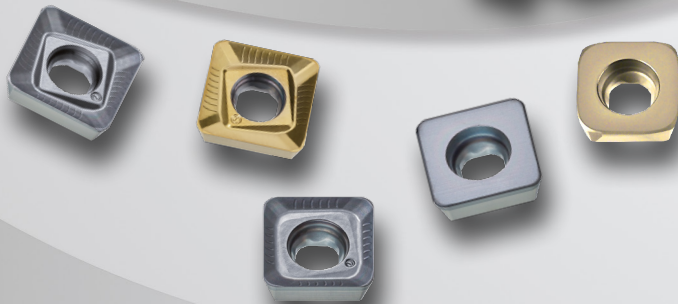


**NEW**

**INNO**TOOL

LOOK FORWARD



**HIFEEED QUAD**

**30° BEVEL-HIGH FEED MILL**

- *Soft cutting, axial positive insert position*
- *Cutting depths up to 4.9 mm resp. 7.8 mm*
- *4-edged insert*
- *7 different insert geometries in 2 different sizes*
- *Shell-type and screw-in type face mills*
- *Cutting tool diameter 40 - 160 mm*
- *Specially suitable for material groups M and S and super alloys*

## Product Overview

We extend our **HiFeedQuad** tool series, which has been successfully established in the market, with a 30° bevel-high feed face mill. The 30° bevel angle with our SD\_S13... or SD\_S19... inserts enables cutting depths of 4.9 and 7.8 mm.

The new series is available as screw-in type face mill with diameter 40 mm and 42 mm as well as shell-type face mill in diameter range 50-160 mm. Shell-type mills dia. 50 mm are mounted with a differential screw to the appropriate milling adaption.



## Application Range

Range of application are face and contour milling in the mechanical engineering, mould and die industry as well as aerospace industry. Very good alternative to conventional face milling operations with 45° or 60° bevel angles.

Especially in machining difficult to machine materials such as titanium alloys, stainless and acid-proof steels, the **SD\_S13...-PF1/-PP** and **SD\_S19...-PH/-001** inserts and our **premium grade IN4035** can achieve very good results. Also machining of cast iron materials and tool steel are covered with the versatility of the inserts and grades.

## Technical Features

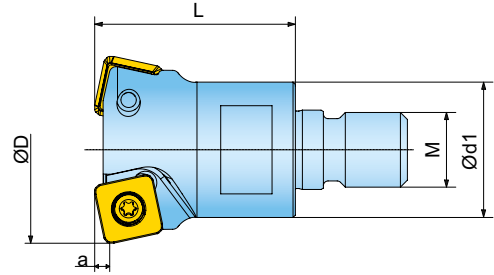
- 4-edged insert with cutting depths **ap up to 4.9 mm** (SDES13... und SDMS13...) and **7.8 mm** (SDES19... and SDMS19...).
- Different insert geometries for stable and unstable conditions.
- Neutral and positive geometries in 2 different sizes for a variety of applications allow max. chip removal rates also for difficult applications.
- Please consider max. feed rates for machining 90° shoulders

## Advantages

- Soft cutting, axial positive insert position
- Cutting depths up to 4.9 mm resp. 7.8 mm
- 4-edged insert
- 7 different insert geometries in 2 different sizes
- Shell-type and screw-in type face mills
- Cutting tool diameter 40 - 160 mm
- Specifically suitable for material groups M (stainless steel) and S (super alloys and titanium alloys)



## SCREW-IN TYPE ADAPTION



Designation	D	d1	L	a	M	Z			
PS.032.003	32	29	43	2	M16	2	10	✓	0,17
PS.035.001	35	29	43	2	M16	2	8	✓	0,17
PS.040.002	40	29	43	2	M16	3	5	✓	0,19
PS.042.002	42	29	43	2	M16	3	5	✓	0,20
PS.035.002	35	29	43	2	M16	2	8	✓	0,17
PS.042.001	42	29	43	2	M16	3	5	✓	0,20

