

**WEMA GLAUCHAU**  
BRAND OF THE NSH GROUP

**WOTAN® S6A**

## EXTERNAL CYLINDRICAL GRINDING MACHINE

for highly precise machining  
of long and heavy parts



WOTAN® S6A INFO



THE NSH GROUP

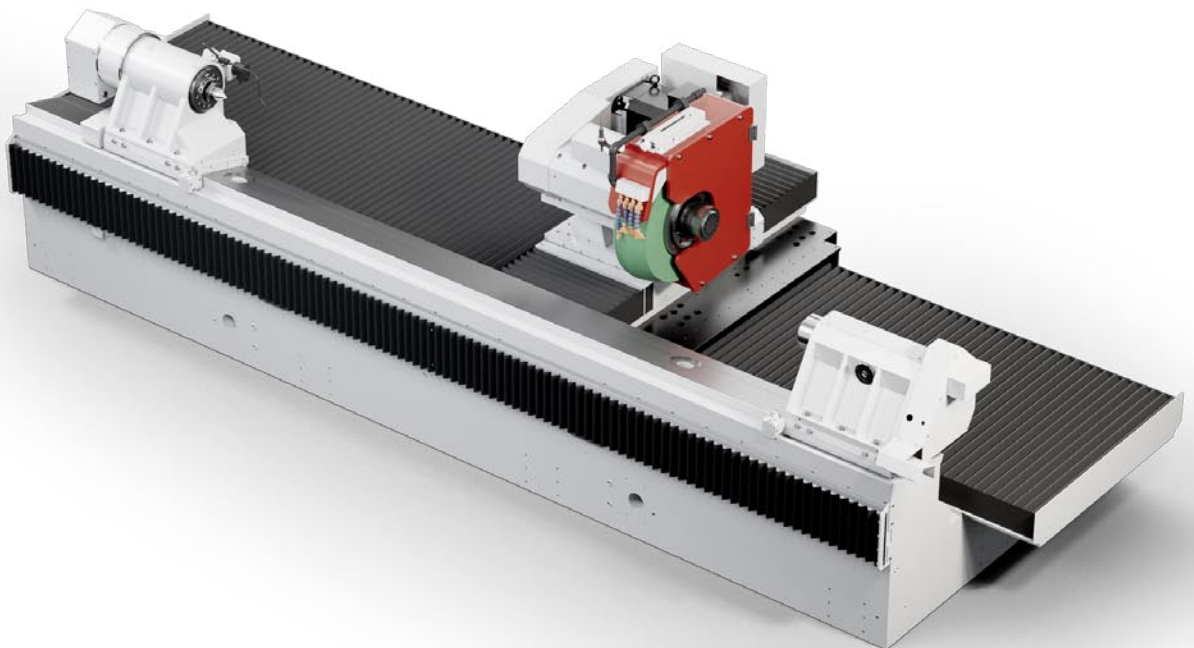
WEMA-GLAUCHAU.DE

# Maximum flexibility for big challenges

**Grind your extra long and heavy parts with maximum precision and flexibility using our WOTAN® S6A. The work-piece spindle is made to bear loads of more than 1.500 kg. Our flexible machine concept allows the optimization according to your machining task.**

The center height of the machine is 350 mm. According to the length of your work-pieces you can choose 3.000 or 5.000 mm distance between centers.

The WOTAN®S6A is made for Closed-Door-Machining with maximum precision in one clamping up to internal grinding with its optional internal grinding spindle. It provides an optimal combination of flexibility and economic efficiency.



## ONE MACHINE COVERING EVERYTHING

- › Chuck parts
- › Parts to be ground between centers
- › Shaft parts
- › Truck axles
- › Railway axles
- › Rotor shafts
- › ... and much more

You need to have external diameters and external plane surfaces?

No problem – the **S6A** offers the ideal solution.

Do you need internal machining in addition to external machining? This machine is the perfect solution as well.

Our modular and flexible machine design makes it possible to accomplish the most diverse processing jobs without long set-up times.

