

Product Range

Surface and
Profile Grinding Machines



More than Precision



BLOHM Maschinenbau GmbH

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Surface and profile grinding machines

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BLOHM's surface and profile grinding machines have for years set the worldwide standard for precision, quality and reliability. Our product range covers the spectrum from economical surface grinding machines up to customized application specific grinding systems. The complete product line has been designed and developed in our Hamburg facility. Each machine is built according to highest quality standards in an assembly hall with the most up-to-date equipment.

BLOHM's detailed know-how and experience are backed up by technology and demonstration centers in Europe, the US and in China. And we offer this special grinding expertise to you! We provide solutions to all industries worldwide.

Our global presence brings us close to you for service and applications support, ensuring the maximum up-time for your machine. You can feel secure in working with a member of the international Schleifring group, its own sales and service organizations plus a competent network of local representatives.

Surface and profile grinding machines

PRECIMAT



The PRECIMAT is a very affordable yet extremely precise surface and profile grinding machine. AC servos and ground re-circulating ball screws drive the three main axes. All axes feature hardened and ground monorail guide-ways, with preloaded ball re-circulating units.

Two controls are available, allowing you to tailor this precision grinding machine to your specific application.

A unique and simple operating concept makes grinding with PRECIMAT's easy Touch control just that: easy. This applies to conventional operation using a hand wheel as well as automatic mode using the easy Touch features.

BLOHM's easy Touch solves any surface and profile grinding application quickly and efficiently, especially in the mould and die industry. Features include conversational operation via a touch screen, extensive software offering a variety of grinding methods, and grinding wheel dressing and profiling (including the generation of any profile with BLOHM Profile 32).

The PRECIMAT 306 CNC is equipped with comprehensive BLOHM operator guidance and either a Siemens 840D or GE-Fanuc control. This ensures that dressing and grinding programs are quickly adapted to the particular task, making the PRECIMAT 306 CNC ideal for flexible and profitable single piece machining and batch production. Even in the basic version, the machine features a fully enclosed working area and linear measuring systems for the Y- and Z-axes.



BLOHM PRECIMAT			306	408	306 CNC
Grinding range (W x L)		mm	300 x 600	400 x 800	300 x 600
Table clamping area incl. auxiliary surface		mm	300 x 1,000	400 x 1,200	300 x 1,000
Distance table to spindle center		mm		125 ... 575	
Table load max. incl. electro magnetic chuck		kg	500	700	500
Loading height above floor		mm		ca. 950	
X-axis	Machine table longit. travel, max.	mm	700	900	700
	Feed rate	mm/min		30 ... 30,000	
Y-axis	Wheelhead vertical travel	mm		450	
	Feed rate	mm/min		4 ... 3,750	
Z-axis	Saddle cross travel	mm	280	360	280
	Feed rate	mm/min		4 ... 4,000	
Grinding spindle drive, 3-phase AC motor, variable		kW/rpm		5.9/1,500	
Grinding wheel size, OD x W x ID		mm		300 x 50 x 76.2*	

Option: * Grinding wheel size up to 400 x 80 x 127 mm



Surface and profile grinding machines

PLANOMAT HP



The PLANOMAT HP is a high performance universal surface and profile grinding machine for single pieces and batch production. Equipped with customer-specific accessories, it also serves as an economical production machine in all industries. The PLANOMAT HP series features ground re-circulating ball screws, digital AC servo drives and hardened and ground mono-rail guideways, with preloaded ball re-circulating units in all axes. Two available control options open a wide field of applications.

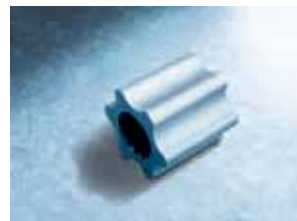
PLANOMAT HP with the easy TOUCH control makes surface and profile grinding particularly easy thanks to a unique, simple operating concept.

Various software options, including additional grinding cycles, calibrating and face grinding, profile dressing and profile grinding, and grinding wheel management, offer solutions for multiple applications.

