

Grinding Control System

DCM Servo Drive Control provides on screen display and control of machine feeds and speeds, and monitors the grinding process. Desired parameters can be saved and recalled as a programmed grinding process for production runs or used in a manual mode for lab work and prototyping.

Variable Speed Rotary Tables

Available in magnetic, vacuum, hydraulic, and custom fixture configurations.

Grinding Spindle

Variable speed 20HP grinding spindle motor with preloaded precision bearings.

Mist Collection

Integral air mist collection system draws particulates and mist away from the work area, enhancing machine cleanliness and work environment.

Coolant System

Includes through spindle and external coolant flow as well as self contained filtration system.

Manual Pulse Generator

Handwheel provides precise, effortless control of Z axis spindle positioning. Three selectable feed rates with steps of .010 in., .001 in., and .0001 in.


IG 280 SD Industrial Rotary Surface Grinder




Fully enclosed grinding area in the IG 280 SD helps keep Lab and Production areas clean and enhances operator safety.

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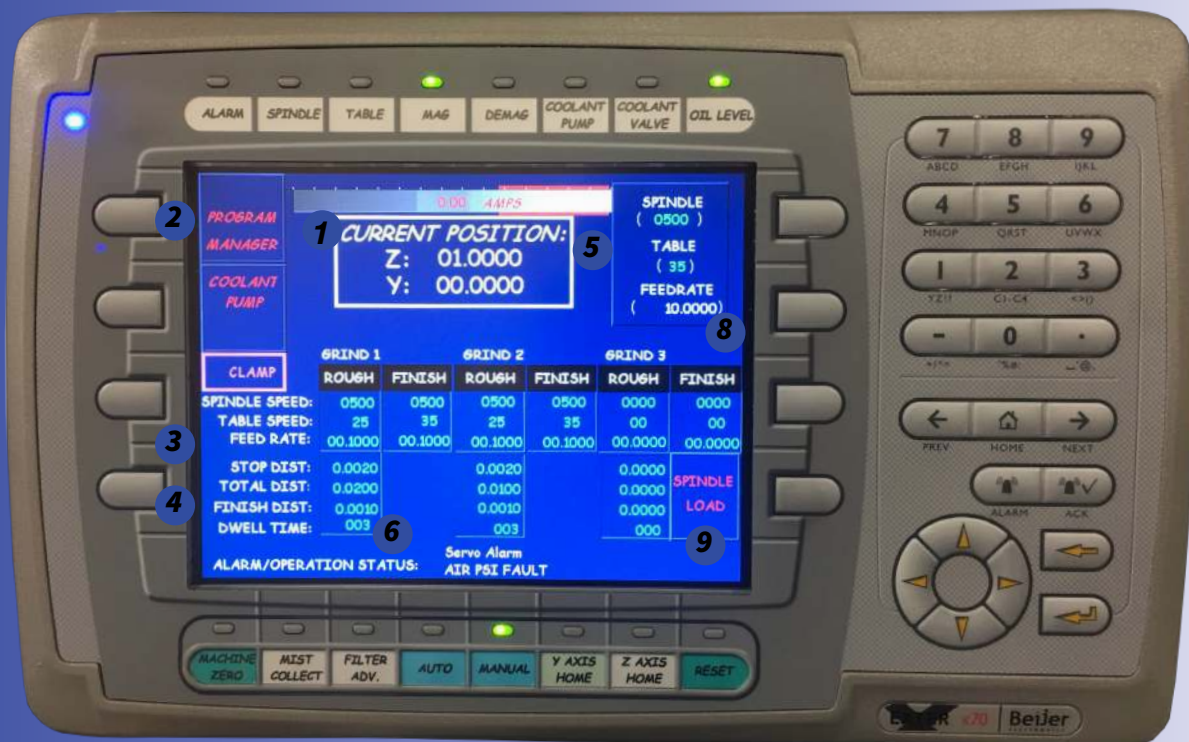
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The heart of the IG 280 SD is DCM's proven Process Control System and operator interface. The high visibility LCD screen provides a plain text view of all grinding parameters, rapid retrieval of all saved programs, and quick entry of new ones. Grinding parameters may be edited "on the fly" allowing the operator to fine tune an operating program without stopping a grinding cycle. Selectable Grinding Programs are included on "SD" series grinders to provide the maximum flexibility in processing a wide range of materials:

- Grind from Zero — grinding proceeds a programmed amount below an operator set "0" point. A single button push sets "0" at any Z axis position.
- Grind to Height — grinding proceeds from an operator entered rough dimension to a pre-programmed finish dimension. Actual dimensions are used, and can be referenced from the machine table, grinding fixture, or a setting gauge.



