

# CamGrind XXL

Large and powerful



## Key data

The CamGrind XXL is the ideal production grinding machine for the complete machining of large, heavy shafts up to 3,000 mm in length. This powerful machine enables the complete machining of concave and convex contours in a single clamping.

## Schautd Mikrosa GmbH

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Schautd Mikrosa GmbH is synonymous worldwide for cutting-edge 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.

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 those required for roll grinding, for example. Within this broad application range you obtain everything from a single source from SCHAUDT – application development, technology, assembly and sales.

MIKROSA is the technology and market leader in centerless external cylindrical grinding of rotationally symmetrical parts. The modular design of the machines 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 through to superproductive throughfeed grinding. This allows you to machine a very large variety of workpieces, from small jet needles through to large shafts.

Long tradition and cutting-edge precision and quality place SCHAUDT and MIKROSA among the world's market and technological leaders today.

# CamGrind XXL

Complete machining of large, heavy shafts · Patented swivel-in spindle technology · DIATRONIC diameter and length measuring system · User-friendly WOP-G programming system

# Features

## Dimension

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- Grinding length 1,500/3,000 mm
- Height of centers 180 mm
- Max. grinding wheel dimension 400 x 70 mm
- Max. workpiece weight 130 kg

## Hardware

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- Machine bed comprising welded steel construction
- Table slide machine
- Hydrostatic X-axis guide
- Patented swivel-in spindle
- DIATRONIC in-process gauging



## Software

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- Service-friendly SIEMENS SINUMERIK 840D sl control system
- Proven WOP-G programming software for grinding cylindrical and noncircular workpiece contours with user-oriented set-up interface
- Standardized interfaces for loader and peripheral devices



The CamGrind XXL is the largest machine in the SCHAUDT CamGrind series. Large and heavy shaft-type workpieces such as ship camshafts, for example, can be machined highly efficiently on this high-performance table slide machine.

The grinding machine is perfectly designed for the complete machining of large camshafts with concave and convex contours in a single clamping. A maximum grinding wheel diameter of 400 mm guarantees a long tool service life. However, profiles with minimal concave radii can also be machined with the patented swivel-in spindle, which is equipped with a small grinding wheel of min. 70 mm diameter. The auxiliary times are very short. The CamGrind XXL features the proven WOP-G Windows-based operator interface. This program was developed by SCHAUDT on the basis of the SIEMENS SINUMERIK 840D control system and is characterized by maximum user-friendliness. Programming is quick and easy even without any special programming knowledge - cylindrical and non-cylindrical surface contours such as polygons, ellipses, eccentrics and free profiles can be generated automatically with just a few inputs.



