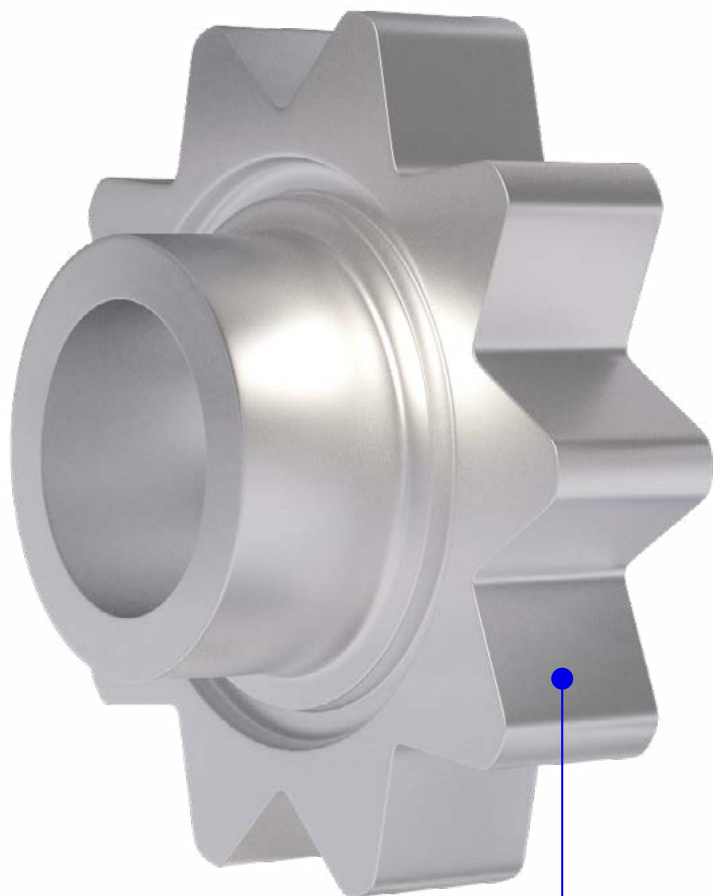


ADVANCED GRINDING
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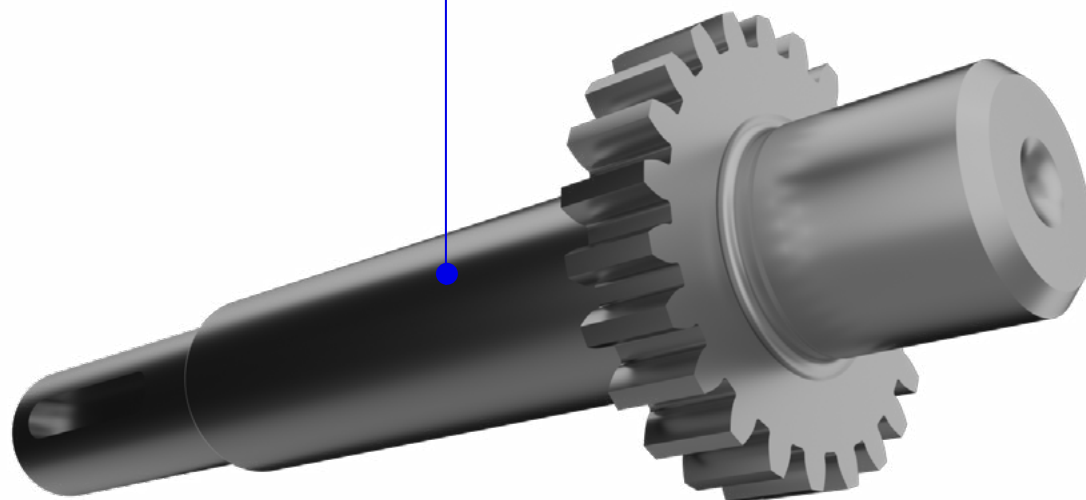


