Machine Name : Honing machine

Brand : NAGEL

Machine Model : 4PV-T

Stock No. : 812283

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 × 4
Speed range: 0–600 rpm (stepless speed regulation)
Hydrostatic bearing structure
Honing Process & Precision
Machining process: Rough honing → Fine honing → 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 μm 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 μm
Dimensional accuracy: ± 0.003 mm

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