# Machine bed



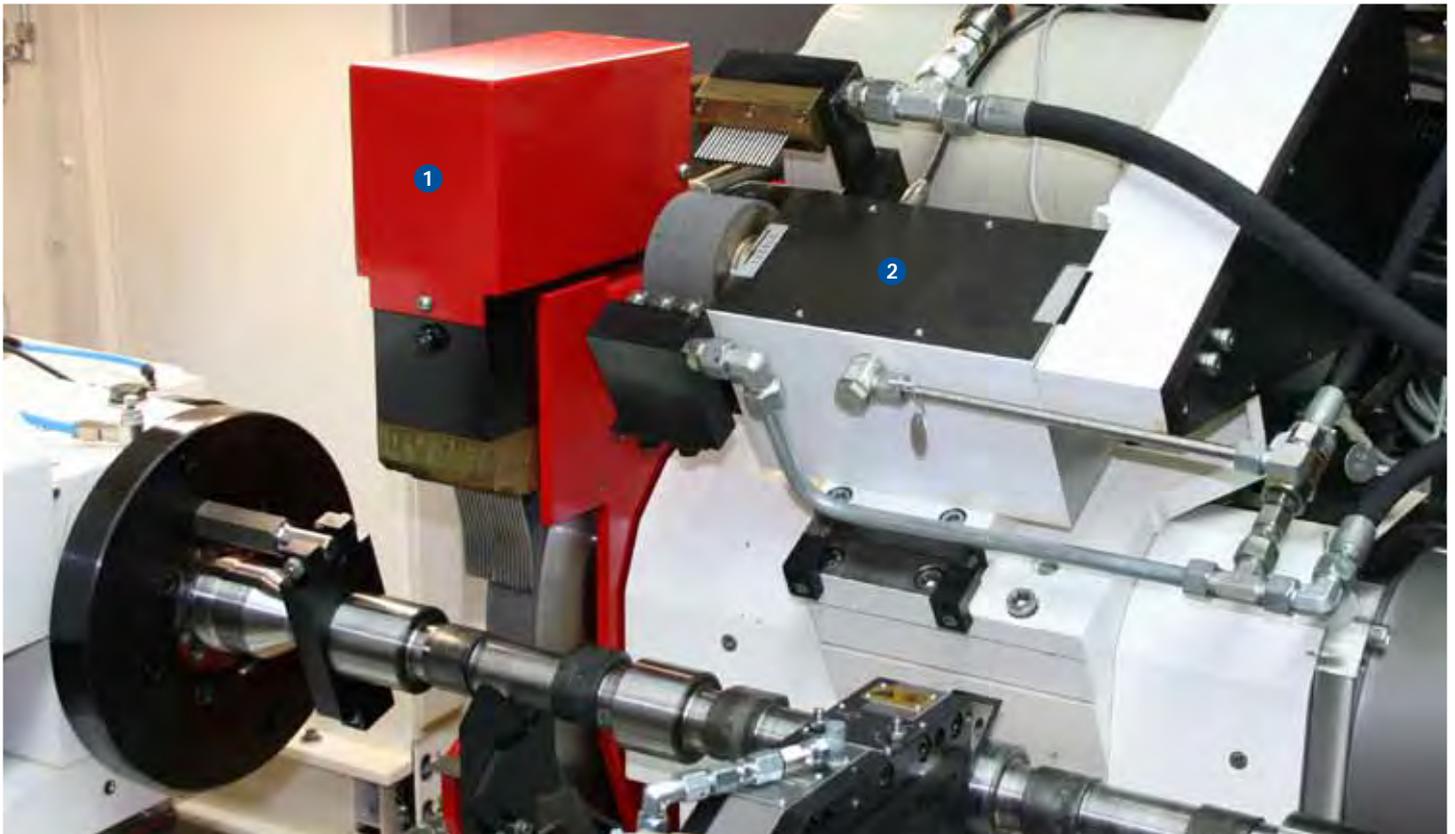
## Your advantages

- Table slide design
- High rigidity
- Lower weight

The machine bed of the CamGrind XXL comprises a welded steel construction, which features a highly rigid table design. The moving axes are deliberately separated. The tank system and integration of bed and assembly cooling units enable temperature stability to be achieved within the machine.

The machine bed with its welded steel construction is especially suitable for large machines, as it weighs much less than a purely or partially mineral cast bed.

# Swivel-in spindle



## Your advantages

- Great machining flexibility
- Max. spindle power 30 kW
- Machining of the smallest concave radii

Thanks to SCHAUDT's patented swivel-in spindle, the CamGrind XXL can also be equipped with a second grinding wheel. This significantly increases the machine's flexibility. The spindle is mainly equipped with ceramic CBN wheels. Electroplated or metal-bonded tools can also be used.

The spindle power varies from 6 to 30 kW, depending on the grinding task. This allows a wide variety of concave contours to be machined. The high metal removal rate of the main spindle can be utilized at the same time. The chip-to-chip time is 3 seconds when changing from main to swivel-in spindle. Balancing occurs fully or semi-automatically, depending on the spindle type.

