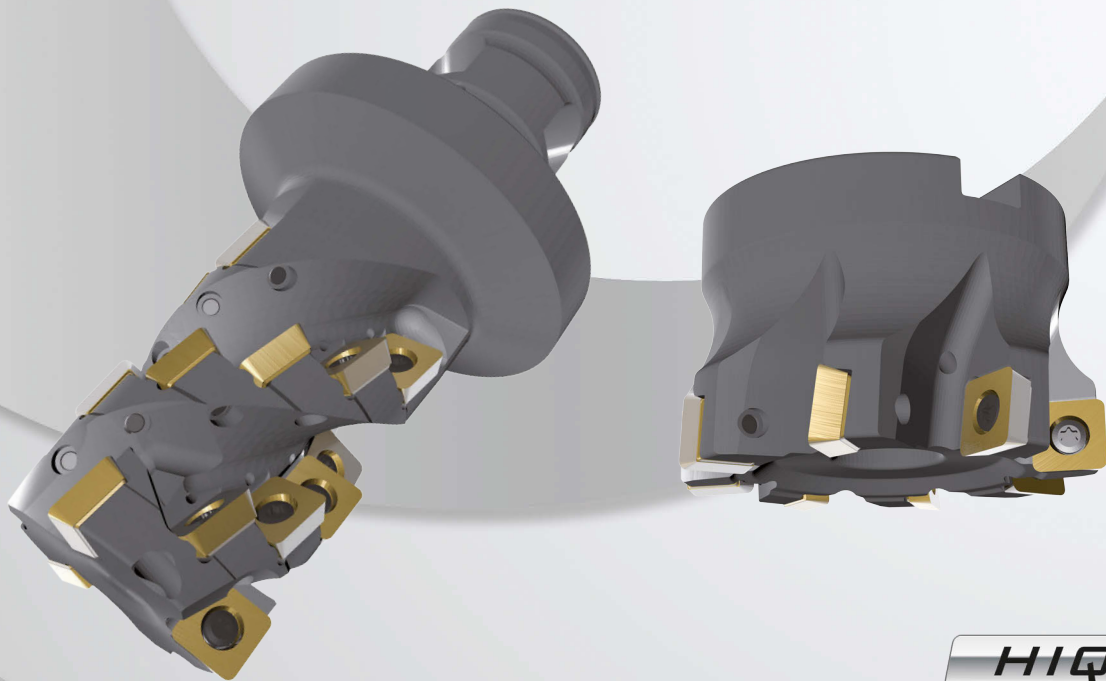


NEW

INNOTOOL

LOOK FORWARD



HIQUAD

NEW SQUARE SHOULDER & EXTENDED FLUTE CUTTERS

- Proven, tested and trusted insert geometries •*
- Fine pitch cutters due to Angled-Screw-Design •*
- Also suitable for difficult to machine materials e.g. Titanium •*

Product Overview

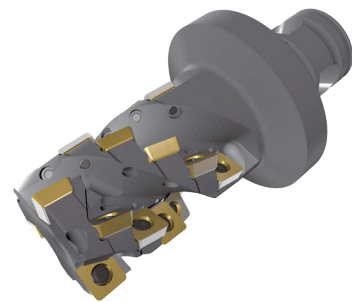
For quite some time our **HiFeedQuad High-Feed Cutters** cause sensation on the market due to their high productivity and unmatched tool life.

Now we extend our standard offering by **square shoulder and extended flute cutters** using the same proven, tested and trusted insert geometries. The fine pitch **shoulder mills** in a diameter range of 50 to 125 mm all feature internal coolant supply.

Extended flute cutters in $\varnothing 50$ and $\varnothing 63$ with InnoFit MOD50 adaption complete the **HiQuad** product line for general milling. A major objective of this tool series is the machining of titanium alloys and difficult to machine materials.

The internal coolant holes are a clear indication of this purpose, as each cutting edge has separate supply.

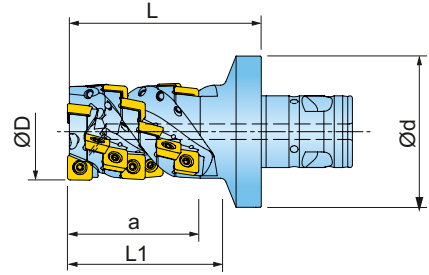
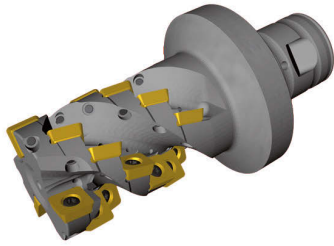
Nevertheless these tools will also work convincingly in general applications and their workpiece materials. Using the inserts in high-feed and "normal" cutters helps to reduce insert stock levels.



