

PROFIMAT MT

Profile grinding
with increased profitability



More than Precision

PROFIMAT MT



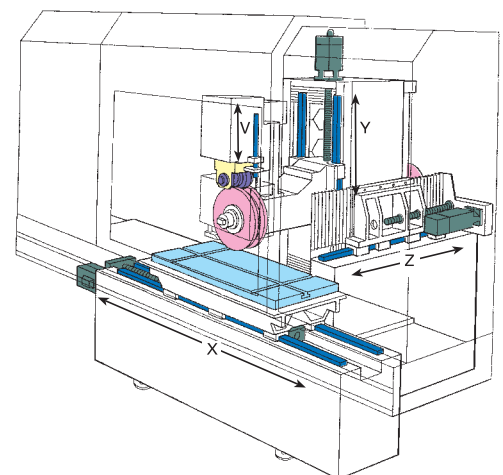
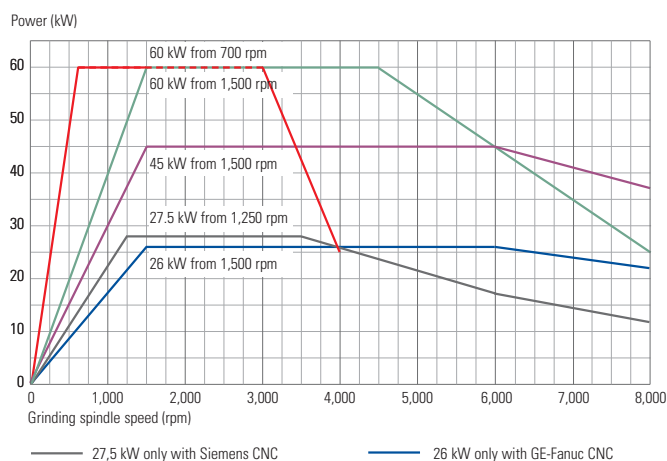
Universal state of the art grinding technology for profile grinding applications The multi-talent in profile grinding

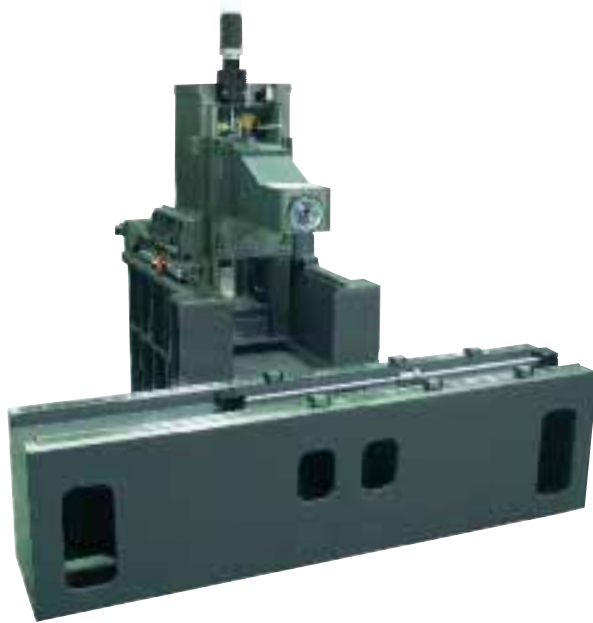
The BLOHM PROFIMAT MT line has been designed purely as a high performance production grinding machine for flexible applied technology.

A large spectrum of standard accessories and special part clamping and part handling systems offer a quick and economic adaptation to customer specific production requirements at high quality.

Grinding spindle drives with a power of up to 60 kW and a max. cutting speed of 170 m/s guarantee outstanding performance using conventional, CD or IPD as well as all CBN grinding methods.

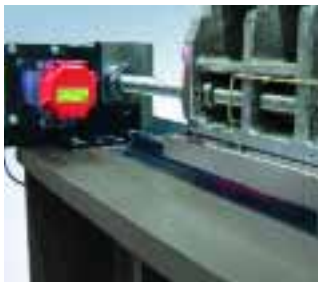
Grinding spindle drive power curves





The modular platform concept with high-grade components made of cast iron is thermal and vibration optimized using 3D-CAD and finite-element analysis.

