

KSEM™ Modular Drill System

Primary Application

The KSEM Modular Drill System offers extended length and drilling diameters beyond the KenTIP™ Modular Drill System. Hole depths of 10 x D up to 40mm (1.575") drilling diameter are standard. Various grades are available for your most demanding applications. The KSEM Modular Drill System covers a diameter range from 12,5–40mm (.4921–1.5748").

Features and Benefits

HP Drill-Point Design

- Low thrust prevents workpiece flexing.
- Excellent centring capabilities.
- HP(M) and HPG(M) for all steel applications.
- **NEW** HPC(M) for cast iron applications.
- **NEW** HPL(M) for stainless steel.

Easy Insert Change

- Robust pocket design requires only a simple wrench for blade removal.
- Selection of grades/geometries available.

Strength of Design

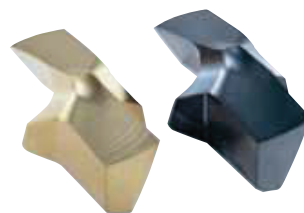
- Accelerated feed rates offer increased productivity.
- Four-wall pocket provides insert stability.
- All geometries except HPL(M) can be reconditioned by Kennametal for added economy.
- Through coolant standard for improved tool life, hole finish, and chip removal.

Tailored Grades and Geometries

- KC7315™ grade is a TiAlN-based PVD grade offering superior performance in all steel applications.
- KC7320™ grade has an AlTiN-based PVD coating developed for the demands of drilling stainless steels.
- KC7410™ grade contains multiple layers of PVD coating offering superior wear resistance when drilling cast irons. The geometry prevents breakout when drilling through holes.
 - KTIP_HPC inserts are designed for grey cast and low-strength ductile irons (K1).
 - KTIP_HPCCL_ inserts are ideal for low- and medium-strength CGI and ductile irons and high-strength ductile and austempered ductile iron (K2, K3).
 - For KSEM_HPCCL_ line items, please refer to the e-catalogue at www.kennametal.com.

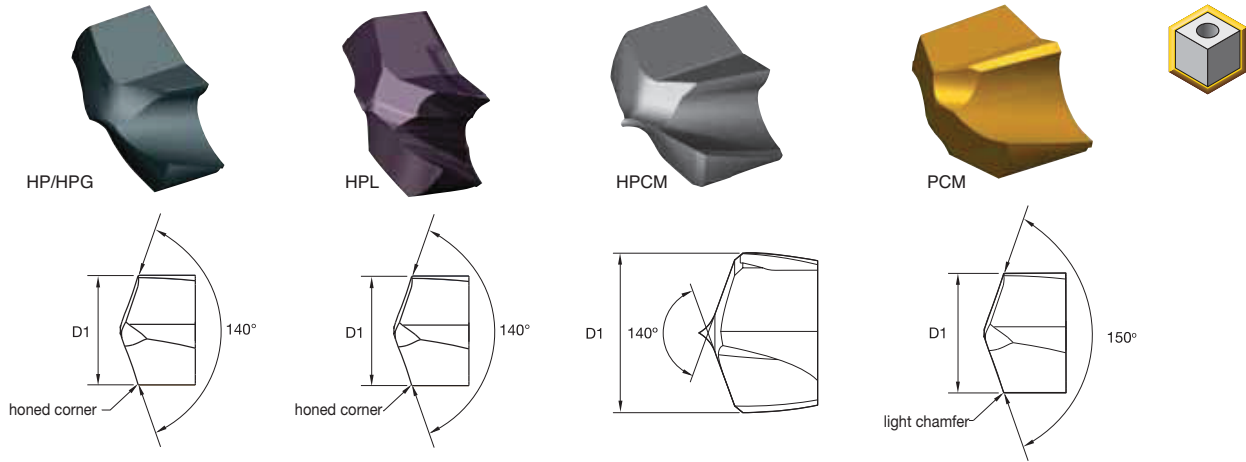
Customisation

- Intermediate diameters available as semi-standards.
- Chamfering insert pockets available.
- Multiple steps possible.

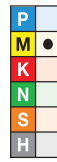
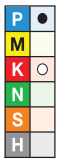




Modular Drills



KSEM Inserts



● first choice
○ alternate choice

KC7235		KC7315		KC7315		KC7320		KC7410		KC7135		D1		seat size
												mm	in	
KSEM1250HPM	KSEM1250HPM	KSEM1250HPGM	KSEM1250HPLM	KSEM1250HPCM	KSEM1250PCM	12,500	.4921	C						
KSEM1260HPM	KSEM1260HPM	KSEM1260HPGM	KSEM1260HPLM	—	KSEM1260PCM	12,600	.4961	C						
KSEM1270HPM	KSEM1270HPM	KSEM1270HPGM	KSEM1270HPLM	KSEM1270HPCM	—	12,700	.5000	C						
KSEM1280HPM	KSEM1280HPM	KSEM1280HPGM	KSEM1280HPLM	—	KSEM1280PCM	12,800	.5039	C						
KSEM1293HPM	KSEM1293HPM	KSEM1293HPGM	KSEM1293HPLM	KSEM1293HPCM	—	12,930	.5090	C						
KSEM1300HPM	KSEM1300HPM	KSEM1300HPGM	KSEM1300HPLM	KSEM1300HPCM	KSEM1300PCM	13,000	.5118	C						
KSEM1310HPM	KSEM1310HPM	KSEM1310HPGM	KSEM1311HPLM	KSEM1310HPCM	—	13,100	.5160	C						
—	KSEM1320HPM	KSEM1320HPGM	—	—	—	13,200	.5197	C						
KSEM1350HPM	KSEM1350HPM	KSEM1350HPGM	KSEM1350HPLM	KSEM1350HPCM	KSEM1350PCM	13,500	.5310	C						
KSEM1360HPM	KSEM1360HPM	KSEM1360HPGM	KSEM1360HPLM	—	—	13,600	.5354	B						
KSEM1370HPM	KSEM1370HPM	KSEM1370HPGM	—	—	—	13,700	.5394	B						
KSEM1380HPM	KSEM1380HPM	KSEM1380HPGM	KSEM1380HPLM	—	KSEM1380PCM	13,800	.5433	B						
KSEM1389HPM	KSEM1389HPM	KSEM1389HPGM	KSEM1389HPLM	KSEM1389HPCM	—	13,890	.5470	B						
KSEM1400HPM	KSEM1400HPM	KSEM1400HPGM	KSEM1400HPLM	KSEM1400HPCM	KSEM1400PCM	14,000	.5512	B						
KSEM1410HPM	KSEM1410HPM	KSEM1410HPGM	KSEM1410HPLM	—	KSEM1410PCM	14,100	.5551	B						
—	—	—	KSEM1415HPLM	—	—	14,150	.5571	B						
KSEM1420HPM	KSEM1420HPM	KSEM1420HPGM	KSEM1420HPLM	—	—	14,200	.5591	B						
KSEM1429HPM	KSEM1429HPM	KSEM1429HPGM	KSEM1429HPLM	KSEM1429HPCM	—	14,290	.5630	B						
—	KSEM1440HPM	KSEM1440HPGM	—	—	—	14,400	.5669	B						
KSEM1450HPM	KSEM1450HPM	KSEM1450HPGM	KSEM1450HPLM	KSEM1450HPCM	KSEM1450PCM	14,500	.5709	B						
—	KSEM1460HPM	KSEM1460HPGM	KSEM1460HPLM	—	KSEM1460PCM	14,600	.5748	A						
KSEM1468HPM	KSEM1468HPM	KSEM1468HPGM	KSEM1468HPLM	KSEM1468HPCM	—	14,680	.5780	A						
KSEM1480HPM	KSEM1480HPM	KSEM1480HPGM	KSEM1480HPLM	—	KSEM1480PCM	14,800	.5827	A						
KSEM1500HPM	KSEM1500HPM	KSEM1500HPGM	KSEM1500HPLM	KSEM1500HPCM	KSEM1500PCM	15,000	.5906	A						
KSEM1508HPM	KSEM1508HPM	KSEM1508HPGM	KSEM1508HPLM	—	—	15,080	.5940	A						
KSEM1530HPM	KSEM1530HPM	KSEM1530HPGM	—	—	—	15,300	.6024	A						
—	KSEM1548HPM	KSEM1548HPGM	KSEM1548HPLM	KSEM1548HPCM	—	15,480	.6090	A						
KSEM1550HPM	KSEM1550HPM	KSEM1550HPGM	KSEM1550HPLM	KSEM1550HPCM	KSEM1550PCM	15,500	.6102	A						
KSEM1560HPM	KSEM1560HPM	KSEM1560HPGM	KSEM1560HPLM	—	KSEM1560PCM	15,600	.6142	A						
—	KSEM1570HPM	KSEM1570HPGM	—	—	—	15,700	.6181	A						
KSEM1580HPM	KSEM1580HPM	KSEM1580HPGM	—	—	KSEM1580PCM	15,800	.6220	A						
KSEM1588HPM	KSEM1588HPM	KSEM1588HPGM	KSEM1588HPLM	KSEM1588HPCM	—	15,880	.6250	1						
KSEM1600HPM	KSEM1600HPM	KSEM1600HPGM	KSEM1600HPLM	KSEM1600HPCM	KSEM1600PCM	16,000	.6299	1						
—	—	—	KSEM1610HPLM	—	—	16,100	.6339	1						
KSEM1609HPM	KSEM1609HPM	KSEM1609HPGM	KSEM1609HPLM	KSEM1609HPCM	—	16,090	.6340	1						
—	—	—	KSEM1615HPLM	—	—	16,150	.6358	1						

(continued)

(KSEM Inserts continued)

												D1		seat size
												mm	in	
	KC7235		KC7315		KC7315		KC7320		KC7410		KC7135			
—	KSEM1620HPM	KSEM1620HPM	KSEM1620HPGM	KSEM1620HPGM	KSEM1620HPLM	KSEM1620HPLM	KSEM1620HPLM	—	KSEM1620HPCM	KSEM1620PCM	KSEM1620PCM	16,200	.6378	1
KSEM1627HPM	KSEM1627HPM	KSEM1627HPM	KSEM1627HPGM	KSEM1627HPGM	KSEM1627HPLM	KSEM1627HPLM	KSEM1627HPLM	KSEM1627HPCM	—	—	—	16,270	.6410	1
KSEM1650HPM	KSEM1650HPM	KSEM1650HPM	KSEM1650HPGM	KSEM1650HPGM	KSEM1650HPLM	KSEM1650HPLM	KSEM1650HPLM	KSEM1650HPCM	KSEM1650PCM	KSEM1650PCM	KSEM1650PCM	16,500	.6496	1
KSEM1667HPM	KSEM1667HPM	KSEM1667HPM	KSEM1667HPGM	KSEM1667HPGM	KSEM1667HPLM	KSEM1667HPLM	KSEM1667HPLM	KSEM1667HPCM	—	—	—	16,670	.6560	1
KSEM1700HPM	KSEM1700HPM	KSEM1700HPM	KSEM1700HPGM	KSEM1700HPGM	KSEM1700HPLM	KSEM1700HPLM	KSEM1700HPLM	KSEM1700HPCM	KSEM1700PCM	KSEM1700PCM	KSEM1700PCM	17,000	.6693	1
KSEM1707HPM	KSEM1707HPM	KSEM1707HPM	KSEM1707HPGM	KSEM1707HPGM	KSEM1707HPLM	KSEM1707HPLM	KSEM1707HPLM	KSEM1707HPCM	—	—	—	17,070	.6720	1
KSEM1746HPM	KSEM1746HPM	KSEM1746HPM	KSEM1746HPGM	KSEM1746HPGM	KSEM1746HPLM	KSEM1746HPLM	KSEM1746HPLM	—	—	—	—	17,460	.6875	1
—	—	—	—	—	—	—	—	KSEM1746HPCM	—	—	—	17,460	.6880	1
KSEM1750HPM	KSEM1750HPM	KSEM1750HPM	KSEM1750HPGM	KSEM1750HPGM	KSEM1750HPLM	KSEM1750HPLM	KSEM1750HPLM	KSEM1750HPCM	KSEM1750PCM	KSEM1750PCM	KSEM1750PCM	17,500	.6890	1
—	—	—	KSEM1770HPGM	KSEM1770HPGM	—	—	—	—	—	—	—	17,700	.6969	1
—	—	—	—	—	KSEM1775HPLM	KSEM1775HPLM	—	—	—	—	—	17,750	.6988	1
—	—	—	—	—	KSEM1780HPLM	KSEM1780HPLM	—	—	—	—	—	17,800	.7008	1
KSEM1786HPM	KSEM1786HPM	KSEM1786HPM	KSEM1786HPGM	KSEM1786HPGM	KSEM1786HPLM	KSEM1786HPLM	—	—	—	—	—	17,860	.7030	1
—	—	—	—	—	KSEM1790HPLM	KSEM1790HPLM	—	—	—	—	—	17,900	.7047	1
KSEM1800HPM	KSEM1800HPM	KSEM1800HPM	KSEM1800HPGM	KSEM1800HPGM	KSEM1800HPLM	KSEM1800HPLM	KSEM1800HPLM	KSEM1800HPCM	KSEM1800PCM	KSEM1800PCM	KSEM1800PCM	18,000	.7087	1
KSEM1826HPM	KSEM1826HPM	KSEM1826HPM	KSEM1826HPGM	KSEM1826HPGM	KSEM1826HPLM	KSEM1826HPLM	KSEM1826HPLM	KSEM1826HPCM	—	—	—	18,260	.7190	2
—	—	—	—	—	KSEM1839HPLM	KSEM1839HPLM	—	—	—	—	—	18,390	.7240	2
KSEM1850HPM	KSEM1850HPM	KSEM1850HPM	KSEM1850HPGM	KSEM1850HPGM	KSEM1850HPLM	KSEM1850HPLM	KSEM1850HPLM	KSEM1850HPCM	KSEM1850PCM	KSEM1850PCM	KSEM1850PCM	18,500	.7283	2
—	—	—	—	—	KSEM1860HPLM	KSEM1860HPLM	—	—	—	—	—	18,600	.7323	2
KSEM1865HPM	KSEM1865HPM	KSEM1865HPM	KSEM1865HPGM	KSEM1865HPGM	KSEM1865HPLM	KSEM1865HPLM	—	—	—	—	—	18,650	.7340	2
—	—	—	—	—	KSEM1890HPLM	KSEM1890HPLM	—	—	—	—	—	18,900	.7441	2
KSEM1900HPM	KSEM1900HPM	KSEM1900HPM	KSEM1900HPGM	KSEM1900HPGM	KSEM1900HPLM	KSEM1900HPLM	KSEM1900HPLM	KSEM1900HPCM	KSEM1900PCM	KSEM1900PCM	KSEM1900PCM	19,000	.7480	2
KSEM1905HPM	KSEM1905HPM	KSEM1905HPM	KSEM1905HPGM	KSEM1905HPGM	KSEM1905HPLM	KSEM1905HPLM	KSEM1905HPLM	KSEM1905HPCM	—	—	—	19,050	.7500	2
—	—	—	—	—	KSEM1920HPLM	KSEM1920HPLM	—	—	—	—	—	19,200	.7559	2
KSEM1923HPM	KSEM1923HPM	KSEM1923HPM	—	—	KSEM1923HPLM	KSEM1923HPLM	—	—	—	—	—	19,228	.7570	2
—	—	—	KSEM1925HPGM	KSEM1925HPGM	KSEM1925HPLM	KSEM1925HPLM	—	—	—	—	—	19,250	.7579	2
KSEM1927HPM	KSEM1927HPM	KSEM1927HPM	KSEM1927HPGM	KSEM1927HPGM	KSEM1927HPLM	KSEM1927HPLM	KSEM1927HPLM	KSEM1927HPCM	—	—	—	19,270	.7590	2
—	—	—	—	—	KSEM1935HPLM	KSEM1935HPLM	—	—	—	—	—	19,350	.7618	2
—	—	—	—	—	KSEM1936HPLM	KSEM1936HPLM	—	—	—	—	—	19,360	.7622	2
KSEM1945HPM	KSEM1945HPM	KSEM1945HPM	KSEM1945HPGM	KSEM1945HPGM	KSEM1945HPLM	KSEM1945HPLM	KSEM1945HPLM	KSEM1945HPCM	—	—	—	19,450	.7660	2
KSEM1950HPM	KSEM1950HPM	KSEM1950HPM	KSEM1950HPGM	KSEM1950HPGM	KSEM1950HPLM	KSEM1950HPLM	KSEM1950HPLM	KSEM1950HPCM	KSEM1950PCM	KSEM1950PCM	KSEM1950PCM	19,500	.7677	2
—	—	—	KSEM1970HPGM	KSEM1970HPGM	—	—	—	—	—	—	—	19,700	.7756	3
KSEM1984HPM	KSEM1984HPM	KSEM1984HPM	KSEM1984HPGM	KSEM1984HPGM	KSEM1984HPLM	KSEM1984HPLM	KSEM1984HPLM	KSEM1984HPCM	—	—	—	19,840	.7810	2
KSEM2000HPM	KSEM2000HPM	KSEM2000HPM	KSEM2000HPGM	KSEM2000HPGM	KSEM2000HPLM	KSEM2000HPLM	KSEM2000HPLM	KSEM2000HPCM	KSEM2000PCM	KSEM2000PCM	KSEM2000PCM	20,000	.7874	3
—	—	—	—	—	KSEM2010HPLM	KSEM2010HPLM	—	—	—	—	—	20,100	.7913	3
KSEM2024HPM	KSEM2024HPM	KSEM2024HPM	KSEM2024HPGM	KSEM2024HPGM	KSEM2024HPLM	KSEM2024HPLM	KSEM2024HPLM	KSEM2024HPCM	—	—	—	20,240	.7970	3
—	—	—	—	—	KSEM2035HPLM	KSEM2035HPLM	—	—	—	—	—	20,350	.8012	3
KSEM2050HPM	KSEM2050HPM	KSEM2050HPM	KSEM2050HPGM	KSEM2050HPGM	KSEM2050HPLM	KSEM2050HPLM	KSEM2050HPLM	KSEM2050HPCM	KSEM2050PCM	KSEM2050PCM	KSEM2050PCM	20,500	.8071	3
KSEM2064HPM	KSEM2064HPM	KSEM2064HPM	KSEM2064HPGM	KSEM2064HPGM	KSEM2064HPLM	KSEM2064HPLM	—	—	—	—	—	20,640	.8125	3
—	—	—	—	—	—	—	KSEM2064HPCM	—	—	—	—	20,640	.8130	3
KSEM2100HPM	KSEM2100HPM	KSEM2100HPM	KSEM2100HPGM	KSEM2100HPGM	KSEM2100HPLM	KSEM2100HPLM	KSEM2100HPLM	KSEM2100HPCM	KSEM2100PCM	KSEM2100PCM	KSEM2100PCM	21,000	.8268	3
—	—	—	—	—	KSEM2115HPLM	KSEM2115HPLM	—	—	—	—	—	21,150	.8327	3
—	—	—	—	—	KSEM2133HPLM	KSEM2133HPLM	—	—	—	—	—	21,330	.8398	3
KSEM2143HPM	KSEM2143HPM	KSEM2143HPM	KSEM2143HPGM	KSEM2143HPGM	KSEM2143HPLM	KSEM2143HPLM	KSEM2143HPLM	KSEM2143HPCM	—	—	—	21,430	.8440	3
KSEM2150HPM	KSEM2150HPM	KSEM2150HPM	KSEM2150HPGM	KSEM2150HPGM	KSEM2150HPLM	KSEM2150HPLM	KSEM2150HPLM	KSEM2150HPCM	KSEM2150PCM	KSEM2150PCM	KSEM2150PCM	21,500	.8460	3
—	—	—	KSEM2170HPGM	KSEM2170HPGM	—	—	—	—	—	—	—	21,700	.8543	3
KSEM2183HPM	KSEM2183HPM	KSEM2183HPM	KSEM2183HPGM	KSEM2183HPGM	KSEM2183HPLM	KSEM2183HPLM	—	—	—	—	—	21,830	.8590	3
KSEM2200HPM	KSEM2200HPM	KSEM2200HPM	KSEM2200HPGM	KSEM2200HPGM	KSEM2200HPLM	KSEM2200HPLM	KSEM2200HPLM	KSEM2200HPCM	KSEM2200PCM	KSEM2200PCM	KSEM2200PCM	22,000	.8661	3
KSEM2223HPM	KSEM2223HPM	KSEM2223HPM	KSEM2223HPGM	KSEM2223HPGM	KSEM2223HPLM	KSEM2223HPLM	KSEM2223HPLM	KSEM2223HPCM	—	—	—	22,230	.8750	4
KSEM2244HPM	KSEM2244HPM	KSEM2244HPM	KSEM2244HPGM	KSEM2244HPGM	KSEM2244HPLM	KSEM2244HPLM	KSEM2244HPLM	KSEM2244HPCM	—	—	—	22,440	.8840	4

