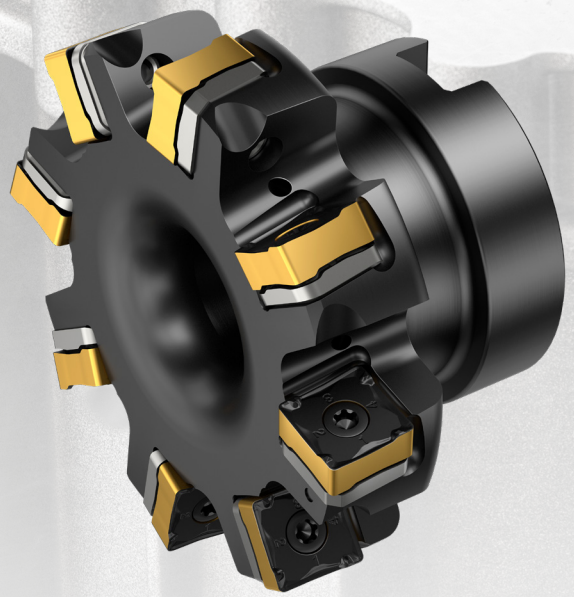
SANDVIK
Coromant

CoroMill® MF80

Face and shoulder milling



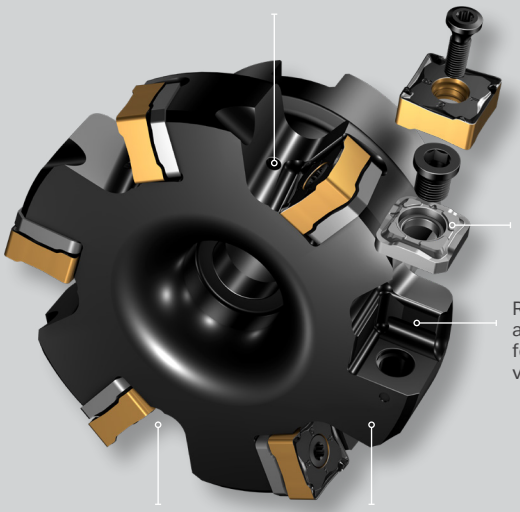
High-performance face and shoulder milling

Time to level up your face and shoulder milling operations with the new CoroMill® MF80. This is a reliable and robust tool for most automotive milling applications in ISO K and P materials, and it effectively reduces cost per part.

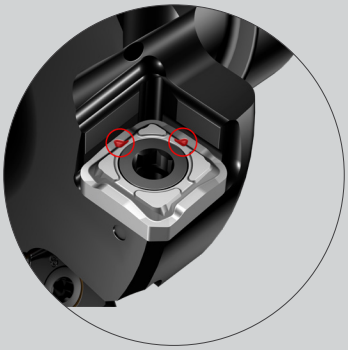
Thanks to its lightweight cutter body with shim protection, the CoroMill® MF80 ensures secure, vibration-free cutting, as well as more cost-efficient production in close to 90-degree operations with fixture constraints.

Lightweight cutter body

The new tool body profile is lightweight, reducing vibration at long overhangs. The multi-edge face and shoulder milling cutter comes equipped with a robust tip seat and shim protection for close to 90-degree cutting angle applications, which not only greatly improves machine utilization but also ensures longer tool life with less scrap.



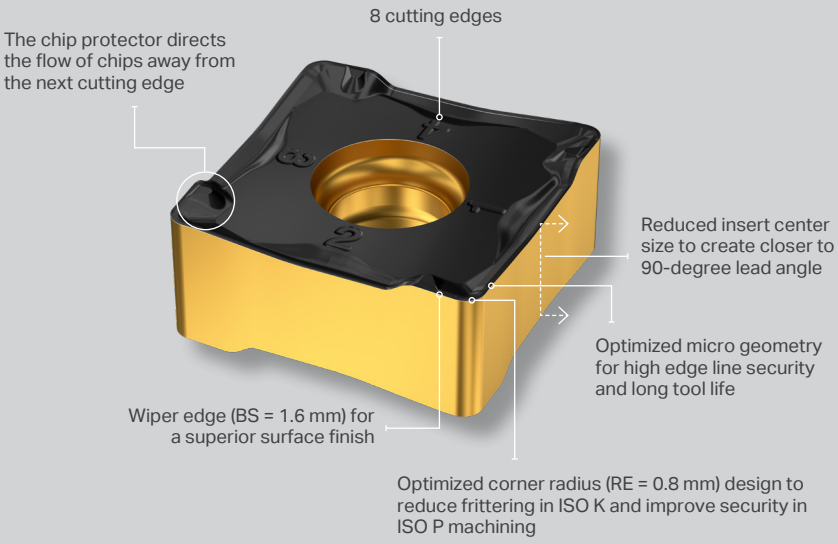
New tool body profile enables the cutter to work closer to the fixture and component.

