

KNS[®]

Kennametal Narrow Slotting

Materials



Applications



Slotting



Side/Shoulder Milling



Slotting:
Full Radius

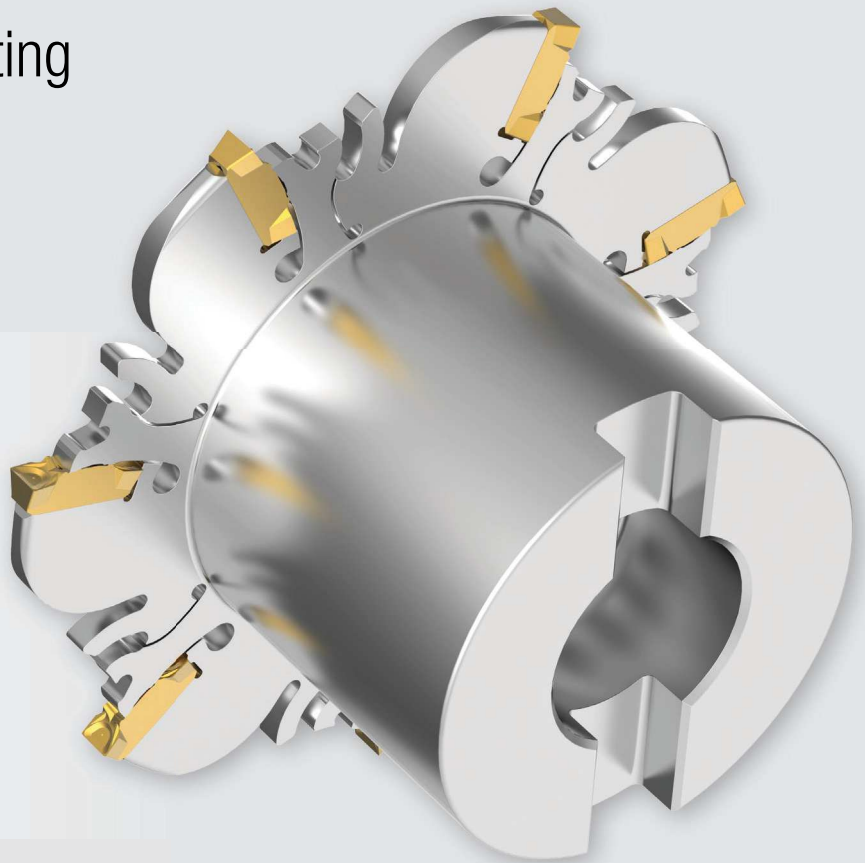


Cut-Off



Slotting:
Gang Milling

kennametal.com/KNS

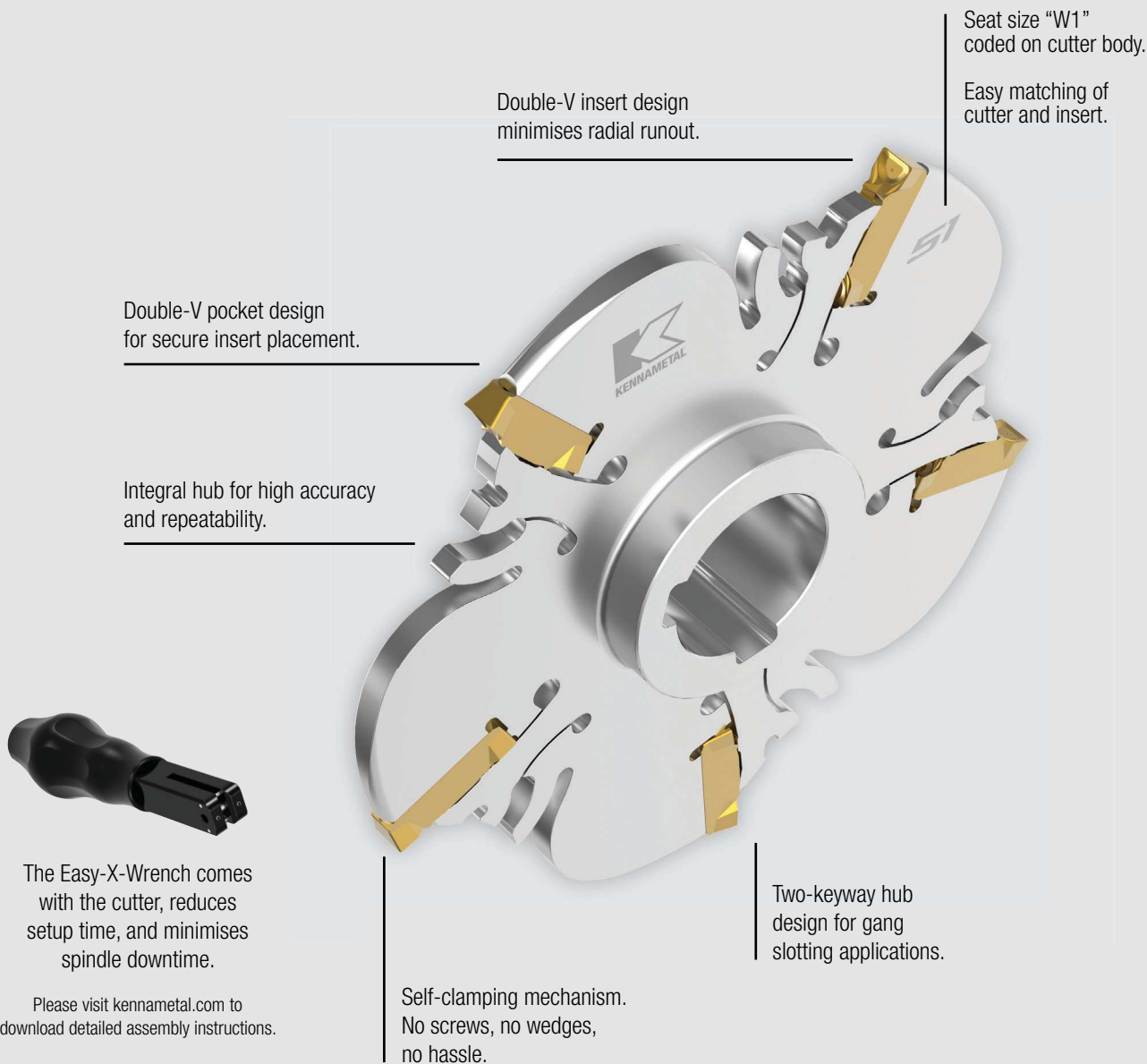


The Double-V Design of the insert and the insert pocket securely holds the insert in place and minimises radial runout.

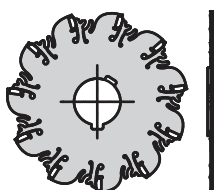
As a result, these stable cutting conditions lead to high slot width accuracy and high repeatability.

A unique self-clamping mechanism ensures easy insert exchange.

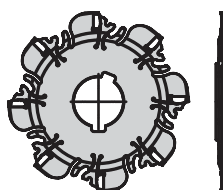
From light to heavy machining, the positive SGP chipbreaker geometry ensures smooth cutting action, and efficient chip evacuation.



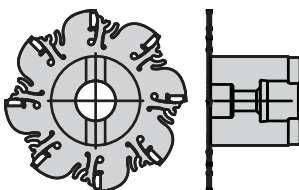
Cutter styles



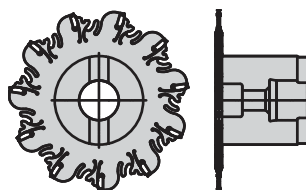
Arbour mount style.



Arbour mount style, reinforced cutter body.



Shell mount style.



Shell mount style, reinforced cutter body.

Insert Styles



Double-ended insert style for slots with flat bottom.

