



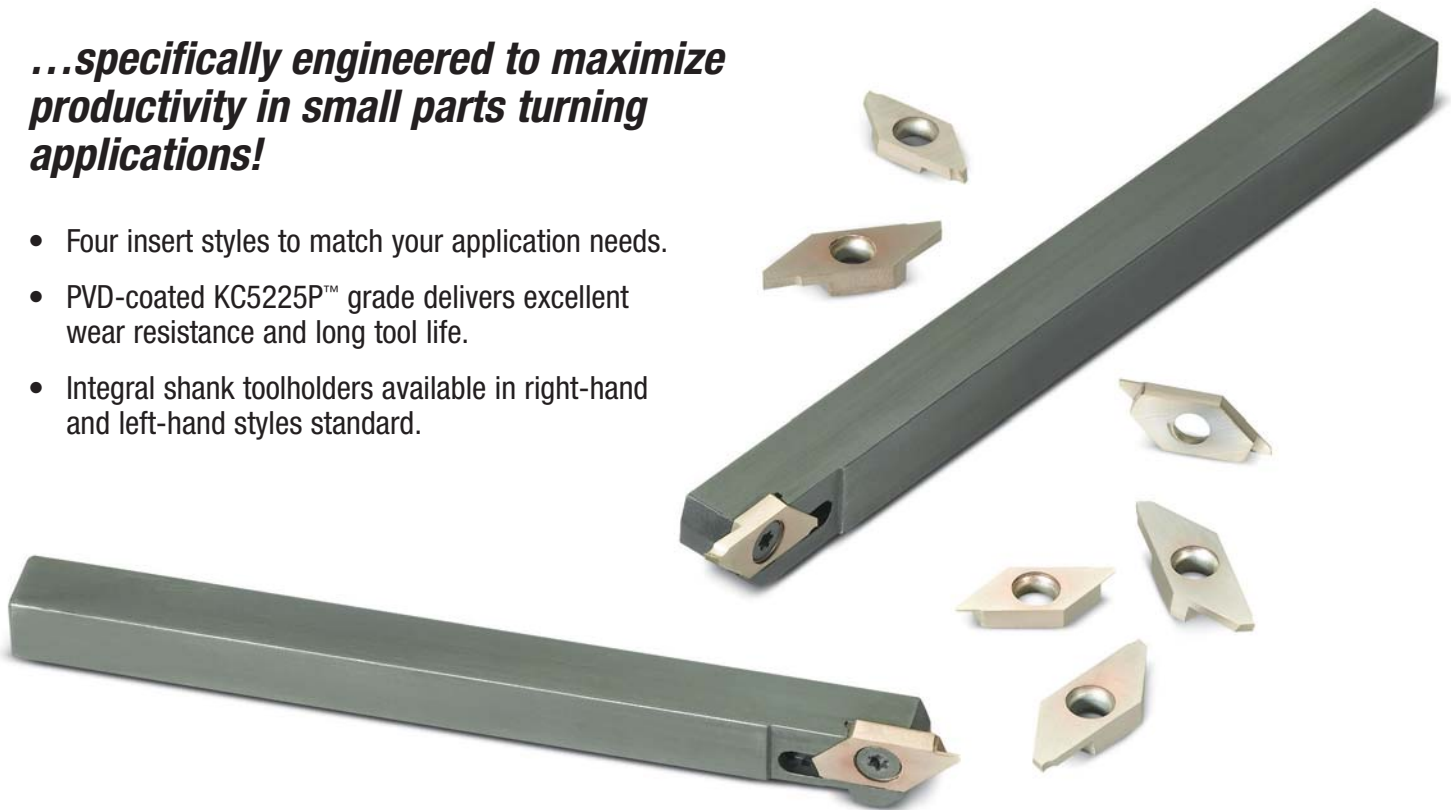
Threading, Grooving, and Cut-Off

Introducing...

Kennametal's Expanded Offering of Cutoff Tooling for Small Parts Machining

*...specifically engineered to maximize
productivity in small parts turning
applications!*

- Four insert styles to match your application needs.
- PVD-coated KC5225P™ grade delivers excellent wear resistance and long tool life.
- Integral shank toolholders available in right-hand and left-hand styles standard.



