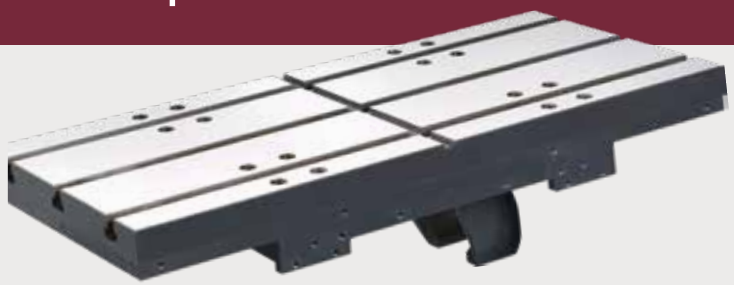
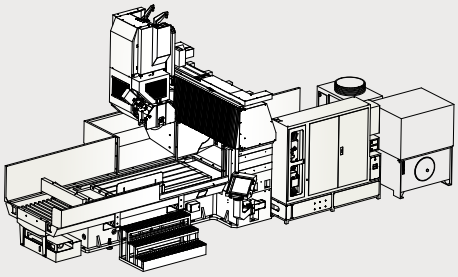
FSG-DC Series

Fixed-beam Double Column CNC Grinders

Easy Set Up, Programming and Operation



CHEVALIER®
Grinding Turning / Milling
We shape your ideas.™



Easy Set Up, Programming and Operation

Chevalier's FSG-DC Series stands out as the number one choice for fixed-beam, double column grinders for a variety of important reasons, including: an easy-to-use interface, full CNC user-friendly control system, full workpiece capacity, rigidity and accuracy of the dual column design—all features that offer impressive performance. They're the standards required by the automobile, die and mold, transmission component, electronics, aerospace, and related component machining industries in order to meet current and future market needs and pave the way for factory automation.

The mechanical design of the elevated guideways and spindle seat, adapted with highly rigid linear guideways, high-precision ballscrews and a pneumatic counterweight device, provides superb rigidity and heavy duty grinding capability.

This series of easy-to-operate grinding machines includes our exclusive iSurface PC-based control, standard with FSG-40, 50 and 60 series.* The fully automatic control delivers constant surface speed in dressing and grinding cycles; and loading force function for a higher level of precision, flexibility and functionality.

The SMART iControl, standard with the four largest machines in our FSG-60DC+VH Series,** features conversational programming and human-machine interface (HMI). And combined with TaskLink, it allows operators to create their own programs for multiple grinding tasks in a single cycle—without an engineering degree.

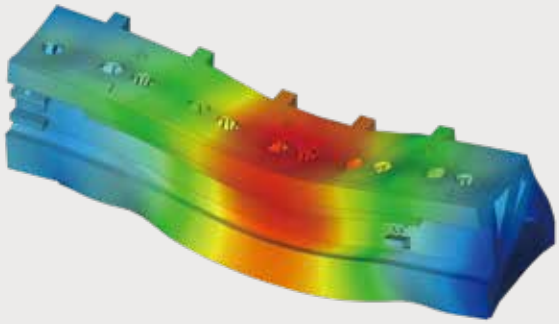
The FSG-4080DC is shown with optional accessories.

*U.S.A. does not offer iSurface control.
** U.S.A. offers SMART iControl as standard on all machines.

FSG-DC Series has easy-to-use interface, user-friendly control, full workpiece capacity and an impressive dual-column design for heavy cutting loads

Key Features and Benefits

Fixed-beam column

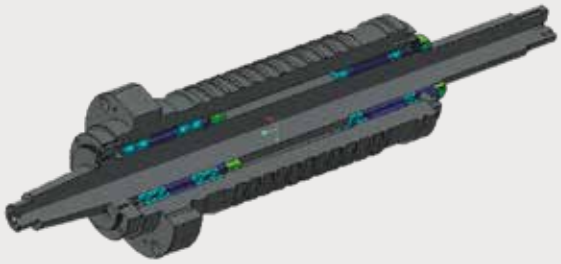


The rectangular design of the beam and wide span column is optimized by finite element analysis (FEM). The wide-span structure, with guideways, is designed for maximum rigidity. The elevating movement of the spindle seat is on the highly rigid linear guideways with the pneumatic counterweight, which reduces friction and increases positioning accuracy and extends the life span of the ballscrews.

The elevating movement is directly driven by the servo motor, precision ballscrews and integrated with the pneumatic counterweight to enhance the agility and accuracy of the movement.

The horizontal movement of the spindle seat utilizes linear guideways, incorporated with C2-grade ballscrews, to ensure the positioning accuracy of the spindle seat movement.

Spindle design



The front end of the spindle is supported by four P4-grade, angular-contact, precision ball bearings. The rear end is supported by two P4-grade, angular-contact precision ball bearings to optimize the span arrangement for maximum rigidity.

The outer diameter of the spindle sleeve is designed with a cooling circulation groove cooperated with oil-cooling device, and stable and rigid spindle seat can achieve heavy-duty cutting loads.

iMachine Communications System™ (iMCS)

iMCS is a comprehensive remote monitoring software that integrates with IoT functions on Chevalier's CNC machines to perform 24/7 data collection, utilization monitoring, data analysis, alarm history, maintenance and overall equipment effectiveness (OEE), all which help to avoid downtime and increase productivity. Additional PC and software are required.

iMCS Data Collection

The iMachine Communications System™ collects and integrates data from different machine controllers* and monitors the tasks and processes remotely. That means you will reduce the time spent in front of machines, reduce production time by monitoring on one device and foresee wear and tear issues with live data.

**Controllers vary depending on regions and may be subject to change without notice or obligation.*

Control Features and Benefits

iSurface grinding modes

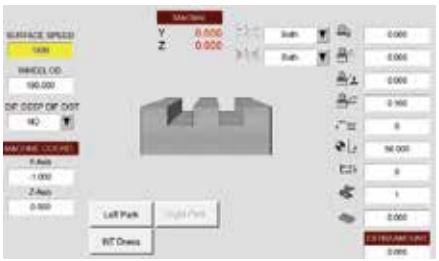
Chevalier's new iSurface, PC-based NC-control, standard with FSG-40, 50 and 60 series, is equipped with a variable-frequency drive system that automatically adjusts the grinding wheel's line speed.

A magnetic encoder accurately detects the spindle cutting load. The high-response AC servo motors on the Y- and Z-axis are designed to improve accuracy.

A built-in acceleration gauge monitors the grinding wheel's balance at all times. If the wheel becomes unbalanced the operator will be notified to rebalance the wheel.

The control's variable-frequency drive system automatically adjusts the grinding wheel's line speed

In-Machine Dynamic Balancing


Plunge Grinding Mode


Automatic Dressing on Table


Surface Grinding Mode


Automatic Overhead Dresser with Compensation (optional)