Selected components guarantee high precision and long life.



Z-axis, with linear glass scale



Precision guideways for stick-slip free motion



Cartridge type spindle with short taper for repeatable grinding wheel positioning



High-grade, ground re-circulating **ballscrews** in all axes for silent operation

Technical Data

PROFIMAT MT			408	412	608	612	616	620
Grinding Range (W x L)	mm		400 x 800	400 x 1,200	600 x 800	600 x 1,200	600 x 1,600	600 x 2,000
Table clamping area with auxiliary surface	mm		400 x 1,200	400 x 1,600	600 x 1,200	600 x 1,600	600 x 2,000	600 x 2,400
Distance table to spindle centre	mm		150 ... 700 (Option 950)					
X-axis, machine table longitudinal travel, max.	mm		900	1,300	900	1,300	1,700	2,100
Feed rate	mm/min		15 ... 25,000					
Y-axis, wheel head vertical travel	mm		550 (Option 800)					
Feed rate	mm/min		4 ... 3,750					
Z-axis, column cross travel	mm		320	320	520	520	520	520
Feed rate	mm/min		4 ... 4,000					
V-axis, stroke of overhead dresser (Opt.)	mm		130					
Grinding spindle drive, variable speed, AC motor	kW/rpm		up to 60/8,000					
Grinding wheel size (OD x W x ID)	mm		up to 500 x 200 x 127 (203.2)					
Dimensions	Width	mm	3,500	4,500	3,500	4,500	5,900	5,900
	Depth	mm	2,400	2,400	2,800	2,800	2,800	2,800
	Height	mm	2,850*	2,850*	2,850*	2,850*	2,850*	2,850*
Machine weight	kg		3,900	4,200	4,900	5,400	7,000	8,000

* 3.100 with enrised column

Subject to technical alterations



Table mounted dresser type PEA-TR200S for diamond rolls up to a width of 200 mm or for contour dressing with universal diamond dressing disks and a rough dressing disk



Overhead dressing system PEA-K for IPD and CD grinding methods designed for a grinding wheel width of up to 200 mm

Process optimized accessories



Vertical auxiliary grinding spindle for universal use in the mould and die shop with a power of up to 6 kW and up to 90,000 rpm



Horizontal auxiliary grinding spindle, automatically positioned in the working area, for the back-off grinding on broach tools using a min. wheel diameter of 30 mm.



Measuring probe, pneumatically retracting from measuring position, up to 2 1/2 axes, measuring accuracy +/- 1 μm



Twin-spindle NC indexing table with tailstock, indexing accuracy +/- 3''



NC-tilting magnetic chuck, tilting range +/- 30° indexing accuracy +/- 1''



NC-indexing table, 1 or 2 axes, indexing accuracy +/- 1''

Additional available accessories

- Automatic balancing systems
- Coolant filtration units
- Coolant mist exhaust units
- Accessory package for the use of pure grinding oil
- Acoustic sensors



Automatic coolant nozzle tracing system

The comfortable solution for profile and contour grinding applications

The best machine develops its performance potential only with an optimized and fine tuned application technology.

The CNC control, Siemens Sinumerik 840D or GE-Fanuc, with graphical operator guidance especially developed for grinding applications guarantees an optimal process. The simple programming is supported by menu guided grinding and dressing cycles.

The software option BLOHM profile 32 is a comfortable tool, especially for the single piece and batch production, for the automatic generation of grinding and dressing programs.



CNC control



Contour parallel dressing



CD-grinding



Thread rolling die

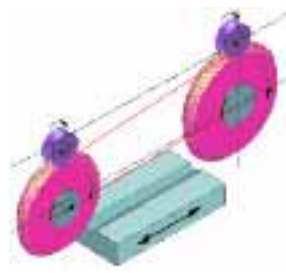


5-axes continuous path controlled grinding

High precision parts are ground using an optimized dressing process offering shortest cycle times and minimal grinding wheel consumption.



