




SANDVIK  
Coromant

# CoroMill® 390

End mills with size 07 inserts

Steel grade GC1130



With new end mills in small diameters, equipped with size 07 inserts, the proven performance of CoroMill 390 is now available for component features with limited cutting-depth requirements. Due to the smaller inserts, a higher cutter-teeth density delivers superior productivity in any type of milling operation. Add the steel grade GC1130, one of the key technological improvements for the world of milling, and your production is set for a profitable milling future.

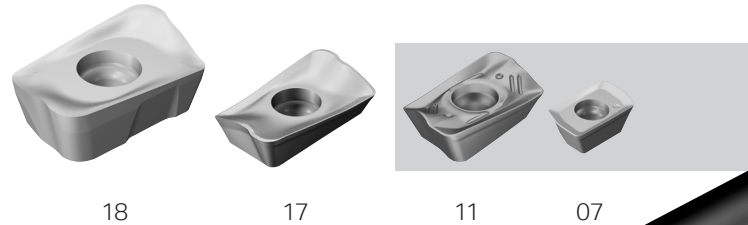
## Optimized cutter bodies

The end mills are produced in a new material with increased heat resistance. Choose between L, M or H pitch. Parts of the assortment have been optimized with differential pitch for vibration-prone applications.

## Durable and smooth-cutting inserts

The light-cutting insert geometries and high-performance grades of this cutter concept give secure milling in all material groups.

Insert size



## Reliable screw coupling

Cutters with Coromant EH coupling are available in diameter 9.7–25 mm (0.375–1.000 inch). The coupling has a self-centring screw that facilitates quick and accurate handling.

## Cylindrical shank

The full assortment of diameter 9.7–25 mm (0.375–1.000 inch) is available with cylindrical shank in normal or extra long versions.

## Secure insert clamping

A new torque key is delivered with each cutter. Its built-in spring functionality makes it easy to mount inserts with correct clamping force, giving reliable and consistent tool life.

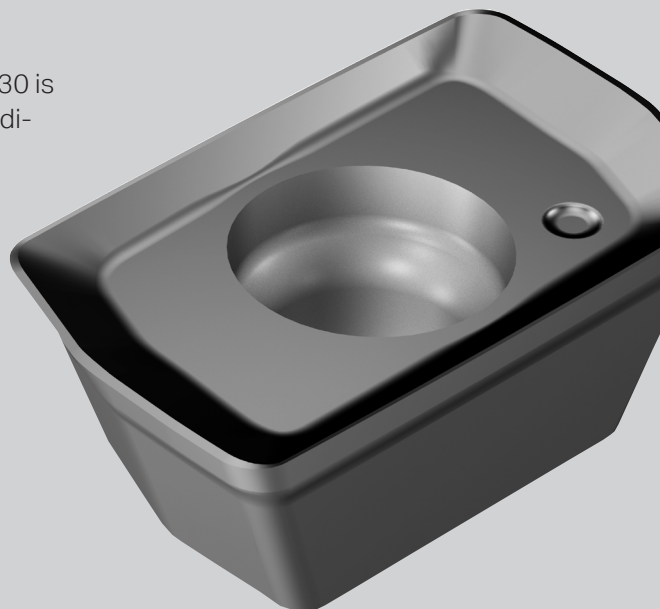
## Benefits with CoroMill 390

- Extremely versatile concept for productive milling in a wide range of operations and materials
- Trouble-free milling due to reliable cutter performance
- Easy-to-use clamping of inserts increases process security

# Zertivo™ grade GC1130

## First choice for steel milling

Taking edge-line security to a whole new level, the steel grade GC1130 is highly reliable and performs brilliantly in unstable or challenging conditions. This makes it a perfect grade for the versatile CoroMill 390.