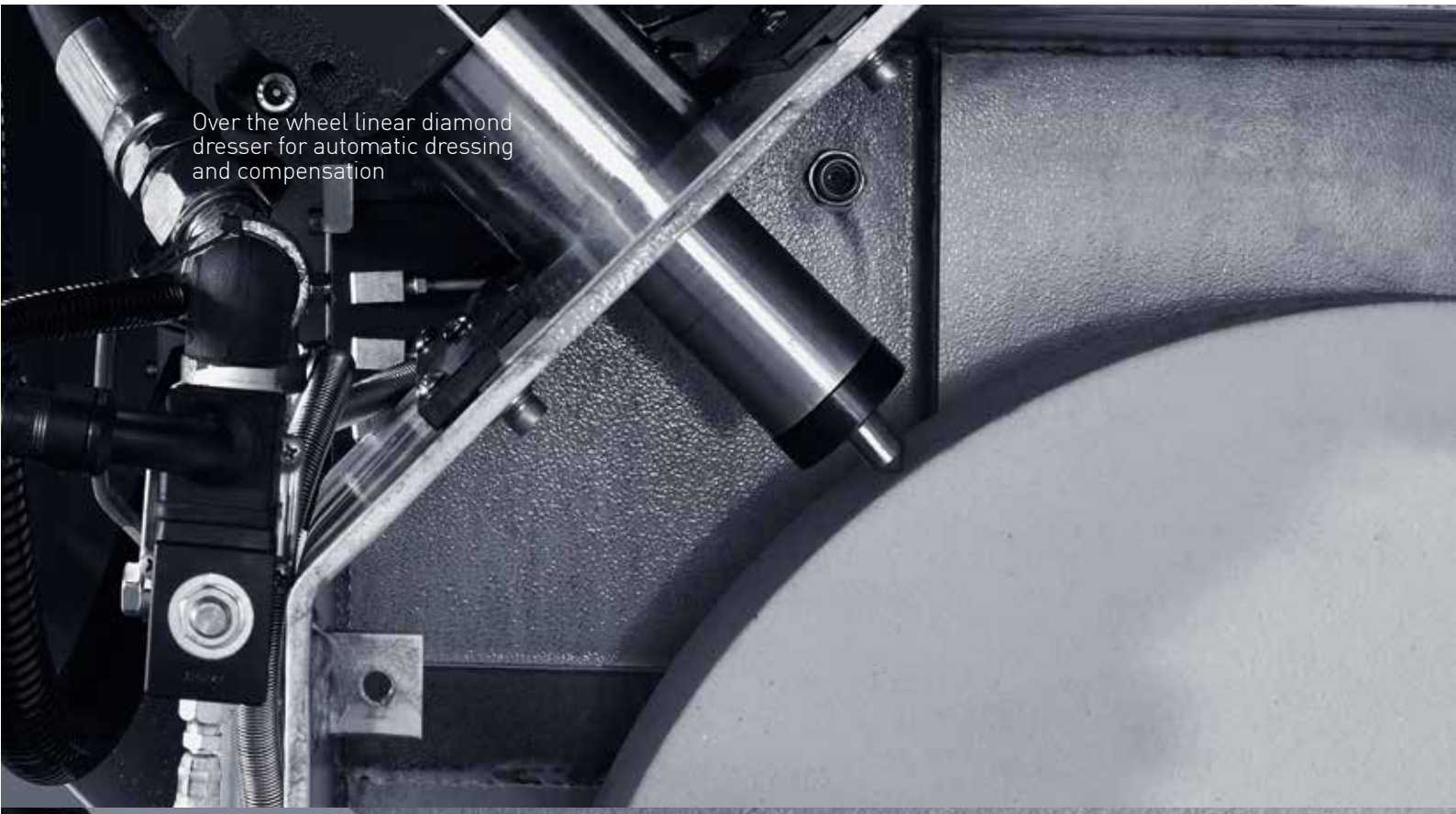

Crisscross Grinding Mode

Wheel Dressing

A normal dressing mode wastes time by cutting in air. The iSurface dressing mode never cuts air because the diamond is in constant contact with the wheel to minimize dress time.

Auto dressing modes

Conversational graphic automatic wheel dressing modes can be linked with any—or all—grinding modes.



Over the wheel linear diamond dresser for automatic dressing and compensation

Table-mounted diamond dresser

Controls

FSG-40 / 50 / 60DC - Horizontal grinding head iSurface* control features

- 10.4" LCD touch-screen monitor
- Compact control panel
- Alarm list and historical record
- Y-, Z-axis, high-precision servo control
- Multi-coordinate system display
- Clear IO status display
- MPG simulation function
- Retract function
- Graphic X-axis stroke-setting function
- Graphic conversation operation
- Surface grinding mode: Crisscross grinding, step grinding
- Slice grinding mode:
  equal distance, equal depth;
  different distance, different depth
- Dressing with auto compensation
- Ethernet (iMCS)
- Multi-languages display
- In-machine dynamic balancing

iSurface standard control for FSG-40 / 50 / 60DC*

FSG-60DC+VH - Horizontal and vertical grinding head SMART iControl** features

- 10.4" LCD monitor
- Standard control panel
- Alarm list and historical record
- Y-, Z-axis, high-precision servo control
- Multi-coordinate system display
- Clear IO status display
- MPG simulation function
- Retract function
- Graphical X-axis stroke-setting function
- Surface grinding mode: Crisscross grinding, step grinding
- Graphic conversation operation
- Slice grinding mode: equal distance, equal depth; equal starting height, different depth; different starting height, equal depth
- Profile grinding mode
- Program edit and execute
- Dressing with auto compensation
- Ethernet (iMCS)
- Multi-languages display

SMART iControl is optional for FSG-40 / 50 / 60DC**

*U.S.A. does not offer iSurface control.
** U.S.A. offers SMART iControl as standard on all machines.

Control Features and Benefits

All new SMART iControl

The SMART iControl's powerful computing force enhances the HMI (Human Machine Interface) for greater precision. Combined with data analysis from network connectivity, the SMART iControl allows managers to improve the production process and increase output. The SMART iControl is standard with the four largest machines in our FSG-60DC+VH Series.*

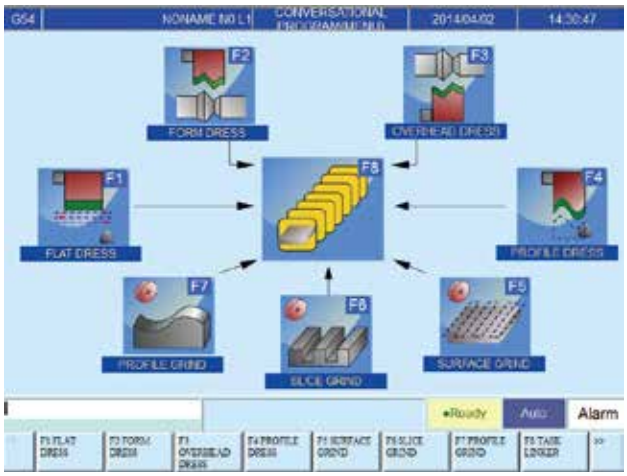
The SMART iControl's conversational programming eliminates complicated programming codes

The SMART iControl supports M3 serial communication servo systems, a communication bandwidth increased to 100Mbps and support for 24-bit resolution, to improve reading speed and processing smoothness.

High computing capabilities of 2,000 single blocks per second produce high-precision smoothness, high-precision contour control, machining path smoothing, multi-group working conditions and quick parameter setting to significantly improve the grinding machine's accuracy and flatness.

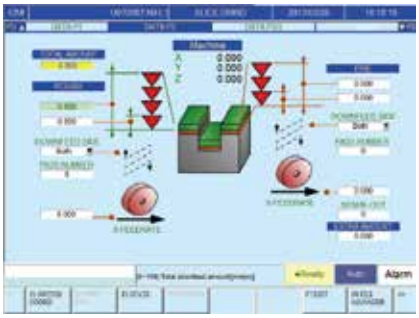
Up to six CNC axes can be controlled for multi-function machining requirements. A single axis group can connect up to four axes or four/five axes for complex forming machining.

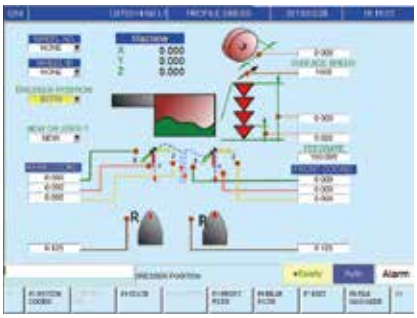
The SRI interface external communication IO module adds extra IO points (optional) and connects other automation equipment to meet future automation needs.



The SMART iControl comes standard with a 10.4" LCD high color monitor with HMI.

The three-dimensional graphic image display minimizes text descriptions and looks very similar to the actual workpieces.

