

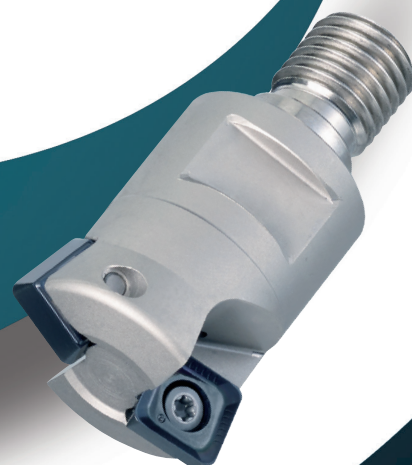
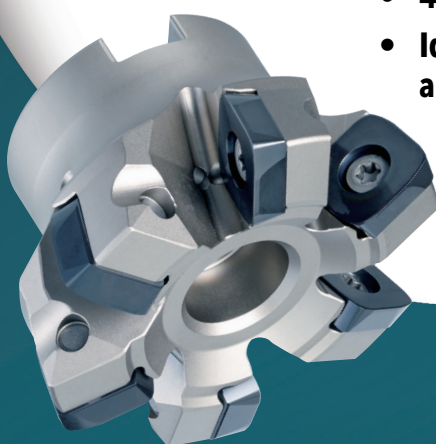
NEW
CUTTING
TOOLS

LOOK OUT !

HIFEED QUAD

High Feed Milling Cutters

- Very smooth cutting geometry
- 4-edged indexable inserts
- Ideal for machinability groups M and S and high alloyed tool steels



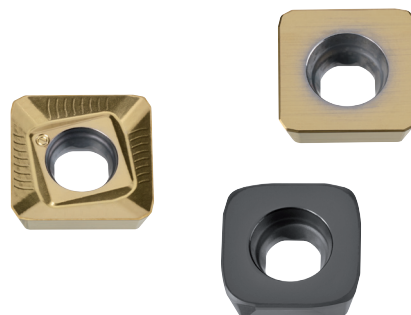


Product Description

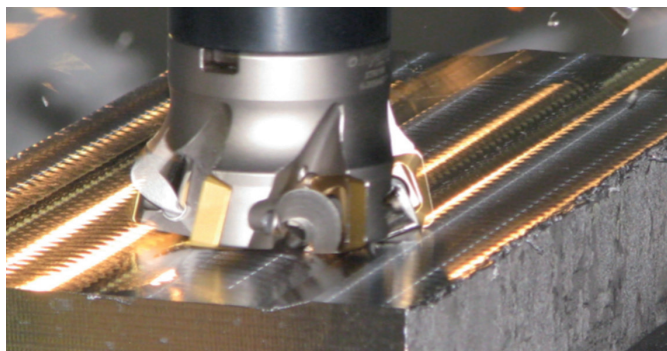
New high-feed milling cutter for roughing in a diameter range of Ø 32 – 160 mm.

Different indexable insert geometries for machining:

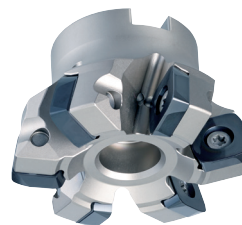
- steel
- cast iron
- material of the machinability groups M (stainless steel) and S (heat-resistant alloys and titanium alloys)



Area of Application



Face and contour milling in the mechanical engineering, mold & die industry and aerospace industry.



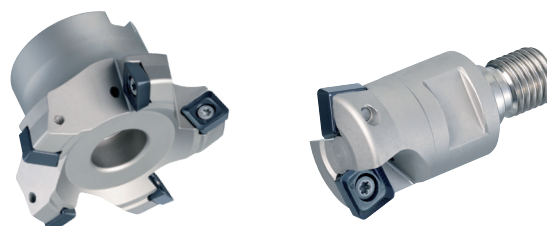
Technical Features

- 4-edge indexable insert for depth of cut up to 2.2 mm (SDES13... and SDMS13...) and 3.7 mm (SDES19... and SDMS19...).
- Different geometries for stable and unstable conditions.
- 3 neutral geometries and 2 positive geometries in 2 different sizes for diverse applications ensure max. stock removal rates, even in difficult applications.

