

Part Processing Assistance

New or existing parts will benefit from process review and optimization by Fives runoff technicians.

- Quickly get new parts into production
- Optimize part programs
- Set up process monitoring options such as adaptive control
- Part fixturing assistance

Machinist / Capacity Support

Utilize skilled machinists or programmers to launch your new machine into production. Whether it's one week or six months, Fives can support you with skilled machinists or programmers during your peak production times.

Advanced Operator Training

Fives applications specialists can help you improve efficiency by using control features and options more effectively.

- Develop macros to handle repeat operations
- Implement tool management

Learn Probing Techniques

Underutilized by many manufacturers, tool and part probes are options that can significantly reduce cycle times.

Benefits:

- Automatically calculate fixture alignments, workpiece positions and rotary axis setup
- Reduce manual errors
- Improve part quality by performing in-process measurements
- Speed production and prevent compound problems by using tool probe capabilities to measure worn tools and detect broken tools



- Hydrostatic ram adds rigidity for heavy or extended ram machining

- Precision dual-scale infinitely-adjustable cross rail handles a wide range of parts

- Cost-effective tooling system uses standard modular tools

- Compact design minimizes floorspace requirements

Giddings & Lewis Vertical Turning Centers V Series



Available with tables from 800 to 2500 mm

Ultimate Turning Value

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- Precision dual-scale infinitely-adjustable cross rail handles a wide range of parts

- Cost-effective tooling system uses standard modular tools
- Compact design minimizes floorspace requirements

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Giddings & Lewis V Series Vertical Turning Centers

Industry-Leading Functionality and Reliability

Productive Addition to Any Shop Floor
Giddings & Lewis V Series lathes offer robust construction capable of high metal removal rates and ultimate precision. Designed with industry-leading functionality and reliability, no other vertical turning center includes the infinitely-adjustable cross rail and hydrostatic ram as STANDARD. V Series verticals are a productive addition to any shop floor.

Infinitely-adjustable cross rail handles a wide range of parts

Rigid cast iron base construction supports heavy loads and high cutting forces

Hydrostatic ram for heavy cuts and reduced maintenance

Table base designed for efficient chip removal

Stiff tool interface optimizes cutting and reduces tooling costs

Live spindle options, including a right angle attachment, provide machining versatility