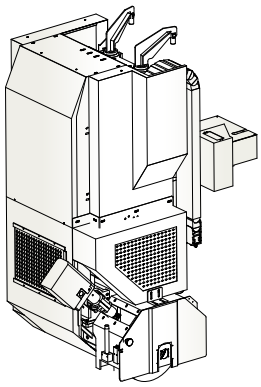




*U.S.A. offers SMART iControl as standard on all machines.

Machine Construction

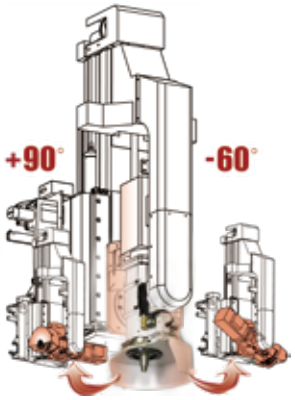
Horizontal grinding head



The elevating movement is driven by precision ballscrews that are integrated with the gear reducer and pneumatic counterweight to enhance agility. The high-resolution, optional linear scales can become a close-loop control for accurate positioning.

The spindle, Ø90 mm (Ø3.5") in diameter, uses six pieces of angular-contact ball bearings (four pieces in front, two pieces in rear). Integrated with 18.5 kW (25 HP) powerful spindle motor, it can implement heavy-duty grinding.

Vertical grinding head (FSG-60DC+VH)



The elevating axis, integrated with the pneumatic counterweight and driven by gears, can achieve accurate positioning.

The rotary axis, driven by the servo motor and integrated with a high-precision clutch gear divided by 5 degrees, can easily rotate from +90° to -60°. With the hydraulic clamping device, it can be accurately adjusted to the required angle.

Spindle slide design

The transmission design of the direct-drive spindle seat, combined with the high-precision, linear guideways, ensures that extensive to-and-from movement is accurate and smooth.

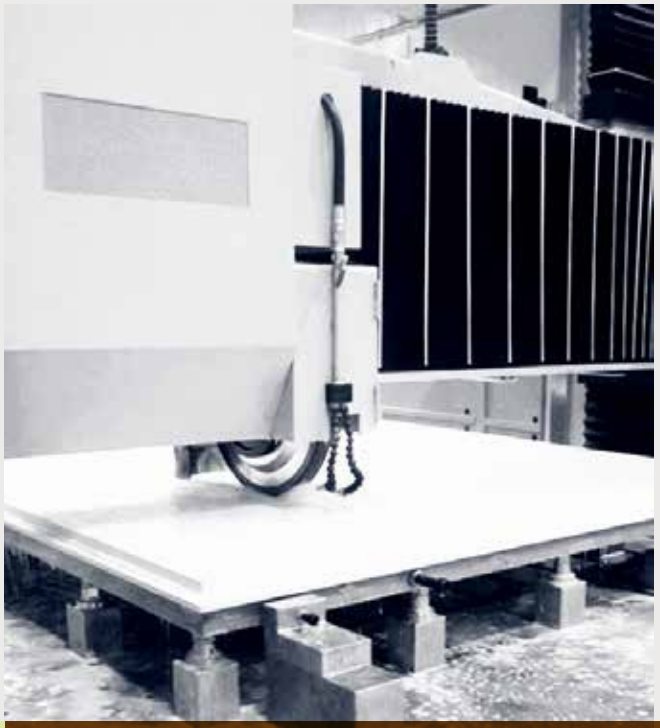
Lubrication system

The lubrication system of the Y- and Z-axis linear guideways and Z-axis ballscrews is pressure-relieved and concentrated. The X-axis linear guideway has continuous circulating lubrication.

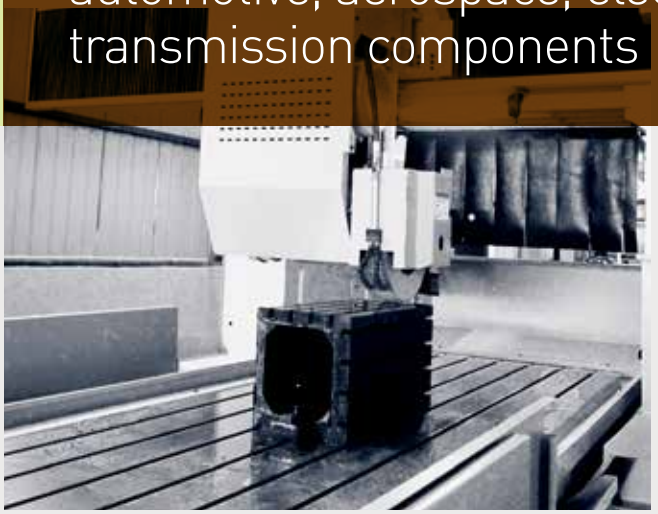
Sliding mechanism of the base and table

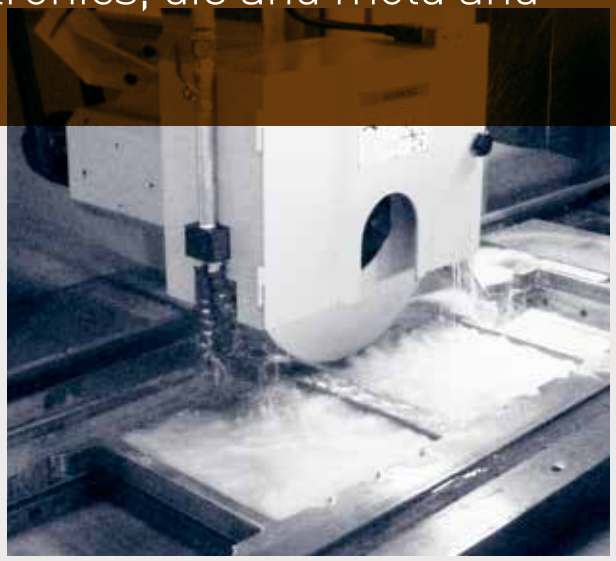
The guideways of the base are designed with big-angle, large-span, double-V-shaped rails, on which Turcite-B is the sliding medium to absorb the vertical load. The table is hydraulically driven to make the cutting movement stable and smooth.

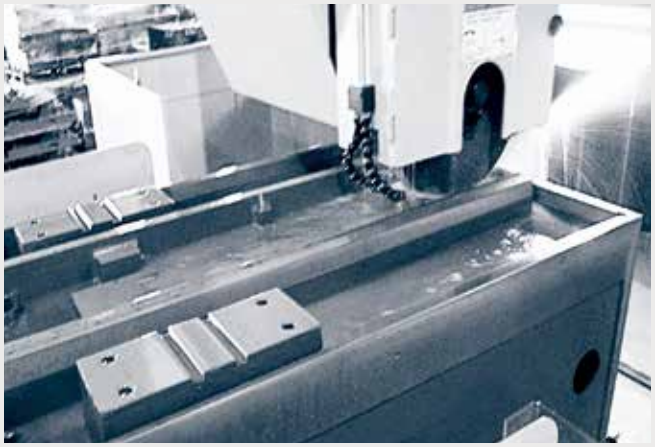
Applications



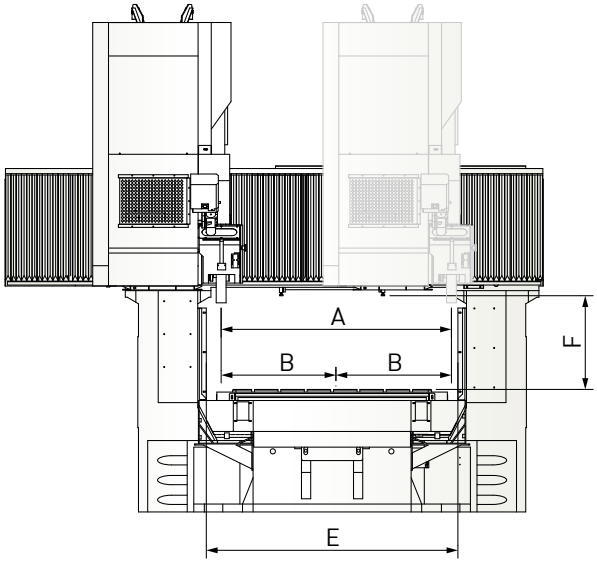
The FSG-DC Series easily adapts to future needs for automotive, aerospace, electronics, die and mold and transmission components

