

Product Catalog Vertical Grinders

1000 LEAN SERIES



VERTICAL GRINDING MACHINE

The CGC Model 1000 Lean Series is part of the core of Campbell Grinder Company's modular machine philosophy. This robust performer is available with several productivity increasing options. A major benefit of the 1000 Lean Series machine's construction is extremely accurate geometry over its complete work envelope.

The 1000 Lean Series vertical grinder is a traveling column, stationary rotary table style machine. This robust performer is available with several productivity increasing options. A major benefit of the 1000 Lean Series machine construction is extremely accurate geometry over its entire work envelope.

Machine Frame

The base serves as the table foundation and the backbone for the X-axis. The thermally stress-relieved and cross-ribbed base insures a stable platform for the 1000 Lean Series machine. The machine requires no special foundation.

assembly is comprised of a column and slide, the slide is supported by re-circulating roller way systems and is driven by the latest in linear AC digital servo technology. The Z- axis shares the same type of guideways, drive, and position measurement as the X-axis. The entire slide is sealed against high-pressure coolants and swarf to insure maximum service life. Z-axis is counterbalanced.

Table and Table Drive

The table is direct driven through a high precision worm gear box. The special gear box is engineered for extremely smooth operation. The gear box is

Grinding Spindle

The grinding spindle is a belt driven cartridge style spindle. The nose of the spindle is equipped with a special air shield insuring zero coolant ingress in even the most extreme conditions. The spindle is supplied with one wheel arbor as standard, though other wheel arbors may be purchased. The complete system is precision balanced for exceptionally smooth operation.

Enclosure

A total steel enclosure provides a leak and mist free environment for the operator. Large front operator doors are supplied with

“This design allows for *maximum mechanical precision* before any electronic compensation, and is standard on all CGC linear axes.”

X-Axis

The X-axis assembly is mounted to the face of the machine base. The moving X-slide is supported by a re-circulating roller way system to insure high axis stiffness. The roller way system also eliminates slip-stick allowing the machine to position in increments as small as 0.25 Micron or 0.00001 inches. The roller way system is preloaded which totally eliminates slide kick at reversal; this allows the machine to grind in both directions. The slide is driven by the latest in linear AC digital servo technology and is designed for optimal performance. Position feedback for the X-axis is an Absolute Linear Scale. The entire slide is sealed against high-pressure coolants and swarf to insure maximum service life.

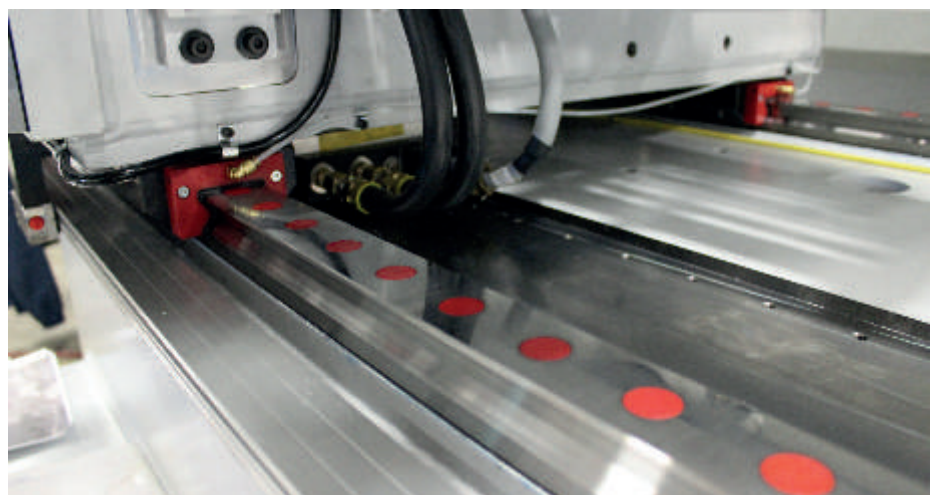
Z-Axis

The X-axis slide supports the Z-Axis assembly. The Z-slide

coupled to the table spindle by a precision belt and is driven by an AC induction motor that is directly coupled. The gear box is oil lubricated with synthetic oil and requires little maintenance.

