

FDG-700

Double-sided, High Precision
Fine Grinder

Mass Production for Small-and
Medium-sized Workpieces

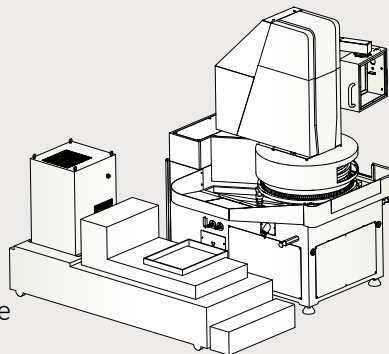


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Double-sided, High Precision Fine Grinder

Equipped with the latest technology, Chevalier's FDG-700 is loaded with features that make the innovative double-sided grinder the ideal machine for a variety of flat, hard and brittle materials.



The FDG-700 is perfect for mass production of small- and medium-sized workpieces that demand high-precision and high efficiency with an eight-stage pressure control. This fine grinding process offers several advantages in flatness, parallelism, surface finish and size tolerances.

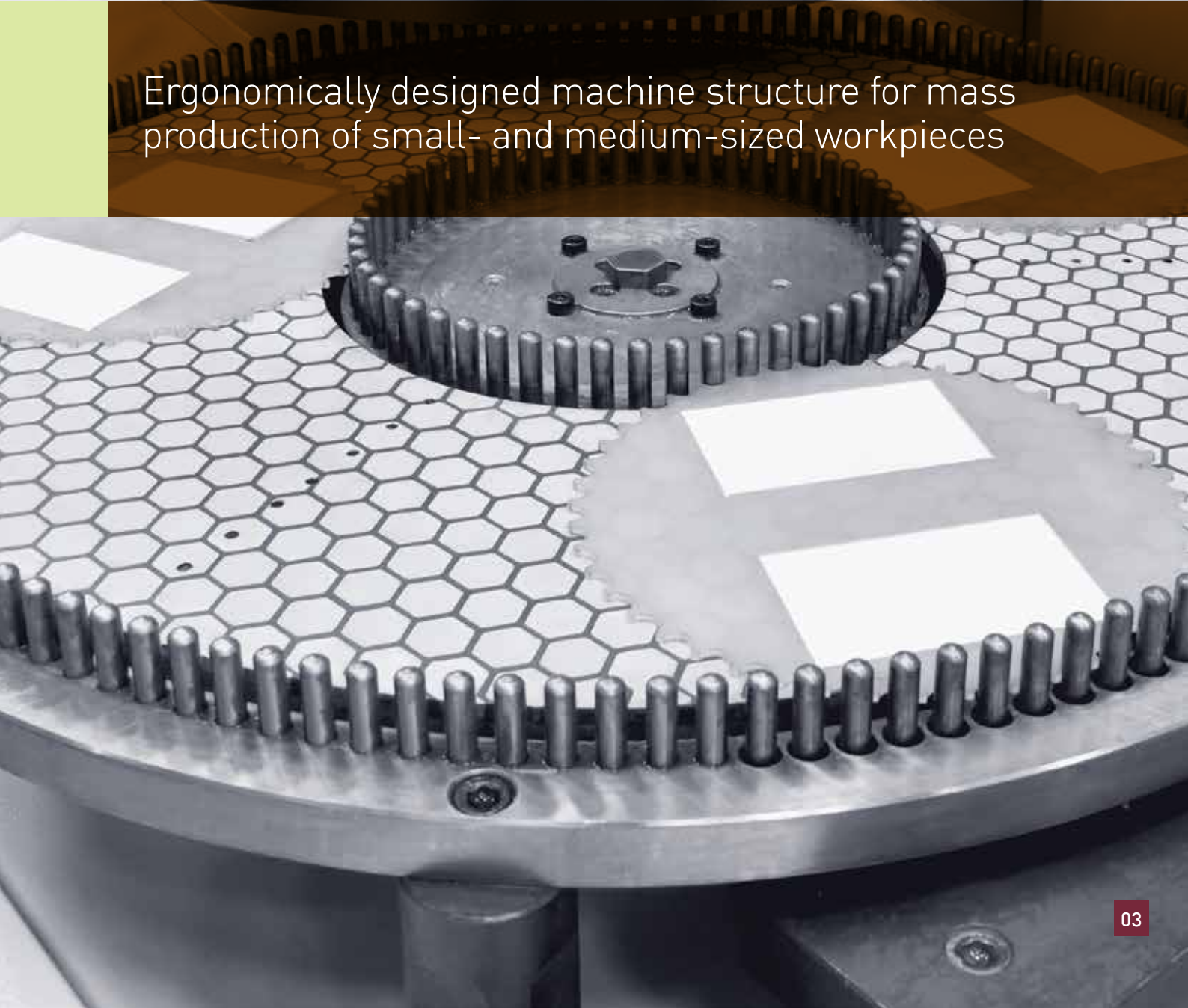
The FDG-700 features Chevalier's iSurfaceDS, a PC-based control that makes it possible to intuitively operate the grinder entirely by conversational graphic control. The machine features a high-precision, digitally controlled pneumatic system that automatically adjusts according to the selected pressure. The high-precision, contact-measuring system includes grinding height control and dressing monitoring.