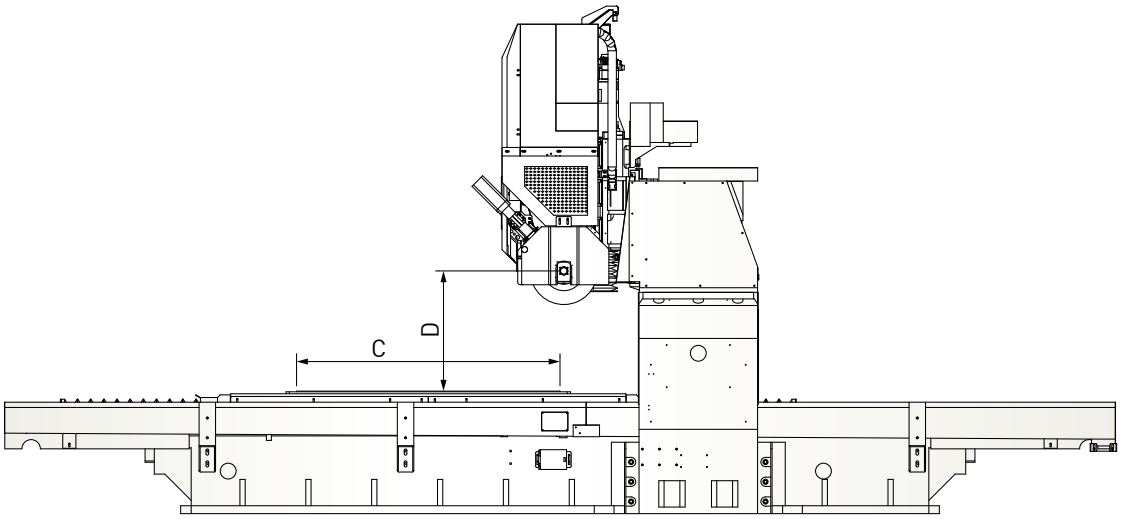






Max. Working Space
FSG-40 / 50 / 60DC - Horizontal grinding head

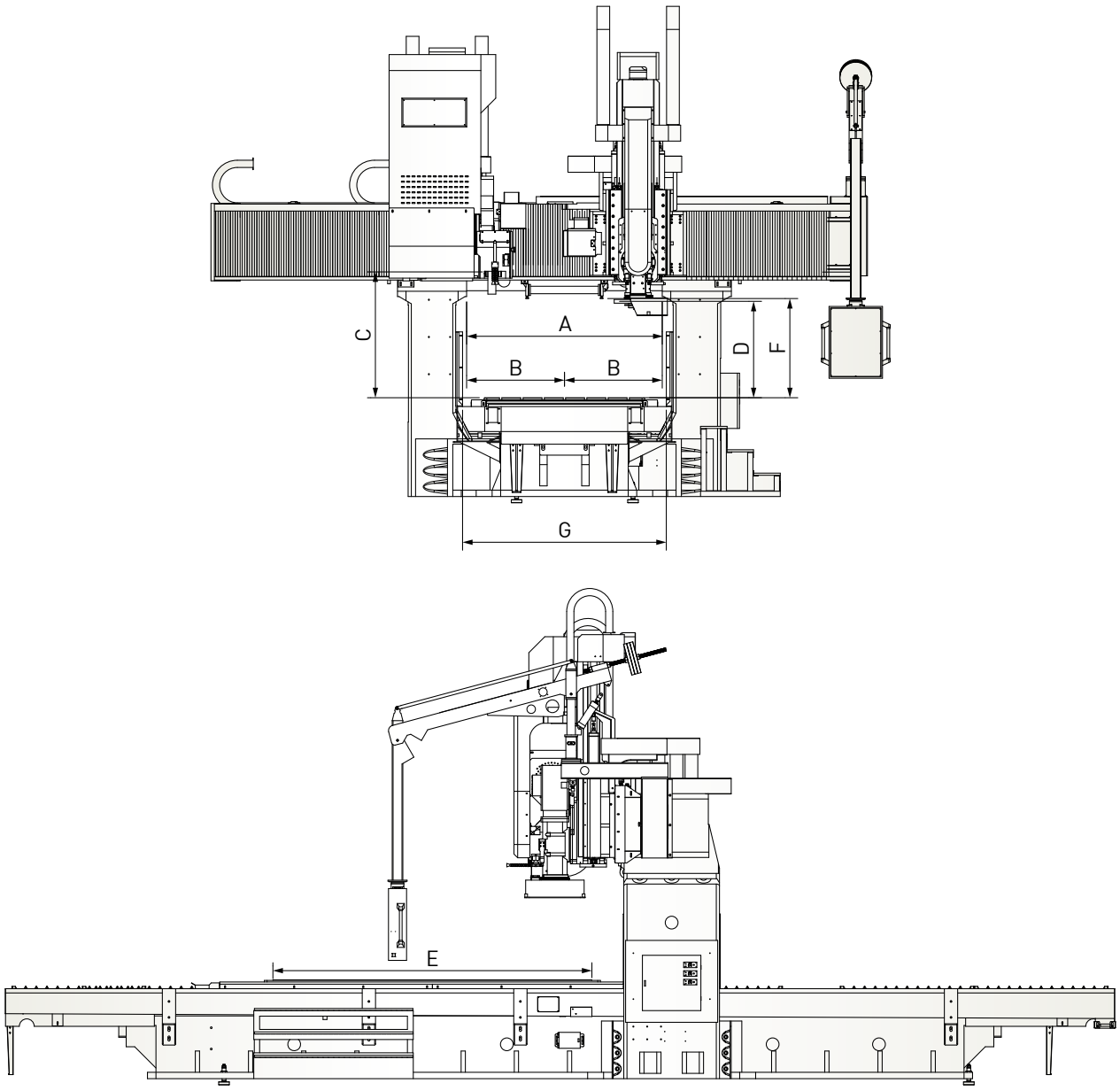




Units: mm (")

Item	A	B	C	D	E	F
FSG-4060DC	1,250 (49.2)	625 (24.6)	1,500 (59.1)	900 (35.4)	1,400 (55.1)	670 (26.4)
FSG-4080DC	1,250 (49.2)	625 (24.6)	2,000 (78.7)	900 (35.4)	1,400 (55.1)	670 (26.4)
FSG-40120DC	1,250 (49.2)	625 (24.6)	3,000 (118.1)	900 (35.4)	1,400 (55.1)	670 (26.4)
FSG-40160DC	1,250 (49.2)	625 (24.6)	4,000 (157.5)	900 (35.4)	1,400 (55.1)	670 (26.4)
FSG-5060DC	1,500 (59.1)	750 (29.5)	1,500 (59.1)	900 (35.4)	1,650 (65.0)	670 (26.4)
FSG-5080DC	1,500 (59.1)	750 (29.5)	2,000 (78.7)	900 (35.4)	1,650 (65.0)	670 (26.4)
FSG-50120DC	1,500 (59.1)	750 (29.5)	3,000 (118.1)	900 (35.4)	1,650 (65.0)	670 (26.4)
FSG-6060DC	1,700 (66.9)	850 (33.5)	1,500 (59.1)	900 (35.4)	1,900 (74.8)	670 (26.4)
FSG-6080DC	1,700 (66.9)	850 (33.5)	2,000 (78.7)	900 (35.4)	1,900 (74.8)	670 (26.4)
FSG-60120DC	1,700 (66.9)	850 (33.5)	3,000 (118.1)	900 (35.4)	1,900 (74.8)	670 (26.4)
FSG-60160DC	1,700 (66.9)	850 (33.5)	4,000 (157.5)	900 (35.4)	1,900 (74.8)	670 (26.4)