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Markets and Applications

- Cutoff toolholders are specifically designed for Swiss machines, gang-type machines, and other small lathes.
- Cutoff inserts deliver excellent performance in steels, stainless steels, titanium, and non-ferrous materials.
- Ideally suited for small parts applications in the Aerospace, Medical, and General Engineering industries.

Kennametal KC5225P Grade Cutoff Inserts

- type:** PVD-coated carbide
- grade:** KC5225P
- composition:** TiCN PVD coating with a tough micro-grain carbide substrate.
- application:** The KC5225P grade delivers excellent wear resistance and long tool life for stainless steel workpieces. Performs well at low to high speeds and in applications requiring finishing to heavy machining.



Kennametal® Tooling for Small Parts Machining Applications

Kennametal is your single source for proven small parts machining solutions. Whether you are turning, boring, grooving, face grooving, profiling, threading, drilling, or milling, Kennametal's complete range of high-performance O.D. and I.D. products will significantly enhance the performance of your Swiss-style machines, gang-type machines, and small lathes.

In addition to the new cutoff insert styles and toolholders featured in this brochure, we are also pleased to offer an expanded line of inserts and toolholders for backturning and O.D. small parts applications.

To find out more, please contact your Kennametal Representative or Authorized Kennametal Distributor today!

Recommended Feed Rates for Cutoff Inserts

Size 12 Inserts

insert type	mm/rev (inch/rev)					
	Steel	Stainless Steel	Cast Iron	Non-Ferrous	High-Temp Alloy	Hardened Material
SCF	0,01–0,04 .0004–.0016	0,005–0,02 .0002–.0008	0,01–0,05 .0004–.002	0,01–0,06 .0004–.0024	0,005–0,02 .0002–.0008	—
SCF-R	0,01–0,03 .0004–.0012	0,005–0,015 .0002–.0006	0,01–0,04 .0004–.0016	0,01–0,05 .0004–.0020	0,005–0,015 .0002–.0006	—
SCFP	0,01–0,04 .0004–.0016	0,005–0,02 .0002–.0008	0,01–0,05 .0004–.002	0,01–0,06 .0008–.0039	0,005–0,02 .0002–.0008	—
SCFP-R	0,01–0,03 .0004–.0012	0,005–0,015 .0002–.0006	0,01–0,04 .0004–.0016	0,01–0,05 .000–.0020	0,005–0,015 .0002–.0006	—

Size 16 Inserts

insert type	mm/rev (inch/rev)					
	Steel	Stainless Steel	Cast Iron	Non-Ferrous	High-Temp Alloy	Hardened Material
SCF	0,02–0,07 .0008–.0028	0,01–0,04 .0004–.0016	0,02–0,08 .0008–.0031	0,02–0,1 .0008–.0039	0,01–0,04 .0004–.0016	—
SCF-R	0,02–0,06 .0008–.0024	0,01–0,03 .0004–.0012	0,02–0,07 .0008–.0028	0,02–0,09 .0008–.0035	0,01–0,03 .0004–.0012	—
SCFP	0,02–0,07 .0008–.0028	0,01–0,04 .0004–.0016	0,02–0,08 .0008–.0031	0,02–0,1 .0008–.0039	0,01–0,04 .0004–.0016	—
SCFP-R	0,02–0,06 .0008–.0024	0,01–0,03 .0004–.0012	0,02–0,07 .0008–.0028	0,02–0,09 .0008–.0035	0,01–0,03 .0004–.0012	—

Recommended Starting Conditions

Low-Carbon (<0,3% C) and Free-Machining Steel

AISI: 1008, 1010, 1018, 1020, 1026, 10L18, 10L45, 10L50, 1108, 1117, 1141, 1151, 11L44, 1200 series, and 12L14

Material Group	grade	Speed – sfm (m/min)														Starting Conditions	
		25 (8)	50 (15)	100 (30)	150 (46)	200 (61)	250 (76)	300 (91)	350 (107)	400 (122)	450 (137)	500 (152)	550 (168)	600 (183)	650 (198)	700 (213)	sfm
P 1	KC5225P															320	100

Medium- and High-Carbon Steels (> 0,3%C)

AISI: 1340, 1040, 1045, 1055, 1080, 1085, 1090, 1095, 1525, 1541, 1548, 1551, 1561, and 1572

