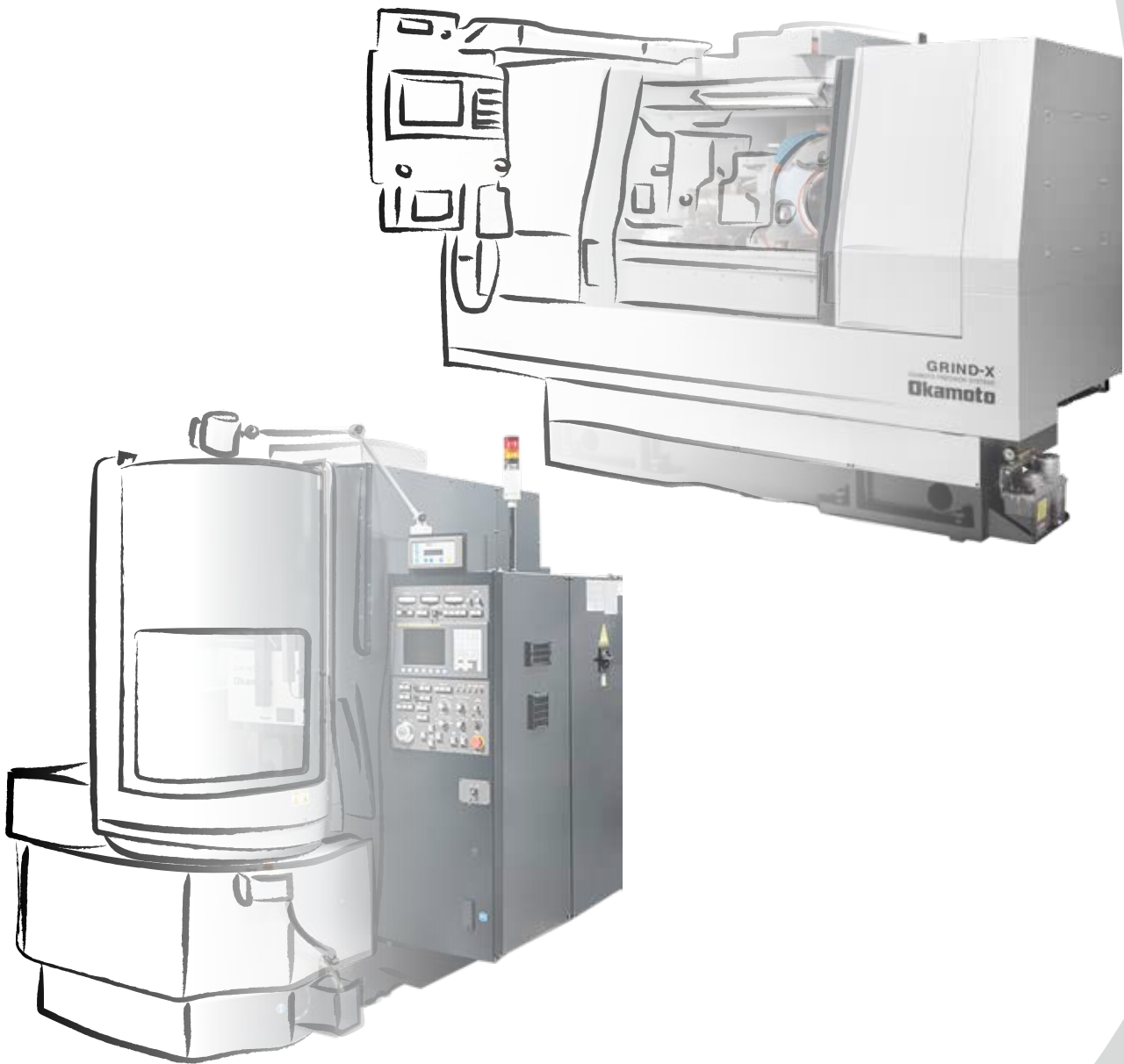


GRIND - X  
OKAMOTO PRECISION SYSTEMS  
**Okamoto**

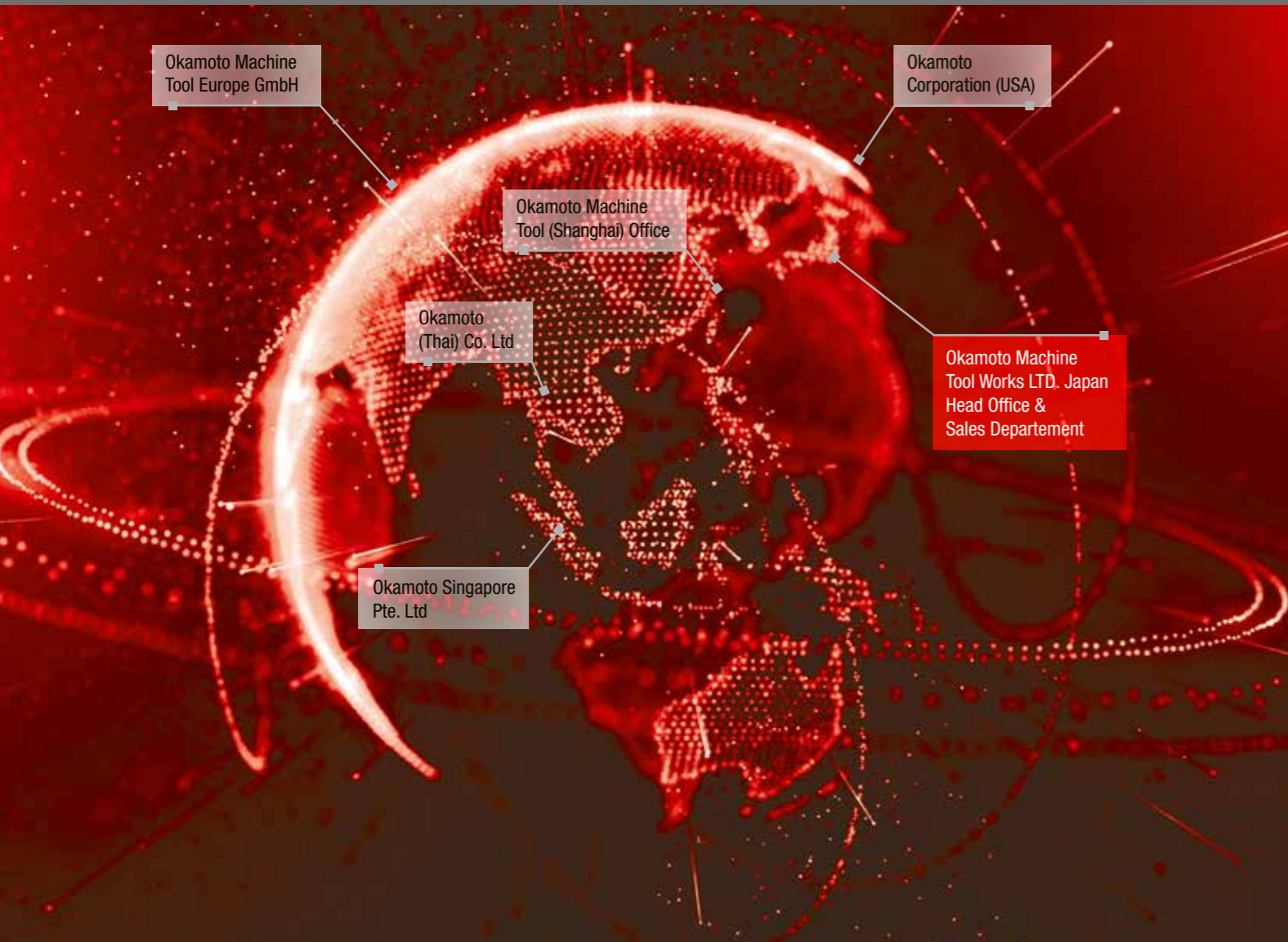
GRINDING SOLUTIONS



**PERFECTION**  
IN FORM & TECHNOLOGY

THE COMPANY  
CYLINDRICAL GRINDING  
SURFACE & PROFILE  
ROTARY TABLE GRINDING  
LAPPING

# WORLD OF OKAMOTO



## The Company

World leading.

Our grinding machines guarantee safety through the highest precision.

Okamoto Machine Tool Works Ltd. Japan has been the world's leading manufacturer of high-quality grinding machines and related equipment since 1926. OKAMOTO MACHINE TOOL EUROPE GMBH headquartered in Langen near Frankfurt am Main has been serving the European market since 1992 as its main office. The continued growth of the company has given rise to a network of subsidiaries and sales organizations in over 70 countries. Major production facilities are in Japan, Singapore and Thailand.

The intensive cooperation of Okamoto Machine Tool Works Ltd. Japan and Okamoto Machine Tool Europe GmbH in Langen is a guarantor for the development and production of innovative grinding machines with highest precision. In our work, we strive to respond positively to the developments in the market and use investments for future growth for the overall success of our company.

Okamoto Machine Tool Works Ltd. Japan, as well as Okamoto Machine Tool Europe GmbH is a customer-oriented, internationally operating company - a modern service provider with high service quality. Our full service strategy focuses on the customer with his needs. The aim is to provide our customers with innovative products with the highest precision, reliability, quality and handling. In our modern demonstration and application center at Okamoto Machine Tool Europe GmbH in Langen, we present an interesting cross section of our product range.

We rely on a long-term, reliable, successful, trusting and partnership-based cooperation with our customers and partners.

Okamoto  
Machine Tool Europe GmbH  
Frankfurt (Germany)



# WORLD OF OKAMOTO



## Proximity to customers

Always in line with customers' needs – that makes all the difference.

Efficient advice and after-sales-service.

Okamoto Machine Tool Works Ltd. Japan and Okamoto Machine Tool Europe GmbH, is a customer-oriented, internationally operating company – a modern service provider with high service quality. Our full service strategy focuses on the customer and their needs. Our aim is to provide our customers with top quality innovative products that offer the highest precision, a high degree of reliability, and easy operation. In our modern demonstration and application centre at Okamoto Machine Tool Europe GmbH in Langen, Germany, we are ready to demonstrate a wide selection of the products in our delivery programme.