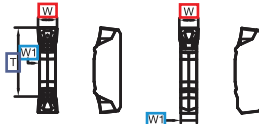
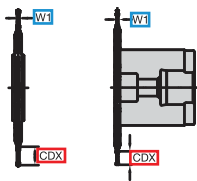


Single-ended insert style for deep slots with flat bottom.



Full radius, single-ended insert style for slots with radius at the bottom.

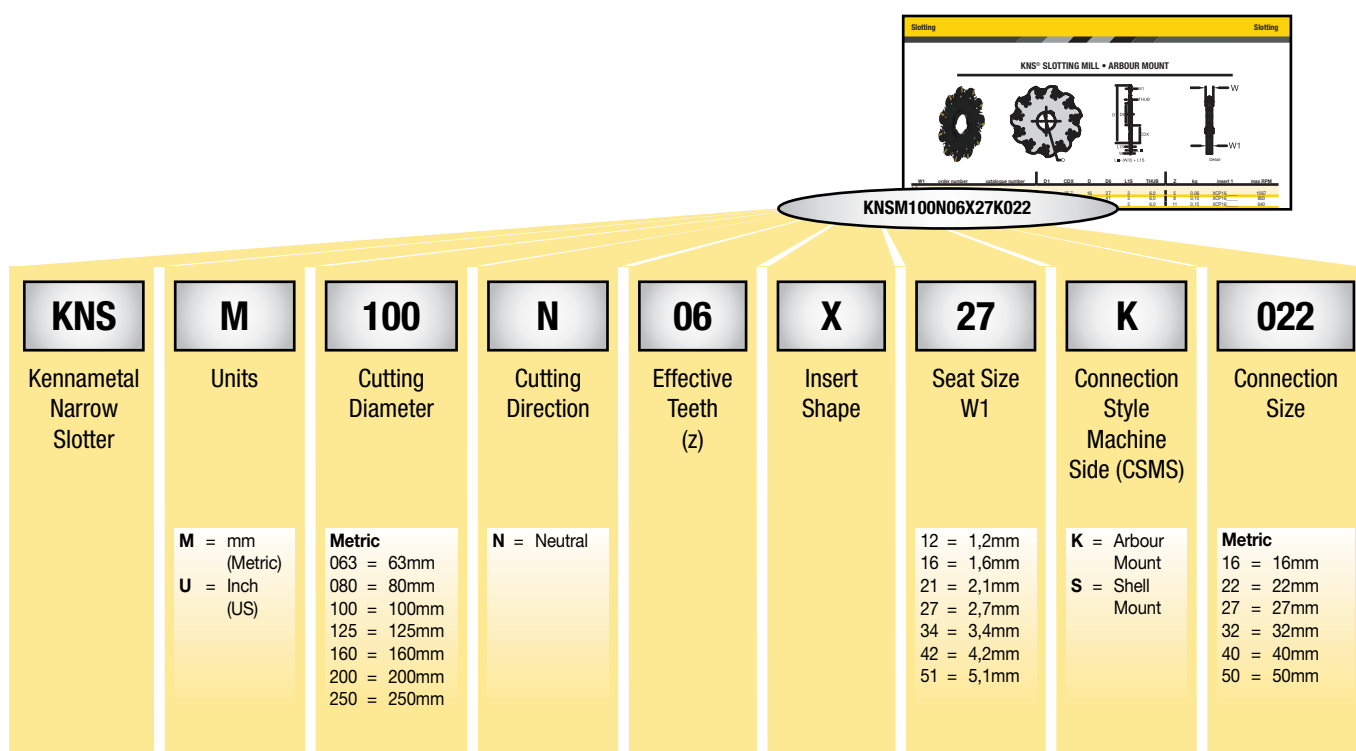
KNS® • TOOL SELECTION GUIDE

	KNS KENNAMETAL NARROW SLOTTING MILLS				
	ARBOUR MOUNT	ARBOUR MOUNT • REINFORCED BODY	SHELL MOUNT	SHELL MOUNT • REINFORCED BODY	
					
