant Only | Through Coolant | PSC63 Backend

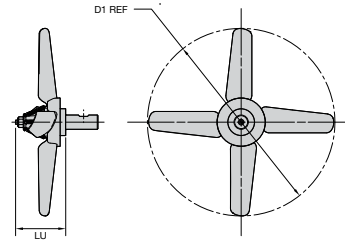
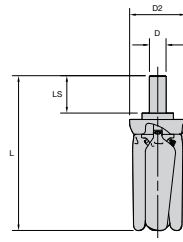
Order Number	Catalog Number	D1	D2	L1	L9	kg
6350037	PSC63EMWN12080M	12	42	80	44	1,28
6350038	PSC63EMWN16080M	16	48	80	47	1,43
6350039	PSC63EMWN20080M	20	52	80	49	1,51
6350040	PSC63EMWN25090M	25	63	90	54	2,08
6350371	PSC63EMWN32090M	32	72	90	60	1,89



BTKV30 Screw-On Heads Adapters • Through Coolant Form AD • Metric

Modular Milling Cutters Adapters | Secure and Rigid Connection | Through Coolant | BTKV30 Backend

Order Number	ANSI Catalog Number	DCB	G	D2	D21	L1	L1FC	L2	L21	kg
7195565	BTKV30ST08058M	8,5	M8	13	15	58	57	10	30	0,40
7195566	BTKV30ST10078M	10,5	M10	18	25	78	77	10	50	0,50
7195568	BTKV30ST12078M	12,5	M12	21	24	78	77	10	50	0,50
7195569	BTKV30ST16078M	17,0	M16	29	34	78	77	10	50	0,65



Chip Fan • Accessory • Weldon Shank • Metric
 Chip Cleaning Fan for Automated Chip Removal on CNC Machines