We put great emphasis on a long-term, reliable, successful, trusting and fair cooperation with our customers and partners.

What you can expect from us in detail:

- User-specific advice from professionals
- Improving the profitability of your production
- Efficient solutions that lead to competitive advantages



# WORLD OF OKAMOTO



## Internationality

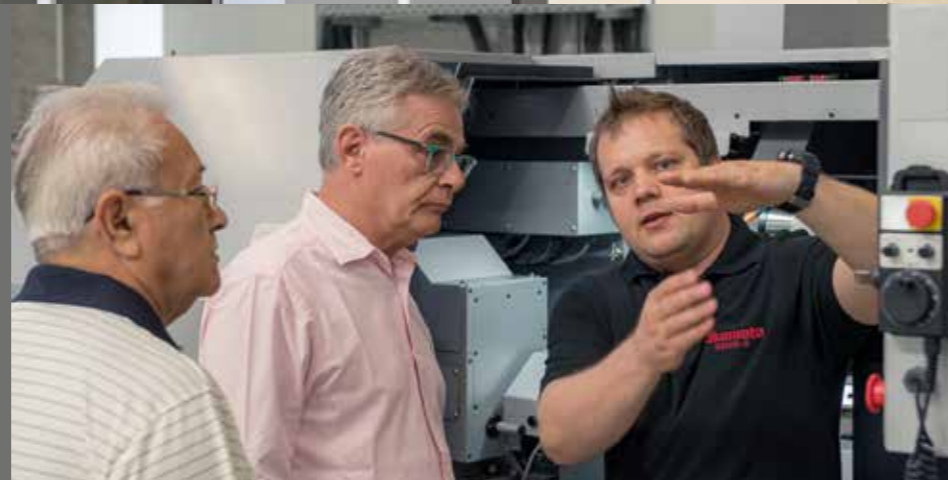
Worldwide security and competence.

Our grinding machines set international standards.

Based in the centre of Europe, Okamoto Machine Tool Europe GmbH employs staff from several different European countries as well as Germany and Japan. Together with our partners and dealers in each European country, we are able to understand the cultural and application-specific characteristics of all of our customer's needs. Because you know that we speak your language, and because you know that we understand your local market, you can be sure that you will save time and money when buying an Okamoto machine. Okamoto Europe and our partners provide a noticeable competitive advantage. With us you can feel "at home".

### What you can expect from us in detail:

- A single contact partner
- Excellent knowledge of the foreign market
- Cultural experience



# WORLD OF OKAMOTO



## Quality

### Long Life through Top Quality.

Guarantees for the safety of your production.

#### 1. Uncompromising competence

Any company that makes so many machines per year and which offers such a wide range of grinding machines, must be able to master each production step precisely. Okamoto has 4 different factories in and around Japan, and these factories share production seamlessly. All castings are made by Okamoto Thailand. Medium sized machined parts are made by Okamoto Singapore. Our largest and most sophisticated machines are made by Okamoto Japan. All Okamoto factories share the assembly of different machine ranges. The quality of Okamoto machines is overseen from casting to the end product. All Okamoto facilities follow the guidelines of DIN EN ISO 9001:2008. The perfect interaction between motivated and competent employees is not only what makes our company stand out, but also an existential component of our company philosophy.

#### 2. Certification and additional checks

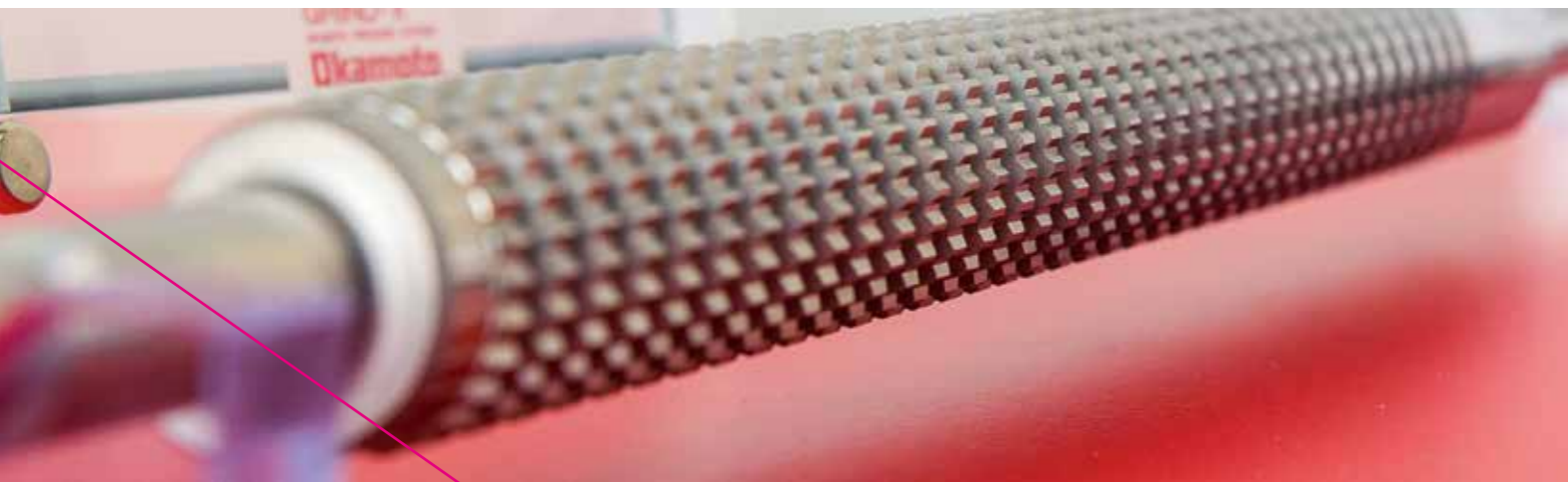
The quality management is certified according to DIN EN ISO 9001:TS 16949 and meets all international standards. Moreover, we carry out additional extensive checks in order to guarantee to our customers the utmost quality. Likewise, tool test certificates according to DIN 50049 are naturally provided by our company.

#### 3. Documentation

We continuously document our quality control, not only in order to secure quality, but also to further optimise it. Because the same goes for us: anyone who stops getting better, has stopped being good.

#### What you can expect from us in detail:

- Constant overwatch by TÜV
- DIN EN ISO 9001:TS 16949
- DIN 50049
- Product manufacturing documentation



# Cylindrical Grinding Machine



## UGM 5V

### Precision vertical universal cylindrical grinding machine with B axis

With the introduction of this new universal series of vertical and internal grinding machines, Okamoto combines its extensive know-how in the field of internal and external grinding in an entirely new design.

- CNC universal vertical grinding machine
- Automatic Tool Changer for 4 wheels
- Pivoting wheel head (B axis)
- Roundness 0.9 μm



#### ADDITIONAL EQUIPMENT

- 3-jaw chuck 500mm diameter manual
- Wheel mounts / holder with clamping cone BT40
- Coolant system with paper belt filter SBF 60
- Coolant system with magnet separator and temperature controller

## UGM 5V

	Description	Unit	UGM 5V
<b>Capacity</b>	Swing on the table	mm	Ø 550
	Grinding inner diameter	mm	Ø 75-400
	Grinding outer diameter	mm	to Ø 550
	Maximum grinding length	mm	300
	Maximum load (on table)	kg	500
<b>Wheel spindle</b>	Specifications of wheel used	mm	Ø 200 x 40 x 50.8 Ø 50-100 x 50 x 22.5
	Revolution speed	min <sup>-1</sup>	500-8000
	Maximum circumferential speed	m/sec	50
	Taper hole		BT40 two-face contact (without drive key)
<b>Wheel spindle infeed (X-axis)</b>	X-axis maximum travel amount	mm	1100
	Minimum setting unit	mm	Ø 0.0001
	Grinding feed rate	mm/min	0.001 - 20000
	Rapid feed rate (manual, automatic)	mm/min	20000
<b>Longitudinal wheel feed (Z-axis)</b>	Z-axis maximum travel amount	mm	450
	Minimum setting unit	mm	0.0001
	Grinding feed rate	mm/min	0.001 - 15000
	Rapid feed rate (manual, automatic)	mm/min	15000
<b>Wheel head (B-axis)</b>	B-axis maximum swivel angle	Degree	0 or 30
	Table size	mm	Ø 500
<b>Work spindle</b>	Revolution speed	min <sup>-1</sup>	10~150
	T slot	mm	18 x 8s lot
<b>Hydraulic unit</b>	Discharge pressure	MPa	11.0
	Tank capacity	L	60
<b>Motor</b>	For wheel spindle (AC built-in motor)	kW	11 (βi112S/15000)
	Work spindle (AC servomotor)	kW	5.5 (αiS40/4000-B)
	Wheel infeed (AC servomotor)	kW	4.5 (αiS22/4000-B)
	Longitudinal wheel feed (AC servomotor)	kW	5.5 (αiS30/4000-B)
	For driving the ATC (AC servomotor)	kW	0.5 (βiS1/6000-B-B)
	Hydraulic pump	kW	5
	For driving the dresser (option)	W / P/min <sup>-1</sup> (Hz)	60/2/2650/3200 (50/60)
	Grinding coolant injection pump (option)	kW/P	1.1/2
	Dressing coolant injection pump (option)	W/P	250/2
	Pump-up pump (option)	W/P	250/2
	Magnetic separator (option)	W/P	25/2
	Automatic liquid temperature controller (option)	W	max. 1160
	Dust collector (option)	W	750
<b>Installation space</b>	Width x Depth x Height	mm	2650 x 2380 X 3032
<b>Weight</b>		kg	9000
<b>Power supply</b>	Power requirement	V / Hz	200, (three-phase), 50/60 (main unit)
	Power consumption	kVA (main unit)	45
<b>Air pressure requirement</b>	Pressure requirement	MPa	0.5
	Flow rate requirement	L/min	160 (during air blow 420)
<b>Noise level</b>		dB	70-75

# Cylindrical Grinding Machine



## UGM 360 NC

### Precision cylindrical grinding machine with B-axis

Standard software with 10-step grinding program. Software for profile grinding optionally available. Entry of grinding data via touchscreen. Wheel and work spindles driven by Fanuc AC servomotors. A swing down wheel dressing device for internal grinding is included in the standard equipment.

