New Machining Technologies
Sandvik Coromant


Power Skiving
Sandvik Coromant

Solution portfolio

Finishing Disc

Double Disc

Duplex Disc

CM 170

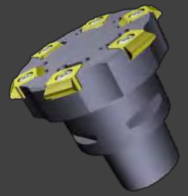
cutter

Cutter

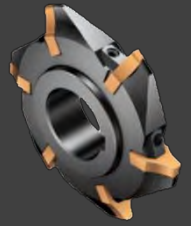
Cutter

CM 171

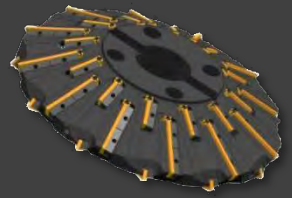
CM 171.4



CM 172



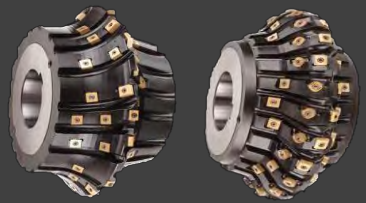
CM 174



CM 176

CM 177

CM 167



Up-Gear Technology

InvoMilling 1.0

Power skiving

Power skiving- the game changer

- **Power skiving is an intermittent milling process of the gear tooth profile and a mixture between hobbing and shaping.**
- **Basics are the gear type tool, cross axis position and the chip generation made by the rotation of tool and gear component.**
- **Power skiving considerably reduces the machining cycle time between conventional gear machining and multiaxis gear machining**
- **In multiaxis gear machining, all machining can be made in one set up. This means reduced run out and spacing deviations.**

Power Skiving

Technology advantages

- High Flexibility
- Considerably reduced machining cycle time
- Non advanced tool production (solid tools)
- Manageable and predictable component machining (if synchronization is in place)
- Power skiving makes possible to machine the component in one single set up

Technology disadvantages

- Poor or minimal process knowledge in the market

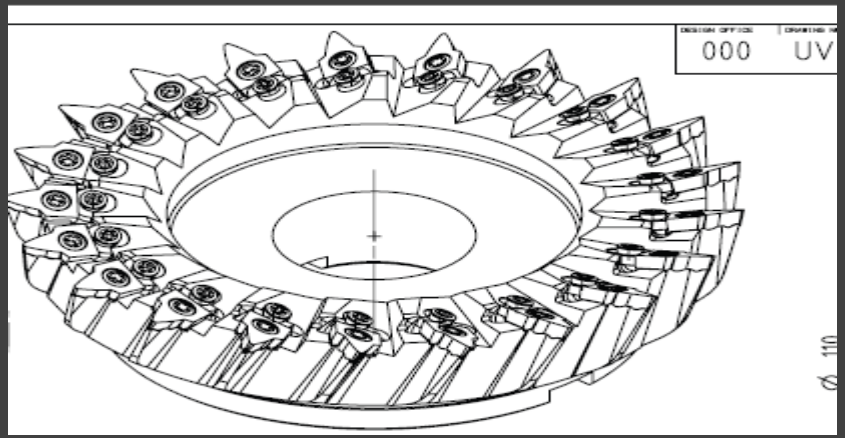
Source FVA (ForschungsVereinigung Antriebstechnik)

Machine basics requirements for power skiving

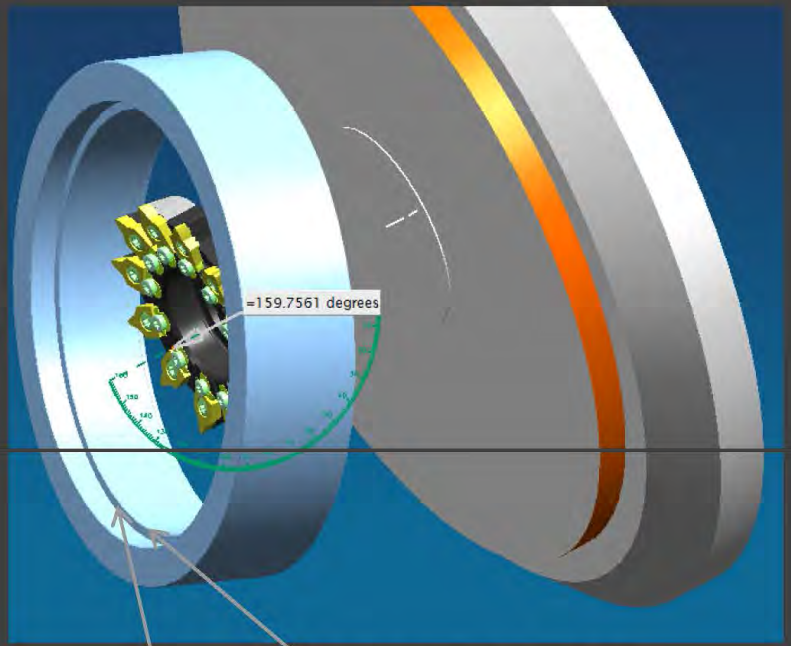
- **Accurate synchronizing between table and spindle**
- "Master/Slave" ratio between spindles
- Vertical machining (chip evacuation)
- Robust machine design
- Increased table speed
- High number of starts required in software > 150
- Tool diameter up to 200 mm (high number of Zeff)
- Dry machining