The machine basic configuration is made up of two CNC-controlled linear axes. The Z-axis and the X-axis rest on a **Rail-Wagon-System** and are **driven directly by a linear motor**. These components make it possible to perform fast and very precise movements. Nor are the axes subjected to the typical wear and tear as the result of the guidance and drive concept, as we have reduced the number of mechanical components significantly.

On the fixed machine table are placed apart from the workpiece spindle further components as the tailstock, steady rests or optional in-process measuring systems.

The Z and X-axis are arranged in the proven cross-slide design. The grinding unit is assembled on the X-axis and can be adapted to the individual processing job.

## WORKPIECE SPINDLE

The workpiece spindle is in direct drive design and can be individually placed on the machine table. Thanks to an integrated measuring system the workpiece spindle works as a fully-fledged C-axis and can thus also be used for non-circular and surface grinding in a wide variety of facets.

## TAILSTOCK

The tailstock can also be freely positioned on the machine table. Due to the high-precision tailstock quill, for each machining task a specific live center is available. The hydraulic clamping pressure of the quill is adjustable depending on the machining task.

#### WITH OR WITHOUT GRINDING SPINDLE TURRET

The grinding unit can basically be equipped with one – non swiveling – grinding tool.

The efficiency and productivity increases significantly if a stepless swiveling grinding spindle turret is mounted to the X axis, which can be equipped with up to **4 grinding tools**. Which number of **external and/or internal tools** you choose is up to your actual and future machining tasks.

#### SPINDLES ACCORDING TO YOUR REQUIREMENTS

Flexible design of the grinding spindles. According to your actual and future machining tasks you can choose between **direct driven** and **belt driven** grinding spindles.

#### DRESSING OPTIONS

You can choose several dressing options for fitting to your grinding wheels.

For standard grinding wheels choose our fixed dressing tool that gets your grinding wheels in shape in the twinkling of an eye.

But we love our dressing spindle that gets sharp your CBN grinding wheels.

#### MANY OPTIONS AVAILABLE

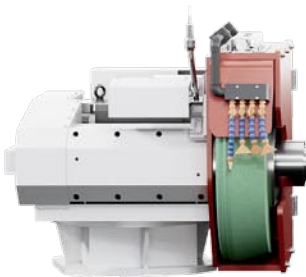
For further optimization you can add a wide range of options to your individual configuration.

- › Touch probe for detection of the Z axis reference point
- › In-process measuring unit
- › Automatic workpiece loading / unloading
- › Spark-in detection during machining process  
applying fluid sensors as well as during fitting  
applying AR sensors
- › Superfinish unit

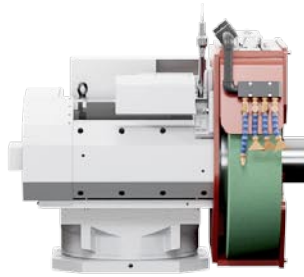


**Determine your production requirements  
and we will configure your individually optimized  
solution. Or request your individual setup.**

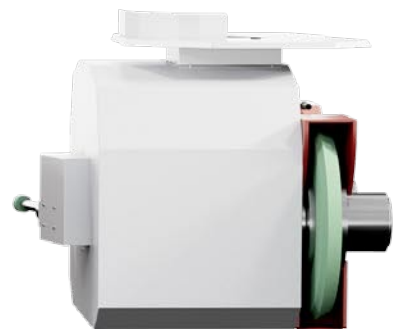
Individual configuration of a **WOTAN® S6A**



Fixed external grinding wheel



Floating and swiveling external grinding wheel



External grinding wheel swiveling 360°

# WOTAN® S6A at a glance:

## WOTAN® S6A

### Dimensions / Weight

Machine dimensions without coolant system, etc. (WxDxH)	7.000   9.000 × 3.300 × 2.620 mm
Machine weight at the installation site with workpiece, etc.	ca. 33.000   40.000 kg

### Work area of the machine

Distance between centers	3.000   5.000 mm
Center height with / without steady rest	350 mm
Workpiece weight	1.500 kg
	more on request