- Double V table slideways
- T-shaped machine bed
- Temperature-stabilized spindles
- Low-maintenance B-axis motor with direct drive
- Directly powered ball screws



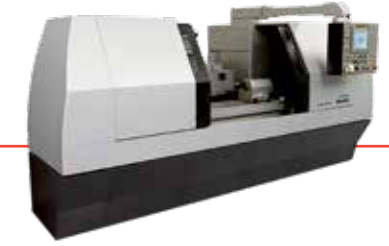
### ADDITIONAL EQUIPMENT

- Motor-powered tailstock
- Roll dresser
- Gap Elimination
- Programming software iCAM / EDELAC Win

## UGM 360 NC

	Description	Unit	UGM 360 NC	UGM 3100 NC
<b>Workhead</b>	Spindle type		High-strength combined live & dead spindle	
	Centre taper	MT	5	
	Through bore	mm	Ø 28	
	Spindle speed	min <sup>-1</sup>	10 ~ 500	
	Swivel angle (Option)	Degree	-90 ~ 30	
<b>Tailstock</b>	Tailstock sleeve		Taper control type	
	Sleeve stroke	mm	30	
	Taper	MT	4	
<b>Motors</b>	Wheel spindle (AC motor)	kW	11.0/4 (Direct drive)	
	Internal grinding spindle (AC motor)	kW	3.7	
	Workhead Spindle (C-axis/AC motor)	kW	1.8 (iS12/3000HV)	
	Table feed (Z-axis/AC motor)	kW	4.5 (aiS/4000HV)	
	Wheelhead infeed (X-axis / AC servo motor)	kW	3.0 (aiF12/4000HV)	
	Wheelhead swivel Motor (B-axis / AC servo motor)	kW	5.6 (Direct drive: DiS250/250)	
	Lubricant pump	W/P	3/4	
	Oil temperature controller	W	2800	
	Oil temperature controller pump	W	400/1500W(O.P)	
	<b>Grinding wheel</b>	Size (Outside - Ø x B x Inside - Ø)	mm	Ø 510 x 63 (OP80) x Ø 203.2
Rotational speed min.		min <sup>-1</sup>	900~3200	
Max. peripheral wheel speed		m/sec	60	
<b>Feed axis (X-axis)</b>	X-axis stroke	mm	360	
	Min. input increment	mm	0.0001	
	Rapid traverse	mm/min	10000	
<b>Swivel Axis (B-axis)</b>	Swivel angle	Degree	2 Spindle (+0~-180°), 3 Spindle (+0~-240°)	
	Min. input increment	mm	0.0001	
	Rapid traverse	min <sup>-1</sup>	15	
<b>Table (Z-axis)</b>	Z-axis stroke	mm	850	1250
	Swivel angle	Degree	0 ~8.5	0 ~6.0
	Min. input increment	mm	0.0001	
	Rapid traverse	mm/min	20000	
<b>Power consumption</b>		kVA	33	36
<b>Tank capacity</b>	Lubricant	L	3	
	Coolant	L	80	
<b>Control</b>	Type		FANUC Oi-TF	
	Number of controlled axes		3 (2-axis simultaneously)	
	Coordinates		Polar, Linear, Arc	
<b>Work height</b>	High floor - Centre workpiece	mm	1135	
<b>Space requirement</b>	Width x Depth x Height	mm	2780 x 2750 x 1900	3650 x 2750 x 1900
<b>Total weight net</b>		kg	7000	7900

# Cylindrical Grinding Machine

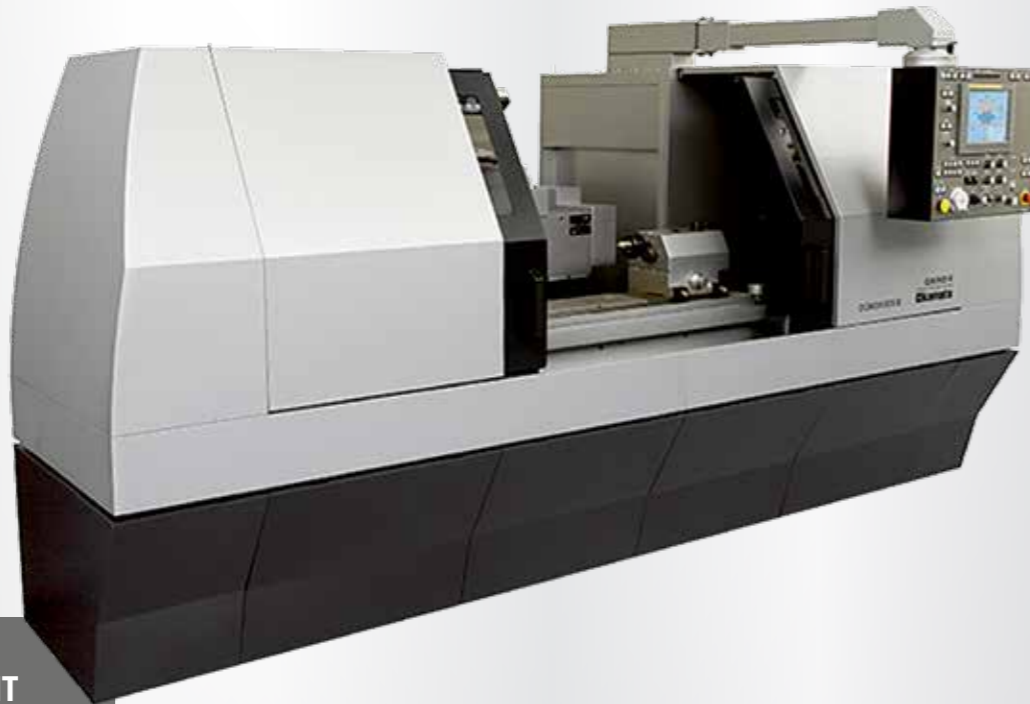


## OGM NCIII / UNCIII

### Precision cylindrical grinding machine

Standard software with 10-step grinding program. Software for profile grinding optionally available. Entry of grinding data via touchscreen. Wheel and work spindles driven by Fanuc AC servomotors. Shoulder locator and gap eliminator are included in the standard equipment.

- External / universal cylindrical grinding machine
- FANUC touchscreen control featuring easy to use software
- Sizes from 500 mm to 1500 mm between centres



### ADDITIONAL EQUIPMENT

- Self centring 3-jaw chuck with adaptor  $\varnothing$  200 mm
- Paper filter coolant system
- Work light LED

## OGM NCIII / UNCIII

Description	Unit	Series 200		Series 300							
		external	universal	external			universal				
		250	250	350	390	3150	350	390	3150		
<b>Capacity</b>	Work swing over table	mm		220							
	Distance between centers	mm		500							
	Max. grinding diameter	mm		200							
	Workhead max. weight	Center	kg		50						
Chuck (face plate + chuck + load)		kg		20							
<b>Grinding wheel</b>	Size (OD x W x ID)	mm		$\varnothing$ 355 x 50 x $\varnothing$ 127	$\varnothing$ 305 x 50 x $\varnothing$ 127	$\varnothing$ 455 x 75 x $\varnothing$ 127			$\varnothing$ 405 x 75 x $\varnothing$ 127		
	Max. peripheral speed	m/sec		45 (inverter standard)							
<b>Wheelhead</b>	X axis travel distance	mm		215		300					
	Swivel angle	degree		fixed	$\pm$ 30	fixed			$\pm$ 30		
	Least travel increment	mm		0.0001							
	Rapid feed rate	mm/min		4000							
<b>Table</b>	Z axis travel distance	mm		762	870	1270	1870	870	1270	1870	
	Swivel angle	degree		0 ~ -9	0 ~ -10	0 ~ -8.5	0 ~ -5	0 ~ -10	0 ~ -8.5	0 ~ -5	
	Least travel increment	mm		0.0001							
	Rapid feed rate	m/min		8000		10000					
<b>Work head</b>	Spindle type	Rigidity spindle for dead and live combined use									
	Centre taper	MT		3			4				
	Through hole diameter	mm		$\varnothing$ 18			$\varnothing$ 20				
	Spindle speed	min <sup>-1</sup>		10 ~ 500							
	Swivel angle	degree		30 ~ -90		Fixed			30 ~ -90		
<b>Tailstock</b>	Tailstock spindle type	Manual taper fine adjustment type									
	Spindle stroke	mm		20			30				
	Center taper	MT		3			4				
<b>Motors</b>	Grinding wheel spindle	kW/P		5.5			7.5				
	Workhead spindle	kW		1.8 (AC servomotor)							
	Table feed	kW		1.2 (AC servomotor)							
	Grinding wheel head feed	kW		1.2 (AC servomotor)							
	Lubricating pump	W/P		3							
<b>Required electrical power consumption</b>		kVA		15			20				
<b>Height floor - Centre workpiece</b>		mm		980							
<b>Total weight net</b>		kg		3300		4600	5000	6000	4600	5200	6000
<b>Space requirement</b>	Width	mm		2920		3400	4200	5400	3400	4200	5400
	Depth	mm		2010							
	Height	mm		1950			2330			1950	



# Cylindrical Grinding Machine



## IGM 15 NCIII / NCIII-2

### Internal grinding machine with single or twin spindles

Standard software with 10-step grinding program Software for plain bore, taper and contour grinding with 2-axis control. Entry of grinding data via touchscreen with easy to use software. Wheel and workhead spindles are driven by AC servomotors. High precision is further optimized via thermally stabilized infeed ball screw.

