



Leaders in Superabrasive Finishing Systems

CM-2000 Compact Honing Machine



- **Failsafe interlocks and guarding in automatic mode virtually eliminate potential for accidents**
- **Stroker is stopped before interlocked guarding can be opened**
- **Low spindle speeds in manual mode**
- **Full CE Certification**

Easy Operation, Precision Honing for One-Off and Batch Production

The Engis CM-2000 is a compact honing machine with considerable flexibility and capability. As it is fully electronic, it affords the choice of semi-automatic or manual operation. With two button control panels and simplistic functionality, the operation of the CM-2000 is designed to be easy to operate, safe, reliable and ergonomic.

Honing from 0.045" – 3.15" (1.14mm – 80mm) diameter, with a tolerance below 2µ, it has a stroke length to suit most applications and, with a wide rotational speed range from 250 – 2500 rpm, this machine is essential in every job shop or tool room.

Precise control, versatile, efficient in operation:

- Operators at any skill level find the CM-2000 extremely easy to run
- Single-stone, multi-stone or single-pass tooling compatible; quick-change tooling (optional)
- Pushbutton, closed door, hands-free operation
- Complete servo control for precise tool position and cutting pressures
- Repeatable in-cycle short stroking to 0.004" (0.1mm) for blind bore parts
- Handles parts up to 8.8" (223mm)
- Fully adjustable spindle and stroking speeds
- Precision stock removal
- 1µ adjustment increments
- Compact, space-efficient footprint
- Requires less maintenance than mechanical machines
- Online diagnostics (via Internet)

ENGIS OFFERS COMPLETE SOLUTIONS:

- Engis is the only company with a complete range of bore honing machines and tooling: *Single-Pass, Multi-Stroke and Helical Laps.*
- Process development labs and decades of applications experience.
- Dedicated engineering teams for designing systems, tools and fixtures.
- A global presence – worldwide installation and post-sale support.

IDEAL FOR:

- *One-offs to batch production (1–100)*
- *Blind end bores (tolerance within 1µ)*
- *Refurbishment of components*
- *Bushings*
- *Sleeves*
- *Pump bodies*
- *Valve bodies*
- *Con rods*
- *Rocker arms*
- *Gears*

ENGIS CORPORATION

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PRECISION BORE HONING





Leaders in Superabrasive Finishing Systems

CM-2000 Compact Honing Machine



- Ideal for honing diameter 0.045" – 3.15" (1.14mm – 80mm)
- Production batches of 1 – 100
- Blind end bores (tolerance within 1µ)
- Multiple changes, quick change tooling

| SPECIFICATIONS: | |
|-------------------------------|--|
| Diameter range: | 0.045" – 3.15" (1.14mm – 80mm) |
| Maximum stroke length: | Fully adjustable .12" – 9.8" (3mm – 250mm) |
| Stroking motor speed / power: | Fully adjustable 1 – 17m/min / 3.0Nm |
| Spindle speed / power: | Fully adjustable 300 – 2500 rpm / 1.5kW |
| Motor protection category: | IP54 |
| Standard electrical supply: | 480V 3 Phase 60 Hz |
| Control voltage: | 24V DC |
| Conformity: | CE Approved conforms to machine directive 2006/42/EC |
| Net weight: | 1544 lbs (700kg) |
| Gross weight: | 1874 lbs (850kg) |
| Machine dimensions: | 32.4" (W) x 55.5" (D) x 52.4" (H) 823mm (W) x 1410mm (D) x 1331mm (H) |

Innovative in Design, Flexible in Operation

- Cocking fixture; mandrel is trued in by alignment gauge for speed and accuracy.
- Twelve screens covering the complete setup removing the need to reset all parameters from a previous run, as is common on standard mechanical machines
- Integral coolant system
- Mach 2 LED lighting system
- No air line is needed which saves on plant energy costs

Electronic Control System with Siemens Digital HMI

- Touchscreen, conversation programming
- Tolerance accuracy to 0.000039" (0.001mm)
- Remote access for assistance, immediate diagnosis, rapid support

Easy Operation

- Operators can be trained in just one hour
- Operates in manual or semi-automatic mode
- Ergonomic controls
- Electronically controlled
- Easy and rapid tool changes (within 10 minutes)
- Multiple changes per day



Workforce Safety

- Failsafe interlocking guard system
- Closed door, pushbutton operation outside the spindle area
- Stroker is stopped before interlocked guarding can be opened

Compact Footprint, Space-Efficient

- Rigid machine base and module plate
- Easy to reposition and relocate

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