SDXS1305MDR-PH	SDXS130515R-PH	SDXS1305MPR-MR

Designation	fz(min/max)	Design	Grade	IN2505	IN4005	IN4030	IN4035				
SDXS1305MDR-PH	*/*	neutral geometry, chamfered									
SDXS130515R-PH	*/*	neutral geometry, Sharp									
SDXS1305MPR-MR	*/*	positive geometry, chamfered									
SDXS1305MDR-PH	*/*	positive geometry, chamfered R1,5									
SDXS1305MPR	*/*	neutral geometry convex, chamfered									
SDXS1305MPR-001	*/*	neutral geometry convex, sharp									
SDXS1305MDR-PH	*/*	positive geometry, chamfered									
SDXS130515R-PH	*/*	positive geometry, chamfered R1,5									
SDXS1305MPR-MR	*/*	neutral geometry convex, chamfered									

● = P ● = M ● = K ● = N ● = S ○ = H

## SPARE PARTS

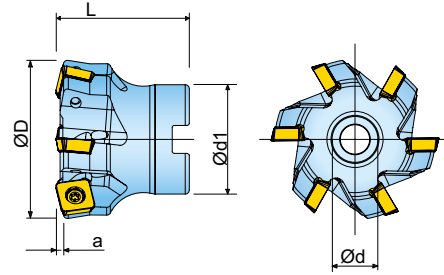


SM40-100-R0 (4,5Nm) DS-T15S

① = Insert screw ② = Screw driver

# HIFEED QUAD PS13D10

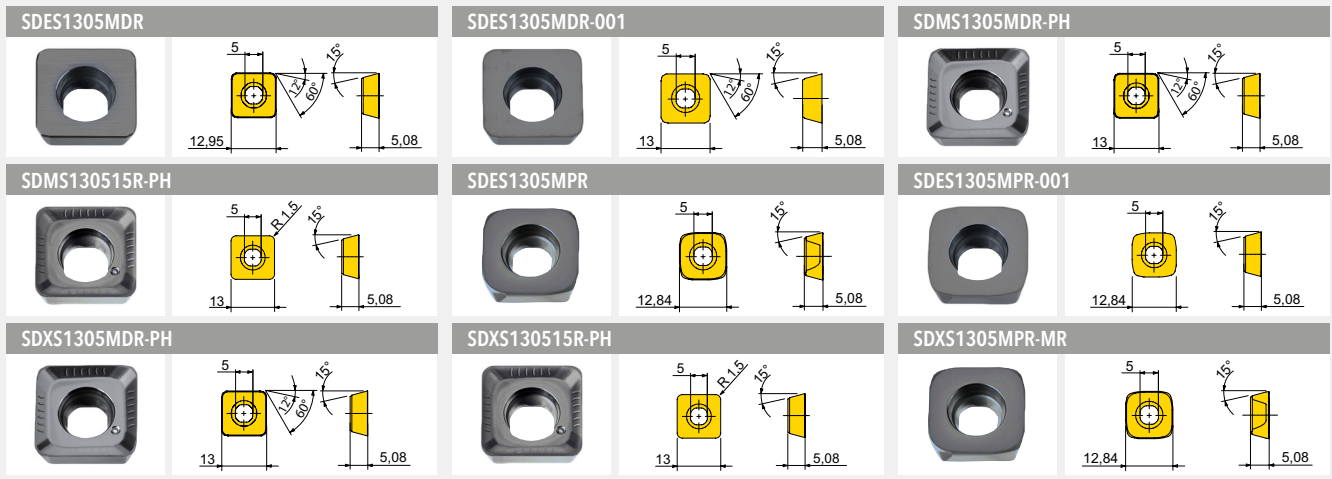
ADAPTION ACC. TO DIN 8030



Designation	D	d	d1	L	a	Z			
PS.050.005	50	22	45	50	2	4	3,5	✓	0,34
PS.050.004 <sup>1)</sup>	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 <sup>1)</sup>	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 <sup>1)</sup>	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 <sup>1)</sup>	66	27	48	50	2	6	2	✓	0,50
PS.080.005	80	27	70	50	2	6	1	✓	0,97
PS.080.004 <sup>1)</sup>	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 <sup>1)</sup>	100	32	85	55	2	9	0,5	✓	1,74
PS.052.003 <sup>1)2)</sup>	52	22	40	50	2	5	3	✓	0,28
PS.066.003 <sup>1)2)</sup>	66	27	48	50	2	6	2	✓	0,50
PS.080.009 <sup>1)2)</sup>	80	27	70	50	2	8	1	✓	1,01
PS.100.008 <sup>1)2)</sup>	100	32	85	55	2	9	0,5	✓	1,74

<sup>1)</sup>Narrow spacing; <sup>2)</sup>for \* MPR-Insert geometry is effective diameter (D)





Designation	fz(min/max)	Design	Grade								