- Internal cylindrical grinding machine for bore lengths up to 150 mm
- FANUC touchscreen with easy to use software input
- Single spindle or Twin spindle model with high frequency motor-driven spindles



### ADDITIONAL EQUIPMENT

- 3-jaw chuck
- Selection of internal spindles with quill
- Coolant system with paper belt filter
- Coolant system with magnetic separator and temperature controller

## IGM 15 NCIII / NCIII-2

	Description	Unit	IGM15NCIII	IGM15NCIII-2
<b>Capacity</b>	Swing on the table	mm	Ø 600	
	Swing under the chuck cover	mm	Ø 260	
	Maximum grinding inner diameter	mm	Ø 6 to 150	Ø 6 to 100
	Maximum grinding length	mm	125	
<b>Wheel spindle infeed (X-axis)</b>	X-axis maximum travel amount (infeed)	mm	170	300
	Minimum setting unit	mm	Ø 0.0001	
	Grinding feed rate	mm/min	0.001 - 10 000	
	Rapid feed rate (manual, automatic)	mm/min	10 000	
<b>Table longitudinal feed (Z-axis)</b>	Z-axis maximum travel amount	mm	500	
	Minimum setting unit	mm	0.0001	
	Grinding feed rate	mm/min	0.001 to 15 000	
	Rapid feed rate (manual, automatic)	mm/min	15 000	
<b>Work head</b>	Work spindle top outer diameter	mm	Ø 140 g7	
	Work spindle tapered hole		Morse taper No. 6	
	Through-hole diameter	mm	Ø 50	
	Revolution speed	min <sup>-1</sup>	100 to 850	
	Swivel angle		-5° to 15°	
<b>Motors</b>	Wheel spindle (AC spindle motor)		B13/10 000	2.2 - 5.5 kW/2P
	Work spindle (AC servomotor)		B12/3000iS	
	Wheel head feed (AC servomotor)		α C8/2000i	
	Table feed (AC servomotor)		α C8/2000i	
	Coolant injection pump (option)		180W/2P	
	Pump-up pump (option)		180W/2P	
	Automatic liquid temperature controller (option)		1740W (50Hz)/2P	
	Dust collector (option)		400W	
<b>Power supply</b>	Power requirement		200V, three-phase, 50/60 Hz (main unit)	
	Power consumption		8 kVA (main unit)	12 kVA (main unit)
<b>Space requirement</b>	Width	mm	2525	
	Depth x Height	mm	3092 x 1786	
<b>Total weight net</b>		kg	2600	

# Cylindrical Grinding Machine



## OGM 250 UDXB

### Universal cylindrical grinding machine

A Universal cylindrical grinding machine having a diameter capacity of 200 mm and with 500 mm between centres, the OGM 250 UDXB is ideally suited for toolroom small batch production. It is delivered with a comprehensive level of standard equipment to suit toolroom production and allows quick and easy setup. The stable design of the spindle head together with double-V table slideways provides for a robust machine with long-term precision. The intuitive operation of the controls simplifies usage and increases productivity considerably.

- Proven PLC type Okamoto DX control
- With internal grinding unit in the standard equipment
- AC motor ball screw table drive mounted on a T-shaped cast iron machine bed



### ADDITIONAL EQUIPMENT

- Set of 6 Automatic driving dogs 5-80 mm capacity
- Static Balancing unit with arbour
- Table angle measuring system
- Internal grinding unit
- Self-centring chuck
- Manual type 2- and 3-point steady rests

## OGM 250 UDXB

	Description	Unit	OGM-250UDXB
<b>Capacity</b>	Max. swing diameter	mm	220
	Max. distance between centres	mm	500
	Max. grinding diameter	mm	200
	Max. workpiece weight (between centres)	kg	60
<b>Grinding wheel</b>	Diameter x Width x bore	mm	Ø 305 x 25 x 127
	Rotational speed	rpm	2087/2357
	Max. peripheral grinding speed	m/sec	33
<b>Grinding spindle head</b>	Infeed stroke	mm	203
	Swivel range		+/- 30°
	Smallest input increment	mm	0,001
	Feed speed	mm/min	1000
	Electronic hand wheel	mm	0.001 / 0.01
	Spark out	sec. strokes	0-10
	<b>Table axis</b>	Stroke	mm
	Swivel range	mm	+4° / -9°
	Smallest input increment	mm	0,001
	Max. table speed	mm/min.	50 - 4000
	Feed per hand wheel rotation	mm	7.5
<b>Workhead</b>	Work Spindle Taper	M.T.	No. 3
	Spindle through bore	mm	14
	Rotational speed	rpm (3 steps)	150/250/400
	Swivel range		+30° / -90°
<b>Tailstock</b>	Sleeve travel	mm	20
	Taper	M.T.	No. 3
<b>Motors</b>	Wheel spindle	kW	1.5
	Workhead	kW	0.4
	Table drive	kW (AC servomotor)	0.4
	Workhead	kW (AC servomotor)	0.4
	Internal grinding unit	kW	0.75
	Power supply	kVA	7
<b>Dimensions</b>	L x W x H	mm	2880 x 1851 x 1640
	Total weight net	kg	1900

# Surface & Profile Grinding Machine



## UPZ 210 Lill / Lill-2

### Ultra Precision surface and profile grinding machine

Weighing in at 5700 kg, the design of this machine offers an excellent low-vibration base for ultra-precision grinding of surfaces and profiles. High-precision linear slideways (optionally with hydrostatic slideways) paired with linear motors in all axes offer ultra high speed and precision. The linear motor table drive achieves an oscillation rate of up to 250 double strokes per minute. Two independently working grinding heads enable roughing and finishing operations to be carried out concurrently.

In combination with a CCD camera option, this machine is capable of completely automatic cycle including re-grinding with compensation and final part measurement without having to remove the part from the machine, thereby guarantee the very highest precision.

- CNC Fast Reciprocation Profile Grinding Machine
- with linear motor drive
- carbide grinding with 520 oscillation strokes per minute
- Roughing and finish grinding, measuring, compensating independently one after the other



#### ADDITIONAL EQUIPMENT

- Coolant system
- Mist collector
- Temperature stabilization
- Cleaning cycle during measurement

## UPZ 210 Lill / Lill-2

	Description	Unit	UPZ 210 Lill	UPZ 210 Lill-2
<b>Work area</b>	Table clamping surface	mm	200 x 110	200 x 105
	Table path (L x W)	mm	270 x 120	500 x 120
	Max. distance wheel to table	mm	235 (Ø 80 mm)	225 (Ø 80 mm)
	Max. load incl. chuck	kg	5	5
	Magnetic Chuck Size (L x W x H)	mm	175 x 105 x 49	175 x 105 x 49
<b>Table</b>	Speed	mm/min	0,1 - 60	0,1 - 60
	Rapid traverse	mm/min	1000	1000
<b>Cross movement</b>	Speed	mm/min	1 - 1000	
	Smallest input increment	mm	0.0001	0.0001
	Rapid traverse	mm/min	1000	1000
<b>Vertical movement</b>	Speed	mm/min	1 - 1000	
	Smallest input increment	mm	0.0001	0.0001
	Rapid traverse	mm/min	1000	1000
<b>Motors</b>	Wheel spindle motor	kW	2,2	1,5
	Table oscillation (linear motor)	kW	2,0 x 2	2,0 x 2
	Cross movement	kW	2,0 (linear motor)	2,0 (linear motor)
	Vertical movement	kW	2,0	2,0
	Coolant pump (optional)	kW	0,06	0,06
	Coolant temperature control	kW	1,6	1,6
	Oil temperature control	kW	1,6	1,6
<b>Power consumption (incl. chuck and coolant system)</b>		kVA	21	31
<b>Space requirement</b>	Dimensions (L x W x H)	mm	1750 x 1850 x 1880	1883 x 2694 x 1907
	Total weight net	kg	6000	4600

# Surface & Profile Grinding Machine



## UPZ 52 Li

### Ultra Precision surface and profile grinding machine

With a grinding length of 500 mm and a cross travel of 200 mm the Okamoto UPZ-52Li is equally suited to the toolroom, small or large batch production. It features a high level of standard equipment to ensure easy handling, quick and precise small part production. The robust cast iron construction and linear guideways in both table and crossfeed provide for fast and accurate grinding. The intuitive operation of the controls simplifies usage and increases productivity considerably.

- Linear motor table drive
- Workpiece measurement system
- CCD camera
- High-speed reciprocation (500/min)
- Temperature-stabilized grinding wheel spindle head



\* shown with optional closed top cover

#### ADDITIONAL EQUIPMENT

- Elektro-permanent magnetic chuck 500 mm x 200 mm
- Paper band filter coolant system
- Mist collector
- 2-point rotary dresser
- Measuring system incl. CCD camera and software

## UPZ 52 Li

	Description	Unit	UPZ 52Li	
<b>Work area</b>	Work table size	mm	550 × 220	
	Table traverse path	mm	600	
	Max. distance Table to Wheel	mm	12.5 ~ 395	
	Magnetic chuck size (Length x Width x Height)	mm	500 × 200 × 80	
	Max. table load	kg	60 (41)	
<b>Table</b>	Feed	m/min	Feed 0.1 ~ 25 (average)	
	Max. traverse path	mm	600	
	Rapid traverse	mm/min	5000	
	Smallest input unit	mm	0.0001	
	Hand feed	Graduation	mm	0.0001 / 0.001 / 0.01 / 0.05
		Wheel speed	mm	0.1 / 0.1 / 1.0 / 5.0
<b>Cross movement</b>	Feed	m/min	1 ~ 2000	
	Max. stroke	mm	230	
	Rapid	mm/min	2000	
	Smallest input unit	mm	0.0001	
	Hand feed	Graduation	mm	0.0001 / 0.001 / 0.01 / 0.05
		Wheel speed	mm	0.01 / 0.1 / 1.0 / 5.0
<b>Vertical movement</b>	Feed	m/min	1 ~ 2000	
	Max. stroke	mm	382.5	
	Rapid	mm/min	2000	
	Smallest input unit	mm	0.0001	
	Hand feed	Graduation	mm	0.0001 / 0.001 / 0.01
		Wheel speed	mm	0.01 / 0.1 / 1.0
<b>Grinding wheel</b>	Grinding wheel size	mm	∅ 205 × 13 × ∅ 31.75	
	Speed	min <sup>-1</sup>	0 ~ 3600	
<b>Motors</b>	Grinding wheel spindle	kW	3.7/2 Liquid cool. motor	
	Vertical movement	kW	1.3	
	Cross movement	kW	0.85	
	Table feed	kW	3.0 × 2	
<b>Power</b>	Power consumption	kVA	25.5 (varies according to specification)	
<b>Space requirement</b>	L x W x H	mm	2300 × 2340 × 2237	
	Total weight net	kg	4500	

# Surface & Profile Grinding Machine



## ACC CA / CAiQ

### Precision surface and profile grinding machine

With a grinding length of 600 - 1000 mm and a cross travel of 400 - 600 mm the Okamoto ACC-CA/CAiQ is ideally suited for the toolroom. It features a high level of standard equipment to ensure easy handling, quick and precise small part production. The robust cast iron design and double-V slideways in the table ensure long term precision. The intuitive operation of the controls simplifies usage and increases productivity considerably.

