

Your technology partner for cost-effective machining

OptiMill<sup>®</sup>-Inox-HPC

# OptiMill®-Inox-HPC

## Versatile corner milling cutter for precise stainless steel machining

The four-edged OptiMill-Inox-HPC corner milling cutter is a versatile tool. The solid carbide end mill can be used for both roughing and finishing. The special cutting edge preparation produces optimum surfaces with particularly low-vibration running. Thanks to its AlTiN-based multilayer coating, it is ideal for machining stainless steel.

Inform,  
buy and download



Online-Shop

Register now under:  
[shop.mapal.com](http://shop.mapal.com)

The MAPAL Online-Shop is available for customers from Germany, Austria, Switzerland and Hungary.

### 1 Optimised groove profile

- For fast and reliable chip removal in ductile materials

### 2 Unequal helix & pitch

- Less vibration
- Smooth running

### 3 Innovative cutting material

- Specially designed for machining ISO 'M' materials

### 4 Face geometry and cutting edge

- For various milling applications (ramps, helical milling)
- Corner chamfer for maximum stability



## Features

### Preferred series in stock:

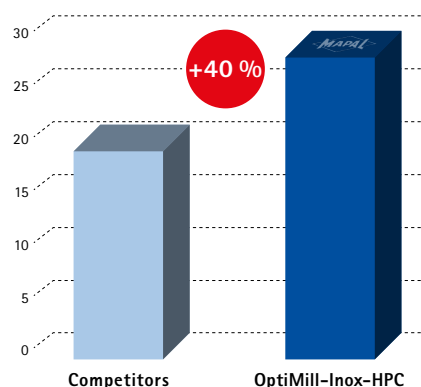
- Design z=4: long design with neck
- $\varnothing$  range: 3.00 - 20.00 mm
- Shank form: HB

### Configurable features:

- $\varnothing$  range: 3.00 - 20.00 mm
- Shank form: HA

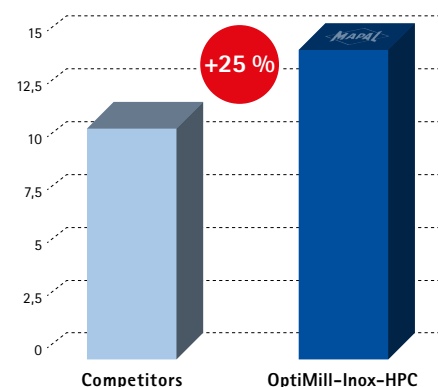
## Tool life [m]

Full slot milling - AISI304 (1.4301/ V2A)



Cutting parameters:  $v_c$ : 90 m/min  $a_p$ : 12.00 mm  
Tool  $\varnothing$ : 12.00 mm  $f_z$ : 0.05 mm  $a_e$ : 12.00 mm

Full slot milling - AISI316Ti (1.4571/ V4A)

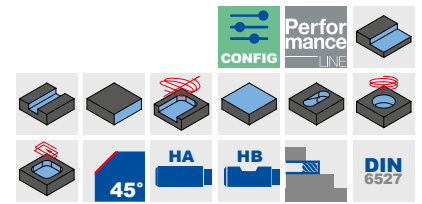
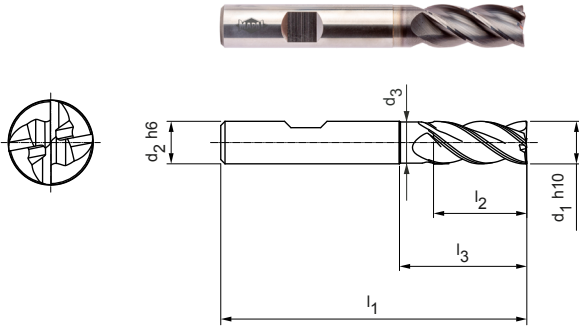