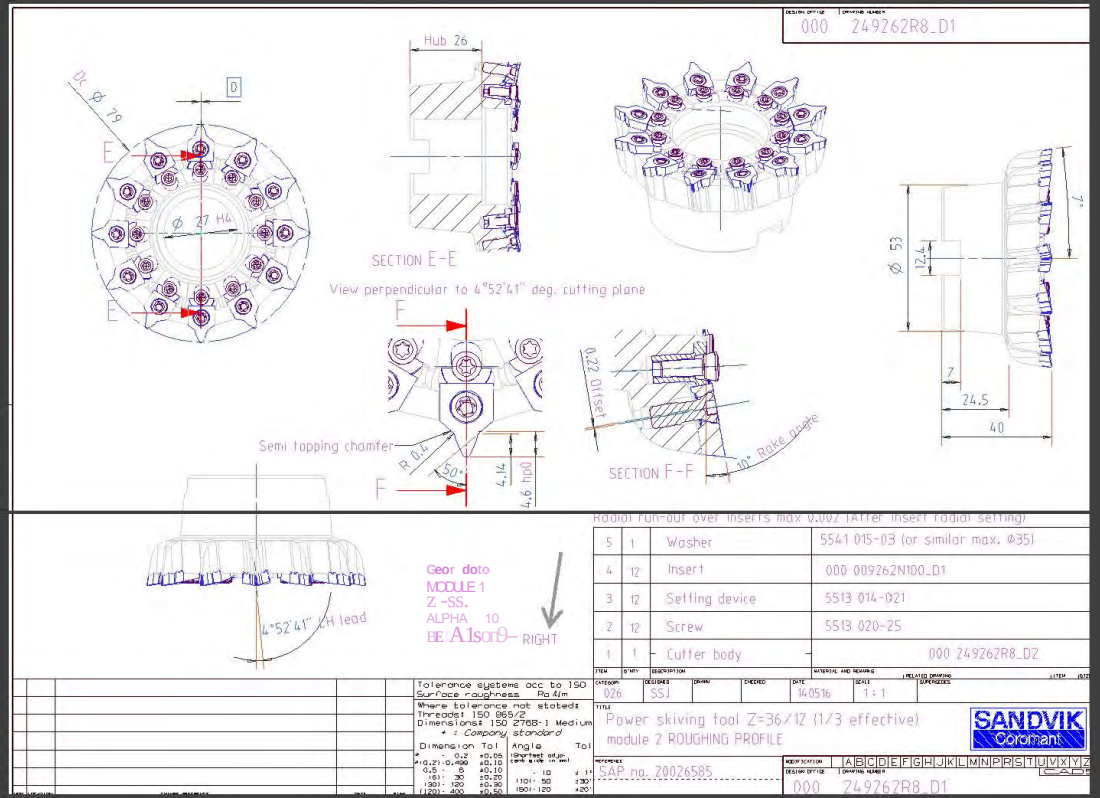
Power skiving brings improved gear quality

Quality: class 7, DIN 3962



Combined offer of roughing and finishing tools- designed at same time






SANDVIK
Coromant
Connected solutions
for digital machining

SANDVIK Coromant

Advanced machining analytics

- CoroPlus™ Enterprise

Design and planning connectivity

- CoroPlus™ ToolGuide
- Adveon™ Tool Library+

In-machining connectivity

- Silent Tools™+
- CoroBore®+
- Promos 3+

Open API

CAM and other software systems

Sandvik Coromant cutting data recommendations

CoroPlus™ ToolGuide is the Sandvik Coromant software that allows our partners to integrate our cutting data recommendations into their own software through a standardized connection.

Silent Tools™+

Damped turning adaptors with embedded connectivity for process optimization

Post processing and quality control

- Record and store cut data
- Quality control
- Trend graph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Adjust cutting edge via machine controller or by-machine dashboard.
TOOL
Login
HISTORY
Status
Connected
BATTERY
28 %
LAST ADJUSTMENT
+0.25 mm
NEW ADJUSTMENT (mm)
+/-
+0.250
Adjust
Calculated

03

Advanced machining analytics

Process intelligence from macro to micro level – enterprise, factory, machine.

Connected tools and machines for live stream monitoring and process optimization.


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We’re entering the future of manufacturing.
Are you coming?
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