- Surface and profile grinding machine
- Choice of touch screen control or simple PLC controller
- Moving column design
- Magnetic chuck sizes from 600 x 400 to 1000 x 600 mm



### ADDITIONAL EQUIPMENT

- Elektro-permanent magnetic chuck
- Hydraulic overhead dresser with compensation
- Coolant system with paper filter

## ACC CA / CAiQ

	Description	Unit	CA series					CAiQ series					
			64CA	84CA	104CA	66CA	106CA	64CA-iQ	84CA-iQ	104CA-iQ	66CA-iQ	106CA-iQ	
<b>Work area</b>	Table length x width	mm	605 x 400	805 x 400	1016 x 400	605 x 600	1016 x 600	605 x 400	805 x 400	1016 x 400	605 x 600	1016 x 600	
	Table stroke length x width	mm	800 x 440	1000 x 440	1200 x 440	800 x 652	1200 x 652	800 x 440	1000 x 440	1200 x 440	800 x 652	1200 x 652	
	Maximum distance grinding wheel - table	mm	22.5 - 522.5			-2.5 - 497.5		22.5 - 522.5			-2.5 - 497.5		
	Standard size chuck	kg	600 x 400 x 90	800 x 400 x 90	1000 x 400 x 90	600 x 600 x 90	1000 x 600 x 90	600 x 400 x 85	800 x 400 x 85	1000 x 400 x 85	600 x 600 x 85	1000 x 600 x 85	
	Table load incl. chuck		1000			1500		1000			1500		
	Table height (from floor)		915										
<b>Table</b>	T-slots	mm	-										
	Speed	rpm	3 - 25										
<b>Cross movement</b>	Manual	Feed / rotation	mm	0.1 / 1.0 / 5.0					0.01 / 0.1 / 1.0 / 5.0				
		Division hand wheel		0.001 / 0.01 / 0.05					0.0001/0.001/0,01 / 0,05				
	Automatic	Int. feed	mm	0.5 - 20									
		Cont. feed	mm/min	0 - 2000					0 - 1000				
<b>Vertical movement</b>	Manual	Feed / rotation	mm	0.01 / 0.1 / 1.0									
		Division hand wheel	mm	0.0001 / 0.001 / 0.01									
	Automatic	Roughing	mm	0.0001 - 0.03 (15 steps)					0.001 - 0.03				
		Finishing	mm/min.						0.0001 - 0.01				
	Feed (F command)	mm	-										
	Number of spark-out passes		0 - 5					0 - 99					
	Rapid traverse		0 - 1000										
<b>Grinding wheel</b>	D x Width x d	mm	Ø 355 x 38 x Ø 127		Ø 405 x 50 x Ø 127		Ø 355 x 38 x Ø 127		Ø 405 x 50 x Ø 127				
	Speed (inverter)	R.P.M.	500 - 2500										
<b>Motors</b>	Grinding wheel spindle	kW	7.5										
	Hydraulic pump	kW	2.2 / 4										
	Infeed	kW	1.5										
	Cross movement	kW	0.75										
<b>Power consumption (incl. chuck and coolant system)</b>			13			16		24					
<b>Space requirement</b>	Length	mm	3550	4000	4480	3550	4480	3710	4000	4500	4000	4500	
	Depth	mm	2700	2900	2800	3350	3350	3439	3500	3500	3700	3610	
	Height	mm	2203	2203	2203	2275	2275	2203	2203	2203	2275	2275	
	Total weight net	kg	4950	5500	7000	6300	7300	4950	5500	7000	6300	7500	

# Surface & Profile Grinding Machine



## ACC CA3

### Precision surface grinding machine

With a grinding length of 600 - 1000 mm and a cross travel of 400 - 600 mm the Okamoto ACC-CA2/CA3 is ideally suited for the toolroom. It features a high level of standard equipment to ensure easy handling, quick and precise small part production. The robust cast iron construction and double-V table slideways (CA2) ensure long term precision. The intuitive operation of the controls simplifies usage and increases productivity considerably.

- CNC surface & profile grinding machine
- e.g. 3 axes simultaneously
- Column feed for cross movement
- Dialogue input system



#### ADDITIONAL EQUIPMENT

- Hydraulic oil temperature controller
- Wheel flange
- Balancing unit with arbour
- Electromagnetic chuck
- Coolant systems

## ACC CA3

		Description	Unit	64 CA3	84 CA3	104 CA3	106 CA3
<b>Work area</b>	Table path	mm	800 x 440	1000 x 440	1200 x 440	1200 x 652	
	Magnetic chuck size	mm	600 x 400	800 x 400	1000 x 400	1000 x 600	
	New wheel to table	mm	-2.5 ~ 497.5				
	Table load	kg	1000			1500	
<b>Table</b>	Speed	m/min	3 ~ 25				
<b>Cross movement</b>	Int. movement	mm	0.5 ~ 20				
	Cont. movement	mm/min	0 ~ 2000				
	Hand wheel division.	mm	0.001 / 0.01 / 0.05				
<b>Vertical movement</b>	Rapid	mm/min	1000				
	Hand wheel division.	mm	0.0001 / 0.001 / 0.01				
<b>Grinding wheel</b>	Dimensions (D x B x d)	mm	ø 355 x 38 x 127				
	Speed	min <sup>-1</sup>	500 ~ 2500 <sup>-1</sup>				
<b>Motors</b>	Grinding wheel spindle	kW	5.5				
	Hydraulic pump	kW	2.2				
	Vertical movement	kW	0.75				
<b>Space requirement</b>	L x W x H	mm	3710 x 3300 x 2200	3950 x 3300 x 2200	4500 x 3300 x 2200	4440 x 3650 x 2280	
	Total weight net	kg	4500	5500	7000	7500	

# Surface & Profile Grinding Machine



ACC CHNC

## Double column surface and profile grinding machine

With a grinding length of 2000 - 4000 mm and a cross travel of 1050 - 2050 mm the Okamoto ACC-CHNC Series is ideally suited for both toolroom and production use. It features a high level of standard equipment to ensure easy handling, quick and precise part production. The robust cast iron construction and double-V table slideways together with gantry cross slide ensure long term precision. The intuitive operation of the controls simplifies usage and increases productivity considerably.

- Double column machine
- Robust construction for the very highest geometry requirements

- Precision surface processing
- Conversation software



### ADDITIONAL EQUIPMENT

- Elektro-permanent magnetic chuck
- Paper band filter coolant system
- Overhead dresser with compensation

ACC CHNC

	Description	Unit	1000 Series		1500 Series			2000 Series	
			2010CHNC	3010CHNC	2015CHNC	3015CHNC	4015CHNC	3020CHNC	4020CHNC
Work area	Table size, length x width	mm	2000 x 1050	3000 x 1050	2000 x 1550	3000 x 1550	4000 x 1550	3000 x 2050	4000 x 2050
	Max. grinding height	mm	700						
	Clearance width	mm	1300			1800		2500	
Table	Work area	mm	2050 x 1050	3050 x 1050	2050 x 1550	3050 x 1550	4050 x 1550	3050 x 2050	4050 x 2050
	Max. load	kg	4600	6900	5400	8100	10800	9200	12300
	Magnet weight	kg	1560	2340	2360	3540	4720	4620	6160
Longitudinal movement	Max. traverse path	mm	2250	3250	2250	3250	4250	3250	4250
	Feed	m/min	2-30						
Cross movement	Max. traverse path	mm	1170		1670			2170	
	Rapid traverse	mm/min	5000						
Vertical movement	Max. traverse path	mm	740						
	Rapid traverse	mm/min	1500						
Grinding wheel	Grinding wheel size (opt.)	mm	Ø 510 (option: Ø 610) x 100 x Ø 203.2					Ø 610 x 100 x Ø 203.2	
	Speed (opt.)	min <sup>-1</sup>	980 (option: 850)					850	
	Grinding wheel motor (opt.)	kW	15 (option: 22)						
Space requirement	Length	mm	7300	8650	7300	8650	10950	8650	11310
	Width	mm	4100	4100	4600	4600	4600	4800	6833
	Height	mm	4100	4100	4100	4100	4100	4100	4100
	Total weight net	kg	18500	21000	21500	24500	28000	35000	40000

# Surface & Profile Grinding Machine

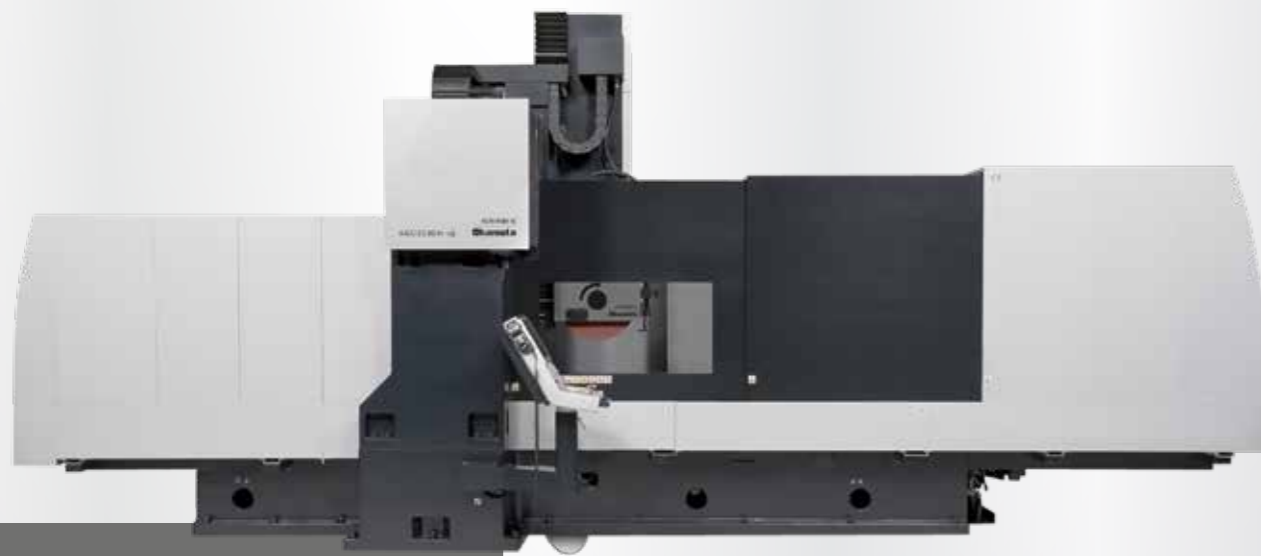


## ACC CHI Q

### Precision double column machine

The ACC-CHI Q series meets the very highest requirements in terms of precision to be found in the manufacture for parts in tool and mould construction, in hot runner technology and punching die construction. The cross slideways can be adjusted mechanically and can be realigned at any time as needed. In doing so, the CNC does not need to be compensated which in turn affords advantages in a higher surface quality and smoothness.