The FDG-700 is shown with optional accessories.



Ergonomically designed machine structure for mass production of small- and medium-sized workpieces

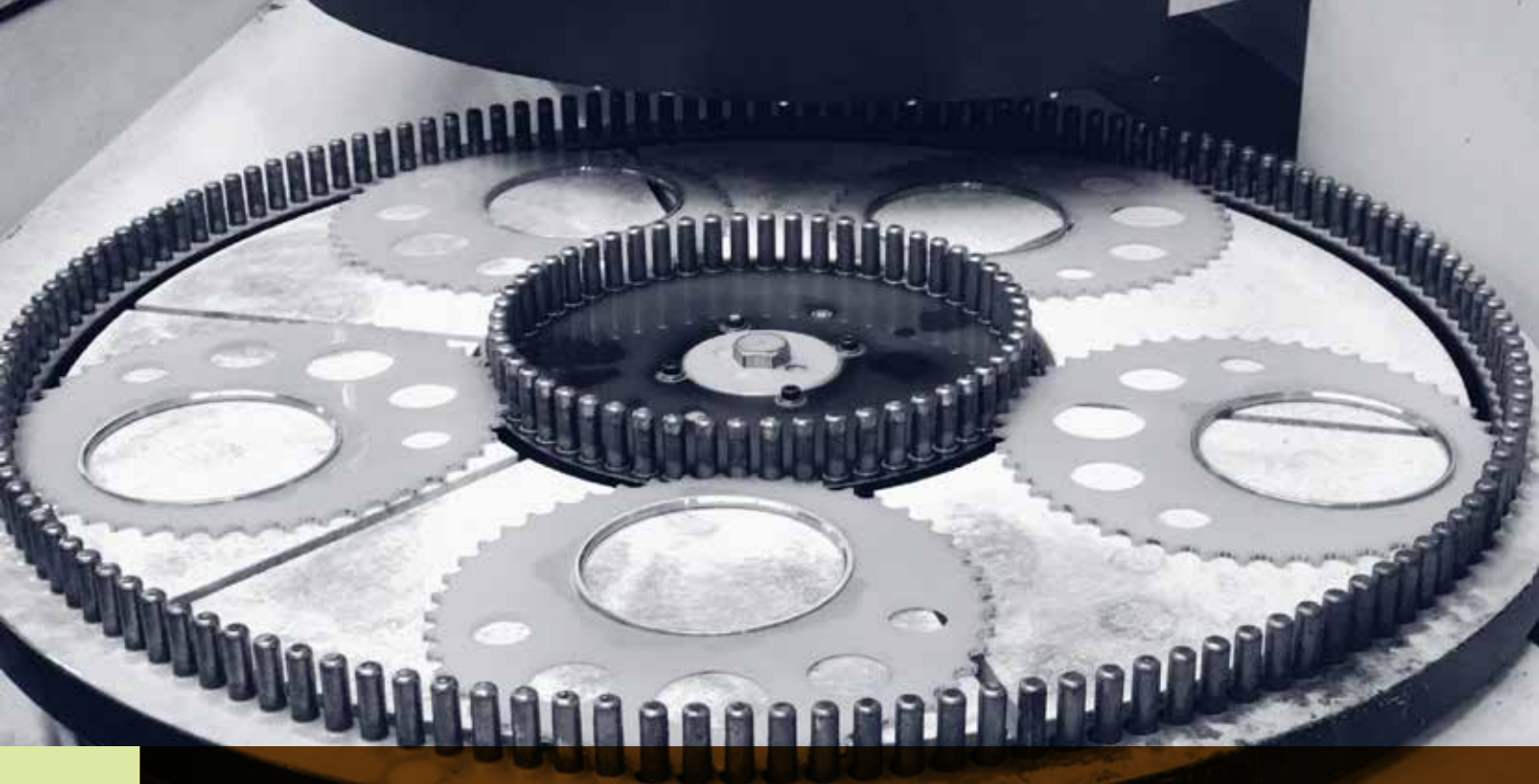


Key Features and Benefits

The entire cast body of the FDG-700 features high rigidity and stability.