Compact foot print minimizes valuable production space

Floor-level installation eliminates need for special foundation



Capacity and Versatility to Machine a Wide Range of Parts

Jet Engine Housings and Parts



Jet Engine Housing



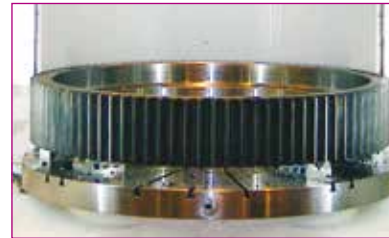
Jet Engine Ring



Gears and Bearings



Gear



Brass Bearing



Pumps and Valves



Oilfield Valve



Steel Pipe Mill Roll



Wheels



Railway Wheel



Compressors



Planetaries and Carriers



Tumbler

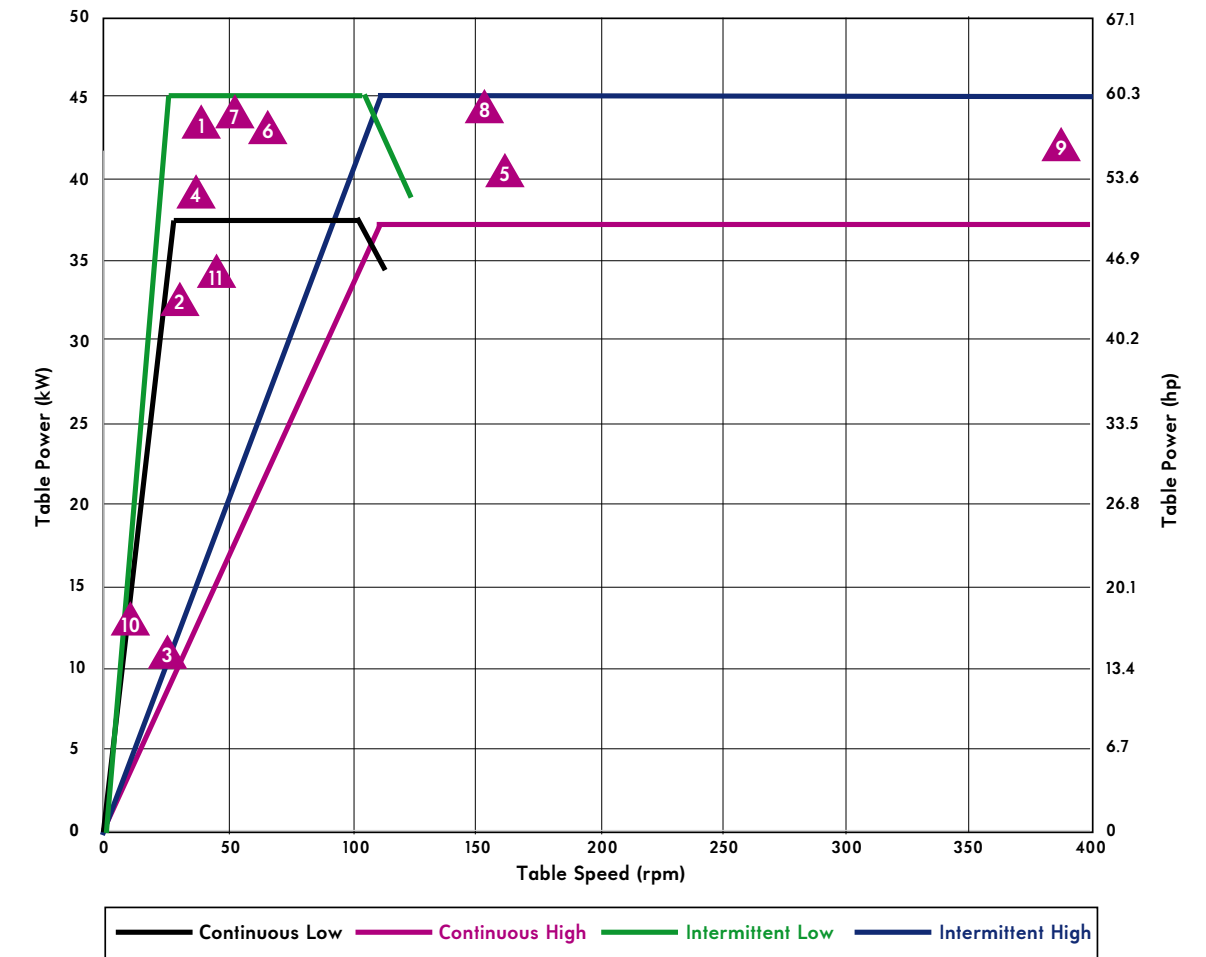


Pinions



Power and Speed Easily Handles Any Material

Power vs Speed V 1250



Giddings & Lewis V 1250 Power vs Speed
For cuts at the outer diameter of the table

No	Material	Hardness	Depth of Cut	Inch per Rev	Surface Feet/Min	Insert Grade	Material HP Constant	Cut Power
1	Steel 4101	220 BHN	0.300	0.030	600	KC90255	0.9	43.5
2	Steel 4140	38-42 Rc	0.300	0.025	400	KC9025	1.2	32.2
3	Steel 4140	60Rc	0.125	0.025	500	KC240	2.4	11.3
4	Stainless Steel	200 BHN	0.250	0.025	500	KC9215	1.4	39.2
5	Cast Iron (G3000)	200 BHN	0.175	0.020	2000	Kyon 3500	0.65	40.7
6	Cast Iron (G3000)	230 BHN	0.275	0.030	900	KC9315	0.65	43.2
7	Ductile Iron 65-45-12	230 BHN	0.260	0.028	750	KC9315	0.9	44.0
8	Non-Ferrous 6061 T6		0.280	0.030	1950	KC5410	0.3	44.0
9	Non-Ferrous 6061 T6		0.125	0.025	5000	KD100	0.3	42.0
10	Inconel 718	220 BHN	0.300	0.015	150	KC 5010	2.2	13.3
11	Inconel 718	220 BHN	0.375	0.010	600	Kyon 2100	1.7	34.2

Unmatched Standard Features Provide Superior Value



Cross Slide Elevation and Clamping

The infinitely-adjustable cross slide with dual linear scale feedback on the column provides a precision positioning axis.