- Double column machine
- PC control with touchscreen
- Simple data input via symbols
- Stable construction for the very highest geometry requirements
- Mechanically adjustable cross slideways



### ADDITIONAL EQUIPMENT

- Electro-permanent magnetic chuck
- Paper band filter coolant system
- Overhead dresser with compensation
- Column increase 200mm

## ACC CHI Q

		Description	Unit	208CHI Q	258CHI Q	358CHI Q	458CHI Q	
<b>Capacity</b>	Chuck working size (Length x Width)		mm	2000 x 800	2500 x 800	3500 x 800	4500 x 800	
	Table cross movement		mm	1050				
	Table longitudinal movement		mm	2250	2750	3750	4750	
	Table working cap (Length x Width)		mm	2050 x 850	2550 x 850	3550 x 850	4550 x 850	
	Maximum weight of table (Including chuck)		kg	3200 (1390)	3900 (1690)	5500 (2180)	6000 (2680)	
<b>Longitudinal feed</b>	Chuck size (Length x Width)		mm	2000 x 800	2500 x 800	3500 x 800	4500 x 800	
	Longitudinal feed rate		m/min	2-30				
<b>Crossfeed</b>	Max. travel feed		mm	910				
	Minimum increment		mm	0.0001				
	Max. rapid feed		mm/m	6000				
	Automatic feed	Continuous feed rate		mm/min	0-1000			
		Manual feed	Hand feed per revolution	mm	0.01/0.1/1.0			
Graduation of hand wheel			mm/m	0.0001/0.001/0.01				
<b>Vertical feed</b>	Max. travel feed		mm	620				
	Minimum increment		mm	0.0001				
	Max. rapid feed		mm/m	2000				
	Automatic feed	Rough grinding	mm	0.0001-0.9999				
		Fine grinding	mm	0.0001-0.9999				
Hand adjustment	Hand feed per revolution	mm	0.01/0.1/1.0					
	Graduation of hand wheel		mm/m	0.0001/0.001/0.01				
<b>Grinding wheel</b>	Size (OD x W x ID)		mm	Ø 510 x 100 x Ø 127 (Option: 610 x 50 x 127)				
	Spindle speed		mm <sup>-1</sup>	400-1600				
	Motor		kW/P	22/4				
<b>Oil pressure unit</b>	Capacity		L	300				
<b>Machine space</b>	Length x Width x Height		mm	7450 x 3850 x 3595	7750 x 3850 x 3550	10200 x 3850 x 3550	13200 x 3850 x 3550	
<b>Machine weight</b>	Standard		kg	15500	17000	20000	23000	



# Surface & Profile Grinding Machine



ACC GX

## Precision surface grinding machine

With a grinding length of 500 - 1000 mm and a cross travel of 200 - 500 mm the Okamoto GX Series is ideally suited for the toolroom. It features a high level of standard equipment to ensure easy handling, quick and precise small part production. The robust cast iron construction and double-V slideways in both table and crossfeed ensure long term precision.

- Hydraulic surface grinder with automatic feed
- Moving saddle design
- Double-V slideways longitudinal and cross
- PLC controller with proven reliability



### OPTIONAL EQUIPMENT

- Electro-permanent magnetic chuck
- Wheel head mounted Hydraulic dresser
- Paper band filter with coolant system
- Cross-feed digital readout
- Spindle speed inverter

ACC GX

Description		Unit	52 GX	63 GX	64 GX	65 GX	84 GX	105 GX	
<b>Table</b>	Machine table (length x width)	mm	550 x 200	650 x 300	650 x 400	650 x 500	850 x 400	1016 x 500	
	Max. distance table > wheel	mm	47.5 ~ 397.5	22.5 ~ 322.5		22.5 ~ 522.5			
	Standard size of magnetic chuck (L x W x H)	mm	500 x 200 x 90	600 x 300 x 90	600 x 400 x 90	600 x 500 x 90	800 x 400 x 90	1000 x 500 x 90	
	Max. table load (incl. magnt.)	kg	200	420	420	700	700	700	
	T-slots (W x width)	mm	17 x 1		17 x 3				
<b>Longitudinal feed</b>	Max. traverse path	mm	650	750	750	750	950	1150	
	Speed	m/min	0.3 ~ 25	0.3 ~ 25	0.3 ~ 25	0.3 ~ 25	0.3 ~ 25	0.3 ~ 25	
	Manual feed/rotation	mm	47						
<b>Crossfeed</b>	Max. table cross traverse	mm	230	340	440	540	440	540	
	Manual cross feed	per rotation of hand wheel	mm	5.0					
		per division	mm	0.02					
	Autom. cross movement	step-wise	mm	0.5 ~ 12	0.5 ~ 20	0.5 ~ 20	0.5 ~ 20	0.5 ~ 20	0.5 ~ 20
		continuous	m/min	0.1 ~ 1.0	0.1 ~ 1.0	0.1 ~ 1.0	0.1 ~ 1.0	0.1 ~ 1.0	0.1 ~ 1.0
<b>Vertical feed</b>	Automatic feed	mm	0.0001 ~ 0.03						
	Manual feed	per rotation of hand wheel 0.1x1x10x	mm	0.0001 / 0.001 / 0.01					
		per impulse 0.1x1x10x	mm	0.01 / 0.1 / 1.0					
	Sparkout	Nr.	0 ~ 5						
Vertical fast positioning	mm/min	600							
<b>Grinding wheel</b>	ø x width x bore	mm	ø 205 x 19 x ø 50.8	ø 355 x 38 x ø 127					
	Speed	min <sup>-1</sup>	3000	1500					
<b>Motors</b>	Wheel spindle	kW/P	1.5 / 2	3.7 / 4					
	Hydraulic pump	kW/P	0.75/4	1.5/4	1.5 / 4	2.2 / 4			
	Vertical movement	kW	0.4 (AC Servermotor)						
<b>Power supply</b>	Connection value	kVA	4.5	7.5	8.0				
<b>Space requirement</b>	Length x Width x Height	mm	3030x1593x1800	3350x1929x1800	3350x2180x1800	3350x2450x2060	4220x2205x2060	4870x2264x2060	
<b>Total weight net</b>		kg	2100	2800	3000	3500	3900	4800	

# Surface & Profile Grinding Machine



## ACC SA1

### Next Generation

Standard surface grinder series equipped with a newly developed user friendly controller.

- Best step up from the ever popular Okamoto ACC-DX Series
- Crossfeed setting by Teach-In
- Compact footprint design
- New control with LCD touch screen allows for easy monitoring of the machine functions and grind process
- Auto dress with compensation is standard
- Spindle inverter unit is standard
- Auto-retract function is standard



### ADDITIONAL EQUIPMENT

- Elektro-permanent magnetic chuck with chuck controller
- Paper band filter coolant system
- Temperature stabilized wheelhead
- Wheel balancing systems
- Wheel flange

## ACC SA1

Description		Unit	52SA1	63SA1	64SA1	65SA1	84SA1	105SA1	
<b>Capacity</b>	Table Working Capacity	mm	505×200	605×300	605×400	610×500	805×400	1016×500	
	Max. Table Travel	mm	650×230	750×340	750×440	750×540	950×440	1150×540	
	Distance under new wheel to table top	mm	47.5~397.5	22.5~322.5		22.5~522.5			
	Standard chuck size	mm	500×200×75	600×300×75	600×400×85	600×500×100	800×400×85	1000×500×100	
	Table Load capacity (include chuck)	kg	200	420		700			
<b>Longitudinal Feed (X axis)</b>	T-Slot (Width x No.)	—	—						
	Longitudinal Feed Rate (Average)	m/min	0.3~25						
<b>Vertical Feed (Y-AXIS)</b>	Manual Feed	Hand Feed per Revolution	mm 0.01/0.1/1.0						
		Graduation of Hand Feed	mm 0.0001/0.001/0.01						
	Automatic Feed Rate (Plunge & Traverse)	Coarse Grinding	mm 0.0001~0.03						
		Fine Grinding	mm 0.0001~0.03						
	No. of Spark-out	No.	0~10						
Vertical Rapid Feed	mm/min	1~600							
<b>Cross Feed (Z axis)</b>	Manual Feed Rate	Hand Feed per Revolution	mm 0.1/1.0/5.0						
		Graduation of Hand Feed	mm 0.001/0.01/0.05						
	Automatic Feed Rate	Intermittent Feed	mm	0.5~15	0.5~20	0.5~20	0.5~20	0.5~20	0.5~20
		Continuous Feed Rate	mm/min	0.1~1000					
<b>Grinding Wheel</b>	Diameter x Width x Bore	mm	∅ 205×19× ∅ 50.8		∅ 355×38× ∅ 127				
	Speed	min <sup>-1</sup>	1000~3600	200~2500	200~2500	200~2500	200~2500	200~2500	
<b>Motors</b>	Grinding Wheel Spindle	kW/P	2.2/2		3.7/4				
	Hydraulic Oil Pump	kW/P	0.75/2		1.5		2.2		
	Vertical Feed	kW	0.4		0.4				
	Cross Feed	kW	0.75						
<b>Power Supply</b>		KVA	8		11		14		
<b>Floor Space</b>	Width x Depth x Height	mm	2430×2000×1850	2740×2250×1850	2740×2450×1850	2740×2600×2120	3330×2450×2120	4330×2600×2120	
<b>Weight</b>	Net Weight	Kg	2100	2800	3000	3500	3900	4600	

# Surface & Profile Grinding Machine



## ACC 42 SAIQ

New model series of medium size surface grinding machines

- Better operability and repeatable accuracy are considered as the most important factor.



