OKUMA

OPEN POSSIBILITIES

Turning Centers with Twin Spindles

TWIN STAR LT EX series

LT2000EX/LT3000EX

Turning Centers with Twin Spindles

TWIN STAR LT EX series

LT2000EX/LT3000EX

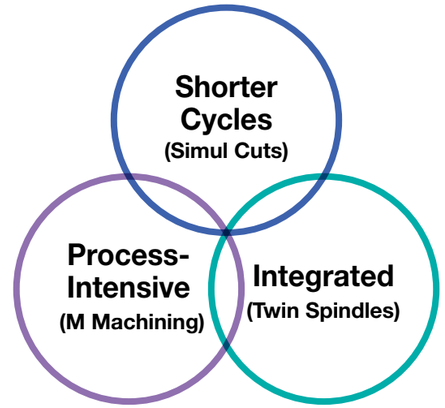
Intelligent Technology | Thermo-Friendly Concept | Collision Avoidance System | Machining Navi | SERVO NAVI

In All Directions

Performance that lets you seek the highest productivity. Complete machining on a single machine with left and right spindles, upper and lower turrets.

TWIN STAR LT2000EX

TWIN STAR LT3000EX



Photos shown in this brochure may show optional equipment.

The image has 3-turret, V16 specifications.

Increase productivity to the highest possible level with process-intensive machining, integrated operations

Highly efficient, repeated machining of complex-shaped parts on 3 turrets. Equipped with powerful spindles that have the same capacity on left and right and turrets with the same capacity on top and bottom, optimizing the cycle time balance for 1-2 processes. Long-run continuous operation is also possible with auto bar feeder and unloading systems.
Flexible production systems give the ultimate production efficiency.

Complex shape, variable-mix, variable-volume production achieved with the highest productivity

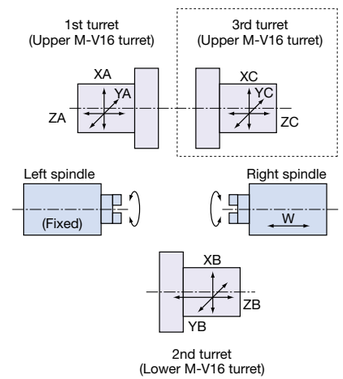
V16 turrets are used for all turrets. Handles complex shape, multi-process, high mix production with 3 turrets and up to 48 tools mounted. Fewer tool changes and greatly reduced non-cutting time.

Achieve the best production system with our abundant lineup

Achieve even greater productivity and process-intensive machining by selecting specifications matched to use, such as simultaneous machining with 3 upper/lower turrets or simultaneous upper/lower Y-axis machining.

Spec variations

		2-turret specs			3-turret specs		
		2M	1MY	2MY	3M	2MY	3MY
First multitasking turret (upper left turret)	Without Y-axis control	●			●		
	With Y-axis control		●	●		●	●
Second multitasking turret (lower right turret)	Without Y-axis control	●	●		●		
	With Y-axis control			●		●	●
Third multitasking turret (Upper right turret)	Without Y-axis control				●	●	
	With Y-axis control						●



Handles many types of bar blanks

Bar blank diameters that can be machined are expanded to ø52 mm (LT2000 EX), ø69 mm (LT3000 EX). Also handles sizes of a higher rank. Continuous nighttime operation is also possible with the use of bar feeders.

High machining accuracy is maintained and worker burden is reduced.

Using the Thermo-Friendly Concept, dimensional accuracy is maintained at high levels during cycle starts and machining restarts. The number of dimensional corrections is reduced and work efficiency is raised.

Achieve ideal balance for 1-2 processes

Highly efficient machining with spindles with same capacity on left and right

Left and right spindles equipped with high accuracy integral motor/spindles make part transfer possible during spindle operation with synchronized C axis control.

		LT2000 EX	LT3000 EX
Spindle motor		11.5/7.5 kW (5 min/cont)	22/15 kW (30 min/cont)
Bar dia	Standard spindle	ø52 mm	ø65 mm *2
	Big bore spindle	ø65 mm *1	ø80 mm

*1. Left spindle only *2. Up to ø69 mm is possible with 10-inch chuck.
Note: The chuck/cylinder used may limit machinable bar diameters.


The image has 2-turret, V16 specifications.

Turrets with the same upper and lower capacity enable full process-intensive machining

V16 turrets are used on both top and bottom to handle complex shape, multi-process, high mix production. Setup change time can be shortened with permanent tool sets.

	LT2000 EX	LT3000 EX
Milling-tool spindle motor	5.5/3.7 kW (2 min/cont)	7.1/4.1 kW (25 min/cont)
Rapid traverse	X axis: 30 m/min, Z axis: 40 m/min	

■ Machining capacity

Turning Workpiece material: S45C

LT2000 EX actual data	LT3000 EX actual data
OD heavy-duty cutting: 2.5 mm²	**OD heavy-duty cutting: 4.4 mm²**
Cutting speed: 150 m/min	Cutting speed: 150 m/min
Cutting depth: 5 mm	Cutting depth: 8 mm
Feedrate: 0.5 mm/rev	Feedrate: 0.55 mm/rev
(Left spindle: First turret)	(Left spindle: First turret)
Drilling: ø30 carbide drill	**Drilling: ø63 carbide drill**
Cutting speed: 150 m/min	Cutting speed: 120 m/min
Feedrate: 0.15 mm/rev	Feedrate: 0.2 mm/rev
(Left spindle: First turret)	(Left spindle: Second turret)

Milling Workpiece material: S45C

LT2000 EX actual data	LT3000 EX actual data
End milling: 144 cm³/min ø16-mm 5-flute carbide end mill	**End milling: 200 cm³/min ø20-mm 7-flute carbide end mill**
Cutting speed: 201 m/min	Cutting speed: 200 m/min
Cutting depth: 3.0 × 16 mm	Cutting depth: 2.5 × 20 mm
Feedrate: 0.75 mm/rev	Feedrate: 1.26 mm/rev
(Left spindle: First turret)	(Left spindle: First turret)
Drilling: ø16 carbide drill	**Drilling: ø20 carbide drill**
Cutting speed: 135 m/min	Cutting speed: 135 m/min
Feedrate: 0.25 mm/rev	Feedrate: 0.23 mm/rev
(Left spindle: First turret)	(Left/right spindles: First and second turrets)
Tap: M16 P2	**Tap: M20 P2.5**
(Left spindle: First turret)	(Left/right spindles: First and second turrets)

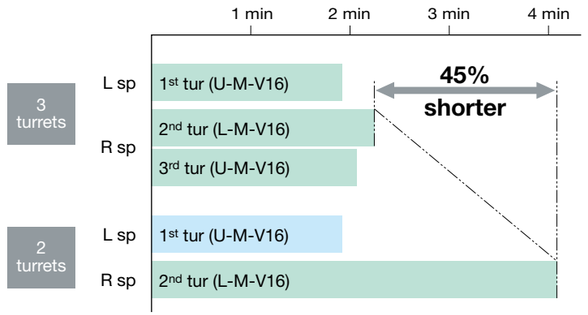
Note: The “actual data” referred to above for this brochure represent examples, and may not be obtained due to differences in specifications, tooling, cutting, and other conditions.

Achieve the best production system with our abundant lineup

Minimize takt time with third turret (Optional)

Well-balanced cycle times achieved with simultaneous machining using upper left and right turrets and lower turret. Cycle times can be significantly shortened.