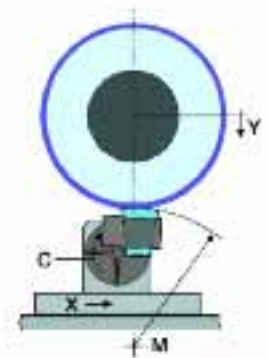
Fast initial profiling using a special roughing tool reduces the cost due to shorter cycles and less wear on precision tools



CD-grinding, the grinding wheel is being continuously dressed



IPD-grinding, the in process dressing whilst grinding saves time and the possible grinding length is extended by the optimized grinding wheel topography



Continuous path controlled grinding, convex/concave, using interpolation of up to 5 axes permits grinding of large radii at utmost accuracy

BLOHM solutions

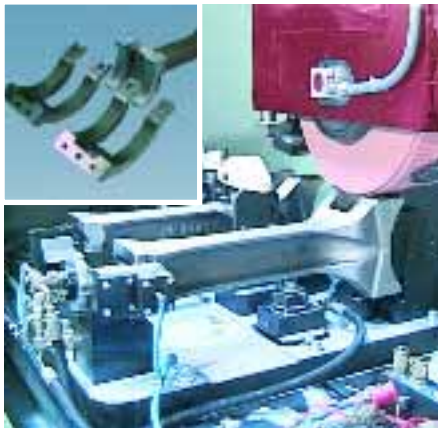
Automotive industry and sub-suppliers



Housing for diesel injection pumps



Roller for diesel injection pump



Connecting rod and cap



Steering racks

Turbine industry



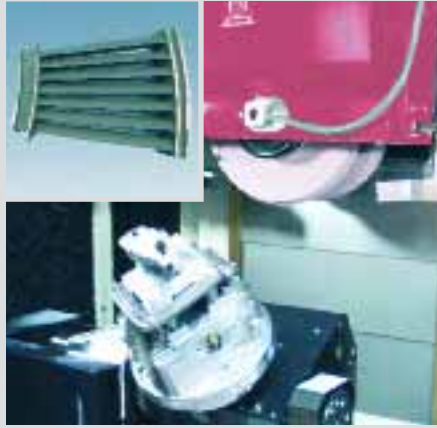
Turbine blade



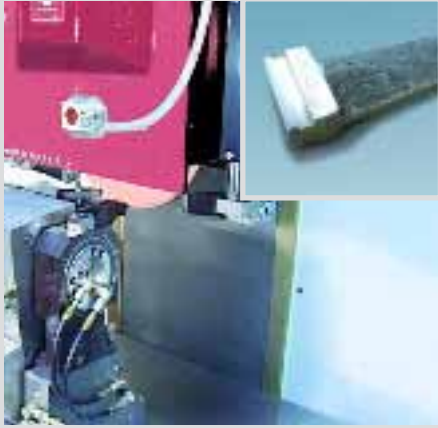
Root profile



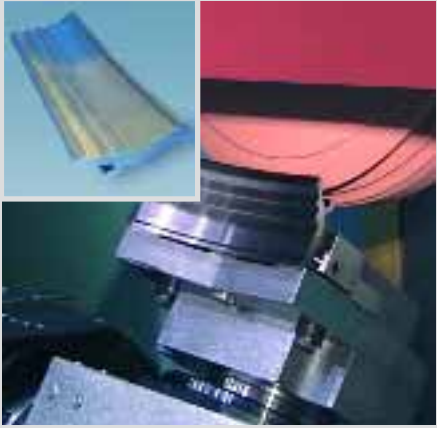
Root and shroud profile



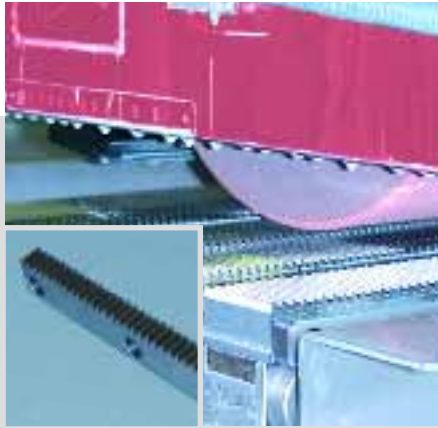
Turbine vane – 5 axes continuous path controlled grinding