Material Group	grade	Speed – sfm (m/min)														Starting Conditions	
		25 (8)	50 (15)	100 (30)	150 (46)	200 (61)	250 (76)	300 (91)	350 (107)	400 (122)	450 (137)	500 (152)	550 (168)	600 (183)	650 (198)	700 (213)	sfm
P 2	KC5225P															320	100

Alloy Steels and Tool Steels (≤ 330 HB) (≤ 35 HRC)

Alloy Steels: AISI 1300, 2000, 3000, 4000, 5000, 6000, 7000, and 8000 series steels. **Tool Steels:** SAE classes: M and T; hot and cold work SAE classes: A, D, H, O, and S; wrought high carbon / low alloy W1, W2, L2, P1, P6, and P20

Material Group	grade	Speed – sfm (m/min)														Starting Conditions	
		25 (8)	50 (15)	100 (30)	150 (46)	200 (61)	250 (76)	300 (91)	350 (107)	400 (122)	450 (137)	500 (152)	550 (168)	600 (183)	650 (198)	700 (213)	sfm
P 3	KC5225P															320	100

Ferritic, Martensitic, and PH Stainless Steels (≤ 330 HB) (≤ 35 HRC)

400 and 500 series, and precipitation hardening (PH) **AISI:** 410, 416, 416F, 416Se, 420F, 430F, 4389F Se, 440, 440C, 502, 504, 17-4PH, PH 13-8 Mo, and 15-5 PH

Material Group	grade	Speed – sfm (m/min)														Starting Conditions	
		25 (8)	50 (15)	100 (30)	150 (46)	200 (61)	250 (76)	300 (91)	350 (107)	400 (122)	450 (137)	500 (152)	550 (168)	600 (183)	650 (198)	700 (213)	sfm
P 5	KC5225P															60	18

Ferritic, Martensitic, and PH Stainless Steels (340–450 HB) (36–48 HRC)

400 and 500 series, and precipitation hardening (PH) **AISI:** 410, 416, 416F, 416Se, 420F, 430F, 4389F Se, 440, 440C, 502, 504, 17-4PH, PH 13-8 Mo, and 15-5 PH

Material Group	grade	Speed – sfm (m/min)														Starting Conditions	
		25 (8)	50 (15)	100 (30)	150 (46)	200 (61)	250 (76)	300 (91)	350 (107)	400 (122)	450 (137)	500 (152)	550 (168)	600 (183)	650 (198)	700 (213)	sfm
P 6	KC5225P															50	15

Austenitic Stainless Steel: AISI: 200, 201, 202, 209, 219, 301, 302, 303, 304, 304L, 305, 309


Material Group	grade	Speed – sfm (m/min)														Starting Conditions	
		25 (8)	50 (15)	100 (30)	150 (46)	200 (61)	250 (76)	300 (91)	350 (107)	400 (122)	450 (137)	500 (152)	550 (168)	600 (183)	650 (198)	700 (213)	sfm
M 1	KC5225P															288	90

Austenitic Stainless Steel: AISI: 310, 314, 316, 316L, 317, 321, 347, 384 ASTM Cast: XM-1, XM-5, XM-7, XM-21


Material Group	grade	Speed – sfm (m/min)														Starting Conditions	
		25 (8)	50 (15)	100 (30)	150 (46)	200 (61)	250 (76)	300 (91)	350 (107)	400 (122)	450 (137)	500 (152)	550 (168)	600 (183)	650 (198)	700 (213)	sfm
M 2	KC5225P															288	90

Recommended Starting Conditions — continued

Low-Silicon Aluminum Alloys (Hypoeutectic < 12.2% Si) and Magnesium Alloys


Material Group	grade	Speed — sfm (m/min)											Starting Conditions 	
		600 (182)	700 (213)	800 (244)	900 (274)	1000 (305)	1200 (366)	1400 (427)	1600 (488)	1700 (518)	1800 (549)	2000 (610)	sfm	m/min
N 1	KC5225P				◊								820	250

Copper, Brass, Zinc-Based on a Machinability Index Range of 70–100

Material Group	grade	Speed — sfm (m/min)												Starting Conditions 	
		150 (46)	200 (91)	300 (91)	400 (121)	500 (152)	600 (182)	700 (213)	800 (244)	900 (274)	1000 (305)	1100 (335)	2000 (366)	sfm	m/min
N 3	KC5225P				◊								480	145	


