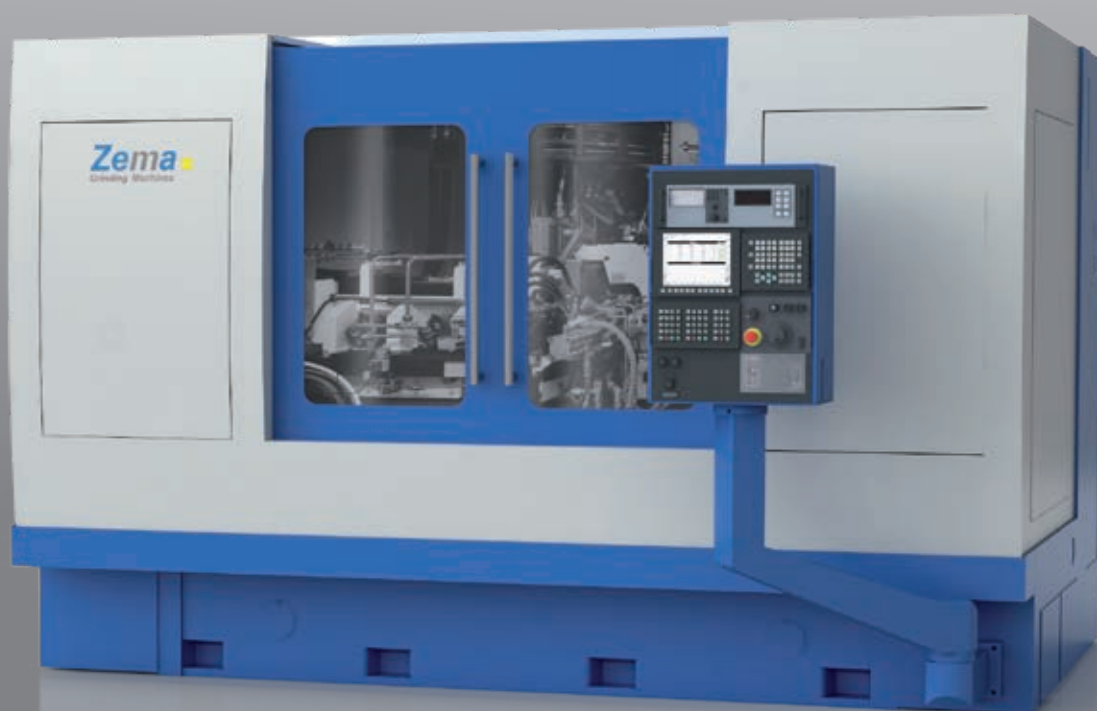


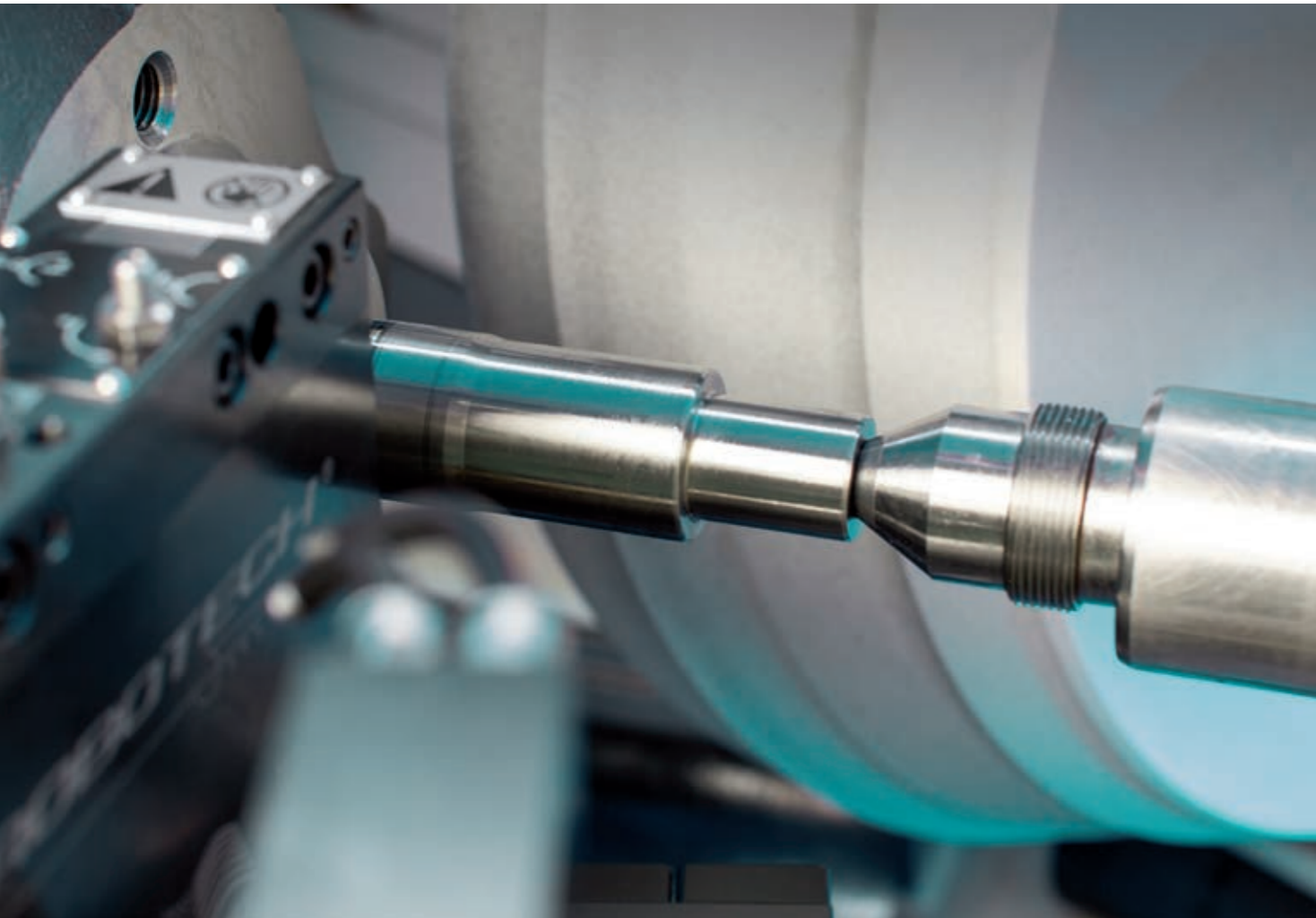
NUMERIKA

CYLINDRICAL GRINDING



FIRST-CLASS SHAFT GRINDING

USE

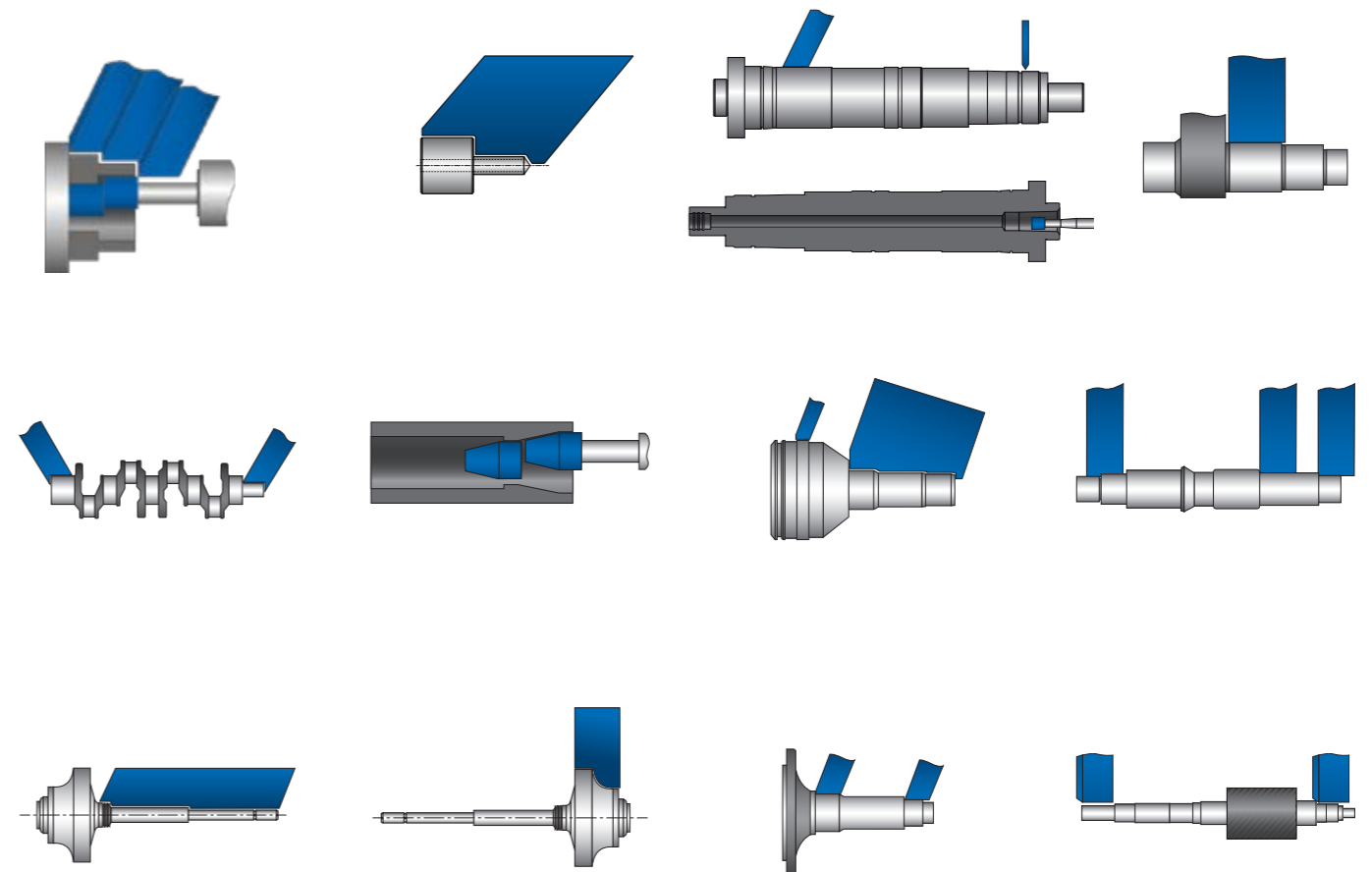


Versatile, rugged, long-life – the cylindrical grinding machines of the NUMERIKA series meet any requirements for the series production of a broad range of workpieces; in the largest version up to a length of 1.500 mm. A torsion-resistant machine bed, hydrostatic guides and grinding spindles with roller or hydrostatic bearings provide for perfect grinding results. External and internal cylindrical grinding from small to large batches.

ADVANTAGES

- Precise grinding with corundum
- External and internal grinding
- High productivity through short cycle time
- Flexibility when grinding workpiece families
- Automatic loading and unloading systems adapted to customer requirements
- High degree of automation for integration in production lines
- In-process and/or post-process measurement
- Rugged machine bed with full-protection hood
- CNC control system with user-friendly interface

APPLICATION EXAMPLES



EQUIPMENT

WHEELHEAD

- Insensitive to vibrations and low maintenance thanks to spindle mounted on hydrostatic bearings
- Peripheral speed: 45 (63) m/s
- Different wheelhead versions (fixed or can be swiveled) for straight or angular plunge cuts (0° – 30°) as well as external and internal grinding
- Automatic compensation of grinding wheel diameter after dressing
- Grinding spindles with dynamic balancing system and acoustical monitoring



DRESSING UNIT

- Single-grain diamond or dressing fleece (standard)
- Rotating dressing (optional):
 - Diamond profile grinding wheel or
 - Diamond shape roller