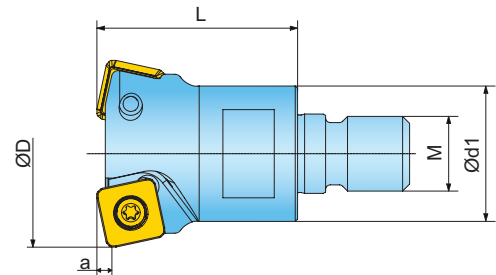
Benefits

First radial, high-feed geometry from Innotool for a depth of cut of up to 3.7 mm in materials such as stainless steel and heat-resistant steels and titanium alloys with 4-edged indexable inserts for economic cutting.

- **Very smooth cutting geometry**
- **4-edged indexable inserts**
- **5 different insert geometries available in 2 different sizes**
- **Shell-type and screw-type end mills**
- **Tool diameter range 32 – 160 mm**
- **Ideal for machinability groups M and S and high-alloyed steel**

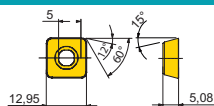


WITH SCREW-IN TYPE ADAPTION

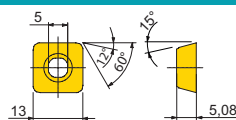


Designation	D	d1	L	a	M	Z		IK	kg
PS.032.003	32	29	43	2	16	2	10°	✓	0.17
PS.035.001	35	29	43	2	16	2	8°	✓	0.17
PS.040.002	40	29	43	2	16	3	5°	✓	0.19
PS.042.002	42	29	43	2	16	3	5°	✓	0.20

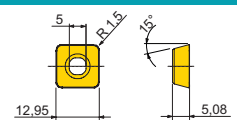
SDES1305MDR



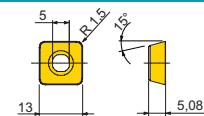
SDES1305MDR-001



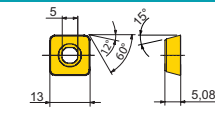
SDES130515N



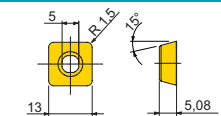
SDES130515N-001



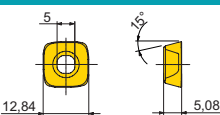
SDMS1305MDR-PH



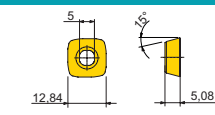
SDMS130515R-PH



SDES1305MPR



SDES1305MPR-001



Designation	Design	Grade	IN2505	IN2530	IN4005	IN4030	IN4035			
SDES1305MDR ¹⁾	neutral geometry, chamfered		●	●						
SDES1305MDR-001 ¹⁾	neutral geometry, sharp		●	●						
SDES130515N ¹⁾	neutral geometry, chamfered R1.5		●	●						
SDES130515N-001 ¹⁾	neutral geometry, sharp R1.5		●	●						
SDMS1305MDR-PH ¹⁾	positive geometry, chamfered		●	●	●	●	●			
SDMS130515R-PH ¹⁾	positive geometry, chamfered R1.5		●	●	●	●	●			
SDES1305MPR ²⁾	neutral geometry convex, chamfered		●	●	●		●			
SDES1305MPR-001 ²⁾	neutral geometry convex, sharp		●	●	●	●	●			

¹⁾ programming radius 3.2

²⁾ programming radius 3.5 and possible depth of cut 2.2 mm and tool dia. will be 1 mm smaller

● = P ● = M ● = K ● = N ● = S ○ = H

SPARE PARTS



SM40-100-R0



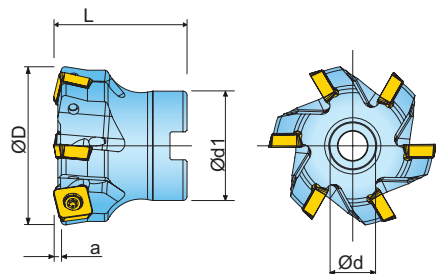
DS-A00T

① = insert screw ② = screw driver

HIFEED QUAD

HIGH-FEED MILLING CUTTER PS_

MILLING ADAPTION ACC. TO DIN 8030



Designation	D	d	d1	L	a	Z			
PS.050.005	50	22	45	50	2	4	3.5°	✓	0.34
PS.050.004 ¹⁾	50	22	45	50	2	5	3.5°	✓	0.33
PS.052.002	52	22	40	50	2	4	3°	✓	0.29
PS.052.001 ¹⁾	52	22	40	50	2	5	3°	✓	0.28
PS.063.005	63	22	55	50	2	5	2.5°	✓	0.57
PS.063.004 ¹⁾	63	22	55	50	2	6	2.5°	✓	0.60
PS.066.002	66	27	48	50	2	5	2°	✓	0.48
PS.066.001 ¹⁾	66	27	48	50	2	6	2°	✓	0.50
PS.080.005	80	27	70	50	2	6	1°	✓	0.97
PS.080.004 ¹⁾	80	27	70	50	2	8	1°	✓	1.01
PS.100.005	100	32	85	55	2	7	0.5°	✓	1.75
PS.100.004 ¹⁾	100	32	85	55	2	9	0.5°	✓	1.74