### INCREASED FUNCTIONS

- Electro permanent magnet 400 x 200 mm
- Coolant system with paper filter
- ISO software, profile creation software
- Okamoto-I-CAM, CAD/CAM software

## ACC 42 SAIQ

	Description	Unit	ACC 42 SAIQ	
<b>Capacity</b>	Table working cap. (length x width)	mm	530 x 200	
	Maximum travel (manual : longitudinal x cross)	mm	530 x 200	
	Distance new wheel – table	mm	22,5 - 357,5	
	Standard magnetic chuck size	mm	400 x 200 x 70	
	Table load capacity (incl. chuck weight)	kg	120	
<b>Table</b>	T-slots (width x No)	mm	17 x 1	
	Hydraulic feed rate (Li : linear motor)	m/min	0,1 - 20	
<b>Crossfeed</b>	Manual cross feed	Hand feed per revolution	mm	0,01 / 0,1 / 1,0
		Graduation of handwheel	mm	0,0001 / 0,001 / 0,01
	Automatic cross feed	Intermittent feed	mm	0,5 - 12
		Continuous feed	mm/min	0,1 - 1000
<b>Wheel head</b>	Manual pulse feed	Hand feed per revolution	µm	0,01 / 0,1 / 5,0
		Graduation of handwheel	mm	0,0001 / 0,001 / 0,05
	Automatic downfeed (traverse & plunge)	Rough grinding	mm	0,001 - 0,03 (15 steps)
		Fine grinding	mm	0,0001 - 0,01 (11 steps)
	Feedrate (F-Command)	mm	0 - 2000	
	No. of sparkout	Anzahl	0 - 99	
	Rapid feed rate	mm/min	0 - 1000	
<b>Grinding wheel</b>	Size OD x W x ID	mm	ø 205 x 6 - 25 x ø 31,75	
	Speed (Invertor)	min <sup>-1</sup>	1000 - 3600	
<b>Motors</b>	Grinding wheel spindle (reverse-ventilation)	kW/P	2,2 / 2	
	Hydraulic pump	kW/P	0,75 / 4	
	Vertical feed (AC servo)	kW	0,75	
	Cross feed (AC servo)	kW	0,75	
<b>Destred power supply</b>	including electro mag & coolant system	kVA	14	
<b>Floor space</b>	L x W x H	mm	2470 x 2900 x 2093	
<b>Net weight</b>		kg	2100	

# Surface & Profile Grinding Machine



## ACC 818 NC

### Endless challenge to Zero

Simply the best CNC profile grinding machine developed from our long experience in the grinding machine market. The advantages are manifold: Compact Moving Saddle Design, Fanuc CNC Control with dialogue software, 1/10 Micron AC Servo Motors, Fully Automatic Grind Cycle, automatic profile wheel dressing with Compensation, for the purpose of long lifetime and maintenance free operation, oil lubrication with automatic lubrication is applied to the guide and slide way, combination of both scraped V-V slide way and low friction Turcite assure accurate grinding for life, all castings exhibit high static and dynamic stiffness and excellent damping qualities.

- Grinding wheel (205 x 13 x 31.75 mm)
- Grinding wheel adaptor for wheels
- Levelling screws and plates
- Necessary Tools
- Worklight



### ADDITIONAL EQUIPMENT

- Coolant System
- Grinding wheel balancer
- Magnetic chuck
- Spare wheel adaptor

## ACC 818 NC

	Description	Unit	ACC 818 NC
<b>Capacity</b>	Table Area (ground)	mm	500 x 200
	Table Movements (longitudinal/cross)	mm	530 x 230
	Max. grinding height between table and new wheel (Ø 205)	mm	357.5
	Standard magnetic chuck	mm	400 x 200
	Table load capacity approx.	kg	120 (incl. Chuck) 1 x 17
<b>Table</b>	T Slots	(No. x W)	1 x 17
	Max Table feed, hydraulic, continuously adjustable, m/min	m/min	1. ~ 20
<b>Cross Feed</b>	Intermittent feed	mm	0.4 – 8
	Continuous feed	mm/min	0-2000
	Electronic hand wheel graduations	µm	0.1 / 1 / 10 / 50
<b>Down Feed</b>	Automatic Down Feed	mm	0.0001 - 0.030
	Electronic hand wheel graduations	µm	0.1 / 1 / 10
	Rapid Positioning	mm/min	2000
<b>Grinding wheel</b>	Grinding Wheel - OD x width x bore	mm	205 x 6-25 x 31.75
	Rotational speed	rpm	100 - 3600
<b>Motors</b>	Grinding spindle	kW	2.2
	Hydraulic Pump	kW	0.75
	Vertical Feed (AC Servomotor)	kW	0.5
	Cross feed	kW	0.5
<b>Power Supply</b>	Operating voltage/frequency	v/Hz	400 / 50
	Connected load, approx.	kVA	15
<b>Space requirement</b>	Length x Depth x Height, approx.	mm	2270 x 2780 x 2090
<b>Total weight net</b>		kg	2100

# Surface & Profile Grinding Machine



## ACC 450 AV

### Precision surface and profile grinding machine

To avoid effects of heat expansion and vibration, the hydraulic unit is isolated from the main unit. For the purpose of long lifetime and maintenance free operation, oil lubrication with automatic lubrication is applied to the guide and slide way. Combination of both scraped V-V slide way and low friction Turcite assure accurate grinding for life. All castings exhibit high static and dynamic stiffness and excellent damping qualities.

- Surface and profile grinding machine
- Simple PLC controller



### ADDITIONAL EQUIPMENT

- Dust Suction System
- Coolant System
- Grinding wheel balancer
- Magnetic chuck
- Overhead Dresser – Manual
- Digital Readout for Crossfeed
- Spare wheel adaptor

## ACC 450 AV

	Description	Unit	ACC 450 AV
<b>Capacity</b>	Table Area (ground)	mm	450 x 150
	Table Movements (longitudinal/cross)	mm	530 x 165
	Max. grinding height between table and new wheel (Ø 205)	mm	397.5
	Standard magnetic chuck	mm	450 x 150
	Table load capacity approx.	kg	120 (incl. Chuck)
<b>Table</b>	T Slots	(No. x W)	1x17
	Max Table feed, hydraulic, continuously adjustable, m/min	m/min	1. ~ 20
	Feed / Rev of longitudinal handwheel	mm	100
<b>Cross Feed</b>	Feed / Rev of cross handwheel	mm	5
	Feed / Division of dial	mm	0.02
	Intermittent feed	mm	0.5 – 5
	Continuous feed	m/min	0.1– 0.4
<b>Down Feed</b>	Automatic Down Feed	mm	0.0001 – 0.030
	Manual Micro Feed	mm	0.0001 / 0.001 / 0.01
	Down Feed Handwheel Rev	mm	0.01 / 0.1 / 1
	Spark out	No.	0 – 5
	Rapid Positioning	mm/min	600
<b>Grinding wheel</b>	Grinding Wheel - OD x width x bore	mm	205 x 6-19 x 31.75
	Rotational speed	rpm	3000
<b>Motors</b>	Grinding spindle	kW	1.5
	Hydraulic Pump	kW	0.75
	Vertical Feed (AC Servomotor)	kW	0.4
	Cross feed	kW	0.2
<b>Power Supply</b>	Operating voltage/frequency	v/Hz	400/50
	Connected load, approx.	kVA	7
<b>Space requirement</b>	Length x Depth x Height, approx.	cm	2004 x 1430 x 2264
<b>Total weight net</b>		kg	1250

# Surface & Profile Grinding Machine



## LINEAR 350 B

### Manual precision surface grinding machine

With a grinding length of 350 mm and a cross travel of 150 mm the Linear 350B is ideally suited for the tool-room. It features a high level of standard equipment to ensure easy handling and the manual control allows quick and precise small part production.

- Machine base made of cast iron
- Vibration -reducing construction
- Table slideway with linear rollers



#### ADDITIONAL EQUIPMENT

- Electro-magnetic chuck
- Balancing unit with arbour
- Wheel flange

## LINEAR 350 B

	Description	Unit	LINEAR 350 B
<b>Work area</b>	Max. table stroke	mm	390
	Max. cross table movement	mm	210
	Max. height capacity New wheel -> Table	mm	362,5
	Magnetic chuck size	mm	350 x 150
	Max. table load (including chuck)	kg	120
<b>Table</b>	T-slots (number x width)	mm	1 x 17
<b>Cross movement</b>	Feed per rotation on hand wheel	mm	3
	Division of hand wheel	mm	0.02
<b>Vertical movement</b>	Crossfeed per division hand wheel	mm	0.005
<b>Grinding wheel spindle</b>	Dimensions (D x B x d)	mm	Ø 205 x 25 x Ø 31.75
	Speed	min <sup>-1</sup>	3000
<b>Motors</b>	Grinding wheel spindle	kW	1.5
<b>Power supply</b>	Connection values incl. electromagnetic chuck and coolant system	KVA	3
<b>Space requirement</b>	L x W x H	mm	1526 x 1405 x 1727
	Total weight net	kg	840

# Rotary Table Grinding Machine



## PRG DXNC

### Precision rotary table grinding machine

Horizontal spindle CNC rotary table grinding machine. This machine has a portal design, with moving column crossfeed. The table is in constant rotary motion, which adapts automatically to the changing grinding diameter.