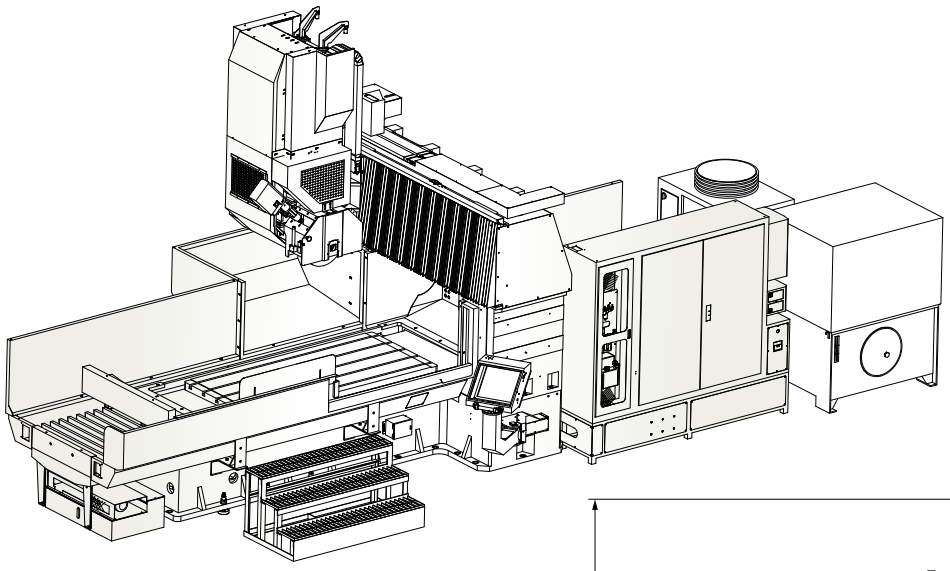
FSG-60DC+VH - Horizontal and vertical grinding head



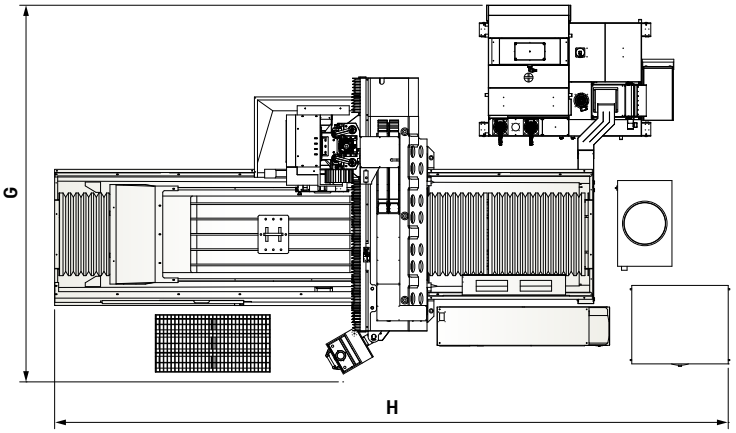
Units: mm (")

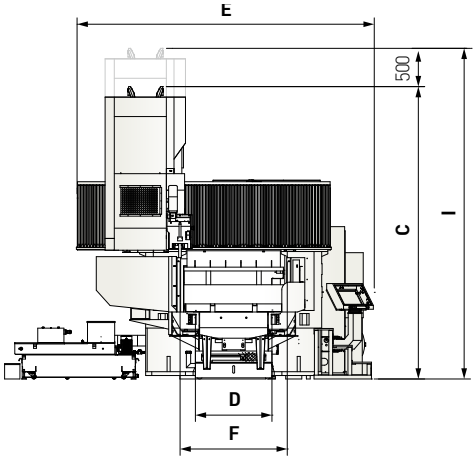
Item	A	B	C	D	E	F	G
FSG-6060DC+VH	1,700 (66.9)	850 (33.5)	900 (35.4)	500 (19.7)	1,500 (59.1)	670 (26.4)	1,900 (74.8)
FSG-6080DC+VH	1,700 (66.9)	850 (33.5)	900 (35.4)	500 (19.7)	2,000 (78.7)	670 (26.4)	1,900 (74.8)
FSG-60120DC+VH	1,700 (66.9)	850 (33.5)	900 (35.4)	500 (19.7)	3,000 (118.1)	670 (26.4)	1,900 (74.8)
FSG-60160DC+VH	1,700 (66.9)	850 (33.5)	900 (35.4)	500 (19.7)	4,000 (157.5)	670 (26.4)	1,900 (74.8)

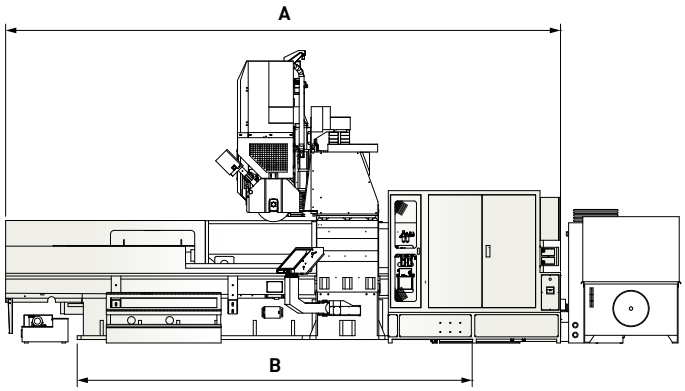
Machine Dimensions
FSG-40 / 50 / 60DC - Horizontal grinding head



Note: Machine shown with optional accessories.



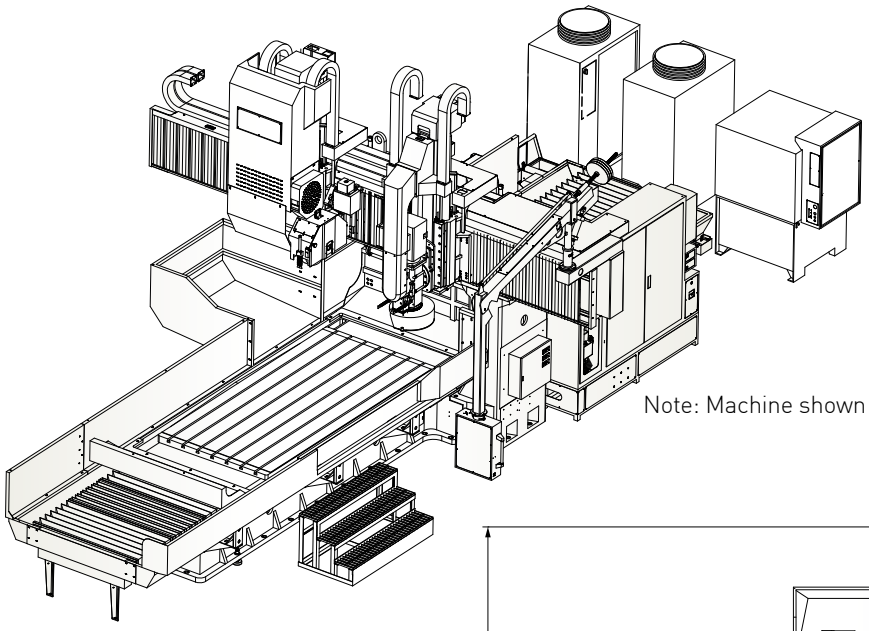




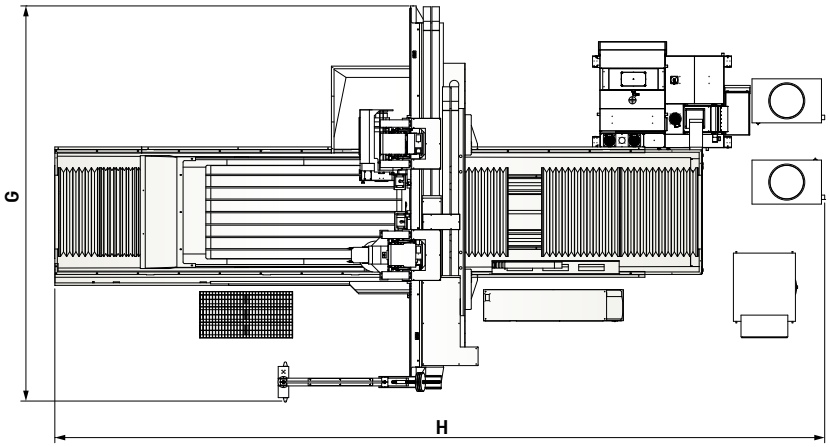
Units: mm (")