Order Number	Catalog Number	D	D1	D2	L	LS	LU
7034094	CPFN020M	20	254	68	186	45	70



SYSTEMS

P	Steels
M	Stainless Steels
K	Cast Iron

N	Non-Ferrous
S	High-Temp Alloys

H	Hardened Materials
C	CFRP Materials

Material Group	Description	Content	Tensile Strength Rm (Mpa)*	Hardness (Hb)	Hardness (Hrc)	Material Number
P0	Low-Carbon Steels, Long Chipping	C <0,25%	<530	<125	–	A36, 1008, 1010, 1018 through 1029; 1108, 1117
P1	Low-Carbon Steels, Short Chipping, Free Machining	C <0,25%	<530	<125	–	10L18, 1200 Series, 1213, 12L14
P2	Medium- and High-Carbon Steels	C >0,25%	>530	<220	<25	1035, 1045, 10L45, 1050, 10L50, 1080, 1137, 1144, 11L44, 1525, 1545, 1572
P3	Alloy Steels and Tool Steels	C >0,25%	600–850	<330	<35	1300, 2000, 3000, 4000, 5000, 8000, P20, SAE: A, D, H, O, S, M, T
P4	Alloy Steels and Tool Steels	C >0,25%	850–1400	340–450	35–48	1300, 2000, 3000, 4000, 5000, 8000, P20, SAE: A, D, H, O, S, M, T
P5	Ferritic, Martensitic, and PH Stainless Steels	–	600–900	<330	<35	15–5 PH, 13–8 PH, 17–4 PH, 400 and 500 Series
P6	High-Strength Ferritic, Martensitic, and PH Stainless Steels	–	900–1350	350–450	35–48	15–5 PH, 13–8 PH, 17–4 PH, 400 and 500 Series
M1	Austenitic Stainless Steel	–	<600	130–200	–	200 Series, 301, 302, 304, 304L, 309
M2	High-Strength Austenitic Stainless and Cast Stainless Steels	–	600–800	150–230	<25	310, 316, 316L, 321, 347, 384 ASTM Cast XM-1, XM-5, XM-7, XM-21
M3	Duplex Stainless Steel	–	<800	135–275	<30	323, 329, F55, 2205, S329000
K1	Gray Cast Iron	–	125–500	120–290	<32	class 20, 25, 30, 35, 40, 45, 50, 55, 60, G1800, G3000, G3500, G4000
K2	Low- and Medium-Strength Ductile Irons (Nodular Irons) and Compacted Graphite Irons (CGI)	–	<600	130–260	<28	60-40-18, 65-45-12, 80-55-06; SAE J434: D4018, D4512, D5506; ASTM A47: Grade 32510, 35018; SAE J158: Grade M3210, M4504, M5003, M5503, M7002; ASTMA842: Grade 250, 300, 350, 400, 450
K3	High-Strength Ductile Irons and Austempered Ductile Iron (ADI)	–	>600	180–350	<43	ASTM A536:100-70-03, 120-90-02, SAE J434: D7003, SAE J158: Grade M8501AST A897: 125-80-10, 150-100-7, 175-125-4, 200-150-1, 230-185
N1	Wrought Aluminum	–	–	–	–	2025, 5050, 7050, 1000, 2017
N2	Low-Silicon Aluminum Alloys and Magnesium Alloys	Si <12,2%	–	–	–	2024, 6061, 7075
N3	High-Silicon Aluminum Alloys and Magnesium Alloys	Si >12,2%	–	–	–	–
N4	Copper-, Brass-, Zinc-Based on Machinability Index Range of 70–100	–	–	–	–	C81500
N5	Nylon, Plastics, Rubbers, Phenolics, Resins, Fibreglass	–	–	–	–	–
N6	Carbon, Graphite Composites, CFRP	–	–	–	–	Graphite, CFK, CFRP
N7	Metal Matrix Composites (MMC)	–	–	–	–	C63000
S1	Iron-Based, Heat-Resistant Alloys	–	500–1200	160–260	25–48	A-286, INCOLOY® 800 Series, A608, A567, Discaloy™, INVAR®, N-155, 16-25-6, 19-9 DL; Cast: ASTM A-297, A-351, A-567, A-608
S2	Cobalt-Based, Heat-Resistant Alloys	–	1000–1450	250–450	25–48	Haynes® 25 (L605), Haynes 188, J-1570, Stellite™, AiResist 213; Cast: AiResist 13, Haynes 21, MAR-M302, MAR-M509, NASA Co-W-Re, WI-52
S3	Nickel-Based, Heat-Resistant Alloys	–	600–1700	160–450	<48	Astroloy™, Hastelloy® B/C/ C-276 /X, INCONEL® 600 and 700 Series, IN102, INCOLOY® 900 Series, Rene 41, Waspaloy®, MONEL®, K-500, MAR-M20, NIMONIC®, UDIMET®
S4	Titanium and Titanium Alloys	–	900–1600	300–400	33–48	Pure: Ti 98.8, Ti 98.9, Ti 99.9; Alloyed: Ti 5Al-2.5Sn, Ti6Al-4V, Ti6Al-2Sn-4Zr-2Mo, Ti-3Al-8V-6Cr-4Mo-4Zr, Ti-10V-2Fe-3Al, Ti-13V-11Cr-3Al
H1	Hardened Materials	–	–	–	44–48	Tool Steel H10, H11, H13, D2, D3, 4340, P20
H2	Hardened Materials	–	–	–	48–55	Tool Steel H10, H11, H13, D2, D3, 4340, P20
H3	Hardened Materials	–	–	–	56–60	Tool Steel H10, H11, H13, D2, D3, 4340, P20
H4	Hardened Materials	–	–	–	>60	Tool Steel H10, H11, H13, D2, D3, 4340, P20
C1	CFRP, CFRP/CFRP	–	–	–	–	–
C2	CFRP/Non-Ferrous	–	–	–	–	–
C3	CFRP/High-Temp	–	–	–	–	–
C4	CFRP/Stainless Steel	–	–	–	–	–
C5	CFRP/Non-Ferrous/High-Temp	–	–	–	–	–