¹⁾ fine pitch

SDES1305MDR 	SDES1305MDR-001 	SDES130515N
SDES130515N-001 	SDMS1305MDR-PH 	SDMS130515R-PH
SDES1305MPR 	SDES1305MPR-001 	

Designation	Design	Grade	IN2505	IN2530	IN4005	IN4030	IN4035			
SDES1305MDR ¹⁾	neutral geometry, chamfered		●	●						
SDES1305MDR-001 ¹⁾	neutral geometry, sharp		●	●						
SDES130515N ¹⁾	neutral geometry, chamfered R1.5		●	●						
SDES130515N-001 ¹⁾	neutral geometry, sharp R1.5		●	●						
SDMS1305MDR-PH ¹⁾	positive geometry, chamfered		●	●	●	●	●			
SDMS130515R-PH ¹⁾	positive geometry, chamfered R1.5		●	●	●	●	●			
SDES1305MPR ²⁾	neutral geometry convex, chamfered		●	●	●		●			
SDES1305MPR-001 ²⁾	neutral geometry convex, sharp		●	●	●	●	●			

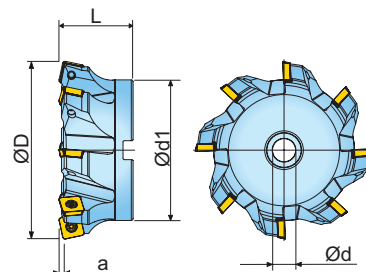
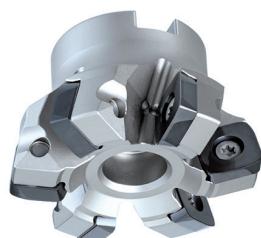
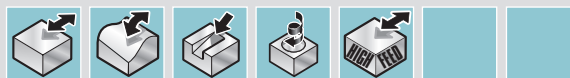
¹⁾ programming radius 3.2 ²⁾ programming radius 3.5 and possible depth of cut 2.2 mm and tool dia. will be 1 mm smaller

● = P ● = M ● = K ● = N ● = S ○ = H

spare parts see page 3

HIFEED QUAD HIGH-FEED MILLING CUTTER PS_

ADAPTION ACC. TO DIN 8030



Designation	D	d	d1	LK	L	a	Z			kg
PS.080.007	80	27	70	-	55	3	5	3.5°	✓	1.01
PS.080.006 ¹⁾	80	27	70	-	55	3	6	3.5°	✓	1.02
PS.100.007	100	32	85	-	55	3	6	2.5°	✓	1.63
PS.100.006 ¹⁾	100	32	85	-	55	3	8	2.5°	✓	1.62
PS.125.004	125	40	100	-	63	3	7	1.5°	✓	2.84
PS.125.003 ¹⁾	125	40	100	-	63	3	9	1.5°	✓	2.87
PS.160.004	160	40	130	66.7	63	3	8	1°	✓	4.80
PS.160.003 ¹⁾	160	40	130	66.7	63	3	10	1°	✓	4.82

¹⁾ fine pitch

SDES1906MDR 	SDES190620N 	SDES190620N-001
SDMS1906MDR-PH 	SDMS190620R-PH 	SDES1906MPR
SDES1906MPR-001 		

Designation	Design	Grade	IN2505	IN2530	IN4005	IN4030	IN4035			
SDES1906MDR ¹⁾	neutral geometry, chamfered		●	●						
SDES190620N ¹⁾	neutral geometry, chamfered R2		●	●						
SDES190620N-001 ¹⁾	neutral geometry, sharp R2		●	●						
SDMS1906MDR-PH ¹⁾	positive geometry, chamfered		●	●	●	●	●			
SDMS190620R-PH ¹⁾	positive geometry, chamfered R2		●	●	●	●	●			
SDES1906MPR ²⁾	neutral geometry convex, chamfered		●	●	●	●	●			
SDES1906MPR-001 ²⁾	neutral geometry convex, sharp		●	●	●	●	●			