- Rotary table grinding machine with horizontal spindle
- Variable table speed with constant cutting speed
- Portal design with cast iron construction
- FANUC control



#### ADDITIONAL EQUIPMENT

- Variable speed control for the grinding wheel
- Work light LED
- Oil mist extraction
- Coolant system with paper filter and magnet separator

## PRG DXNC

Description		Unit	PRG6DXNC	PRG8DXNC	PRG10DXNC	PRG120DXNC	
<b>Work area</b>	Magnetic chuck diameter	mm	Ø 600	Ø 800	Ø 1000	Ø 1200	
	Swing diameter	mm	Ø 750	Ø 900	Ø 952	Ø 1130	
	Distance between chuck and wheel	Ø 355 Grinding wheel	mm	-60 ~ 250		-	
		Ø 510 Grinding Wheel	mm	-		500	
Max. load	kg	150	250	1200	1300		
<b>Table</b>	Speed (V-constant, stepless)	min <sup>-1</sup>	20 ~ 150	15 ~ 130	8 ~ 65		
	Inclination	degree	±1	±1	±4		
<b>Cross movement</b>	Drive unit	AC servo motor (NC)					
	Stroke	mm	450	550	800	860	
	Automatic	Feed	mm/min	0~2000			
		Rapid traverse	mm/min	4000		5000	
	Manual	Per rotation	mm	0.01 (x 1), 0.1 (x 10), 1 (x 100)			
		Hand wheel division	mm	0.0001 (x 1), 0.001 (x 10), 0.01 (x 100)			
Rapid traverse		mm/min	4000		5000		
<b>Vertical movement</b>	Stroke	mm	310		500		
	Automatic	Feed	mm/min	0~2000			
		Rapid traverse	mm/min	4000			
	Hand adjustment	Per rotation	mm	0.01 (x 1), 0.1 (x 10), 1 (x 100)			
Hand wheel division		mm	0.0001 (x 1), 0.001 (x 10), 0.01 (x 100)				
<b>Grinding wheel</b>	Dimensions	mm	Ø 355 x 38 (max. 50) x Ø 127		Ø 510 x 50 (OP: max. 75) x Ø 127		
	Rotational speed	min <sup>-1</sup>	1500		1000		
<b>Motors</b>	Grinding wheel	kW	7.5				
	Table	kW	2.2	3.7	7.5		
<b>Space requirement</b>	Dimensions (L x W x H)	mm	1665 x 2560 x 2586	1810 x 2931 x 2586	4535 x 4296 x 3581		
	Total weight net	kg	4000	5000	12800	13000	

# Lapping Machine



## AERO LAP

### Finishing system for polishing / lapping irregular profiles

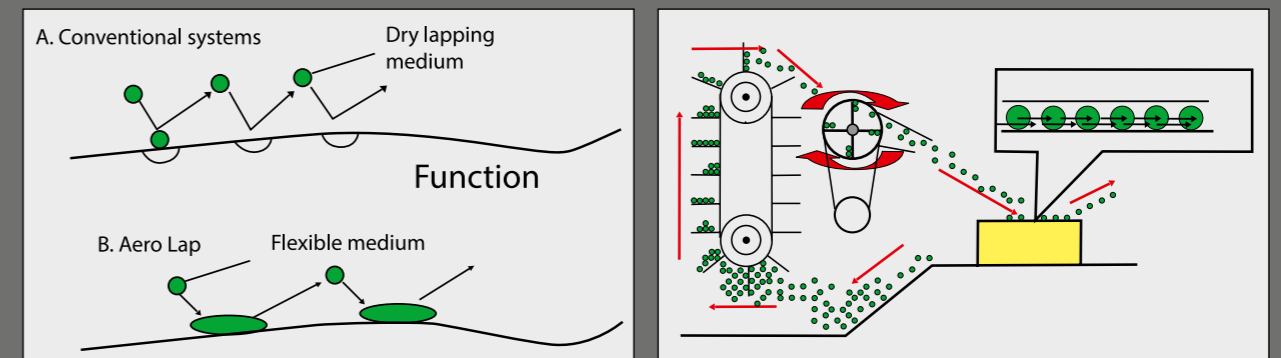
For extremely fine lapping of irregular profiles, AERO LAP is also equipped for small tools and parts. The special suspension multicone enables an automated lapping process without changing the geometry of the components to be worked. Multicone is a special elastic carrier medium to which diamond powder has been added. The media is directed onto the workpiece via a nozzle from a special turbine.

- Easy lapping of irregular profiles
- Improves tool life of all tools (drills, milling cutters, form punches, etc.)
- Suitable for PVD/CVD coating (pre/mirror-gloss lapping)
- Negligible production of dust and odour



## AERO LAP

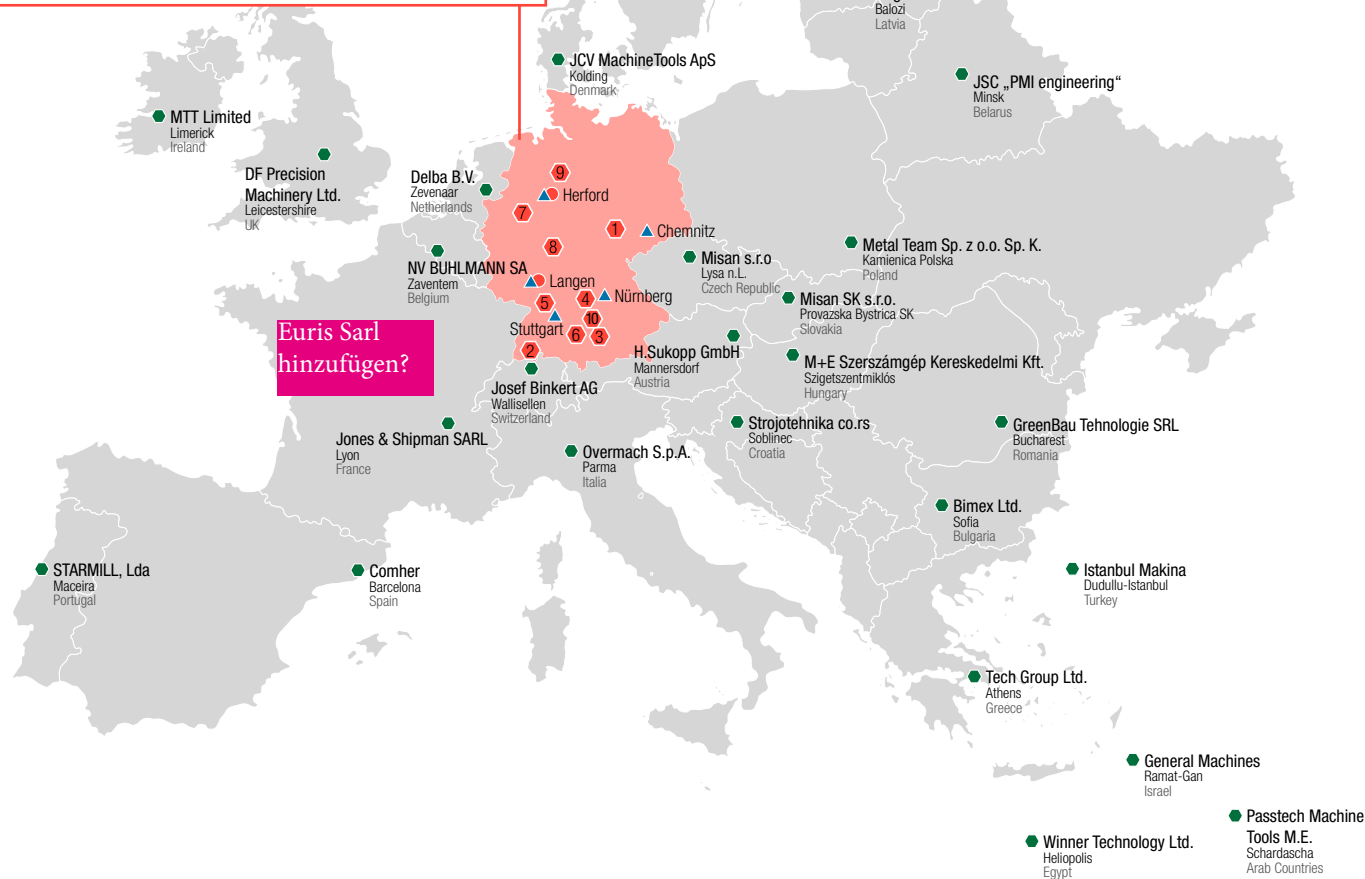
Description	Unit	YT300
Workpiece dimensions	mm	300 x 300
Air connection	bar	0.5 - 0.8
Power supply 3 phases 50 Hz 16 A	V	400
Machine size W x H x D	mm	700 x 1600 x 900





# Our locations

- |                 |  |
|-----------------|--|
| ● Locations     | ① FHL-Werkzeugmaschinenvertrieb Apolda                   |
| ▲ Servicepoints | ② M.Peters Werkzeugmaschinen Waldshut-Tiengen            |
| ● Dealer        | ③ J+K Jugard + Künstler München                          |
| ● Dealer DE     | ④ Prematech e.K. Obermichelbach                          |
|                 | ⑤ Bernd Goll Industrievertretungen Knittlingen           |
|                 | ⑥ PeHa Werkzeugmaschinen Weissenhorn                     |
|                 | ⑦ Ralf Brune Maschinenhandel Kierspe                     |
|                 | ⑧ Sudler Werkzeugmaschinen Langgöns                      |
|                 | ⑨ WS Werkzeugmaschinen Industrievertretung GmbH Wedemark |
|                 | ⑩ Gläserner + Schmidt GmbH Olching-Geiselbullach         |



## Okamoto

### GRIND - X

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All data contained herein is based on the technical status of the machines at the time of printing. We reserve the right to change any detail via further development. As a result, dimensions, weights, colours, etc. of the delivered machines may vary.  
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