SYSTEMS



P	Steels
M	Stainless Steels
K	Cast Iron

N	Non-Ferrous
S	High-Temp Alloys

H	Hardened Materials
C	CFRP Materials

Material Group	Description	Content	Tensile Strength Rm (Mpa)*	Hardness (Hb)	Hardness (Hrc)	Material Number
P0	Low-Carbon Steels, Long Chipping	C <0,25%	<530	<125	–	–
P1	Low-Carbon Steels, Short Chipping, Free Machining	C <0,25%	<530	<125	–	C15, Ck22, ST37-2, S235JR, 9SMnPb28, GS38
P2	Medium- and High-Carbon Steels	C >0,25%	>530	<220	<25	ST52, S355JR, C35, GS60, Cf53
P3	Alloy Steels and Tool Steels	C >0,25%	600–850	<330	<35	16MnCr5, Ck45, 21CrMoV5-7, 38SMn28
P4	Alloy Steels and Tool Steels	C >0,25%	850–1400	340–450	35–48	100Cr6, 30CrNiMo8, 42CrMo4, C70W2, S6525, X120Mn12
P5	Ferritic, Martensitic, and PH Stainless Steels	–	600–900	<330	<35	100Cr6, 30CrNiMo8, 42CrMo4, C70W2, S6525, X120Mn12
P6	High-Strength Ferritic, Martensitic, and PH Stainless Steels	–	900–1350	350–450	35–48	X102CrMo17, G-X120Cr29
M1	Austenitic Stainless Steels	–	<600	130–200	–	X5CrNi 18 10, X2CrNiMo 17 13 2, G-X25CrNiSi18 9, X15CrNiSi 20 12
M2	High-Strength Austenitic Stainless and Cast Stainless Steels	–	600–800	150–230	<25	X2CrNiMo 13 4, X5NiCr 32 21, X5CrNiNb 18 10, G-X15CrNi 25-20
M3	Duplex Stainless Steels	–	<800	135–275	<30	X8CrNiMo27 5, X2CrNiMoN22 5 3, X20CrNiSi25 4, G-X40CrNiSi27 4
K1	Grey Cast Iron	–	125–500	120–290	<32	GG15, GG25, GG30, GG40, GTW40
K2	Low- and Medium-Strength Ductile Irons (Nodular Irons) and Compacted Graphite Irons (CGI)	–	<600	130–260	<28	GGG40, GTS35
K3	High-Strength Ductile Irons and Austempered Ductile Iron (ADI)	–	>600	180–350	<43	GGG60, GTW55, GTS65
N1	Wrought Aluminum	–	–	–	–	AlMg1, Al99.5, AlCuMg1, AlCuBiPb, AlMgSi1, AlMgSiPb
N2	Low-Silicon Aluminum Alloys and Magnesium Alloys	Si <12,2%	–	–	–	GAISiCu4, GDAISi10Mg
N3	High-Silicon Aluminum Alloys and Magnesium Alloys	Si >12,2%	–	–	–	G-ALSi12, G-AISi17Cu4, G-AISi21CuNiMg
N4	Copper-, Brass-, Zinc-Based on Machinability Index Range of 70–100	–	–	–	–	CuZn40, Ms60, G-CuSn5ZnPb, CuZn37, CuSi3Mn
N5	Nylon, Plastics, Rubbers, Phenolics, Resins, Fiberglass	–	–	–	–	LEXAN®, Hostalen™, Polystyrol®, MAKROLON®
N6	Carbon, Graphite Composites, CFRP	–	–	–	–	CFK, GFK
N7	Metal Matrix Composites (MMC)	–	–	–	–	–
S1	Iron-Based, Heat-Resistant Alloys	–	500–1200	160–260	25–48	X1NiCrMoCu32 28 7, X12NiCrSi36 16, X5NiCrAlTi31 20, X40CoCrNi20 20
S2	Cobalt-Based, Heat-Resistant Alloys	–	1000–1450	250–450	25–48	Haynes® 188, Stellite™ 6,21,31
S3	Nickel-Based, Heat-Resistant Alloys	–	600–1700	160–450	<48	INCONEL® 690, INCONEL 625, Hastelloy®, NIMONIC® 75
S4	Titanium and Titanium Alloys	–	900–1600	300–400	33–48	Ti1, TiAl5Sn2, TiAl6V4, TiAl4Mo4Sn2
H1	Hardened Materials	–	–	–	44–48	GX260NiCr42, GX330NiCr42, GX300CrNiSi952, GX300CrMo153, Hardox® 400
H2	Hardened Materials	–	–	–	48–55	–
H3	Hardened Materials	–	–	–	56–60	–
H4	Hardened Materials	–	–	–	>60	–
C1	CFRP, CFRP/CFRP	–	–	–	–	–
C2	CFRP/Non-Ferrous	–	–	–	–	–
C3	CFRP/High-Temp Alloys	–	–	–	–	–
C4	CFRP/Stainless Steels	–	–	–	–	–
C5	CFRP/Non-Ferrous/High-Temp Alloys	–	–	–	–	–

METAL CUTTING SAFETY

IMPORTANT SAFETY INSTRUCTIONS

Read before using the tools in this catalog!