Example of spool
ø80 × 60 mm



Y-axis specifications (Optional) added on all turrets

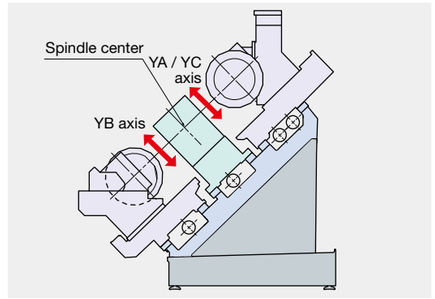
Simultaneous upper/lower Y-axis machining possible.

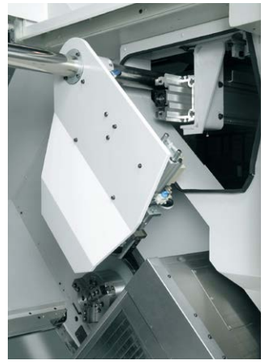
	LT2000 EX	LT3000 EX
Y-axis travel	95 mm YA, YC: +50 to –45 mm YB: +45 to –50 mm	125 mm YA, YC: +70 to –55 mm YB: +55 to –70 mm

Best also for automation with many different specifications

Automation systems can be built to correspond to the machining job, including bar feeder, unloader, and loader specifications. Reduces operator burden and raises productivity even further.


Bar feeder (Optional) + Unloader (Optional)




Unloader (Optional)

Okuma's intelligent technologies reduce operator burden

Manageable Deformation—Accurately Controlled

Thermo-Friendly Concept

Okuma's Thermo-Friendly is a structurally designed, thermal deformation control system that provides astonishing machining accuracy.
It frees the machinist from troublesome offsets and machine warm-ups—is superb for long runs, multitasking, front/backend work, plus Y-axis applications.

- Highly accurate control technology
- Simple machine construction
- Machine designs that equalize ambient temperatures

TAS-C [Thermo Active Stabilizer – Construction]

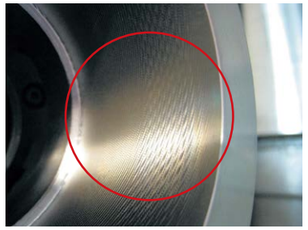
Overall control of thermal deformation on headstock, turret, and bed

Cutting condition search for turning

Machining Navi L-*g* (Optional)

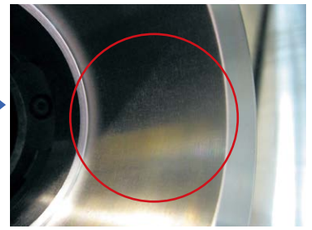
Chatter in a lathe can be suppressed by changing spindle speeds to the ideal amplitude and wave cycle—without decreasing spindle speed.

<Normal turning>



Chatter marks

<Machining Navi L-*g*>

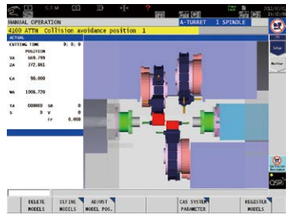


Smooth surface, clean finished threads

Collision prevention

Collision Avoidance System (Optional)

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



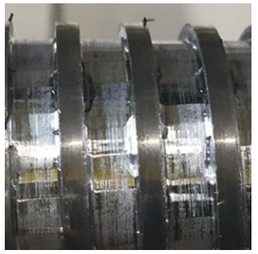
Virtual machine (collision check)

Cutting condition search in threading

Machining Navi T-*g* (Threading) (Optional)

Okuma's Machining Navi T-*g* (threading) breaks the vibration periodicity with a different spindle speed for each threading pass, and suppresses chatter growth. Stable machining is achieved with your normally used tools.

<Normal threading>



Chatter marks

<Machining Navi T-*g* (Threading)>

Smooth surface, clean finished threads

Next-Generation Energy-Saving System

ECO suite

Accuracy ensured, cooler off

ECO Idling Stop

Intelligent energy-saving function with the Thermo-Friendly Concept. The machine itself determines whether or not cooling is needed and cooler idling is stopped with no loss to accuracy.
(Standard application on machines with Thermo-Active Stabilizer—Spindle)

On-the-spot check of energy savings

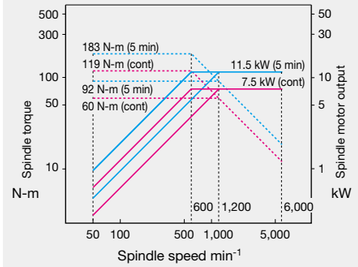
ECO Power Monitor

Power is shown individually for spindle, feed axes, and auxiliaries on the OSP operation screen. The energy-saving benefits from auxiliary equipment stopped with ECO Idling Stop can be confirmed on the spot.

Spindle power/torque diagrams

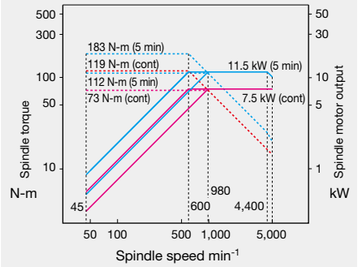
LT2000 EX Standard specifications

Spindle speed 6,000 min^{-1}
Motor output 11.5/7.5 kW (5 min/cont)
Spindle torque 183/119 N-m (5 min/cont)



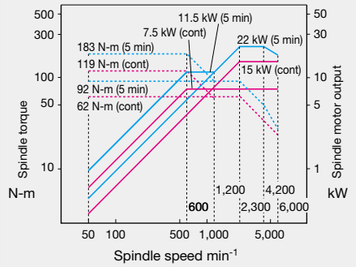
LT2000 EX left spindle big-bore specification

Spindle speed 5,000 min^{-1}
Motor output 11.5/7.5 kW (5 min/cont)
Spindle torque 183/119 N-m (5 min/cont)



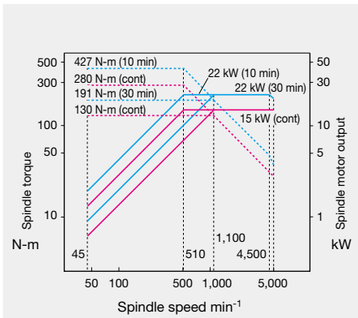
LT2000 EX High output specification

Spindle speed 6,000 min^{-1}
Motor output 22/15 kW (5 min/cont)
Spindle torque 183/119 N-m (5 min/cont)



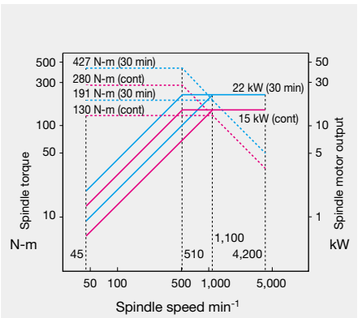
LT3000 EX Standard specifications

Spindle speed 5,000 min^{-1}
Motor output 22/15 kW (30 min/cont)
Spindle torque 427/280 N-m (10 min/cont)



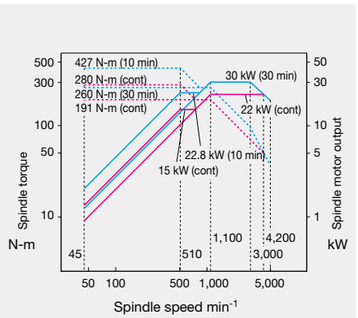
LT3000 EX big-bore specification

Spindle speed 4,200 min^{-1}
Motor output 22/15 kW (30 min/cont)
Spindle torque 427/280 N-m (30 min/cont)