Cobalt-Based, Heat-Resistant Alloys (150–425 HB) (≤ 45 HRC)

Wrought: AiResist 213, Haynes 25 (L605), Haynes 188, J-1570, Stellite Cast: AiResist 13, Haynes 21, MAR-M302, MAR-M509, NASA Co-W-Re, WI-52

Material Group	grade	Speed — sfm (m/min)														Starting Conditions 		
		25 (8)	50 (15)	100 (30)	150 (46)	200 (61)	250 (76)	300 (91)	350 (107)	400 (122)	450 (137)	500 (152)	550 (168)	600 (183)	650 (198)	700 (213)	sfm	m/min
S 2	KC5225P					◊											192	60


Nickel-Based, Heat-Resistant Alloys (140–475 HB) (≤ 48 HRC)

Astroloy, Hastelloy B/C/C-276/X, Inconel 601/617/625/700/706/718, IN102, Incoloy 901, MAR-M200, Nimonic, Rene 41, Udimet, Waspaloy, Monel

Material Group	grade	Speed — sfm (m/min)														Starting Conditions 		
		25 (8)	50 (15)	100 (30)	150 (46)	200 (61)	250 (76)	300 (91)	350 (107)	400 (122)	450 (137)	500 (152)	550 (168)	600 (183)	650 (198)	700 (213)	sfm	m/min
S 3	KC5225P					◊											192	60

Titanium and Titanium Alloys (110–450 HB) (≤ 48 HRC)

Pure: Ti98.8, Ti99.9 Alloyed: Ti-5Al-2.5Sn, Ti-6Al-4V, Ti-6Al-2Sn-4Zr-2Mo, Ti-3Al-8V-6Cr-4Mo-4Zr, Ti-10V-2Fe-3Al, Ti-13V-11Cr-3Al

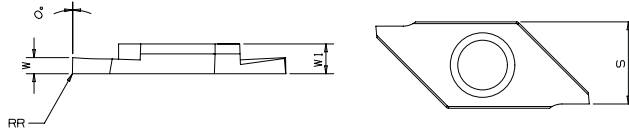
Material Group	grade	Speed — sfm (m/min)														Starting Conditions 		
		25 (8)	50 (15)	100 (30)	150 (46)	200 (61)	250 (76)	300 (91)	350 (107)	400 (122)	450 (137)	500 (152)	550 (168)	600 (183)	650 (198)	700 (213)	sfm	m/min
S 4	KC5225P					◊											192	60

Ordering Information

Cutoff Inserts

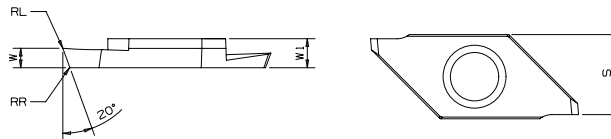
Right-hand inserts shown.

Right-hand toolholders take right-hand inserts.



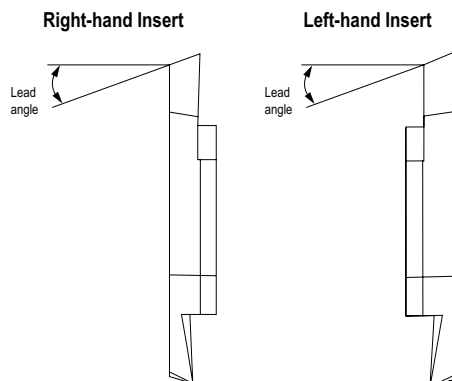
■ SCF

catalog number	Dmax	W	S	W1	RR	KC5225P
right hand						
SCF12R050	5	0,5	8,7	3	—	●
SCF12R070	8	0,7	8,7	3	—	●
SCF12R100	12	1,0	8,7	3	—	●
SCF12R150	12	1,5	8,7	3	—	●
SCF12R200	12	2,0	8,7	3	—	●
SCF16R150	16	1,5	9,5	4	—	●
SCF16R200	16	2,0	9,5	4	—	●
left hand						
SCF12L050	5	0,5	8,7	3	—	●
SCF12L070	8	0,7	8,7	3	—	●
SCF12L100	12	1,0	8,7	3	—	●
SCF12L150	12	1,5	8,7	3	—	●
SCF12L200	12	2,0	8,7	3	—	●
SCF16L150	16	1,5	9,5	4	—	●
SCF16L200	16	2,0	9,5	4	—	●