WORKHEAD

- Universal operation with either dead or live center
- Rolling or hydrostatic bearings
- Speed programmable in a range from 20 to 1,000 rpm
- Maximum permissible workpiece weight: 80 – 250 kg

MEASURING

- Measurement systems are adapted to the workpieces and customer specifications
- In-process measurement device for measuring smooth or uninterrupted external diameters
- Large diameter measuring range possible



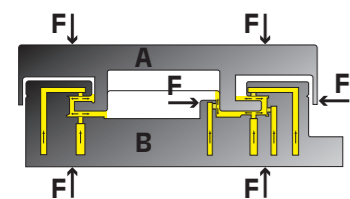
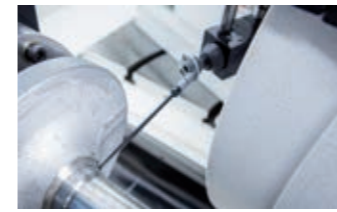
TAILSTOCK

- Hydraulically controlled tailstock sleeve with adjustable axial pretension
- Precision adjustment of taper ± 0.15 mm
- CNC-controlled positioning of the tailstock (optional) for rapid machine retooling



POSITIONING

- Automatic recording of reference surfaces on the clamped workpiece through bidirectional positioner
- Recorded values are automatically integrated into the grinding process
- Retractable integration on the wheelhead
- Switching probe for precise workpiece detection



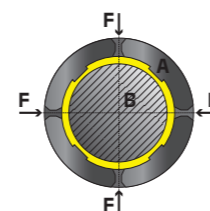
HYDROSTATIC GUIDE

- Use in the X and Z-axis, designed as cross slide
- Uniform, jolt-free movement (no stick-slip effect)
- Drive via servomotors with absolute encoders
- High-precision positioning for precise grinding results

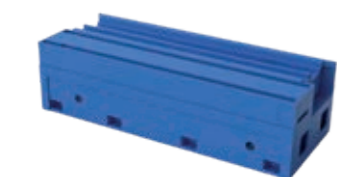
A – Moving slide / B – Fixed guide / F – Force applied

HYDROSTATIC BEARINGS

- Use in radial and axial bearings of wheelheads and workheads
- Perfect rotational movement and constant centering of shaft
- Vibration-damping



A – Housing / B – Shaft / F – Force applied



MACHINE BED

- With gray cast iron design
- High torsional rigidity and good damping behavior
- Proven quality

CONTROL SYSTEM

- Fanuc (standard) or Siemens (option)
- Easy programming, installation and operation of the machine
- Ergonomic machine setup through the machine control in a pivotable and movable control panel



OPTIONS

- Steadies
- Post-process measuring system
- Exhaust-air purification systems from LTA
- Coolant systems
- Internal and external loading systems according to customer requirements