LT3000 EX High output specification

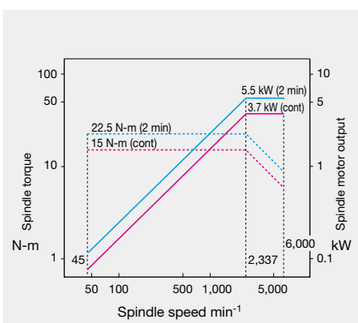
Spindle speed 5,000 min^{-1}
Motor output 30/22 kW (30 min/cont)
Spindle torque 427/280 N-m (10 min/cont)



Milling tool spindle power/torque diagram

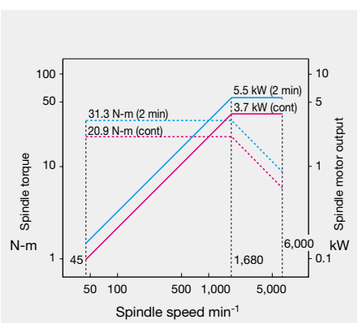
LT2000 EX Standard V16 turret

Spindle speed 6,000 min^{-1}
Motor output 5.5/3.7 kW (2 min/cont)
Spindle torque 22.5/15 N-m (2 min/cont)



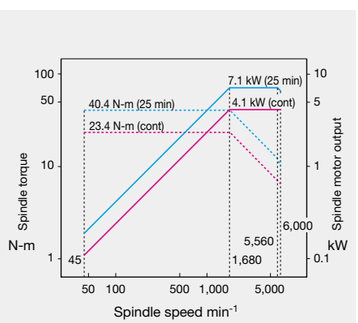
LT2000 EX V12 turret (Optional)

Spindle speed 6,000 min^{-1}
Motor output 5.5/3.7 kW (2 min/cont)
Spindle torque 31.3/20.9 N-m (2 min/cont)



LT3000 EX Standard V16 turret · V12 turret (Optional)

Spindle speed 6,000 min^{-1}
Motor output 7.1/4.1 kW (25 min/cont)
Spindle torque 40.4/23.4 N-m (25 min/cont)



Machine Specifications

Item			LT2000 EX						LT3000 EX					
			2-turret specs			3-turret specs			2-turret specs			3-turret specs		
			2M	1MY	2MY	3M	2MY	3MY	2M	1MY	2MY	3M	2MY	3MY
Capacity	Swing over saddle	mm (in)	ø400 (ø15.75)						ø550 (ø21.66)					
	Max machining dia × length*1	mm (in)	ø210 × L130 (ø8.28 × L5.12)						ø350 × L200 (ø13.78 × L7.88)					
	Distance between noses	mm (in)	960 (37.80)			990 (38.98)			1,200 (47.25)					
Travel	X axis	mm (in)	XA, XB: 205 (8.07) (+175 to –30)			XA, XB, XC: 205 (8.07) (+175 to –30)			XA, XB: 255 (10.04) (+225 to –30)			XA, XB, XC: 255 (10.04) (+225 to –30)		
	Z axis	mm (in)	ZA, ZB: 700 (27.56), W: 730 (28.74)			ZA, ZC: 400 (15.75), ZB: 730 (28.74), W: 760 (29.92)			ZA, ZB: 930 (36.61), W: 940 (37.01)			ZA, ZC: 480 (18.90), ZB: 930 (36.61), W: 940 (37.01)		
	Y axis	mm (in)	–	YA: 95 (3.74) (+50 to –45)	YA: 95 (3.74) (+50 to –45) YB: 95 (3.74) (+45 to –50)	–	YA: 95 (3.74) (+50 to –45) YB: 95 (3.74) (+45 to –50)	YA, YC: 95 (3.74) (+50 to –45) YB: 95 (3.74) (+45 to –50)	–	YA: 125 (4.92) (+70 to –55)	YA: 125 (4.92) (+70 to –55) YB: 125 (4.92) (+55 to –70)	–	YA: 125 (4.92) (+70 to –55) YB: 125 (4.92) (+55 to –70)	YA, YC: 125 (4.92) (+70 to –55) YB: 125 (4.92) (+55 to –70)
	C axis	deg	360 (minimum control angle 0.001)						360 (minimum control angle 0.001)					
Spindle (L/R)	Speed	min^{-1}	50 to 6,000 [50 to 5,000 (Left spindle only)]						45 to 5,000 [45 to 4,200]					
	Speed ranges		2 auto ranges (motor coil switching, 2 ranges)						2 auto ranges (motor coil switching, 2 ranges)					
	Spindle nose		ø140 flat [JIS A2-6 (Left spindle only)]						A2-6 [A2-8]					
	Spindle bore / Front bearing ID	mm (in)	ø62/100 (ø2.44/3.94) [ø80/120 (ø3.15/4.72) (Left spindle only)]						ø80/120 (ø3.15/4.72) [ø91/140 (ø3.58/5.51)]					
Turret	Type		Multitasking V16 [V12]						Multitasking V16 [V12]					
	No. of tools		16 [12] (L, M)						16 [12] (L, M)					
	OD tool shank	mm (in)	□20/ø32 (□0.79/ø1.26)						□25/ø40 (□0.98/ø1.57)					
	Milling tool spindle speed	min^{-1}	45 to 6,000						45 to 6,000					
Rapid traverse	X axis	m/min (ipm)	30 (1,181)						30 (1,181)					
	Z axis	m/min (ipm)	40 (1,575)						40 (1,575)					
	Y axis	m/min (ipm)	–	15 (591)		–	15 (591)		–	20 (787)		–	20 (787)	
	W axis	m/min (ipm)	32 (1,260)						40 (1,575)					
	C axis	min^{-1}	200						200					
Motors	Main spindles	kW (hp)	L/R: 11.5/7.5 (15.3/10) [22/15 (30/20)] (5 min/cont)						L/R: 22/15 (30/20) [30/22 (40/30)] (30 min/cont)					
	Milling tool	kW (hp)	5.5/3.7 (7.5/5) (2 min/cont)						7.1/4.1 (9.5/5.5) (25 min/cont)					
	X axis	kW (hp)	XA: 3.5 (4.7), XB: 3.0 (4)			XA, XC: 3.5 (4.7), XB: 3.0 (4)			XA, XB: 3.5 (4.7)			XA, XB, XC: 3.5 (4.7)		
	Z axis	kW (hp)	ZA, ZB: 3.5 (4.7)			ZA, ZB, ZC: 3.5 (4.7)			ZA, ZB: 3.5 (4.7)			ZA, ZB, ZC: 3.5 (4.7)		
	Ys axis	kW (hp)	–	YsA: 3.5 (4.7)	YsA: 3.5 (4.7) YsB: 2.2 (3)	–	YsA: 3.5 (4.7) YsB: 2.2 (3)	YsA, YsC: 3.5 (4.7) YsB: 2.2 (3)	–	YsA: 3.5 (4.7)	YsA: 3.5 (4.7) YsB: 2.2 (3)	–	YsA: 3.5 (4.7) YsB: 2.2 (3)	YsA, YsC: 3.5 (4.7) YsB: 2.2 (3)
	Coolant motor (50/60 Hz)	kW (hp)	0.55/0.75 (0.7/1) × 3			0.55/0.75 (0.7/1) × 4			0.55/0.75 (0.7/1) × 3			0.55/0.75 (0.7/1) × 4		
Machine size	Height Chip discharge, side	mm (in)	2,285 (89.96)	2,350 (92.52)		2,285 (89.96)	2,350 (92.52)		2,650 (104.33)					
	Chip discharge, rear		2,435 (95.87)	2,451 (96.50)		2,435 (95.87)	2,451 (96.50)		2,750 (108.27)					
	Floor space (including tank)	mm × mm (in)	Chip discharge, side: 3,745 × 2,464 (147.44 × 97.01), Chip discharge, rear: 3,231×3,417 (127.20 × 134.53)						Chip discharge, side: 4,504 × 2,750 (177.32 × 108.27), Chip discharge, rear: 3,994×3,743 (157.24 × 147.36)					
	Weight (with CNC)	kg (lb)	8,500 (18,700)	9,000 (19,800)		9,300 (20,460)	9,800 (21,560)		11,200 (24,640)			12,600 (27,720)		
CNC			OSP-P300LA						OSP-P300LA					

