

# E2000S-XL CalibreHone

Innovative long bore  
precision honing for  
straight and tapered  
bores



# Introduction to CalibreHone

An innovative long bore precision honing machine, designed specifically to hone straight and tapered bores at lengths up to 1200mm. The CalibreHone achieves tolerances and geometries to below  $2\mu$ , for diameters up to 50mm. This technically-advanced machine features a unique step-back, 'back taper' honing programme, to produce a controlled taper in the bore over a specified angle and length.

## Precision Control

### Reliable accuracy and consistency

- Tolerance accuracy to below  $2\mu$
- Sub-micron adjustment
- Exact cycle times
- Siemens touch pad numeric control
- Precision stock removal

## Specialist Capability

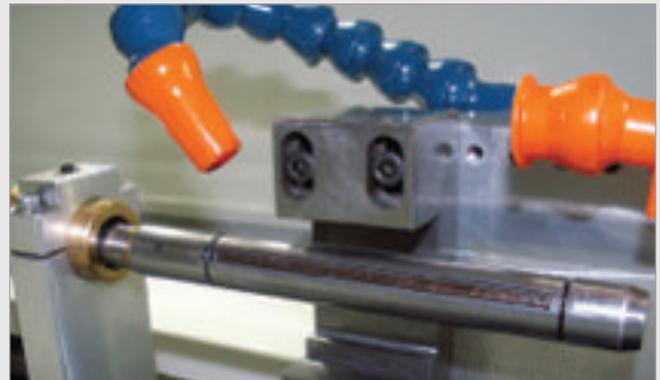
### Long bore honing

- Lengths to 1200mm
- Straight and tapered bores
- Variable step-back taper honing
- Diameters to 50mm
- Short stroke function
- Single pass cycle (subject to application)
- Bespoke tooling
- Tailor-made abrasives

## Operational Efficiency

### Reduced cost per part

- Repeatable full and short stroke to 0.1mm
- Fully adjustable spindle and stroking speeds
- Quick change tooling (optional)
- Push button, closed door, hands-free operation
- Operation by non-skilled workers
- Online diagnostics (via Internet)
- Reduced maintenance
- Extended tool life





“The value offered by CalibreHone is best measured by the precise tolerances achieved, its versatility and specific ingenuity in honing extended, straight or tapered bores. It features a unique step-back, back taper honing programme, to produce a controlled taper in the bore over a specified length of up to 1200mm.”

Martin Elliott, Managing Director

## Electronic control system with Siemens' digital HMI

- Touch screen, conversational programming
- Tolerance accuracy to 0.002mm with sub-micron adjustment
- Download programmes to memory storage via USB port
- Remote access for assistance, immediate diagnosis, rapid support

## Specialised features

- Long stroking by precision recirculation ball screw
- Multi-plane spindle nose assembly allows for component centre line deviation
- Single or twin universal floating joints for tool and driveshaft
- Multi-stone and single-stone tools as required (optional)
- Fixtures available for side, end or bespoke component clamping
- Integral coolant system

## Innovative in design, flexible in operation

- Fully programmable stroking length, frequency and speed
- Automatic pre-programmed short stroking
- Fully adjustable stroke length 3 - 1200mm\*
- Incremental feed adjustment from 0.1 – 30 micron/second



## Workforce safety

- Failsafe interlocking guard system
- Closed door, push button operation

## Machine stability

- Rigid machine base and module plate
- W: 3500mm x D: 1080mm x H: 1830mm

\*subject to application

# E2000S-XL CalibreHone in action

CalibreHone delivers operational efficiency. With quick change tooling it allows roughing and finishing operations to be carried out with minimum set up, providing potential cost savings. The control system supports conversational programming via an intuitive, touch screen and, with push-button, closed door, hands-free operation, this allows the machine to be run by both skilled and non-skilled operatives. Delapena is synonymous with reliability and the CalibreHone is designed to be virtually maintenance free, with only annual checks required to ensure optimised operation.