### Application

- Roughing to finishing
- Wet and dry machining
- Demanding machining conditions

**P** ISO application area

## Unmatched edge-line security

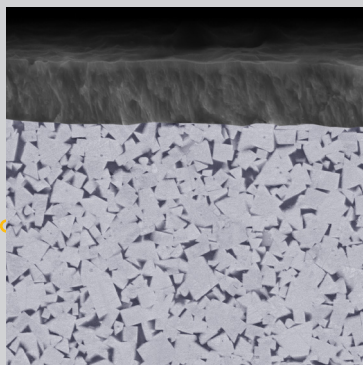
### High-Cr content substrate

The high-Cr content fine-grain substrate is optimized to withstand edge-line chipping and cracks arising from difficult machining and demanding conditions, such as temperature variations.

### Next generation PVD coating

The new PVD coating in GC1130 is optimized for steel milling. It is produced with Zertivo™ technology, giving great edge-line security and reduced flaking due to optimized cutting edge integrity. This makes the insert resistant to chipping.

[www.sandvik.coromant.com/zertivo](http://www.sandvik.coromant.com/zertivo)



### Benefits with GC1130

- Secure machining thanks to long and predictable tool life with a clean and intact edge
- High metal removal rate, even in difficult and unstable conditions
- Great performance in both dry and wet machining

# One tool. Many solutions.

Milling cutters that are able to perform at the top level in many different operations and conditions bring numerous benefits, for example a smaller tool inventory and shorter cycle times as a result of fewer tool changes. Whether your priority is optimized processes with close precision demands or mixed production with a focus on delivering value in a wide range of operations and materials, CoroMill® 390 is the end mill for you.

## **Pocket milling**

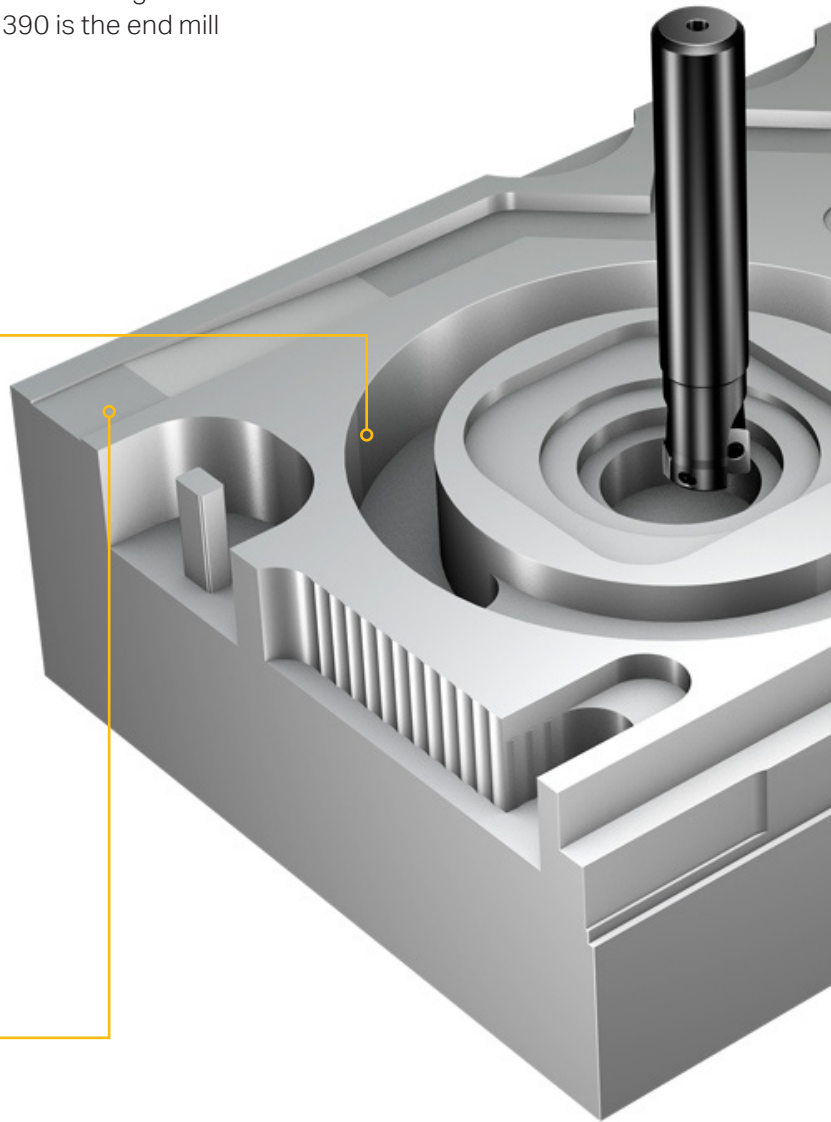
Challenge: Efficient and secure opening of cavities.