(continued)



Modular Drills

(KSEM Inserts continued)



Modular Drills

							D1		seat size
	KC7235	KC7315	KC7315	KC7320	KC7410	KC7135	mm	in	
KSEM2250HPM	KSEM2250HPM	KSEM2250HPGM	KSEM2250HPLM	KSEM2250HPLM	KSEM2250HPCM	KSEM2250PCM	22,500	.8858	4
—	—	—	KSEM2277HPLM	—	—	—	22,770	.8965	4
KSEM2300HPM	KSEM2300HPM	KSEM2300HPGM	KSEM2300HPLM	KSEM2300HPLM	KSEM2300HPCM	KSEM2300PCM	23,000	.9055	4
—	—	KSEM2310HPGM	—	—	—	—	23,100	.9094	4
—	—	KSEM2330HPGM	—	—	—	—	23,300	.9173	4
KSEM2342HPM	KSEM2342HPM	KSEM2342HPGM	KSEM2342HPLM	KSEM2342HPLM	KSEM2342HPCM	—	23,420	.9220	4
KSEM2350HPM	KSEM2350HPM	KSEM2350HPGM	KSEM2350HPLM	KSEM2350HPLM	KSEM2350HPCM	KSEM2350PCM	23,500	.9252	4
KSEM2381HPM	KSEM2381HPM	KSEM2381HPGM	KSEM2381HPLM	KSEM2381HPLM	—	—	23,810	.9375	4
—	—	—	—	—	KSEM2381HPCM	—	23,810	.9380	4
KSEM2400HPM	KSEM2400HPM	KSEM2400HPGM	KSEM2400HPLM	KSEM2400HPLM	KSEM2400HPCM	KSEM2400PCM	24,000	.9449	4
—	—	KSEM2430HPGM	—	—	—	—	24,300	.9567	5
KSEM2450HPM	KSEM2450HPM	KSEM2450HPGM	KSEM2450HPLM	KSEM2450HPLM	KSEM2450HPCM	KSEM2450PCM	24,500	.9646	5
KSEM2461HPM	KSEM2461HPM	KSEM2461HPGM	KSEM2461HPLM	KSEM2461HPLM	KSEM2461HPCM	—	24,610	.9690	5
KSEM2500HPM	KSEM2500HPM	KSEM2500HPGM	KSEM2500HPLM	KSEM2500HPLM	KSEM2500HPCM	KSEM2500PCM	25,000	.9843	5
—	—	—	KSEM2507HPLM	—	—	—	25,070	.9870	5
KSEM2540HPM	KSEM2540HPM	KSEM2540HPGM	KSEM2540HPLM	KSEM2540HPLM	KSEM2540HPCM	—	25,400	1.0000	5
KSEM2550HPM	KSEM2550HPM	KSEM2550HPGM	KSEM2550HPLM	KSEM2550HPLM	KSEM2550HPCM	KSEM2550PCM	25,500	1.0039	5
—	—	KSEM2560HPGM	KSEM2560HPLM	—	—	—	25,600	1.0080	5
KSEM2560HPM	KSEM2560HPM	—	—	—	—	—	25,610	1.0080	5
—	—	—	KSEM2565HPLM	—	—	—	25,650	1.0098	5
—	—	KSEM2565HPGM	—	—	—	—	25,654	1.0100	5
KSEM2567HPM	KSEM2567HPM	KSEM2567HPGM	KSEM2567HPLM	KSEM2567HPLM	KSEM2567HPCM	—	25,670	1.0110	5
KSEM2581HPM	—	—	—	—	—	—	25,806	1.0160	5
KSEM2600HPM	KSEM2600HPM	KSEM2600HPGM	KSEM2600HPLM	KSEM2600HPLM	KSEM2600HPCM	KSEM2600PCM	26,000	1.0236	5
KSEM2619HPM	KSEM2619HPM	KSEM2619HPGM	KSEM2619HPLM	KSEM2619HPLM	KSEM2619HPCM	—	26,190	1.0310	6
KSEM2650HPM	KSEM2650HPM	KSEM2650HPGM	KSEM2650HPLM	KSEM2650HPLM	KSEM2650HPCM	KSEM2650PCM	26,500	1.0433	6
KSEM2659HPM	KSEM2659HPM	KSEM2659HPGM	KSEM2659HPLM	KSEM2659HPLM	KSEM2659HPCM	—	26,590	1.0470	6
—	—	—	KSEM2670HPLM	—	—	—	26,700	1.0512	6
—	—	—	KSEM2581HPLM	—	—	—	25,810	1.0610	5
KSEM2700HPM	KSEM2700HPM	KSEM2700HPGM	KSEM2700HPLM	KSEM2700HPLM	KSEM2700HPCM	KSEM2700PCM	27,000	1.0630	6
KSEM2750HPM	KSEM2750HPM	KSEM2750HPGM	KSEM2750HPLM	KSEM2750HPLM	KSEM2750HPCM	—	27,500	1.0827	6
KSEM2778HPM	KSEM2778HPM	KSEM2778HPGM	KSEM2778HPLM	KSEM2778HPLM	KSEM2778HPCM	—	27,780	1.0940	6
KSEM2800HPM	KSEM2800HPM	KSEM2800HPGM	KSEM2800HPLM	KSEM2800HPLM	KSEM2800HPCM	KSEM2800PCM	28,000	1.1024	6
—	—	—	KSEM2810HPLM	—	—	—	28,100	1.1063	7
KSEM2818HPM	KSEM2818HPM	KSEM2818HPGM	KSEM2817HPLM	KSEM2817HPLM	KSEM2818HPCM	—	28,180	1.1090	7
KSEM2850HPM	KSEM2850HPM	KSEM2850HPGM	KSEM2850HPLM	KSEM2850HPLM	KSEM2850HPCM	KSEM2850PCM	28,500	1.1220	7
KSEM2858HPM	KSEM2858HPM	KSEM2858HPGM	KSEM2858HPLM	KSEM2858HPLM	KSEM2858HPCM	—	28,580	1.1250	7
KSEM2900HPM	KSEM2900HPM	KSEM2900HPGM	KSEM2900HPLM	KSEM2900HPLM	KSEM2900HPCM	KSEM2900PCM	29,000	1.1417	7
KSEM2937HPM	KSEM2937HPM	KSEM2937HPGM	KSEM2937HPLM	KSEM2937HPLM	KSEM2937HPCM	—	29,730	1.1560	7
KSEM2950HPM	KSEM2950HPM	KSEM2950HPGM	KSEM2950HPLM	KSEM2950HPLM	KSEM2950HPCM	KSEM2950PCM	29,500	1.1614	7
KSEM2977HPM	KSEM2977HPM	KSEM2977HPGM	KSEM2977HPLM	KSEM2977HPLM	KSEM2977HPCM	—	29,770	1.1720	7
KSEM3000HPM	KSEM3000HPM	KSEM3000HPGM	KSEM3000HPLM	KSEM3000HPLM	KSEM3000HPCM	KSEM3000PCM	30,000	1.1811	7
KSEM3016HPM	KSEM3016HPM	KSEM3016HPGM	KSEM3016HPLM	KSEM3016HPLM	—	—	30,160	1.1875	8
—	—	—	—	—	KSEM3016HPCM	—	30,160	1.1880	8
KSEM3050HPM	KSEM3050HPM	KSEM3050HPGM	KSEM3050HPLM	KSEM3050HPLM	KSEM3050HPCM	KSEM3050PCM	30,500	1.2008	8
—	—	KSEM3056HPGM	—	—	—	—	30,560	1.2030	8
KSEM3096HPM	KSEM3096HPM	KSEM3096HPGM	—	—	—	—	30,960	1.2190	8
KSEM3100HPM	KSEM3100HPM	KSEM3100HPGM	KSEM3100HPLM	KSEM3100HPLM	KSEM3100HPCM	KSEM3100PCM	31,000	1.2200	8
KSEM3150HPM	KSEM3150HPM	KSEM3150HPGM	KSEM3150HPLM	KSEM3150HPLM	—	KSEM3150PCM	31,500	1.2402	8
KSEM3175HPM	KSEM3175HPM	KSEM3175HPGM	KSEM3175HPLM	KSEM3175HPLM	KSEM3175HPCM	—	31,750	1.2500	8

(continued)

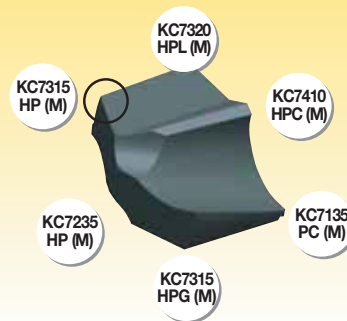
(KSEM Inserts continued)

								D1		seat size
		KC7235	KC7315	KC7315	KC7320	KC7410	KC7135	mm	in	
KSEM3200HPM	KSEM3200HPM	KSEM3200HPGM	KSEM3200HPLM	KSEM3200HPCM	KSEM3200PCM	32,000	1.2598	8		
KSEM3250HPM	KSEM3250HPM	KSEM3250HPGM	—	—	—	32,500	1.2795	9		
KSEM3254HPM	KSEM3254HPM	KSEM3254HPGM	KSEM3254HPLM	—	—	32,540	1.2810	9		
—	KSEM3294HPM	KSEM3294HPGM	—	—	—	32,940	1.2970	9		
KSEM3300HPM	KSEM3300HPM	KSEM3300HPGM	KSEM3300HPLM	—	—	33,000	1.2992	9		
KSEM3334HPM	KSEM3334HPM	KSEM3334HPGM	—	—	—	33,340	1.3130	9		
—	—	—	KSEM3335HPLM	—	—	33,400	1.3130	9		
KSEM3350HPM	—	KSEM3350HPGM	—	—	—	33,500	1.3189	9		
—	—	KSEM3373HPGM	—	—	—	33,730	1.3280	9		
KSEM3400HPM	KSEM3400HPM	KSEM3400HPGM	KSEM3400HPLM	—	—	34,000	1.3386	9		
—	KSEM3413HPM	KSEM3413HPGM	—	—	—	34,130	1.3440	9		
KSEM3450HPM	KSEM3450HPM	KSEM3450HPGM	—	—	—	34,500	1.3583	9		
KSEM3493HPM	KSEM3493HPM	KSEM3493HPGM	KSEM3493HPLM	—	—	34,930	1.3750	9		
KSEM3500HPM	KSEM3500HPM	KSEM3500HPGM	KSEM3500HPLM	—	—	35,000	1.3780	9		
—	KSEM3550HPM	KSEM3550HPGM	—	—	—	35,500	1.3976	9		
KSEM3572HPM	KSEM3572HPM	KSEM3572HPGM	KSEM3571HPLM	—	—	35,720	1.4060	9		
KSEM3600HPM	KSEM3600HPM	KSEM3600HPGM	KSEM3600HPLM	—	—	36,000	1.4173	9		
—	—	KSEM3612HPGM	—	—	—	36,120	1.4220	10		
—	—	KSEM3650HPGM	—	—	—	36,500	1.4375	10		
KSEM3651HPM	—	KSEM3651HPGM	—	—	—	36,510	1.4375	10		
KSEM3700HPM	KSEM3700HPM	KSEM3700HPGM	KSEM3700HPLM	—	—	37,000	1.4567	10		
KSEM3731HPM	—	KSEM3731HPGM	—	—	—	37,310	1.4690	10		
KSEM3750HPM	KSEM3750HPM	KSEM3750HPGM	KSEM3750HPLM	—	—	37,500	1.4764	10		
KSEM3800HPM	KSEM3800HPM	KSEM3800HPGM	KSEM3800HPLM	—	—	38,000	1.4961	10		
KSEM3810HPM	KSEM3810HPM	KSEM3810HPGM	KSEM3810HPLM	—	—	38,100	1.5000	10		
KSEM3846HPM	—	KSEM3846HPGM	KSEM3846HPLM	—	—	38,460	1.5140	10		
—	KSEM3850HPM	KSEM3850HPGM	—	—	—	38,500	1.5157	10		
KSEM3900HPM	KSEM3900HPM	KSEM3900HPGM	KSEM3900HPLM	—	—	39,000	1.5354	10		
—	KSEM3950HPM	KSEM3950HPGM	KSEM3950HPLM	—	—	39,500	1.5551	10		
KSEM4000HPM	KSEM4000HPM	KSEM4000HPGM	KSEM4000HPLM	—	KSEM4000PCM	40,000	1.5748	10		



Tolerance HP/HPG/HPL/HPC • Metric		Tolerance PC • Metric	
D1 metric	tolerance h8	D1 metric	tolerance k7
12,5–18	+0,000/-0,027	12,5–18	+0,001/+ 0,019
>18–30	+0,000/-0,033	>18–30	+0,002/+ 0,023
>30–40	+0,000/-0,039	>30–40	+0,002/+ 0,027

For reconditioning information pls contact our Customer Application Support or visit www.kennametal.com



Modular Drills

grade	geometry	composition and application	ISO class
KC7320		PVD high Al content TiAlN-coated universal fine-grain grade: <ul style="list-style-type: none"> • Excellent oxidation stability and adjusted toughness. • High level of wear resistance. • Used for modular drilling of austenitic stainless steel. 	M20
	HPL (M)		
KC7410		PVD high multilayer AlCr-based coating over fine-grain carbide: <ul style="list-style-type: none"> • Newly developed unique coating. • Extraordinary wear resistance in drilling of cast iron materials. • High hot hardness enables elevated speeds. 	K15
	HPC (M)		
KC7135		PVD-TiCN-TiN-coated carbide: <ul style="list-style-type: none"> • Highly wear-resistant grade. • For universal application in steel, stainless steel, and irons. • Specifically used for KSEM PCM precentring inserts. 	P40 K35
	PC (M)		
KC7315		PVD-TiAlN-coated universal fine-grain grade: <ul style="list-style-type: none"> • Highest level of wear resistance for higher cutting speeds. • More efficient than PVD-TiN grades. • First choice for alloyed and high-alloy steel as well as cast iron. • Latest geometry for low thrust and highest speed and feed rates; up to 7 x D no precentring required. 	K20 M15 P30
	HPG (M)		
KC7235		PVD-TiAlN-coated fine-grain carbide: <ul style="list-style-type: none"> • Tough substrate. • Highly wear-resistant coating. • Suitable for machining steel even in difficult conditions. 	K35 M30 P40
	HP (M)		
KC7315		PVD-TiAlN-coated universal fine-grain grade: <ul style="list-style-type: none"> • Highest level of wear resistance for higher cutting speeds. • More efficient than PVD-TiN grades. • First choice for alloyed and high-alloy steel as well as cast iron. • Latest geometry for low thrust and highest speed and feed rates; up to 7 x D no precentring required. 	K20 M15 P30
	HP (M)		

■ Modular Drill Carbide Insert Blades • KSEM™ • HP(M) Geometry • Grade KC7235™ • Through Coolant

Material Group	Cutting Speed – vc Range – m/min			Metric							
	min	Starting Value	max	Recommended Feed Rate (f) by Diameter							
				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

Modular Drills

■ Modular Drill Carbide Insert Blades • KSEM • HP(M) Geometry • Grade KC7315™ • Through Coolant

