NEW

INNOTOOL

LOOK FORWARD

HIFEED QUAD

HIGH FEED MILLING CUTTER PS16

- *Very smooth cutting geometry*
- *4-edged insert*
- *3 different insert geometries each with 3 different carbide grades*
- *Innofit- and shell-type mills*
- *tool diameter 50 – 160 mm*

No. 175 ITL / 11-2019

>>>NEW PRODUCTS

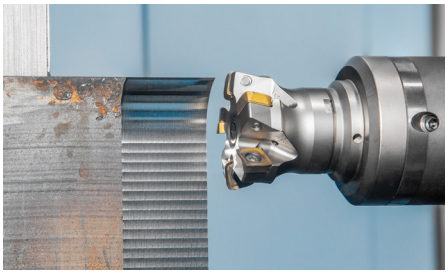
Product Description

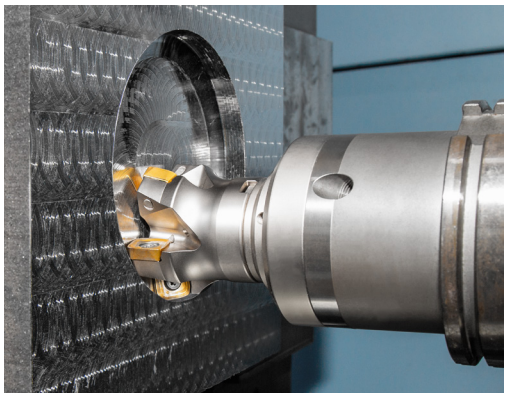
New high feed milling cutter for roughing in diameter range **Ø 50 – 160 mm**.
Various insert geometries for machining steel, cast iron and materials of material group M (stainless steel) and S (heat resistant and titanium alloys).

The expansion of the **HiFeedQuad** high feed series will be available as **Innofit versions** with diameters **Ø50** and **Ø52** and as **shell-type mills** with diameters **Ø63/Ø66/Ø80/Ø85/Ø100/Ø125/Ø160**. To meet the different requirements of application all diameters are available in a **fine and coarse pitch** as standard tools.

Application Range

Face milling, contour milling and plunge milling in mechanical engineering, mold and die industry and especially in aerospace industry.





Technical Features

4-edged insert with cutting depths **ap up to 2.7 mm**. Different geometries for stable and unstable conditions. Neutral and positive geometries in 3 different carbide grades covering a wide range of different applications enable maximum material removal rates to be achieved, even for difficult applications.

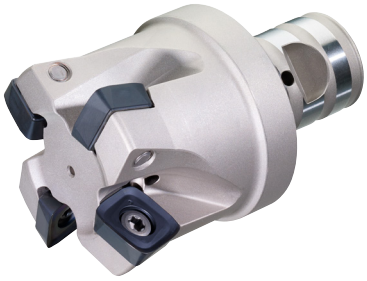
Due to the OD-wiper **90° shoulder** can be machined without any problem. In comparison to the 13 mm and 19 mm inserts, the effective diameter is maintained in this new 16 mm series even when changing from neutral to positive cutting edge. Thus, the nominal diameter is the effective diameter for programming. The programming radius is **R4.2 mm**.

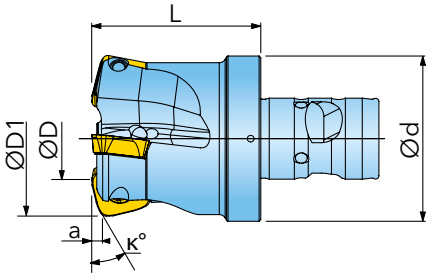
For recommended cutting data please refer to manual 'Cutting Data for Milling and Boring Tools'.