Each table-top is configured with a central pilot hole and radial tee slots for fixture mounting. The table is supported by extremely accurate ball style bearings which should last the lifetime of the machine given proper maintenance.

poly-carbonate windows avail the operator good visibility for part and dresser touch off. When the doors are open, they provide easy access to load the part and change tools from (2) sides of the machine. Interior lighting is also provided for better operator visibility. Door interlocks are standard on all Campbell machines. A wash down hose for machine clean-up is provided.



Labeling

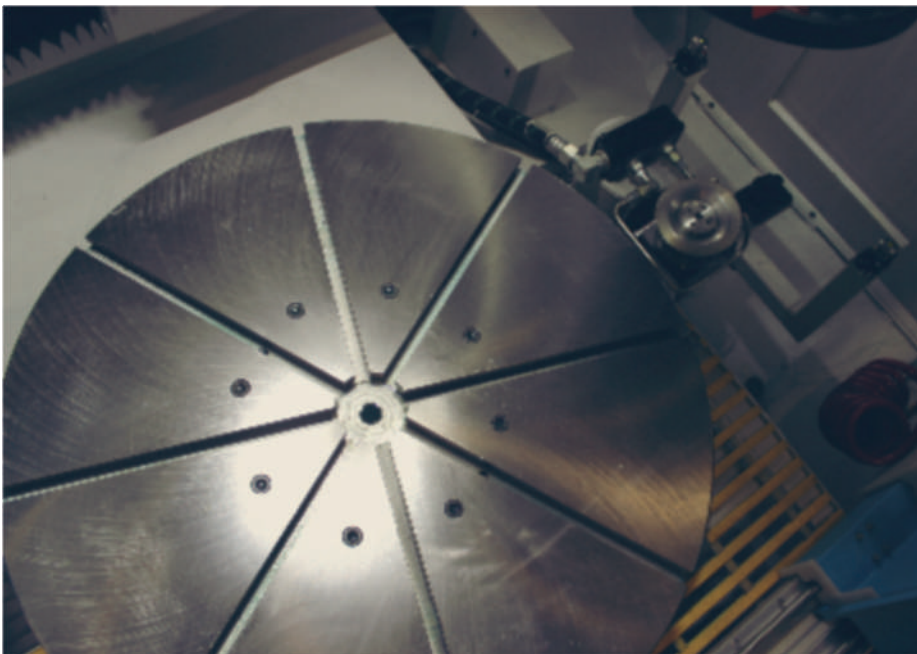
Campbell Grinder Company provides convenient, informative labels on various components of our machines in order to ensure our customers can easily identify what they are working on. Standard PSI, flow rate, and electrical input information is typically included on the associated parts' labels. Some labels even include the replacement part number. Labels can be edited to include necessary details upon request.

Campbell Grinder Standard Run-off

Campbell Grinder Standard runoff includes the following: a full review of the machine's geometries and accuracies and a test grind on Campbell Grinder's standard test part for checking size and repeatability. ID, OD and face features are included. Duration of this runoff normally takes 4 days to complete. Machine operators are encouraged to visit during this test period.

Axis Control

- *Advanced High Resolution Vector Control (HRV2)*



- *Simultaneous control of Multiple Axis*
- *Least command increment of 0.00001 inch, 0.0001 mm, 0.0001 degrees*
- *Hardware and software over travel protection*
- *Absolute position detection*
- *Quick stop function using E-Stop*

