

E3000S PrecisionHone

Precision controlled
production honing with
wide capability for low
to high volumes



Introduction to PrecisionHone

A high precision vertical honing machine with wide ranging capability to hone parts from small scale to heavy components, with a diameter range of 1.14mm to 80mm* and a tolerance accuracy to 0.001mm, with sub-micron adjustment. With Siemens control system and the option of a cobot loading system, the PrecisionHone delivers precision control, operational efficiency and excellent return on investment.

Precision Control

Reliable accuracy and consistency

- Tolerance accuracy 0.001mm
- Sub-micron adjustment

Operational Efficiency

Reduced cost per part

- Optimised process
- Reduced cycle time
- Quick-change tooling
- Hands-free operation
- Operation by non-skilled workers
- Eliminates lapping operations
- Online diagnostics (Ethernet)
- Reduced maintenance
- Extended tool life

Versatile and Flexible

Wide ranging application and capability

- Low to high volume
- Automation capability
- Short stroke function
- Single pass cycle
- Heavy component capability
- Customised tooling
- Tailor-made abrasives

Options and Automation

A selection of options available on request

- Automation capability
- Cobot integrated system
- Cobot vision system
- Automatic sliding door system
- Manual interlocking door system



PrecisionHone: Speed, Safety, Simple



// The New PrecisionHone E3000S-80 has been designed with Industry 4.0 capability going forward. The latest variant of this Honing machine can be used in conjunction with Vision Integrated Cobots and still delivers precise tolerances, extended tool life as well as a reduction in cost per part. //

Martin Elliott, Managing Director

Innovative in design, flexible in operation

- Unique spindle system with integral stone expansion
- Stable, accurate and repeatable stone adjustment
- Standard and short stroking
- One or two stage honing cycle
- Single pass cycle
- Sparkout timer
- Fully adjustable spindle speed
- Incremental feed adjustment from 0.1 – 30 micron/second
- Feed movement via precision ballscrew
- Adjustable stroking speed from 0.1 – 25m/min

Electronic control system with Siemens' digital HMI

- Touch screen, conversational programming
- Tolerance accuracy to 0.001mm with sub-micron adjustment
- Download programmes to memory storage via USB port
- Remote access for assistance, immediate diagnosis, rapid support



Options available

- Automation capability
- Cobot integrated system
- Cobot vision system
- Automatic sliding door system
- Manual interlocking door system

Operational Efficiency

- Quick change tooling
- Reduced cost per part
- Reduced cycle time
- Reduced work in progress

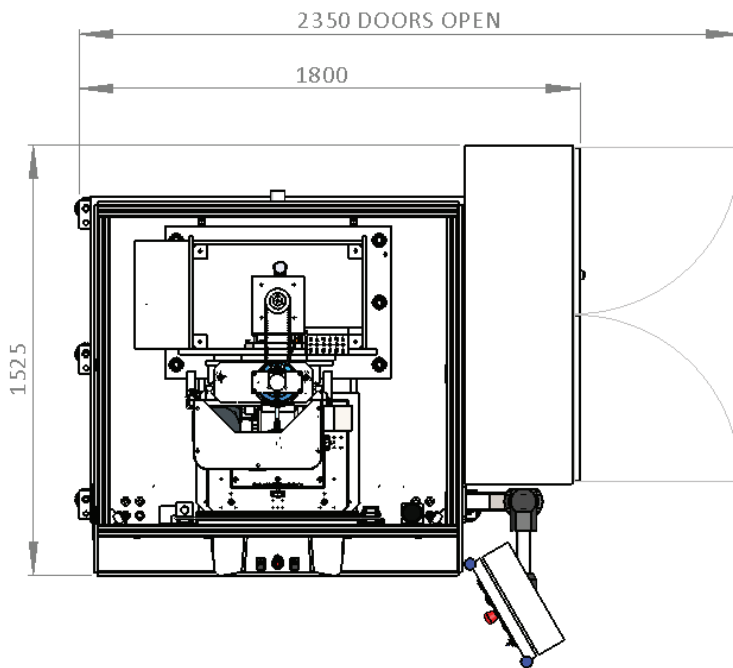
Workforce safety

- Failsafe auto-stop guarding
- Hands-free operation
- Closed door, push button automatic

