



YOUR PARTNER FOR HORIZONTAL BORING MILLS

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## OVERHAUL



### WH10-CNC

HORIZONTAL BORING MILL – TABLE TYPE

This document covers the machine types **WHN9A, WHN9B, WHN9C, WH10NC** ca. to the year 1990. After the overhaul, they all have the same design and differ only in details.



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**WH10-CNC** is a table type horizontal boring mill designed by TOS VARNSDORF. It has 4 linear axes and a rotary table. The machine is designed for universal use in mechanical engineering production. It is suitable for roughing as well as for finishing. Optionally, it can be fitted with automatic tool changing systems (ATC), a tool cooling kit (CHZ), cooling through the spindle axis (CHOV) or oil-mist cooling (CHM). It is ready for "Industry 4.0".

## STANDARD VERSION

### Control System

- HEIDENHAIN TNC 640 + handwheel
- HEIDENHAIN drives
- SIEMENS motors

### Powered Axes

- X – travel of rotary table slide on saddle
- Z – travel of saddle on bed
- Y – vertical headstock travel on column
- W – spindle stroke
- B – table rotation
- S – workspindle rotation

### Machine Capabilities

- X, Y, Z, W axes powered in interpolation
- B axis powered only positionally
- linear interpolation of four axes
- circular interpolation of two of four axes powered in interpolation
- spiral interpolation
- spacial interpolation – spline in space
- interpolation of S and Z (W) axes – spindle turning depending on the Z (W) axis position – enables thread cutting without use of a compensating bushing

### Group Guidance

- X, Y, Z axes – guideways reinforced with hardened steel plates, counterways with plastic casts, TURCITE-coated jibs
- W axis – sliding guideway, cast-iron / steel
- B axis – guideways of the rotary table are scrapped

### Clamping

- X, Y, Z, B axes – hydraulically
- W axis – not clamped – positional feedback

### Headstock

- sliding workspindle
- spindle cavity blown with air during tool-changing cycle

### Position Measurement

- HEIDENHAIN digital optical measuring
- X, Y, Z axes – absolute linear encoders
- W axis – absolute rotary encoder in motor
- B axis – incremental angle encoder
- S axis – incremental rotary encoder

### CE – valid only for the European Union

- comprehensive safety elements according to the applicable legislation and technical standards
- operator housing
- working area of the machine is fenced off

## MACHINE PARAMETERS

Headstock		
Workspindle diameter	100	mm
Clamping taper	50	ISO
Tool shank	69871	DIN
Clamping adapter – screw	4100793	TOS
Spindle speed range	10 - 2500	rpm
W... spindle stroke	710	mm
Other Axes		
X... transversal travel of table	1200	mm
Z... longitudinal travel of table	950	mm
Y... vertical travel of headstock	900 / 1150	mm
Rotary Table		
Table clamping surface	1000 x 1120	mm x mm
Width of T-slots	23 H8	mm
Table loading capacity	3000	kg

ATC	R03-30	R03-40	
Tool changing time	15	15	s
Number of tools	30	40	pcs
Maximal tool diameter	200	200	mm
Maximal tool length	500	480	mm
Maximal tool weight	15	15	kg

## OPTIONALLY

### Control System

- SIEMENS SIN 840D SL + handwheel
- SIEMENS drives and motors

### Tool Cooling

- CHZ – tool cooling kit – max. 4 bar
- CHOV-V – tool cooling – air
- CHOV-K – cooling through spindle axis – fluid – max. 40 bar
- CHOV-V – cooling through spindle axis – air – max. 5 bar
- CHOV-M – Cooling Through Spindle Axis – Oil-Mist - max. 5 bar
- CHM – oil-mist cooling

### ATC R03-30/40 – Automatic Tool Changer

- ATC facility as a separate unit
- magazine with servodrive for tool pocket positioning
- changer driven electrically / pneumatically

## ACCESSORIES

- spindle guiding support – 170 mm
- spindle guiding support – 320 mm
- spindle guiding support – 470 mm
- VK-ISO50 cleaning brush
- clamping adapters – 15 pieces
- KM anchoring kit
- HPR50, FP40 vertical manual milling head
- UFP40 universal manual milling head
- LD650 facing head
- UK500 clamping cube
- UU800, UU950, UU1120, UU1450 clamping angle plates
- HEIDENHAIN DA 400 compressed-air filter system
- HEIDENHAIN TS 460 3D touch probe with radio/infrared signal transmission
- basic tool kit for operation and maintenance of the machine
- basic spares kit
- spares kit for 3-year operation
- accompanying technical documentation
- machine design can be customized

