



YOUR PARTNER FOR HORIZONTAL BORING MILLS

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## OVERHAUL



### WHN13-CNC

HORIZONTAL BORING MILL  
T-TYPE

This document covers the machine types **WH13, WHN13A, WHN13B, WHN13C** ca. to the year 1990. After the overhaul, they all have the same design and differ only in details.



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## WHN13-CNC

is a T-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 precision contouring. Optionally, it can be fitted with automatic tool changing systems (ATC), a tool cooling kit (CHZ), cooling through the spindle axis (CHOV), oil-mist cooling (CHM), a swarf conveyor etc. 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 transversal bed
- Z – travel of column slide on longitudinal bed
- Y – vertical headstock travel on column
- W – spindle travel
- B – table rotation
- S – workspindle rotation

#### Group Guidance

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

#### Clamping

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

#### Headstock

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

#### Position Measurement

- HEIDENHAIN digital optical encoder
- X, Y, Z, W axes – absolute linear encoders
- B axis – absolute 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
- covered operator platform with stairs
- working area of the machine is fenced off

### Machine Parameters

#### Headstock

Workspindle diameter	130	mm
Clamping taper	50	ISO
Spindle speed range	10 - 3300	rpm
W... spindle stroke	800	mm

#### Other Axes

X... transversal travel of table	2000 / 3500	mm
Z... longitudinal travel of column	1250	mm
Y... vertical travel of headstock	2000 / 2500 / 3000	mm

#### Rotary Table

Table clamping surface	1600 x 1800	mm x mm
	1800 x 1800	mm x mm
	1800 x 2200	mm x mm
Table loading capacity	12000	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

#### Swarf Conveyor

- embedded in the machine's concrete foundation (between table and column)

#### Automatic Tool Changer

- ATC R02-60, R03-30/40 – separate unit of magazine and tool changer
- ATC R04-10 – rack magazine mounted on the table

- machine design can be customized

### ACCESSORIES

- VP13-300 spindle guiding support
- VK-ISO50 cleaning brush
- clamping adapters – 15 pieces
- KM anchoring kit
- basic tool kit for operation and maintenance
- basic spares kit or spares kit for 2-year operation
- accompanying technical documentation
- PVK13-340 short spindle guiding support
- PVD13-550 long spindle guiding support
- FP50-13 vertical milling head
- UFP50-13 universal milling head
- HPR50 manual vertical milling head
- HUR50 manual universal milling head
- HUI50 universal indexing milling head
- LD650 facing head
- swarf conveyor
- KVR cabin – safety working space cover
- UK500, UU1000 clamping cube
- UU800, UU950, UU1120, UU1450, UU1620, UU2000, UU2500 clamping angle plates
- HEIDENHAIN DA400 compressed-air filter system
- HEIDENHAIN TS460 3D touch probe with radio/infrared signal transmission

ATC	R02-60	R03-30	R03-40	R04-10	
Tool changing time	15	15	15	20	s
Number of tools	60	30	40	10	pcs
Maximal tool diameter	200	200	200	125	mm
Maximal tool length	500	500	480	500	mm
Maximal tool weight	25	15	15	15	kg

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Management System  
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