Page	40	40	41	41	
Choose your slot width “W”					
“W1” is the seat size. “W1” on insert = “W1” on cutter body. “W” = cutting edge length. 	2,2–6,35mm	1,59mm	2,2–6,35mm	1,59mm	
Choose your slotting depth “CDX”					
CDX is the cutter's maximum depth of cut. For double-sided insert dimension “T” = limit of slotting depth. If there is no “T”, then your max. slot depth = CDX of cutter. W1 is the pocket seat size. 	26–97mm	10mm	25–27mm	10mm	
Choose your insert style					
Flat Bottom or Full Radius	 	  		  	
Single Ended or Double Ended	  		  		
Cutting Edges	2 1 1	2	2 1 1	2	

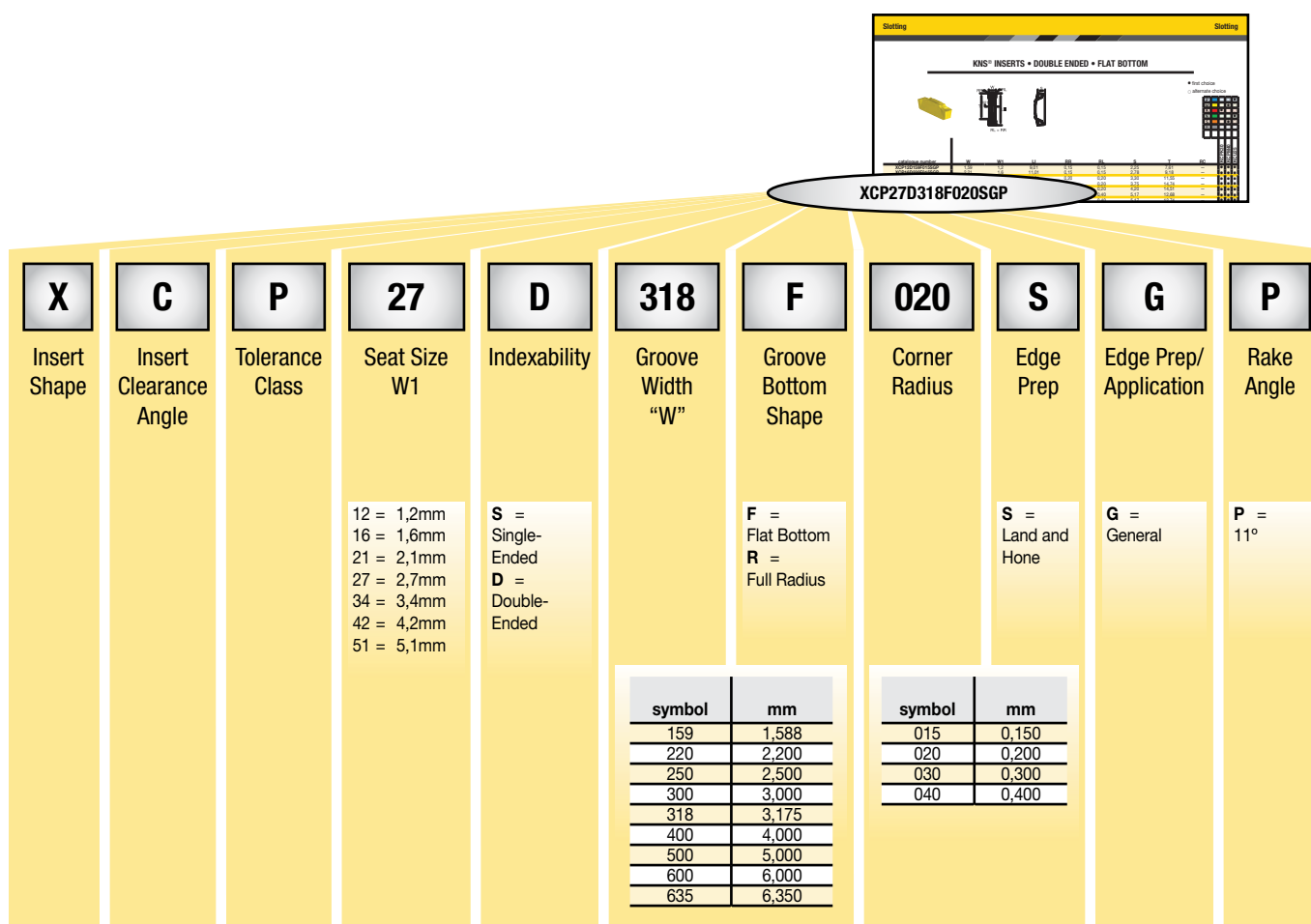


NOTE: For accessories, spare parts, and technical information, visit kennametal.com or kennametal.com/novo.

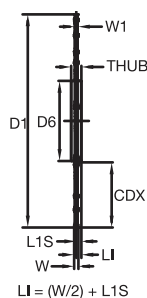
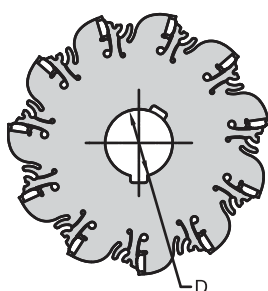
KNS® • CATALOGUE NUMBERING SYSTEM • CUTTERS



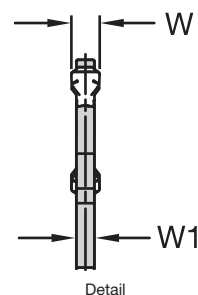
KNS • CATALOGUE NUMBERING SYSTEM • INSERTS



KNS® SLOTTING MILL • ARBOUR MOUNT



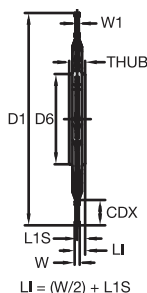
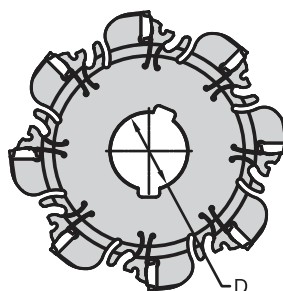
$$LI = (W/2) + L1S$$



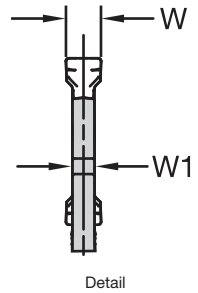
Detail

W1	order number	catalogue number	D1	CDX	D	D6	L1S	THUB	Z	kg	max RPM
1,6	5614824	KNSM080N05X16K016	80	25,7	16	27	3	6,0	5	0,06	1067
	5614825	KNSM100N08X16K027	100	28,7	27	41	3	6,0	8	0,10	800
	5614826	KNSM125N11X16K032	125	38,2	32	47	3	6,0	11	0,15	640
