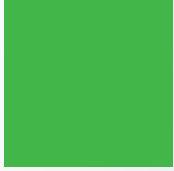




YOUR PARTNER FOR HORIZONTAL BORING MILLS

- PRODUCTION
- OVERHAULS
- MODERNISATIONS
- SPARE PARTS



OVERHAUL



WHN13-CNC

HORIZONTAL BORING MILL
T-TYPE

This document covers the machine types **WH13, WHN13, WHN13A/B/C** and **WHN13CNC** to the 26th series. After the overhaul, they all have the same design and differ only in details.



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

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
- technological possibilities may be limited by the territorial implementation of the NC program of the control system

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

- B axis – hydraulically
- X, Y, Z, W axes – 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

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 / 4000 / 5000	mm
Z... longitudinal travel of column	1250 / 1600 / 2000	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
	1800 x 2500	mm x mm
Table loading capacity	12000	kg

ATC	TOS 40 / 60	R04-10	
Tool changing time	15	20	s
Number of tools	40 / 60	10	pcs
Maximal tool diameter	320	125	mm
Maximal tool length	500	500	mm
Maximal tool weight	25	15	kg

OPTIONALLY

CE – compulsory in EU

- comprehensive safety elements according to the applicable legislation and technical standards
- operator housing / covered operator platform
- stairs to platform (only with operator platform)
- working area of the machine is fenced off

Control System

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

Tool Cooling

- CHZ – tool cooling kit – emulsion – 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 TOS 40/60 – chain magazine mounted on the column
- ATC R04-10 – rack magazine mounted on the table

ACCESSORIES

- VP13-300 spindle guiding support
- VK-ISO50 cleaning brush
- clamping adapters – 15 pieces
- KM anchoring kit
- basic tool kit for operation and maintenance (only in case of selling a machine)
- basic spares kit or spares kit for 2-year operation
- accompanying technical documentation
- VP13-340 spindle guiding support
- VP13-550 spindle guiding support
- VP13-800 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
- LN100X steady rest + technological accessories
- KVR cabin – safety working space cover
- UK500 – UK3000 clamping cube
- UU800 – UU3000 clamping angle plates
- HEIDENHAIN DA400 – compressed-air filter system
- 3D touch probes with radio/infrared signal transmission (Heidenhain/Renishaw/Hexagon)
- HEIDENHAIN HR 550 FS wireless handwheel
- CE security mode 3 (for German market only)
- machine design can be customized