

KRONOS

Centerless external cylindrical grinding



Key data

The KRONOS series is synonymous with centerless external cylindrical grinding machines in the premium range with the German seal of quality. One grinding principle, three sizes – this impressive machine system delivers outstanding precision and the highest productivity. The range of applications extends from small needles to pump pistons and heavy shafts.

Schautd Mikrosa GmbH

Schautd Mikrosa GmbH is synonymous worldwide for premium technology in cylindrical, noncircular, and universal grinding between centers, as well as in centerless external cylindrical grinding. Since 2009, the company combines the two long-established brands SCHAUDT and MIKROSA in a modern factory in Leipzig.

Our special strength lies in the high customer-individuality of our machines and the connection of units, automation components and process engineering to a highly productive grinding system.

Here, SCHAUDT is the brand for the automotive industry and its suppliers. It offers sophisticated technological solutions for cylindrical, noncircular and eccentric grinding. Our highly experienced experts also have unparalleled expertise in the high-precision grinding of long and heavy workpieces like rollers and turbine shafts. Within this broad application range, you obtain everything from a single source – application development, technology, assembly, and sales.

MIKROSA sets the standards in centerless external cylindrical grinding of rotationally symmetrical parts. The modular machine design means that you obtain a solution with handling and automation individually tailored to your grinding task. The technology spectrum extends from precision infeed grinding in many different variations to super productive throughfeed grinding. This allows you to machine a very large variety of workpieces, from small jet needles through to large shafts.

Schautd Mikrosa GmbH is part of the UNITED GRINDING group, one of the leading suppliers of machines, applications, and services for hard-fine machining worldwide. The group comprises eight strong brands with own subsidiaries and sales partners around the world to be a strong partner for our customers.

KRONOS

Highest precision combined with maximum productivity ·
Broad technology spectrum · Tailor-made grinding solu-
tions · Special software for centerless grinding · Wide
range of applications

Top quality in centerless cylindrical grinding

Centerless grinding

One grinding principle, three sizes – the KRONOS series from MIKROSA offers centerless cylindrical grinding technology in the high-precision range. Centerless grinding is a special type of external cylindrical grinding, which is primarily used in the series and mass production of cylindrical components. Two different process variants are available: throughfeed grinding and infeed grinding. Thanks to the linear workpiece support on the work rest and the regulating wheel, no deflection effects develop during grinding. As a result even slender workpieces can be machined on our KRONOS series in excellent quality and with maximum productivity.

Technology spectrum

The following grinding technologies can be implemented on the machines in the KRONOS series, depending on the task:

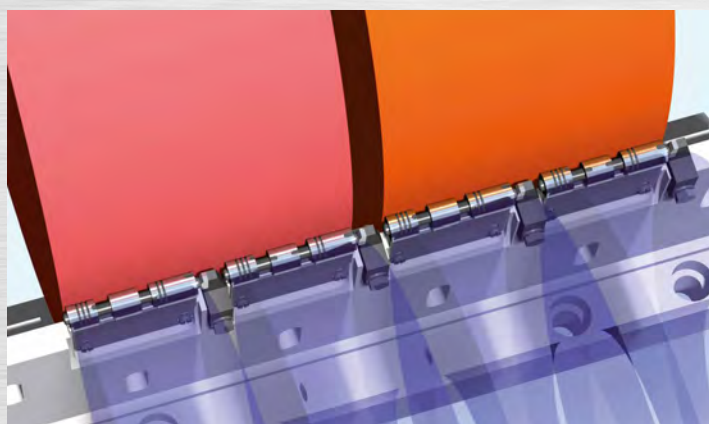
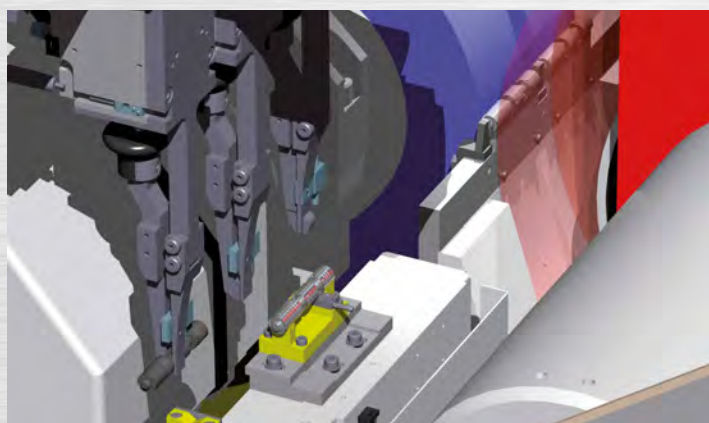
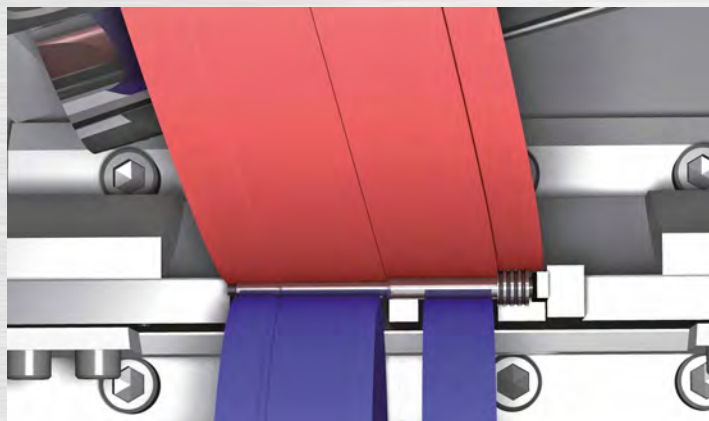
- Infeed grinding – straight
- Infeed grinding – 6° / 15° angled
- Infeed grinding in single or multiple production
- Infeed grinding in several operations
- Oscillating infeed grinding
- Throughfeed grinding