2,1	5614827	KNSM100N07X21K022	100	32,2	22	34	5	9,0	7	0,13	800
	5614828	KNSM125N09X21K032	125	38,2	32	47	5	9,0	9	0,21	640
	5614829	KNSM160N13X21K040	160	51,7	40	55	5	9,0	13	0,33	533
	5614830	KNSM200N17X21K040	200	71,7	40	55	5	9,0	17	0,51	400
2,7	5614831	KNSM100N06X27K022	100	32,2	22	34	6	12,0	6	0,17	800
	5614832	KNSM125N08X27K032	125	38,2	32	47	6	12,0	8	0,27	640
	5614833	KNSM160N11X27K040	160	51,7	40	55	6	12,0	11	0,43	533
	5614834	KNSM200N15X27K040	200	71,7	40	55	6	12,0	15	0,65	400
3,4	5614835	KNSM100N05X34K022	100	32,2	22	34	8	16,0	5	0,21	800
	5614836	KNSM125N07X34K032	125	38,2	32	47	8	16,0	7	0,35	640
	5614837	KNSM160N10X34K040	160	51,7	40	55	8	16,0	10	0,54	533
	5614838	KNSM200N13X34K040	200	71,7	40	55	8	16,0	13	0,82	400
	5614839	KNSM250N17X34K040	250	96,7	40	55	8	16,0	17	1,26	320
4,2	5614840	KNSM100N04X42K022	100	32,2	22	34	10	19,0	4	0,26	800
	5614841	KNSM125N07X42K032	125	38,2	32	47	10	19,0	7	0,42	640
	5614842	KNSM160N10X42K040	160	51,7	40	55	10	19,0	10	0,66	533
	5614843	KNSM200N13X42K040	200	71,7	40	55	10	19,0	13	1,01	400
	5614845	KNSM250N17X42K040	250	96,7	40	55	10	19,0	17	1,55	320
5,1	5614846	KNSM100N05X51K022	100	32,2	22	34	11	22,0	5	0,26	800
	5614847	KNSM125N06X51K032	125	38,2	32	47	11	22,0	6	0,45	640
	5614848	KNSM160N09X51K040	160	51,7	40	55	11	22,0	9	0,71	533
	5614849	KNSM200N12X51K040	200	71,7	40	55	11	22,0	12	1,01	400
	5614850	KNSM250N15X51K040	250	96,7	40	55	11	22,0	15	1,73	320