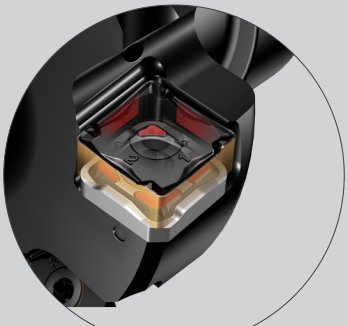


Correct orientation of the shim in the pocket ensures positional accuracy of the mounted insert.

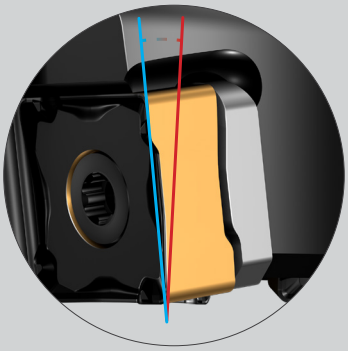
Eight-corner insert

This insert has eight cutting edges, chip protection and optimized micro geometry for better security and chip evacuation, as well as a wiper edge for a superior surface finish. The cutting edge is inclined for smooth cutting action and low cutting forces.





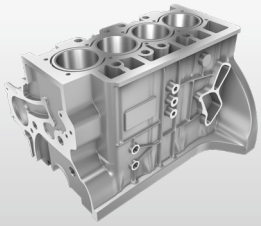
Mounting pads on the shim ensure correct positioning of the insert in the tip seat.



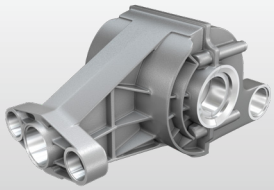
Inclined cutting edge for smooth cutting action, low cutting forces.

Application

- Cost-efficient face milling applications where traditionally a multi-edge or tangential milling solution is used
- Cost-efficient shoulder milling applications where true 90-degree corner and repeated shoulder milling is not the primary demand
- Thin-walled components where low axial forces are required
- Components and machine setups with limited stability
- Automotive (engine and housing components) roughing applications
- General engineering roughing and semi-roughing applications
- ISO K, ISO P face and shoulder milling applications

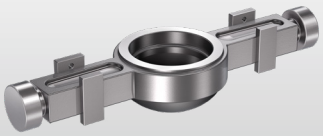


Engine block

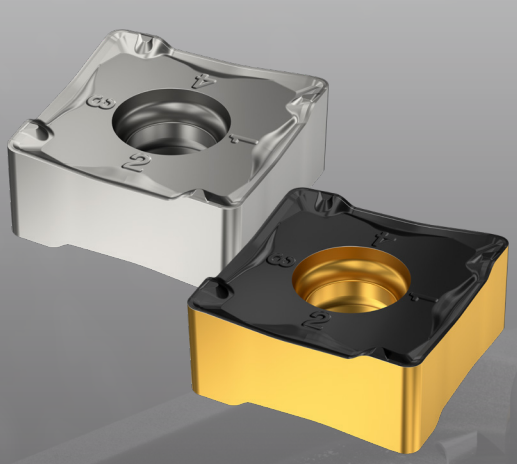


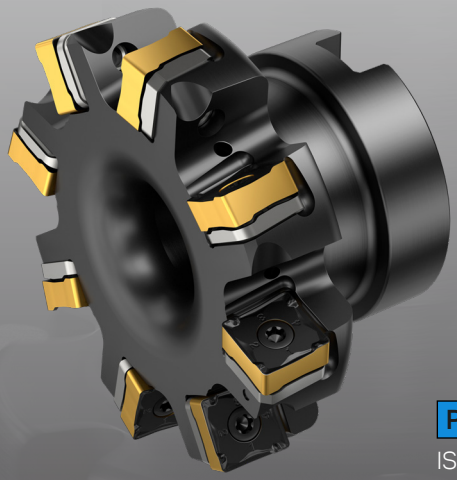
Gear box housing

Steering knuckle



Differential housing





P K

ISO application area

Value summary

Need	Solution	Value
Process security	• Coarse-pitch cutters with differential pitch available • Geometry optimized for tool life as well as light cutting • Light tool body with low axial forces	• Increased machining predictability
Cost reduction	• Eight cutting edges • Geometry optimized for tool life as well as light cutting • Close pitch cutters available	• Cost-per-part • Increased machine utilization
Sustainability	• Shim protected cutter bodies	• Improved cutter body tool life

Performance case

ISO P

+67% Tool life

+60% Productivity

Component: Pump and valve
Material: ISO P (Din1.0619) / P1.5.C.UT
Operation: Rough shoulder milling
Machine: Heller H6000 HMC (HSK100)

	Competitor	Sandvik Coromant
Tool	-	MF80-R080Q27-13H
Insert	-	MF80-130508 M-M50 4330
z_n	80/5	80/8
n, rpm	500	500
v_c, m/min	125	125
h_{ex}, mm	-	-
f_z, mm	0.15	0.15
v_f, mm/min	375	600
a_p, mm	5	5
a_e, mm	15/50	15/50
Tool life, components	9 components	15 components

Competitor (9 components)

Sandvik Coromant (15 components)

Result: After 40 minutes of machining time, only chipping wear was visible.The shim protection and the high number of insert edges can lower the cost-per-part in roughing.

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