New Machining Technologies
Sandvik Coromant
Power Skiving
Sandvik Coromant
Solution portfolio

- Finishing Disc: CM 170, cutter CM 176, CM 177, CM 167
- Double Disc: Cutter CM 171, CM 171.4
- Duplex Disc: Cutter CM 172, CM 174

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

Tip diameter = 123.62
Root diameter = 132.62
Connected solutions for digital machining
Advanced machining analytics

- CoroPlus™ Enterprise

Design and planning connectivity

- CoroPlus™ ToolGuide
- Adveon™ Tool Library+

In-machining connectivity

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

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.

CAM and other software systems

Sandvik Coromant cutting data recommendations
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
Adjust cutting edge via machine controller or by-machine dashboard.
Advanced machining analytics

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

Connected tools and machines for live stream monitoring and process optimization.
We’re entering the future of manufacturing. Are you coming?

coroplus.sandvikcoromant