

Large Vertical Multitasking Machines

VTM series

VTM-65/100/200



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Combining the benefits of a vertical turning center with those of a machining center—ideally suited for the globally growing requirements of turn/mill applications for mid-to-large-diameter workpieces.



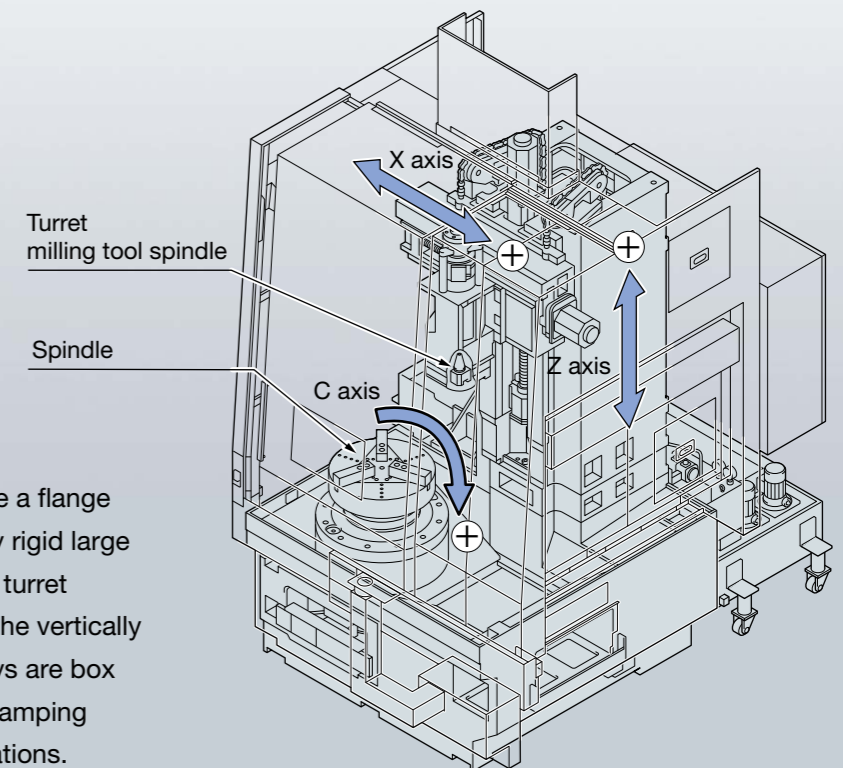
VTM-65



VTM-100



VTM-200



The VTM multitasking machines feature a flange structured spindle mounted on a highly rigid large bed, and a horizontally (X axis) moving turret (milling tool spindle head) attached to the vertically moving (Z axis) saddle. All the slideways are box ways, with high rigidity and excellent damping properties for stable machining applications.

Photographs used in this brochure may show optional equipment.

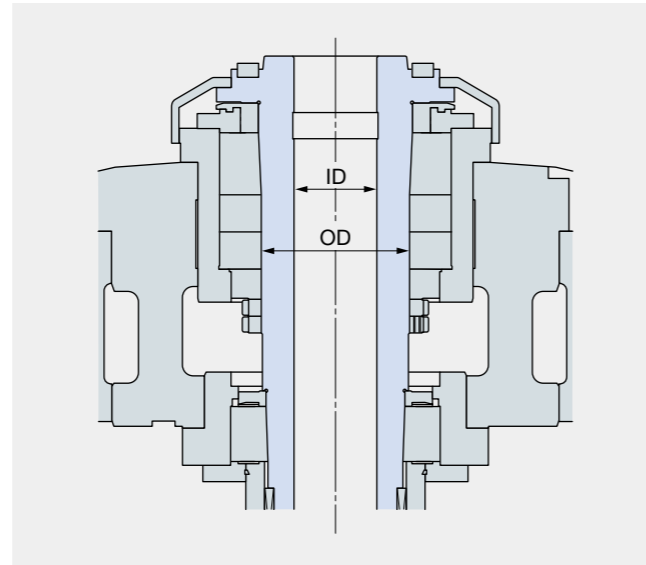
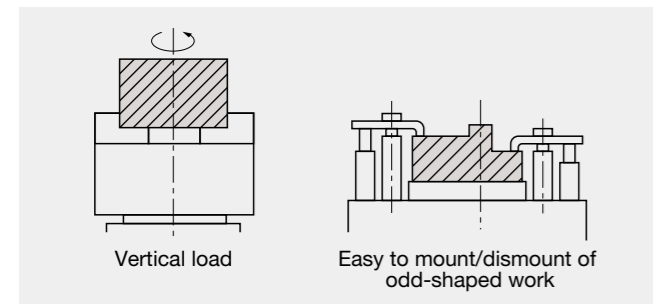
Top performance multitasking machines for the large diameter bearings and big flanges

Spindle design

The main spindle has large-diameter roller bearings providing support at two locations to provide highly accurate rotations with no twisting or bending.

	mm (in)		
	VTM-65	VTM-100	VTM-200
Spindle nose	A2-11	A2-11	ø380 flat
OD	ø200 (7.87)	ø200 (7.87)	ø260 (10.24)
ID	ø110 (4.33)	ø110 (4.33)	ø160 (6.30)

The weight of the workpiece itself provides good contact on the datum surface and make for highly accurate and stable machining of thin-walled to big-diameter heavy components. Chucking operations are easy and clamp conditions remain stable. Making fixtures becomes simpler and less costly.



Machining capacity

■ Turning Material: S45C

		Speed	Depth	Feed rate
VTM-65	OD: 2.2 mm ² (ø650) 0.003 in ² (ø25.59 in)	130 m/min (427 fpm)	5 mm (0.20 in)	0.44 mm/rev (0.02 ipr)
VTM-100	OD: 2.5 mm ² (ø650) 0.004 in ² (ø25.59 in)	130 m/min (427 fpm)	5 mm (0.20 in)	0.50 mm/rev (0.02 ipr)
VTM-200	OD: 4.2 mm ² (ø2,000) 0.007 in ² (ø78.74 in)	137 m/min (449 fpm)	8 mm (0.31 in)	0.52 mm/rev (0.02 ipr)
	ID: 6.0 mm ² (ø1,500) 0.009 in ² (ø59.06 in)	105 m/min (345 fpm)	8 mm (0.31 in)	0.75 mm/rev (0.03 ipr)

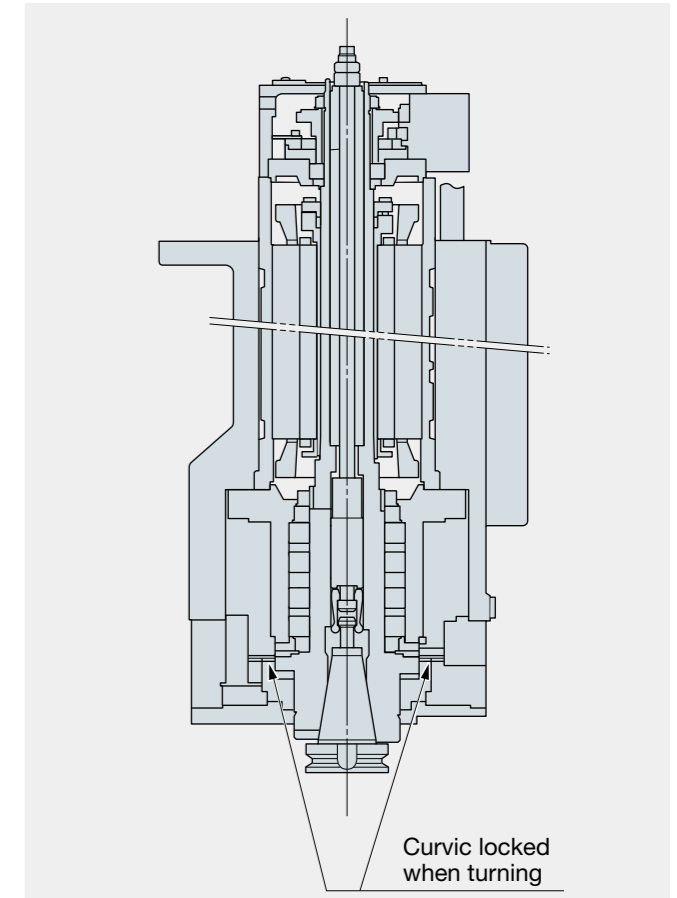
■ Multitasking Material: S45C

		Speed	Feed rate
VTM-65	Drill ø40: 60 cm ³ /min	30 m/min (98 fpm)	0.2 mm/rev (0.01 ipr)
VTM-100			
VTM-200			

Note: The data shown here represent "actual data," which may not be obtained under different specifications, tooling, cutting, and other conditions.