- Infinite number of cross slide positions accommodates parts of varying heights while minimizing ram extension
- Dual-scale feedback on the column delivers precision by ensuring parallelism between the cross slide and table
- Hydraulic cylinder rail elevation with secure mechanical clamping of 1,000 kN (225,000 lb) of force per side
- Linear scale feedback provides immediate machine referencing and eliminates need for limit switches
- Linear roller ways, with slip-stick free motion, produce truer rail positioning

Programmable, infinitely-adjustable cross slide enables precision machining



Rigid Hydrostatic Ram

Heavy cuts and better surface finishes with greater accuracy are possible due to the high dynamic stiffness of the hydrostatic ram.

- Headstock is a rigid and symmetrical one-piece casting which is thermally stable
- A 230 mm (9.1 in) square ram capable of up to 75 kW (100 hp) cuts and able to reach into 300 mm (11.8 in) minimum bore diameters
- Wear-free system uses preloaded hydrostatic pads. The hydrostatic design eliminates the need for gibs while maintaining alignments and accuracies
- Rapid traverse of 10 m/min (394 ipm)

Rigid Machining Platform



Rigid High-Speed Way System

Heavy-duty, size 65, linear roller bearing carriages ride on hardened and ground guideways. This rigid low-friction system supports high loads and fast 10 to 12 m/min (394 to 472 ipm) traverse speeds. Advantages of a roller bearing system:

- Lower friction results in higher positioning accuracy, better circular/contouring accuracy and low thermal growth for consistent accuracy
- Low maintenance and ease of repair. Roller guides require less oil, reducing coolant contamination. Robust design and ease of replacement of the roller guides reduces the machine's overall life-cycle cost

High-performance way system and high-capacity, high-speed table serve to maximize productivity

Table, Drive and Table Bearing Assembly

- Rigid cast iron base construction supports heavy loads and high cutting forces
- Large swings of 1 to 2.9 m (41.3 to 114.2 in) accommodate a wide range of parts and part families
- Base casting designed to aid in chip removal and coolant containment
- Cross roller bearing assembly provides superior load carrying capacity of 5,000 to 17,500 kg (11,000 to 38,580 lbs)
- Helical gears reduce operation noise
- High-power, high-torque two-speed transmission for heavy metal removal



Tooling Systems and Magazines

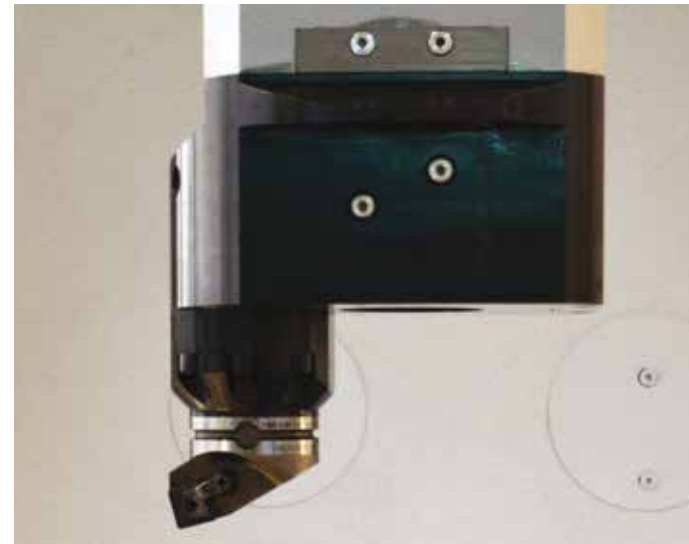
Cost-Effective Modular Tooling System

The Giddings & Lewis VLock system interfaces to standard modular tools. Significant cost savings are realized with standard industry tooling compared to proprietary tooling used by most vertical turning centers. The live spindle utilizes ANSI B5.50 tools.