- Chevalier's proprietary iSurfaceDS graphic control with a 10.4" touch screen monitor makes it possible to intuitively operate the machine entirely by conversational graphic control.
- High-precision, digitally controlled pneumatic system automatically adjusts to the selected pressure.
- With a wide range of grinding capabilities, the FDG-700 can be used to simultaneously grind both sides of a flat workpiece and has three to six carriers (planetary operation), in terms of the number of workpieces. Machining in planetary mode to maintain flatness of the grinding wheel.
- Perfect for mass production of small and medium-sized workpieces that are difficult to clamp or weakly magnetic.
- Wide range of applications include non-metals such as ceramics, optical glass, tungsten carbide, metals or other hard, brittle materials.
- The high-precision, contact-measuring system includes grinding height control and dressing monitoring.
- Variable speed spindle coupled with a high-torque gear box provides the flexibility needed to machine all types of workpieces.
- The outer ping ring can move up and down to facilitate the semi-automatic loading and unloading process, which increases productivity and reduces the chance of human error, shortens the loading and unloading time and standby time and reduces the processing cost of the workpiece.
- The upper and lower working wheel and the inner ring gear can be directly reversed by independent direct drive.





FDG-700 offers several advantages in flatness, parallelism, surface finish, size tolerances and repeatability



The FDG-700 is shown with optional accessories.



Semi-automatic Loading System

The semi-automatic loading and unloading process increases productivity, reduces the chance of human error, shortens the loading and unloading time and standby time, and reduces the processing cost of the workpiece.

Control Features and Benefits

All new iSurfaceDS control

FDG-700 Series controls are PC-based (NC control), high-specification industrial units. The intuitive intelligent control can be set up and operated through the dialog-type graphic operation screen. Extensive operator training is not necessary.

Manual operations for the adjustment of speed, direction and movement of the upper and lower grinding wheel and the carrier are simple. The FDG-700's grinding mode has timing, quantitative and fixed sizes. The dimensional set-up program utilizes the first plate calibration to confirm the final size of the workpiece after processing, which subsequently sets the true final size. In addition, each grinding function can be subdivided into eight program control stages, allowing users the flexibility to achieve higher machining accuracy and increased surface roughness.



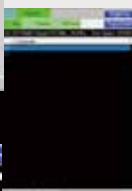
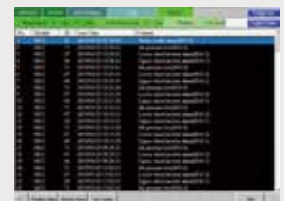
High-precision, digital air pressure control, automatically adjusts according to the set pressure. The setting of the pressure value can be automatically converted into the digital voltage value corresponding to the pressure.

High-precision, contact-measuring system, grinding height control and trimming monitoring. Controls grinding height and monitors the movement position according to the setting of the grinding amount in each stage. Distance is accurately controlled and the high-quality requirements are achieved.



Measurement system has an overtravel protection mechanism. When the set compression range is exceeded, the system will issue an alarm and stop operation and force a return to the disk to protect the normal operation.

Detailed troubleshooting text and alarm history. The system will record the date, type of alarm, alarm code, and description of the alarm that has occurred in order to correct immediately.



Support network connection and USB file import/export. Network Connection provides machine connection capabilities; the management side can clearly monitor the machine's production status and productivity. USB file import and export can backup and manage the files of the machine's processing and grinding programs and grinding wheel dressing conditions via USB.