Applications

The application range of the KRONOS series is very broad:

- High-precision small components for injection technology
- Shaft-type components for transmissions and motors
- Rings and rolling elements
- Special materials such as ceramic
- Bars and other long, slender workpieces
- Small components for medical technology



Machine expertise on all levels

KRONOS S 125



Centerless grinding machine for cost-effective precision machining of high-precision, small workpieces | CBN available

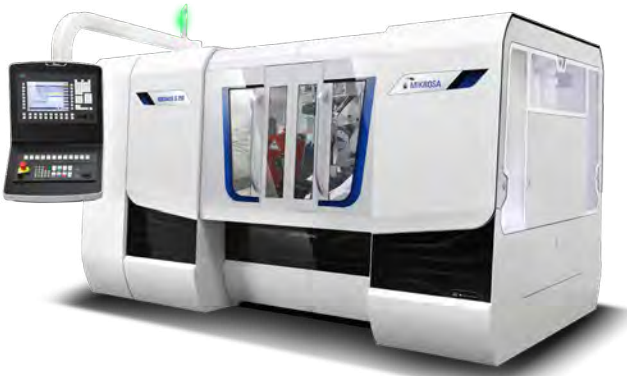
Technical data

Workpiece diameter	0.5...30 mm
Workpiece length, max. for infeed grinding	120 mm
Grinding wheel	400 x 125 x 203.2 mm
Drive power	11/15 kW
Peripheral speed	63 m/s
Peripheral speed CBN	120 m/s
Regulating wheel	250 x 125 x 127 mm
Drive power	5 kW
Rpm range, infinitely variable	5...500 rpm
Dressing speed	1,000 rpm

Typical grinding processes

- Infeed grinding – straight or 15° angled
- Infeed grinding in single or multiple production
- Infeed grinding in several operations (simultaneous or consecutive)
- Oscillating infeed grinding
- Throughfeed grinding

KRONOS S 250



Centerless grinding machine for the mass production of small precision workpieces | CBN available

Technical data

Workpiece diameter	1.5...35 mm
Workpiece length, max. for infeed grinding	245 mm
Grinding wheel	450 x 250 x 203.2 mm
Drive power	15 kW
Peripheral speed	80 m/s
Peripheral speed CBN	120/150 m/s
Regulating wheel	250 x 250 x 127 mm
Drive power	5 kW
Rpm range, infinitely variable	5...500 rpm
Dressing speed	1,000 rpm

Typical grinding processes

- Infeed grinding – straight or 6° angled
- Infeed grinding in single or multiple production
- Infeed grinding in several operations (simultaneous or consecutive)
- Oscillating infeed grinding
- Throughfeed grinding