# Workhead



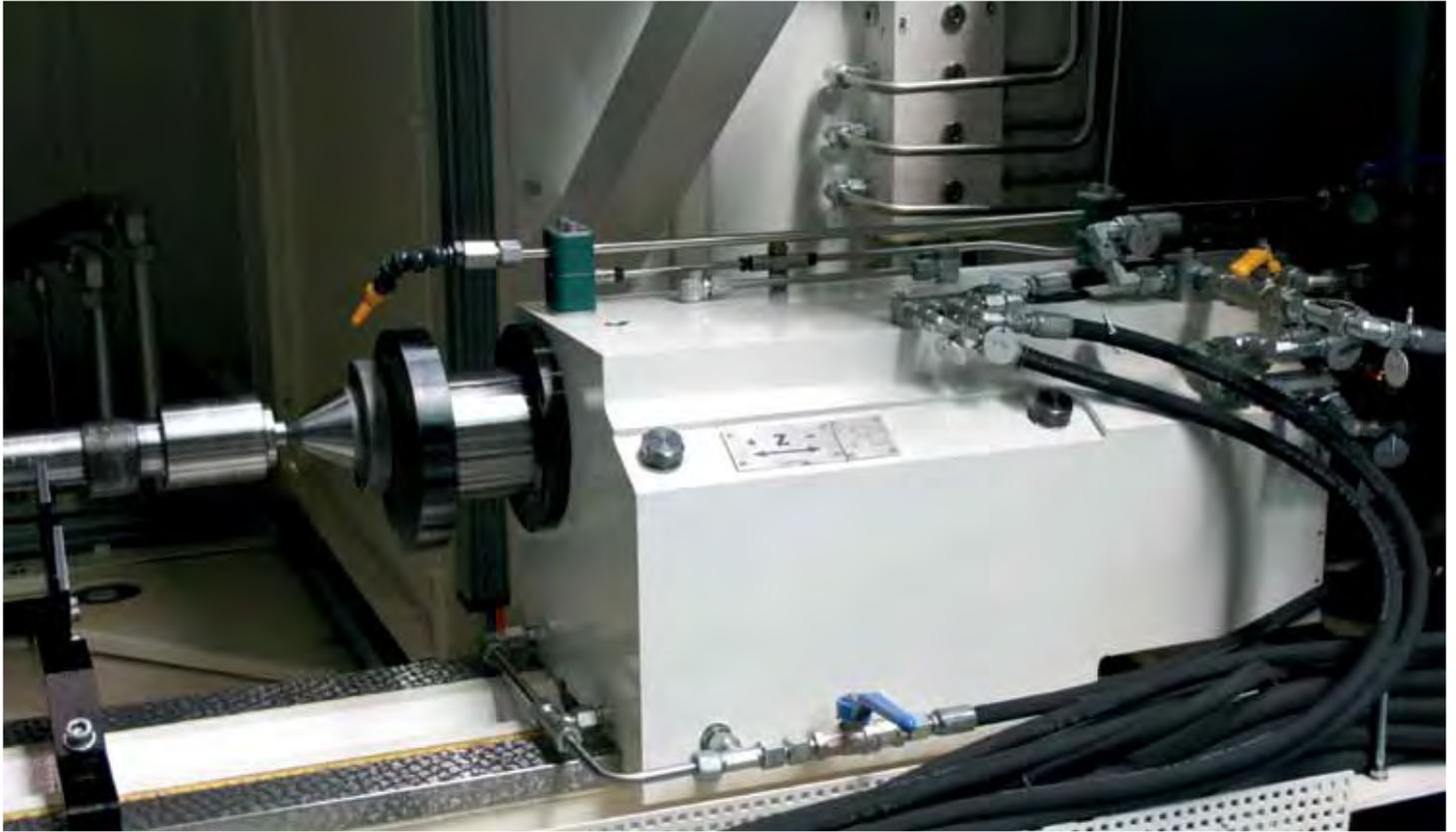
## Your advantages

- Excellent runout characteristics
- High rigidity
- Very high torque
- High dynamics

The CamGrind XXL features a high-precision, belt-driven workhead, which possesses excellent runout characteristics. In C-axis mode the headstock is distinguished by an outstanding torque curve and extremely high dynamics, so that highly complex noncircular forms can also be machined without problem.

The rigid design of the directly powered spindle makes the headstock suitable for clamping with MK6 center points as well as for chuck operation.

