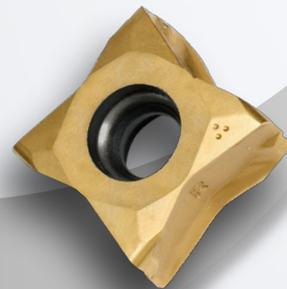


NEW

INNO**TOOL**

LOOK FORWARD



SUPER8

SHOULDER-TYPE MILL ES09D10

- 8-fold indexable inserts
- High economical
- Large chip volume
- High process reliability
- Cost oriented
- Precise 90° shoulders

Product Overview

The shoulder-type mill of the series **ES09D10** is an absolute innovation in the field of tangential cutting tools.

- The tool series covers a diameter range of 50 - 160 mm in standard.
- 2 pitches are available per diameter for short and long chipping materials.
- Internal coolant supply for both pitch varieties are standard up to and including \varnothing 100 mm.

8-fold Indexable Insert

The indexable insert of the type **SGM-44R001** developed specially for this tool type offers 8 clockwise-rotating cutting edges in a stable tangential installation position. The indexable insert has been manufactured using the latest production processes and is capable of machining precise 90° shoulders, even in axial steps, with a maximum cutting depth of 8.7 mm.

The indexable insert **SGM-44R001** features a corner radius of 0.8 mm and integrated wiper technology for producing high-quality surfaces. An additional relief-reducing chamfer stabilizes the cutting edge and offers additional process reliability, especially in the smaller diameter range of up to approx. 80 mm.

With the special ground main cutting edges this insert produces precise 90° shoulders up to a max. cutting depth of 8.7 mm.



Insert SGM-44R001
with 8 cutting edges

Application Range

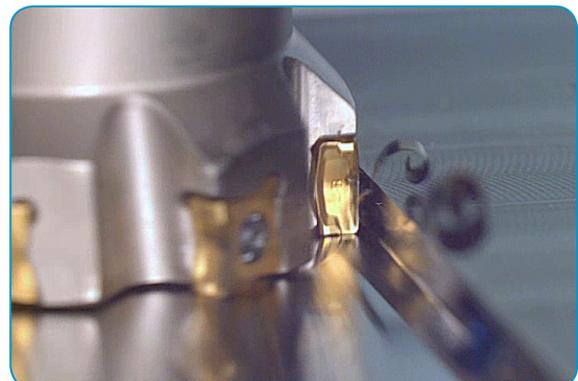
The new **Super8** shoulder-type mill with 8-fold useable sturdy tangential inserts in one direction of rotation ensures a smooth and process reliable cutting behavior for axial- and radial-positive cutting edge geometry.

The negative axial angle at the main cutting edges minimizes burr formation at cutting depths higher than 6 mm.

The special ground main cutting edges enable 90° shoulders with a max. depth of cut of 8.7 mm and due to the sturdy tangential insert, a high-effective milling in axial steps as well as face and shoulder milling with maximum chip volume.

Advantages

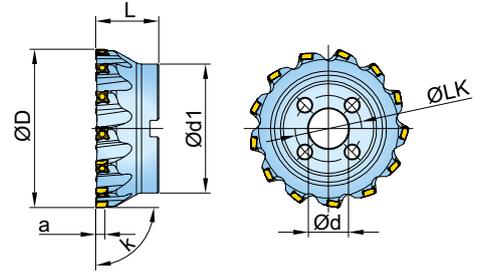
- 8-edged tangential insert
- precise 90°-shoulders
- ap max. 8.7 mm
- integrated wiper technology
- diameter range \varnothing 50 - 160 mm
- wide and narrow pitches
- extremely economical
- large chip volume
- very high process reliability
- cost-oriented





SUPERB SHOULDER-TYPE MILL ES09D10

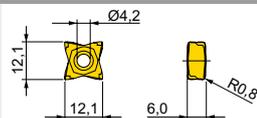
ADAPTION ACC. TO DIN 8030



Designation	D	d	d1	LK	L	κ	a	Z		
ES.050.008 ¹⁾	50	22	45	-	40	90	8,7	6	✓	0,39
ES.050.004	50	22	45	-	40	90	8,7	5	✓	0,37
ES.063.009 ¹⁾	63	22	55	-	40	90	8,7	8	✓	0,65
ES.063.010	63	22	55	-	40	90	8,7	6	✓	0,63
ES.080.011 ¹⁾	80	27	70	-	50	90	8,7	10	✓	1,31
ES.080.012	80	27	70	-	50	90	8,7	8	✓	1,28
ES.100.006 ¹⁾	100	32	80	-	50	90	8,7	13	✓	2,02
ES.100.007	100	32	80	-	50	90	8,7	9	✓	1,93
ES.125.005 ¹⁾	125	40	100	-	63	90	8,7	16		4,00
ES.125.006	125	40	100	-	63	90	8,7	10		3,97
ES.160.005 ¹⁾	160	40	130	66,7	63	90	8,7	21		5,16
ES.160.006	160	40	130	66,7	63	90	8,7	13		4,90

¹⁾Narrow spacing (only for short chip producing materials)

SGM-44R001



Designation	fz(min/max)	Design	Grade	IN2505	IN2530	IN4005	IN4015	IN4030		
SGM-44R001	0,10/0,25	positive geometry R0,8								

● = P ● = M ● = K ● = N ● = S ○ = H

SPARE PARTS



SM40-120-20 (4,5Nm) DS-T15S

① = Insert screw ② = Screw driver



insert:

SGM-44R_

average chip thickness:

hm = 0.18 mm

max. cutting depth:

ap = 8.7 mm

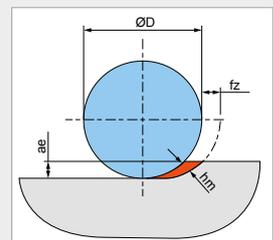
Recommended cutting data:

material	cutting speed Vc [m/min]				average chip thickness hm [mm]
	1st choice dry machining resp. wear resistant carbide		1st choice wet machining resp. tough carbide		
unalloyed steel	IN2505	150 - 250	IN2530	120 - 200	hm x 1.2
alloyed steel 800 N/mm ²	IN4005	120 - 180	IN4030	100 - 160	hm x 1.0
alloyed steel 1100 N/mm ²	IN4005	100 - 180	IN4030	80 - 160	hm x 0.9
stainless steel	IN4030	80 - 160	IN2530	80 - 160	hm x 1.2
gray cast iron	IN4015	160 - 250	IN4030	140 - 200	hm x 1.2
nodular cast iron	IN4015	120 - 200	IN4015	100 - 180	hm x 1.0
aluminum	-	-	-	-	-
high temperature alloys	IN2530	50 - 80	IN2530	40 - 70	hm x 0.9
titanium alloys	-	-	IN2530	30 - 40	hm x 1.0
hard machining < 54 HRC	-	-	-	-	-
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:

$$fz = hm \times \sqrt{\frac{D}{ae}}$$



General information:

insert screw: **SM40-120-20**

torque: **4.5 Nm**

torque wrench: **DT-40-01 with bit DS-T15B**