Material Group	Cutting Speed – vc Range – m/min			Metric							
	min	Starting Value	max	Recommended Feed Rate (f) by Diameter							
				12,5	16,0	20,0	25,4	32,0	40,0		
P	1	70	90	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
	2	80	100	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
	3	65	75	80	mm/r	0,15 - 0,28	0,17 - 0,31	0,19 - 0,36	0,25 - 0,46	0,23 - 0,53	0,33 - 0,60
	4	50	65	75	mm/r	0,12 - 0,28	0,14 - 0,31	0,16 - 0,36	0,20 - 0,46	0,23 - 0,53	0,30 - 0,60
	5	45	50	65	mm/r	0,09 - 0,15	0,11 - 0,18	0,12 - 0,21	0,15 - 0,25	0,17 - 0,29	0,20 - 0,33
	6	45	50	65	mm/r	0,12 - 0,23	0,14 - 0,26	0,16 - 0,29	0,20 - 0,38	0,23 - 0,43	0,26 - 0,54

■ Modular Drill Carbide Insert Blades • KSEM • HPG(M) Geometry • Grade KC7315 • Through Coolant

Material Group	Cutting Speed – vc Range – m/min			Metric							
	min	Starting Value	max	Recommended Feed Rate (f) by Diameter							
				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

■ Modular Drill Carbide Insert Blades • KSEM™ • HPC(M) Geometry • Grade KC7410™ • Through Coolant

Modular Drills

Material Group	Cutting Speed – vc Range – m/min			Metric							
	min	Starting Value	max	Recommended Feed Rate (f) by Diameter							
				12,5	16,0	20,0	25,4	32,0	40,0		
K	1	100	175	200	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	100	160	180	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	70	85	100	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

■ Modular Drill Carbide Insert Blades • KSEM • HPCL(M) Geometry • Grade KC7410 • Through Coolant

Material Group	Cutting Speed – vc Range – m/min			Metric							
	min	Starting Value	max	Recommended Feed Rate (f) by Diameter							
				12,5	16,0	20,0	25,4	32,0	40,0		
K	1	100	175	200	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	100	160	180	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	70	85	100	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

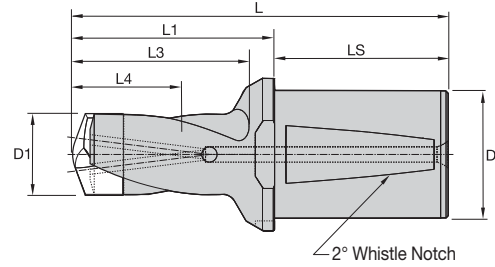
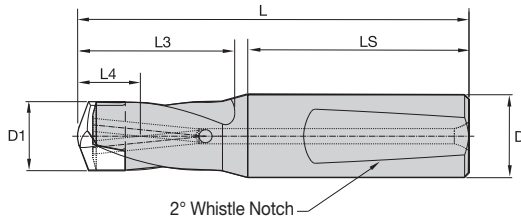
■ Modular Drill Carbide Insert Blades • KSEM • HPL(M) Geometry • Grade KC7320™ • Through Coolant

Material Group	Cutting Speed – vc Range – m/min			Metric							
	min	Starting Value	max	Recommended Feed Rate (f) by Diameter							
				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

■ Modular Drill Carbide Insert Blades • KSEM • PC(M) Geometry • Grade KC7135™ • Through Coolant


Material Group	Cutting Speed – vc Range – m/min			Metric						
	min	Starting Value	max	Recommended Feed Rate (f) by Diameter						
				12,5	16,0	20,0	25,4	32,0		
P	1	90	100	110	mm/r	0,14 - 0,23	0,17 - 0,25	0,19 - 0,29	0,23 - 0,38	0,26 - 0,43
	2	80	90	100	mm/r	0,17 - 0,23	0,19 - 0,25	0,22 - 0,29	0,29 - 0,38	0,32 - 0,43
	3	55	65	75	mm/r	0,14 - 0,20	0,15 - 0,23	0,17 - 0,25	0,23 - 0,34	0,26 - 0,38
	4	50	60	70	mm/r	0,11 - 0,20	0,13 - 0,23	0,14 - 0,25	0,18 - 0,34	0,21 - 0,38
	5	45	50	60	mm/r	0,08 - 0,11	0,10 - 0,13	0,11 - 0,14	0,14 - 0,18	0,15 - 0,20
	6	45	55	65	mm/r	0,11 - 0,17	0,13 - 0,18	0,14 - 0,20	0,18 - 0,28	0,21 - 0,31
K	1	60	60	90	mm/r	0,08 - 0,24	0,09 - 0,28	0,11 - 0,31	0,14 - 0,43	0,15 - 0,48
	2	60	60	75	mm/r	0,18 - 0,24	0,21 - 0,28	0,23 - 0,31	0,28 - 0,37	0,32 - 0,42
	3	40	40	75	mm/r	0,15 - 0,24	0,18 - 0,26	0,21 - 0,29	0,23 - 0,37	0,25 - 0,42

- Use insert blade diameter within the designated seat size.
- Drill shipped with central lock screw and wrench.
- Order insert blades separately; see pages H16–H19.

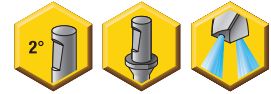


Modular Drills

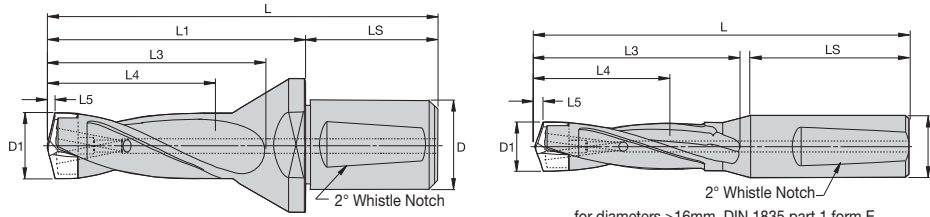
■ KSEM WN/WD Shank • 1 x D • Metric

	D1		D1 max		L	L1	L4 max	L5	LS	D	seat size	central lock screw	wrench
	mm	in	mm	in									
 KSEM125R1WN16M	12,500	.4921	13,500	.5314	78	—	14	2,0	48	16	C	364.017	170.294
KSEM136R1WN16M	13,510	.5319	14,500	.5708	81	—	15	2,2	48	16	B	364.016	170.289
KSEM146R1WN20M	14,510	.5713	15,874	.6249	85	—	16	2,3	50	20	A	364.016	170.289
KSEM160R1WN20M	16,000	.6299	18,000	.7086	88	—	18	2,5	50	20	1	364.010	170.270
KSEM181R1WN25M	18,010	.7091	19,999	.7873	99	—	20	2,9	56	25	2	364.010	170.270
KSEM200R1WN25M	20,000	.7874	22,000	.8661	102	—	22	3,2	56	25	3	364.011	170.272
KSEM221R1WN25M	22,010	.8665	24,000	.9448	107	—	24	3,5	56	25	4	364.011	170.272
KSEM241R1WN32M	24,010	.9453	26,000	1.0236	115	—	26	3,8	60	32	5	364.012	170.274
KSEM261R1WN32M	26,010	1.0240	28,000	1.1023	119	—	28	4,0	60	32	6	364.012	170.274
KSEM281R1WN32M	28,016	1.1028	30,000	1.1811	123	—	30	4,3	60	32	7	364.013	170.276
KSEM301R1WN32M	30,010	1.1815	32,000	1.2598	127	—	32	4,6	60	32	8	364.013	170.276
KSEM321R1WD50M	32,010	1.2602	36,000	1.4173	147	79	36	4,9	68	50	9	364.015	170.276
KSEM361R1WD50M	36,010	1.4177	40,000	1.5748	155	87	40	5,5	68	50	10	364.015	170.276

- Use designated insert blade with each drill body.
- Drill shipped with central lock screw and wrench.
- Order insert blade separately; see pages H16–H19.



Modular Drills



for diameters >16mm, DIN 1835 part 1 form E
for diameters <6mm, DIN 6535 – HE




For information on L, L3, and L4 max, see the Modular Drill foldout table.

■ KSEM WN/WD Shank • 3 x D/5 x D • Metric

		D1		D1 max		L5	LS	D	seat size	central lock screw
		mm	in	mm	in					
KSEM125R3WN16M	KSEM125R5WN16M	12,500	.4921	13,000	.5118	2,0	48	16	C	364.017
KSEM130R3WN16M	KSEM130R5WN16M	13,000	.5118	13,500	.5314	2,1	48	16	C	364.017
KSEM135R3WN16M	KSEM135R5WN16M	13,500	.5315	13,500	.5314	2,1	48	16	C	364.017
KSEM136R3WN16M	KSEM136R5WN16M	13,510	.5319	14,000	.5512	2,2	48	16	B	364.016
KSEM140R3WN16M	KSEM140R5WN16M	14,000	.5512	14,500	.5708	2,2	48	16	B	364.016
KSEM145R3WN20M	KSEM145R5WN20M	14,500	.5709	14,500	.5708	2,3	50	20	B	364.016
KSEM146R3WN20M	KSEM146R5WN20M	14,510	.5713	15,000	.5906	2,3	50	20	A	364.016
KSEM150R3WN20M	KSEM150R5WN20M	15,000	.5906	15,500	.6102	2,4	50	20	A	364.016
KSEM155R3WN20M	KSEM155R5WN20M	15,500	.6102	15,874	.6249	2,5	50	20	A	364.016
KSEM160R3WN20M	KSEM160R5WN20M	16,000	.6299	16,500	.6496	2,5	50	20	1	364.010
KSEM165R3WN20M	KSEM165R5WN20M	16,500	.6496	17,000	.6693	2,6	50	20	1	364.010
KSEM170R3WN20M	KSEM170R5WN20M	17,000	.6693	17,500	.6890	2,7	50	20	1	364.010
KSEM175R3WN20M	KSEM175R5WN20M	17,500	.6890	18,000	.7086	2,8	50	20	1	364.010
KSEM180R3WN20M	KSEM180R5WN20M	18,000	.7087	18,000	.7086	2,9	50	20	1	364.010
—	KSEM181R5WN25M	18,010	.7091	18,500	.7283	2,9	56	25	2	364.010
KSEM185R3WN25M	KSEM185R5WN25M	18,500	.7283	19,000	.7480	2,9	56	25	2	364.010
KSEM190R3WN25M	KSEM190R5WN25M	19,000	.7480	19,500	.7677	3,0	56	25	2	364.010
KSEM195R3WN25M	KSEM195R5WN25M	19,500	.7677	19,999	.7873	3,1	56	25	2	364.010
KSEM200R3WN25M	KSEM200R5WN25M	20,000	.7874	20,500	.8071	3,2	56	25	3	364.011
KSEM205R3WN25M	KSEM205R5WN25M	20,500	.8071	21,000	.8268	3,3	56	25	3	364.011
KSEM210R3WN25M	KSEM210R5WN25M	21,000	.8268	21,500	.8465	3,3	56	25	3	364.011
KSEM215R3WN25M	KSEM215R5WN25M	21,500	.8465	22,000	.8661	3,4	56	25	3	364.011
KSEM220R3WN25M	KSEM220R5WN25M	22,000	.8661	22,000	.8661	3,5	56	25	3	364.011
—	KSEM221R5WN25M	22,010	.8665	22,500	.8858	3,5	56	25	4	364.011
KSEM225R3WN25M	KSEM225R5WN25M	22,500	.8858	23,000	.9055	3,6	56	25	4	364.011
KSEM230R3WN25M	KSEM230R5WN25M	23,000	.9055	23,500	.9252	3,7	56	25	4	364.011
KSEM235R3WN25M	KSEM235R5WN25M	23,500	.9252	24,000	.9448	3,7	56	25	4	364.011
KSEM240R3WN25M	KSEM240R5WN25M	24,000	.9449	24,000	.9448	3,8	56	25	4	364.011
—	KSEM241R5WN32M	24,010	.9453	24,500	.9646	3,8	60	32	5	364.012
KSEM245R3WN32M	KSEM245R5WN32M	24,500	.9646	25,000	.9843	3,9	60	32	5	364.012
KSEM250R3WN32M	KSEM250R5WN32M	25,000	.9843	25,500	1.0039	3,8	60	32	5	364.012
KSEM255R3WN32M	KSEM255R5WN32M	25,500	1.0039	26,000	1.0236	3,9	60	32	5	364.012
KSEM260R3WN32M	KSEM260R5WN32M	26,000	1.0236	26,000	1.0236	4,0	60	32	5	364.012
—	KSEM261R5WN32M	26,010	1.0240	26,500	1.0433	4,0	60	32	6	364.012

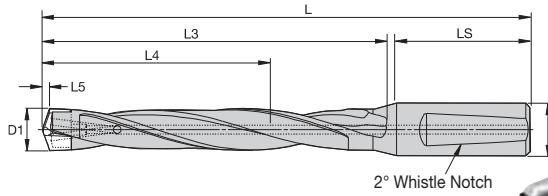
(continued)

(KSEM WN/WD Shank • 3 x D/5 x D • Metric continued)

		D1		D1 max		L5	LS	D	seat size	 central lock screw
		mm	in	mm	in					
KSEM265R3WN32M	KSEM265R5WN32M	26,500	1.0433	27,000	1.0630	4,1	60	32	6	364.012
KSEM270R3WN32M	KSEM270R5WN32M	27,000	1.0630	27,500	1.0827	4,2	60	32	6	364.012
KSEM275R3WN32M	KSEM275R5WN32M	27,500	1.0827	28,000	1.1023	4,2	60	32	6	364.012
KSEM280R3WN32M	KSEM280R5WN32M	28,000	1.1024	28,000	1.1023	4,3	60	32	6	364.012
—	KSEM281R5WN32M	28,016	1.1028	28,500	1.1220	4,3	60	32	7	364.013
KSEM285R3WN32M	KSEM285R5WN32M	28,500	1.1220	29,000	1.1417	4,4	60	32	7	364.013
KSEM290R3WN32M	KSEM290R5WN32M	29,000	1.1417	29,500	1.1614	4,5	60	32	7	364.013
KSEM295R3WN32M	KSEM295R5WN32M	29,500	1.1614	30,000	1.1811	4,5	60	32	7	364.013
KSEM300R3WN32M	KSEM300R5WN32M	30,000	1.1811	30,000	1.1811	4,6	60	32	7	364.013
—	KSEM301R5WN32M	30,010	1.1815	30,500	1.2008	4,6	60	32	8	364.013
KSEM305R3WN32M	KSEM305R5WN32M	30,500	1.2008	31,000	1.2205	4,7	60	32	8	364.013
KSEM310R3WN32M	KSEM310R5WN32M	31,000	1.2205	31,500	1.2402	4,8	60	32	8	364.013
KSEM315R3WN32M	KSEM315R5WN32M	31,500	1.2402	32,000	1.2598	4,8	60	32	8	364.013
KSEM320R3WN32M	KSEM320R5WN32M	32,000	1.2598	32,000	1.2598	4,9	60	32	8	364.013
KSEM321R3WD50M	KSEM321R5WD50M	32,010	1.2602	33,000	1.2992	4,9	68	50	9	364.015
KSEM330R3WD50M	KSEM330R5WD50M	33,000	1.2992	34,000	1.3386	5,1	68	50	9	364.015
KSEM340R3WD50M	KSEM340R5WD50M	34,000	1.3386	35,000	1.3780	5,2	68	50	9	364.015
KSEM350R3WD50M	KSEM350R5WD50M	35,000	1.3780	36,000	1.4173	5,4	68	50	9	364.015
KSEM360R3WD50M	KSEM360R5WD50M	36,000	1.4173	36,000	1.4173	5,5	68	50	9	364.015
KSEM361R3WD50M	KSEM361R5WD50M	36,010	1.4177	37,000	1.4567	5,5	68	50	10	364.015
KSEM370R3WD50M	KSEM370R5WD50M	37,000	1.4567	38,000	1.4961	5,7	68	50	10	364.015
KSEM380R3WD50M	KSEM380R5WD50M	38,000	1.4961	39,000	1.5354	5,8	68	50	10	364.015
KSEM390R3WD50M	KSEM390R5WD50M	39,000	1.5354	40,000	1.5748	6,0	68	50	10	364.015
KSEM400R3WD50M	KSEM400R5WD50M	40,000	1.5748	40,000	1.5748	6,2	68	50	10	364.015

Modular Drills

- Use designated insert blade with each drill body.
- Drill shipped with central lock screw and wrench.
- Order insert blade separately; see pages H16–H19.



for diameter <16mm DIN 6535 – HE
for diameter >16mm DIN 1835 part 1 form E
For information on L, L3, and L4 max,
see the Modular Drill foldout table.