- Large gauge diameter provides optimal taper contact and permits use of long tools - up to 500 mm (19.7 in)
- Coolant through-the-tool is standard
- Standard modular tools includes Coromant Capto® C8 and Kennametal KM80



Sandvik Coromant Capto C8 Tooling Kennametal KM 80 Tooling

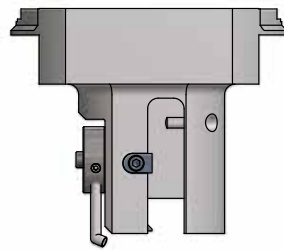


Convenient Tool Storage

A 12-position tool storage disk that holds modular tools, adapters and covers is standard. An 18 tool or 22 turning only tools disk is optional.



VLock Cartridge Bar



VLock Open Side Holder



Tooling Dimensions		VLock	KM80 / Capto C8
Maximum tool diameter	mm	230	180
	in	9.06	7.1
Maximum left and right of center	mm	175	
	in	6.89	
Maximum tool length	mm	500	500
	in	19.69	19.69
Maximum tool weight	kg	60	18
	lb	132	40
Clamping force	N	120,000	48,000 / 64,000
	lb	26,977	10,800 / 14,390

Options Add Machining Flexibility



Live Spindle

Live spindles increase machining versatility. Mill, drill and tap vertically or horizontally with the live spindle or right angle live spindle attachments.

- Works with modular tooling systems
- Field-replaceable cartridge design has isolated bearings for better reliability and reduced maintenance
- Spindle bearings located at the extreme end of the housing to provide maximum cutting stiffness
- Productivity-enhancing processes such as plunge milling, high-speed milling and helical interpolation are possible with a live spindle

Full Contouring with C-Axis

Drill and mill turn a variety of features anywhere on a workpiece with the 360,000 position full contouring/positioning table.

Speed, 3000 rpm
Power, 15.5 / 18.5 kW (20 / 25 hp)
Torque, 178 Nm (131 ft lb)



Four-Jaw Manual Chuck

Table / Chuck Choices

A T-slot table with 4 jaws is standard on the V Series. Table options include manual 3 or 4-jaw chucks

High-Performance Control



Fanuc 0i-TF Control

- High performance servo technology
- Achieves high accuracy and smoothness with easily adjusting steps
- Loader control commanded by G code meets the request of automation
- Abundant CNC functions and operability

DCS - Diagnostic Communication System

Benefit from quicker response and reduced machine maintenance costs by using remote diagnostics, standard on all new Giddings & Lewis machine tools. This feature allows the Global Services group of Fives the ability to see the machine tool control in order to diagnose issues. Connection to the V Series control is via a laptop. The enabling software, TeamViewer®, establishes an encrypted, password-protected connection to the CNC over a VPN (virtual private network).



Options Increase Machining Productivity

Tool Probe

Tool probes increase machine utilization and provide precision from the first cut. The tool probe corrects and modifies tool lengths. Tools can be qualified to 0.050 mm (0.002 in).

Part Probe

The part probe updates offsets and measures surfaces, diameters, lengths and angles to insure part quality. Probing on both sides of center provides up to four times the probe accuracy compared to probing the radius. The probe is stored in the tool changer.



Enclosure Options

Enclosure options are available from the standard to the fully enclosed.

Coolant Systems

- Through-the-tool coolant and 8 bar (116 psi) flood coolant standard
- 70 bar (1015 psi) high-pressure coolant optional
- Additional options include coolant filters, skimmers and wash wand