The optional BLOHM Profile 32 package enables you to dress any wheel contour, assisted by a Windows based operating system and a graphical user interface. Profile 32 can even automatically convert CAD profiles into dressing geometries and dressing cycles.

The PLANOMAT HP CNC is available with either the Siemens 840D or GE-Fanuc control. Comprehensive grinding and dressing programs open all possibilities for surface and profile grinding.

Accessories like table mounted dressing attachments, 1- or 2-axis indexing tables, horizontal grinding spindle arms, vertical grinding spindles, internal grinding spindle arms, and measuring probes make the PLANOMAT HP suitable for a wide variety of applications.



BLOHM PLANOMAT HP			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 incl. 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 center		mm	150 ... 700 (Option 950)					
X-Achse	Machine table longit. travel, max.	mm	900	1,300	900	1,300	1,700	2,100
	Feed rate	mm/min	30 ... 40,000					
Y-Achse	Wheelhead vertical travel	mm	550 (Opt. 800)					
	Feed rate	mm/min	4 ... 6,000					
Z-Achse	Column cross travel	mm	360	360	560	560	560	560
	Feed rate	mm/min	4 ... 6,000					
Grinding spindle drive, 3-phase AC motor, variable		kW/rpm	15/1,000* / 18/1,500** (Opt. 24.5/1,500)					
Grinding wheel size, OD x W x ID		mm	400 x 30 ... 80 x 127					

* with SIEMENS CNC / ** with GE-FANUC CNC

Production grinding machines

PROFIMAT MT



The PROFIMAT MT is a powerful and versatile profile grinding machine for precise mass production in the automotive, machine tool, hydraulics, and turbine industries, as well as tool and die shops.

The pioneering machine concept with special spindle drive fulfils all production requirements in the best possible manner. Grinding spindle driving power of up to 60 kW (80 HP) and maximum cutting speed of 170 m/s (33,000 SFM) offer outstanding possible uses for conventional, continuous dressing (CD) or in-process dressing (IPD) grinding and all CBN grinding processes.



The PROFIMAT MT is available with either the SIEMENS 840D or GE-Fanuc controls, including comprehensive operator guidance.

Like all BLOHM machines, PROFIMAT MT features pre-loaded, extremely rigid, low-maintenance monorail guideways, high precision recirculating ball screws and digital servo drives in all axes.

Accessories like table and wheelhead mounted dressing attachments, 1- or 2-axis indexing tables, horizontal grinding spindle arms, vertical grinding spindles, measuring probes offer solutions for the most complex production grinding tasks.



BLOHM PROFIMAT MT			408	412	608	612	616	620
Grinding range (W x L)			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 incl. auxiliary surface			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 center			150 ... 700 (Option 950)					
X-axis	Machine table longit. travel, max.	mm	900	1,300	900	1,300	1,700	2,100
	Feed rate	mm/min	30 ... 25,000					
Y-axis	Wheelhead 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					
Grinding spindle drive, 3-phase AC motor, variable			27.5/1,500* / 26/1,500** (Opt. up to 60/1,500)					
Grinding wheel size, OD x W x ID, max.			500 x 200 x 127					

* with SIEMENS CNC / ** with GE-FANUC CNC

Production grinding machines PROFIMAT MC/RT



The BLOHM PROFIMAT MC series are extraordinarily compact, powerful production machines designed for precise surface and profile grinding as well as grinding the inner and outer diameters of rotationally symmetrical workpieces up to 1200 mm (47 inches) in diameter.

The machines in this series feature a travelling column design, so the grinding wheel moves longitudinally, crosswise and vertically.

With a horizontal spindle offering up to 60 kW (80 HP) or a vertical NC swivelling spindle (MC 610 VS), the PROFIMAT MC series can be put to many different uses.

The PROFIMAT RT features a rotary indexing table, reducing idle times by loading and unloading during the grinding process.

Tool change systems with up to 24 tool positions allow you to combine drilling and milling tools as well as conventional and CBN grinding wheels.

A wide range of customized solutions is possible thanks to the other accessories like single or double NC indexing tables, integrated automatic measuring systems, and dressing systems mounted on the table or grinding head, with 1 or 2 spindles for continuous dressing (CD) or in-process dressing (IPD) applications.