KNS SLOTTING MILL • REINFORCED BODY • ARBOUR MOUNT

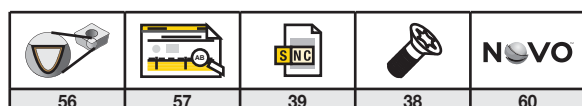


$$LI = (W/2) + L1S$$

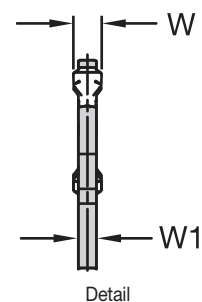
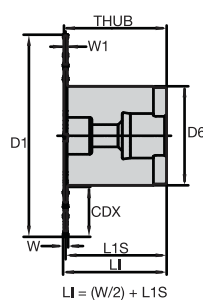
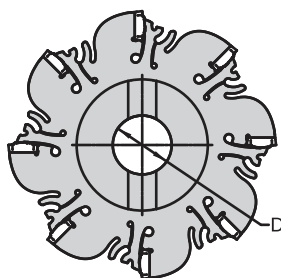


Detail

W1	order number	catalogue number	D1	CDX	D	D6	L1S	THUB	Z	kg	max RPM
1,2	5614820	KNSM063N06X12K016	63	9,5	16	27	3	6,0	6	0,05	1280
	5614821	KNSM080N08X12K022	80	9,5	22	34	3	6,0	8	0,09	1067
	5614822	KNSM100N11X12K027	100	9,5	27	41	3	6,0	11	0,15	800
	5614823	KNSM125N14X12K032	125	9,5	32	47	3	6,0	14	0,25	640

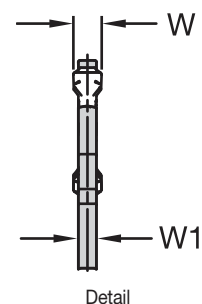
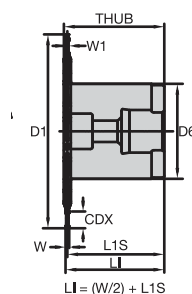
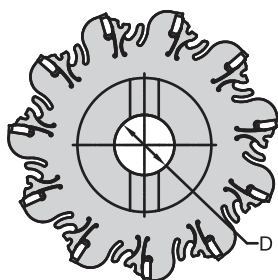