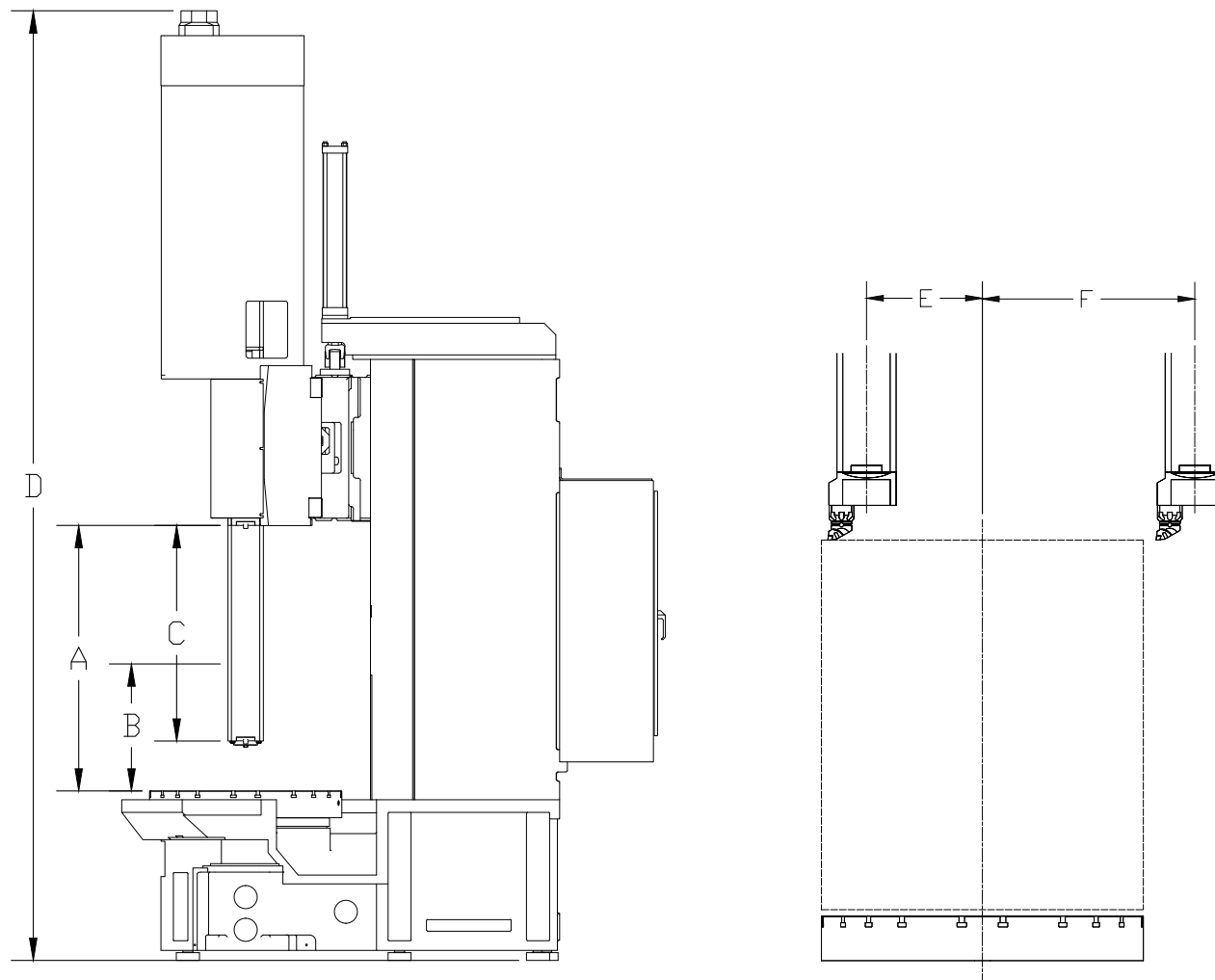
Technical Data

		V 800	V 1000	V 1250	V 1600	V 2000	V 2500
Capacities							
Table diameter	mm	800	1000	1250	1600	2000	2500
	inch	31.5	39.4	49.2	63	78.7	98.4
Maximum swing and facing capacity	mm	1050	1250	1650	2000	2400	2900
	inch	41.3	49.2	65.0	78.7	94.5	114.2
Max/min under ram, standard	mm	1070 fixed	1070 fixed	1200 / 800	1200 / 800	1600 / 800	1600 / 800
	inch	42.1 fixed	42.1 fixed	47.2 / 31.5	47.2 / 31.5	63 / 31.5	63 / 31.5
Max/min under ram, optional	mm			1700 / 800	1700 / 800	2100 / 800	2100 / 800
	inch			66.9 / 31.5	66.9 / 31.5	82.7 / 31.5	82.7 / 31.5
Ram Head							
Ram cross section	mm	230 x 230	230 x 230	230 x 230	230 x 230	230 x 230	230 x 230
	inch	9.1 x 9.1	9.1 x 9.1	9.1 x 9.1	9.1 x 9.1	9.1 x 9.1	9.1 x 9.1
Z-Axis vertical travel (optional)	mm	900	900	900 (1400)	900 (1400)	900 (1400)	900 (1400)
	inch	35.4	35.4	35.4 (55.1)	35.4 (55.1)	35.4 (55.1)	35.4 (55.1)
X-Axis horizontal travel, left / right of center	mm	-225 / +600	-325 / +700	-450 / +825	-625 / +1000	-825 / +1200	-1075 / +1450
	inch	-8.6 / +23.6	-12.8 / +27.6	-17.7 / +32.5	-24.6 / +39.4	-32.5 / +47.2	-42.3 / +57.1
Cross rail travel (optional)	mm			400 (900)	400 (900)	800 (1300)	800 (1300)
	in			18.0 (35.4)	18.0 (35.4)	31.5 (51.2)	31.5 (51.2)
Feeds/Traverse							
Rapid traverse X / Z	m/min	12 / 10	12 / 10	12 / 10	12 / 10	12 / 10	12 / 10
	ipm	472 / 394	472 / 394	472 / 394	472 / 394	472 / 394	472 / 394
Downward feed thrust X and Z	N	22,000	22,000	22,000	22,000	22,000	22,000
	lb	4,946	4,946	4,946	4,946	4,946	4,946
Table							
Table speed	rpm	600	600	400	313	250	200
AC drive motor - int. / cont., standard	kW	37 / 30	37 / 30	45 / 37	45 / 37	45 / 37	45 / 37
	hp	50 / 40	50 / 40	60 / 50	60 / 50	60 / 50	60 / 50
AC drive motor - int. / cont., optional	kW	45 / 37	45 / 37			75 / 60	75 / 60
	hp	60 / 50	60 / 50			100 / 80	100 / 80