PROJECTILE AND FRAGMENTATION HAZARDS:

Modern metal cutting operations involve high spindle and cutter speeds and high temperatures and cutting forces. Hot metal chips may fly off the workpiece during metal cutting. Although cutting tools are designed and manufactured to withstand high cutting forces and temperatures, they can sometimes fragment, particularly if they are subjected to over-stress, severe impact, or other abuse.

- Always wear appropriate personal protective equipment, including safety goggles, when operating metal cutting machines or working nearby.
- Always make sure all machine guards are in place.

BREATHING AND SKIN CONTACT HAZARDS:

Grinding carbide or other advanced cutting tool materials produces dust or mist containing metallic particles. Breathing this dust or mist — especially over an extended period — can cause temporary or permanent lung disease or make existing medical conditions worse. Contact with this dust or mist can irritate eyes, skin, and mucous membranes and may make existing skin conditions worse.

- Always wear breathing protection and safety goggles when grinding.
- Provide ventilation control and collect and properly dispose of dust, mist, or sludge from grinding.
- Avoid skin contact with dust or mist.

For more information, read the applicable Material Safety Data Sheet provided by Kennametal and consult General Industry Safety and Health Regulations, Part 1910, Title 29 of the Code of Federal Regulations.

These safety instructions are general guidelines. Many variables affect machining operations. It is impossible to cover every specific situation. The technical information included in this catalog and recommendations on machining practices may not apply to your particular operation. For more information, consult the Kennametal Metal Cutting Safety booklet, available free from Kennametal at 724 539 5747 or fax 724 539 5439. For specific product safety and environmental questions, contact our Corporate Environmental Health and Safety Office at 724 539 5066 or fax 724 539 5372.