Advantages

- **Smooth cutting, axial positive rake angle**
- **Cutting depths up to 2.7 mm**
- **4-edged inserts**
- **3 different insert geometries with 3 different carbide grades**
- **Innofit (Ø50-52) and shell-type mills (Ø63-160)**
- **Tools with diameter Ø63 - 160 mm with fine or coarse pitch**
- **No diameter changes when using different insert geometries**
- **Wiper for machining 90° shoulders**

MODULAR MILLING ADAPTION INNOFIT





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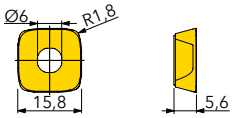
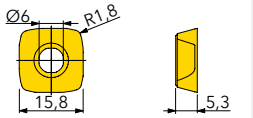
PS.050.013	28,2	50	49	50	12	2,5	40	3	5.2	✓	0,55
PS.050.014	28,2	50	49	50	12	2,5	40	4	5.2	✓	0,54
PS.052.006	30,2	52	49	50	12	2,5	40	3	4.9	✓	0,59
PS.052.007	30,2	52	49	50	12	2,5	40	4	4,9	✓	0,57

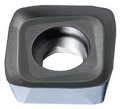
SDXS1605MPR-MR

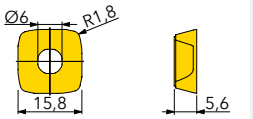


SDXS1605MPR-MR1



SDXS1605MPR-MM





Designation	fz(min/max)	Design	Grade	IN2505	IN2530	IN4035	IN7035				
SDXS1605MPR-MR	0,70/2,00	neutral geometry, convex, chamfered		●	●	●					
SDXS1605MPR-MR1	0,70/2,00	neutral geometry, convex, sharp			●	●	●				
SDXS1605MPR-MM	0,70/2,00	positive geometry, convex, chamfered		●	●	●					

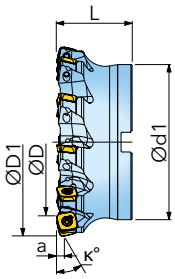
● = P ● = M ● = K ● = N ● = S ○ = H

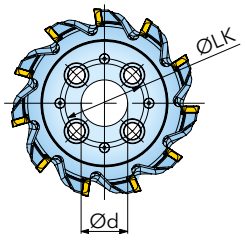
SPARE PARTS

SM50-130-R0 (7,5Nm) DS-T20S

① = Insert screw ② = Screw driver

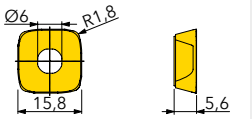
ADAPTION ACC. TO DIN 8030



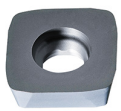


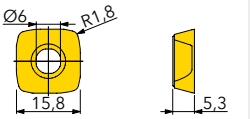
Designation	D	D1	d	d1	LK	L	κ	a	Z		IK	kg
PS.063.012	41,2	63	22	55	-	50	12	2,5	4	3.4	✓	0,68
PS.063.013	41,2	63	22	55	-	50	12	2,5	5	3.4	✓	0,69
PS.066.006	44,2	66	27	50	-	50	12	2,5	5	3.1	✓	0,63
PS.066.007	44,2	66	27	50	-	50	12	2,5	6	3.1	✓	0,63
PS.080.017	58,2	80	27	70	-	50	12	2,5	6	2.3	✓	1,17
PS.080.018	58,2	80	27	70	-	50	12	2,5	7	2.3	✓	1,17
PS.085.003	63,2	85	27	70	-	50	12	2,5	7	2.1	✓	1,28
PS.085.004	63,2	85	27	70	-	50	12	2,5	8	2.1	✓	1,28
PS.100.015	78,2	100	32	85	-	55	12	2,5	8	1.65	✓	2,08
PS.100.016	78,2	100	32	85	-	55	12	2,5	9	1.65	✓	2,08
PS.125.009	103,2	125	40	100	-	63	12	2,5	10	1.2	✓	3,50
PS.125.010	103,2	125	40	100	-	63	12	2,5	11	1.2	✓	3,50
PS.160.007	138,2	160	40	130	66,7	63	12	2,5	11	0.7	✓	5,43
PS.160.008	138,2	160	40	130	66,7	63	12	2,5	12	0.7	✓	5,46