KRONOS M 400



Centerless grinding machine for productive machining of medium workpieces | CBN available

Technical data

Workpiece diameter	1.5...100 mm
Workpiece length, max. for infeed grinding	395 mm
Grinding wheel	610 x 400 x 304.8 mm
Drive power	37/51 kW
Peripheral speed	63 m/s
Peripheral speed CBN	90/120 m/s
Regulating wheel	350 x 400 x 127/152 mm
Drive power	5.7 kW
Rpm range, infinitely variable	5...450 rpm
Dressing speed	450 rpm

Typical grinding processes

- Infeed grinding – straight
- Infeed grinding in single or multiple production
- Throughfeed grinding

KRONOS K



External machining of tapered rollers using throughfeed grinding | Special design of the regulating wheel side as a conveyor screw

Technical data

Workpiece diameter	4.5...35 mm
Workpiece length, max.	50 mm
Grinding wheel	610 x 400 x 304.8 mm
Drive power	37 kW
Peripheral speed	63 m/s
Infeed screw	310 x 420 x 204.5 mm
Drive power	5.7 kW
Rpm range, infinitely variable	5...600 rpm
Dressing speed	600 rpm

Typical grinding processes

- Throughfeed grinding of conical workpieces

Machine expertise on all levels

KRONOS L 660

Centerless grinding machine for the precise mass production of large workpieces | CBN available

Technical data

Workpiece diameter	5...250 mm
Workpiece length, max. for infeed grinding	655 mm
Grinding wheel	660 x 660 x 304.8 mm
Drive power	51/95 kW
Peripheral speed	63 m/s
Peripheral speed CBN	90/120 m/s
Regulating wheel	400 x 660 x 203.2 mm
Drive power	12 kW
Rpm range, infinitely variable	5...300 rpm
Dressing speed	700 rpm

Typical grinding processes

- Infeed grinding - straight
- Infeed grinding in single or multiple production
- Throughfeed grinding



Customer Care

MIKROSA centerless grinding machines should fulfill the customer's requirements for as long as possible, work cost-effectively, function reliably and be available at all times. From "start up" through to "retrofit" – our Customer Care is there for you throughout the working life of your machine. 12 professional helplines and more than 60 service technicians are available in your area, wherever you are in the world:

- We will provide you with fast, uncomplicated support.
- We will help to increase your productivity.
- We work professionally, reliably and transparently.
- We will provide a professional solution to your problems.



Start up
Commissioning
Warranty extension



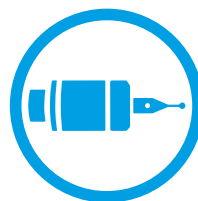
Qualification
Training
Production support



Prevention
Maintenance
Inspection



Service
Customer service
Customer consultation
HelpLine
Remote service



Material
Spare parts
Replacement parts
Accessories



Rebuild
Machine overhaul
Assembly overhaul

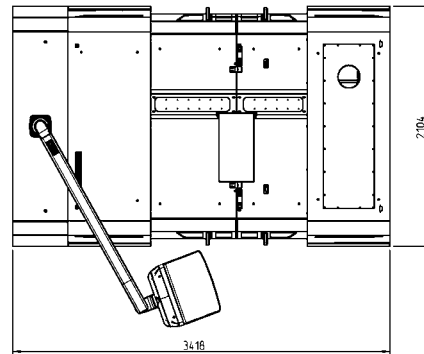
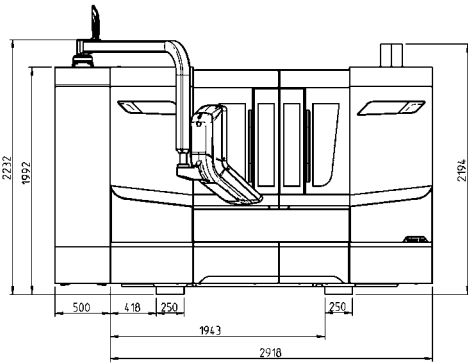