### Workpiece spindle headstock

Directly driven	
› concentric run-out external taper I	2 µm
› concentric run-out plane surface	10 µm (more precise on request)
› concentric run-out internal cone	2 µm
› maximum speed	300 rpm
› measuring system (C-axis)	integrated
› spindle nose	DIN ISO 702-1, form A2, size 8
› internal cone of the spindle	MK 6
› driving power	21 kW
› rated torque	449 Nm

### Tailstock

Spring-loaded manually unlocking	standard
Cylinder correction	±0,080 mm
Sleeve travel	150 mm
Sleeve diameter	180 mm
Tailstock center	MK 6

## WOTAN® S6A

### Z-axis (workpiece)

Guidance system	rail-car-system
Driving system	directly driven
Axis travel with one support	4.000   6.000 mm
Axis travel with two supports	3.000   5.000 mm
Speed	15 m/s
Resolution of the scale	0,000 01 mm
Operating accuracy of control unit	0,0001 mm
Minimum axis increment on the radius	0,0005 mm

### X-axis (grinding unit)

Guidance system	rail-car-system
Driving system	directly driven
Axis travel	600 mm
Speed	15 m/s
Resolution of the scale	0,000 01 mm
Operating accuracy of control unit	0,0001 mm
Minimum axis increment on the radius	0,0005 mm



**Grinding unit**

Number of possible tools	up to 3
Infinitely adjustable speed setting	standard
Processing with Corundum or CBN-grinding wheels	standard
Measurement sensor for reference point detection	option
Grinding spindle revolver (externally driven round table)	option
Swiveling range	270°
Resolution in the control	0,000 1°

**External grinding**

Taper mount of the external grinding spindles	1:10
Driving power	
> belt-driven external grinding spindle	25 / 53 kW
> more on request	
Grinding wheel dimensions	
> 45 m/s	Ø765 × 250 × 304,8 mm
> 63 m/s	Ø765 × 200 × 304,8 mm
The retention of the blast protection depends on many factors, such as density/weight of the grinding wheel, countersinks, etc. Please do not hesitate to ask us if your grinding wheel type is not included.	
Automatic balancing system	option

**Internal grinding**

> internal grinding depth	on request
> spindle type	directly driven / belt-driven
DThe inner diameter and depth depend on the component wall and the dresser.	
Please do not hesitate to contact us.	

**Machine control & operation**

SIEMENS control SINUMERIK ONE	yes
Proprietary operating system from WoP-Touch™	yes
Option of remote diagnosis	yes
CNC knowledge required of operating the machine	none

**Other items**

Spark-in control	
> spark-in control via power shut-down	standard
> spark-in control via acoustic emission	option
In-process measuring system	option
Steady rest	option
Automation / loading portal	option
Laser measurement of the machine in the factory	standard
Laser measurement at the customer's	option
Maintenance contract	option
Spare and wear part package	option
Operator training / flanking production support	option

All data are intended as guidelines. If you have any special requirements, please do not hesitate to contact us.



**WOTAN®-I**  
INTERNAL GRINDING



**WOTAN®-U**  
UNIVERSAL GRINDING



**WOTAN®-A**  
EXTERNAL GRINDING



**special solutions**  
CUSTOMIZED PRODUCTS


Our experts will accompany you on the way from the first inquiry to the after-sales service thus ensuring the daily operations of your machine, so that you will get an optimal grinding machine from us.


-  exact agreement of the requirements
-  individual offer for a grinding machine
-  individual design
-  production
-  quality assurance
-  test grinding
-  pre-acceptance of the machine
-  delivery & installation
-  training & familiarization
-  after-sales service


We will be pleased to demonstrate the potential of all our WOTAN® machines at our headquarters in Glauchau, where we also accept grinding jobs for test purposes and on a contract basis.

#### NSH TECHNOLOGY GmbH

Branch Glauchau

 Dieselstrasse 2  
08371 Glauchau · Germany

 +49 3763 61-0

 +49 3763 61-122

 [wema-glauchau@nshgroup.com](mailto:wema-glauchau@nshgroup.com)

 [WWW.WEMA-GLAUCHAU.DE](http://WWW.WEMA-GLAUCHAU.DE)



THE NSH GROUP



STATUS: MARCH 3, 2025  
CURRENT INFO  
YOU WILL FIND  
ON OUR WEBSITE.