KNS® SLOTTING MILL • SHELL MOUNT

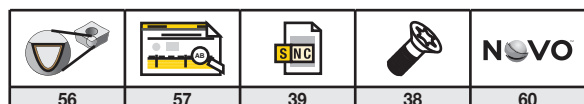


W1	order number	catalogue number	D1	CDX	D	D6	L1S	THUB	Z	kg	max RPM
1,6	5614852	KNSM100R08X16S022	100	24,7	22	49	50	50,8	8	0,73	800
2,1	5614853	KNSM100R07X21S022	100	24,7	22	49	50	51,1	7	0,75	800
2,7	5614854	KNSM125R08X27S032	125	24,7	32	74	60	61,4	8	2,00	640
3,4	5614855	KNSM125R07X34S032	125	25,7	32	72	60	61,7	7	1,94	640
4,2	5614856	KNSM125R07X42S032	125	26,7	32	70	60	62,1	7	1,89	640
5,1	5614857	KNSM125R06X51S032	125	25,7	32	72	60	62,6	6	1,87	640

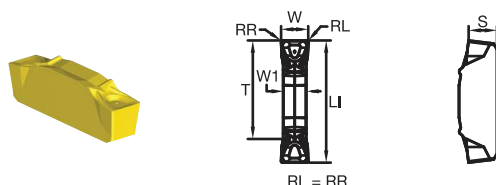
KNS SLOTTING MILL • REINFORCED BODY • SHELL MOUNT



W1	order number	catalogue number	D1	CDX	D	D6	L1S	THUB	Z	kg	max RPM
1,2	5614851	KNSM100R11X12S022	100	9,5	22	49	50	51,8	11	0,78	800



KNS® INSERTS • DOUBLE ENDED • FLAT BOTTOM



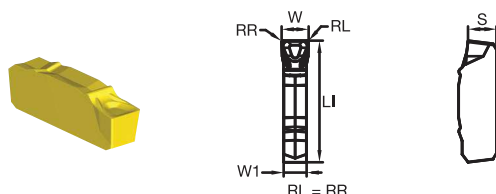
● first choice

○ alternate choice

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

catalogue number	W1	W	LI	RR	RL	S	T	RC	hm	CE	KCPK30	KCPM40	KCU25
XCP12D159F015SGP	1,2	1,59	9,01	0,15	0,15	2,25	7,61	—	0,04	2	●	●	●
XCP16D220F015SGP	1,6	2,21	11,01	0,15	0,15	2,78	9,18	—	0,04	2	●	●	●
XCP21D300F020SGP	2,1	3,01	14,01	0,20	0,20	3,30	11,55	—	0,04	2	●	●	●
XCP27D318F020SGP	2,7	3,18	18,01	0,20	0,20	3,75	14,74	—	0,04	2	●	●	●
XCP34D400F020SGP	3,4	4,01	18,01	0,20	0,20	4,20	14,51	—	0,04	2	●	●	●
XCP51D600F040SGP	5,1	6,01	18,01	0,40	0,40	5,17	12,68	—	0,04	2	●	●	●
XCP51D635F040SGP	5,1	6,36	18,01	0,40	0,40	5,17	12,74	—	0,04	2	●	●	●

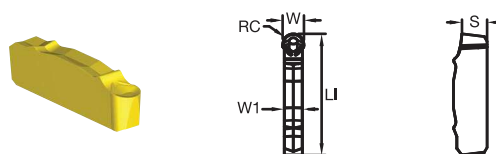
KNS INSERTS • SINGLE ENDED • FLAT BOTTOM



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

catalogue number	W1	W	LI	RR	RL	S	T	RC	hm	CE	KCPK30	KCPM40	KCU25
XCP16S220F015SGP	1,6	2,21	11,00	0,15	0,15	2,78	—	—	0,04	1	●	●	●
XCP21S250F020SGP	2,1	2,50	14,00	0,20	0,20	3,30	—	—	0,04	1	●	●	●
XCP21S300F020SGP	2,1	3,01	14,00	0,20	0,20	3,30	—	—	0,04	1	●	●	●
XCP27S318F020SGP	2,7	3,18	18,00	0,20	0,20	3,75	—	—	0,04	1	●	●	●
XCP34S400F020SGP	3,4	4,01	18,00	0,20	0,20	4,20	—	—	0,04	1	●	●	●
XCP42S500F030SGP	4,2	5,01	18,00	0,30	0,30	4,65	—	—	0,04	1	●	●	●
XCP51S600F040SGP	5,1	6,01	18,00	0,40	0,40	5,17	—	—	0,04	1	●	●	●
XCP51S635F040SGP	5,1	6,36	18,00	0,40	0,40	5,17	—	—	0,04	1	●	●	●