# Tailstock

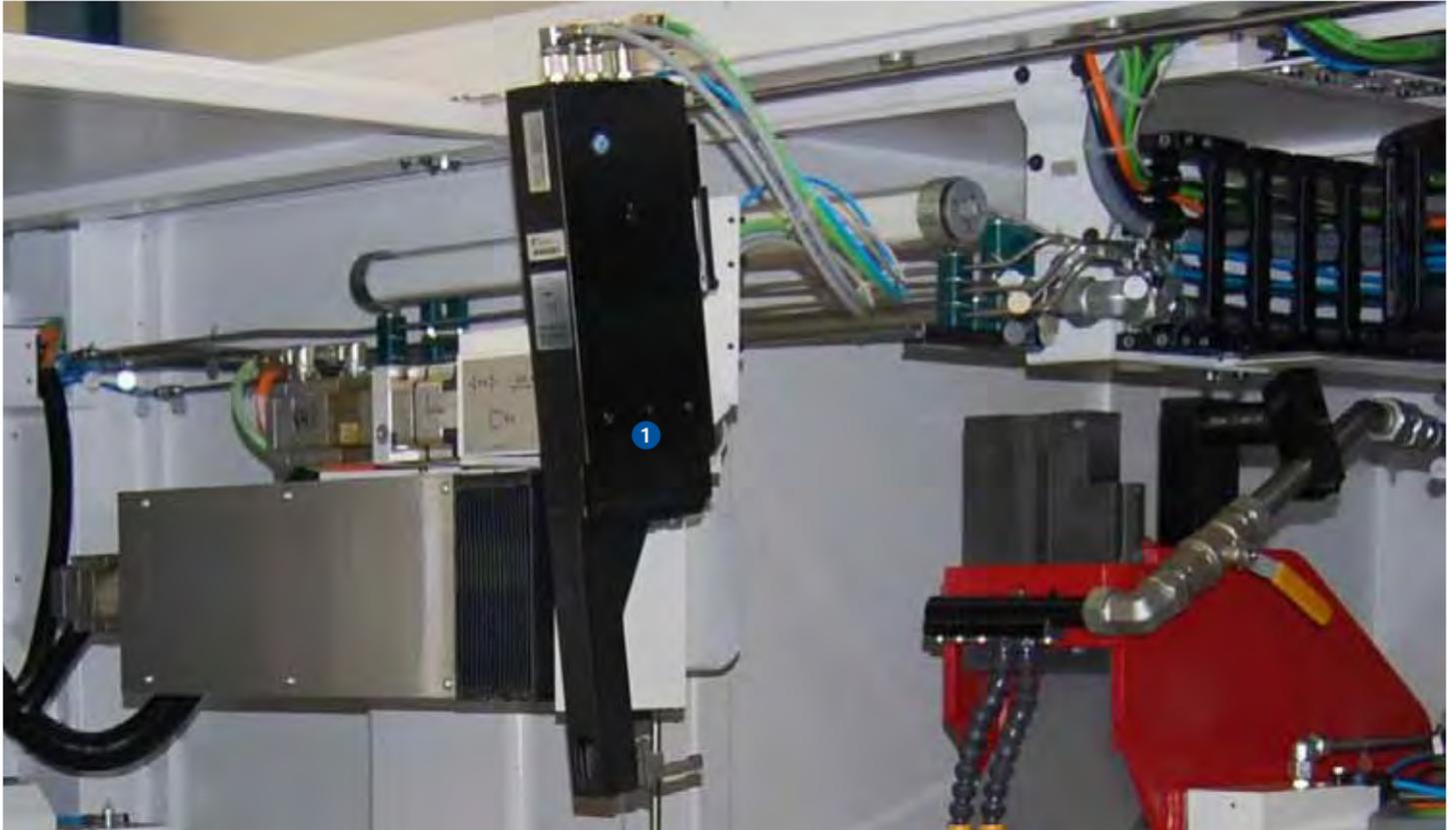


## Your advantages

- Great versatility
- Suitable for heavy workpieces

The barrel tailstock of the CamGrind XXL with plain-bearing guide and 75 mm stroke is particularly suitable for heavy workpieces. The barrel adjustment occurs hydraulically, while the clamping force is adjusted by means of variable spring assemblies, which can also be pretensioned manually, workpiece-dependently. Despite its solid design, the tailstock enables the use of the smallest grinding wheels for machining concave contours on large, heavy workpieces. The tailstock can be easily moved with its pneumatic adjustment mechanism.