## CalibreHone for

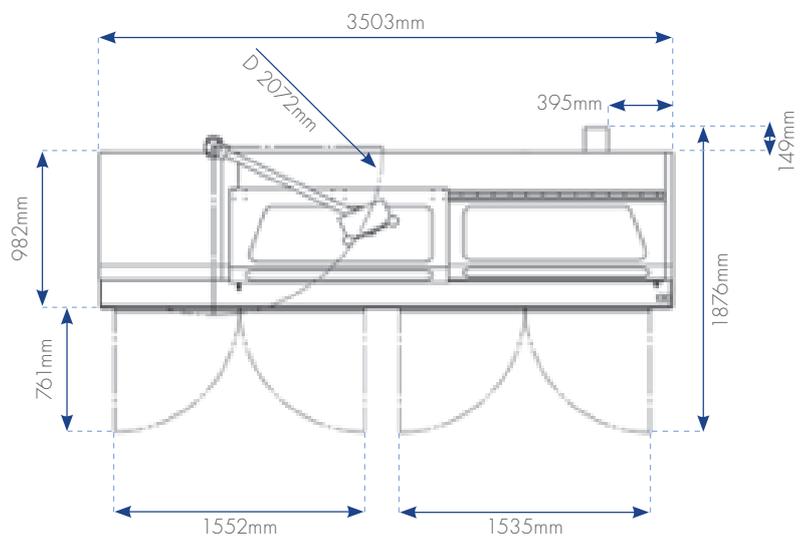
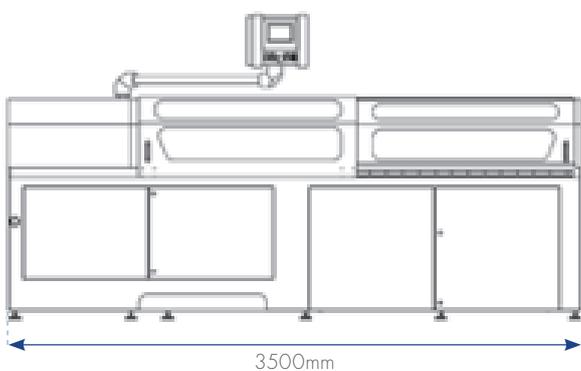
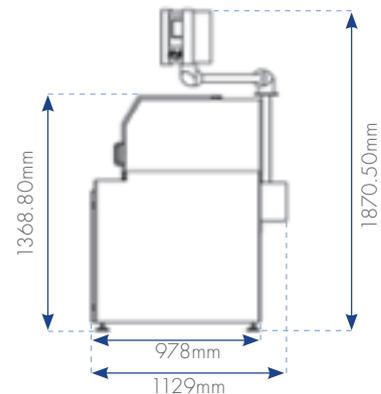
- Long bore honing to 1200mm
- Straight or tapered bores
- Tolerances and geometries to below 2 $\mu$
- Diameters to 50mm



## Ideal for

- Reliable honing of barrels and choke forms in sporting gun barrels
- Aerospace components

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



## Capacity and Stroke

Diameter range	5mm – 50mm*
Stroke length	Fully adjustable 3 – 1200mm*
Stroking motor speed	Fully adjustable 1 – 25m/min
Stroking motor power	12.0 Nm
Stroking movement	Precision recirculation ball screw
Short stroking	Fully programmable length and frequency

## Spindle Drive and Stone Expansion

Spindle speed	Fully adjustable: 300 – 2500 rpm
Spindle motor power	3kW
Braking	Dynamic braking resistor
Feed type	Programmable electro-mechanical
Feed rate	2 programmable speeds for each cycle + timer
Incremental feed	0.1 micron increments per second
Feed movement	Precision ball screw
Stone pressure	Programmable to 670N
Wedge retraction	Programmable
Wedge retraction speed	Programmable

## Electrical Equipment

CE approved conformity	CE approved. Conforms to Machine Directive 2006/42/EC
Motor protection category	Category IP54
Standard electrical supply	380 – 415V, 3 Phase, 50Hz
Control voltage	24VDC

## Weight

Net	1500kg
Gross	1650kg

## Machine

Dimensions	3500mm (W) x 1080mm (D) x 1830mm (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 honing application

# Delapena offers the complete honing solution

## To optimise performance of the CalibreHone

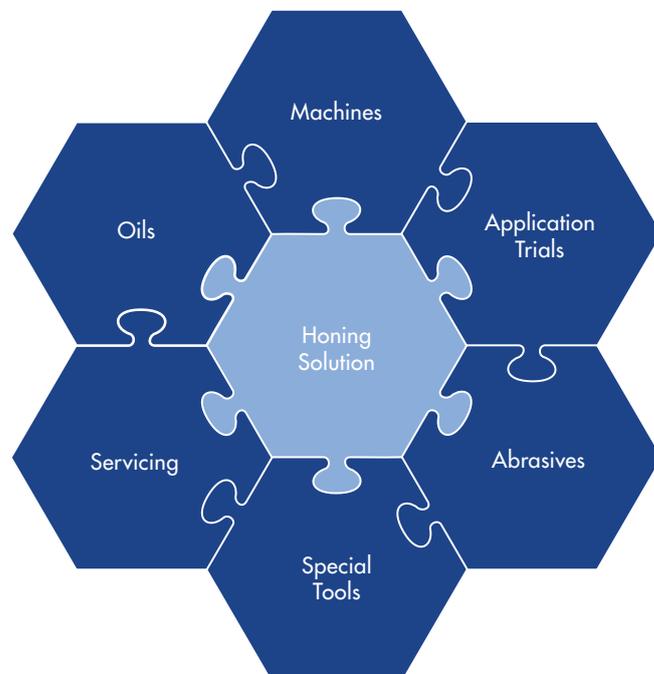
### Tooling & abrasives

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.

### 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 CalibreHone

### 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 CalibreHone is designed to be virtually maintenance free, with only annual checks required to ensure optimised operation. For reduced cost and downtime, the CalibreHone can be remotely accessed via an internet connection to the Siemens control unit. This enables global remote access for assistance, immediate diagnostic assessment and rapid support.

## 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 small long bores. A NC controlled horizontal honing machine with a wide range of rotational and reciprocation speeds, allowing the workpiece to automatically stroke over the tool.



E3000S

### 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 (subject to application) and a tolerance accuracy to 0.001mm, with sub-micron adjustment.



### 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.



EAS

### SpeedHone

SpeedHone is a compact, electronically controlled machine that de-skills 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.

# Honing excellence

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 CalibreHone or any other products and services from Delapena Honing Equipment please visit [www.delapena.co.uk](http://www.delapena.co.uk)

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

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