■ SCF-R

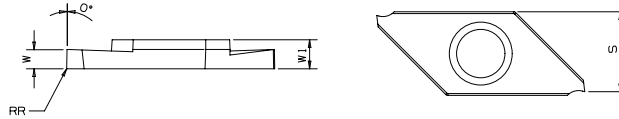
catalog number	Dmax	W	S	W1	RL	RR	KC5225P
right hand							
SCF12R05020R	5	0,5	8,7	3	—	—	●
SCF12R07020R	8	0,7	8,7	3	—	—	●
SCF12R10020R	12	1,0	8,7	3	—	—	●
SCF12R15020R	12	1,5	8,7	3	—	—	●
SCF12R20020R	12	2,0	8,7	3	—	—	●
SCF16R15020R	16	1,5	9,5	4	—	—	●
SCF16R20020R	16	2,0	9,5	4	—	—	●
left hand							
SCF12L05020R	5	0,5	8,7	3	—	—	●
SCF12L07020R	8	0,7	8,7	3	—	—	●
SCF12L10020R	12	1,0	8,7	3	—	—	●
SCF12L15020R	12	1,5	8,7	3	—	—	●
SCF12L20020R	12	2,0	8,7	3	—	—	●
SCF16L15020R	16	1,5	9,5	4	—	—	●
SCF16L20020R	16	2,0	9,5	4	—	—	●



Toolholder	Insert	Lead Angle
right hand	right hand	right hand
left hand	left hand	right hand

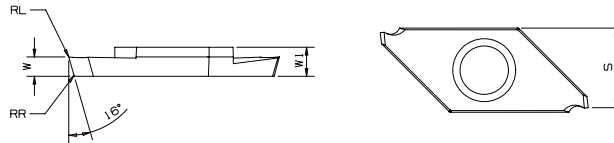
Cutoff Inserts — continued

Right-hand inserts shown.
 Right-hand toolholders take right-hand inserts..



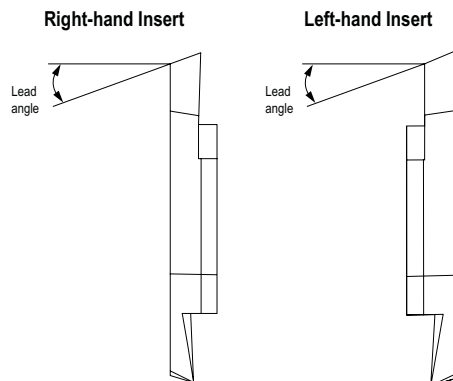
■ SCFP

catalog number	Dmax	W	S	W1	RR	KC5225P
right hand						
SCFP12R050	5	0,5	8,7	3	0,03	●
SCFP12R070	8	0,7	8,7	3	0,03	●
SCFP12R100	12	1,0	8,7	3	0,03	●
SCFP12R150	12	1,5	8,7	3	0,03	●
SCFP12R200	12	2,0	8,7	3	0,03	●
SCFP16R150	16	1,5	9,5	4	0,05	●
SCFP16R200	16	2,0	9,5	4	0,05	●
left hand						
SCFP12L050	5	0,5	8,7	3	0,03	●
SCFP12L070	8	0,7	8,7	3	0,03	●
SCFP12L100	12	1,0	8,7	3	0,03	●
SCFP12L150	12	1,5	8,7	3	0,03	●
SCFP12L200	12	2,0	8,7	3	0,03	●
SCFP16L150	16	1,5	9,5	4	0,05	●
SCFP16L200	16	2,0	9,5	4	0,05	●