*1: Rough dimensions for work lengths that can be axially milled simultaneously on 2 turrets [ ] Optional

[ ] Optional

Standard Specifications & Accessories

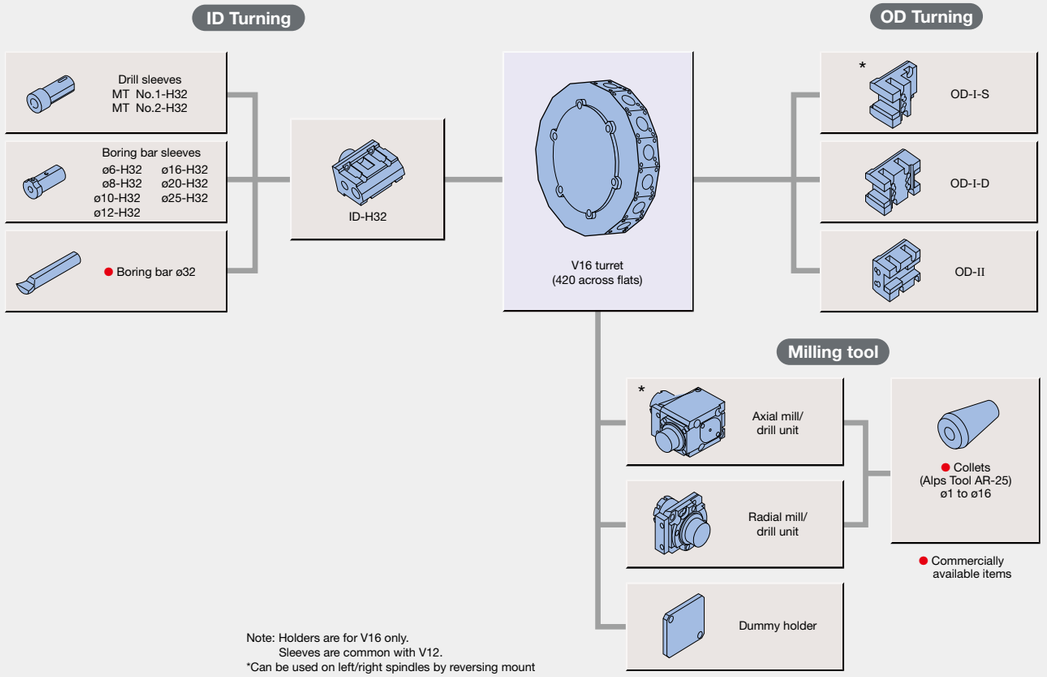
Model	LT2000 EX	LT3000 EX
Spindle	L/R ø140 flat, 50 to 6,000 min^{-1}	L/R A2-6, 45 to 5,000 min^{-1}
	11.5/7.5 kW (5 min/cont)	22/15 kW (30 min/cont)
Turret	U/L M-V16 (L/M 16 tools)	
Tools	OD 20 × 20 mm, ID ø32 mm	OD 25 × 25 mm, ID ø40 mm
Milling tool spindle speed	45 to 6,000 min^{-1}	
Motors	5.5/3.7 kW (2 min/min)	7.1/4.1 kW (25 min/min)
Spindle cooler		
Standard accessories		
Hydraulic unit		
Coolant unit	Chip washing nozzle (distribution type)	
Chip air blower (blast)	L/R chuck air blast	
Lube system	Oil level alarm/pressure alarm (lube monitor)	
Triple-lamp status indicator		
Chuck foot pedal		
Work lamp	LED	
Jack bolts, foundation block		
Hand tools		
Standard specs		
Front door interlock		
Control unit	OSP-P300LA	
Operation panel	15" color TFT display	
Pulse handle		
TAS-C	Thermo Active Stabilizer – Construction	

Optional Specifications & Accessories

Big-bore spindle	LT2000 EX: JIS A2-6 50 to 5,000 min^{-1} Spindle bearing ID ø120, spindle bore ø80	Hydraulic chuck	Solid chuck
	LT3000 EX: JIS A2-8 45 to 4,200 min^{-1} Spindle bearing ID ø140, spindle bore ø91		Hollow chuck
Turning spindle high output specs	LT2000 EX: 50 to 6,000 min^{-1} 22/15 kW (5 min/cont)	Chucking related	Chuck pressure high/low switch (L/R)
	LT3000 EX: 45 to 5,000 min^{-1} 30/22 kW (30 min/cont)		Chucking miss sensor (L/R)
V12 turret	Tools 12 pcs	Chip air blower (blast)	Chuck air blast (L/R)
Chip conveyor (types)	Hinge, scraper, scraper + drum filter		Turret air blast
	Side discharge, rear discharge; L/H discharge heights		Spindle ID air blast (L/R)
Chip pan	Side discharge, rear discharge	AbsoScale detection	XA, XB, XC, YsA, YsB, YsC, ZA, ZB, ZC axes
Chip bucket	L type (height 700 mm)	Temperature regulator	Spindle, coolant and hydraulic oil
	H type (height 1,000 mm)	Automation	Bar feeder
Coolant	Coolant gun		Loader, robot
	Shower coolant (L/R)		Touch Setter A, M (L/R)
	Spindle ID coolant (L/R)		In-process work gauging (upper/lower turret)
	Coolant temperature controller		Parts catcher
	Coolant sludge control		Output conveyor
	Coolant level detection		Unloader
	High pressure coolant unit	Front cover related	Auto front door open/close, two-hand cycle start button
		Toolholders, sleeves	
		Raised machine height	50 mm, 100 mm, 150 mm

