

Machine Name : Honing machine

Brand : NAGEL

Machine Model : 4PV-T

Stock No. : 4812283

Ex-factory Date : 2012



Main Technical Parameters:

CNC System: NAGEL MS-U3 CNC (specialized honing CNC system, 99 program storage capacity)

Linear Axes

X-axis (honing head feed) travel: 400 mm

Z-axis (workpiece movement) travel: 800 mm

Full closed-loop control with glass scale feedback, positioning accuracy ≤ 0.003 mm

Rotary Axes

C-axis (workpiece rotation): 0-300 rpm

U-axis (tool expansion servo): 0.001 mm resolution

Honing Spindle

Power: 5.5 kW $\times$ 4

Speed range: 0-600 rpm (stepless speed regulation)

Hydrostatic bearing structure

Honing Process & Precision

Machining process: Rough honing $\rightarrow$ Fine honing $\rightarrow$ Plateau honing (flat-top cross-hatch pattern, Precidor process)

Expansion tool control: Servo quantitative + constant pressure dual-mode system (supports online compensation)

Cooling & filtration system:

60 bar high-pressure honing oil

3 μ m precision filtration

Constant temperature control system

Machining Accuracy

Roundness: ≤ 0.0025 mm

Cylindricity: ≤ 0.004 mm / 400 mm

Surface roughness: Ra 0.1-0.4 μ m

Dimensional accuracy: ± 0.003 mm