Part Programming Features

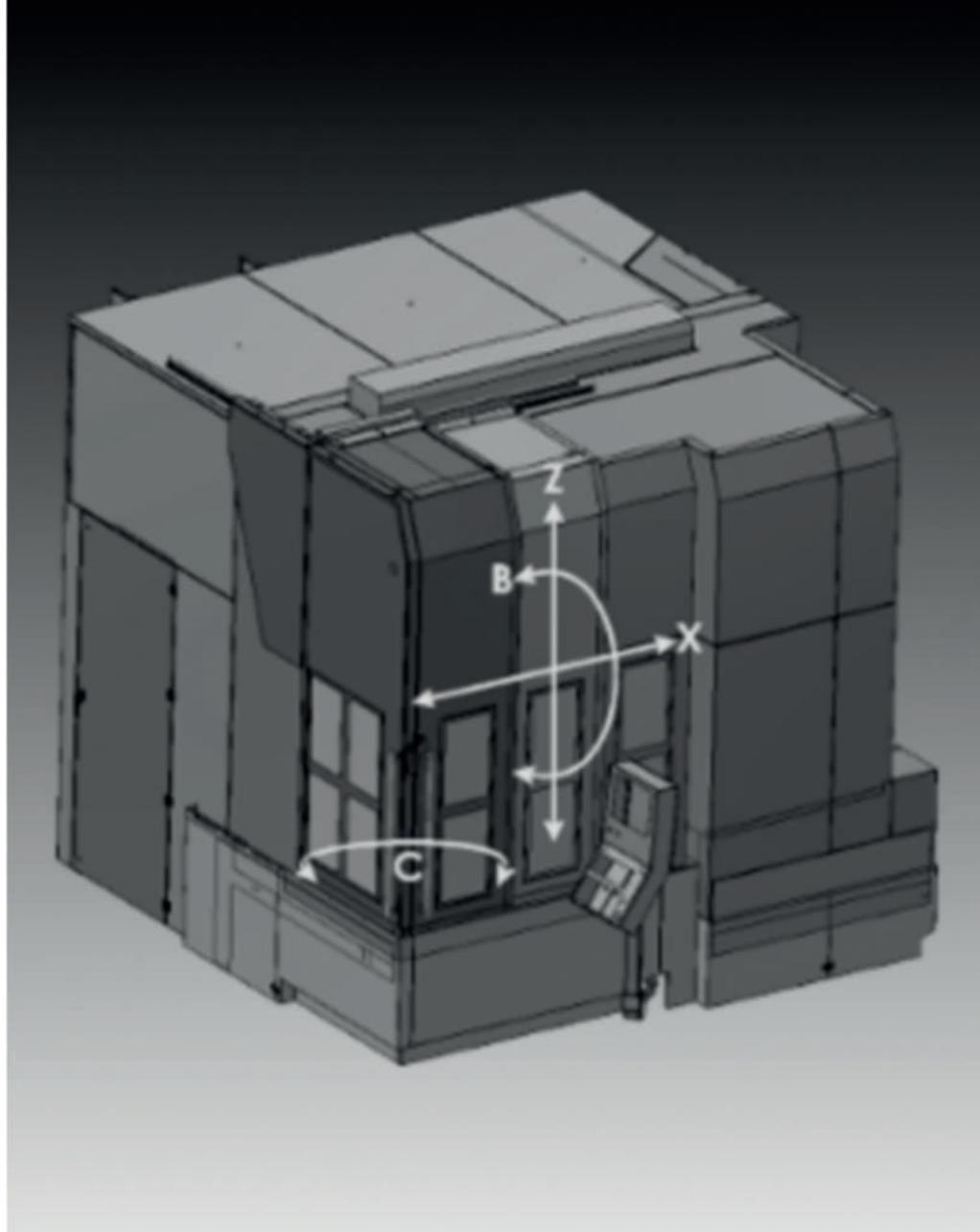
- *Part program storage*
- *Extended part program editing*
- *Part program protection*
- *Custom macros with expanded variables*
- *Inch/metric conversion*
- *Memory card or Ethernet input/output of programs*

Display

- *Custom display for compact viewing of all data*
- *Alarm history display*
- *Servo adjustment display*



SPECIFICATIONS



PRECISION

Z Axis Accuracy: 5 Microns (0.0002")

X Axis Accuracy: 5 Microns (0.0002")

C Axis (Table Spindle): Run out 2.5 Microns (0.0001") both radial and axial, measured 305 mm (12") above the table top CL

(Optional) B Axis Spindle Swivel: Run out 5 Microns (0.0002") radial and axial, measured 305 mm (12") above the table top CL, Accuracy 10 arc seconds

STANDARD FEATURES

FANUC CNC Control Panel

Precision Roller Ways - All Axes

Ability To Use Any Abrasive

OD/ID Grinding Spindle

Single Point Dresser (Other Options Available)