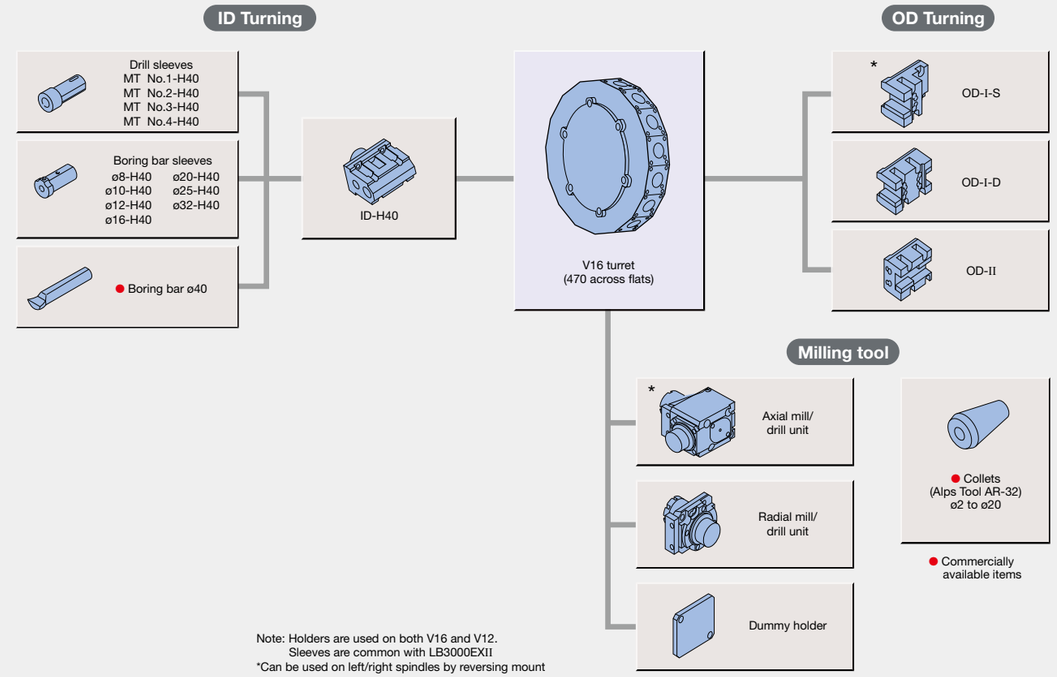
Tooling System

LT2000 EX



Note: Holders are for V16 only.
Sleeves are common with V12.
*Can be used on left/right spindles by reversing mount

LT3000 EX

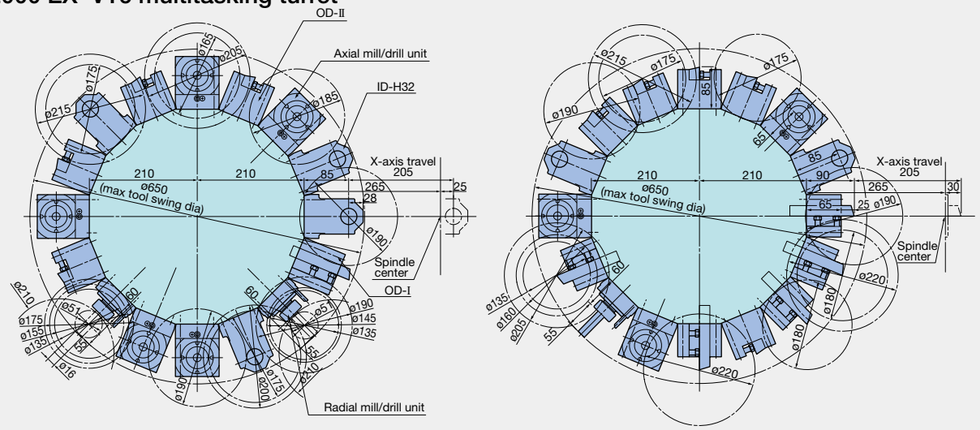


Note: Holders are used on both V16 and V12.
Sleeves are common with LB3000EXII
*Can be used on left/right spindles by reversing mount

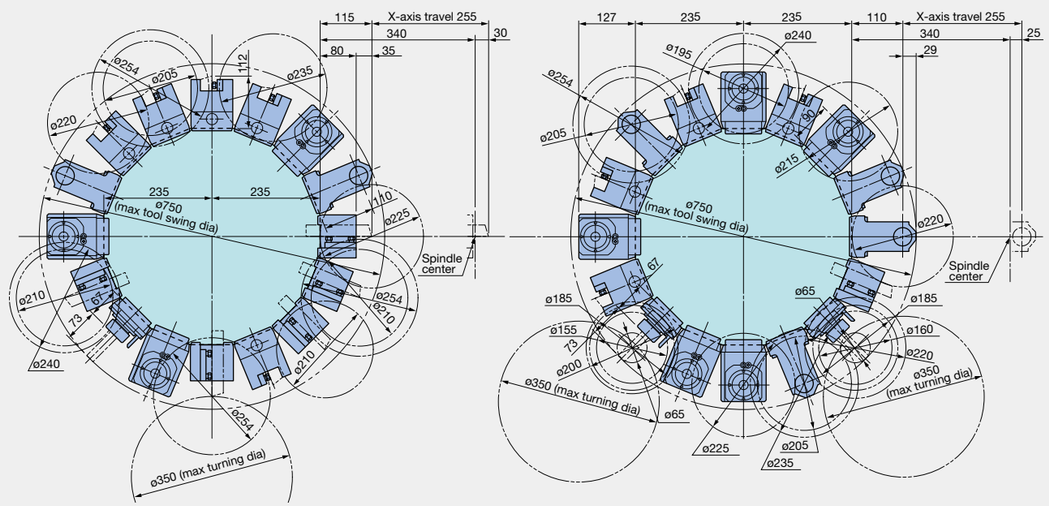
Tool Interference Drawing

Unit: mm

LT2000 EX V16 multitasking turret

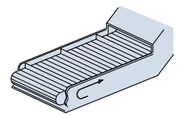
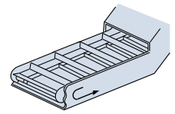
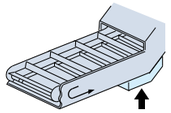
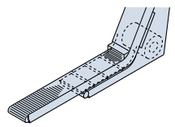


LT3000 EX V16 multitasking turret



Recommended Chip Conveyors

■ Chip conveyor types and applications

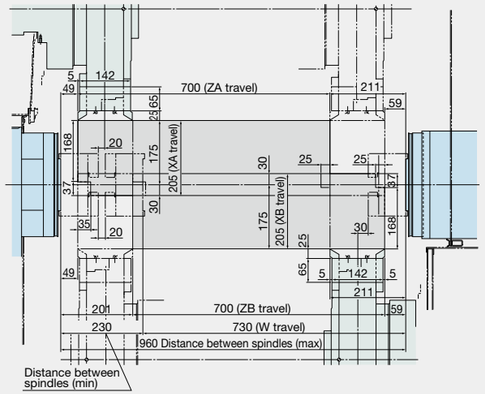
Type	Hinge	Scraper	Magnetic scraper	Hinge + scraper (drum filter)
Application	● Steel	● Castings	● Castings	● Steel, castings, nonferrous metal
Features	● General use	● Magnetic scraper more effective for sludge disposal ● Easy maintenance ● Blade scrape	● Effective with sludge ● Not suited for nonferrous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

Note: Machine platform may be necessary depending on the type of conveyor.