Milling tool spindle design

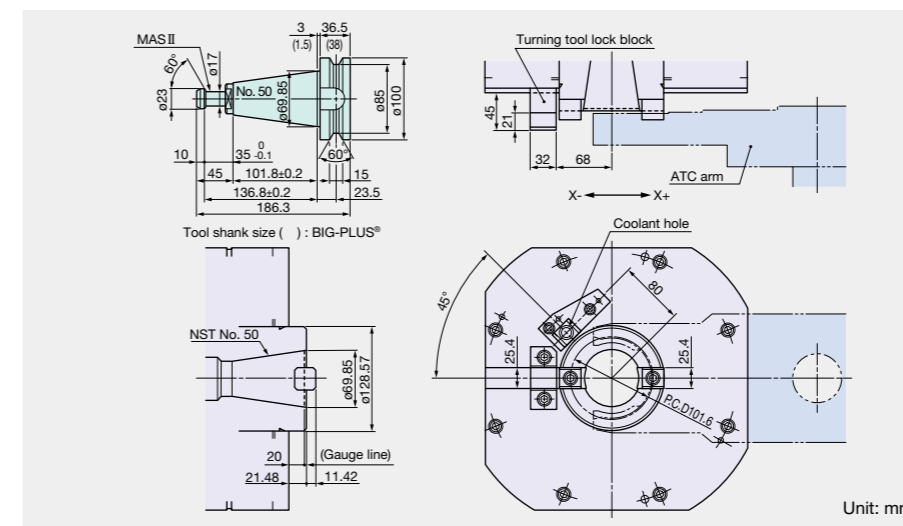
The turret (milling tool spindle) accepts both turning and milling tools. There is no interference, and setup jobs are also easy. The spindle nose is a BIG-PLUS® BT50 (dual contact); very accurate and sturdy. When turning, the curvic coupling locks to provide plenty of support for heavy-duty and continuous cutting. The integral motor/spindle drive has no gears or belts. That means multitasking applications (large-diameter drilling to nimble tapping) are highly productive. The turret itself is weight counterbalanced for smooth Z-axis feeds from the low to high speeds.



Auto tool changer

The 36-tool ATC magazine really reduces setup times and increases machine utilization rates.

Larger tool magazines are also available for a wider range of workpiece applications. (Optional: 60 tools)



Machine Specifications

		VTM-65	VTM-100	VTM-200
Capacity	Max swing diameter	mm (in) $\phi 750$ (29.53)	$\phi 1,000$ (39.37)	$\phi 2,400$ (94.49)
	Max machining diameter	mm (in) $\phi 650$ (25.59)	$\phi 1,000$ (39.37)	$\phi 2,000$ (78.74)
	Max machining length	mm (in) 635 (25)	840 (33.07)	1,200 (47.24)
	Max workpiece load (including chuck)	kg (lb) 800 (1,760) [2,000 kg/200 min ⁻¹]*1	1,200 (2,640) [2,000 kg/200 min ⁻¹]*1	7,000 (15,400) [8,500 kg/65 min ⁻¹]*1
Travels	X axis	mm (in) 500 (19.69)	650 (25.59)	1,600 (62.99)
	Z axis	mm (in) 635 (25)	840 (33.07)	1,200 (47.24)
	C axis	deg 360 (minimum control angle: 0.001)		
Work Spindle	Speed	min ⁻¹ 10 to 1,250	6 to 1,250	5 to 200
	Speed ranges	OSP: infinitely variable FANUC: 2 auto (2-spd mtr coil sw) 2 auto ranges (2-speed motor coil switching)		
	Type of spindle nose	JIS A2-11		$\phi 380$ flat
	Front bearing ID	mm (in) $\phi 200$ (7.87)	$\phi 260$ (10.24)	
	Through-hole diameter	mm (in) $\phi 110$ (4.33)	$\phi 160$ (6.30)	
	Floor to spindle nose	mm (in) 1,105 (43.50)	1,150 (45.28)	1,240 (48.82)
	Spindle support	2-point roller bearing spindle support		
	Turret (tool spindle)	Turret type ATC single tool		
Milling Tool Spindle	Standard tool	mm (in) □25, □32 (1, 1-1/4)		
	Boring bar diameter	mm (in) $\phi 40, \phi 50$ ($\phi 1-1/2, \phi 2$)		
	Maximum spindle speed	min ⁻¹ OSP: 20 to 4,500 FANUC: 10 to 4,500		
Tool Change	Speed ranges	2 auto ranges (2-speed motor coil switching)		
	Shape, tapered bore	BT50 [BIG-PLUS®]		
	Front diameter	mm (in) $\phi 90$ (3.54)		
	Tool shank	BT50		
Feed Axes	Pull stud	MAS II		
	Max tools (magazine capacity)	tool 36 [60]		
	Tool selection	Fixed address type		
	Max tool diameter	mm (in) $\phi 170$ ($\phi 6.70$) [w/o adjacent $\phi 250$ ($\phi 9.84$): 500 L (19.69), $\phi 300$ (11.82): 450 L (17.72)]		
	Max length (from gauge line)	mm (in) 500 (19.69) [Touch Setter gauging length: max 360 (14.18)]		500 (19.69)
	Max tool mass	kg 30 (average 20)		
Motors	Rapid feedrate	X axis m/min (fpm) 18 (59.06)	16 (52.50)	
	Z axis m/min (fpm) 20 (65.62)	16 (52.50)		
		C axis min ⁻¹ 20	10	
Machine size	Work spindle motor	kW (hp) OSP: 30/22 (40/30) (30 min/cont) FANUC: 30/22 (40/30) (30 min/cont)		
	Milling tool motor	kW (hp) OSP: 15/11 (20/15) (15 min/cont) FANUC: 7.5/5.5 (10/7.5) (15 min/cont)		
CNC	Height	mm (in) 4,100 (161.42)	4,300 (169.29)	4,603 (181.22)
	Floor space (L x W)	mm (in) OSP: 4,066x2,990 (160.08x117.72) FANUC: 4,066x3,030 (160.08x119.29)	OSP: 4,286x3,175 (168.74x125.00) FANUC: 4,286x3,205 (168.74x126.18)	OSP: 5,561x5,258 (218.94x207.01) FANUC: 5,561x5,288 (218.94x208.19)
	Mass	kg (lb) 11,000 (24,200)*2	OSP: 13,700 (30,140)*2 FANUC: 13,500 (29,700)*2	27,000 (59,400)*2
CNC		OSP-P300SA, FANUC 31i-B		

*1. Max workpiece mass at the indicated spindle speed limit. *2. Machine only; without ATC magazine. []: Optional

Standard Specifications and Accessories

		VTM-65	VTM-100	VTM-200	
Standard Accessories	Spindle	A2-11, 1,250 min ⁻¹ 30/22 kW (40/30) (30 min/cont)		$\phi 380$ flat, 200 min ⁻¹ 30/22 kW (40/30) (30 min/cont)	
	Milling tool spindle	No. 50, 4,500 min ⁻¹ OSP: 15/11 kW (20/15) (15 min/cont), FANUC: 7.5/5.5 kW (10/7.5) (15 min/cont)			
	Tool shank	MAS BT50 (BIG-PLUS®)			
	Automatic tool changer	36 tool magazine			
	Coolant related	Coolant tank	390 L (103.0 gal)	450L (118.9 gal)	1,100 L (290.6 gal)
		Pump motor	0.75 kW (1 hp)		0.55 kW (3/4 hp)
		Chip flusher	1.2 kW (1.6 hp)		0.55 kW (3/4 hp)
		Shower			0.55 kW (3/4 hp) (Opt)
	Full enclosure shielding (w/ceiling)	○			
	Jack screws, foundation pads	○			
Work lamp	○				
Operation end buzzer (electric)	○				
Tool kit	○				
Standard Specs	Front door interlock	○			
	Lubrication monitor	A-1	B-1		
	Chuck clamp direction switch	Parameter		-	
	Chuck open/close pushbutton switch	○		-	
	Chuck auto open/close confirm	○		-	

○: Available

Optional Specifications and Accessories

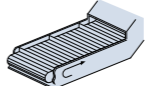
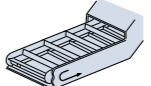
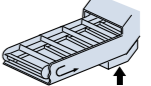
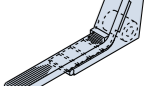
Spindle speed specials (30 min/cont)	VTM-100 (OSP): 1,000 min ⁻¹ 45/37 kW (60/50 hp) gear shift VTM-100 (FANUC): 600 min ⁻¹ 30/22 kW (40/30 hp) gear shift	ATC magazine tool capacity	60 tools; chain
Milling tool spindle speed	6,000 min ⁻¹ No. 50	Tool shank	CAT50, CAPTO C8
Milling thru-spd clnt	1.5, 3.5, 7 MPa	Auto front cover open/close	
Hydraulic power chuck	VTM-65: H01MA-18, H01MA-21, H01MA-24 VTM-100: H01MA-24, H01MA-28, H01MA-32, H01MA-36	Special coolant pump	1.5 kW
Chuck open/close pedal	Std: Pushbutton switch type (VTM-65, VTM-100 only)	Coolant gun	0.25 kW
Chucking miss detection	VTM-65, VTM-100 only	Oil skimmer	VTM-200 (Standard)
Chuck clamp direction switch	Key switch type (VTM-65, VTM-100 only)	Coolant level detection	VTM-200 (Standard)
Chuck pressure high/low change	Grip change required (VTM-65, VTM-100 only)	Chuck air blower (blast)	VTM-65, VTM-100 only
Manual chuck	VTM-65 3-jaw scroll chuck: 21", 24" 4-jaw independent chuck: 20", 24" VTM-100 3-jaw scroll chuck: 24", 28", 32", 36" 4-jaw independent chuck: 24", 28", 32", 36"	Turret air blower (blast)	Side through, turning tools only
Work table (VTM-200)	$\phi 2,000$ Work table jaws; 4-jaw set, hard/soft jaws	Air gun	
Chip conveyor	VTM-65, VTM-100 Rear: Hinge type, scraper type, magnet scraper type, drum filter type VTM-200 Side: Hinge type, drum filter type	Mist collector	
Chip bucket	Tilt; with/without	In-process work gauging	Radius, diameter measurements
Tooling kit	OD-I, OD-II, ID-H50; 4 sets each	Touch Setter	Auto/manual
		AbsoScale	OSP X axis, Z axis
		Scale feedback	FANUC X axis, Z axis
		Coolant temp regulator	
		Raised machine	100 mm (VTM-65, VTM-100 only) 150 mm (VTM-65, VTM-100 only) 200 mm (VTM-200 only)
		Automation specs	Robot APC