			IN2505	IN4005	IN4030	IN4035					
SDES1305MDR	*/*	neutral geometry, chamfered	●								
SDES1305MDR-001	*/*	neutral geometry, sharp	●								
SDMS1305MDR-PH	*/*	positive geometry, chamfered	●	●	●	●					
SDMS130515R-PH	*/*	positive geometry, chamfered R1,5	●	●	●	●					
SDES1305MPR	*/*	neutral geometry convex, chamfered	●	●		●					
SDES1305MPR-001	*/*	neutral geometry convex, sharp	●	●	●	●					
SDXS1305MDR-PH	*/*	positive geometry, chamfered			●	●					
SDXS130515R-PH	*/*	positive geometry, chamfered R1,5			●	●					
SDXS1305MPR-MR	*/*	neutral geometry convex, chamfered		●	●						

● = P ● = M ● = K ● = N ● = S ○ = H

**SPARE PARTS**

①

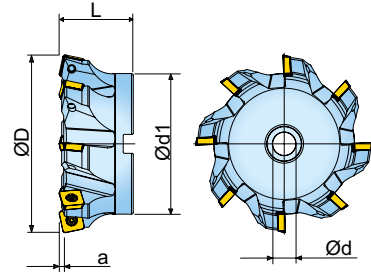
②

SM40-100-R0 (4,5Nm) DS-T15S

① = Insert screw ② = Screw driver

# HIFEED QUAD PS19D10

ADAPTION ACC. TO DIN 8030



Designation	D	d	d1	LK	L	a	Z			
PS.080.007	80	27	70	-	55	3	5	3,5	✓	1,01
PS.080.006 <sup>1)</sup>	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 <sup>1)</sup>	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 <sup>1)</sup>	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 <sup>1)</sup>	160	40	130	66,7	63	3	10	1	✓	4,82
PS.080.008 <sup>1)</sup>	80	27	70	-	55	3	6	3,5	✓	1,02
PS.100.009 <sup>1)</sup>	100	32	85	-	55	3	8	2,5	✓	1,62
PS.125.005 <sup>1)</sup>	125	40	100	-	63	3	9	1,5	✓	2,87
PS.160.005 <sup>1)</sup>	160	40	130	66,7	63	3	10	1,0	✓	4,82

<sup>1)</sup> Narrow spacing

Designation	fz(min/max)	Design	Grade	IN2505	IN4005	IN4030	IN4035				
SDES1906MDR	*/*	neutral geometry, chamfered									
SDMS1906MDR-PH	*/*	positive geometry, chamfered									
SDMS190620R-PH	*/*	positive geometry, chamfered R2									
SDES1906MPR	*/*	neutral geometry convex, chamfered									
SDES1906MPR-001	*/*	neutral geometry convex, sharp									