TECHNICAL DATA

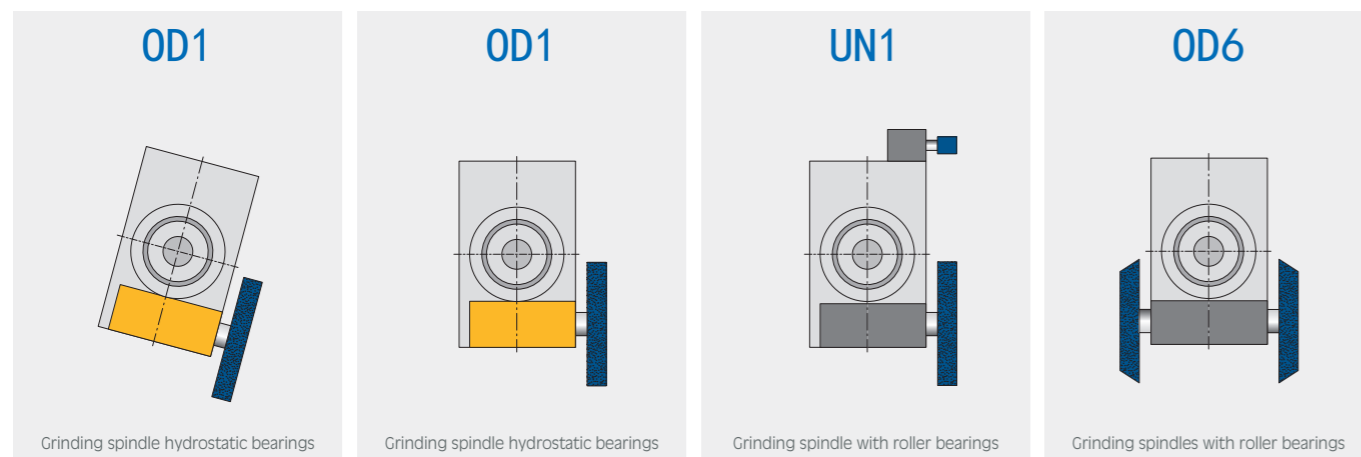


PLATFORM	GL 600	GL 1200	G 800	G 1500	G 2000
AVAILABLE WHEELHEAD VERSIONS	OD1 / UN1		OD1 / UN1		
GRINDING LENGTH	600 mm	1.200 mm	800 mm	1.500 mm	2.000 mm
CLAMPING LENGTH	800 mm	1.400 mm	900 mm	1.600 mm	2.100 mm
CENTER HEIGHT	140 mm		140 (230) mm		
WORKPIECE WEIGHT	80 kg	120 kg	120 kg	180 kg	250 kg
SWING DIAMETER	275 mm		275 (450) mm		
GRINDING WHEEL DIAMETER	406 x 152 mm		508 x 203,2 mm		
OUTPUT OF GRINDING WHEEL MOTOR	5,5 (7,5) kW		7,5 (11) kW		
GRINDING WHEEL WIDTH	50 (80) mm		80 (100) mm		
WORKPIECE SPINDLE: PROGRAMMABLE SPEED	1.000 U/min		600 U/min		
TAILSTOCK SLEEVE: STROKE LENGTH	35 mm		35 (60) mm		
TAILSTOCK SLEEVE: CORRECTION OF TAPER	± 0,15 mm	± 0,15 mm	± 0,15 mm	± 0,15 mm	± 0,15 mm
INSTALLED TOTAL OUTPUT	15 (17) kW	15 (17) kW	17 (22) kW	17 (22) kW	17 (22) kW
CNC CONTROL SYSTEM	Fanuc Oi		Fanuc Oi / Siemens 840D		
W x D x H (without peripherals)	2.905 x 2.045 x 2.040	3.745 x 2.045 x 2.040	3.730 x 1.960 x 2.000	4.430 x 1.960 x 2.000	5.130 x 1.960 x 2.000
TOTAL WEIGHT OF MACHINE	5.000 kg	6.000 kg	6.500 kg	8.000 kg	9.000 kg



G 800 PLUS	G 1500 PLUS	G 2000 PLUS	GH 500	GH 1000	GH 1500
OD1 / OD6			OD1		
800 mm	1.500 mm	2.000 mm	500 mm	1.000 mm	1.500 mm
900 mm	1.600 mm	2.100 mm	600 mm	1.200 mm	1.700 mm
230 mm			230 (330) mm		
120 kg	180 kg	250 kg	150 kg	250 kg	
450 mm			450 (650) mm		
610 x 203,2 mm			760 (915) x 304,8 mm		
15 kW			18 (30) kW		
130 mm			150 (350) mm		
600 U/min			500 U/min		
35 (60) mm			60 mm		
± 0,15 mm	± 0,15 mm	± 0,15 mm	± 0,15 mm	± 0,15 mm	
25 kW			30 (45) kW	30 (45) kW	
Fanuc Oi / Siemens 840D			Fanuc Oi / Siemens 840D		
3.730 x 1.960 x 2.000	4.430 x 1.960 x 2.000	5.130 x 1.960 x 2.000	3.660 x 3.150 x 2.425	4.160 x 3.150 x 2.425	4.660 x 3.150 x 2.425
6.500 kg	8.000 kg	9.000 kg	11.000 kg	13.000 kg	15.000 kg

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