# DIATRONIC



## Your advantages

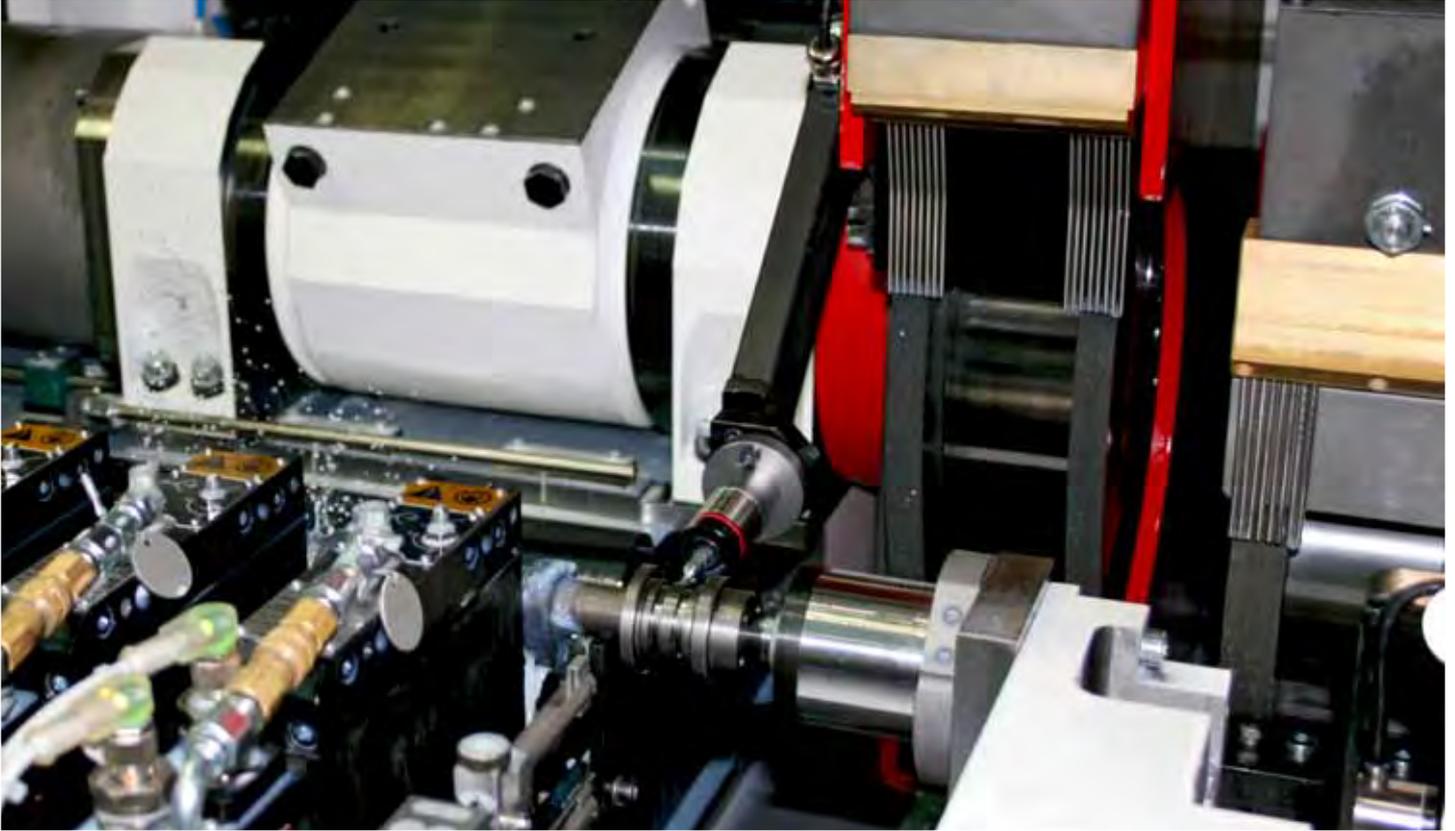
- Higher accuracies
- Direct measurement during the process in any position
- Automatic operation possible without manual corrections
- Compensation of error sources such as temperature fluctuations

The DIATRONIC diameter and length measuring system can be used in the CamGrind XXL. This absolute measuring head significantly increases flexibility and quality assurance during automatic machining. The measurement of different diameters during the grinding process is unique for this machine class. Even large diameter ranges of 10-230 mm can be measured over the entire grinding length, directly in the machining process. The measuring head thus controls the entire grinding process.

Programming is exceptionally simple, as the DIATRONIC measuring system is integrated directly into the operator interface. High-volume production is therefore also possible on the CamGrind XXL, as any thermal, static and dynamic influences are corrected during grinding.