■ KSEM WN Shank • 7 x D/10 x D • Metric



		D1		D1 max		L5	LS	D	seat size	central lock screw
		mm	in	mm	in					
KSEM125R7WN16M	KSEM125R10WN16M	12,500	.4921	13,000	.5118	2,0	48	16	C	364.017
KSEM130R7WN16M	KSEM130R10WN16M	13,000	.5118	13,500	.5314	2,1	48	16	C	364.017
KSEM135R7WN16M	KSEM135R10WN16M	13,500	.5315	13,500	.5314	2,1	48	16	C	364.017
KSEM136R7WN16M	KSEM136R10WN16M	13,510	.5319	14,000	.5512	2,2	48	16	B	364.016
KSEM140R7WN16M	KSEM140R10WN16M	14,000	.5512	14,500	.5708	2,2	48	16	B	364.016
KSEM145R7WN20M	KSEM145R10WN20M	14,500	.5709	14,500	.5708	2,3	50	20	B	364.016
KSEM146R7WN20M	KSEM146R10WN20M	14,510	.5713	15,000	.5906	2,3	50	20	A	364.016
KSEM150R7WN20M	KSEM150R10WN20M	15,000	.5906	15,500	.6102	2,4	50	20	A	364.016
KSEM155R7WN20M	KSEM155R10WN20M	15,500	.6102	15,874	.6249	2,5	50	20	A	364.016
KSEM160R7WN20M	KSEM160R10WN20M	16,000	.6299	16,500	.6496	2,5	50	20	1	364.010
KSEM165R7WN20M	KSEM165R10WN20M	16,500	.6496	17,000	.6693	2,6	50	20	1	364.010
KSEM170R7WN20M	KSEM170R10WN20M	17,000	.6693	17,500	.6890	2,7	50	20	1	364.010
KSEM175R7WN20M	KSEM175R10WN20M	17,500	.6890	18,000	.7086	2,8	50	20	1	364.010
KSEM180R7WN20M	KSEM180R10WN20M	18,000	.7087	18,000	.7086	2,9	50	20	1	364.010
–	KSEM181R10WN25M	18,010	.7091	18,500	.7283	2,9	56	25	2	364.010
KSEM185R7WN25M	KSEM185R10WN25M	18,500	.7283	19,000	.7480	2,9	56	25	2	364.010
KSEM190R7WN25M	KSEM190R10WN25M	19,000	.7480	19,500	.7677	3,0	56	25	2	364.010
KSEM195R7WN25M	KSEM195R10WN25M	19,500	.7677	19,999	.7873	3,1	56	25	2	364.010
KSEM200R7WN25M	KSEM200R10WN25M	20,000	.7874	20,500	.8071	3,2	56	25	3	364.011
KSEM205R7WN25M	KSEM205R10WN25M	20,500	.8071	21,000	.8268	3,3	56	25	3	364.011
KSEM210R7WN25M	KSEM210R10WN25M	21,000	.8268	21,500	.8465	3,3	56	25	3	364.011
KSEM215R7WN25M	KSEM215R10WN25M	21,500	.8465	22,000	.8661	3,4	56	25	3	364.011
KSEM220R7WN25M	KSEM220R10WN25M	22,000	.8661	22,000	.8661	3,5	56	25	3	364.011
–	KSEM221R10WN25M	22,010	.8665	22,500	.8858	3,5	56	25	4	364.011
KSEM225R7WN25M	KSEM225R10WN25M	22,500	.8858	23,000	.9055	3,6	56	25	4	364.011
KSEM230R7WN25M	KSEM230R10WN25M	23,000	.9055	23,500	.9252	3,7	56	25	4	364.011
KSEM235R7WN25M	KSEM235R10WN25M	23,500	.9252	24,000	.9448	3,7	56	25	4	364.011
KSEM240R7WN25M	KSEM240R10WN25M	24,000	.9449	24,000	.9448	3,8	56	25	4	364.011
–	KSEM241R10WN32M	24,010	.9453	24,500	.9646	3,8	60	32	5	364.012
KSEM245R7WN32M	KSEM245R10WN32M	24,500	.9646	25,000	.9843	3,9	60	32	5	364.012
KSEM250R7WN32M	KSEM250R10WN32M	25,000	.9843	25,500	1.0039	3,8	60	32	5	364.012
KSEM255R7WN32M	KSEM255R10WN32M	25,500	1.0039	26,000	1.0236	3,9	60	32	5	364.012
KSEM260R7WN32M	KSEM260R10WN32M	26,000	1.0236	26,000	1.0236	4,0	60	32	5	364.012
–	KSEM261R10WN32M	26,010	1.0240	26,500	1.0433	4,0	60	32	6	364.012
KSEM265R7WN32M	KSEM265R10WN32M	26,500	1.0433	27,000	1.0630	4,1	60	32	6	364.012
KSEM270R7WN32M	KSEM270R10WN32M	27,000	1.0630	27,500	1.0827	4,2	60	32	6	364.012
KSEM275R7WN32M	KSEM275R10WN32M	27,500	1.0827	28,000	1.1023	4,2	60	32	6	364.012
KSEM280R7WN32M	KSEM280R10WN32M	28,000	1.1024	28,000	1.1023	4,3	60	32	6	364.012
–	KSEM281R10WN32M	28,016	1.1028	28,500	1.1220	4,3	60	32	7	364.013
KSEM285R7WN32M	KSEM285R10WN32M	28,500	1.1220	29,000	1.1417	4,4	60	32	7	364.013
KSEM290R7WN32M	KSEM290R10WN32M	29,000	1.1417	29,500	1.1614	4,5	60	32	7	364.013
KSEM295R7WN32M	KSEM295R10WN32M	29,500	1.1614	30,000	1.1811	4,5	60	32	7	364.013
KSEM300R7WN32M	KSEM300R10WN32M	30,000	1.1811	30,000	1.1811	4,6	60	32	7	364.013
–	KSEM301R10WN32M	30,010	1.1815	30,500	1.2008	4,6	60	32	8	364.013
KSEM305R7WN32M	–	30,500	1.2008	31,000	1.2205	4,7	60	32	8	364.013
KSEM310R7WN32M	KSEM310R10WN32M	31,000	1.2205	31,500	1.2402	4,8	60	32	8	364.013
KSEM315R7WN32M	–	31,500	1.2402	32,000	1.2598	4,8	60	32	8	364.013
KSEM320R7WN32M	KSEM320R10WN32M	32,000	1.2598	32,000	1.2598	4,9	60	32	8	364.013

Modular Drills

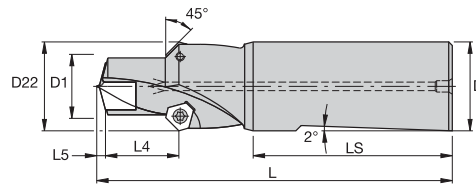
KSEM Chamfering Solutions

- Drilling and chamfering in one operation.
- No height adjustment required.
- Low setup time.
- Use standard inserts.
- Tool bodies available as standard.

- Use any KSEM insert blade diameter within the designated seat size.
- Drill shipped with central lock screw, insert screw, and wrenches.
- Order insert blades separately; see pages H16–H19.
- Order TPGX chamfering insert separately; see page H27.

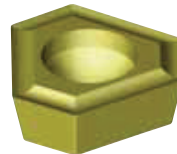
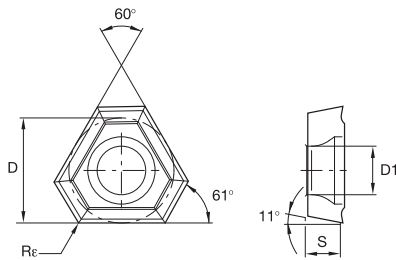


Modular Drills



■ KSEM Bodies • WN/WD Shank with Chamfer • 1 x D • Metric

	D1		D1 max		D22	L	L4 max	L5	LS	D	seat size	chamfer insert	central lock screw	wrench
	mm	in	mm	in										
KSEM125R1WN16F45M	12,500	.4921	13,500	.5314	18	107	14	2,0	48,0	16	C	TPGX0902ZPR	364.017	170.051
KSEM136R1WN16F45M	13,510	.5319	14,500	.5708	19	107	15	2,2	48,0	16	B	TPGX0902ZPR	364.016	170.289
KSEM146R1WN20F45M	14,510	.5713	15,874	.6249	20	109	16	2,3	50,0	20	A	TPGX0902ZPR	364.016	170.289
KSEM160R1WN20F45M	16,000	.6299	18,000	.7086	22	110	18	2,5	50,0	20	1	TPGX1102ZPR	364.010	170.270
KSEM181R1WN25F45M	18,010	.7091	19,999	.7873	25	118	20	2,9	56,0	25	2	TPGX1102ZPR	364.010	170.270
KSEM200R1WN25F45M	20,000	.7874	22,000	.8661	28	120	22	3,2	56,0	25	3	TPGX1303ZPR	364.011	170.272
KSEM221R1WN25F45M	22,010	.8665	24,000	.9448	30	123	24	3,5	56,0	25	4	TPGX1303ZPR	364.011	170.272
KSEM241R1WN32F45M	24,010	.9453	26,000	1.0236	34	129	26	3,8	60,0	32	5	TPGX1603ZPR	364.012	170.055
KSEM261R1WN32F45M	26,010	1.0240	28,000	1.1023	36	131	28	4,0	60,0	32	6	TPGX1603ZPR	364.012	170.055
KSEM281R1WN32F45M	28,016	1.1028	30,000	1.1811	38	134	30	4,3	60,0	32	7	TPGX1603ZPR	364.013	170.276
KSEM301R1WN32F45M	30,010	1.1815	32,000	1.2598	40	136	32	4,6	60,0	32	8	TPGX1603ZPR	364.013	170.276
KSEM321R1WD50F45M	32,010	1.2602	36,000	1.4173	42	155	36	4,9	68,0	50	9	TPGX1603ZPR	364.015	170.276
KSEM361R1WD50F45M	36,010	1.4177	40,000	1.5748	46	165	40	5,5	68,0	50	10	TPGX1603ZPR	364.015	170.276



- first choice
- alternate choice

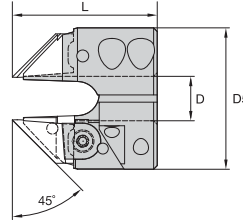
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M	●	○	○
K	●	○	○
N	●	○	○
S	●	○	○
H	●	○	○

■ TPGX-GD Geometry

catalogue number	D		S		Re		D1		KC7015	KC7140	KC7315
	mm	in	mm	in	mm	in	mm	in			
TPGX0902ZPRGD	5,56	.219	2,38	.094	0,20	.008	2,50	.098	●	●	●
TPGX1102ZPRGD	6,35	.250	2,38	.094	0,20	.008	2,85	.112	●	●	●
TPGX1303ZPRGD	7,94	.313	3,18	.125	0,20	.008	3,40	.134	●	●	●
TPGX1603ZPRGD	9,52	.375	3,18	.125	0,20	.008	4,40	.173	●	●	●

- The NEW chamfering rings for KSEM are available in a diameter range of 12,5–32mm.
- The KSEM SEF ring is double-edged, features a more rigid design to withstand high feed rates, and reduces time-consuming deburring and small chamfer operations.
- Reduce machining time — combine drilling and chamfering in one operation.
- Short-term availability — standard tooling off-the-shelf — KSEM body and inserts, SEF ring, and SEFAS™ inserts.
- Flexibility — adjustable drilling depth.
- For speed and feed recommendations, please refer to catalogue recommendations based on geometry and tool body length of the carrying KSEM tool.

- Small chamfers up to 1mm do not need further feed reduction.
- At deeper chamfers, a feed rate reduction of 50% is highly recommended to avoid vibrations and movement of the ring during operation.
- For inserts, please refer to SEFAS System on page I23, insert 3.42807R021.



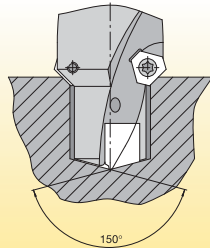
Modular Drills

■ Chamfer Rings

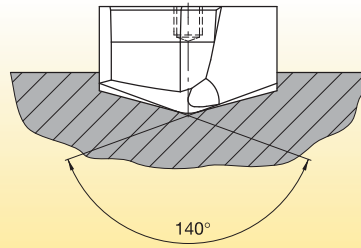


catalogue number	D		L		D5		clamp assy	chip deflector	chip deflector screw	drill clamp screw	socket-head cap screw
	mm	in	mm	in	mm	in					
KSEM125SEFM	12,5	.4921	40	1.57	39	1.54	360.551	360.660	128.508	191.726	—
KSEM130SEFM	13,0	.5118	40	1.57	39	1.54	360.551	360.660	128.508	191.726	—
KSEM135SEFM	13,5	.5315	40	1.57	39	1.54	360.551	360.660	128.508	191.726	—
KSEM140SEFM	14,0	.5512	40	1.57	40	1.57	360.551	360.661	128.508	199.123	—
KSEM145SEFM	14,5	.5709	40	1.57	40	1.57	360.551	360.661	128.508	199.123	—
KSEM150SEFM	15,0	.5906	40	1.57	40	1.57	360.551	360.662	128.508	199.123	—
KSEM155SEFM	15,5	.6102	40	1.57	40	1.57	360.551	360.662	128.508	199.123	—
KSEM160SEFM	16,0	.6299	42	1.65	43	1.69	360.551	360.663	128.508	199.123	—
KSEM165SEFM	16,5	.6496	42	1.65	43	1.69	360.551	360.663	128.508	199.123	—
KSEM170SEFM	17,0	.6693	42	1.65	43	1.69	360.551	360.663	128.508	199.123	—
KSEM175SEFM	17,5	.6890	42	1.65	43	1.69	360.551	360.663	128.508	199.123	—
KSEM180SEFM	18,0	.7087	42	1.65	43	1.69	360.551	360.663	128.508	199.123	—
KSEM185SEFM	18,5	.7283	42	1.65	43	1.69	360.551	360.664	128.508	199.123	—
KSEM190SEFM	19,0	.7480	42	1.65	43	1.69	360.551	360.664	128.508	199.123	—
KSEM195SEFM	19,5	.7677	42	1.65	43	1.69	360.551	360.664	128.508	199.123	—
KSEM200SEFM	20,0	.7874	48	1.89	50	1.97	360.551	360.665	128.510	199.123	—
KSEM205SEFM	20,5	.8071	48	1.89	50	1.97	360.551	360.665	128.510	199.123	—
KSEM210SEFM	21,0	.8268	48	1.89	50	1.97	360.551	360.665	128.510	199.123	—
KSEM215SEFM	21,5	.8465	48	1.89	50	1.97	360.551	360.665	128.510	199.123	—
KSEM220SEFM	22,0	.8661	48	1.89	50	1.97	360.551	360.665	128.510	199.123	—
KSEM225SEFM	22,5	.8858	50	1.97	50	1.97	360.551	360.666	128.510	—	125.516
KSEM230SEFM	23,0	.9055	50	1.97	50	1.97	360.551	360.666	128.510	—	125.516
KSEM235SEFM	23,5	.9252	50	1.97	50	1.97	360.551	360.666	128.510	—	125.516
KSEM240SEFM	24,0	.9449	50	1.97	50	1.97	360.551	360.666	128.510	—	125.516
KSEM245SEFM	24,5	.9646	54	2.13	55	2.17	360.551	360.667	128.510	—	125.620
KSEM250SEFM	25,0	.9843	54	2.13	55	2.17	360.551	360.667	128.510	—	125.620
KSEM255SEFM	25,5	1.0039	54	2.13	55	2.17	360.551	360.667	128.510	—	125.620
KSEM260SEFM	26,0	1.0236	54	2.13	55	2.17	360.551	360.667	128.510	—	125.620
KSEM265SEFM	26,5	1.0433	56	2.20	55	2.17	360.551	360.668	128.510	—	125.620
KSEM270SEFM	27,0	1.0630	56	2.20	55	2.17	360.551	360.668	128.510	—	125.620
KSEM275SEFM	27,5	1.0827	56	2.20	55	2.17	360.551	360.668	128.510	—	125.620
KSEM280SEFM	28,0	1.1024	56	2.20	55	2.17	360.551	360.668	128.510	—	125.620
KSEM285SEFM	28,5	1.1220	61	2.40	60	2.36	360.551	360.669	128.510	—	125.620
KSEM290SEFM	29,0	1.1417	61	2.40	60	2.36	360.551	360.669	128.510	—	125.620
KSEM295SEFM	29,5	1.1614	61	2.40	60	2.36	360.551	360.669	128.510	—	125.620
KSEM300SEFM	30,0	1.1811	61	2.40	60	2.36	360.551	360.669	128.510	—	125.620
KSEM305SEFM	30,5	1.2008	61	2.40	60	2.36	360.551	360.670	128.510	—	125.620
KSEM310SEFM	31,0	1.2205	61	2.40	60	2.36	360.551	360.670	128.510	—	125.620
KSEM315SEFM	31,5	1.2402	61	2.40	60	2.36	360.551	360.670	128.510	—	125.620
KSEM320SEFM	32,0	1.2598	61	2.40	60	2.36	360.551	360.670	128.510	—	125.620

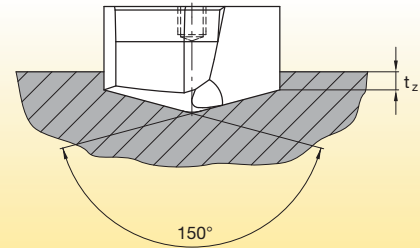
NOTE: Order inserts separately; see the SEFAS System, page I23, insert 3.42807R021.



Centring using PCM inserts



HPM inserts of the follower drill



Precentring with FAS centring tool

Why is precentring necessary?

- Generally speaking, for drilling depths 5x the nominal diameter and above (5 x D).
- In unstable conditions (workpiece and tool clamping).

Why precentre using PCM inserts?

- Soft-cut entry of follower drill due to 150° point angle of the PCM insert.
- No extension of the follower drill in the entry area.
- No breaks at the cutting edges.

What happens if...

...a centre cannot be used for technical reasons?

- Spot drill with normal insert at normal and reduced cutting data (approximately 1/2 vc and approximately 1/2 vf), then continue drilling with regular cutting data without lifting off/stopping.

...there is no suitable PCM cutting insert in the standard range (∅)?

- Manufacture to order using PCM geometry and k7 tolerance.
or
- Centre using the same cutter insert as for the follower drill but without the cutting edges penetrating the workpiece (spot drill ∅ approximately 90% of drill ∅ D1).

...only one tool body is required?

- Enter the workpiece with 50% feed until the cutting edges and the heels have penetrated the hole, then continue drilling without lifting off/stopping using regular cutting data.

Other problems

Short hole drilling with precentring support tool?

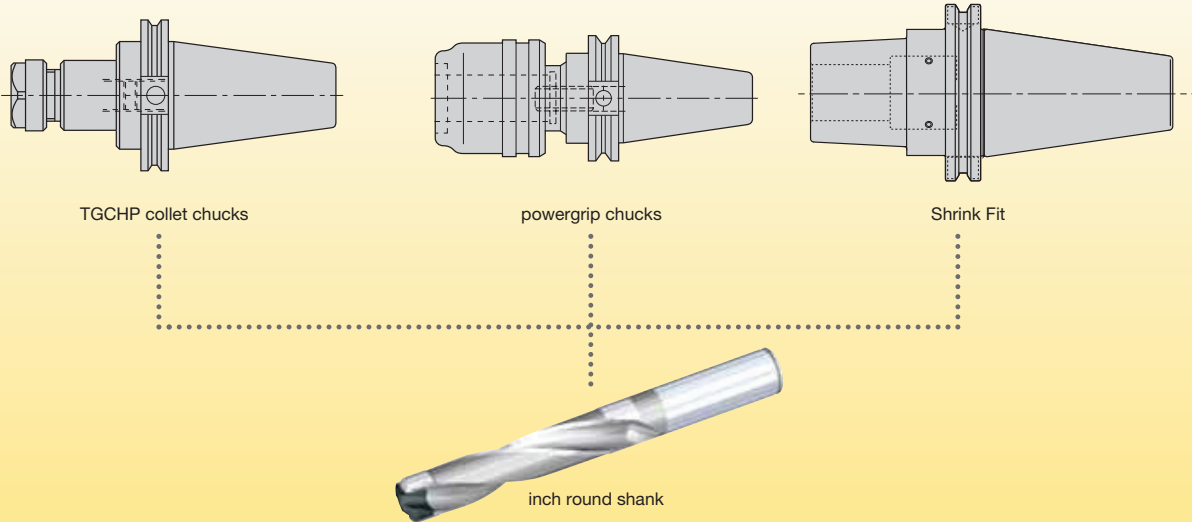
- Up to 1x nominal diameter (1 x D) possible.