Chip Discharge

VTM machines designed for smooth chip flow, and when coupled with the "chip flusher"; chip discharge is complete. Chip conveyors suitable for specific workpiece materials are also available.



Chip conveyor types and applications

Type	Hinge	Scraper	Magnet scraper	Hinge + Scraper (With drum filter)
Application	● For steel	● For castings	● For castings	● For steel, castings, nonferrous metal
Features	● General use	● Magnet scraper more effective for sludge disposal ● Easy maintenance ● Blade scraper	● Effective with sludge ● Not suited for nonferrous metals	● Filtration of long and short chips and coolant
Shape			 Magnet	

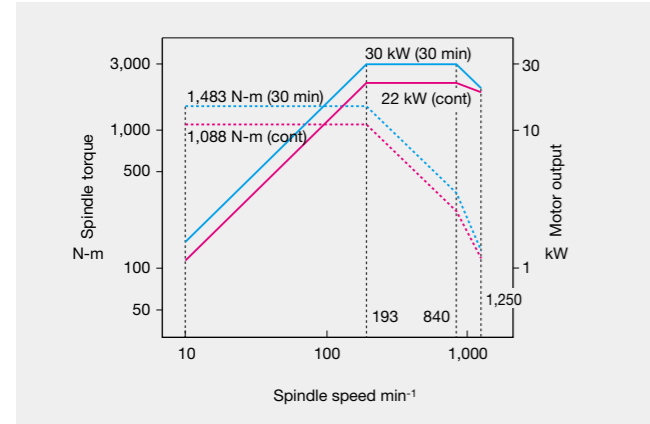
Note: Raised machine specs (platform) may be required depending on the conveyor type.

Turning Spindle—Output/Torque Diagrams

[OSP-P300SA]

VTM-65

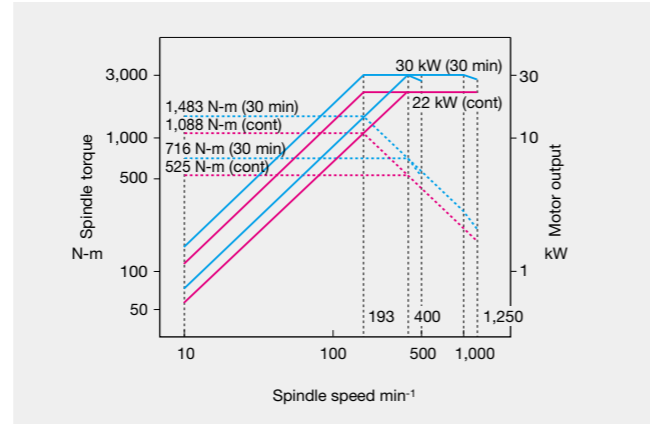
- Spindle speed 1,250 min⁻¹
- Output 30/22 kW (40/30 hp) (30 min/cont)
- Torque 1,483/1,088 N-m (1,090/800 ft-lbf) (30 min/cont)



[FANUC 31i-B]

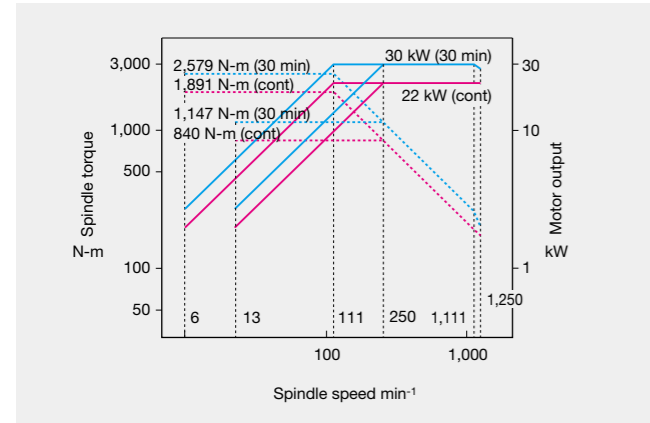
VTM-65

- Spindle speed 1,250 min⁻¹
- Output 30/22 kW (40/30 hp) (30 min/cont)
- Torque 1,483/1,088 N-m (1,090/800 ft-lbf) (30 min/cont)



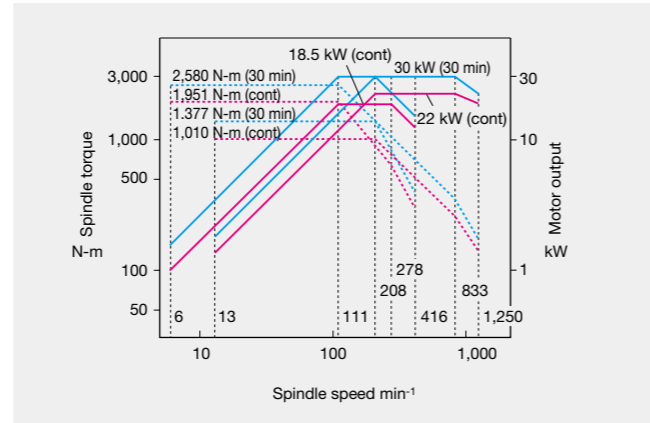
VTM-100

- Spindle speed 1,250 min⁻¹
- Output 30/22 kW (40/30 hp) (30 min/cont)
- Torque 2,579/1,891 N-m (1,896/1,390 ft-lbf) (30 min/cont)



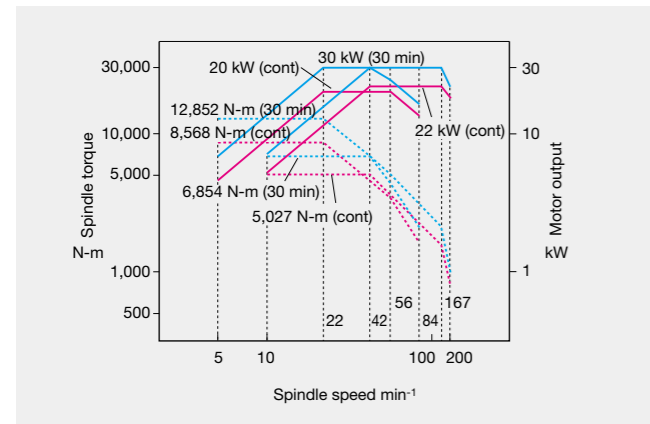
VTM-100

- Spindle speed 1,250 min⁻¹
- Output 30/22 kW (40/30 hp) (30 min/cont)
- Torque 2,580/1,951 N-m (1,897/1,435 ft-lbf) (30 min/cont)



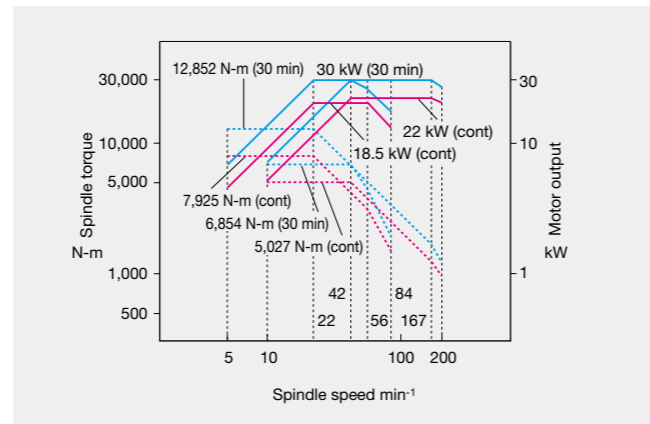
VTM-200

- Spindle speed 200 min⁻¹
- Output 30/22 kW (40/30 hp) (30 min/cont)
- Torque 12,852/8,568 N-m (9,450/6,300 ft-lbf) (30 min/cont)