PrecisionHone in Action

PrecisionHone for

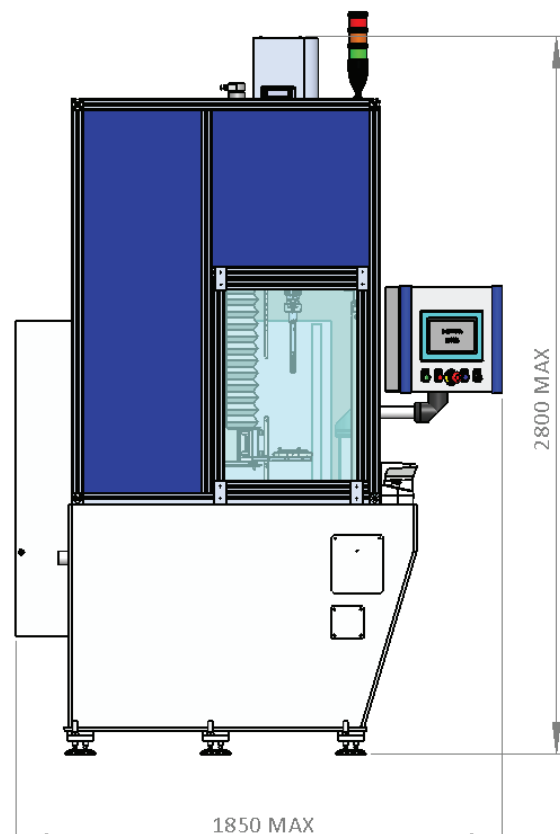
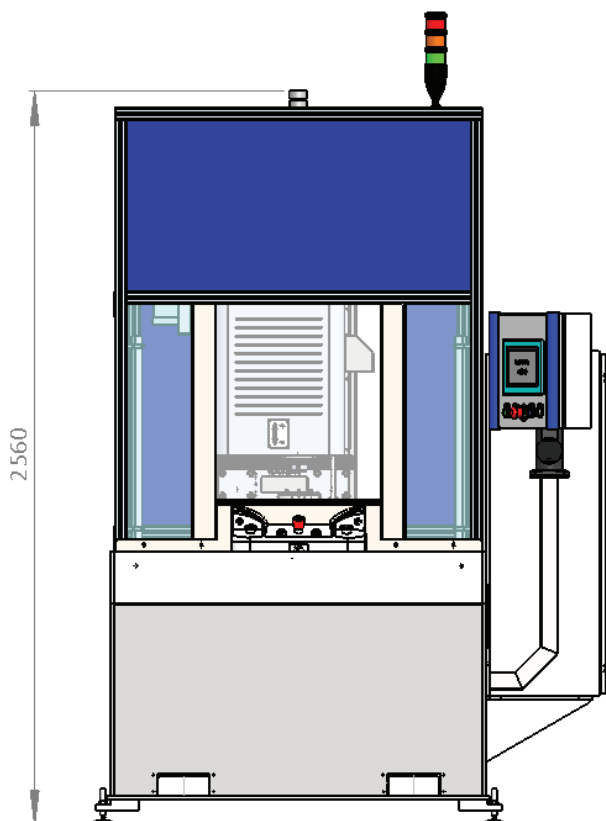
- Parts from small scale to heavy components
- Honing capacity from 1.14mm to 80mm* diameter
- Low to high volume



Ideal for

- Turbo Housings
- Flexure Sleeves
- Hydraulic Vane Bodies (large or heavy)
- Con Rods
- Water Pumps
- Valve Spools
- Fuel Injection Nozzles
- Small Cylinder Liners

Customised tooling and tailor-made abrasives are offered by Delapena to further extend the flexibility of these machines.



Technical specifications

Capacity and Stroke

Diameter range	1.14mm – 80mm*
Maximum stroke length	Fully adjustable 2mm - 500mm
Stroking motor speed	Fully adjustable 0.1 – 25m/min
Stroking motor power	3.8 kw
Stroking movement	Precision recirculation ball screw
Short stroking	Fully adjustable length and frequency
Short stroke override	Manual

Spindle Drive and Stone Expansion

Spindle speed	Fully adjustable 200 - 3000 RPM
Spindle motor power	3.75 kW
Braking	Dynamic braking resistor
Feed type	Programmable
Feed rate	Fully adjustable 0.1 – 30 micron/second Two programmable speeds for each cycle and timer
Incremental feed	0.1 - 10 micron increments
Feed movement	Precision ball screw
Stone pressure	Variable maximum 1000N
Wedge retraction	Programmable
Wedge retraction speed	Programmable

Electrical Equipment

Conformity	CE approved. Conforms to BSEN60204 and BS7671
Motor protection category	IP54
Standard electrical supply	380 – 415V, 3 Phase, 50Hz
Control voltage	24VDC

Controller

Type	Siemens Digital Honing Control System
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Honing Fluid Filtration

System	External filtration system (Specified by customer)
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Colour

Standard	White RAL 9002
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Weight

Net	3200kg
Gross	3400kg

Machine

Dimensions	1800mm (W) x 1850mm (D) x 2800mm (H)
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All dimensions are nominal. As a result of our policy of ongoing product development, Delapena reserves the right to revise specifications and design, without prior notice.