Maximum table torque - int. / cont., std	Nm	7839 / 6356	7839 / 6356	14300 / 11758	18304 / 15050	22880 / 18812	28600 / 23515
	ft lb	5782 / 4688	5782 / 4688	10548 / 8673	13501 / 11101	16876 / 13876	21095 / 17345
Maximum table torque - int. / cont., opt	Nm	9533 / 7839	9533 / 7839				
	ft lb	7032 / 5782	7032 / 5782				
Estimated Table Load Capacity*	kg	5,000	5,000	7,000	10,000	15,000	17,500
	lb	11,025	11,025	15,430	22,050	33,070	38,580
Accuracies (ISO 230-2-97)							
Bidirectional accuracy A, std (opt linear scales)	mm	0.040 (0.015)	0.040 (0.015)	0.040 (0.015)	0.040 (0.015)	0.040 (0.015)	0.040 (0.015)
	inch	0.0016 (0.0006)	0.0016 (0.0006)	0.0016 (0.0006)	0.0016 (0.0006)	0.0016 (0.0006)	0.0016 (0.0006)
Bidirectional repeatability R, std (opt linear scales)	mm	0.025 (0.010)	0.025 (0.010)	0.025 (0.010)	0.025 (0.010)	0.025 (0.010)	0.025 (0.010)
	inch	0.001 (0.0004)	0.001 (0.0004)	0.001 (0.0004)	0.001 (0.0004)	0.001 (0.0004)	0.001 (0.0004)
Reversal, std (opt linear scales)	mm	0.020 (0.005)	0.020 (0.005)	0.020 (0.005)	0.020 (0.005)	0.020 (0.005)	0.020 (0.005)
	inch	0.0008 (0.0002)	0.0008 (0.0002)	0.0008 (0.0002)	0.0008 (0.0002)	0.0008 (0.0002)	0.0008 (0.0002)
Tool Magazine							
Number of positions - standard (optional)		12 (18)	12 (18)	12 (18)	12 (18)	12 (18)	12 (18)
Max diameter	mm	350	350	350	350	350	350
	in	13.8	13.8	13.8	13.8	13.8	13.8
Max length	mm	500	500	500	500	500	500
	in	19.7	19.7	19.7	19.7	19.7	19.7
Taper		Capto or KM Turning, ANSI B5.50 Milling 480 V, 3 ph, 60 hz (50 hz)					
Power Requirements							
Machine Dimensions							
Length x width x height	m	5.3 x 3.1 x 4.9	5.5 x 3.2 x 4.9	5.7 x 3.8 x 5.0	6.1 x 4.2 x 5.0	6.5 x 4.6 x 5.5	7.0 x 5.1 x 5.5
	ft	17.4 x 10.2 x 16.1	18 x 10.5 x 16.1	18.7 x 12.5 x 16.4	20 x 13.8 x 16.4	21.3 x 15.1 x 18.0	23 x 16.7 x 18
Weight	kg	15,900	17,250	25,850	29,500	36,300	43,550
	lb	35,000	38,000	57,000	65,000	80,000	96,000