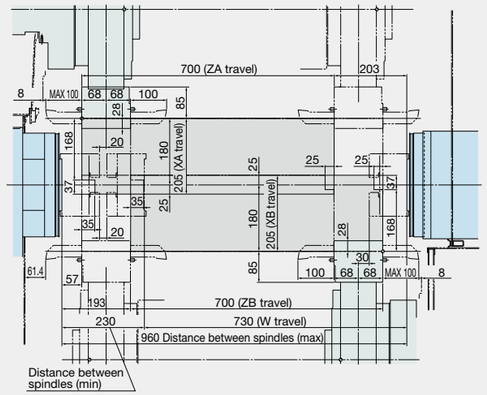
LT2000 EX Working Ranges

Unit: mm

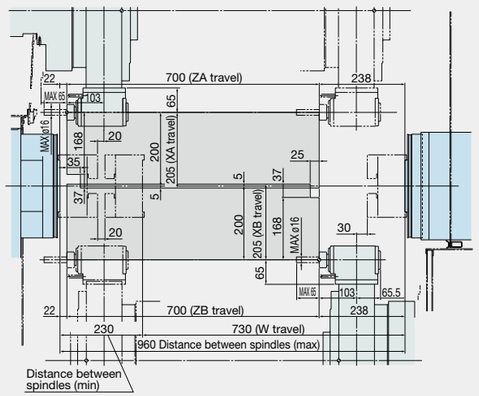
2-turret OD-I



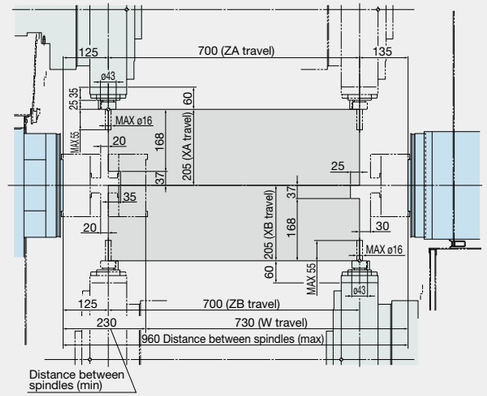
2-turret ID



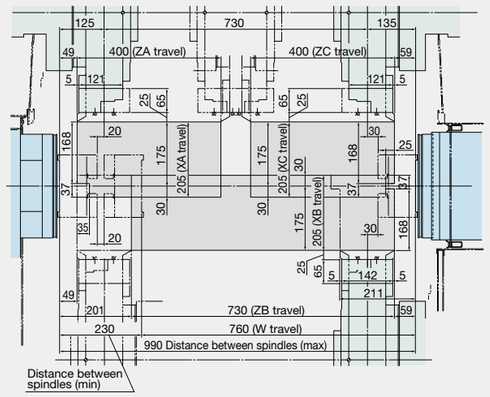
2-turret Axial drill/mill unit



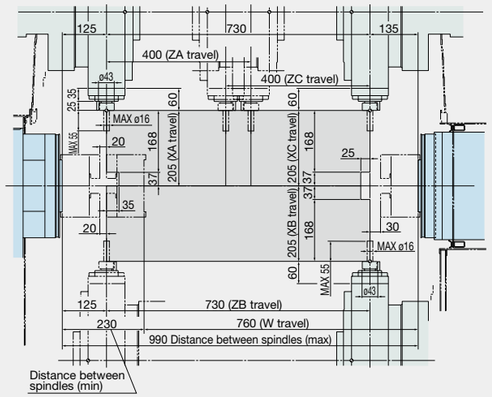
2-turret Radial drill/mill unit



3-turret OD-I



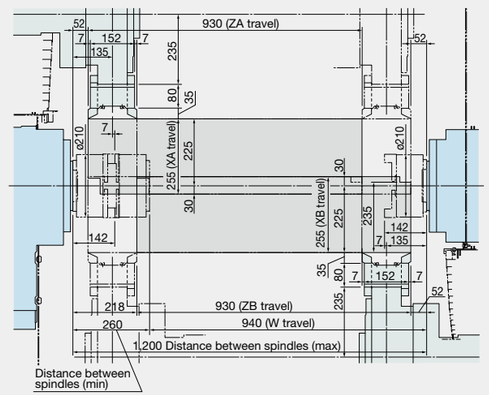
3-turret Radial drill/mill unit



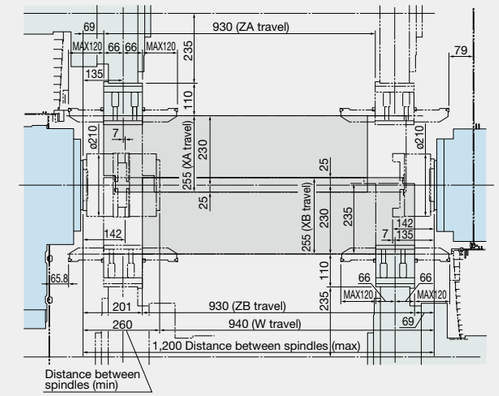
LT3000 EX Working Ranges

Unit: mm

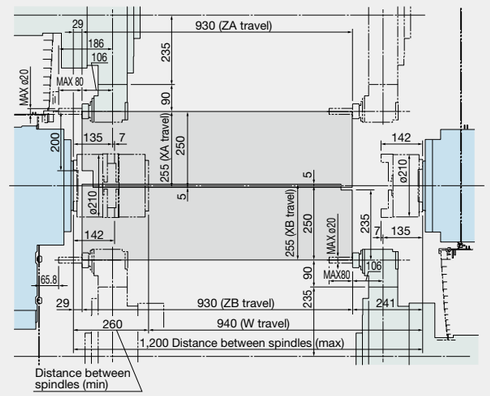
2-turret OD-I



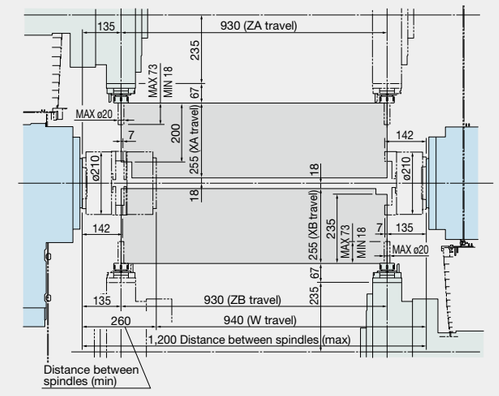
2-turret ID



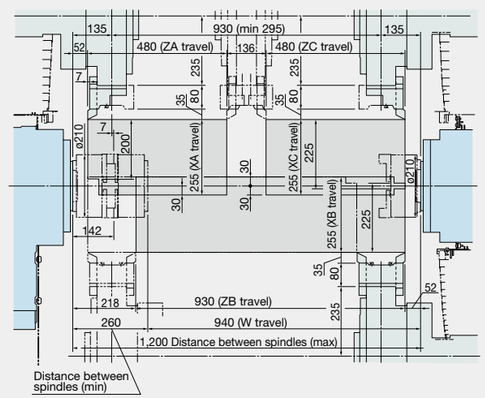
2-turret Axial drill/mill unit



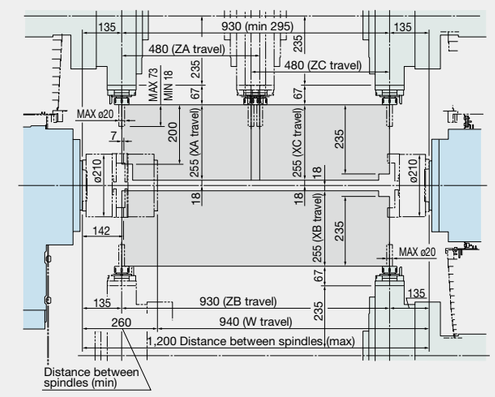
2-turret Radial drill/mill unit



3-turret OD-I



3-turret Radial drill/mill unit



The Next-Generation Intelligent CNC

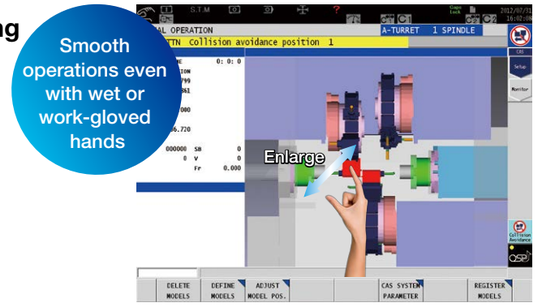
OSP suite OSP-P300LA

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.

S11

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.