Perfect HMI control

Your primary tool for operational insight, status reporting, view of system conditions and vital operations



Machine Structure and Transmission System

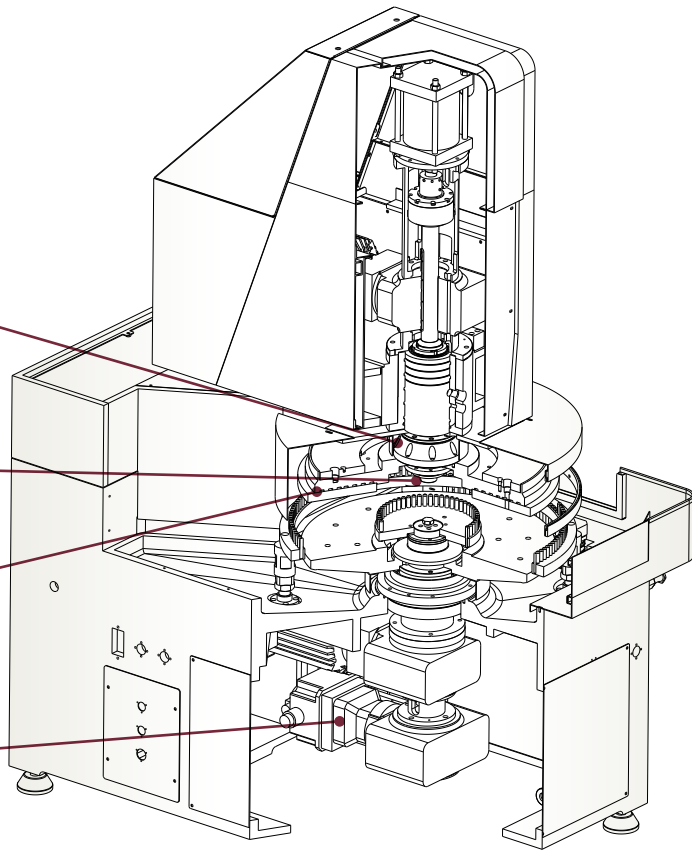


The degree of thickness between the disk surface and the workpiece can be adjusted effectively to average the desired removal amount achieving consistency in workpiece accuracy

High-precision, contact-measuring system for grinding height control and monitoring

Upper working wheel and independent greased motor for forward and reverse turns

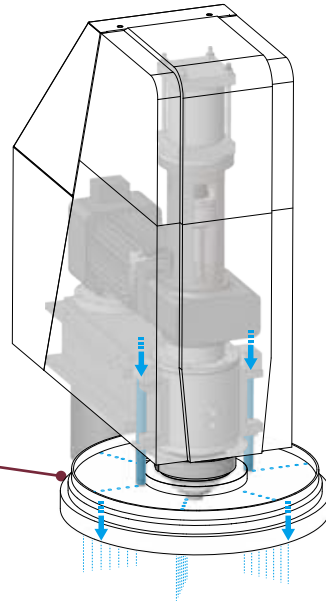
Gear box transforms motor high speed, low torque to low speed high torque



Double-sided grinding

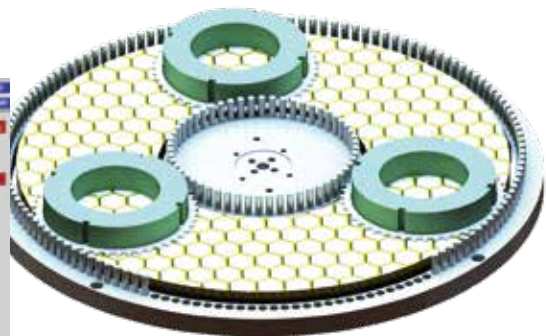
- Ample amount of cooling water flows to cool down the test generated by the grinding cycle, which provides better grinding results to increase grinding power ability.
- Optimal grinding accuracy is easily obtained.

