NEW

INNOTOOL

LOOK FORWARD

HIFEED QUAD

HIGH FEED MILLING CUTTER PS09

Very smooth cutting insert geometry
4-edged inserts
4 different insert geometries in 6 different carbide grades
Available as shell-type and screw-type milling cutters
Tools diameters Ø 25 - 85 mm

No. 143 ITL / 1-2017 v.2

>>>NEW PRODUCTS

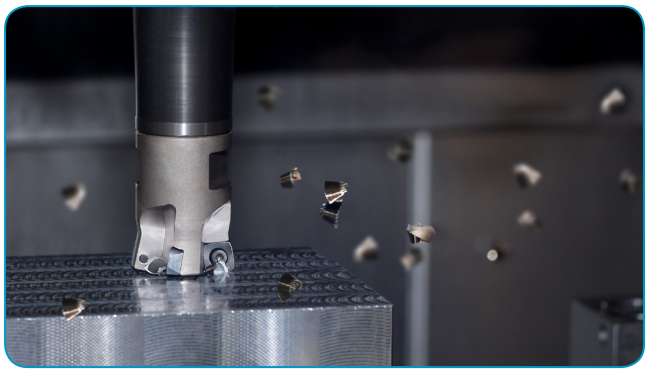
Product Overview

New high feed milling cutters for rough milling in a diameter range of Ø 25 – 85 mm.
Different insert geometries for machining of steel, cast iron and materials of the material groups M (stainless steel), S (heat resistant alloys and titanium alloys) and hardened materials of material group H up to 48 HRC.

The new series will be available as **screw-type end mills** in diameters **Ø25 / Ø30 / Ø32 / Ø35 / Ø40 / Ø42 mm** and as **shell-type mills** in diameters **Ø50 / Ø52 / Ø63 / Ø66 / Ø80 / Ø85 mm**. In order to be able to react to the different requirements, the both close pitch and coarse pitch shell-type mills will be available as standard tools.

Application Range

Range of application of the new **HiFeedQuad-series** are face and contour milling in mechanical engineering, mould and die industry as well as aerospace industry.



Technical Features

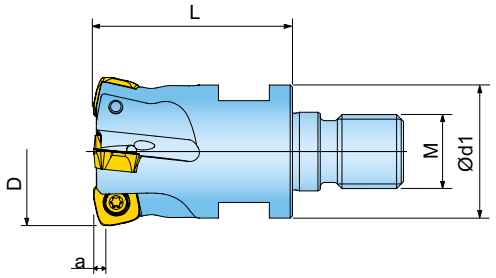
4-edged inserts for cutting depths ap up to 1.5 mm. Different geometries for stable and unstable conditions. Neutral and positive geometries in 6 different carbide grades covering a wide range of different applications enable the maximum cutting volume to be achieved, even for difficult applications.

Thanks to the wiper being 90° adjacent to the cutting diameter, 90° shoulders can be machined without problem. Unlike the series with the 13 mm and 19 mm insert in this new 9 mm series the effective diameter is maintained even when the change-over from neutral to positive cutting edge takes place. The nominal diameter is thus also the effective diameter for programming purposes. The programming radius is R2.5.

Advantages

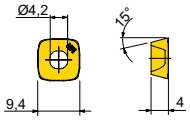
- **Smooth cutting, axially positive mounting position**
- **Cutting depths up to 1.5 mm**
- **4-edged insert**
- **4 different insert geometries in 6 different solid carbide grades**
- **Available as shell-type and screw-type milling cutters**
- **Tool diameter range Ø25 – Ø85 mm - in close and coarse pitch**
- **No changes in diameter when different insert geometries are used**
- **Wiper for machining 90° shoulders**

SCREW-IN TYPE ADAPTION

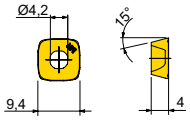


Designation	D	d1	L	a	M	Z		IK	kg
PS.025.004	25	21	35	1,5	M12	3	5,5	✓	0,09
PS.030.001	30	29	43	1,5	M16	3	3,5	✓	0,15
PS.032.005	32	29	43	1,5	M16	4	3,3	✓	0,20
PS.035.003	35	29	43	1,5	M16	4	2,6	✓	0,22
PS.040.004	40	29	43	1,5	M16	5	2,2	✓	0,24
PS.042.004	42	29	43	1,5	M16	5	2,0	✓	0,26
Programming radius 2,5 mm									

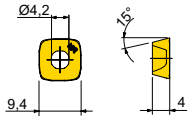
SDXS0904MPR-MR



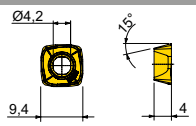
SDXS0904MPR-MRH



SDXS0904MPR-MR1



SDXS0904MPR-MM



Designation	fz(min/max)	Design	Grade	IN2504	IN2505	IN4005	IN4030	IN4035	IN7035
SDXS0904MPR-MR	0,50/1,50	neutral geometry convex, chamfered			●	●	●	●	
SDXS0904MPR-MRH	0,50/1,50	neutral geometry convex, chamfered		●					
SDXS0904MPR-MR1	0,50/1,50	neutral geometry convex, sharp						●	●
SDXS0904MPR-MM	0,50/1,50	positive geometry convex, chamfered			●	●	●	●	