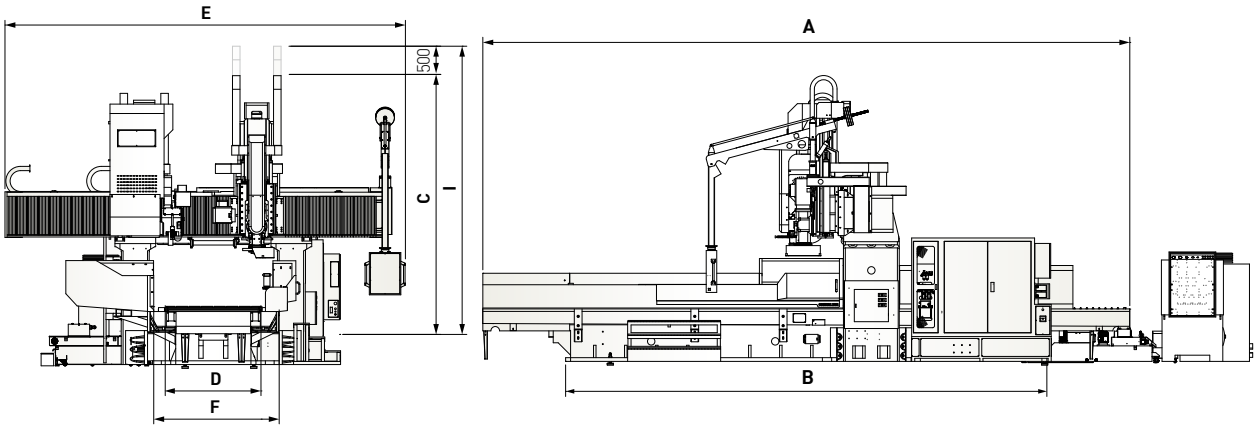
Item	A	B	C	D	E	F	G	H	I
FSG-4060DC	5,430(213.8)	4,160(163.8)	3,850(151.6)	1,000(39.4)	3,140(123.6)	1,400(55.1)	5,100(200.8)	10,500(413.4)	4,350(171.3)
FSG-4080DC	6,430(253.1)	5,160(203.1)	3,850(151.6)	1,000(39.4)	3,140(123.6)	1,400(55.1)	5,100(200.8)	11,500(452.8)	4,350(171.3)
FSG-40120DC	8,430(331.9)	7,160(281.9)	3,850(151.6)	1,000(39.4)	3,140(123.6)	1,400(55.1)	5,100(200.8)	13,500(531.5)	4,350(171.3)
FSG-40160DC	10,430(410.6)	9,160(360.6)	3,850(151.6)	1,000(39.4)	3,140(123.6)	1,400(55.1)	5,100(200.8)	15,500(610.2)	4,350(171.3)
FSG-5060DC	5,430(213.8)	4,160(163.8)	3,960(155.9)	1,250(49.2)	3,410(134.3)	1,650(65.0)	5,600(220.5)	10,500(413.4)	4,460(175.6)
FSG-5080DC	6,430(253.1)	5,160(203.1)	3,960(155.9)	1,250(49.2)	3,410(134.3)	1,650(65.0)	5,600(220.5)	11,500(452.8)	4,460(175.6)
FSG-50120DC	8,430(331.9)	7,160(281.9)	3,960(155.9)	1,250(49.2)	3,410(134.3)	1,650(65.0)	5,600(220.5)	13,500(531.5)	4,460(175.6)
FSG-6060DC	7,440(292.9)	4,760(187.4)	4,210(165.7)	1,500(59.1)	4,175(164.4)	1,900(74.8)	6,100(240.2)	10,500(413.4)	4,710(185.4)
FSG-6080DC	8,440(332.3)	5,760(226.8)	4,210(165.7)	1,500(59.1)	4,175(164.4)	1,900(74.8)	6,100(240.2)	11,500(452.8)	4,710(185.4)
FSG-60120DC	10,440(411.0)	7,760(305.5)	4,210(165.7)	1,500(59.1)	4,175(164.4)	1,900(74.8)	6,100(240.2)	13,500(531.5)	4,710(185.4)
FSG-60160DC	12,440(489.8)	9,760(384.3)	4,210(165.7)	1,500(59.1)	4,175(164.4)	1,900(74.8)	6,100(240.2)	15,500(610.2)	4,710(185.4)

FSG-60DC+VH - Horizontal and vertical grinding head



Note: Machine shown with optional accessories.

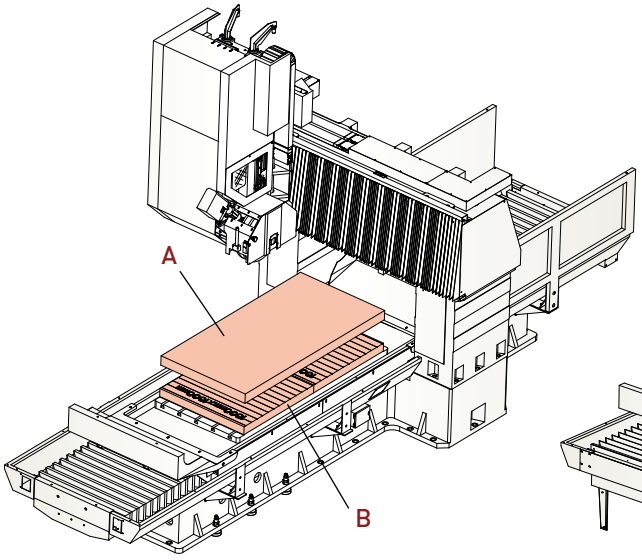




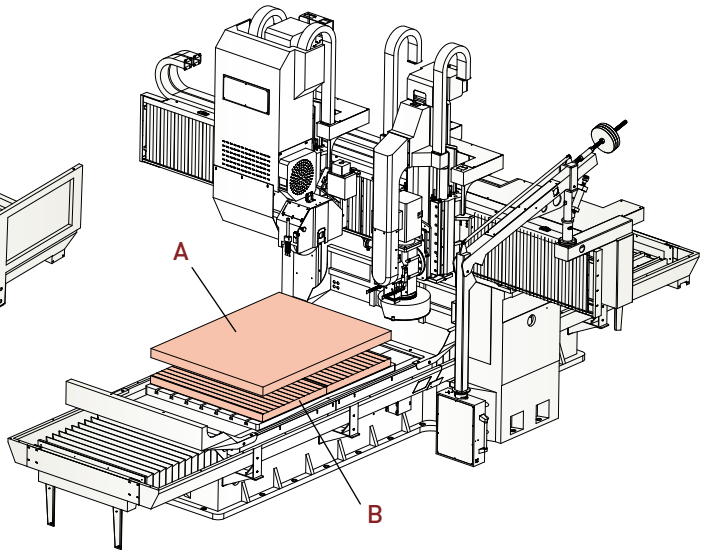
Units: mm (")