The Siemens 840D or GE Fanuc CNC controls, along with comprehensive operator guidance, ensure the PROFIMAT MC is put to the best possible use.

BLOHM PROFIMAT		MC 407	MC 607	MC 610	MC 607 VG	RT 1000	MC 610 VS	
Table size (W x L)	mm	400 x 700	600 x 700	600 x 1,000	600 x 700	–	–	
Indexing table, diameter	mm	–	–	–	–	1,000	–	
X-axis	Column longitudinal travel	mm	700	700	1,000	700	1,000	
Y-axis	Wheelhead vertical travel	mm	550	550	550	550	800	
Z-axis	Column cross travel	mm	320	520	520	320	320	
V-axis	Stroke of dresser (Opt.)	mm	130	130	130	130	–	
B-axis	Rotary indexing table, max. diameter	–	–	–	–	–	1,200	
	Rotary indexing table, speed	rpm	–	–	–	–	100	
Grinding spindle drive, 3-phase AC motor, variable	kW/rpm	27.5/1,500* / 26/1,500** (Opt. up to 60/1,500)					25/10,000	
Grinding wheel size, OD x W x ID, max.	mm	500 x 200 x 127		500 x 220 x 127		500 x 200 x 127	ø 400	

* with SIEMENS CNC/ ** with GE-FANUC CNC

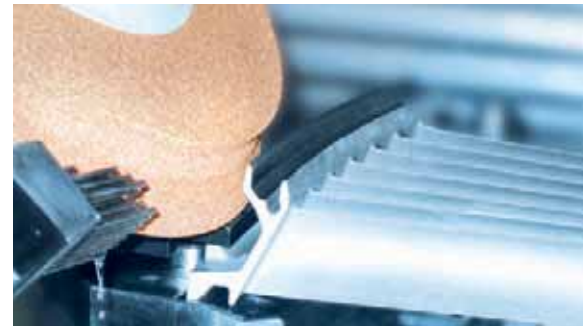
Production grinding machines PROKOS



The PROKOS solves difficult, if not impossible, grinding challenges with an entirely new high speed reciprocating grinding technology.

The unique design of the PROKOS features highly dynamic linear drives for the linear axes and torque motors for the rotary axes, plus a high speed grinding spindle. These are combined with a polymer concrete machine bed and gantry frame, offering the mass and dampening characteristics necessary to support extreme axis acceleration with excellent grinding results.

Cutting speeds up to 150 m/s (30,000 SFM) at feed rates of 120 m/min (24,000 ft/min) with an acceleration of 25 m/s² (82 ft/sec²) allow even difficult to machine materials to be ground very economically. That's because the workpiece can be oscillated under the grinding wheel (high speed reciprocating grinding) such that the heat is largely removed with the chip. This enables extremely high metal removal rates without thermal damage to the workpiece, plus greatly reduced grinding wheel consumption. Thus PROKOS offers several key advantages over conventional grinding methods.



BLOHM PROKOS			3A	4A	5A
Workpiece dimensions (W x L x H)		mm		300 x 300 x 300	
X-axis	Machine table	mm		450	
	Feed rate	mm/min		120,000	
Y-axis	Wheelhead vertical travel	mm		400	
	Feed rate	mm/min		10,000	
Z-axis	Wheelhead cross travel	mm		900	
	Feed rate	mm/min		50,000	
A-axis		degrees	–	110	110
	Indexing speed	rpm	–	20	20
B-axis		degrees	–	–	∞
	Rotary speed	rpm	–	–	200
Grinding spindle drive		kW/rpm	30/3,000	30/2,600	30/2,600
3-phase motor, variable, n _{max}		rpm	8,000	12,000	12,000
Grinding wheel size, OD x W x ID		mm		300 x 20 ... 50 x 76.2	

An optional automated tool changer permits complete processing of complex workpieces with grinding, milling and drilling operations.

The PROKOS thus opens a wide range of applications, particularly for precision machining in the machine tool, turbine, tool and bearing industries.



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SCHLEIFRING

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