Coolant flush system from upper wheel

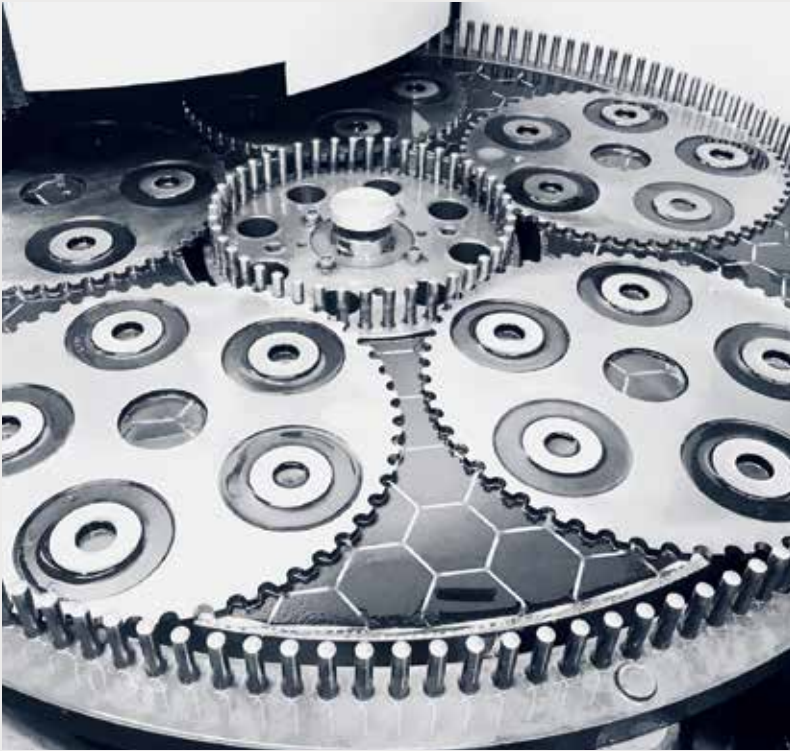


Grinding wheel dressing

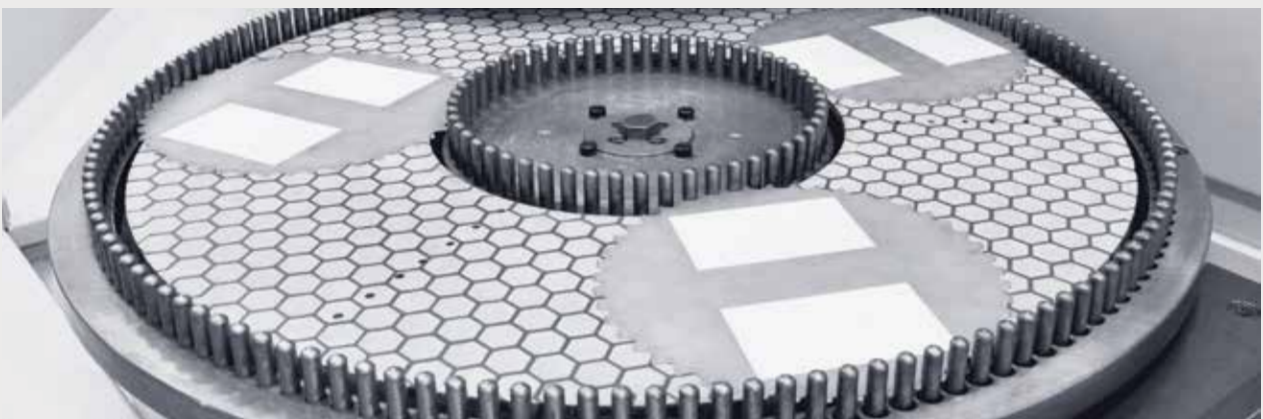
FDG-700 provides graphic conversational program for wheel dressing allowing user to set the dressing condition easily according to machining requirements.



Applications

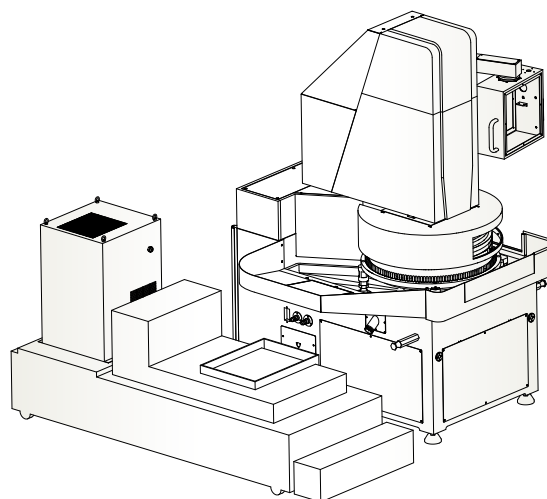
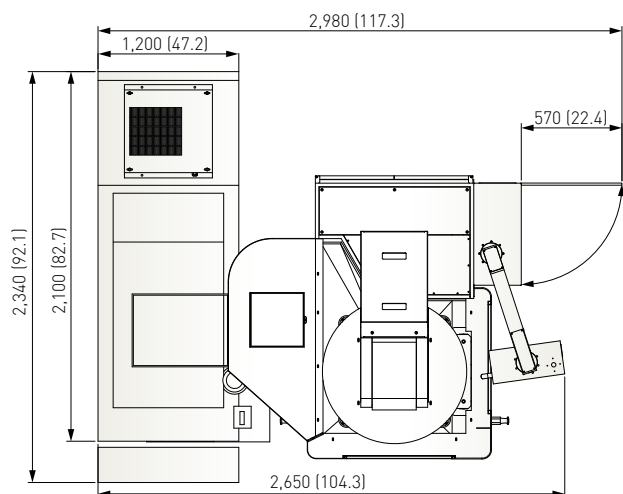