VTM-200

- Spindle speed 200 min⁻¹
- Output 30/22 kW (40/30 hp) (30 min/cont)
- Torque 12,852/7,925 N-m (9,450/5,827 ft-lbf) (30 min/cont)

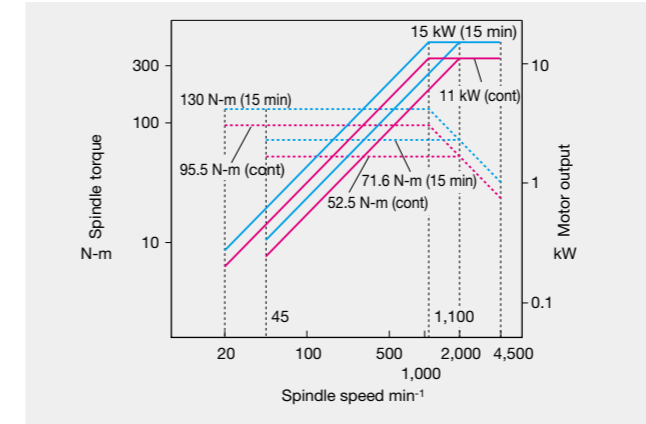


Milling Tool Spindle—Output/Torque Diagrams

[OSP-P300SA]

VTM-65/100/200

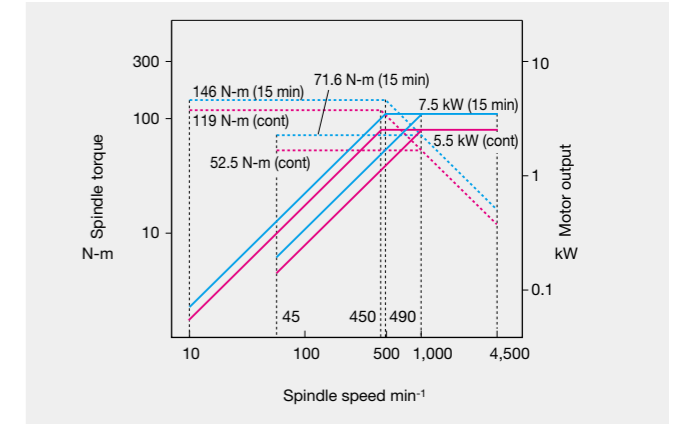
- Spindle speed 4,500 min⁻¹
- Output 15/11 kW (20/15 hp) (15 min/cont)
- Torque 130/95.5 N-m (96/70.2 ft-lbf) (15 min/cont)



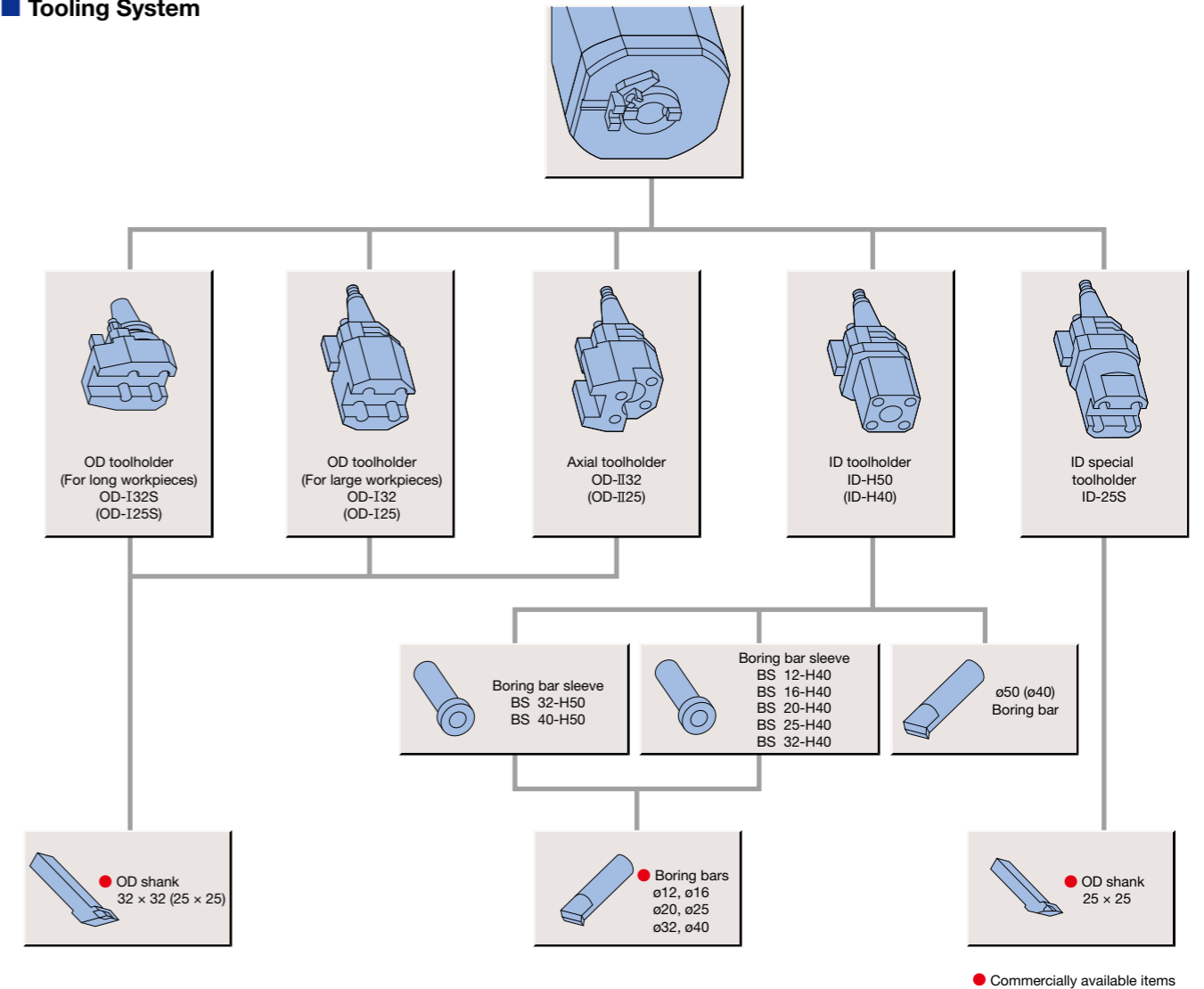
[FANUC 31i-B]

VTM-65/100/200

- Spindle speed 4,500 min⁻¹
- Output 7.5/5.5 kW (10/7.5 hp) (15 min/cont)
- Torque 146/119 N-m (107/88 ft-lbf) (15 min/cont)



Tooling System



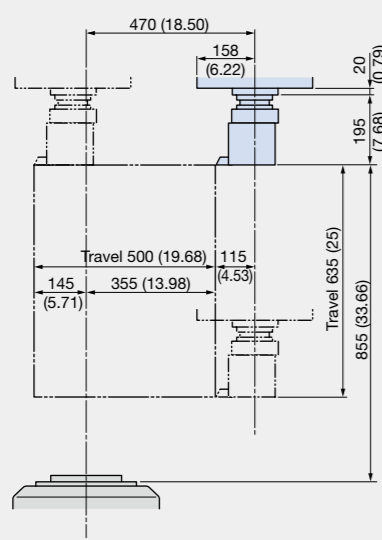
Working Ranges and Max Workpiece (BT50, CAT50)
VTM-65

Working ranges

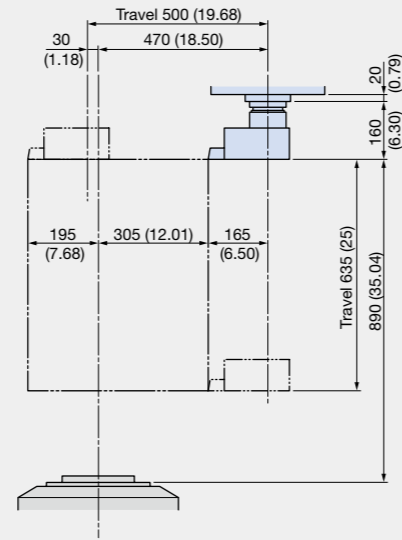
Unit: mm (in)

OD-I

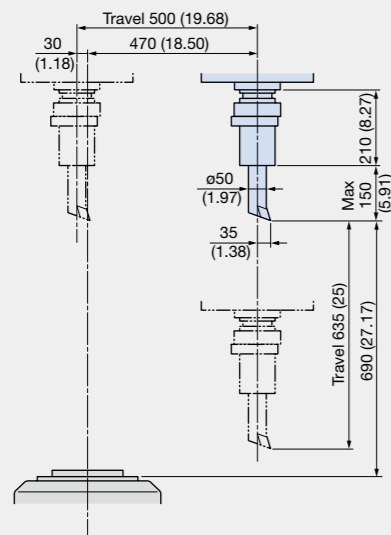
OD cutting (for large workpieces)
 OD toolholder OD-I25
 OD toolholder OD-I32



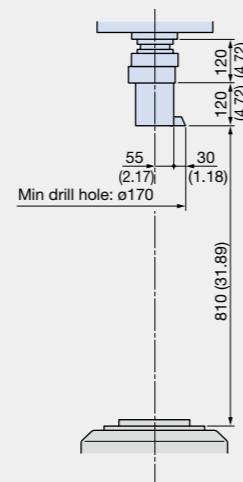
OD cutting (for long workpieces)
 OD toolholder OD-I25S
 OD toolholder OD-I32S



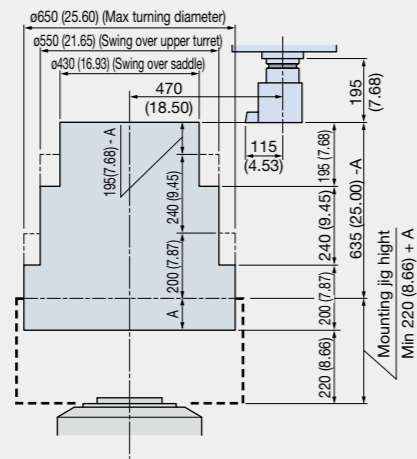
ID-H50



ID-25S



Max workpiece



The diagram shows max workpiece and fixture dimensions in OD cutting when an OD-I32 holder is used.