Rotating Applications

KSEM inch drills with round shanks (no flats) are specifically designed for rotating applications where the drill rotates and the workpiece remains stationary. The shank to drill-point location of these drills is held to an extremely close tolerance. To maintain accuracy, and get maximum performance from the KSEM drill, use only the approved toolholding method shown below.



Modular Drills

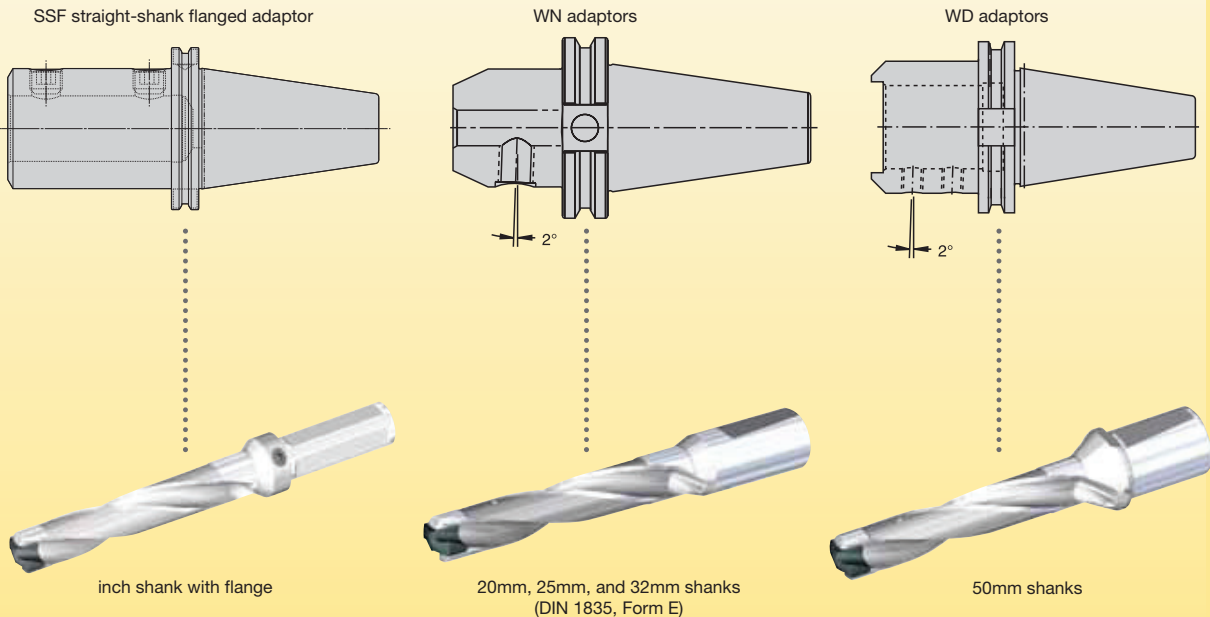


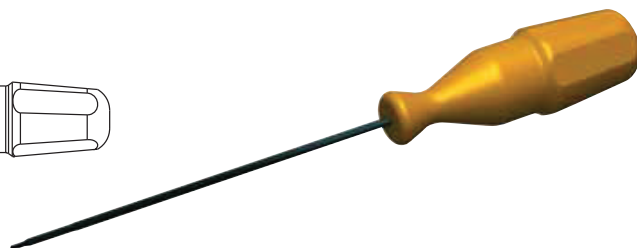
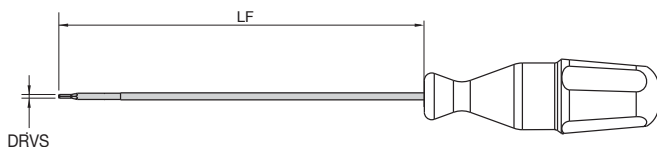
Inch Drill Bodies with Flange

KSEM inch drills with a flange can be used in rotating applications where the drill rotates and the workpiece remains stationary. To maintain accuracy and get maximum performance from the drill, use only the approved toolholding method shown here.

Metric Drill Bodies with a 2° Whistle Notch™

KSEM metric drills come equipped with 2° Whistle Notch shanks. The 20mm, 25mm, and 32mm diameter shanks use WN adaptors. The 50mm shank uses a WD adaptor. Choose the correct adaptor to minimise runout and securely hold the drill.



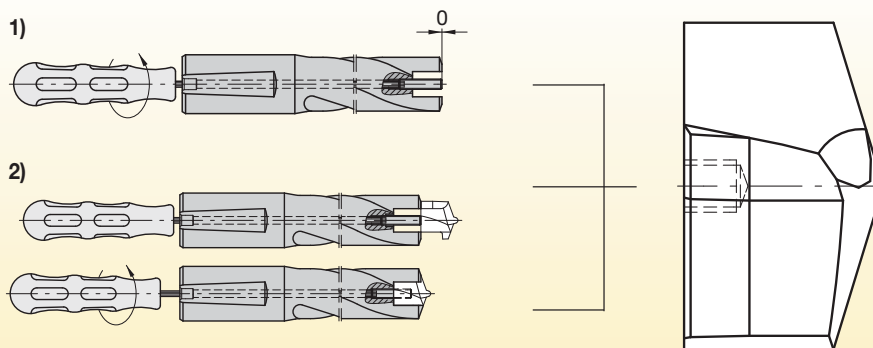


■ KSEM Spare Wrenches

order number	catalogue number	DRVS	LF	
			mm	in
1126021	170.270	1.5mm	185,00	7
1126032	170.271	1.5mm	225,00	9
1510773	170.281	1.5mm	297,00	12
1255899	170.285	1.5mm	351,00	14
1126040	170.272	2mm	210,00	8
1126049	170.273	2mm	260,00	10
1510776	170.282	2mm	343,00	14
1255900	170.286	2mm	405,00	16
1126066	170.274	2.5mm	240,00	9
1126072	170.275	2.5mm	295,00	12
1510779	170.283	2.5mm	393,00	15
1255901	170.287	2.5mm	459,00	18
1126079	170.276	3mm	265,00	10
1126088	170.277	3mm	330,00	13
1510781	170.284	3mm	439,00	17
1255902	170.288	3mm	513,00	20
1834819	170.294	T5	156,00	6
1836470	170.295	T5	188,00	7
1836471	170.296	T5	290,00	11
1795811	170.289	T6	156,00	6
1795956	170.290	T6	188,00	7
1795960	170.291	T6	290,00	11



Mounting the Inserts



Inserts (<32mm) without Connector Pin

- 1) Use the screwdriver to set the threaded pin:
 - for inserts up to Ø 32mm, flush with the drill face.
 - for inserts bigger Ø 32mm, set 2mm below the drill face.
- 2) Tighten the insert using the screwdriver to fit securely in the insert seat.

To change the insert, turn the clamping screw anti-clockwise until the insert is released.

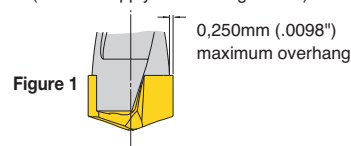
Repair of Damaged Threaded Pin

In the event that the central threaded pin becomes damaged, it can be removed after severing it in the tool body. To do this, drill beneath the insert seat in the tool body. The insert and threaded pin can then be removed. For information regarding the position and diameter of this repair hole, please refer to the manual (sheet 290.001 D/GB) supplied with the tool body.

NOTE: For inserts without a connector pin, avoid jamming during mounting through precise positioning.

Insert blades may be used, within limits, on different drill bodies. The insert blade must be of the same seat size. Overhang (see Figure 1) must be kept under 0,250mm (.0098") per side. For best drilling performance, rigidity, and efficient chip evacuation, always use the first-choice steel body. Performance may be compromised by using alternatives. In some applications, chips may bind between the drill body and the hole wall – especially when machining long-chipping materials like austenitic stainless steel and low-carbon steel.

(does not apply to stub length drills)



Modular Drills

diameter D		insert blade	seat size	first choice	alternate body 1	alternate body 2	alternate body 3	alternate body 4
inch	mm							
.492	12,50	KSEM1250	C	KSEM125..M	—	—	—	—
.500	12,70	KSEM0500	C	KSEM0500..	KSEM125..M	—	—	—
.509	12,93	KSEM0509	C	KSEM0509..	KSEM0500..	KSEM125..M	—	—
.512	13,00	KSEM1300	C	KSEM130..M	KSEM0509..	KSEM0500..	KSEM125..M	—
.516	13,10	KSEM0516	C	KSEM0516..	KSEM130..M	KSEM0509..	KSEM0500..	—
.531	13,50	KSEM1350	C	KSEM135..M	KSEM0531..	KSEM0516..	KSEM130..M	—
.547	13,89	KSEM0547	B	KSEM0547..	KSEM136..M	—	—	—
.551	14,00	KSEM1400	B	KSEM140..M	KSEM136..M	KSEM0547..	—	—
.563	14,29	KSEM0563	B	KSEM0563..	KSEM140..M	KSEM0547..	—	—
.571	14,50	KSEM1450	B	KSEM145..M	KSEM0563..	KSEM140..M	—	—
.578	14,68	KSEM0578	A	KSEM0578..	KSEM146..M	—	—	—
.591	15,00	KSEM1500	A	KSEM150..M	KSEM146..M	KSEM0578..	—	—
.594	15,08	KSEM0594	A	KSEM0594..	KSEM150..M	KSEM0578..	—	—
.609	15,48	KSEM0609	A	KSEM0609..	KSEM0594..	KSEM150..M	—	—
.610	15,50	KSEM1550	A	KSEM155..M	KSEM0609..	KSEM0594..	KSEM150..M	—
.625	15,88	KSEM0625	1	KSEM0625..	—	—	—	—
.630	16,00	KSEM1600	1	KSEM160..M	KSEM0625..	—	—	—
.634	16,09	KSEM0634	1	KSEM0634..	KSEM160..M	KSEM0625..	—	—
.641	16,27	KSEM0641	1	KSEM0641..	KSEM0634..	KSEM160..M	KSEM0625..	—
.650	16,50	KSEM1650	1	KSEM165..M	KSEM0641..	KSEM0634..	—	—
.656	16,67	KSEM0656	1	KSEM0656..	KSEM165..M	KSEM0641..	—	—
.669	17,00	KSEM1700	1	KSEM170..M	KSEM0656..	KSEM165..M	—	—
.672	17,07	KSEM0672	1	KSEM0672..	KSEM170..M	KSEM0656..	—	—
.688	17,46	KSEM0688	1	KSEM0688..	KSEM0672..	KSEM170..M	—	—
.689	17,50	KSEM1750	1	KSEM175..M	KSEM0688..	KSEM0672..	KSEM170..M	—
.700	17,78	KSEM0700	1	N/A	KSEM175..M	KSEM0688..	—	—
.703	17,86	KSEM0703	1	KSEM0703..	KSEM175..M	KSEM0688..	—	—
.709	18,00	KSEM1800	1	KSEM180..M	KSEM0703..	KSEM175..M	—	—
.719	18,26	KSEM0719	2	KSEM0719..	KSEM181..M	—	—	—
.728	18,50	KSEM1850	2	KSEM185..M	KSEM0719..	KSEM181..M	—	—
.734	18,65	KSEM0734	2	KSEM0734..	KSEM185..M	KSEM0719..	—	—
.748	19,00	KSEM1900	2	KSEM190..M	KSEM0734..	KSEM185..M	—	—
.750	19,05	KSEM0750	2	KSEM0750..	KSEM190..M	KSEM0734..	—	—
.759	19,27	KSEM0759	2	KSEM0759..	KSEM0750..	KSEM190..M	—	—
.766	19,45	KSEM0766	2	KSEM0766..	KSEM0759..	KSEM0750..	KSEM190..M	—
.768	19,50	KSEM1950	2	KSEM195..M	KSEM0766..	KSEM0759..	KSEM0750..	KSEM190..M
.781	19,84	KSEM0781	2	KSEM0781..	KSEM195..M	KSEM0766..	—	—
.787	20,00	KSEM2000	3	KSEM200..M	—	—	—	—
.797	20,24	KSEM0797	3	KSEM0797..	KSEM200..M	—	—	—
.800	20,32	KSEM0800	3	N/A	KSEM0797..	KSEM200..M	—	—
.807	20,50	KSEM2050	3	KSEM205..M	KSEM0797..	KSEM200..M	—	—
.813	20,64	KSEM0813	3	KSEM0813..	KSEM205..M	KSEM0797..	—	—
.827	21,00	KSEM2100	3	KSEM210..M	KSEM0813..	KSEM205..M	—	—
.844	21,43	KSEM0844	3	KSEM0844..	KSEM210..M	—	—	—
.847	21,50	KSEM2150	3	KSEM215..M	KSEM0844..	KSEM210..M	—	—
.859	21,83	KSEM0859	3	KSEM0859..	KSEM215..M	KSEM0844..	—	—
.866	22,00	KSEM2200	3	KSEM220..M	KSEM0859..	KSEM215..M	—	—
.875	22,23	KSEM0875	4	KSEM0875..	KSEM221..M	—	—	—
.884	22,44	KSEM0884	4	KSEM0884..	KSEM0875..	KSEM221..M	—	—
.886	22,50	KSEM2250	4	KSEM225..M	KSEM0884..	KSEM0875..	KSEM221..M	—
.906	23,00	KSEM2300	4	KSEM230..M	KSEM0906..	KSEM225..M	—	—
.922	23,42	KSEM0922	4	KSEM0922..	KSEM230..M	—	—	—
.925	23,50	KSEM2350	4	KSEM235..M	KSEM0922..	KSEM230..M	—	—
.938	23,81	KSEM0938	4	KSEM0938..	KSEM235..M	KSEM0922..	—	—
.945	24,00	KSEM2400	4	KSEM240..M	KSEM0938..	KSEM235..M	—	—

(continued)

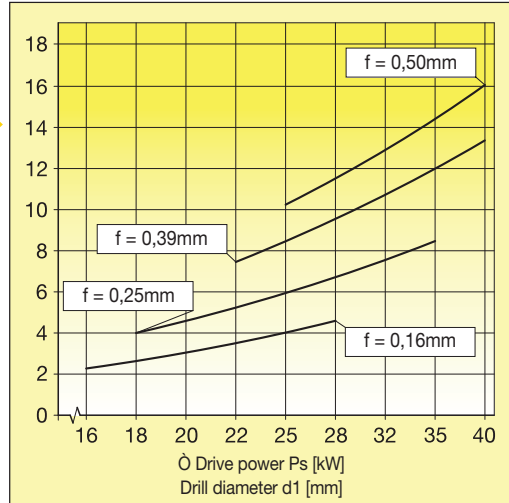
(continued)