Adaptable for future requirements in such industries as aerospace, ceramics, electronics, fuel & gas, medical, optical and semiconductor

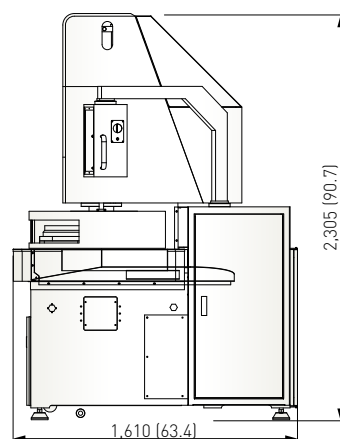
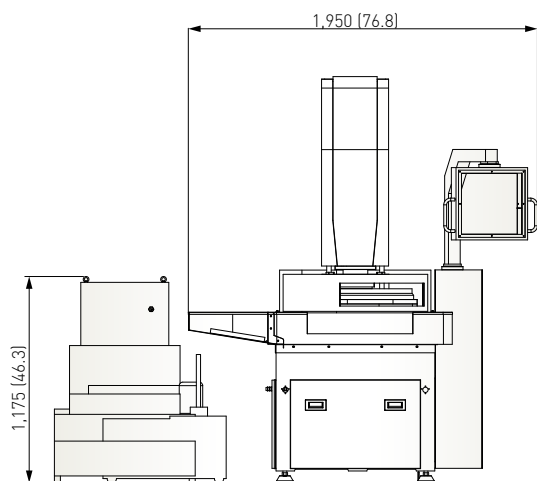


Machine Dimensions

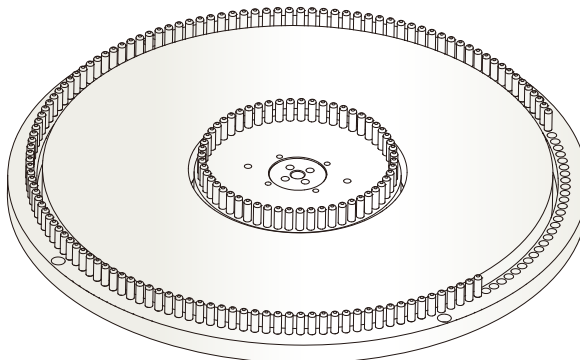
Units: mm (")



Note: Machine shown with optional accessories.



Grinding wheel size:
Outer diameter 700 mm (27.6")
Inner diameter 300 mm (11.8")



Specifications

Item	Description	FDG-700	
Control system		iSurfaceDS	
Capacity	Wheel diameter	700 mm (27.6")	
	Max. workpiece diameter	205 mm (8.1")	
	Max. workpiece grinding thickness	25 mm (1.0")	
	Max. load pressure	600 kPa	
Upper wheel	Power	5.5 kW (7.5 HP)	
	Speed	60 Hz / 105 rpm	
Lower wheel	Power	5.5 kW (7.5 HP)	
	Speed	60 Hz / 105 rpm	
Inner wheel	Power	2 kW (2.7 HP)	
	Speed	60 Hz / 60 rpm	
Power and air requirement	Power required	20 kVA	
	Input voltage	According to local voltage	
	Total air consumption	Pressure	6 kg/cm ² (86 psi)
		Flow	250 NL/min (7 cfm)
Machine dimensions	Floor space (W x D x H)	2,980 x 2,340 x 2,305 mm (117.3" x 92.1" x 90.7")	
	Net weight	2,800 kg (6,170 lbs.)	

All content is for reference only and may be subject to change without prior notice or obligation.

When it comes to affordable double-sided fine grinders, Chevalier's FDG-700 is your clear choice

Accessories

Standard accessories

- Grinding wheel plane measuring device
- Spanner
- Stylus
- Splash guard
- Leveling screw and nuts: 4 sets
- Leveling pad: 4 pieces
- Tool box: Locking tool for grinding wheel, hoisting rod (4 pieces), wrench

Optional accessories

- Coolant system with chiller and auto paper feeding device
- Coolant system with auto-paper feeding device, magnetic separator and chiller
- Centrifuge type (5 µm) with cooling device and chiller
- Grinding plates
- Dressing and wheel carrier
- Holder for dressing rings
- Workpiece carrier
- Loading tables



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