Advantages

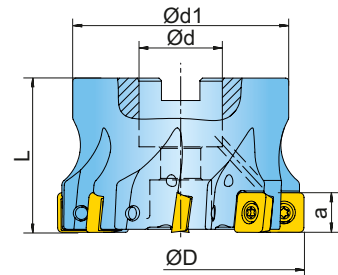
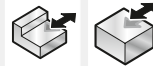
- Suitable for exotic and common workpiece materials
- Inserts for high-feed and general milling
- Fine pitch cutters for high productivity due to Angled-Screw-Design

MODULAR MILLING ADAPTOR INNOFIT



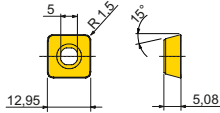
Designation	D	d	L	L1	a	MOD	Z	Zeff			
IS.050.006	50	78	100	80	66	50	21	3	3,7°	✓	1,52
IS.063.008	63	78	120	100	85	50	36	4	2,0°	✓	2,27

ADAPTION ACC. TO DIN 8030

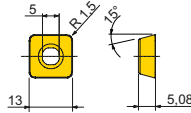


Designation	D	d	d1	L	a	Z			
ES.050.007	50	22	45	40	11,3	5	3,7°	✓	0,30
ES.063.008	63	22	55	40	11,3	6	2,0°	✓	0,48
ES.080.010	80	27	70	50	11,3	8	1,3°	✓	1,06
ES.100.006	100	32	85	50	11,3	10	1,0°	✓	1,70
ES.125.004	125	40	100	63	11,3	13	0,7°	✓	3,20

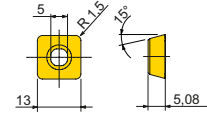
SDES130515N



SDES130515N-001



SDMS130515R-PH



Designation	fz(min/max)	Design	Grade	IN2505	IN2530	IN4005	IN4030	IN4035		
SDES130515N	0,20/0,35	neutral geometry, K-land R1,5								
SDES130515N-001	0,08/0,20	neutral geometry, sharp R1,5								
SDMS130515R-PH	0,10/0,25	positive geometry, chamfered R1,5								

● = P ● = M ● = K ● = N ● = S ○ = H

SPARE PARTS



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

① = Insert screw ② = Screw driver

Tips & Parameters



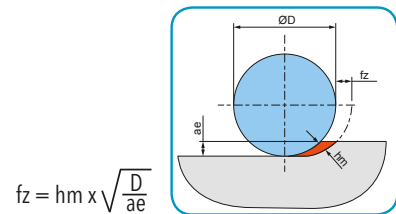
insert:	SDES1305_N	SDES1305_N-001	SDMS1305_R-PH
average chip thickness:	hm = 0.20 mm	hm = 0.08 mm	hm = 0.10 mm
max. cutting depth:	ap = 11.3 mm	ap = 11.3 mm	ap = 11.3 mm

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. tough carbide		
unalloyed steel	IN2505	250-290	IN2530	200-240	0.10-0.35
alloyed steel 800 N/mm ²	IN2505	210-250	IN2530	160-200	0.10-0.30
alloyed steel 1100 N/mm ²	IN2505	160-180	IN2530	110-130	0.10-0.25
stainless steel	IN4035	120-180	IN2530	80-130	0.08-0.25
gray cast iron	IN2505	180-250	IN4030	150-200	0.10-0.35
nodular cast iron	IN2505	140-210	IN4030	110-160	0.10-0.25
aluminum	IN2505	800-1500	IN2505	500-800	0.08-0.25
high temperature alloys	IN4035	110-125	IN4035	60-80	0.08
titanium alloys	IN4035	40-50	IN4035	30-40	0.08
hard machining < 54 HRC	IN2505	30-40	-	-	0.08
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.
- If tool engagement is less than 1/3 of cutting tool diameter, the feed per tooth should be calculated with the following formula:



Ramping Data and Circular Interpolation:

tool diameter [mm]	max. ramping angle [°]	min. bore dia. [mm]	max. ap/rev. [mm]	max. bore dia. even ground [mm]	max. ap/rev. [mm]
50	3.7	77.2	5.5	97	9.5
63	2	103.2	4.4	123	6.5
80	1.3	137.2	4.0	157	5.4
100	1	177.1	4.2	197	5.3
125	0.7	227.1	3.9	247	4.6

General Information:

Insert screw: **SM40-100-R0**
 Torque: **4.5 Nm**
 Torque wrench: **DT-40-01 with bit DS-T15B1**

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.