Your partner for **hydraulic gear pumps**
challenges

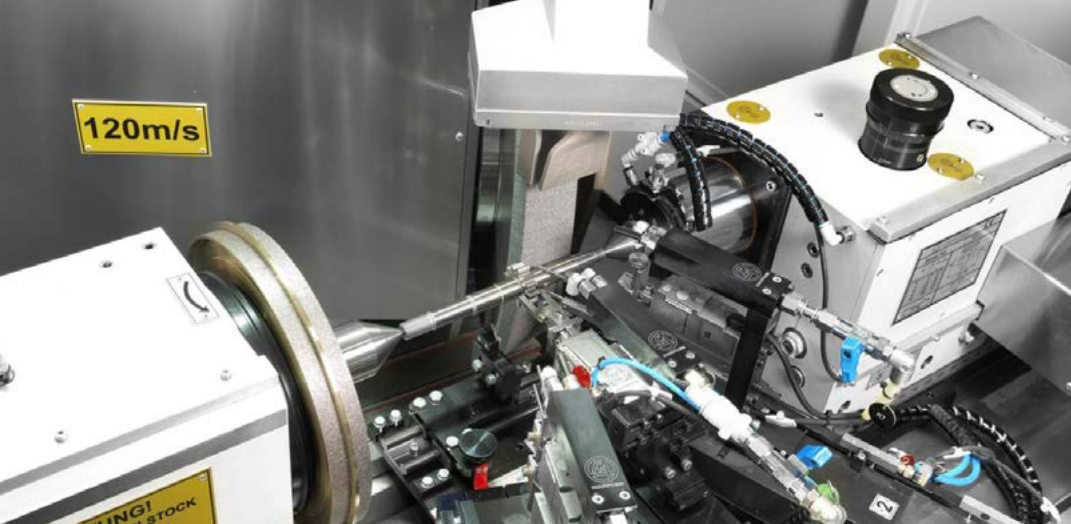
Got a Challenge?



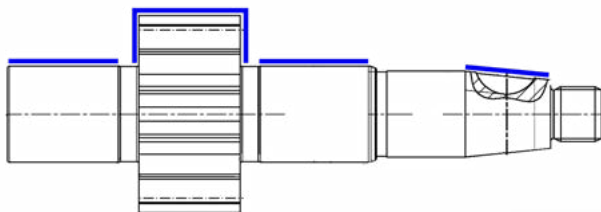
Gear



Gear shaft



Gear shaft | Cylindrical grinding



Tolerances

Ø Tolerance	<3 µm
Roundness	<1 µm
Straightness	1 µm
Surface finish (Ra)	0.2 µm
Twist free	
Cycle time	120 s.



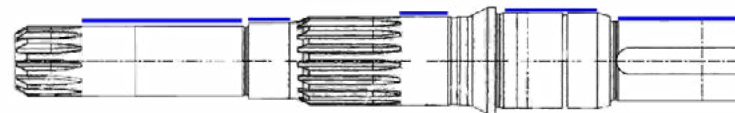
LG >

1000 mm Ø 290 mm

- More than 170 different part references to be ground, with part lengths from (30 to 650 mm)
- Most productive and flexible solution with CBN technology
- High-speed machine grinds all the parts in only one clamping, considering all the straight and taper diameters and the 2 faces of the gear. Furthermore, the same wheel set is used for most of the parts



Gear shaft | Hard turning



Tolerances

Ø Tolerance	50f5, 65k6, 70h11
Surface finish (Ra)	<0.2 µm
Cycle time	463 s.



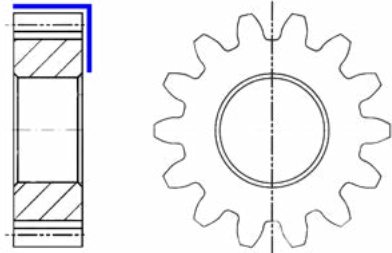
MIKROTURN-GRIND>

1000 mm Ø 380 mm

- Turning and grinding combined
- Steady rest integration for process stability
- Part loading automated
- Main challenge was the removal of the turning spiral



Gear | Cylindrical grinding



Tolerances

Gear width	<5 μm
\varnothing Tolerance	<3 μm
Face flatness	<2 μm
Face parallelism	<3 μm
Surface finish (Ra)	<0.2 μm
Cycle time	22 s.



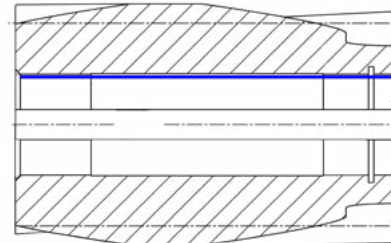
LG >

L 1000 mm \varnothing 290 mm

- OD and one face in external grinding machine and ID and the other face in internal grinding machine
- Loading system with internal gantry system and feeding with V type chain conveyor
- A line of two interlinked and fully automatic machines finishes the complete part in one clamping on each machine, without intervention of the operator



Gear | Internal grinding



Tolerances

Gear width	2 μm
\varnothing Tolerance	3 μm
Cylindricity	3 μm
Roundness	2 μm
Face flatness	2 μm
Face parallelism	2 μm
Surface finish (Rz)	2 μm



IRD >

L 400 mm \varnothing 360 mm

- OD and one face in external grinding machine and ID and the other face in internal grinding machine
- Loading system with capacity for the complete range of parts required, for parts from diameter 10 to 100 mm
- A line of two interlinked and fully automatic machines finishes the complete part in one clamping on each machine, without intervention of the operator.



Thank you!

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