*subject to application

Delapena offers the complete honing solution

To optimise performance of the PrecisionHone

Tooling & abrasives

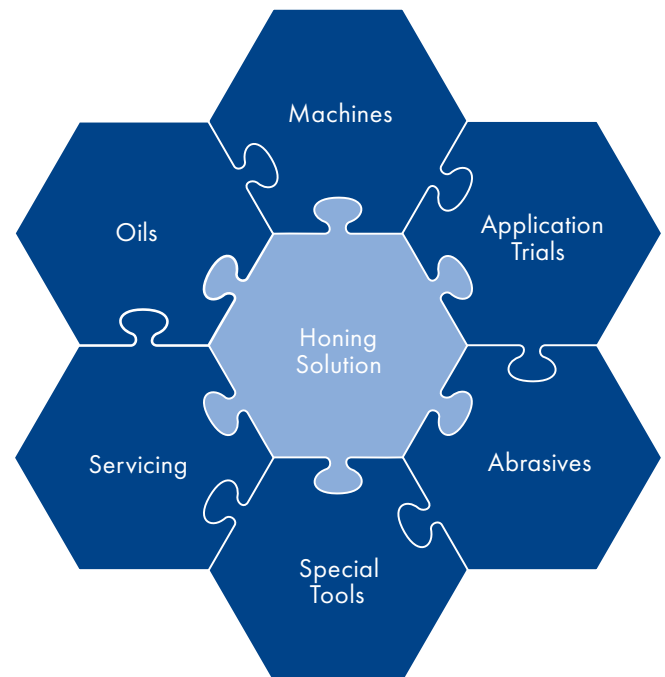
Delapena offers a complete range of horizontal, vertical and heavy duty tooling, plus special tooling which is designed and manufactured to order. Our tooling is supported by a full range of Standard and Super Abrasives to satisfy the most demanding requirements for the honing process, providing size, geometry and surface finish.

We also provide a professional refurbishment service for all variants of honing heads, to support your preventative maintenance programme.

Oils

We offer a range of high quality oils that focus upon:

- Improved surface finish
- Reduced environmental impact
- Improved operator health and safety, with low misting additives
- Improved lubricity, for reduced tool wear, better surface finishes and consistency for components
- Improved oil longevity for better value



To support use of the PrecisionHone

Application trials

Each application trial includes data on surface finish, cycle times, abrasives and the best honing solution for the job.

Commissioning

Every machine is commissioned by a Delapena engineer who manages the set up and provides training for all operatives.

Training & continued education

To support clients to meet their Health & Safety requirements, we offer training as required for machine operatives. This is tailored to the specific client's requirements.

Maintenance

The name Delapena is synonymous with reliability and the PrecisionHone is designed to be virtually maintenance free, with only periodic checks required to ensure optimised operation.

The wider range



E1000S

ProductionHone Mini

Competitively priced NC controlled horizontal honing machine for the production of small to medium sized batches.



E2000S

ProductionHone Maxi

The next step up from the ProductionHone Mini, offering increased capacity and torque, the ProductionHone Maxi is used for bores up to 80mm diameter. An NC controlled horizontal honing machine with a wide range of rotational and reciprocation speeds, allowing the workpiece to automatically stroke over the tool.



E2000S-XL

CalibreHone

An innovative long bore precision honing machine, designed specifically to hone straight and tapered bores at lengths up to 1200mm. The CalibreHone (E2000S-XL) achieves tolerances and geometries to below 2μ , for diameters up to 50mm.



EAS

SpeedHone

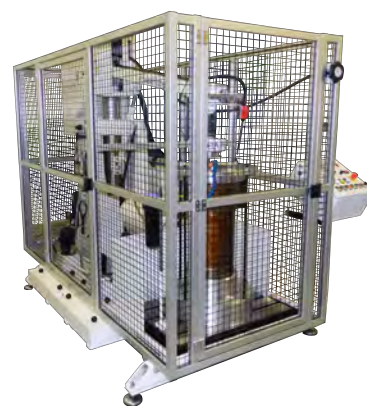
SpeedHone is a compact, electronically controlled machine that simplifies the honing process. Tooling changes are quick and easy, making SpeedHone ideal for one off and batch production work. With enormous flexibility, SpeedHone is an essential machine for every tool room.



4200

TubeHone

TubeHone is a safe, robust and powerful machine. Fully interlocking guarding, coupled with Delapena's Heavy duty tooling and oils make the TubeHone an excellent choice for horizontal honing.



PowerHone

A competitively priced vertical honing machine for large and heavy components in small to medium sized batches and one-offs. Suitable for both through and blind bores, producing an excellent surface finish and repeatability. Designed and engineered for durability, efficiency and economical honing.

Honing excellence all over the world

Part of Delapena Group, Delapena Honing Equipment is an innovator in the design and manufacture of high precision, technically advanced honing machines. Our company has an impressive history that spans over 85 years and we are exceptionally proud of our heritage. The name Delapena is synonymous with quality and is often used as a verb in the engineering world as the definitive for honing.

Today Delapena is recognised as a master in the honing market, operating internationally to offer complete honing solutions that include not only a range of technically advanced machines, but also the tooling, fixtures, abrasives and other consumables that optimise their performance. From manually operated machines to fully automated systems with Siemens electronic controls, Delapena offers a solution for every honing need and our customers rely upon our trusted expertise to optimise their process and surpass their objectives.



To learn more about the PowerHone or any other products and services from Delapena Honing Equipment please visit **www.delapena.co.uk**

For further details or a quotation call **+44 (0) 1242 516341** or email **sales@delapena.co.uk**

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