¹⁾ programming radius 4.5

²⁾ programming radius 5.5 and possible depth of cut 3.7 mm and tool dia. will be 1.2 mm smaller

● = P ● = M ● = K ● = N ● = S ○ = H

SPARE PARTS



SM60-135-R0

DS-T25T

① = insert screw ② = screw driver

TECHNICAL INFORMATION

						
insert:	SDMS13...-PH	SDES13...MDR... SDES13...N...	SDES13...MPR...	SDMS19...-PH	SDES19...MDR... SDES19...N...	SDES19...MPR...
recom. cutting depth:	ap = 1.5 mm	ap = 1.8 mm	ap = 1.8 mm	ap = 2 mm	ap = 2.5 mm	ap = 2.5 mm
recom. cutting depth:	ap = 2 mm	ap = 2 mm	ap = 2.2 mm	ap = 3 mm	ap = 3 mm	ap = 3.7 mm
programming radius:	R 3.2	R 3.2	R 3.5	R 4.5	R 4.5	R 5.5

Recommended cutting data:

material	cutting speed		Vc [m/min]		feed per tooth fz [mm]
	1st choice dry machining resp. wear resistant carbide		1st choice wet machining resp. ductile carbide		
unalloyed steel	IN4005	160 - 220	IN4030	130 - 180	1.5 - 3
alloyed steel 800 N/mm²	IN4005	140 - 200	IN4030	110 - 160	1.2 - 3
alloyed steel 1100 N/mm²	IN4005	120 - 180	IN4030	100 - 150	1 - 2.5
stainless steel	IN4035	90 - 150	IN4035	80 - 130	1 - 2
gray cast iron	IN2505	160 - 250	IN2530	140 - 200	1.5 - 3
nodular cast iron	IN2505	140 - 200	IN2530	120 - 170	1.2 - 3
aluminum	-	-	-	-	-
high temperature alloys	IN4035	50 - 80	IN4035	50 - 70	0.8 - 1.8
titanium alloys	-	-	IN4035	30 - 40	0.5 - 1.5
hard machining < 54 HRC	IN2505	60 - 100	-	-	0.8 - 2
hard machining < 63 HRC	-	-	-	-	-

- Tips:**
- The worse the material machinability, the smaller the contact width should be chosen.
 - The smaller the cutting tool diameter, the higher the cutting speed can be.
 - Approaching feed rate should be reduced by 30 %.
 - 4-edged insert

Ramping data and circular interpolation:

tool diameter [mm]	MDR / N- and R-geometry					MPR-geometry				
	max. ramp. angle [°]	min. bore dia. [mm]	max. ap/rev. [mm]	max. bore dia. [mm]	max. ap/rev. [mm]	max. ramp. angle [°]	min. bore dia. [mm]	max. ap/rev. [mm]	max. bore dia. [mm]	max. ap/rev. [mm]
32	15.0	38.1	2.0	64	2.0	10.8	38.1	2.2	64	2.2
35	10.8	43.3	2.0	70	2.0	8.1	44.1	2.2	70	2.2
40	7.4	54.0	2.0	80	2.0	5.7	54.0	2.2	80	2.2
42	6.6	58.0	2.0	84	2.0	5.1	58.0	2.2	84	2.2
50	4.7	74.0	2.0	100	2.0	3.8	73.9	2.2	100	2.2
52	4.3	78.0	2.0	104	2.0	3.4	77.9	2.2	104	2.2
63	3.1	100.0	2.0	126	2.0	2.5	99.9	2.2	126	2.2
66	2.9	106.1	2.0	132	2.0	2.3	105.9	2.2	132	2.2
80	1.8	134.1	2.0	160	2.0	1.3	134.3	2.2	160	2.2
100	1.3	174.1	2.0	200	2.0	1.0	174.3	2.2	200	2.2
80	4.3	121.8	3.0	160	3.0	3.6	121.9	3.7	160	3.7
100	3.0	161.8	3.0	200	3.0	2.5	161.9	3.7	200	3.7
125	2.1	211.8	3.0	250	3.0	1.8	211.9	3.7	250	3.7
160	1.5	281.8	3.0	320	3.0	1.3	281.9	3.7	320	3.7

General information:

insert size 13
 insert screw:
 torque:
 torque wrench:

SM40-100-R0
 4 Nm
 DTNV00S with bit DS-T15TB

insert size 19
 insert screw:
 torque:
 torque wrench:

SM60-135-R0
 8 Nm
 DTNV00S with bit DS-T25TB