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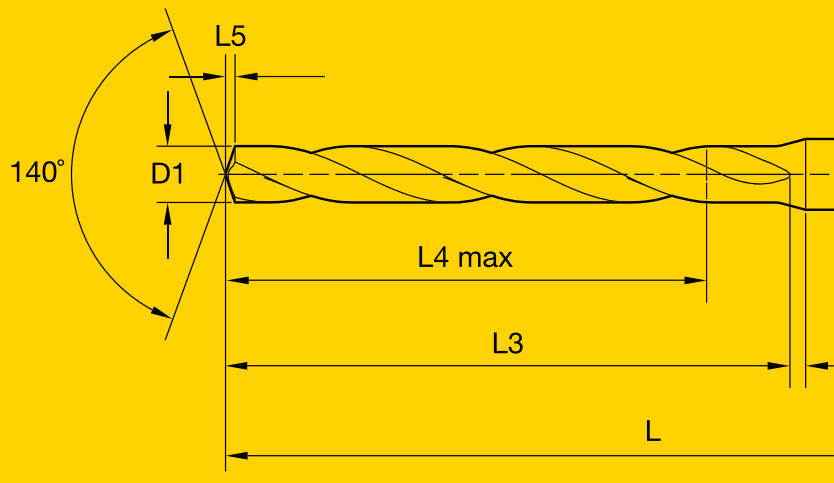
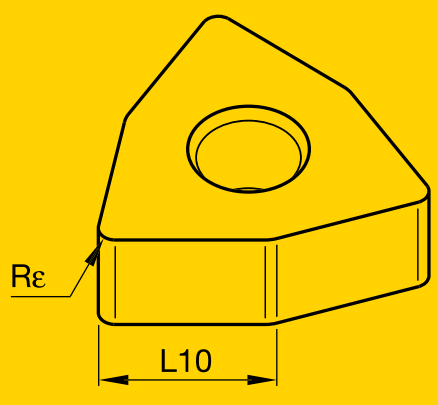
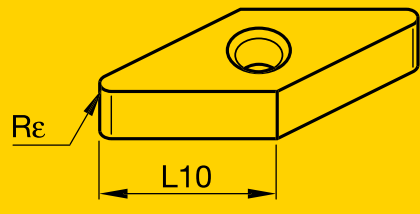
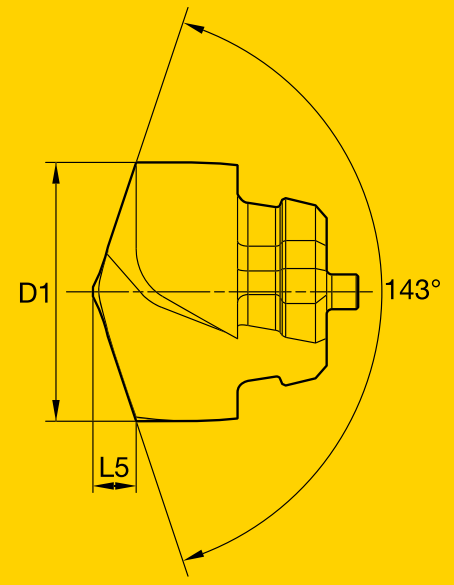
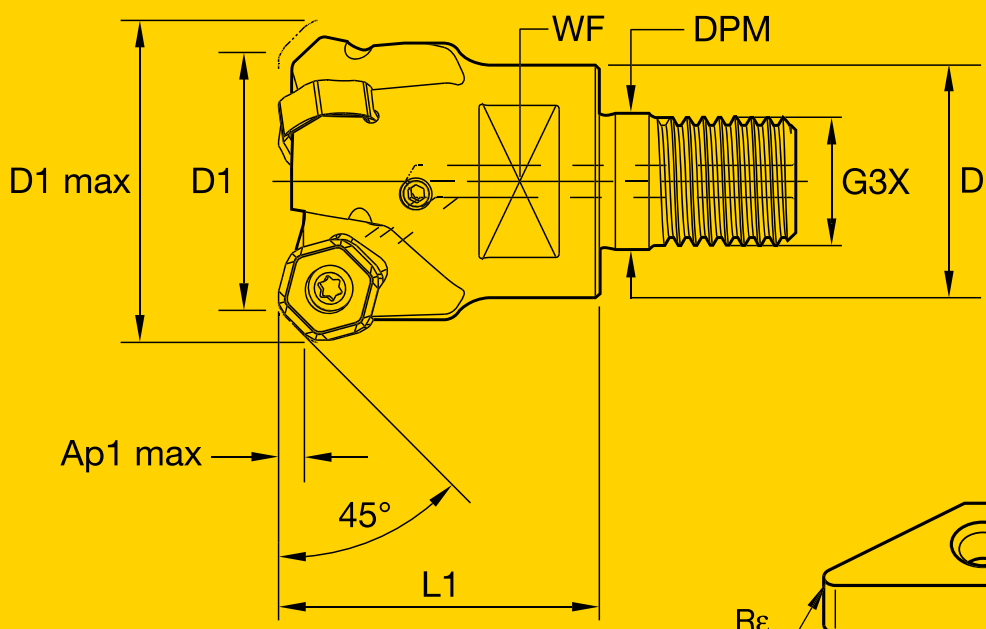
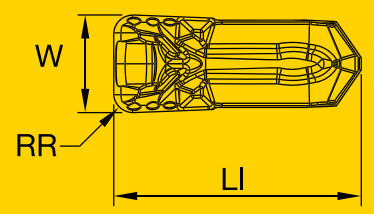
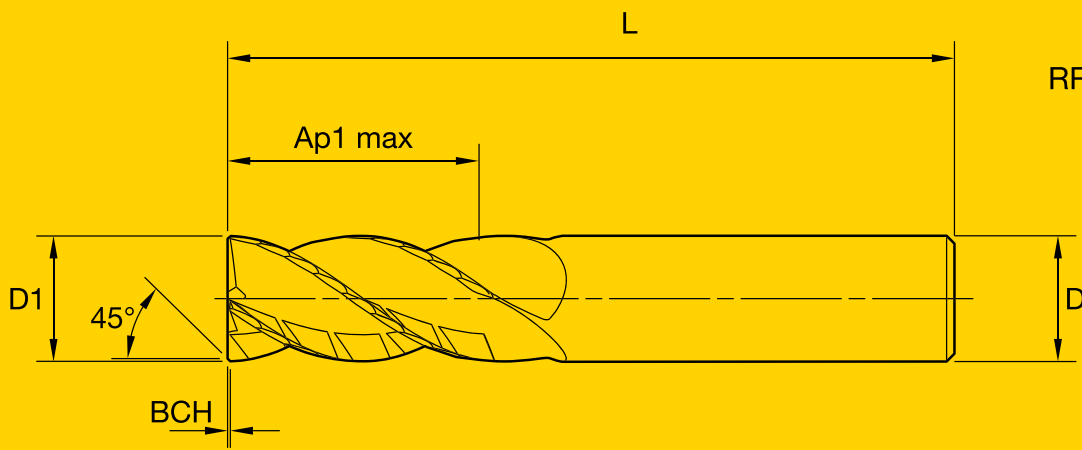
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