S10

Easy programing without keying in code

Scheduled Program Editor

S15

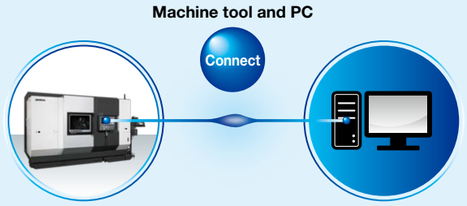
Monitoring utilization status even when away from the machine

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 + 2-axis, Multitasking: X, Z, C simultaneous 3-axis + 3-axis
	Position feedback	OSP full range absolute position feedback (zero point return not required)
	Min / Max command	±99999.999 mm 8-digit decimal, command units: 0.001 mm, 0.01 mm, 1 mm
	Feed	Override: 0 to 200%
	Spindle control	Direct spindle speed commands (S4) override 50 to 200%, Constant cutting speed, optimum turning speed designate
	Tool compensation	Tool selection: 32 sets per turret, tool offset: 32 sets per turret
	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" to complete a series of operations, Advanced operation panel/graphics facilitate smooth machine control
	Programing	Program management, edit, scheduled programs, fixed cycles, special fixed cycles, tool nose R compensation, M-spindle synchronized tapping, fixed drilling cycles, arithmetic functions, logic statements, trig 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, chuck open/close during spindle rotation, spindle orientation (electric), variable lead threading, easy setting of cycle time reduction
	MacMan	Machining Management: machining results, machine utilization, fault data compile & report, external output
Com / Net		USB (2 ports), Ethernet
High speed/accuracy		Hi-G control, TAS-C (Thermal Active Stabilizer–Construction)
Energy-saving function	ECO suite	ECO Idling Stop, ECO Power Monitor

Standard Specifications

Item		Kit specs *1 NML E	NML D	3D E	3D D	OTM E	OTM D
New Operations							
Advanced One-Touch IGF-L (Real 3-D Simulation included)						●	●
Programming							
Circular threading			●		●		●
Program notes			●		●		●
User task 2 I/O variables, 8 each							
Work coordinate system select	10 sets						
	50 sets						
	100 sets						
Tool compensation (Std: 32 sets per turret)	Tool compensation 64 sets						
	Tool compensation 96 sets						
	Tool compensation 200 sets						
	Tool compensation 999 sets						
Common variables 1,000 pcs (Std: 200 pcs)							
Thread matching							
Threading slide hold (G34, G35)							
Variable Spindle Speed Threading (VSST)							
Inverse time feed							
Spindle synchronized tapping (rigid tapping)							
Milling machine specs	Coordinate convert	●	●	●	●	●	●
	Profile generate	●	●	●	●	●	●
	Flat turning						
	Coordinate calculate (w/NYCL commands) *2						
	Shift, rotate, copy coordinates *2						
Helical cutting (within 360 degrees)							
Profile helical cutting							
Monitoring							
Real 3-D simulation				●	●	●	●
Cycle time over check		●	●	●	●	●	●
Load monitor (spindle, feed axis)				●	●	●	●
Load monitor no-load detection (load monitor ordered)							
Machine Status Logger							
AI Machine Diagnosis Function	AI Feed Axis Diagnosis						
Tool life management			●		●		●
Tool life warning							
Operation end buzzer							
Work counters	Count only						
	Cycle stop						
	Start disabled						
Hour meters	Power ON						
	Spindle rotation						
	NC operating						
NC operation monitor (counter, totaling)		●	●	●	●	●	●
Status indicator (triple lamp) Type C [Type A, Type B]		●	●	●	●	●	●
Measuring							
In-process work gauging		Included in machine specs					
Z-axis automatic zero offset by touch sensor							
C-axis automatic zero offset by touch sensor							
Y-axis gauging							
Gauge data output	File output						
Post-process work gauging interface	Set levels (5-level, 7-level)						
	BCD						
	RS-232C (dedicated channel)						
Touch Setter [M, A]		Included in machine specs					

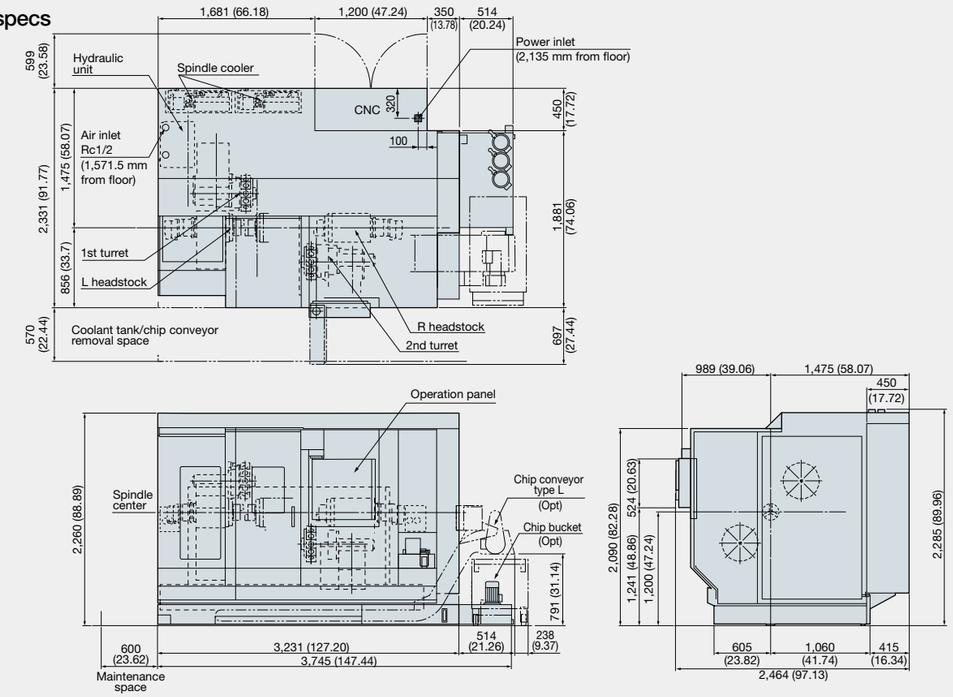
Item		Kit specs *1 NML E	NML D	3D E	3D D	OTM E	OTM D
External Input/Output and Communication Functions							
RS-232C connector							
DNC link	DNC-T3						
	DNC-C/Ethernet						
	DNC-DT						
USB (additional)	2 additional ports possible						
Automation/Untended Operation							
Auto power shutoff M02, alarm							
Warmup function (by calendar timer)							
Tool retract cycle							
External program selections	A (pushbutton) 8 types						
	B (rotary switch) 8 types						
	C1 (digital switch) BCD, 2-digit						
	C2 (external input) BCD, 4-digit						
Okuma loader (OGL) interface		Including loader specs					
Third party robot and loader interface *3	Type B (machine)						
	Type C (robot and loader)						
	Type D						
	Type E						
Bar feeders	Bar feeder	Included in machine specs					
	Interface only						
C-axis torque skip							
Work eject detect							
Cycle time reduction *3	Operation time reduction	●	●	●	●	●	●
High-Speed/High-Accuracy Functions							
1/10 µm control *3							
Pitch error compensation							
AbsoScale detection *3							
Hi-Cut Pro		●	●	●	●	●	●
ECO suite (energy saving function)							
ECO Operation	Chip conveyor intermit/link op						
	Mist collector intermit/link op						
	Spindle Power Peak Limiter						
Other Functions							
Collision Avoidance System (CAS)							
One-Touch Spreadsheet							
Machining Navi L-*g*							
Machining Navi T-*g* (Threading)							
Harmonic Spindle Speed Control (HSSC)		●	●	●	●	●	●
Spindle dead-slow cutting							
Spindle speed setting							
Y-axis alignment compensation							
Manual cutting feed							
Short circuit breaker							
External M signals [2 sets, 4 sets, 8 sets, 16 sets]							
Edit interlock							
OSP-VPS (virus protection system)							
19-in.-display operation panel w/ adjustable-tilt key board							

*1. NML: Normal, 3D: Real 3D simulation, OTM: One-Touch M, E: Economy, D: Deluxe
*2. Available only when MY specs selected.
*3. Engineering discussions required.