# Swivel-in measuring probe

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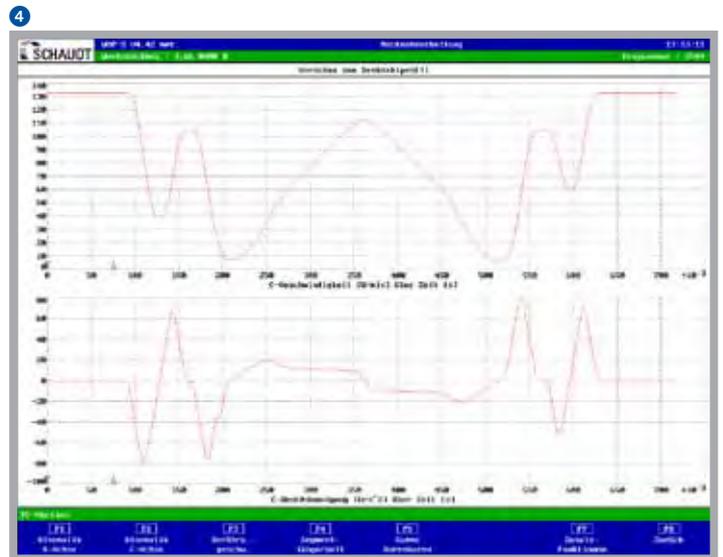
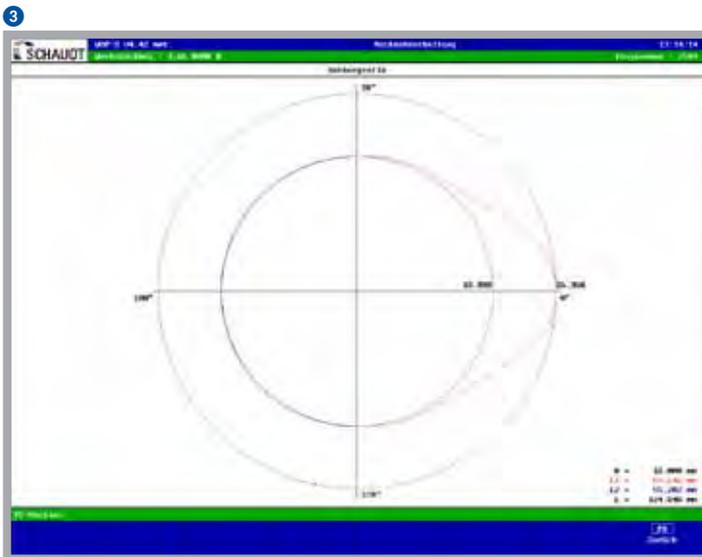
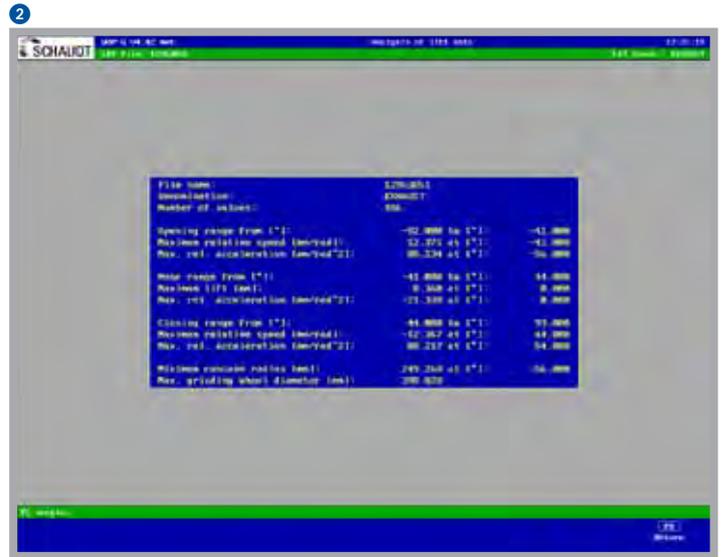
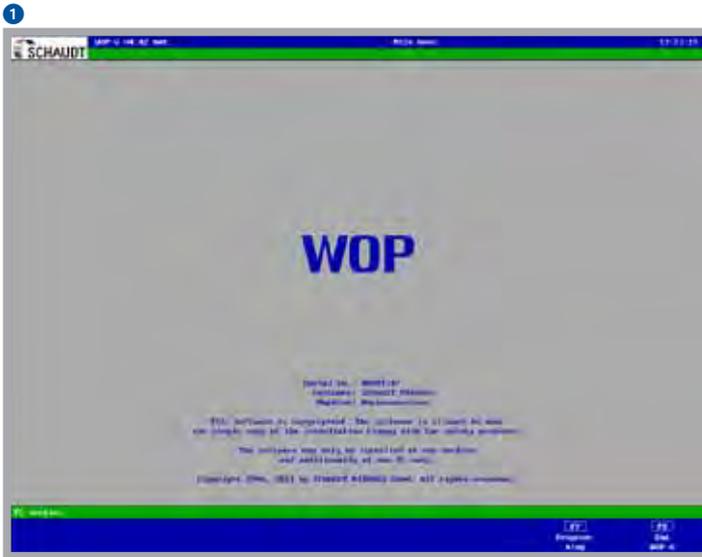