Item	A	B	C	D	E	F	G	H	I
FSG-6060DC+VH	7,440 (292.9)	4,760 (187.4)	4,610 (181.5)	1,500 (59.1)	6,390 (251.6)	1,900 (74.8)	6,400 (252.0)	10,500 (413.4)	5,110 (201.2)
FSG-6080DC+VH	8,440 (332.3)	5,760 (226.8)	4,610 (181.5)	1,500 (59.1)	6,390 (251.6)	1,900 (74.8)	6,400 (252.0)	11,500 (452.8)	5,110 (201.2)
FSG-60120DC+VH	10,440 (411.0)	7,760 (305.5)	4,610 (181.5)	1,500 (59.1)	6,390 (251.6)	1,900 (74.8)	6,400 (252.0)	13,500 (531.5)	5,110 (201.2)
FSG-60160DC+VH	12,440 (489.8)	9,760 (384.3)	4,610 (181.5)	1,500 (59.1)	6,390 (251.6)	1,900 (74.8)	6,400 (252.0)	15,500 (610.2)	5,110 (201.2)

Loading Capacity
FSG-40 / 50 / 60DC
Horizontal grinding head



FSG-60DC+VH
Horizontal and vertical grinding head



Units: kg (lbs.)

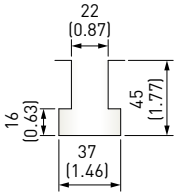
Item	FSG-4060DC	FSG-4080DC	FSG-40120DC	FSG-40160DC	FSG-5060DC	FSG-5080DC	FSG-50120DC
A	2,499 (5,500)	3,165 (6,967)	3,497 (9,697)	3,831 (8,430)	2,749 (6,052)	3,332 (7,300)	3,498 (7,700)
B	1,001 (2,200)	1,335 (2,933)	2,003 (4,403)	2,669 (5,870)	1,251 (2,748)	1,668 (3,700)	2,502 (5,500)
C	3,500 (7,700)	4,500 (9,900)	5,500 (12,100)	6,500 (14,300)	4,000 (8,800)	5,000 (11,000)	6,000 (13,200)

Item	FSG-6060DC FSG-6060DC+VH	FSG-6080DC FSG-6080DC+VH	FSG-60120DC FSG-60120DC+VH	FSG-60160DC FSG-60160DC+VH
A	4,499 (9,900)	4,997 (11,000)	4,997 (11,000)	4,997 (11,000)
B	1,501 (3,300)	2,003 (4,400)	3,003 (6,600)	4,003 (8,800)
C	6,000 (13,200)	7,000 (15,400)	8,000 (17,600)	9,000 (19,800)

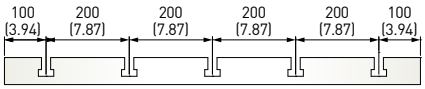
Suggested maximum table loads
A=Workpiece, B=Chuck, C=A+B

Table and T-slot Dimensions

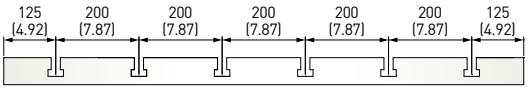
Units: mm (")



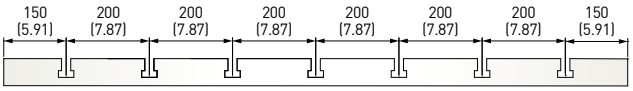
FSG-40DC



FSG-50DC



FSG-60DC / FSG-60DC+VH



A full line of standard and optional accessories adds flexibility to FSG-DC Series grinders

Accessories

Standard accessories

- Oil cooler for hydraulic system
- Air conditioner for electric cabinet
- Grinding wheel (OD x Width x Bore)
  Horizontal:
  Ø510 x 100 x Ø127 mm (Ø20"x 4"x Ø5")
  Vertical (FSG-60DC+VH):
  Ø410 x 50 x Ø127 mm (Ø16"x 2"x Ø5")
- Wheel flanges with scale
  Horizontal:
  Clamping width 61~100 mm (2.4"~3.9")
  Vertical (FSG-60DC+VH):
  Clamping width 10~50 mm (0.4"~2.0")
- Operator platforms
- Tools and tool box
- Diamond dresser
- Leveling bolts, nuts and pads:
  FSG-4060DC 28 sets, FSG-4080DC 32 sets,
  FSG-40120DC 40 sets, FSG-40160DC 48 sets,
  FSG-5060DC 28 sets, FSG-5080DC 30 sets,
  FSG-50120DC 38 sets, FSG-6060DC 34 sets,
  FSG-6080DC 30 sets, FSG-60120DC 38 sets,
  FSG-60160DC 48 sets
- Balancing arbor
- Coolant system with auto feeding device (500L)
- Air gun
- Water gun (shared pump)

Optional accessories

- SMART iControl 10.4" LCD control system
- Chuck control
- Electromagnetic chuck
- Diamond dressing device - table mounted
- Coolant system, with auto paper-feeding device, magnetic separator, coolant cooler (700L)
- Dynamic wheel balancing system - automatic
- Y-, Z-axis linear scale
- V-, W-axis linear scale
  (FSG-60DC+VH vertical head series)
- Wheel balancing stand (20")
- Over the wheel linear diamond dresser for automatic dressing and compensation
- Column-raising 250 mm (9.8")
  distance between table to spindle centerline 1,150 mm (42.3")
- Water gun (individual pump)