# OptiMill®-Inox-HPC

Shoulder milling cutter, long design with neck  
SCM108

**Design:**

Diameter of milling cutter: 3.00 – 20.00 mm  
Cutting material: HP921  
Number of cutting edges: 4  
Helix angle: 38°  
Special features: Unequal spacing




**Preferred series in stock**

Dimensions							z	Specification	Order no.
d <sub>1</sub> h10	d <sub>2</sub> h6	d <sub>3</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	Cx45°			
3,00	6	-	57	8	-	0,06	4	SCM108-0300Z04R-F0006HB-HP921	31181468
4,00	6	-	57	11	-	0,08	4	SCM108-0400Z04R-F0008HB-HP921	31181469
5,00	6	-	57	13	-	0,10	4	SCM108-0500Z04R-F0010HB-HP921	31181480
6,00	6	5,8	57	13	19	0,12	4	SCM108-0600Z04R-F0012HB-HP921	31181481
8,00	8	7,8	63	19	25	0,16	4	SCM108-0800Z04R-F0016HB-HP921	31181482
10,00	10	9,8	72	22	30	0,20	4	SCM108-1000Z04R-F0020HB-HP921	31181483
12,00	12	11,8	83	26	36	0,24	4	SCM108-1200Z04R-F0024HB-HP921	31181484
16,00	16	15,8	92	32	42	0,32	4	SCM108-1600Z04R-F0032HB-HP921	31181486
20,00	20	19,8	104	38	52	0,40	4	SCM108-2000Z04R-F0040HB-HP921	31181488


**Available on request**

14,00	14	13,8	83	26	36	0,28	4	SCM108-1400Z04R-F0028HB-HP921	31181485
18,00	18	17,8	92	32	42	0,36	4	SCM108-1800Z04R-F0036HB-HP921	31181487

**Configurable features**



**Shank form:**  
Shank form: HA



**Specification:**  
SCM108-0300Z04R-F0006[shank form]-HP921

**Example:**

SCM108-0300Z04R-F0006HA-HP921

Shank form HA

Dimensions in mm.

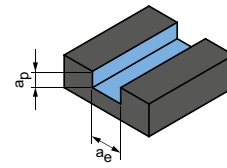
For cutting data recommendations, see side 4/5.

Special designs and other coatings available upon request.

# Cutting data recommendations for shoulder milling cutters

Feed and cutting speed

Groove milling



$$a_p = 1 \times D$$

$$a_e = 1 \times D$$

OptiMill-Inox-HPC | SCM108

MMG*	Workpiece material	Strength/ hardness [N/mm <sup>2</sup> ] [HRC]	Cooling			$v_c$ [m/min]	$f_z$ [mm]							
			MQL/Air	Dry	Coolant		Diameter of milling cutter [mm]							
							3.00	4.00	6.00	8.00	10.00	12.00	16.00	20.00
M	M1.1	Stainless steels, austenitic	< 700	✓	✓	70	0.011	0.013	0.019	0.025	0.030	0.035	0.044	0.051
	M1.2	Stainless steels, ferritic/austenitic (duplex)	< 1,000		✓	65	0.009	0.011	0.016	0.020	0.025	0.029	0.036	0.042
	M2.1	Stainless/heat-resistant cast steel, austenitic	< 700	✓	✓	75	0.011	0.015	0.021	0.027	0.032	0.038	0.047	0.055
	M3.1	Stainless cast steel, ferritic/austenitic (duplex)	< 1,000		✓	70	0.009	0.012	0.016	0.021	0.026	0.030	0.037	0.043

\* MAPAL machining groups

The specified machining values are guide values.

The optimum data for the respective machining task should be determined during the test or machining.





Discover tool and service solutions now that give you a lead:

## BORE MACHINING

REAMING | FINE BORING

DRILLING FROM SOLID | BORING | COUNTERSINKING

MILLING

CLAMPING

TURNING

ACTUATING

SETTING | MEASURING | DISPENSING

SERVICES

FOLLOW US