diameter D		insert blade	seat size	first choice	alternate body 1	alternate body 2	alternate body 3	alternate body 4
inch	mm							
.965	24,50	KSEM2450	5	KSEM245..M	KSEM241..M	—	—	—
.969	24,61	KSEM0969	5	KSEM0969..	KSEM245..M	—	—	—
.984	25,00	KSEM2500	5	KSEM250..M	KSEM0984..	KSEM0969..	KSEM245..M	—
1.000	25,40	KSEM1000	5	KSEM1000..	KSEM250..M	—	—	—
1.004	25,50	KSEM2550	5	KSEM255..M	KSEM1000..	KSEM250..M	—	—
1.011	25,67	KSEM1011	5	KSEM1011..	KSEM255..M	—	—	—
1.024	26,00	KSEM2600	5	KSEM260..M	KSEM1011..	KSEM255..M	—	—
1.031	26,19	KSEM1031	6	KSEM1031..	KSEM261..M	—	—	—
1.043	26,50	KSEM2650	6	KSEM265..M	KSEM1031..	KSEM261..M	—	—
1.047	26,59	KSEM1047	6	KSEM1047..	KSEM265..M	KSEM1031..	KSEM261..M	—
1.063	27,00	KSEM2700	6	KSEM270..M	KSEM1063..	KSEM1047..	KSEM265..M	—
1.083	27,50	KSEM2750	6	KSEM275..M	KSEM270..M	KSEM1063..	—	—
1.094	27,78	KSEM1094	6	KSEM1094..	KSEM275..M	—	—	—
1.102	28,00	KSEM2800	6	KSEM280..M	KSEM1094..	KSEM275..M	—	—
1.109	28,18	KSEM1109	7	KSEM1109..	KSEM281..M	—	—	—
1.122	28,50	KSEM2850	7	KSEM285..M	KSEM1109..	KSEM281..M	—	—
1.125	28,58	KSEM1125	7	KSEM1125..	KSEM285..M	KSEM1109..	KSEM281..M	—
1.142	29,00	KSEM2900	7	KSEM290..M	KSEM1125..	KSEM285..M	—	—
1.156	29,37	KSEM1156	7	KSEM1156..	KSEM290..M	—	—	—
1.161	29,50	KSEM2950	7	KSEM295..M	KSEM1156..	KSEM290..M	—	—
1.172	29,77	KSEM1172	7	KSEM1172..	KSEM295..M	KSEM1156..	—	—
1.181	30,00	KSEM3000	7	KSEM300..M	KSEM1172..	KSEM295..M	—	—
1.188	30,16	KSEM1188	8	KSEM1188..	KSEM301..M	—	—	—
1.201	30,50	KSEM3050	8	KSEM305..M	KSEM1188..	KSEM301..M	—	—
1.203	30,56	KSEM1203	8	KSEM1203..	KSEM305..M	KSEM1188..	KSEM301..M	—
1.219	30,96	KSEM1219	8	KSEM1219..	KSEM1203..	KSEM305..M	—	—
1.220	31,00	KSEM3100	8	KSEM310..M	KSEM1219..	KSEM1203..	KSEM305..M	—
1.240	31,50	KSEM3150	8	KSEM315..M	KSEM310..M	—	—	—
1.250	31,75	KSEM1250	8	KSEM1250..	KSEM315..M	—	—	—
1.260	32,00	KSEM3200	8	KSEM320..M	KSEM1250..	KSEM315..M	—	—
1.280	32,50	KSEM3250	9	—	KSEM321..M	—	—	—
1.281	32,54	KSEM1281	9	KSEM1281..	KSEM321..M	—	—	—
1.297	32,94	KSEM1297	9	KSEM1297..	KSEM1281..	—	—	—
1.299	33,00	KSEM3300	9	KSEM330..M	KSEM1297..	KSEM1281..	—	—
1.313	33,34	KSEM1313	9	KSEM1313..	KSEM330..M	KSEM1297..	—	—
1.319	33,50	KSEM3350	9	—	—	KSEM1313..	KSEM330..M	—
1.328	33,73	KSEM1328	9	KSEM1328..	KSEM1313..	—	—	—
1.339	34,00	KSEM3400	9	KSEM340..M	KSEM1328..	—	—	—
1.344	34,13	KSEM1344	9	KSEM1344..	KSEM340..M	KSEM1328..	—	—
1.358	34,50	KSEM3450	9	—	—	KSEM1344..	KSEM340..M	—
1.375	34,93	KSEM1375	9	KSEM1375..	—	—	—	—
1.378	35,00	KSEM3500	9	KSEM350..M	KSEM1375..	—	—	—
1.398	35,50	KSEM3550	9	—	—	KSEM350..M	—	—
1.406	35,72	KSEM1406	9	KSEM1406..	—	—	—	—
1.417	36,00	KSEM3600	9	KSEM360..M	KSEM1406..	—	—	—
1.422	36,12	KSEM1422	10	KSEM1422..	KSEM361..M	—	—	—
1.437	36,50	KSEM3650	10	—	—	KSEM1422..	KSEM361..M	—
1.438	36,51	KSEM1438	10	KSEM1438..	KSEM1422..	KSEM361..M	—	v
1.457	37,00	KSEM3700	10	KSEM370..M	KSEM1438..	—	—	—
1.469	37,31	KSEM1469	10	KSEM1469..	KSEM370..M	—	—	—
1.476	37,50	KSEM3750	10	—	—	KSEM1469..	KSEM370..M	—
1.496	38,00	KSEM3800	10	KSEM380..M	—	—	—	—
1.500	38,10	KSEM1500	10	KSEM1500..	KSEM380..M	—	—	—
1.514	38,46	KSEM1514	10	KSEM1514..	KSEM1500..	KSEM380..M	—	—
1.516	38,50	KSEM3850	10	—	—	KSEM1514..	KSEM1500..	KSEM380..M
1.535	39,00	KSEM3900	10	KSEM390..M	—	—	—	—
1.555	39,50	KSEM3950	10	—	—	KSEM390..M	—	—
1.575	40,00	KSEM4000	10	KSEM400..M	—	—	—	—

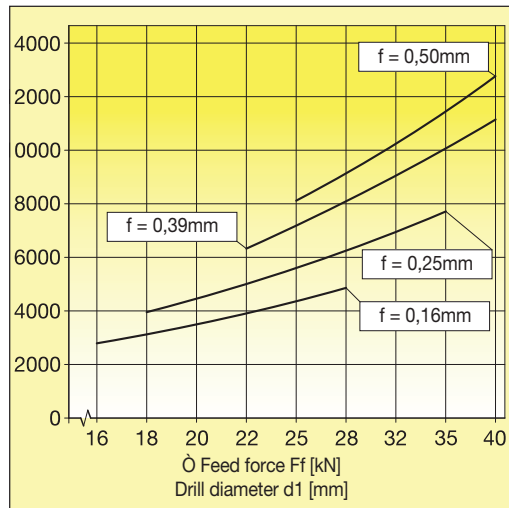


Modular Drills

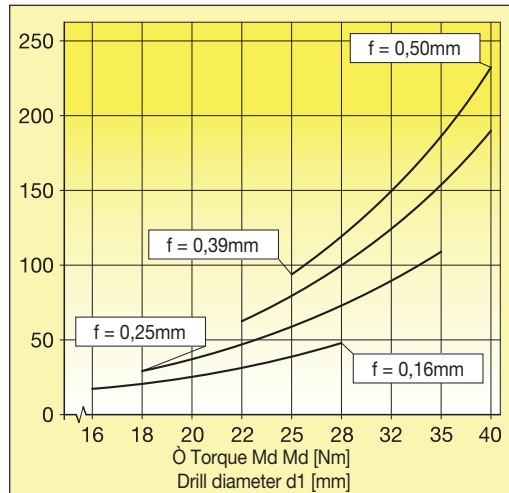
Drive Power (kW)



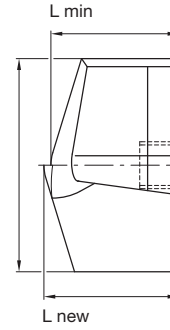
Feed Force (kN)



Torque (Nm)




NOTE: The diagrams above are used to determine the drive power, feed force, and torque. They are based on cutting force measurement in tempered steels in Cgr. 6. Tensile strength: Rm = 600 N/mm². The base cutting speed used is: vc = 80 m/min.



The following coolant pressure is recommended:

relative drilling depth	coolant pressure
1-3 x D	8 bars
5 x D	12 bars
7 x D	20 bars
10 x D	30 bars

insert seat size	diameter range D (mm)	L min (mm)	L new (mm)
C	12,50-13,50	8,5	9,6
B	13,51-14,50	8,9	10,1
A	14,51-15,88	9,4	10,6
1	15,88-18,00	10,3	11,6
2	18,01-19,99	11,2	12,6
3	20,00-22,00	12,1	13,6
4	22,01-24,00	13,0	14,6
5	24,01-26,00	13,9	15,6
6	26,01-28,00	14,8	16,6
7	28,01-30,00	15,7	17,6
8	30,01-32,00	16,6	18,6
9	32,01-36,00	18,4	20,6
10	36,01-40,00	20,2	22,6



WIND ENERGY TAPS

The new high-performance, large-sized HSS-E-PM taps called Wind Taps were developed for the manufacturers of some of the most important wind turbine components like hubs, rings, and gearbox housings to increase productivity and keep up with the rapid increase in demand for such components.

- Designed for both conventional non-rigid and CNC-synchronous tapping machines.
- Manufactured to DIN 376 dimension.
- Extra-long version developed to reach longer overhang that is very common on these big components.
- Precision h6 shanks enable use in either conventional tap holders with square drive or in precision round toolholders.

Tap into something great at your Authorised Kennametal Distributor or at www.kennametal.com.

www.kennametal.com





KSEM PLUS™ Modular Drill System

The KSEM PLUS drill concept is simple but effective. It combines the benefits of the KSEM modular drill (high feeds and length-to-diameter [L/D] ratios) with the benefits of an indexable drill (high speeds and low consumable costs).

Primary Application

The KSEM PLUS modular drill in steel, cast iron, and stainless steel materials replaces HSS or indexable drilling tool solutions in the diameter range of 28–70mm (1.102–2.756") from 3–10 x D. For applications within the energy market (e.g., bearing rings for windmills), this tool delivers vast improvements in productivity and capacity.

Features and Benefits

Replaceable Head with Newly Developed FDS-Interface Coupling

- Quickly and easily replace inserts or drill heads without the need to remove the complete tool body from the machine.
- Save money and reduce tool stock by changing just the drill head and not the complete tool body if the front section wears out.
- Use one tool body for different sizes of drill heads.

Two Effective Cutting Edges

- Higher metal removal rates than indexable drills.
- Up to 100% increased productivity.
- L/D ratio capabilities from 3–10 x D.

KSEM PLUS Centre Insert with HP

- Feed rate capabilities of modular drills.
- Longer life of KSEM PLUS inserts and no chip flow obstruction.
- No precentring at L/D less than 8 x D.

DFT™/DFR™ Outboard Inserts

- Higher speeds than modular drills.
- More stable cutting conditions.
- Improved surface finish and hole diameter accuracy.



Tailored Grades and Geometries

- KC7315™ grade is a TiAlN-based PVD grade, offering superior performance in all steel applications.
- KC7410™ grade contains multiple layers of PVD coating, offering outstanding wear-resistance when drilling cast irons.
- KC7140™ grade is a TiCN-based PVD grade, offering excellent toughness in unstable conditions and is the first choice in stainless steel.

Customisation

- Heads are available in intermediate diameters and up to Ø 76mm available as semi-standards.
- Tool bodies are available with different shank styles and up to 20x drill Ø as long as total length including shank <920mm.
- Heads for reground inserts are available as semi-standards.
- Tool bodies are available with different shank styles.
- B1 style heads with DFC outboard inserts are available for machining stacked plates, cross hole applications, and situations with inclined exits.

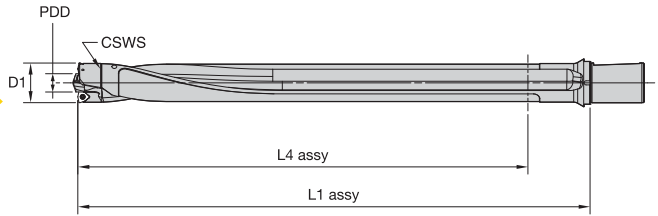


To learn more, **scan here.**
For instructions on how to scan, please see page xxix.

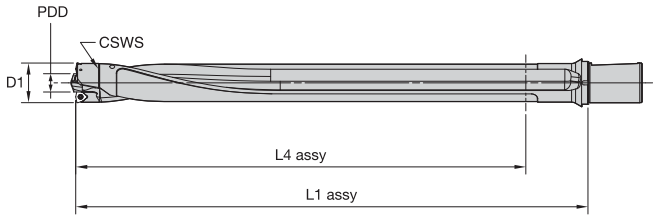




Modular Drills



available KSEM PLUS heads			requested insert size reference per head		available tool bodies per CSWS connecting size 3 x D, 5 x D, 8 x D, 10 x D (metric and inch bodies)						
D1	KSEM PLUS head order number	KSEM PLUS head ANSI catalogue number	PDD (mm)	outboard gage insert	CSWS	KSEM PLUS body order number	KSEM PLUS ANSI catalogue number	L/D ratio	L4 assembly (mm)	L1 assembly (mm)	
			center insert size reference	DFR/DFT							
28,00 1.102	4000408	KSEMP2800FDS28A1M	14,00	DFR040304D28	28	4000409	WD32FDS28128M	3 x D	93	150	
28,58 1.125	4047811	KSEMP1125FDS28A1	15,00	DFR040304D28		4051136	WD32FDS28190M	5 x D	155	212	
29,00 1.142	4047812	KSEMP2900FDS28A1M	15,00	DFR040304D28		4051137	WD32FDS28283M	8 x D	248	305	
29,36 1.156	4047823	KSEMP1156FDS28A1	16,00	DFR040304D28		4000411	WD32FDS28345M	10 x D	310	367	
30,00 1.181	4047824	KSEMP3000FDS28A1M	16,00	DFR040304D28		4051138	SSF150FDS280502	3 x D	93	150	
30,18 1.188	4047825	KSEMP1188FDS28A1	17,00	DFR040304D28		4051139	SSF150FDS280746	5 x D	155	212	
30,96 1.219	4047826	KSEMP1219FDS28A1	17,00	DFR040304D28		4051140	SSF150FDS281112	8 x D	248	305	
31,00 1.221	4047827	KSEMP3100FDS28A1M	17,00	DFR040304D28		4051141	SSF150FDS281356	10 x D	310	367	
31,75 1.250	3794916	KSEMP1250FDS32A1	15,00	DFT05T308D32		32	3950219	WD32FDS32146M	3 x D	105	166
32,00 1.260	3794291	KSEMP3200FDS32A1M	15,00	DFT05T308D32			3794428	WD32FDS32216M	5 x D	175	236
33,00 1.299	3742210	KSEMP3300FDS32A1M	16,00	DFT05T308D33	3742293		WD32FDS32321M	8 x D	280	341	
33,20 1.307	3793949	KSEMP3320FDS32A1M	16,00	DFT05T308D33	3794429		WD32FDS32391M	10 x D	350	411	
33,35 1.313	3794917	KSEMP1313FDS32A1	17,00	DFT05T308D33	3952192		SSF150FDS320573	3 x D	105	166	
34,00 1.339	3794292	KSEMP3400FDS32A1M	17,00	DFT05T308D33	3794835		SSF150FDS320850	5 x D	175	236	
34,93 1.375	3794918	KSEMP1375FDS32A1	18,00	DFT05T308D33	3794836		SSF150FDS321263	8 x D	280	341	
35,00 1.378	3794393	KSEMP3500FDS32A1M	18,00	DFT05T308D33	3794837		SSF150FDS321539	10 x D	350	411	
36,00 1.417	3794394	KSEMP3600FDS36A1M	13,00	DFT06T308D36	36		3950220	WD32FDS36166M	3 x D	117	186
36,53 1.438	3794919	KSEMP1438FDS36A1	14,00	DFT06T308D36			3794430	WD32FDS36244M	5 x D	195	264
37,00 1.457	3794395	KSEMP3700FDS36A1M	14,00	DFT06T308D36		3794431	WD32FDS36361M	8 x D	312	381	
37,50 1.476	3794427	KSEMP3750FDS36A1M	15,00	DFT06T308D36		3794432	WD32FDS36439M	10 x D	390	459	
38,00 1.496	3794396	KSEMP3800FDS36A1M	15,00	DFT06T308D36		3952343	SSF150FDS360652	3 x D	117	186	
38,10 1.500	3794920	KSEMP1500FDS36A1	15,00	DFT06T308D36		3794838	SSF150FDS360960	5 x D	195	264	
39,00 1.535	3794397	KSEMP3900FDS36A1M	16,00	DFT06T308D39		3794839	SSF150FDS361421	8 x D	312	381	
39,20 1.543	3793950	KSEMP3920FDS36A1M	16,00	DFT06T308D39		3794840	SSF150FDS361728	10 x D	390	459	
39,70 1.563	3794921	KSEMP1563FDS36A1	17,00	DFT06T308D39							
40,00 1.575	3794398	KSEMP4000FDS40A1M	17,00	DFT06T308D39		40	3872075	WD50FDS40183M	3 x D	132	208
41,00 1.614	3794399	KSEMP4100FDS40A1M	18,00	DFT06T308D39	3794443		WD50FDS40271M	5 x D	220	296	
41,28 1.625	3794922	KSEMP1625FDS40A1	18,00	DFT06T308D39	3794444		WD50FDS40403M	8 x D	352	428	
42,00 1.654	3794400	KSEMP4200FDS40A1M	19,00	DFT06T308D39	3794445		WD50FDS40491M	10 x D	440	516	
43,00 1.693	3794401	KSEMP4300FDS40A1M	20,00	DFT06T308D39	3952344		SSF200FDS400721	3 x D	132	208	
44,00 1.732	3794402	KSEMP4400FDS40A1M	21,00	DFT06T308D44	3794841		SSF200FDS401066	5 x D	220	296	
44,45 1.750	3794933	KSEMP1750FDS40A1	22,00	DFT06T308D44	3794842		SSF200FDS401586	8 x D	352	428	
					3794843		SSF200FDS401933	10 x D	440	516	