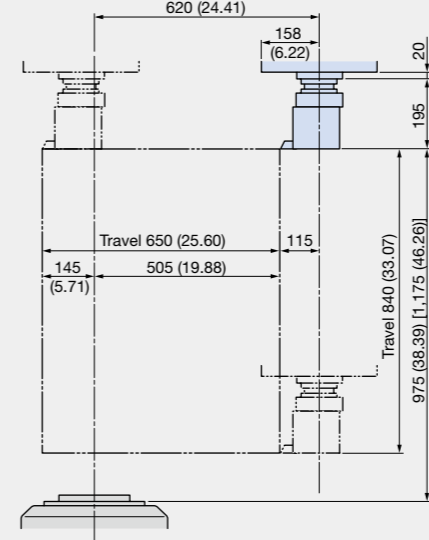
Working Ranges and Max Workpiece (BT50, CAT50)
VTM-100

Working ranges

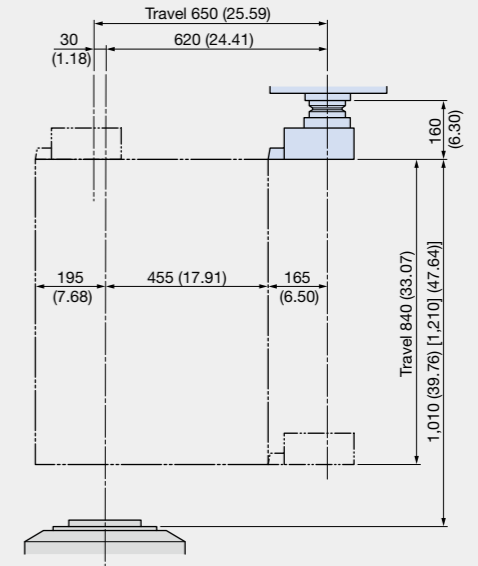
Unit: mm (in)

OD-I

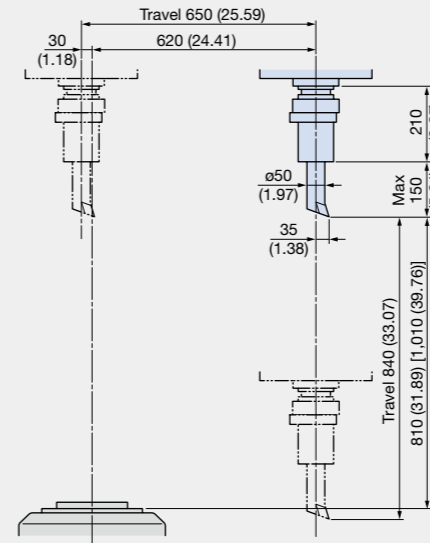
OD cutting (for large workpieces)
 OD toolholder OD-I25
 OD toolholder OD-I32



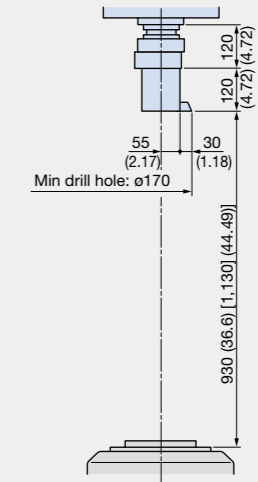
OD cutting (for long workpieces)
 OD toolholder OD-I25S
 OD toolholder OD-I32S



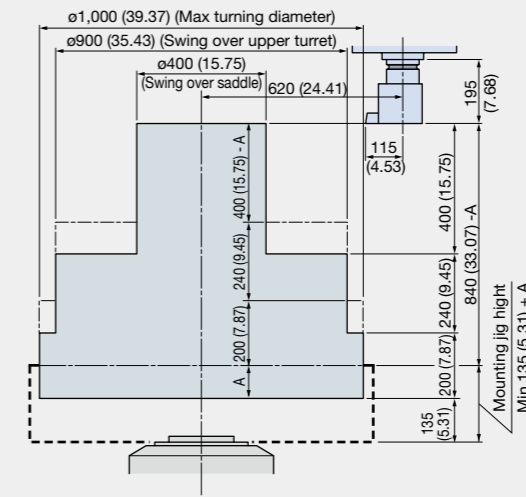
ID-H50



ID-25S



Max workpiece



The diagram shows max workpiece and fixture dimensions in OD cutting when an OD-I32 holder is used.

Working Ranges and Max Workpiece (BT50, CAT50)

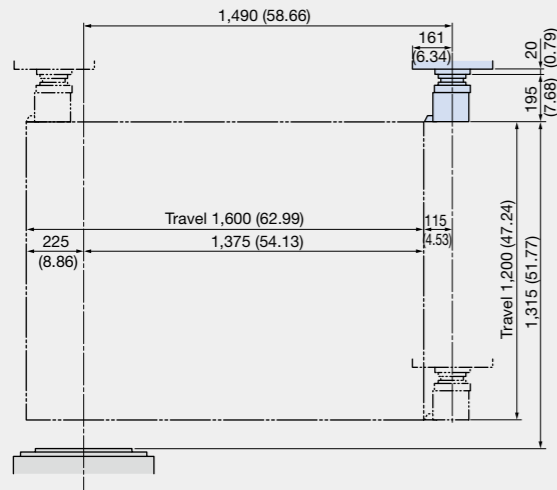
VTM-200

Working ranges

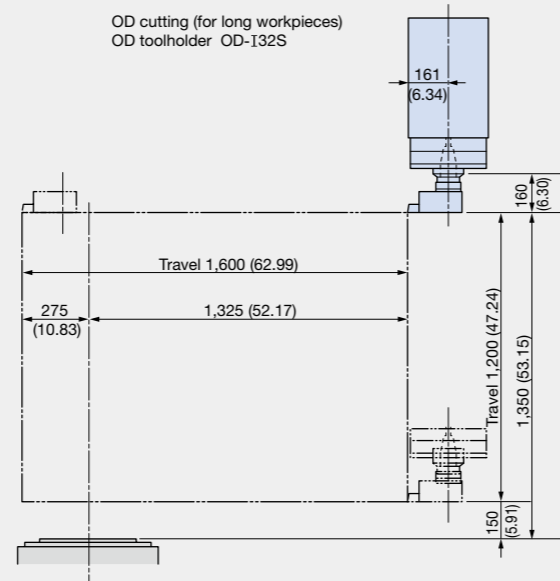
Unit: mm (in)

OD-I

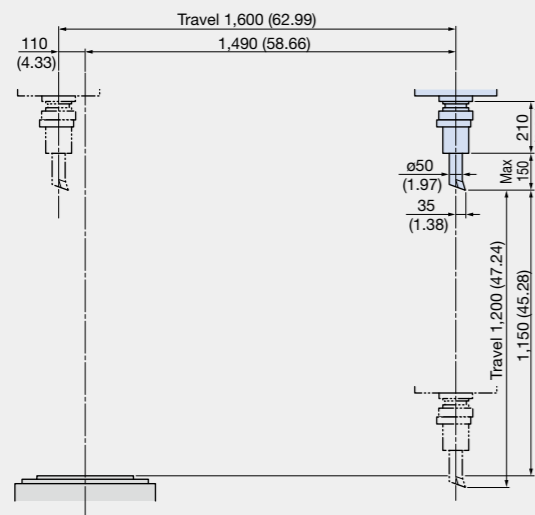
OD cutting (for large workpieces)
OD toolholder OD-I32



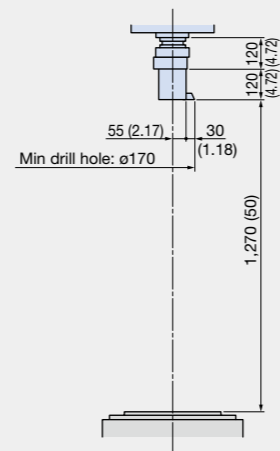
OD cutting (for long workpieces)
OD toolholder OD-I32S