Compressor blade – multiple operations in one set-up



Shroud segment – multiple operations in 1 set-up



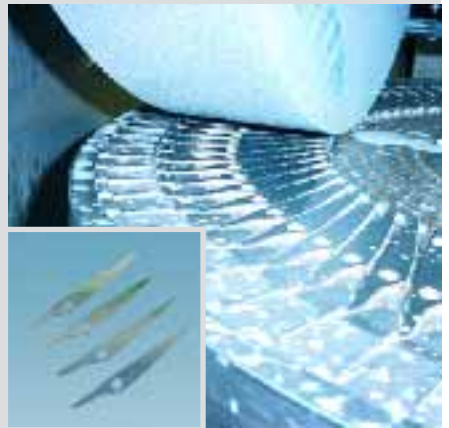
Tooth rack



Die

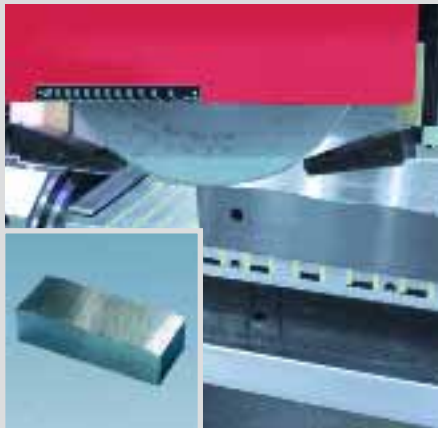


Transfer drum

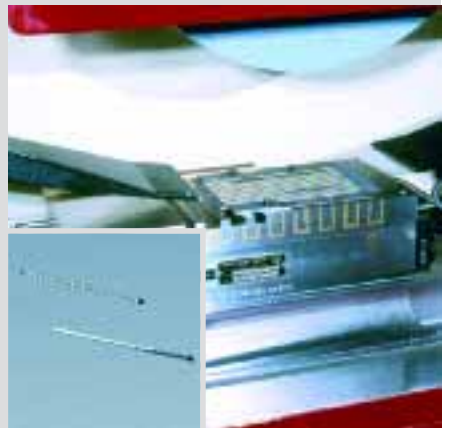


Scissors

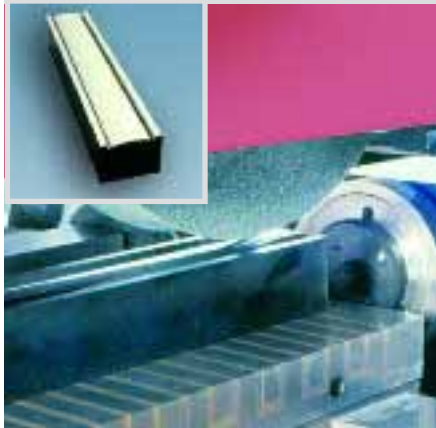
Machine building, tool and die



Thread rolling die



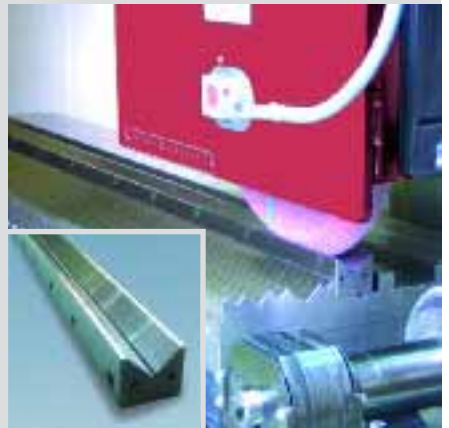
Ejector



Rail



Lever



Guideway

PROFIMAT MT

MT 06/06 e



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