Retrofit
Modifications
Retrofits

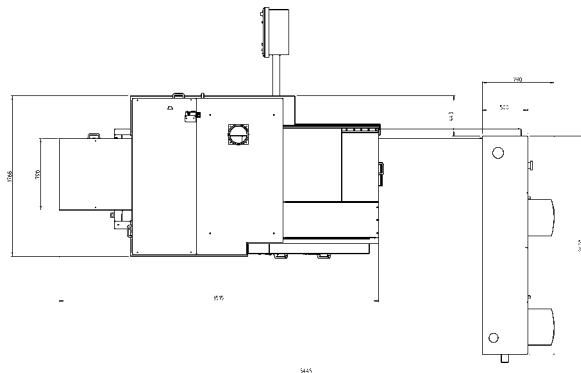
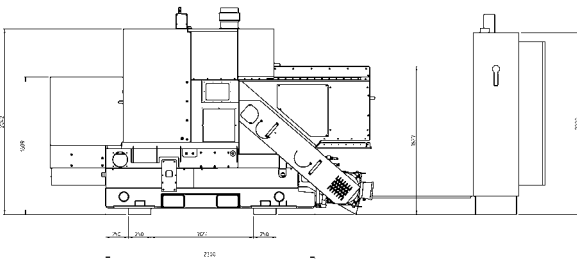
Overview of technical data

Platform		KRONOS S		KRONOS M		KRONOS L
Parameter	Unit	KRONOS S 125	KRONOS S 250	KRONOS M 400	KRONOS K	KRONOS L 660
Grinding range						
Workpiece diameter, min.	mm	0.5	1.5	1.5	4.5	5
Workpiece diameter, max.	mm	30	35	100	35	250
Workpiece length, max. for infeed grinding	mm	120	245	395	50	655
Grinding wheel						
Diameter, max.	mm	400	450	610	610	660
Width, max.	mm	125	250	400	300	660
Bore	mm	203.2	203.2	304.8	304.8	304.8
Regulating wheel						
Diameter, max.	mm	250	250	350	310	400
Width, max.	mm	125	250	400	420	660
Bore	mm	127	127	127/152	204.5	203.2
Grinding wheel drive						
Peripheral speed	constant	yes	yes	yes	yes	yes
Peripheral speed	m/s	63	80	63	63	63
Peripheral speed CBN (option)	m/s	120	120/150	120	-	90/120
Drive power	kW	11/15	15	37/51	37	51/95
Regulating wheel drive						
Rpm range, infinitely variable	rpm	5...500	5...500	5...450	5...600	5...300
Dressing speed	rpm	1,000	1,000	450	600	700
Drive power	kW	5	5	5.7	5.7	12
Dimensions						
Floor space (foundation)	mm	3,418 x 2,104	3,418 x 2,104	2,300 x 1,100	2,300 x 1,100	3,210 x 1,460
Overall footprint (incl. control cabinet)	mm	6,500 x 4,600	6,500 x 4,600	5,700 x 3,050	5,450 x 3,050	6,850 x 3,300
Height, max.	mm	2,232	2,232	2,300	2,000	2,320
Machine weight						
	t	7.2	8.8	11	11	18.5
SIEMENS SINUMERIK 840D sl control system		yes	yes	yes	yes	yes

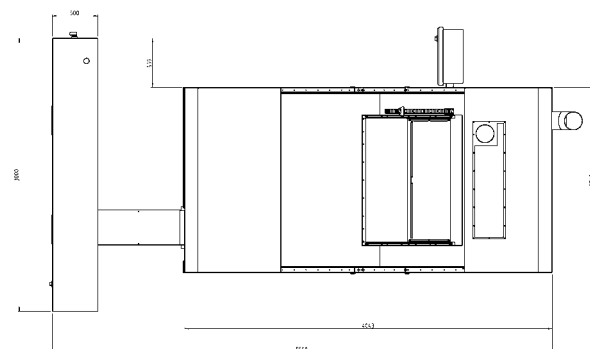
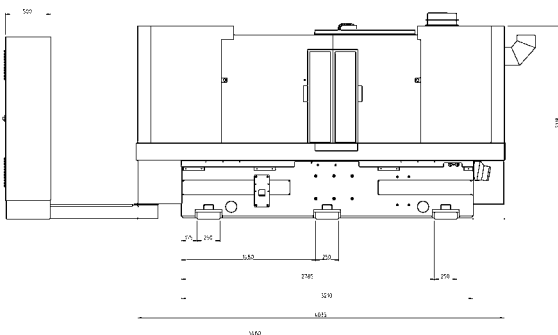
KRONOS S 125 | KRONOS S 250



KRONOS M 400



KRONOS L 660





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