

E3000/E3500

Single spindle vertical honing machine

- NC controlled
- High production machine
- Great accuracy produced
- Suitable for bores from 3 to 25mm
- 300mm stroke length
- Available as E3500 with 500mm stroke length
- Can use standard or special honing tooling
- "One piece" frame construction
- Reciprocating cutting ball screw for smooth operation of the slides
- Blind bore potential
- Quick production changeover
- Up to 100 NC programme memory
- Pneumatically operated rise and fall guard option
- Twin spindle option for rough and finishing operation
- Automatic loading/unloading complete system as option
- Exit chute selector to withdraw non-conforming parts
- Optional multi position rotary table
- Pre-hone gauging as extra. Eliminates parts with too much stock removal to protect honing tool. Wrong parts are rejected without stopping the production
- Optional in or post process single level gauging with feedback to NC controller. This system compensates automatically the stone wear by upgrading the expansion
- Optional post process cylindromatic gauging with feedback to NC controller. This system compensates automatically the stone wear by upgrading the expansion. It also corrects the shape by modifying the stroke reversion points
- Chiller unit to maintain oil temperature as extra



Technical data

Electrical equipment

Conform to European Community norm I.E.C. 204.

General motor protection:	IP 24 for spindle motor and IP 54 for others motors
Standard electric supply:	380-420 V, 3 phases, 50 Hz
Control voltage:	24 VDC

Air requirements

Minimum output for the machine:	0.5 m ³ /h at 5.5 bar
Optional output for air gauging:	0.5 m ³ /h at 3.0 bar regulated

Feeding system – Stone management

Stone feed system:

- Electro-mechanic feeding system type Gehring EMZ including precision DC motor with encoder feedback via a tachometer and reduction gearbox
- Fully programmable approach and honing feeds
- Up to 4 programmable feeds rates variable on speeds and steps through one honing circle

Stone pressure: Fully programmable up to 1000 N

Wedge retraction: Fully programmable distances and speeds

Stone wear:

- Programmable point when the machine indicates minimal abrasive condition and imminent stone replacement is required
- Programmable position where, if the tool has to be replaced, the cycle cannot start
- Automatic stone wear compensation allowing for example up to 0.3 µm feed per part and also update by 0.5 µm every three parts

Capacity

Diameter range:	With optimal performance 3 to 25 mm With reduced performance 25 to 40 mm
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Spindle Drive

Spindle speed:	Infinitely variable 150 to 3500 RPM
Spindle motor:	Power 1.3 kW With stator induction unit and air cooled with electronic regulation
Braking:	DC Electronic injection
Spindle control:	KEB Electronic frequency inverter

Stroking Drive

Machine:	E3000	E3500
Stroking length: Infinitely variable	2 to 320 mm	2 to 650 mm
• For maximal honing length of	200 mm	350 mm
• Programmable by increments of	0.1 mm	0.1 mm
Stroking speed:	Infinitely variable 1 to 25 Metre/minute With settable acceleration to the reversing points	
Stroking motor:	Air cooled servo motor of 2.1 kW	
Transmission type:	Via a pitched tooth belt onto a high precision recirculation anti backlash ballscrew	

Miscellaneous

Machine:	E3000	E3500
• Weight of the machine:		
• Net weight:	300 kg	1 350 kg
• Gross weight:	1 725 kg	1 775 kg
Machine size:		
• Width:	1 200 mm	1 200 mm
• Depth:	1 900 mm	1 900 mm
• Height:	2 465 mm	2 865 mm
Shipping dimensions:		
• Width:	1 500 mm	1 500 mm
• Depth:	2 100 mm	2 100 mm
• Height:	2 910 mm	2 910 mm

CE declaration of conformity to the Machinery Directive 89 / 392 / EEC + EMC Directive 89 / 336 / EEC