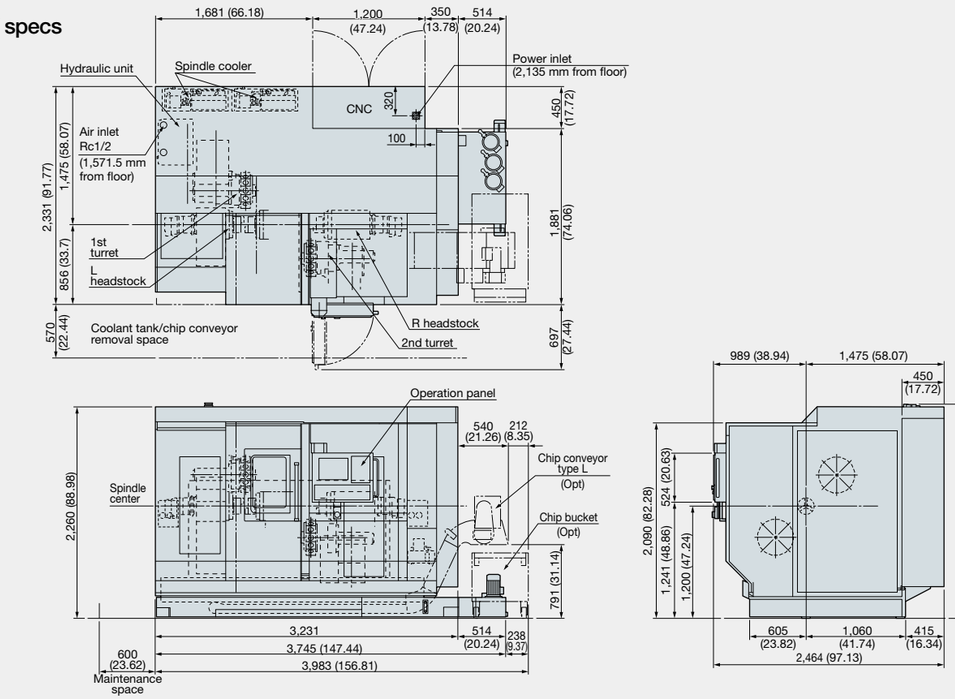
Dimensional/Installation Drawings
LT2000 EX

Unit: mm (in)

M specs



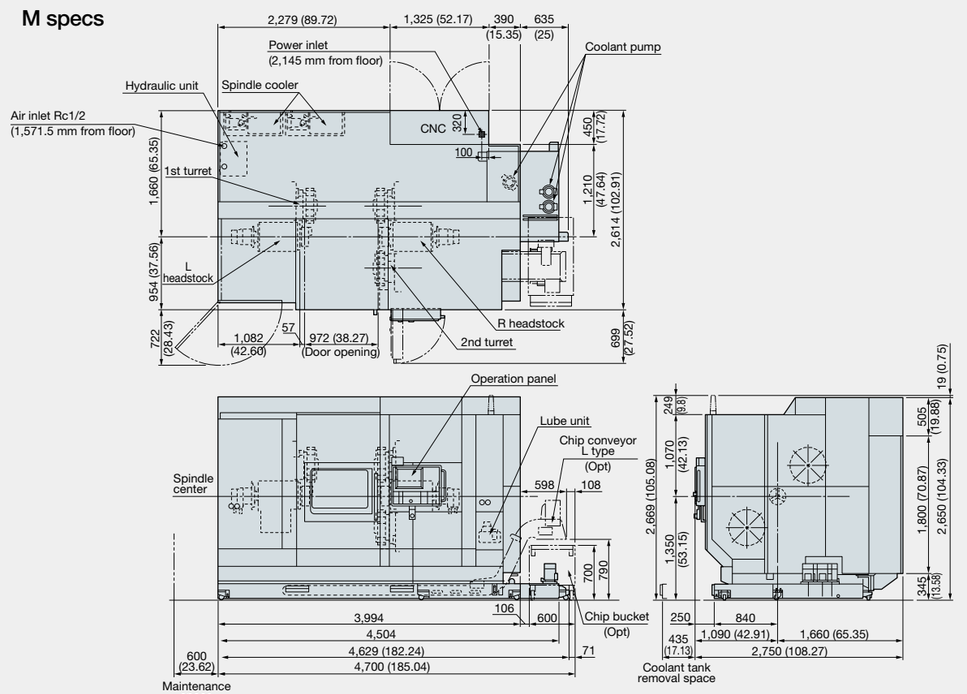
MY specs



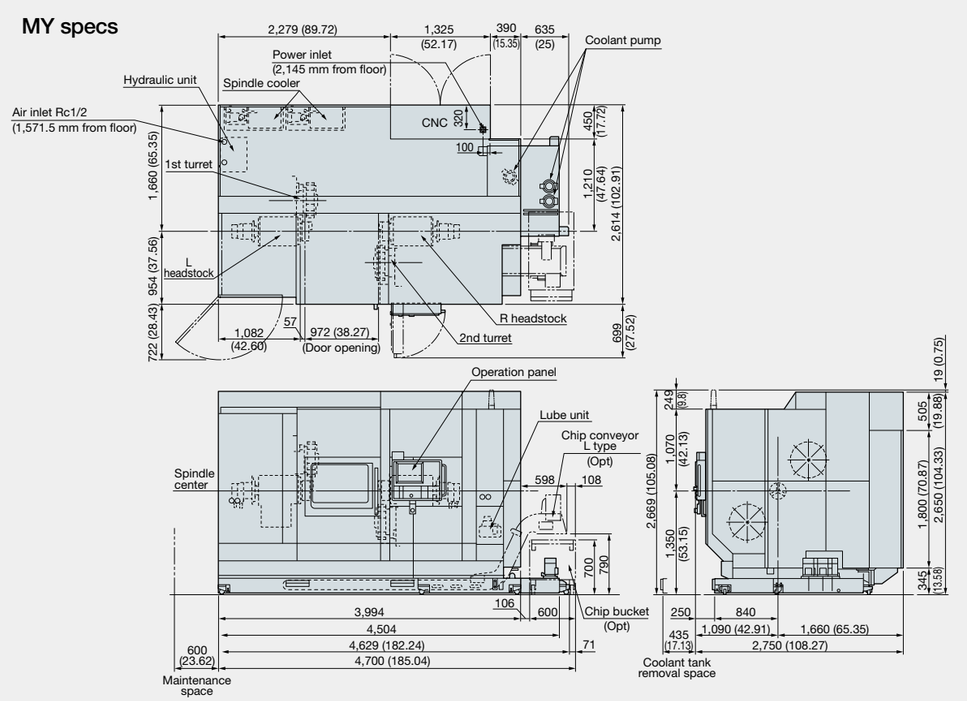
Dimensional/Installation Drawings
LT3000 EX

Unit: mm (in)

M specs



MY specs



TWIN STAR
LT EX series

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.
Pub No.TWIN STAR LT EX series-E- (3a)-400 (Apr 2020)

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