● = P ● = M ● = K ● = N ● = S ○ = H

SPARE PARTS

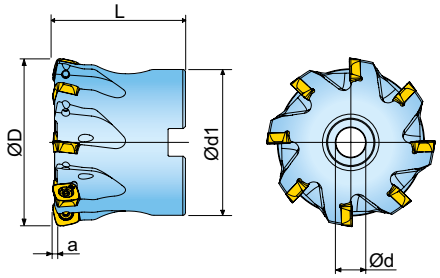
① 

② 

SM30-075-R0 (2,4Nm) DS-T09S

① = Insert screw ② = Screw driver

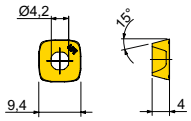
ADAPTION ACC. TO DIN 8030



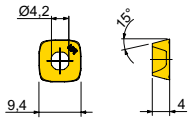
Designation	D	d	d1	L	a	Z		IK	kg
PS.050.007	50	22	45	50	1,5	6	1,5	✓	0,43
PS.050.008[1)]	50	22	45	50	1,5	7	1,5	✓	0,43
PS.052.004	52	22	40	50	1,5	6	1,3	✓	0,46
PS.052.005[1)]	52	22	40	50	1,5	7	1,3	✓	0,46
PS.063.008	63	22	55	50	1,5	7	1,1	✓	0,75
PS.063.009[1)]	63	22	55	50	1,5	8	1,1	✓	0,75
PS.066.004	66	27	50	50	1,5	7	1,0	✓	0,80
PS.066.005[1)]	66	27	50	50	1,5	8	1,0	✓	0,80
PS.080.013	80	27	70	50	1,5	7	0,6	✓	1,20
PS.080.014[1)]	80	27	70	50	1,5	9	0,6	✓	1,20
PS.085.001	85	27	70	50	1,5	8	0,4	✓	1,27
PS.085.002[1)]	85	27	70	50	1,5	10	0,4	✓	1,27
Programming radius 2,5 mm									

[1)] Narrow spacing

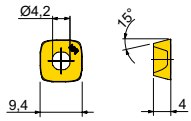
SDXS0904MPR-MR



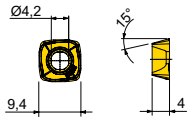
SDXS0904MPR-MRH



SDXS0904MPR-MR1



SDXS0904MPR-MM



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SDXS0904MPR-MR	0,50/1,50	neutral geometry convex, chamfered			●	●	●	●			
SDXS0904MPR-MRH	0,50/1,50	neutral geometry convex, chamfered		●							
SDXS0904MPR-MR1	0,50/1,50	neutral geometry convex, sharp						●	●		
SDXS0904MPR-MM	0,50/1,50	positive geometry convex, chamfered			●	●	●	●			

● = P ● = M ● = K ● = N ● = S ○ = H

SPARE PARTS

	SM30-075-R0 (2,4Nm)	DS-T09S

① = Insert screw ② = Screw driver

Tips & Parameters




insert:	SDXS0904MPR-MR	SDXS0904MPR-MM	SDXS0904MPR-MR1	SDXS0904MPR-MRH
max. cutting depth:	ap = 1.5 mm	ap = 1.5 mm	ap = 1.5 mm	ap = 1.5 mm
programming radius:	2.5	2.5	2.5	2.5

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 resistant carbide		1st choice wet machining resp. tough carbide			
unalloyed steel	IN2505 / IN4005	160 – 220	IN4030	130 – 180	0.8 – 1.5	0.5 – 1.6
alloyed steel 800 N/mm²	IN2505 / IN4005	140 – 200	IN4030	110 – 160	0.8 – 1.5	0.5 – 1.6
alloyed steel 1100 N/mm²	IN2505 / IN4005	120 – 180	IN4030	100 – 150	0.8 – 1.5	0.5 – 1.6
stainless steel	IN4035 / IN7035	90 – 150	IN4035 / IN7035	80 – 130	0.8 – 1.5	0.5 – 1.4
gray cast iron	IN2505 / IN4005	160 – 250	IN4030	140 – 200	0.8 – 1.5	0.5 – 1.6
nodular cast iron	IN2505 / IN4005	140 – 200	IN4030	120 – 170	0.8 – 1.5	0.5 – 1.6
aluminum	–	–	–	–	–	–
high temperature alloys	IN4035 / IN7035	50 – 80	IN4035 / IN7035	50 – 70	0.8 – 1.3	0.5 – 1.4
titanium alloys	–	–	IN4035	30 – 40	0.8 – 1.3	0.5 – 1.4
hard machining < 48 HRC	IN2504	60 – 100	IN2504	60 – 100	0.2 – 0.8	0.5 – 1.4
hard machining < 63 HRC	IN2504	40 – 80	IN2504	40 – 80	0.2 – 0.8	0.5 – 1.2

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]	SDXS0904MPR-MR, -MM, -MR1 and -MRH geometry			
	max. ramping angle [°]	min. bore dia. [mm]	max. ap/rev [mm]	max. bore dia. [mm]
25	5.5	32.5	1.5	50.0
30	3.5	42.5	1.5	60.0
32	3.3	46.5	1.5	64.0
35	2.6	52.5	1.5	70.0
40	2.2	62.5	1.5	80.0
42	2.0	66.5	1.5	84.0
50	1.5	82.5	1.5	100.0
52	1.3	86.5	1.5	104.0
63	1.1	109.0	1.5	126.0
66	1.0	115.0	1.5	162.0
80	0.6	143.0	1.5	160.0
85	0.4	153.0	1.5	170.0

General information - insert SDXS09...:

insert screw: **SM30-075-R0** torque: **2.4 Nm** torque wrench: **DTNV00S with bit DS-T09TB**

Successful machining results depend on many factors, so cutting data recommendations 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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