KNS INSERTS • SINGLE ENDED • FULL RADIUS



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

catalogue number	W1	W	LI	RR	RL	S	T	RC	hm	CE	KCPK30	KCPM40	KCU25
XCP21S300R150SGP	2,1	3,01	14,00	—	—	3,30	—	1,50	0,04	1	●	—	●
XCP27S318R159SGP	2,7	3,18	18,00	—	—	3,75	—	1,59	0,04	1	●	—	●
XCP34S400R200SGP	3,4	4,00	18,00	—	—	4,20	—	2,00	0,04	1	●	—	●

56	57	39	38	60

KNS® • INSERT SELECTION GUIDE

Material Group	Light Machining (Light geometry)		General Purpose		Heavy Machining (Strong geometry)	
	wear resistance				toughness	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	.S..GP	KCU25	.S..GP	KCU25	.S..GP	KCPM40
P3-P4	.S..GP	KCU25	.S..GP	KCU25	.S..GP	KCPM40
P5-P6	.S..GP	KCU25	.S..GP	KCU25	.S..GP	KCPM40
M1-M2	.S..GP	KCU25	.S..GP	KCPM40	.S..GP	KCPM40
M3	.S..GP	KCU25	.S..GP	KCPM40	.S..GP	KCPM40
K1-K2	.S..GP	KCU25	.S..GP	KCPK30	.S..GP	KCPK30
K3	.S..GP	KCU25	.S..GP	KCPK30	.S..GP	KCPK30
N1-N2	—	—	.S..GP	KCU25	—	—
N3	—	—	.S..GP	KCU25	—	—
S1-S2	.S..GP	KCU25	.S..GP	KCU25	.S..GP	KCU25
S3	.S..GP	KCU25	.S..GP	KCU25	.S..GP	KCU25
S4	.S..GP	KCU25	.S..GP	KCU25	.S..GP	KCU25

KNS • RECOMMENDED STARTING FEEDS [MM]

										Light Machining	General Purpose	Heavy Machining	
Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)											Insert Geometry	
	5%			10%			20%			30%			
.S..GP	0.13	0.28	0.35	0.09	0.20	0.32	0.07	0.15	0.32	0.06	0.12	0.30	.S..GP

NOTE: Use "Light Machining" values as starting feed rate.
 $\% = ae/Dc \cdot 100$ (ae = radial depth of cut, Dc = cutting diameter).

KNS • RECOMMENDED STARTING SPEEDS [M/MIN]

Material Group		KCPK30			KCPM40			KCU25		
P	1	365	320	270	200	190	150	260	230	215
	2	280	255	230	190	175	140	220	190	160
	3	255	230	205	170	145	120	200	170	140
	4	190	175	160	150	130	90	180	150	120
	5	260	230	210	105	75	60	150	135	120
	6	160	135	120	75	60	50	130	100	80
M	1	—	—	—	170	150	135	210	170	135
	2	—	—	—	155	130	110	170	150	110
	3	—	—	—	115	100	80	130	120	85
K	1	260	230	205	—	—	—	270	220	170
	2	235	210	190	—	—	—	230	190	160
	3	195	175	160	—	—	—	210	160	140
N	1	—	—	—	—	—	—	760	680	400
	2	—	—	—	—	—	—	710	550	350
	3	—	—	—	—	—	—	620	490	320
S	1	—	—	—	—	—	—	30	25	20
	2	—	—	—	—	—	—	30	25	20
	3	—	—	—	—	—	—	40	30	20
	4	—	—	—	—	—	—	55	40	25

NOTE: FIRST choice starting speeds are in **bold** type.
 Do not exceed max RPM. Reduce speed if necessary.