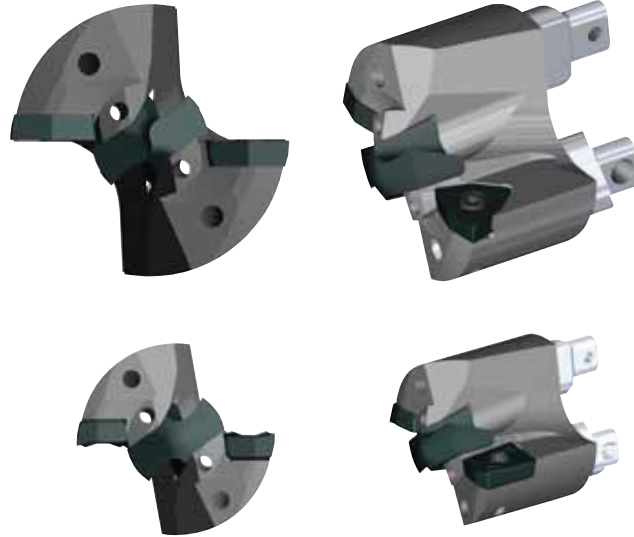
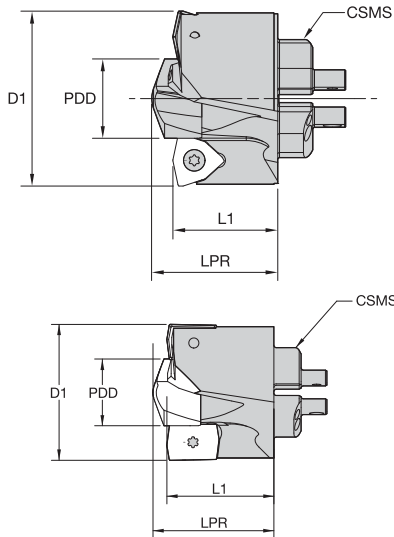
available KSEM PLUS heads			requested insert size reference per head		available tool bodies per CSWS connecting size 3 x D, 5 x D, 8 x D, 10 x D (metric and inch bodies)					
D1 mm in	KSEM PLUS head order number	KSEM PLUS head ANSI catalogue number	PDD (mm)	outboard gage insert	CSWS	KSEM PLUS body order number	KSEM PLUS ANSI catalogue number	L/D ratio	L4 assembly (mm)	L1 assembly (mm)
			center insert size reference	DFR/DFT						
45,00 1.772	3794403	KSEMP4500FDS45A1M	18,00	DFT070408D45	45	3872709	WD50FDS45206M	3 x D	147	231
46,00 1.811	3794404	KSEMP4600FDS45A1M	19,00	DFT070408D45		3794446	WD50FDS45304M	5 x D	245	329
47,00 1.850	3794405	KSEMP4700FDS45A1M	20,00	DFT070408D45		3794447	WD50FDS45451M	8 x D	392	476
47,63 1.875	3794934	KSEMP1875FDS45A1	21,00	DFT070408D45		3794448	WD50FDS45549M	10 x D	490	574
48,00 1.890	3794406	KSEMP4800FDS45A1M	21,00	DFT070408D45		3952345	SSF200FDS450809	3 x D	147	231
49,00 1.929	3794407	KSEMP4900FDS45A1M	22,00	DFT070408D45		3794904	SSF200FDS451196	5 x D	245	329
						3794905	SSF200FDS451775	8 x D	392	476
					3794906	SSF200FDS452161	10 x D	490	574	
50,00 1.969	3742211	KSEMP5000FDS50A1M	23,00	DFT070408D50	50	3950221	WD50FDS50228M	3 x D	165	258
50,80 2.000	3794935	KSEMP2000FDS50A1	24,00	DFT070408D50		3794449	WD50FDS50338M	5 x D	275	368
51,00 2.008	3794408	KSEMP5100FDS50A1M	24,00	DFT070408D50		3742294	WD50FDS50503M	8 x D	440	533
52,00 2.047	3794409	KSEMP5200FDS50A1M	25,00	DFT070408D50		3794450	WD50FDS50613M	10 x D	550	643
53,00 2.087	3794410	KSEMP5300FDS50A1M	26,00	DFT070408D50		3952346	SSF200FDS500896	3 x D	165	258
53,98 2.125	3794936	KSEMP2125FDS50A1	27,00	DFT070408D50		3794907	SSF200FDS501330	5 x D	275	368
54,00 2.126	3794411	KSEMP5400FDS50A1M	27,00	DFT070408D50		3794908	SSF200FDS501980	8 x D	440	533
55,00 2.165	3794412	KSEMP5500FDS50A1M	28,00	DFT070408D50	3794908	SSF200FDS502413	10 x D	550	643	
56,00 2.205	3794413	KSEMP5600FDS56A1M	20,00	DFT090508D56	56	3950222	WD50FDS56259M	3 x D	186	289
57,00 2.244	3794414	KSEMP5700FDS56A1M	21,00	DFT090508D56		3794451	WD50FDS56383M	5 x D	310	413
57,15 2.250	3794937	KSEMP2250FDS56A1	21,00	DFT090508D56		3794452	WD50FDS56569M	8 x D	496	599
58,00 2.284	3794415	KSEMP5800FDS56A1M	22,00	DFT090508D56		3794453	WD50FDS56693M	10 x D	620	723
59,00 2.323	3794416	KSEMP5900FDS56A1M	23,00	DFT090508D56		3952347	SSF200FDS561020	3 x D	186	289
60,00 2.362	3794417	KSEMP6000FDS56A1M	24,00	DFT090508D56		3794910	SSF200FDS561507	5 x D	310	413
60,33 2.375	3794938	KSEMP2375FDS56A1	24,00	DFT090508D56		3794911	SSF200FDS562240	8 x D	496	599
61,00 2.402	3794418	KSEMP6100FDS56A1M	25,00	DFT090508D56	3794912	SSF200FDS562783	10 x D	620	723	
62,00 2.441	3794419	KSEMP6200FDS56A1M	26,00	DFT090508D56						
63,00 2.480	3794420	KSEMP6300FDS63A1M	27,00	DFT090508D63	63	3950333	WD50FDS63289M	3 x D	210	325
63,50 2.500	3794939	KSEMP2500FDS63A1	28,00	DFT090508D63		3794454	WD50FDS63429M	5 x D	350	465
64,00 2.520	3794421	KSEMP6400FDS63A1M	28,00	DFT090508D63		3794455	WD50FDS63639M	8 x D	560	675
65,00 2.559	3794422	KSEMP6500FDS63A1M	29,00	DFT090508D63		3742296	WD50FDS63779M	10 x D	700	815
66,00 2.598	3794423	KSEMP6600FDS63A1M	30,00	DFT090508D63		3952348	SSF200FDS631138	3 x D	210	325
66,68 2.625	3794940	KSEMP2625FDS63A1	31,00	DFT090508D63		3794913	SSF200FDS631688	5 x D	350	465
67,00 2.638	3794424	KSEMP6700FDS63A1M	31,00	DFT090508D63		3794914	SSF200FDS632515	8 x D	560	675
68,00 2.677	3794425	KSEMP6800FDS63A1M	32,00	DFT090508D63		3794915	SSF200FDS633066	10 x D	700	815
69,00 2.717	3794426	KSEMP6900FDS63A1M	33,00	DFT090508D63						
69,85 2.750	3794941	KSEMP2750FDS63A1	34,00	DFT090508D63						
70,00 2.756	3742212	KSEMP7000FDS63A1M	34,00	DFT090508D63						

- To ensure 100% system stability, KSEM™ inserts used for KSEM PLUS should not be reground.
- KSEM PLUS heads are shipped with all insert screws.
- KSEM PLUS heads are shipped with two wrenches: one for the KSEM insert and one to be used for the DFT™/DFR™ inserts as well as for the assembly of the body to the head.

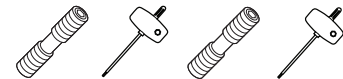
- Order KSEM PLUS shanks using connection coupling size (CSMS) to determine which heads go with each shank.
- PDD in the callout drawing refers to the D1 of the HPGM and HPCM inserts for use with KSEM PLUS.
- Order inserts (KSEM, DFT, and DFR) for KSEM PLUS separately.



Modular Drills



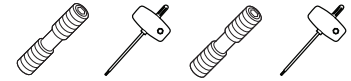
KSEM PLUS Heads 28–70mm



order number	ISO catalogue number	ANSI catalogue number	D1		PDD		LPR		L1		CSMS system size	KSEM insert screw	KSEM wrench	Drill Fix insert screw	Drill Fix wrench
			mm	in	mm	in	mm	in	mm	in					
4000408	KSEMP2800FDS28A1M	KSEMP2800FDS28A1M	28,00	1.102	14,00	.5512	24,9	.980	22,0	.866	FDS28	364.016	170.350	192.432	170.352
4047811	KSEMP2858FDS28A1M	KSEMP1125FDS28A1	28,58	1.125	15,00	.5906	25,0	.984	22,0	.866	FDS28	364.016	170.350	192.432	170.352
4047812	KSEMP2900FDS28A1M	KSEMP2900FDS28A1M	29,00	1.142	15,00	.5906	25,0	.984	22,0	.866	FDS28	364.016	170.350	192.432	170.352
4047823	KSEMP2937FDS28A1M	KSEMP1156FDS28A1	29,36	1.156	16,00	.6299	25,2	.992	22,0	.866	FDS28	364.010	170.345	192.432	170.352
4047824	KSEMP3000FDS28A1M	KSEMP3000FDS28A1M	30,00	1.181	16,00	.6299	25,2	.992	22,0	.866	FDS28	364.010	170.345	192.432	170.352
4047825	KSEMP3017FDS28A1M	KSEMP1188FDS28A1	30,18	1.188	17,00	.6693	25,4	1.000	22,0	.866	FDS28	364.010	170.345	192.432	170.352
4047826	KSEMP3096FDS28A1M	KSEMP1219FDS28A1	30,96	1.219	17,00	.6693	25,4	1.000	22,0	.866	FDS28	364.010	170.345	192.432	170.352
4047827	KSEMP3100FDS28A1M	KSEMP3100FDS28A1M	31,00	1.221	17,00	.6693	25,4	1.000	22,0	.866	FDS28	364.010	170.345	192.432	170.352
3794916	KSEMP3175FDS32A1M	KSEMP1250FDS32A1	31,75	1.250	15,00	.5906	23,0	.907	20,0	.787	FDS32	364.016	170.350	191.924	170.353
3794291	KSEMP3200FDS32A1M	KSEMP3200FDS32A1M	32,00	1.260	15,00	.5906	23,0	.907	20,0	.787	FDS32	364.016	170.350	191.924	170.353
3742210	KSEMP3300FDS32A1M	KSEMP3300FDS32A1M	33,00	1.299	16,00	.6299	23,2	.913	20,0	.787	FDS32	364.010	170.345	191.924	170.353
3793949	KSEMP3320FDS32A1M	KSEMP3320FDS32A1M	33,20	1.307	16,00	.6299	23,2	.913	20,0	.787	FDS32	364.010	170.345	191.924	170.353
3794917	KSEMP3334FDS32A1M	KSEMP1313FDS32A1	33,35	1.313	17,00	.6693	23,4	.920	20,0	.787	FDS32	364.010	170.345	191.924	170.353
3794292	KSEMP3400FDS32A1M	KSEMP3400FDS32A1M	34,00	1.339	17,00	.6693	23,4	.920	20,0	.787	FDS32	364.010	170.345	191.924	170.353
3794918	KSEMP3493FDS32A1M	KSEMP1375FDS32A1	34,93	1.375	18,00	.7087	23,6	.928	20,0	.787	FDS32	364.010	170.345	191.924	170.353
3794393	KSEMP3500FDS32A1M	KSEMP3500FDS32A1M	35,00	1.378	18,00	.7087	23,6	.928	20,0	.787	FDS32	364.010	170.345	191.924	170.353
3794394	KSEMP3600FDS36A1M	KSEMP3600FDS36A1M	36,00	1.417	13,00	.5118	22,7	.893	20,0	.787	FDS36	364.016	170.350	191.916	170.355
3794919	KSEMP3651FDS36A1M	KSEMP1438FDS36A1	36,53	1.438	14,00	.5512	22,9	.900	20,0	.787	FDS36	364.016	170.350	191.916	170.355
3794395	KSEMP3700FDS36A1M	KSEMP3700FDS36A1M	37,00	1.457	14,00	.5512	22,9	.900	20,0	.787	FDS36	364.016	170.350	191.916	170.355
3794427	KSEMP3750FDS36A1M	KSEMP3750FDS36A1M	37,50	1.476	15,00	.5906	23,0	.907	20,0	.787	FDS36	364.016	170.350	191.916	170.355
3794396	KSEMP3800FDS36A1M	KSEMP3800FDS36A1M	38,00	1.496	15,00	.5906	23,0	.907	20,0	.787	FDS36	364.016	170.350	191.916	170.355
3794920	KSEMP3810FDS36A1M	KSEMP1500FDS36A1	38,10	1.500	15,00	.5906	23,0	.907	20,0	.787	FDS36	364.016	170.350	191.916	170.355
3794397	KSEMP3900FDS36A1M	KSEMP3900FDS36A1M	39,00	1.535	16,00	.6299	23,2	.913	20,0	.787	FDS36	364.010	170.345	191.916	170.355
3793950	KSEMP3920FDS36A1M	KSEMP3920FDS36A1M	39,20	1.543	16,00	.6299	23,2	.913	20,0	.787	FDS36	364.010	170.345	191.916	170.355

(continued)

(KSEM PLUS Heads 28–70mm continued)



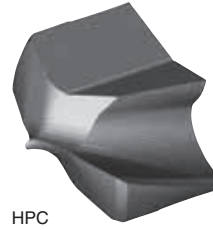
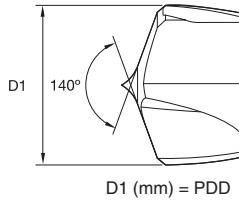
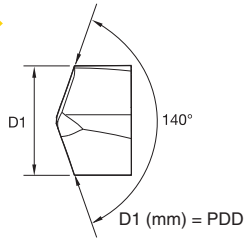
Modular Drills

order number	ISO catalogue number	ANSI catalogue number	D1		PDD		LPR		L1		CSMS system size	KSEM insert screw	KSEM wrench	Drill Fix insert screw	Drill Fix wrench
			mm	in	mm	in	mm	in	mm	in					
3794921	KSEMP3970FDS36A1M	KSEMP1563FDS36A1	39,70	1.563	17,00	.6693	23,4	.920	20,0	.787	FDS36	364.010	170.345	191.916	170.355
3794398	KSEMP4000FDS40A1M	KSEMP4000FDS40A1M	40,00	1.575	17,00	.6693	28,6	1.125	25,0	.984	FDS40	364.010	170.345	191.916	170.355
3794399	KSEMP4100FDS40A1M	KSEMP4100FDS40A1M	41,00	1.614	18,00	.7087	28,8	1.132	25,0	.984	FDS40	364.010	170.345	191.916	170.355
3794922	KSEMP4128FDS40A1M	KSEMP1625FDS40A1	41,28	1.625	18,00	.7087	28,8	1.132	25,0	.984	FDS40	364.010	170.345	191.916	170.355
3794400	KSEMP4200FDS40A1M	KSEMP4200FDS40A1M	42,00	1.654	19,00	.7480	28,9	1.139	25,0	.984	FDS40	364.010	170.345	191.916	170.355
3794401	KSEMP4300FDS40A1M	KSEMP4300FDS40A1M	43,00	1.693	20,00	.7874	29,1	1.146	25,0	.984	FDS40	364.011	170.346	191.916	170.355
3794402	KSEMP4400FDS40A1M	KSEMP4400FDS40A1M	44,00	1.732	21,00	.8268	29,3	1.153	25,0	.984	FDS40	364.011	170.346	191.916	170.355
3794933	KSEMP4445FDS40A1M	KSEMP1750FDS40A1	44,45	1.750	22,00	.8661	29,5	1.160	25,0	.984	FDS40	364.011	170.346	191.916	170.355
3794403	KSEMP4500FDS45A1M	KSEMP4500FDS45A1M	45,00	1.772	18,00	.7087	28,8	1.132	25,0	.984	FDS45	364.010	170.345	191.698	170.355
3794404	KSEMP4600FDS45A1M	KSEMP4600FDS45A1M	46,00	1.811	19,00	.7480	28,9	1.139	25,0	.984	FDS45	364.010	170.345	191.698	170.355
3794405	KSEMP4700FDS45A1M	KSEMP4700FDS45A1M	47,00	1.850	20,00	.7874	29,1	1.146	25,0	.984	FDS45	364.011	170.346	191.698	170.355
3794934	KSEMP4763FDS45A1M	KSEMP1875FDS45A1	47,63	1.875	21,00	.8268	29,3	1.153	25,0	.984	FDS45	364.011	170.346	191.698	170.355
3794406	KSEMP4800FDS45A1M	KSEMP4800FDS45A1M	48,00	1.890	21,00	.8268	29,3	1.153	25,0	.984	FDS45	364.011	170.346	191.698	170.355
3794407	KSEMP4900FDS45A1M	KSEMP4900FDS45A1M	49,00	1.929	22,00	.8661	29,5	1.160	25,0	.984	FDS45	364.011	170.346	191.698	170.355
3742211	KSEMP5000FDS50A1M	KSEMP5000FDS50A1M	50,00	1.969	23,00	.9055	34,8	1.372	30,0	1.181	FDS50	364.011	170.346	191.698	170.355
3794935	KSEMP5080FDS50A1M	KSEMP2000FDS50A1	50,80	2.000	24,00	.9449	35,0	1.379	30,0	1.181	FDS50	364.011	170.346	191.698	170.355
3794408	KSEMP5100FDS50A1M	KSEMP5100FDS50A1M	51,00	2.008	24,00	.9449	35,0	1.379	30,0	1.181	FDS50	364.011	170.346	191.698	170.355
3794409	KSEMP5200FDS50A1M	KSEMP5200FDS50A1M	52,00	2.047	25,00	.9843	35,2	1.386	30,0	1.181	FDS50	364.012	170.347	191.698	170.355
3794410	KSEMP5300FDS50A1M	KSEMP5300FDS50A1M	53,00	2.087	26,00	1.0236	35,4	1.392	30,0	1.181	FDS50	364.012	170.347	191.698	170.355
3794936	KSEMP5398FDS50A1M	KSEMP2125FDS50A1	53,98	2.125	27,00	1.0630	35,6	1.399	30,0	1.181	FDS50	364.012	170.347	191.698	170.355
3794411	KSEMP5400FDS50A1M	KSEMP5400FDS50A1M	54,00	2.126	27,00	1.0630	35,6	1.399	30,0	1.181	FDS50	364.012	170.347	191.698	170.355
3794412	KSEMP5500FDS50A1M	KSEMP5500FDS50A1M	55,00	2.165	28,00	1.1024	35,7	1.406	30,0	1.181	FDS50	364.012	170.347	191.698	170.355
3794413	KSEMP5600FDS56A1M	KSEMP5600FDS56A1M	56,00	2.205	20,00	.7874	34,3	1.351	30,0	1.181	FDS56	364.011	170.346	191.726	170.356
3794414	KSEMP5700FDS56A1M	KSEMP5700FDS56A1M	57,00	2.244	21,00	.8268	34,5	1.358	30,0	1.181	FDS56	364.011	170.346	191.726	170.356
3794937	KSEMP5715FDS56A1M	KSEMP2250FDS56A1	57,15	2.250	21,00	.8268	34,5	1.358	30,0	1.181	FDS56	364.011	170.346	191.726	170.356
3794415	KSEMP5800FDS56A1M	KSEMP5800FDS56A1M	58,00	2.284	22,00	.8661	34,7	1.365	30,0	1.181	FDS56	364.011	170.346	191.726	170.356
3794416	KSEMP5900FDS56A1M	KSEMP5900FDS56A1M	59,00	2.323	23,00	.9055	34,8	1.372	30,0	1.181	FDS56	364.011	170.346	191.726	170.356
3794417	KSEMP6000FDS56A1M	KSEMP6000FDS56A1M	60,00	2.362	24,00	.9449	35,0	1.379	30,0	1.181	FDS56	364.011	170.346	191.726	170.356
3794938	KSEMP6033FDS56A1M	KSEMP2375FDS56A1	60,33	2.375	24,00	.9449	35,0	1.379	30,0	1.181	FDS56	364.011	170.346	191.726	170.356
3794418	KSEMP6100FDS56A1M	KSEMP6100FDS56A1M	61,00	2.402	25,00	.9843	35,2	1.386	30,0	1.181	FDS56	364.012	170.347	191.726	170.356
3794419	KSEMP6200FDS56A1M	KSEMP6200FDS56A1M	62,00	2.441	26,00	1.0236	35,4	1.392	30,0	1.181	FDS56	364.012	170.347	191.726	170.356
3794420	KSEMP6300FDS63A1M	KSEMP6300FDS63A1M	63,00	2.480	27,00	1.0630	41,8	1.643	36,0	1.417	FDS63	364.012	170.347	191.726	170.356
3794939	KSEMP6350FDS63A1M	KSEMP2500FDS63A1	63,50	2.500	28,00	1.1024	41,9	1.650	36,0	1.417	FDS63	364.012	170.347	191.726	170.356
3794421	KSEMP6400FDS63A1M	KSEMP6400FDS63A1M	64,00	2.520	28,00	1.1024	41,9	1.650	36,0	1.417	FDS63	364.012	170.347	191.726	170.356
3794422	KSEMP6500FDS63A1M	KSEMP6500FDS63A1M	65,00	2.559	29,00	1.1417	42,1	1.657	36,0	1.417	FDS63	364.013	170.348	191.726	170.356
3794423	KSEMP6600FDS63A1M	KSEMP6600FDS63A1M	66,00	2.598	30,00	1.1811	42,3	1.664	36,0	1.417	FDS63	364.013	170.348	191.726	170.356
3794940	KSEMP6668FDS63A1M	KSEMP2625FDS63A1	66,68	2.625	31,00	1.2205	42,5	1.671	36,0	1.417	FDS63	364.013	170.348	191.726	170.356
3794424	KSEMP6700FDS63A1M	KSEMP6700FDS63A1M	67,00	2.638	31,00	1.2205	42,5	1.671	36,0	1.417	FDS63	364.013	170.348	191.726	170.356
3794425	KSEMP6800FDS63A1M	KSEMP6800FDS63A1M	68,00	2.677	32,00	1.2598	42,6	1.678	36,0	1.417	FDS63	364.013	170.348	191.726	170.356
3794426	KSEMP6900FDS63A1M	KSEMP6900FDS63A1M	69,00	2.717	33,00	1.2992	42,8	1.685	36,0	1.417	FDS63	364.015	170.348	191.726	170.356
3794941	KSEMP6985FDS63A1M	KSEMP2750FDS63A1	69,85	2.750	34,00	1.3386	43,0	1.692	36,0	1.417	FDS63	364.015	170.348	191.726	170.356
3742212	KSEMP7000FDS63A1M	KSEMP7000FDS63A1M	70,00	2.756	34,00	1.3386	43,0	1.692	36,0	1.417	FDS63	364.015	170.348	191.726	170.356