1 Spindle Monitor features a bar graph display of spindle motor load. A secondary screen can be accessed to present a full screen real time graph of spindle loading. This provides important data regarding wheel performance and input for setting maximum spindle load. The downfeed is programmed to pause if spindle load exceeds desired limits. This is especially important with fragile workpieces where stress and heat can because damage.

2 Program Manager provides access to an additional screen that contains parameter settings for maximum spindle motor load, magnet alarm, automatic coolant system activation, wheel wear compensation, auto dress option and auto air mist collection.

DCM Tech

Rotary Surface Grinders

- 3 Speeds and Feeds** automatically transition from ROUGH to FINISH grinding at a pre-set point during the grinding cycle. This optimizes grinding wheel performance for both stock removal and surface finish.
- 4 Distance** or "Z" axis feed can be entered as grinding feed amount or as a part dimension. Feed is an amount below a selected "0" point and a part dimension is a height above the machine table, or grinding fixture, as set by the operator. Inch units to .0001", and metric to .001 mm resolution may be entered.
- 5 Current Position** displays wheelhead location in reference to the operator defined Z and Y axis machine zero position.
- 6 Dwell** or spark out time is the non-feed portion of the grinding cycle. In this case the dwell time is 60 seconds. At completion, the wheelhead will retract and shut down, allowing for removal of the part or repositioning for the next grind cycle.
- 7 Specialized Workholding Systems** Vacuum chucks, T slot tables, through table feed for hydraulic & pneumatic fixtures, and magnetic chucks are all available.
- 8 Manual Operation** values are displayed here. Downfeed is controlled by the manual pulse generator handwheel. If the grinder is in the Auto mode, the RPM and feedrate at each point in the grinding cycle appear in this area.
- 9 Single or Multi-Step Grinding** is available in all programs. Up to three sequential grinds are available. Parts can be ground on one side, flipped over, and finished on the otherside. Many parts can benefit from a third grind to remove minor distortion that occurs as a result of stress relieving during the grinding process. Each grind step picks up where the last left off, saving cycle time and enhancing precision.



12" Plated Mount
Diamond Cylinder



Product Number
21-06106-010-05

8" Flaring Cup
Wheel (Seeded
Gel)



Product Number
19-06108-025-03

12" Plate Mount
Hub with 12"
Diamond CBN
Wheel Ring



Product Number
70-06743 w/ Hub
62-06522

Abrasive Options include a combination 20" diameter Segmented and 2A2T ring wheel hub, with other wheel mount options available. Correct wheel speed for a wide range of wheel diameters and abrasives is set using the variable speed spindle feature on the IG 380 SD. The #50 taper spindle facilitates rapid changing of wheel hubs.

General Specifications

Motors

Grinding Spindle Motor 20HP, 600 - 2700 RPM
 Rotary Table Motor 3/4 HP, 5-70 RPM
 Servo Column Motor 2 KW, 0 - 100 IPM
 DC Cross Slide Motor 1/4 HP, 0 - 60 IPM
 Coolant Pump 1/4 HP, 20 GPM

Table Options

18" & 24" Variable Strength Concentric Magnetic, 3/8 Pole Pitch
 18" & 24" T Slot or Drilled for Custom Fixture Mounting
 Tables can be Configured to Through Spindle Vacuum/Pressure Feed

Capacity

Maximum Swing Diameter 27"
 Chuck Work Load 500 lbs. (centered)
 Maximum Wheel to Table Clearance . . . 11" Segment Wheel
 12" with 2A2T Wheel

Grinding Wheel Options

Cylinder and 2A2T Ring Wheels 8" - 15" diam.
 Segmented Wheel Kit 12" and 15" diam.

Feed System

Servo driven Z Axis with Precision Ballscrew and Encoder
 Feedrate Variable from 0.0001 IPM to 60 IPM
 DC Motor X Axis Position

Electrical Requirements 208/240V 50/60 Hz, 3ph, 60
 Amps. Consult DCM Engineering Regarding Operation on other Voltages

Dimensions 80" wide, 68" deep, 90" high

Weight 7200 lbs.



Integral mist collection and swarf removal heighten the cleanliness of the grinding process. The IG 380 SD is a low impact machine for the shop environment.

Check out our complete line of surface grinders



IG 380 SD



IG 180 SD



IG 140 SD



IG 080 SD

DCM designs and builds a line of Industrial Rotary Surface Grinders and Automotive Rebuilding equipment. We have provided quality machine tools and customer satisfaction since 1974. Our response to customer needs over the years has allowed us to provide long lasting, application specific solutions to customers worldwide. Use of the DCM Tech Vertical Spindle Rotary Table Surface Grinders has consistently brought dollars to our customers' bottom line via process improvement.