Solution: Using helical interpolation and linear ramping to create holes from a solid workpiece requires strong insert face geometry. The CoroMill 390 inserts are developed to adhere the stress caused by steep ramping or demanding interpolation, giving a low-vibration process with even tool life.

## **Slot milling**

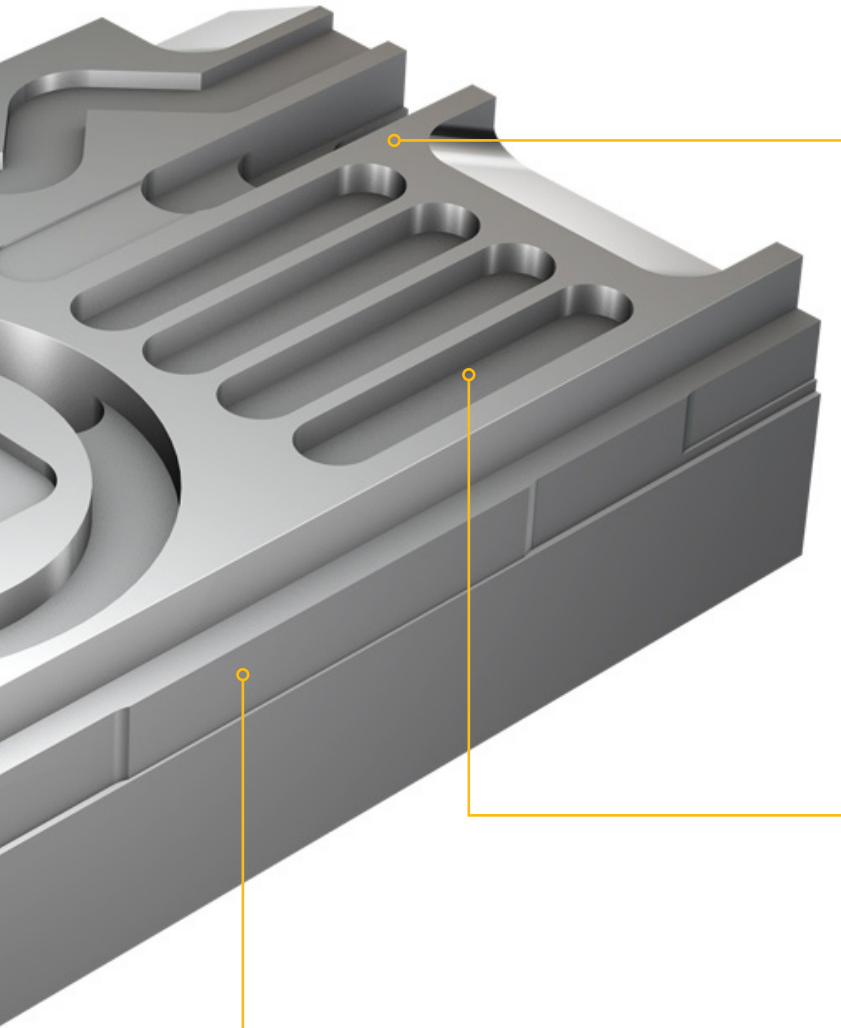
Challenge: Chip evacuation and vibration.

Solution: Insert geometries designed for favourable chip formation and chip evacuation. When milling with large engagements, vibration often cause rapid tool wear. The light cutting inserts of CoroMill 390 in combination with cutters with optimized differential pitch take care of this issue and give a low-vibration milling process.