* Table load capacity varies depending on workholding and workpiece balance conditions.

Technical data subject to change without notice

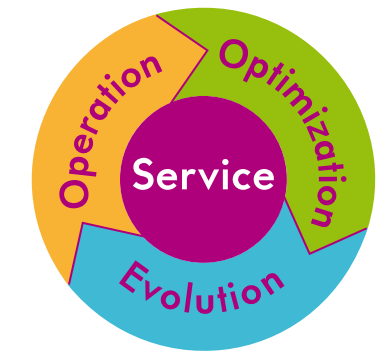
Dimensions and Travels



		V 800	V 1000	V 1250	V 1600	V 2000	V 2500
A Height under rail max.	mm	1070	1070	1200 (1700)	1200 (1700)	1600 (2100)	1600 (2100)
	in	42.1	42.1	47.2 (66.9)	47.2 (66.9)	63 (82.7)	63 (82.7)
B Height under rail min.	mm			800	800	800	800
	in			31.5	31.5	31.5	31.5
C Ram travel	mm	900	900	900 (1400)	900 (1400)	900 (1400)	900 (1400)
	in	35.4	35.4	35.4 (55.1)	35.4 (55.1)	35.4 (55.1)	35.4 (55.1)
D Overall height	m	4.9	4.9	5.0	5.0	5.5	5.5
	ft	16.1	16.1	16.4	16.4	18.0	18.0
E Ram travel left of center	mm	-225	-325	-450	-625	-825	-1075
	in	-8.6	-12.8	-17.7	-24.6	-32.5	-42.3
F Ram travel right of center	mm	+600	+700	+825	+1000	+1200	+1450
	in	+23.6	+27.6	+32.5	+39.4	+47.2	+57.1

Note: If the live spindle includes a two-speed gearbox the machine height increases by 164 mm (6.5 in)

Global Services Complete Life-Cycle Support



Global Parts Support

As the OEM, Fives Global Services not only has the parts but the drawings and documents as well for all our equipment including Giddings & Lewis. Parts are made to the same exacting specifications as the original machines.

Global Services has a world-class call center with 24/7 operation and highly qualified parts specialists.

Contact us at 1-800-934-0735 or use our Parts Online application at www.fivesgroup.com

Preventive Maintenance

Reduce the cost of machine ownership with preventative maintenance and reliability assurance programs. Critical, consumable parts are replaced and maintenance data supplied. Our factory-trained technicians provide professional, turnkey service.

Health Checks

Concerned about the status of a machine you own or are considering buying? Get a machine health check.

Machine Certification

Requalify your machine tools to original factory specifications with a turnkey certification.

Complete Care

Turn your machine maintenance concerns over to Global Services. Develop an individualized complete care package based on your needs.:

- On-site service
- On-site parts management
- Training
- Asset management
- Unit repairs
- Machine certification
- Preventative maintenance



Machine Renewal

Return your machine to the original OEM specifications with a complete mechanical rebuild. Using genuine Giddings & Lewis parts and documentation, we have the expertise to do the job right.

Control Retrofit

Increase production while reducing installation time with a control retrofit. Choose a Fagor, Fanuc or Siemens control along with upgrade packages for drives and motors.