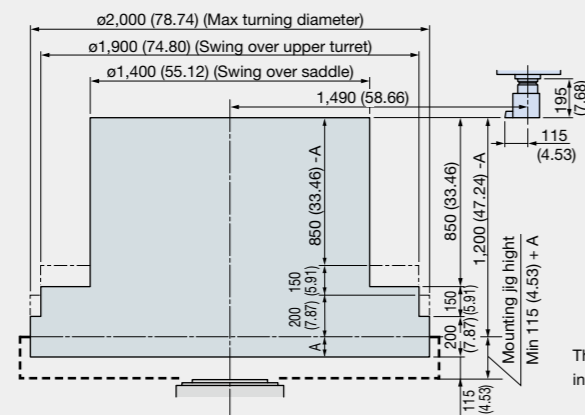
ID-H50



ID-25S



Max workpiece

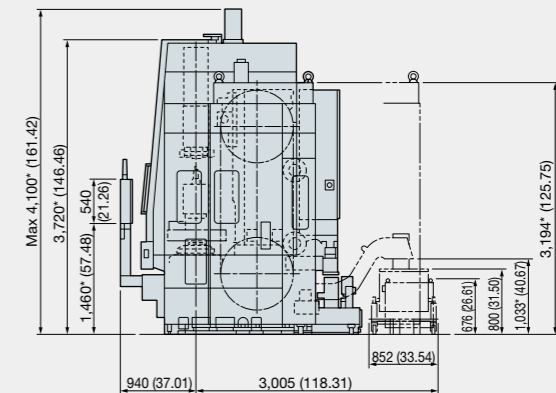
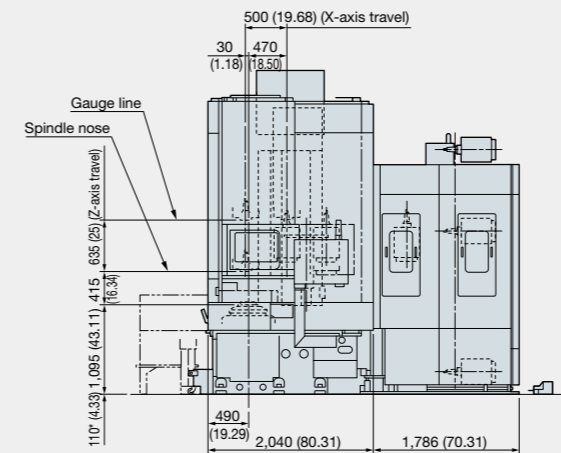
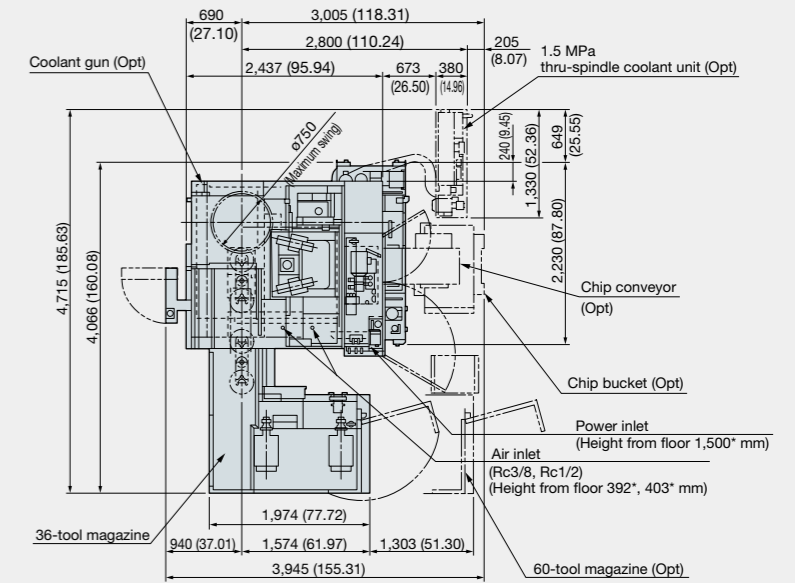


The diagram shows max workpiece and fixture dimensions in OD cutting when an OD-I32 holder is used.

Dimensional and Installation Drawings

VTM-65 (OSP-P300SA)

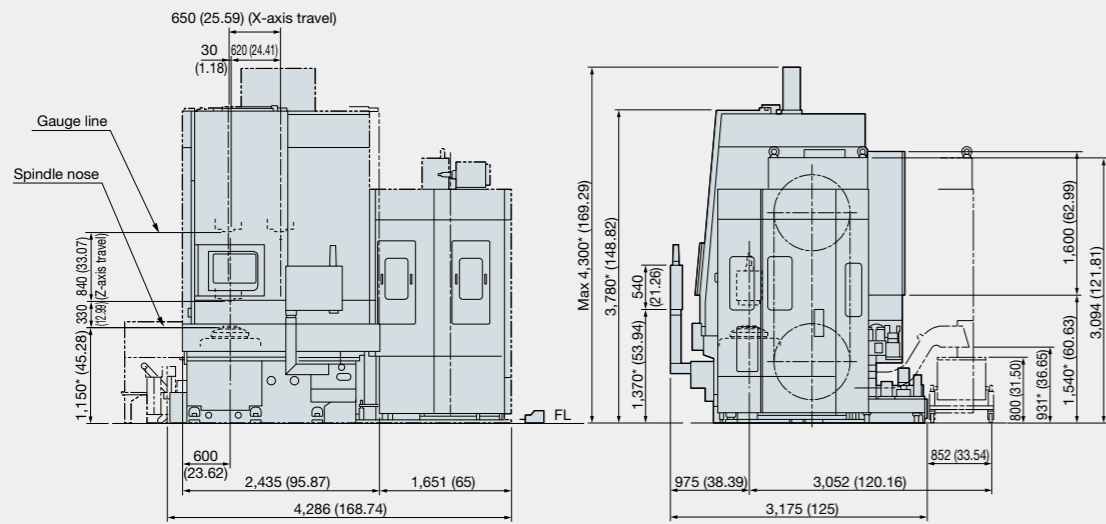
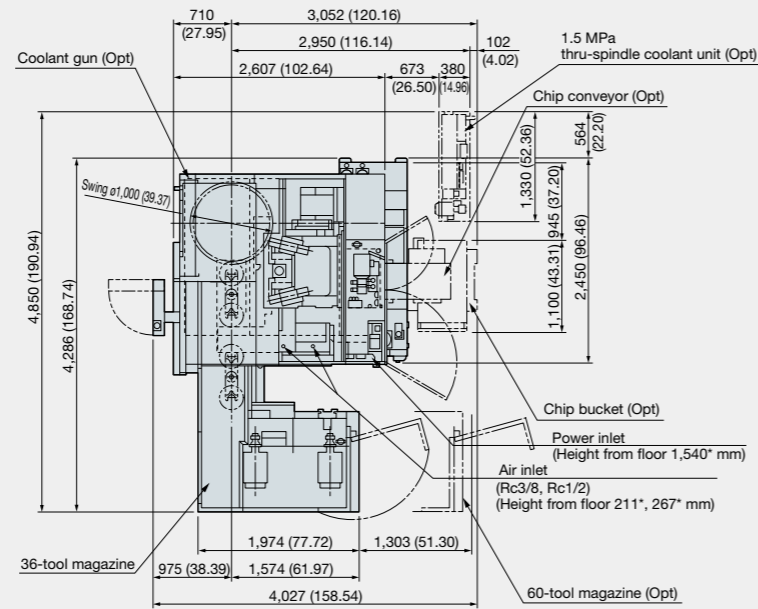
Unit: mm (in)



* These heights may differ depending on chucking miss detection and/or chuck cylinder specifications.

Dimensional and Installation Drawings
VTM-100 (OSP-P300SA)