ISO application area



### Face milling

Challenge: Metal removal rate and surface finish.

Solution: The durable CoroMill 390 inserts are capable of ambitious cutting parameters. -L geometries designed for milling with low cutting forces are perfect for facing surfaces with shiny finish and close tolerances.

### Key slot milling

Challenge: Accurate slot dimensions and tolerances.

Solution: The CoroMill 390 assortment includes cutters with size 07 inserts in dimensions specifically designed for key slots. With a tool diameter 0.3 mm (0.012 inch) smaller than the slot width, a suitable amount of stock is left for the subsequent finishing operation.

### Shoulder milling

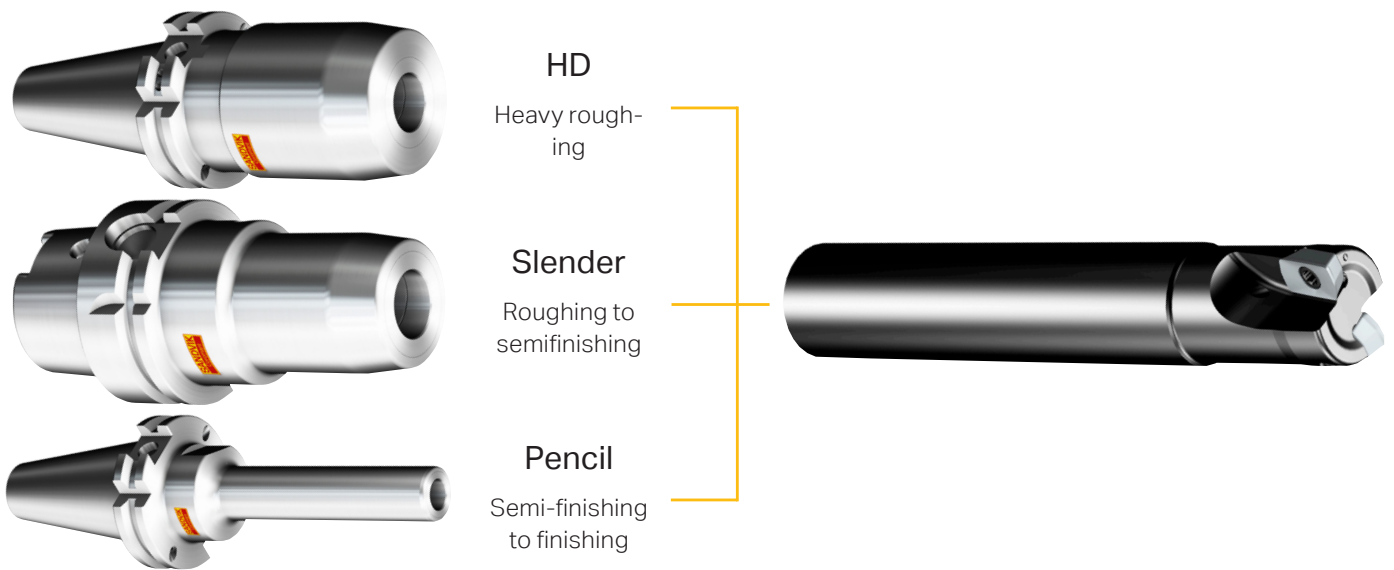
Challenge: Precise contours without steps in repeated shoulder milling.

Solution: Close-tolerance inserts and an exact insert position secure shoulders without steps. The typical smooth cutting action of CoroMill 390 limits radial cutting forces, which gives machining with minimal bending and good wall perpendicularity.

See how CoroMill 390 cuts this component with ease.



# Successful machining with optimized tool assemblies



## High-precision hydraulic chuck

CoroChuck™ 930 is the first choice tool holder for cylindrical shanks.



## Modular system Coromant EH

Get the required reach and accessibility with shanks and modular adaptors. In short overhang applications you can increase your productivity due to short gauge length with integrated machine adaptors.