- To ensure 100% system stability, KSEM™ inserts used for KSEM PLUS should not be reground.
- The callout D1 (mm) = PDD. PDD is used in reference to the KSEM PLUS heads.



Modular Drills



HPC



HPG

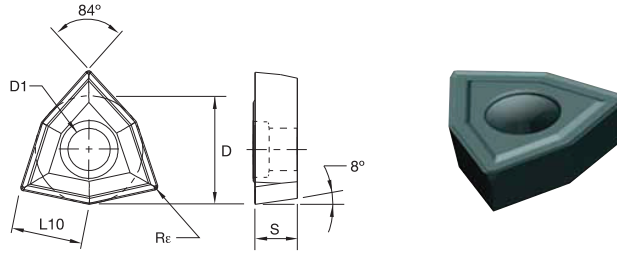
KSEMP Inserts



- first choice
- alternate choice

		D1		seat size
		mm	in	
HPGM • KC7315	HPCM • KC7410			
KSEMP1300HPGM	KSEM1300HPCM	13,000	.5118	C
KSEMP1400HPGM	KSEM1400HPCM	14,000	.5512	B
KSEMP1500HPGM	KSEM1500HPCM	15,000	.5906	A
KSEMP1600HPGM	KSEM1600HPCM	16,000	.6299	1
KSEMP1700HPGM	KSEM1700HPCM	17,000	.6693	1
KSEMP1800HPGM	KSEM1800HPCM	18,000	.7087	1
KSEMP1900HPGM	KSEM1900HPCM	19,000	.7480	2
KSEMP2000HPGM	KSEM2000HPCM	20,000	.7874	3
KSEMP2100HPGM	KSEM2100HPCM	21,000	.8268	3
KSEMP2200HPGM	KSEM2200HPCM	22,000	.8661	3
KSEMP2300HPGM	KSEM2300HPCM	23,000	.9055	4
KSEMP2400HPGM	KSEM2400HPCM	24,000	.9449	4
KSEMP2500HPGM	KSEM2500HPCM	25,000	.9843	5
KSEMP2600HPGM	KSEM2600HPCM	26,000	1.0236	5
KSEMP2700HPGM	KSEM2700HPCM	27,000	1.0630	6
KSEMP2800HPGM	KSEM2800HPCM	28,000	1.1024	6
KSEMP2900HPGM	KSEM2900HPCM	29,000	1.1417	7
KSEMP3000HPGM	KSEM3000HPCM	30,000	1.1811	7
KSEMP3100HPGM	KSEM3100HPCM	31,000	1.2205	8
KSEMP3200HPGM	KSEM3200HPCM	32,000	1.2598	8
KSEMP3300HPGM	—	33,000	1.2992	9
KSEMP3400HPGM	—	34,000	1.3386	9

Tolerance HPG • Metric		Tolerance HPC • Metric	
D1	tolerance h8	D1	tolerance k8
12,5–18	+0,000/-0,027	12,5–18	+0,027/0,000
>18–30	+0,000/-0,033	>18–30	+0,033/0,000
>30–40	+0,000/-0,039	>30–40	+0,039/0,000



■ **DFT-HP**

- first choice
- alternate choice

P	●
M	●
K	●
N	○
S	○
H	○

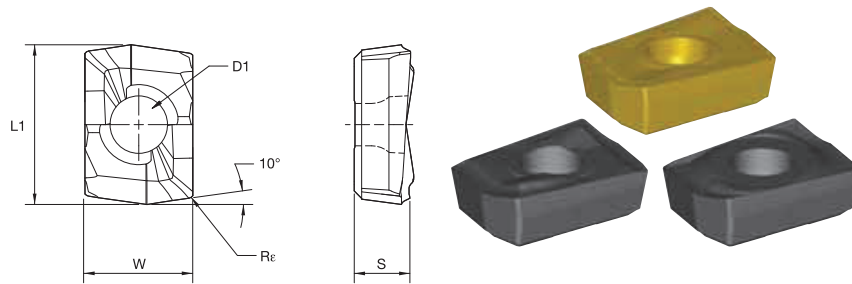
outboard insert size reference (DFT)	order number	catalogue number	L10		D		D1		S		Re		KC7315
			mm	in	mm	in	mm	in	mm	in	mm	in	
DFT05T308D32	3648429	DFT05T308D32HP	5,29	.208	8,00	.315	3,40	.134	3,75	.148	0,80	.031	●
DFT05T308D33	3668995	DFT05T308D33HP	5,29	.208	8,00	.315	3,40	.134	3,75	.148	0,80	.031	●
DFT06T308D36	3648427	DFT06T308D36HP	6,62	.260	10,00	.394	4,40	.173	3,75	.148	0,80	.031	●
DFT06T308D39	3668996	DFT06T308D39HP	6,62	.260	10,00	.394	4,40	.173	3,75	.148	0,80	.031	●
DFT06T308D44	3668997	DFT06T308D44HP	6,62	.260	10,00	.394	4,40	.173	3,75	.148	0,80	.031	●
DFT070408D45	3648432	DFT070408D45HP	7,94	.313	12,00	.472	4,40	.173	4,75	.187	0,80	.031	●
DFT070408D50	3668998	DFT070408D50HP	7,94	.313	12,00	.472	4,40	.173	4,75	.187	0,80	.031	●
DFT090508D56	3648476	DFT090508D56HP	9,92	.391	15,00	.591	5,50	.217	5,25	.207	0,80	.031	●
DFT090508D63	3668999	DFT090508D63HP	9,92	.391	15,00	.591	5,50	.217	5,25	.207	0,80	.031	●

■ **DFT-MD**

- first choice
- alternate choice

P	●
M	●
K	○
N	○
S	○
H	○

outboard insert size reference (DFT)	order number	catalogue number	L10		D		D1		S		Re		KC7140
			mm	in	mm	in	mm	in	mm	in	mm	in	
DFT05T308D32	3648430	DFT05T308D32MD	5,29	.208	8,00	.315	3,40	.134	3,75	.148	0,80	.031	●
DFT05T308D33	3669000	DFT05T308D33MD	5,29	.208	8,00	.315	3,40	.134	3,75	.148	0,80	.031	●
DFT06T308D36	3648428	DFT06T308D36MD	6,62	.260	10,00	.394	4,40	.173	3,75	.148	0,80	.031	●
DFT06T308D39	3669001	DFT06T308D39MD	6,62	.260	10,00	.394	4,40	.173	3,75	.148	0,80	.031	●
DFT06T308D44	3669002	DFT06T308D44MD	6,62	.260	10,00	.394	4,40	.173	3,75	.148	0,80	.031	●
DFT070408D45	3648474	DFT070408D45MD	7,94	.313	12,00	.472	4,40	.173	4,75	.187	0,80	.031	●
DFT070408D50	3669083	DFT070408D50MD	7,94	.313	12,00	.472	4,40	.173	4,75	.187	0,80	.031	●
DFT090508D56	3648478	DFT090508D56MD	9,92	.391	15,00	.591	5,50	.217	5,25	.207	0,80	.031	●
DFT090508D63	3669084	DFT090508D63MD	9,92	.391	15,00	.591	5,50	.217	5,25	.207	0,80	.031	●



■ **DFR Inserts**

- first choice
- alternate choice

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

catalogue number	L1		W		D1		S		Re		KC7140	KC7225	KC7315
	mm	in	mm	in	mm	in	mm	in	mm	in			
DFR040304D28GD	10,76	.4236	7,26	.2860	2,85	.1122	3,79	.1492	0,40	.0156	●	○	○
DFR040304D28LD	10,76	.4236	7,26	.2860	2,85	.1122	3,78	.1490	0,40	.0156	○	●	○
DFR040304D28MD	10,76	.4236	7,26	.2860	2,85	.1122	3,79	.1490	0,40	.0156	○	○	●

■ Modular Drill • KSEM PLUS™ • Metric

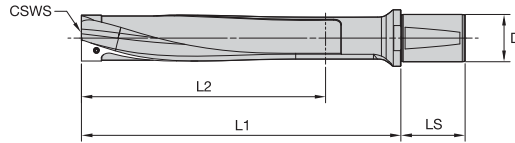


Material Group	Condition	Cutting Speed – vc Range – m/min			Metric Recommended Feed Rate (f) by Diameter							
		min	Starting Value	max		KSEM 14....17 DFR04... 28,00 - 31,74	KSEM 15....18 DFT05... 31,75 - 35,99	KSEM 13....22 DFT06... 36,00 - 44,99	KSEM 18....28 DFT07... 45,00 - 55,99	KSEM 20....34 DFT09... 56,00 - 70,00		
						mm/r	mm/r	mm/r	mm/r	mm/r	mm/r	mm/r
P	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	
	3	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	
		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	
	4	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	
	5	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	
	6	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	
		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	
	M	1	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
2		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	
3		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	
		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	
4		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	
5		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	
6		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	
		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	
K	1	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	
	2	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	
	3	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	
		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	
	4	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	
	5	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	
	6	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	
		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	
N	1	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	
	3	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	
		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	
	4	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	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	
	6	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	

■ Insert Recommendation

Material Group	Outboard/ Inboard	Insert Style	Grade
P	O	DFR-GD	KC7315
		DFT-HP	
		KSEMP-HPG	
M	O	DFR-MD	KC7315
		DFT-MD	
		KSEM-HPG	
K	O	DFR-LD	KC7215
		DFT-HP	KC7315
		KSEM-HPC	KC7410
N	O	DFR-GD	KC7315
		DFT-HP	
		KSEMP-HPG	

- Order KSEM PLUS heads according to the connection coupling size (CSWS).
- Order KSEM PLUS heads separately; see page H50–H51.
- Wrench will be shipped with KSEM PLUS head.



Modular Drills

■ **KSEM PLUS WD Shanks • 3 x D • Metric**



catalogue number	CSWS system size	D	L1	L2	LS	clamp screw
WD32FDS28128M	FDS28	32	128	71	58	193.537
WD32FDS32146M	FDS32	32	146	85	58	193.523
WD32FDS36166M	FDS36	32	166	97	58	193.524
WD50FDS40183M	FDS40	50	183	107	68	193.524
WD50FDS45206M	FDS45	50	206	122	68	193.525
WD50FDS50228M	FDS50	50	228	135	68	193.525
WD50FDS56259M	FDS56	50	259	156	68	193.526
WD50FDS63289M	FDS63	50	289	174	68	193.526



■ **KSEM PLUS WD Shanks • 5 x D • Metric**



catalogue number	CSWS system size	D	L1	L2	LS	clamp screw
WD32FDS28190M	FDS28	32	190	133	58	193.537
WD32FDS32216M	FDS32	32	216	155	58	193.523
WD32FDS36244M	FDS36	32	244	175	58	193.524
WD50FDS40271M	FDS40	32	271	195	68	193.524
WD50FDS45304M	FDS45	50	304	220	68	193.525
WD50FDS50338M	FDS50	50	338	245	68	193.525
WD50FDS56383M	FDS56	50	383	280	68	193.526
WD50FDS63429M	FDS63	50	429	314	68	193.526



■ **KSEM PLUS WD Shanks • 8 x D • Metric**



catalogue number	CSWS system size	D	L1	L2	LS	clamp screw
WD32FDS28283M	FDS28	32	283	226	58	193.537
WD32FDS32321M	FDS32	32	321	260	58	193.523
WD32FDS36361M	FDS36	32	361	292	58	193.524
WD50FDS40403M	FDS40	50	403	327	68	193.524
WD50FDS45451M	FDS45	50	451	367	68	193.525
WD50FDS50503M	FDS50	50	503	410	68	193.525
WD50FDS56569M	FDS56	50	569	466	68	193.526
WD50FDS63639M	FDS63	50	639	524	68	193.526



■ **KSEM PLUS WD Shanks • 10 x D • Metric**



catalogue number	CSWS system size	D	L1	L2	LS	clamp screw
WD32FDS28345M	FDS28	32	345	288	58	193.537
WD32FDS32391M	FDS32	32	391	330	58	193.523
WD32FDS36439M	FDS36	32	439	370	58	193.524
WD50FDS40491M	FDS40	50	491	415	68	193.524
WD50FDS45549M	FDS45	50	549	465	68	193.525
WD50FDS50613M	FDS50	50	613	520	68	193.525
WD50FDS56693M	FDS56	50	693	590	68	193.526
WD50FDS63779M	FDS63	50	779	664	68	193.526



KSEM PLUS™ Application Cautions and Hints

Modular Drills



Half cylindrical holes



Cored holes



Hole expansion on the centre axis

Coolant Recommendations

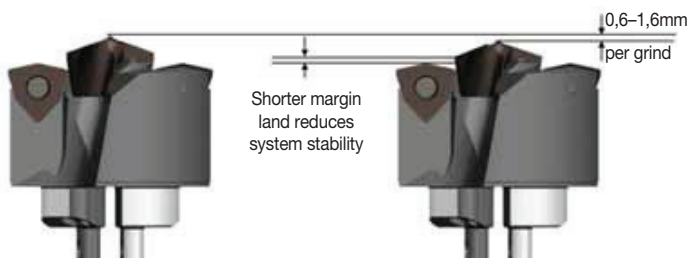


Internal coolant is recommended for optimum chip flow and tool life.

KSEM PLUS Application Cautions and Piloting

Application		L/D < 6 x D	L/D < 8 x D	L/D > 8 x D
	Regular Entrance Exit	Piloting Not Required	Reduce Feed by 50%	KSEM™ Pilot Drill
	Angled Entrance < 3°	KSEM Pilot Drill	KSEM Pilot Drill	KSEM Pilot Drill
	Angled and Concave Entrance > 3°	Face Mill and KSEM Pilot Drill	Face Mill and KSEM Pilot Drill	Face Mill and KSEM Pilot Drill
	Angled Exit	Regular Entrance Exit	Reduce Feed by 75%	Not Recommended
	Stacked Material	Stacked material requires a custom solution head using S2S inserts.		

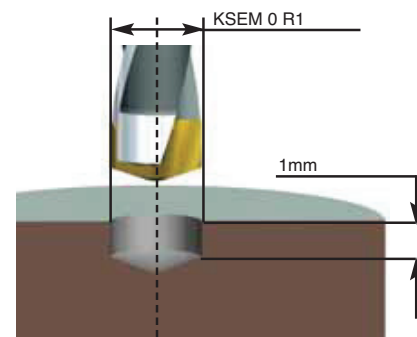
The KSEM PLUS Piloting Insert SHOULD NOT be Reground:



Only new KSEM PLUS inserts will provide consistency and process security of the KSEM PLUS modular drill system.

NOTE: Reground KSEM PLUS inserts can be used in KSEM drills.

Piloting Instructions:



1. KSEM...PCM Pilot drill Ø equal KSEMP Ø PDD
2. Drill 1mm deep from full diameter



New KSEM PLUS B1 Head

Discover *New Dimensions* with

KSEM PLUS™ Extensions

KSEM PLUS is the industry benchmark when drilling large diameter applications. With significantly reduced cost per hole, KSEM PLUS now extends its range.

Diameter Extension:

- New generation of large heads featuring diameters above 70mm and up to 127mm in 10 x D*.

Application Extension:

- New KSEM PLUS B1 heads for difficult applications using new DFC inserts and guiding pads.
- Drilling through inclined exits up to 15°.
- Perfect guidance of head when drilling through cross holes with widths up to 50% of drill diameter.
- Works great in stacked materials.
- Standard range of KSEM PLUS B1 heads available from 28–70mm*.

“This is not drilling, this is more like punching! Surfaces and accuracy are fully compliant with our requirements. We have been waiting a long time for such a drill!”
Customer, Germany

*NOTE: Please contact our engineered solution team for available offers.

www.kennametal.com