SDXS1605MPR-MR

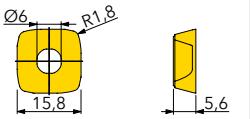


SDXS1605MPR-MR1





SDXS1605MPR-MM



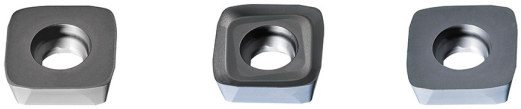
Designation	fz(min/max)	Design	Grade	IN2505	IN2530	IN4035	IN7035				
SDXS1605MPR-MR	0,70/2,00	neutral geometry, convex, chamfered		●	●	●					
SDXS1605MPR-MR1	0,70/2,00	neutral geometry, convex, sharp			●	●	●				
SDXS1605MPR-MM	0,70/2,00	positive geometry, convex, chamfered		●	●	●					

● = P ● = M ● = K ● = N ● = S ○ = H

SPARE PARTS

SM50-130-R0 (7,5Nm) DS-T20S

① = Insert screw ② = Screw driver



insert:	SDXS1605MPR-MR	SDXS1605MPR-MM	SDXS1605MPR-MR1
max. cutting depth:	ap = 2.7 mm	ap = 2.7 mm	ap = 2.7 mm
programming radius:	R4.2	R4.2	R4.2

Recommended Cutting Data:

material	cutting speed Vc [m/min]				recommended cutting depth ap [mm]	feed per tooth fz [mm]
	1st choice dry machining resp. wear resitant carbide		1st choice wet machining resp. tough carbide			
unalloyed steel	IN2505	160 – 240	IN2530	130 – 200	1.0 – 2.0	1.2 – 2.5
alloyed steel 800 N/mm²	IN2505	140 – 220	IN2530	110 – 180	1.0 – 2.0	1.2 – 2.5
alloyed steel 1100 N/mm²	IN2505	120 – 200	IN2530	100 – 160	1.0 – 2.0	1.0 – 2.2
stainless steel	IN2530 / IN4035	90 – 160	IN4035 / IN7035	80 – 140	1.0 – 2.0	1.0 – 2.0
gray cast iron	IN2505	160 – 250	IN2530	140 – 200	1.0 – 2.0	1.2 – 2.5
nodular cast iron	IN2505	140 – 200	IN2530	120 – 180	1.0 – 2.0	1.0 – 2.2
aluminum	–	–	–	–	–	–
high temperature alloys	–	–	IN4035 / IN7035	50 – 70	1.0 – 2.0	1.0 – 1.8
titanium alloys	–	–	IN4035 / IN7035	30 – 50	1.0 – 2.0	1.0 – 1.8
hard machining < 48 HRC	–	–	–	–	–	–
hard machining < 63 HRC	–	–	–	–	–	–

Tips:

- The worse the material machining, the smaller the tool engagement should be chosen.
- The smaller the cutting tool diameter, the higher the cutting speed can be.
- The starting feed rate should be reduced by 30%.
- 4-edged insert

Ramping Data and Circular Interpolation:

tool diameter [mm]	SDXS1605MPR-MR, -MM and -MR1 geometry			
	max. ramping angle [°]	min. bore dia. [mm]	max. ap/rev. [mm]	max. bore dia. [mm]
50	5.2	74.4	2.7	100.0
52	4.9	78.4	2.7	104.0
63	3.4	101.0	2.7	126.0
66	3.1	107.0	2.7	132.0
80	2.3	135.0	2.7	160.0
85	2.1	145.0	2.7	200.0
100	1.65	175.0	2.7	200.0
125	1.2	224.0	2.7	250.0
160	0.7	295.0	2.7	320.0

General Information:

insert screw: **SM50-130-R0**
torque: **5.0 Nm**
torque wrench: **DTNV00S with bit DS-T20TB**

Successful machining results depend on many factors, so cutting data recommendedations can only be a rough guideline. Therefore in any case of doubt do not hesitate to contact your Innotool partner.

INNOTOOL

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