## Your advantages

- Flexible
- No set-up required
- User-friendly

The CamGrind XXL is optionally equipped with a swivel-in measuring probe. This is mounted on the wheelhead, which results in tremendous flexibility without additional set-up. The swivel-in process occurs pneumatically. The measuring probe can be used to determine both the longitudinal position and the angular position of a workpiece. Measurement of lengths is also possible.

# WOP-G programming interface



**Your advantages**

- User-friendly
- Easy creation of grinding programs
- Wide functional scope

The WOP-G programming system from SCHAUDT enables quick and easy programming of cylindrical and noncircular workpiece contours. From just a few inputs WOP-G creates harmonic speed profiles, which can be variably adapted. This enables combination machining of concave and convex profiles in a single clamping with the highest precision. The contour data are read in via a data table. No special formatting is required. The input profiles are stored in a database and can be called up again at any time. A shape analysis of the contour can be performed in respect of concavity and relevant maximum values, based on the read-in table.

The WOP-G programming software can also be used on another external computer, creating an additional external programming station. If the machine also has network access, a common data pool can be accessed via both the control system and the external programming station.

# Customer Care

SCHAUDT 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



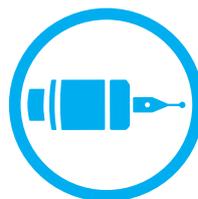
**Qualification**  
Training  
Production support



**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

# Technical data

## CamGrind XXL

### Working ranges

Grinding length between centers, max.	mm	1,500/3,000
Height of centers	mm	180
Workpiece weight between centers, max.	kg	130

### Wheelhead

X-axis guide		hydrostatic
Z-axis guide		Vee-flat guideway
Swivel-in spindle: Grinding wheel diameter	mm	70-370
B-axis		no
Main spindle: Grinding wheel diameter, max.	mm	400
Grinding wheel width, max.	mm	70
Grinding wheel drive capacity, max.	kW	40
Grinding wheel peripheral speed, max.	m/s	120

### Workhead

Number of revolutions, max.	rpm	300
Torque	Nm	160

### Tailstock

Stroke, max.	mm	75
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### SIEMENS SINUMERIK 840D sl control system