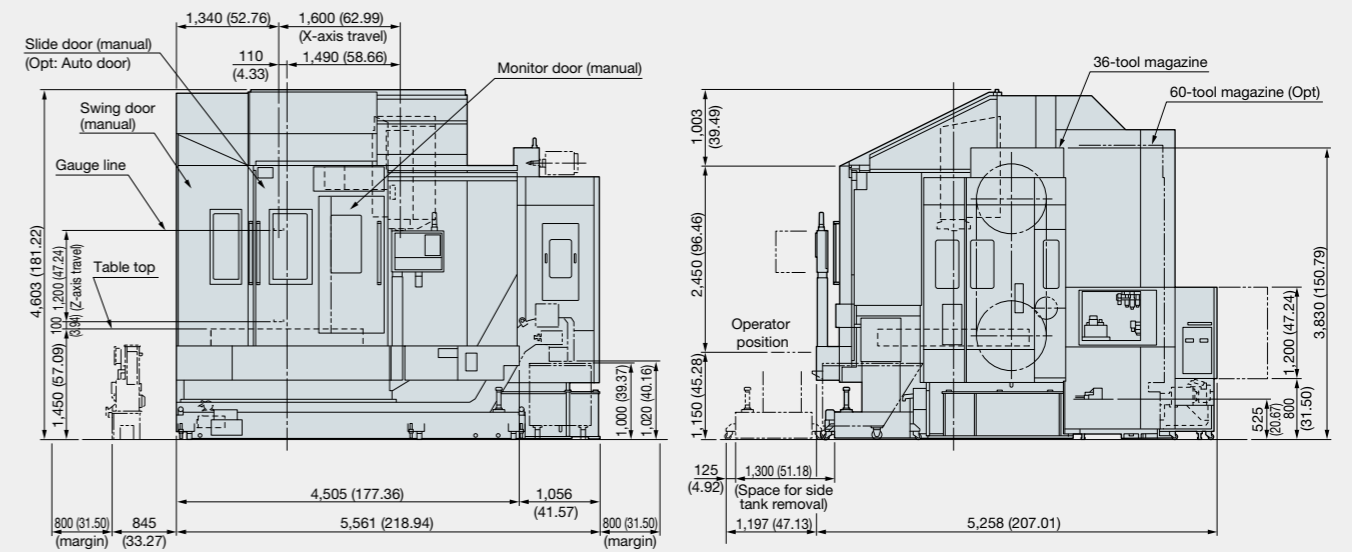
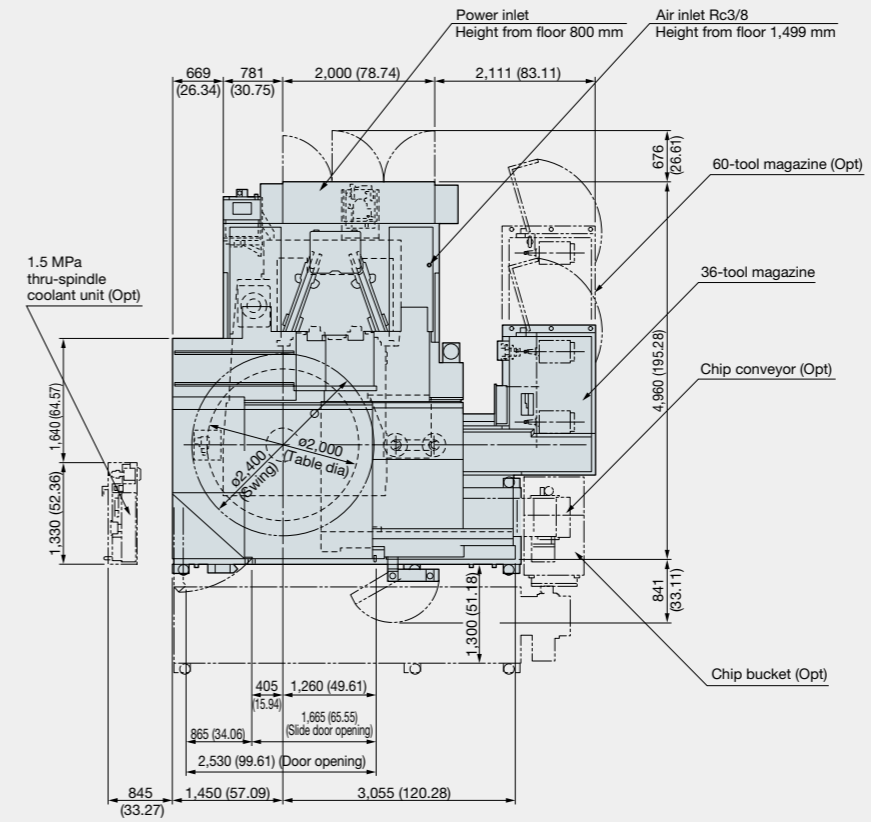
Unit: mm (in)



* These heights may differ depending on chucking miss detection and/or chuck cylinder specifications.

Dimensional and Installation Drawings
VTM-200 (OSP-P300SA)

Unit: mm (in)

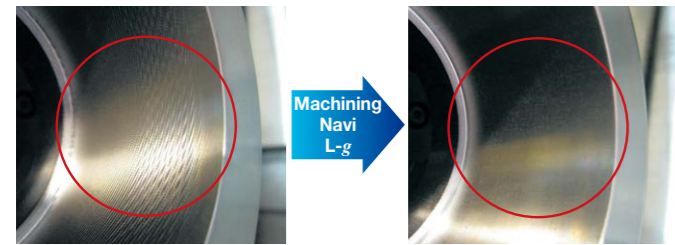
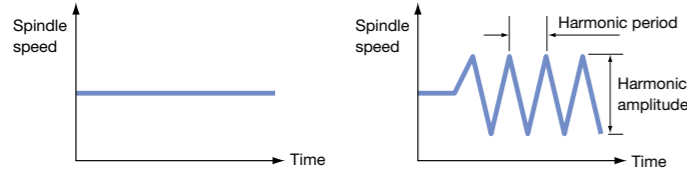


Okuma's Intelligent Technology reduces operator burden



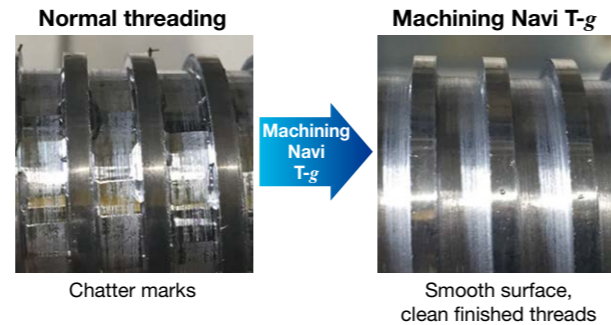
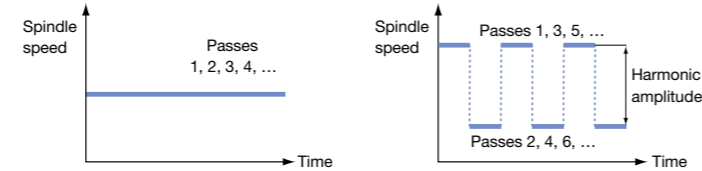
Cutting condition search function for turning **Machining Navi L-g** (guided, harmonic spindle speed control) (Optional)

Varying the spindle speed in accordance with the best amplitude and period makes it possible to suppress chatter during turning operations. Tool life can be extended and machining time reduced with use of the optimum cutting conditions, producing significant effects in drilling/boring bar, threading, and grooving applications.



Cutting condition search in threading **Machining Navi T-g (Threading)** (Optional)

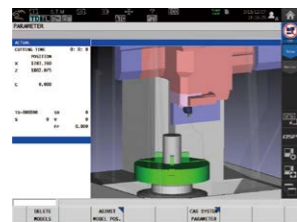
When chatter occurs in threading, general methods to resolve the problem have been to either lower cutting conditions at the expense of productivity, or to use special chatter-resistant tools at some cost. Machining Navi T-g (threading) provides optimum control, increasing or decreasing spindle speed on each pass to inhibit the periodic vibrations that are a cause of chatter.



Collision prevention **Collision Avoidance System** (Optional)

World's first "collision-free machine"

CAS prevents collisions in automatic or manual mode, providing risk-free protection for the machine and great confidence for the operator.

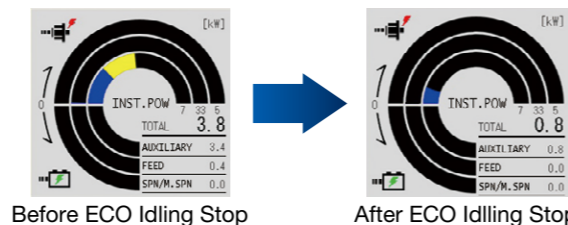


Virtual machine (collision check)

Next-Generation Energy-Saving System **ECO suite**

- **ECO Idling Stop** for operation of necessary units only
- **ECO Power Monitor** for visual graphic of power
- Intermittent/continuous operation of chip conveyor and mist collector during operation — **ECO Operation** (Optional)

• Example of a Power Monitor check



[data visualization examples]

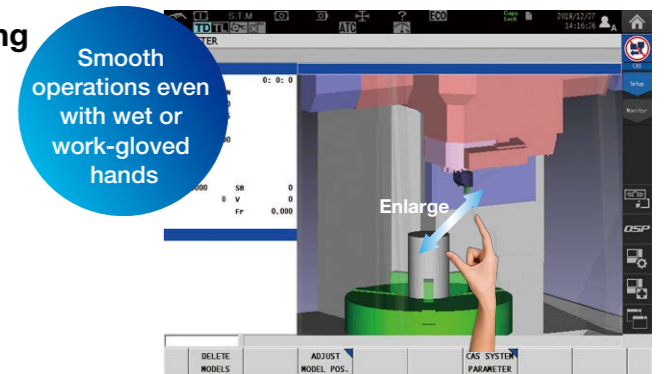
The Next-Generation Intelligent CNC **OSP suite OSP-P300SA**

With revamped operation and responsiveness— ease of use for machine shops first!

Smart factories are using advanced digitization and networking (IIoT) in manufacturing to achieve enhanced productivity and added value. The OSP has evolved tremendously as a CNC suited to advanced intelligent technology. Okuma's new control uses the latest CPUs for a tremendous boost in operability, rendering performance, and processing speed. The OSP suite also features a full range of useful apps that could only come from a machine tool manufacturer, making smart manufacturing a reality.