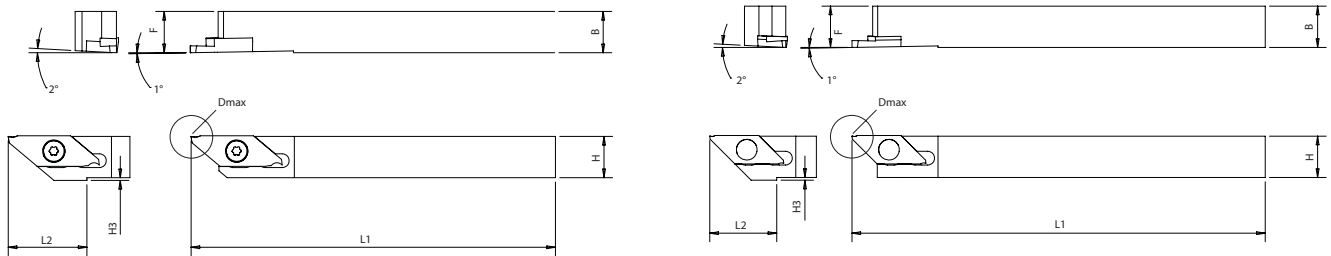
■ SCFP-R

catalog number	Dmax	W	S	W1	RL	RR	KC5225P
right hand							
SCFP12R05016R	5	0,5	8,7	3	0,03	0,03	●
SCFP12R07016R	8	0,7	8,7	3	0,03	0,03	●
SCFP12R10016R	12	1,0	8,7	3	0,03	0,03	●
SCFP12R15016R	12	1,5	8,7	3	0,03	0,03	●
SCFP12R20016R	12	2,0	8,7	3	0,03	0,03	●
SCFP16R15016R	16	1,5	9,5	4	0,05	0,05	●
SCFP16R20016R	16	2,0	9,5	4	0,05	0,05	●
left hand							
SCFP12L05016R	5	0,5	8,7	3	0,03	0,03	●
SCFP12L07016R	8	0,7	8,7	3	0,03	0,03	●
SCFP12L10016R	12	1,0	8,7	3	0,03	0,03	●
SCFP12L15016R	12	1,5	8,7	3	0,03	0,03	●
SCFP12L20016R	12	2,0	8,7	3	0,03	0,03	●
SCFP16L15016R	16	1,5	9,5	4	0,05	0,05	●
SCFP16L20016R	16	2,0	9,5	4	0,05	0,05	●



Toolholder	Insert	Lead Angle
right hand	right hand	right hand
left hand	left hand	right hand

Cutoff Toolholders — Integral Shank



SSCF

order number	catalog number	Dmax	H	H3	L1	L2	F	B	screw	wrench
metric										
right hand										
3617907	SSCFR1010K12	12	10	2	125	15	10	10	MS2216	KT10
3617908	SSCFR1010K16	16	10	2	125	20	10	10	MS2216	KT10
3617909	SSCFR1212M12	12	12	-	150	-	12	12	MS2216	KT10
3617910	SSCFR1212M16	16	12	-	150	-	12	12	MS2216	KT10
3617911	SSCFR1616M12	12	16	-	150	-	16	16	MS2216	KT10
3617912	SSCFR1616M16	16	16	-	150	-	16	16	MS2216	KT10
left hand										
3617890	SSCFL1010K12	12	10	2	125	15	10	10	MS2216	KT10
3617891	SSCFL1010K16	16	10	2	125	20	10	10	MS2216	KT10
3617892	SSCFL1212M12	12	12	-	150	-	12	12	MS2216	KT10
3617903	SSCFL1212M16	16	12	-	150	-	12	12	MS2216	KT10
3617904	SSCFL1616M12	12	16	-	150	-	16	16	MS2216	KT10
3617906	SSCFL1616M16	16	16	-	150	-	16	16	MS2216	KT10
inch										
right hand										
3617913	SSCFR0612C	.472	.375	.079	5.000	.591	.375	.375	MS2216	KT10
3617915	SSCFR0812D	.472	.500	-	6.000	-	.500	.500	MS2216	KT10
3617917	SSCFR0616C	.630	.375	.079	5.000	.591	.375	.375	MS2216	KT10
3617919	SSCFR0616D	.630	.500	-	6.000	-	.500	.500	MS2216	KT10
left hand										
3617914	SSCFL0612C	.472	.375	.079	5.000	.591	.375	.375	MS2216	KT10
3617916	SSCFL0812D	.472	.500	-	6.000	-	.500	.500	MS2216	KT10
3617918	SSCFL0616C	.630	.375	.079	5.000	.591	.375	.375	MS2216	KT10
3617920	SSCFL0816D	.630	.500	-	6.000	-	.500	.500	MS2216	KT10

For more information or to place an order, contact your Kennametal Representative or Authorized Kennametal Distributor, or visit www.kennametal.com.

Cutoff Tooling

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