yes

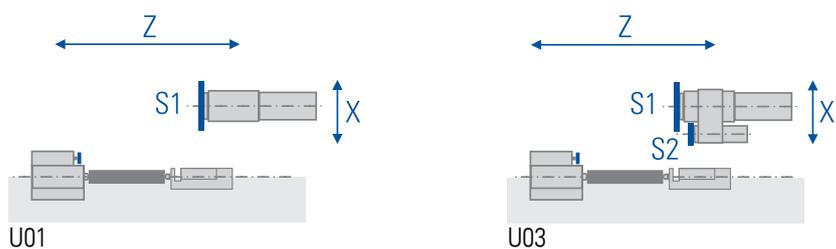
### Dimensions

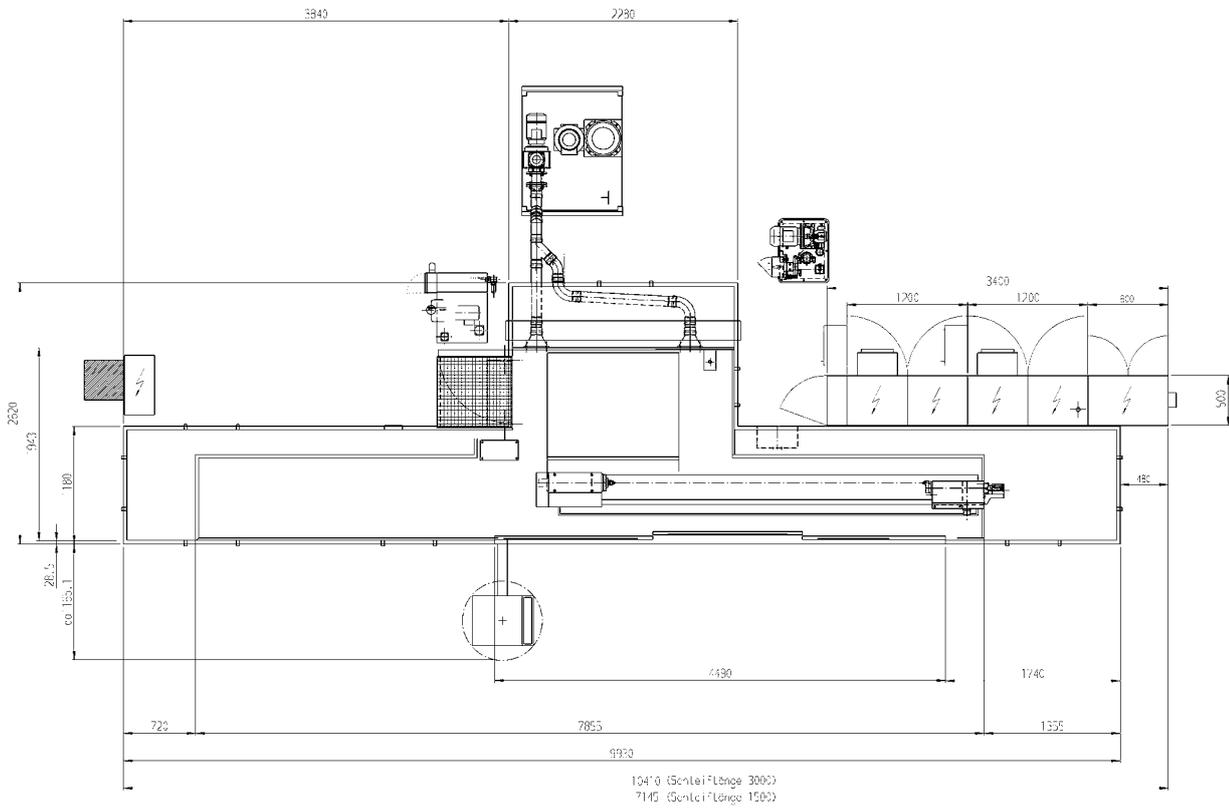
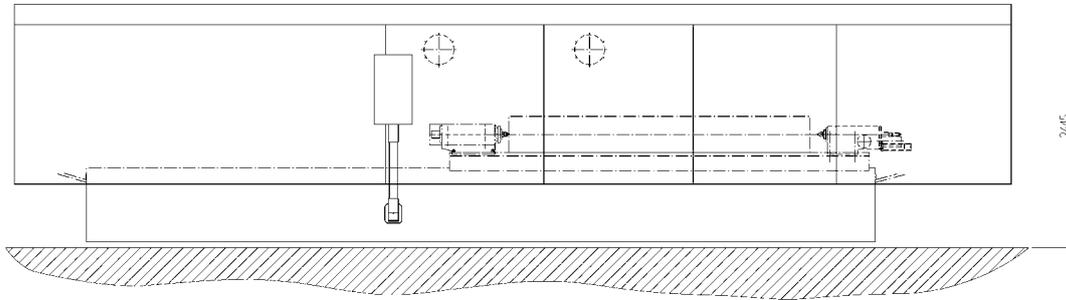
Machine weight	t	11/13
Height, max.	mm	2,320
Installation space	mm	2,770 x 7,145/10,410

### Variants

U01, U03

### Headstock variants







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Sustainability Initiative