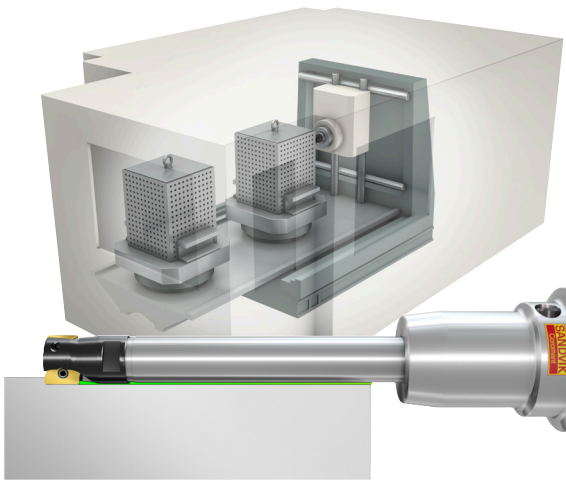
## Small to medium machining centres

Cylindrical shanks are a flexible solution suitable for numerous tool holding options.

The short tool assembly of an integrated machine adaptor and cutter head with Coromant EH coupling gives high productivity when the gauge line is critical.

Don't just take our word for it. See films of CoroMill 390 with Coromant EH coupling to discover how big the difference can be.

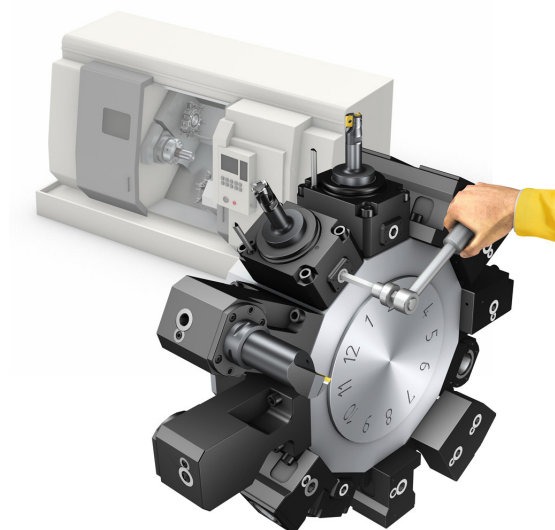
[www.youtube.com/sandvikcoromant](http://www.youtube.com/sandvikcoromant)



## Multi-task machines

Use undersized shanks in different lengths and materials for stability and clearance when milling with long overhang.

The combined modularity of Coromant Capto® and Coromant EH offers accessibility for hard-to-reach features.



## Turning centres with driven tool holders

With the short tool assembly consisting of only the adaptor and cutter you can reach high productivity when the gauge line is critical or the swing diameter is limited. The versatile CoroMill® 390 is perfect when the number of tool positions are limited.

## Coromant Capto® quick change clamping units for driven tools

Reduce set-up time to below one minute with quick change. Find out more about how to increase machine utilization online.

[www.sandvik.coromant.com/coromantcapto](http://www.sandvik.coromant.com/coromantcapto)

## Performance: Slot milling in steel

A subcontractor's productivity was limited by its end mill as the two-insert cutter could only manage 2 mm (0.079 inch) cutting depth. When switching to a CoroMill 390 cutter with three size 07 inserts the cutting depth could be increased to 3 mm (0.118 inch). As bonus, the burr formation caused by the previous tool was nowhere to be seen when milling with the new cutter. The overall verdict: a double win for CoroMill 390 with increased productivity and tool life.

+225%  
productivity

Customer case		
Workpiece material	P2.1.Z.AN	
Operation	Slot milling	
Tool	R390-012A12-07M 390R-070204M-PM 1130	Competitor tool
Cutting data		
$v_c$ m/min (ft/min)	200 (656.166)	150 (492.125)
$v_f$ mm/min (in/min)	900 (35.433)	600 (23.622)
$h_{ex}$ mm (inch)	0.1 (0.004)	0.1 (0.004)
$a_p$ mm (inch)	3 (1.118)	2 (0.079)
$a_e$ mm (inch)	12 (0.472)	12 (0.472)
Result		
Time in cut, min	3.76	5.5

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