● = P ● = M ● = K ● = N ● = S ○ = H

**SPARE PARTS**





①

②

SM60-135-R0 (8,0Nm) DS-T25T

① = Insert screw ② = Screw driver

## Tips & Parameters

				
insert:	SDMS130516R-PP	SDES130516N-PF1	SDES130516N-PF	SDES1305MPR SDES1305MPR-001
max. cutting depth:	ap = 4,9 mm	ap = 4,9 mm	ap = 4,9 mm	ap = 4,9 mm
ap <sub>max</sub> with undercut at 90° shoulders:	ap <sub>max</sub> = 4,9 mm	ap <sub>max</sub> = 4,9 mm	ap <sub>max</sub> = 4,9 mm	ap <sub>max</sub> = 4,9 mm
ap <sub>max</sub> without undercut at 90° shoulders:	ap <sub>max</sub> = 0,5 mm	ap <sub>max</sub> = 0,5 mm	ap <sub>max</sub> = 0,5 mm	ap <sub>max</sub> = 0,5 mm
Programming radius:	6,4	6,4	6,4	6,14

## Recommended Cutting Data:

material	cutting speed Vc [m/min]				feed rate fz [mm]
	1st choice dry machining resp. wear resistant carbide		1st choice wet machining resp. tough carbide		
unalloyed steel	IN4005	160-220	IN4030	130-180	0,2-0,5
alloyed steel 800 N/mm <sup>2</sup>	IN4005	140-200	IN4030	110-160	0,2-0,5
alloyed steel 1100 N/mm <sup>2</sup>	IN4005	120-180	IN4030	100-150	0,2-0,5
stainless steel	IN4035	90-150	IN4035	80-130	0,2-0,45
gray cast iron	IN2505	160-250	IN4030	140-200	0,2-0,6
nodular cast iron	IN2505	140-200	IN4030	120-170	0,2-0,6
aluminum	-	-	-	-	-
high temperature alloys	IN4035	50-80	IN4035	50-70	0,2-0,45
titanium alloys	-	-	IN4035	30-40	0,2-0,45
hard machining < 54 HRC	IN4005	60-100	-	-	0,2-0,4
hard machining < 63 HRC	-	-	-	-	-

## Tips

- The worse the material machinability, 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]	PF / PF1 / PP-geometry					MPR / MPR-001-geometry				
	max. ramping angle [°]	min. bore-Ø [mm]	max. ap/rev [mm]	max. bore-Ø even ground [mm]	max. ap/rev [mm]	max. ramping angle [°]	min. bore-Ø [mm]	max. ap/rev. [mm]	max. bore-Ø even ground [mm]	max. ap/rev. [mm]
40	4,6	57,0	0,5	80,0	0,5	3,3	56,5	0,5	78,0	0,5
42	4,2	61,0	0,5	84,0	0,5	2,9	60,5	0,5	82,0	0,5
50	3,4	76,5	0,5	100,0	0,5	2,4	76,0	0,5	98,0	0,5
63	2,4	102,5	0,5	126,0	0,5	1,7	102,0	0,5	124,0	0,5
80	1,8	136,5	0,5	160,0	0,5	1,3	136,0	0,5	158,0	0,5
100	1,4	176,5	0,5	200,0	0,5	1,0	176,0	0,5	198,0	0,5

## General Information - insert size 13:

insert screw: **SM40-100-R0** torque: **4 Nm** torque wrench: **DTNV00S with bit DS-T15TB**

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

# INNOTOOL

## INNOVATIVE CUTTING TOOLS

Florianstraße 13-17

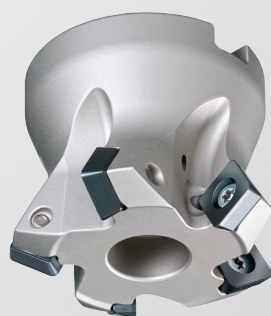
71665 Vaihingen-Horrheim, Germany

Tel.: +49 (0)7042-8316-0

Fax: +49 (0)7042-8316-26

E-Mail: [info@innotool.de](mailto:info@innotool.de)

[www.innotool.de](http://www.innotool.de)



**HIFEED QUAD**