Roller Style Table Bearing

Linear Glass Scales - All Axes

Full Machine Enclosure

CAPACITIES & TRAVELS

2000 lbs Capacity

762 mm Max Part Height

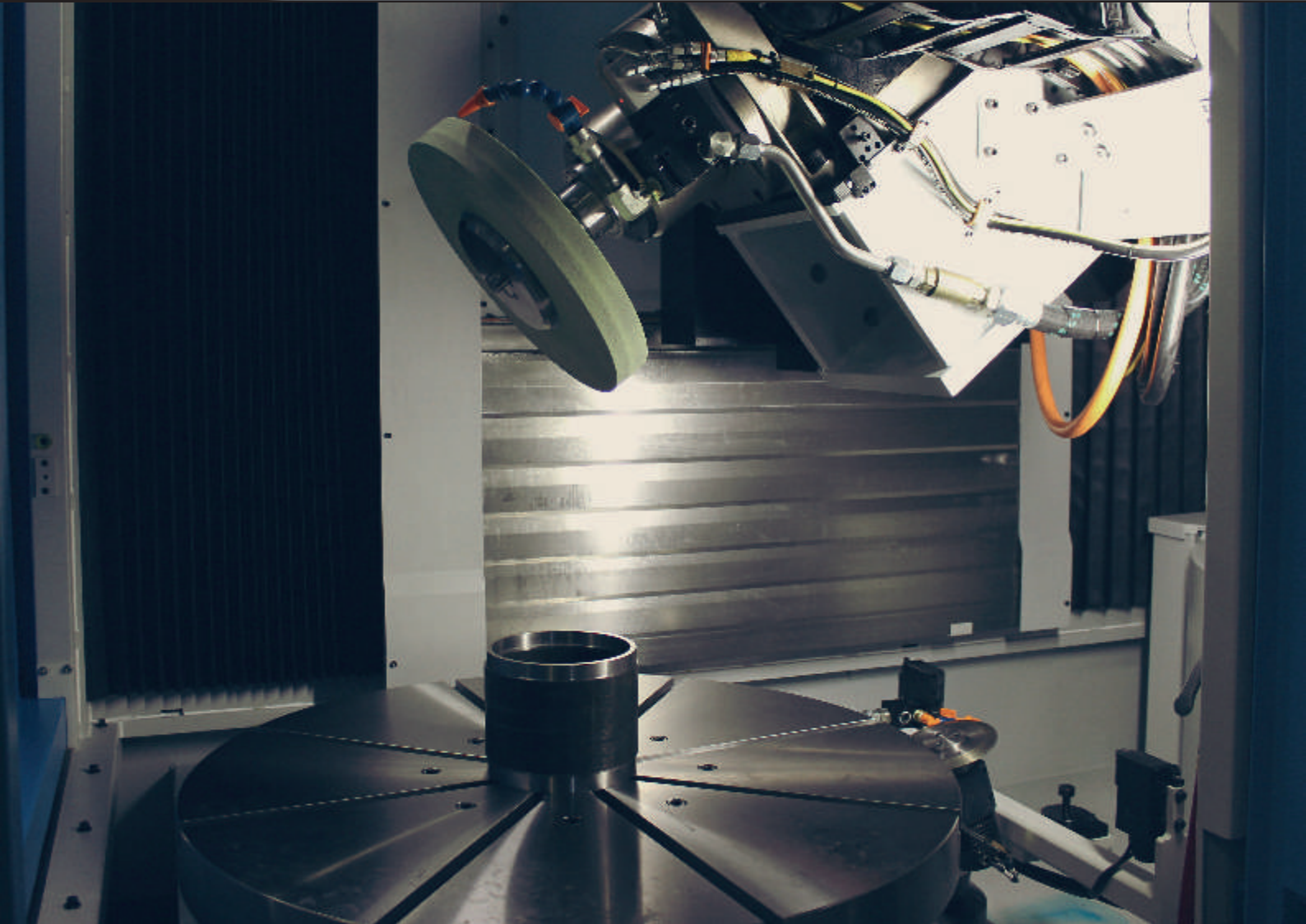
15 HP Grinding Spindle

0-150 RPM Table Drive

609 mm Table Diameter

Product Catalog

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