Specifications

Item	Description		FSG-4060DC	FSG-4080DC	FSG-40120DC	FSG-40160DC	FSG-5060DC	FSG-5080DC	FSG-50120DC
Control system			iSurface / SMART iControl (optional)*				iSurface / SMART iControl (optional)*		
Capacity	Max. grinding length-longitudinal		1,500 mm (59.1")	2,000 mm (78.7")	3,000 mm (118.1")	4,000 mm (157.5")	1,500 mm (59.1")	2,000 mm (78.7")	3,000 mm (118.1")
	Max. grinding width-crosswise		1,000 mm (39.4")				1,250 mm (49.2")		
	Horizontal head	Distance between table to spindle centerline	900 mm (35.4") / optional 1,150 mm (45.3")				900 mm (35.4") / optional 1,150 mm (45.3")		
	Vertical head		-				-		
	Max. table load		3,500 kg (7,700 lbs.)	4,500 kg (9,900 lbs.)	5,500 kg (12,100 lbs.)	6,500 kg (14,300 lbs.)	4,000 kg (8,800 lbs.)	5,000 kg (11,000 lbs.)	6,000 kg (13,200 lbs.)
Table	Table size		1,000 x 1,500 mm (39.4" x 59.1")	1,000 x 2,000 mm (39.4" x 78.7")	1,000 x 3,000 mm (39.4" x 118.1")	1,000 x 4,000 mm (39.4" x 157.5")	1,250 x 1,500 mm (49.2" x 59.1")	1,250 x 2,000 mm (49.2" x 78.7")	1,250 x 3,000 mm (49.2" x 118.1")
	T-slots (width x pitch x no.)		22 mm x 200 mm x 5 (0.9" x 7.9" x 5)				22 mm x 200 mm x 6 (0.9" x 7.9" x 6)		
	Distance between columns		1,400 mm (55.1")				1,650 mm (65.0")		
	Table speed		5~25 m/min (16.4~82 fpm)				5~25 m/min (16.4~82 fpm)		
	Max. table travel		1,700 mm (66.9")	2,200 mm (86.6")	3,200 mm (126.0")	4,200 mm (165.4")	1,700 mm (66.9")	2,200 mm (86.6")	3,200 mm (126.0")
Transverse movement (Z)	Max. travel		1,250 mm (49.2")				1,500 mm (59.1")		
	Feed speed		0~5,000 mm/min (0~16.4 fpm)				0~5,000 mm/min (0~16.4 fpm)		
	Min. input		0.001 mm (0.0001")				0.001 mm (0.0001")		
Wheelhead elevation (Y)	Horizontal head	Max. travel	680 mm (26.8")				680 mm (26.8")		
		Feed speed	0~1,000 mm/min (0~3.2 fpm)				0~1,000 mm/min (0~3.2 fpm)		
		Min. input	0.001 mm (0.0001")				0.001 mm (0.0001")		
	Vertical head	Max. travel	-				-		
		Feed speed	-				-		
		Min. input	-				-		
Spindle	Horizontal head		500~2,000 rpm				500~2,000 rpm		
	Vertical head		-				-		
Grinding wheel	Horizontal head	Wheel dimension (OD x Width x Bore)	Ø510 x 100 x Ø127 mm (Ø20" x 4" x Ø5") Optional Ø610 x 100 x Ø203 mm (Ø24" x 4" x Ø8")				Ø510 x 100 x Ø127 mm (Ø20" x 4" x Ø5") Optional Ø610 x 100 x Ø203 mm (Ø24" x 4" x Ø8")		
	Vertical head		-				-		
Motors	Horizontal spindle motor		18.5 kW (25 HP)				18.5 kW (25 HP)		
	Vertical spindle motor		-				-		
	Axis motors (Y/Z/W/V)		3 kW / 4.4 kW / - / -				3 kW / 4.4 kW / - / -		
Power and air requirement	Power required		65 kVA				65 kVA		
	Total air consumption	Pressure	6 kg/cm^2 (86 psi)				6 kg/cm^2 (86 psi)		
		Flow	200 NL/min (7 cfm)				200 NL/min (7 cfm)		
Machine dimensions	Floor space (W x D x H)		5,100 x 10,500 x 4,350 mm (200.8" x 413.4" x 171.3")	5,100 x 11,500 x 4,350 mm (200.8" x 452.8" x 171.3")	5,100 x 13,500 x 4,350 mm (200.8" x 531.5" x 171.3")	5,100 x 15,500 x 4,350 mm (200.8" x 610.2" x 171.3")	5,600 x 10,500 x 4,460 mm (220.5" x 413.4" x 175.6")	5,600 x 11,500 x 4,460 mm (220.5" x 452.8" x 175.6")	5,600 x 13,500 x 4,460 mm (220.5" x 531.5" x 175.6")
	Net weight		17,800 kg (39,000 lbs.)	20,600 kg (45,000 lbs.)	23,800 kg (52,000 lbs.)	28,500 kg (62,000 lbs.)	20,000 kg (44,000 lbs.)	23,000 kg (50,600 lbs.)	26,500 kg (58,300 lbs.)

All content is for reference only and may be subject to change without prior notice or obligation.
*U.S.A. offers SMART iControl as standard on all machines.

FSG-6060DC	FSG-6080DC	FSG-60120DC	FSG-60160DC	FSG-6060DC+VH	FSG-6080DC+VH	FSG-60120DC+VH	FSG-60160DC+VH
	iSurface / SMART iControl (optional)*				SMART iControl		
1,500 mm (59.1")	2,000 mm (78.7")	3,000 mm (118.1")	4,000 mm (157.5")	1,500 mm (59.1")	2,000 mm (78.7")	3,000 mm (118.1")	4,000 mm (157.5")
	1,500mm (59.1")				1,500 mm (59.1")		
	900 mm (35.4") / optional 1,150 mm (45.3")				900 mm (35.4") / optional 1,150 mm (45.3")		
	-				500 mm (19.7") / optional 800 mm (31.5")		
6,000 kg (13,200 lbs.)	7,000 kg (15,400 lbs.)	8,000 kg (17,600 lbs.)	9,000 kg (19,800 lbs.)	6,000 kg (13,200 lbs.)	7,000 kg (15,400 lbs.)	8,000 kg (17,600 lbs.)	9,000 kg (19,800 lbs.)
1,500 x 1,500 mm (59.1" x 59.1")	1,500 x 2,000 mm (59.1" x 78.7")	1,500 x 3,000 mm (59.1" x 118.1")	1,500 x 4,000 mm (59.1" x 157.5")	1,500 x 1,500 mm (59.1" x 59.1")	1,500 x 2,000 mm (59.1" x 78.7")	1,500 x 3,000 mm (59.1" x 118.1")	1,500 x 4,000 mm (59.1" x 157.5")
	22 mm x 200 mm x 7 (0.9" x 7.9" x 7)				22 mm x 200 mm x 7 (0.9" x 7.9" x 7)		
	1,900 mm (74.8")				1,900 mm (74.8")		
	5~25 m/min (16~82 fpm)				5~25 m/min (16~82 fpm)		
1,700 mm (66.9")	2,200 mm (86.6")	3,200 mm (126.0")	4,200 mm (165.4")	1,700 mm (66.9")	2,200 mm (86.6")	3,200 mm (126.0")	4,200 mm (165.4")
	1,700 mm (66.9")				1,700 mm (66.9")		
	0~5,000 mm/min (0~16.4 fpm)				0~5,000 mm/min (0~16.4 fpm)		
	0.001 mm (0.0001")				0.001 mm (0.0001")		
	680 mm / optional 900 mm (26.8" / optional 35.4")				680 mm / optional 900 mm (26.8" / optional 35.4")		
	0~1,000 mm/min (0~3.2 fpm)				0~1,000 mm/min (0~3.2 fpm)		
	0.001 mm (0.0001")				0.001 mm (0.0001")		
	-				680 mm / optional 900 mm (26.8" / optional 35.4")		
	-				0~1,000 mm/min (0~3.2 fpm)		
	-				0.001 mm (0.0001")		
	500~2,000 rpm				500~2,000 rpm		
	-				500~2,000 rpm		
	Ø510 x 100 x Ø127 mm (Ø20" x 4" x Ø5") Optional Ø610 x 100 x Ø203 mm (Ø24" x 4" x Ø8")				Ø510 x 100 x Ø127 mm (Ø20" x 4" x Ø5") Optional Ø610 x 100 x Ø203 mm (Ø24" x 4" x Ø8")		
	-				Ø 410 x 50 x Ø127 mm (Ø16"x 2" x Ø5")		
	18.5 kW (25 HP)				18.5 kW (25 HP)		
	-				15 kW (20 HP)		
	3 kW / 4.4 kW / - / -				3 kW / 4.4 kW /3 kW / 4.4 kW		
	78 kVA				106 kVA		
	6 kg/cm^2 (86 psi)				6 kg/cm^2 (86 psi)		
	200 NL/min (7 cfm)				200 NL/min (7 cfm)		
6,100 x 10,500 x 4,710 mm (240.2" x 413.4" x 185.4")	6,100 x 11,500 x 4,710 mm (240.2" x 452.8" x 185.4")	6,100 x 13,500 x 4,710 mm (240.2" x 531.5" x 185.4")	6,100 x 15,500 x 4,710 mm (240.2" x 610.2" x 185.4")	6,400 x 10,500 x 5,110 mm (252.0" x 413.4" x 201.2")	6,400 x 11,500 x 5,110 mm (252.0" x 452.8" x 201.2")	6,400 x 13,500 x 5,110 mm (252.0" x 531.5" x 201.2")	6,400 x 15,500 x 5,110 mm (252.0" x 610.2" x 201.2")
26,500 kg (58,300 lbs.)	30,000 kg (66,000 lbs.)	34,800 kg (76,500 lbs.)	39,500 kg (86,900 lbs.)	33,200 kg (73,100 lbs.)	35,800 kg (78,900 lbs.)	48,000 kg (105,800 lbs.)	60,200 kg (132,700 lbs.)

Grinding Machines

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