Smooth, comfortable operation with the feeling of using a smart phone

Improved rendering performance and use of a multi-touch panel achieve intuitive graphical operation. Moving, enlarging, reducing, and rotating 3D models, as well as list views of tool data, programs, and other information can be accomplished through smooth, speedy operations with the same feel as using a smart phone. The screen display layout on the operation screen can also be changed to suit operator preferences and customized for the novice and/or veteran machinists.



"Just what we wanted."— Refreshed OSP suite apps

This became possible through the addition of Okuma's machining expertise based on requests we heard from real, machine-shop customers. The brain power packed into the CNC, built by a machine tool manufacturer, will "empower shop floor" management.

Increased productivity through visualization of motor power reserve **Spindle Output Monitor**

The specified spindle output (red line: short time rating, green line: continuous rating) and the spindle output in current cutting (blue circle) are simultaneously displayed on the screen, for real-time view of power reserve during cutting. This allows speeding up cutting by increasing the spindle speed or feed rate while monitoring the graph to ensure that the blue circle does not cross the lines.



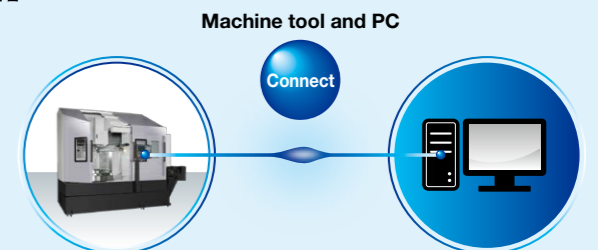
Easy programing without keying in code **Scheduled Program Editor**

Monitoring utilization status even when away from the machine **E-mail Notification**

Get Connected, Get Started, and Get Innovative with Okuma "Monozukuri" **Connect Plan**

Connect, Visualize, Improve

Okuma's Connect Plan is a system that provides analytics for improved utilization by connecting machine tools and visual control of factory operation results and machining records. Simply connect the OSP and a PC and install Connect Plan on the PC to see the machine operation status from the shop floor, from an office, from anywhere. The Connect Plan is an ideal solution for customers trying to raise their machine utilization.



Standard Specifications

Basic Specs	Control	Turning: X, Z simultaneous 2-axis. Multitasking: X, Z, C simultaneous 3-axis control
	Position feedback	OSP full range absolute position feedback (zero point return not required)
	Min / Max command	±99999.999 mm, ±99999.999° 8-digit decimal, command unit: 0.001 mm, 0.01 mm, 1 mm, 0.001°, 0.01°, 1°
	Feed	Override: 0 to 200%
	Spindle control	Direct spindle speed commands (S5) override 50 to 200% Constant cutting speed, optimum turning speed designate, oriented spindle stop (electric)
	Tool commands	2-digit tool no. + 4-digit tool no. (max tool registration: 1,000 sets)
	Tool compensation	Tool offset: 20 sets per tool Tool wear comp: 20 sets per tool Nose R comp: 20 sets per tool
	Display	15-inch color display operational panel, multi touch panel
	Self-diagnostics	Automatic diagnostics and display of program, operation, machine, and NC system problems
	Program capacity	Program storage: 4 GB, operation buffer: 2 MB
Operations	"suite apps"	Applications to graphically visualize and digitize information needed on the shop floor
	"suite operation"	Highly reliable touch panel suited to shop floors. One-touch access to suite apps.
	Easy Operation	"Single-mode operation" for a series of operations from a single screen. Bundled tool control: tool shape, tool tilt, tool offsets per tool number. Tool data sharing between machining operations, One-Touch IGF, Collision Avoidance System. Easy-to-use operation panel supports complete machine control.
	Programing	Program management, edit, scheduled programs, fixed cycles, special fixed cycles, tool nose R compensation, slope machining, M-spindle synchronized tapping, fixed drilling cycles, arithmetic operations, logic operations, math functions, variables, branch statements, auto programming (LAP4), programming help
	Machine operations	MDI, manual (rapid traverse, pulse handle), load meter, operations help, alarm help, sequence return, manual interrupt & auto return, data I/O, pitch error compensation, Cycle time reduction easy setting
	MacMan	Machining Management: machining results, machine utilization, fault data compile & report, external output
	Communications / Networks	USB ports, Ethernet
Energy-saving functions	Eco suite	ECO Idling Stop, ECO Power Monitor

Optional Specifications

Item	Kit specs*1	NML		3D		OTM	
		E	D	E	D	E	D
Operation functions							
Advanced One-Touch IGF (multitasking)						●	●
Programming							
Work coordinate system select	10 sets	●	●	●	●	●	●
	50 sets						
	100 sets						
Operation buffer (10 MB)							
Circular threading		●		●		●	
Program notes		●		●		●	
User task 2 I/O variables, 8 each							
Common variables 1,000 sets (Std: 200 sets)							
Thread matching (spindle orientation required)							
Threading slide hold (G34, G35)							
Variable Spindle Speed Threading (VSST)							
Inverse time feed							
Manual cutting feed							
Spindle dead-slow cut							
Coordinate convert		●	●	●	●	●	●
Profile generate		●	●	●	●	●	●
Profile helical cutting							
Monitoring							
Real 3-D simulation*2				●	●	●	●
Cycle time over check		●	●	●	●	●	●
Load monitor (spindle, feed axis)				●	●	●	●
Load monitor no-load detection (load monitor ordered)							
Machine Data Logger							
Tool life management		●		●		●	
Tool life warning							
Operation end lamp (yellow)							
Alarm lamp (red)							
Operation end buzzer (electric buzzer)							
Hour meters	Power ON						
	Spindle rotation						
	NC operating						
NC operation monitor (counter, totaling)		●	●	●	●	●	●
Status indicator (triple lamp) Type C		●	●	●	●	●	●

* 1. NML: Normal, 3D: Real 3D simulation, E: Economy, D: Deluxe
 * 2. Technical consultations required.
 * 3. For CAPTO specs only

Controller Specifications

Item	Specifications	Item	Specifications
No. of controlled axes	3 (X-Z-C)	Least input increment	X-Z axes: 0.001 mm; C-axis: 0.001°
Interpolation system	Positioning, linear, taper, circular, threading, Polar coordinate interpolation, cylindrical interpolation	Max/min input	99999.999 mm (decimal point programming)
Command system	Absolute / incremental		

Standard Specifications

Item	Specifications
Program protection key switch	
Program input	Input from MDI keys
	ISO/EIA input
	RS-232C input/output interface
Display	LCD display 10.4 in color
	Japanese / English
Workpiece spindle control	S4-digit Direct command
	Constant peripheral speed control (constant cutting speed control)
	Spindle override 50 to 150% (10% each)
	Spindle orientation (1 point)
Tool function	Tool shape compensation and wear compensation
	No. of tool compensations 64 sets

Item	Specifications
Programming	Nose-radius comp
	Fixed cycle for drilling
	Part program storage: 160 m (64 KB)
	No. of registerable programs: 63
	Extended part program editing
	Input/output interface (RS-232C)
	Memory input/output
	USB memory input/output
	Programmable data input
	Cs contouring
Other functions	Fine coordinate interpolation
	Cylindrical interpolation
	Memory-type pitch error compensation
	Operating time, no. of parts display
	Rigid tapping (M axis)
	Continuous threading
	AI contouring control I

Optional Specifications

Item	Specifications	
Programming	Complex shape fixed cycle (I, II)	
	High-speed skip	
	Chamfering, corner radius	
	Workpiece coordinates (G54 to G59)	
	Background editing (w/ simultaneous editing of multiple programs)	
	Part program storage capacities	320 m (128 KB)
		640 m (256 KB)
		1,280 m (512 KB)
		2,560 m (1 MB)
		5,120 m (2 MB)
		10,240 m (4 MB)
	Extended no. of registerable programs	20,480 m (8 MB)
		125
		250
		500
Compensation	1,000	
	2,000	
	4,000	
	2 nd geometry tool offset	
	Tool offset pairs	99 sets, 200 sets, 400 sets, 499 sets

Item	Specifications
Monitor function	Graphics display
	Tool counter (VTM-65, 100 only)
	Work counter (VTM-65, 100 only)
	Multi-counter (VTM-65, 100 only)
	Hour meters
	Abnormal load detection (VTM-65, 100 only)
Other functions	Mobile pulse handle (0.001, 0.01, 0.1mm)
	External program No. selection
	High-speed skip function
	Custom macros B
	Custom macros common variables total 600
	Program restart
	RS-232C additional 1ch
	Spare M codes (4, 8 pairs)
	Status indicator
	Electronic buzzer
	Circuit breaker
	Auto power shutoff function
	Oriented spindle stop (4-point)
	Scale feedback X axis, Z axis

When using Okuma products, always read the safety precautions mentioned in the instruction manual and attached to the product.

● The specifications, illustrations, and descriptions in this brochure vary in different markets and are subject to change without notice.
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