

LB2000EX II ***SPACE TURN***

1-Saddle CNC Lathe



Transcending the Legendary LB

Okuma's best and long-selling LB Series, the spearhead of a wide range of CNC lathes, now provides new functionality for today's requirements, breakthrough possibilities for the next generation, and more reliability to satisfy greater customer expectations.

We are on a mission to "continuously enhance the LB to go beyond itself," and achieve **productivity improvements** linked to new strategic value chains.

The SPACE TURN LB EX II Series.

Offering improved machining quality, speed, power and torque, process-intensive applications, automation . . .

All of the above—driven by the never-ending story of craftsmanship from Okuma.

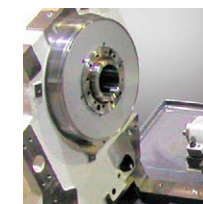


LB2000EXII

SPACE TURN

Photo includes optional specifications.

The machine against which all others will be measured



Highest Quality

- Application of Thermo-Friendly Concept
- Slanted-box bed construction



Super Fast and Rigid

- Equipped with new high-power, high-torque motor
- Combination of larger and faster spindle
- Large through-hole diameter, large working range
- Top rotation speed, horsepower, and torque in its class



Extreme Versatility

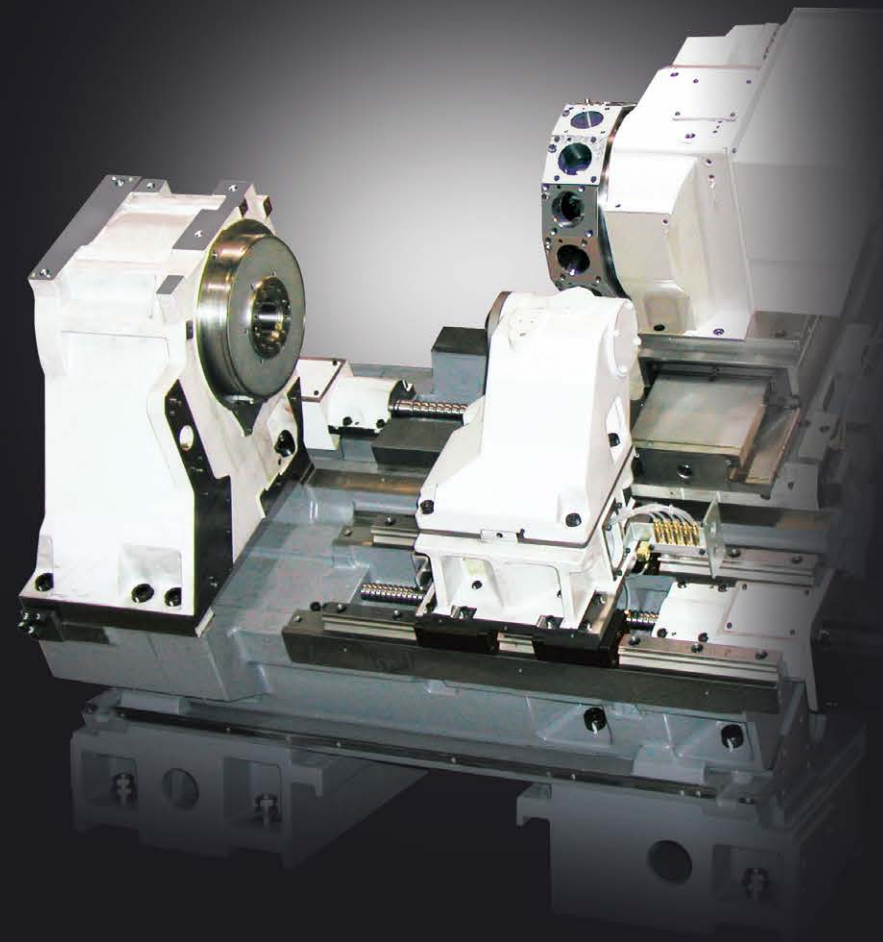
- Abundant series variation
- NC tailstock standard equipment



Easy Operation

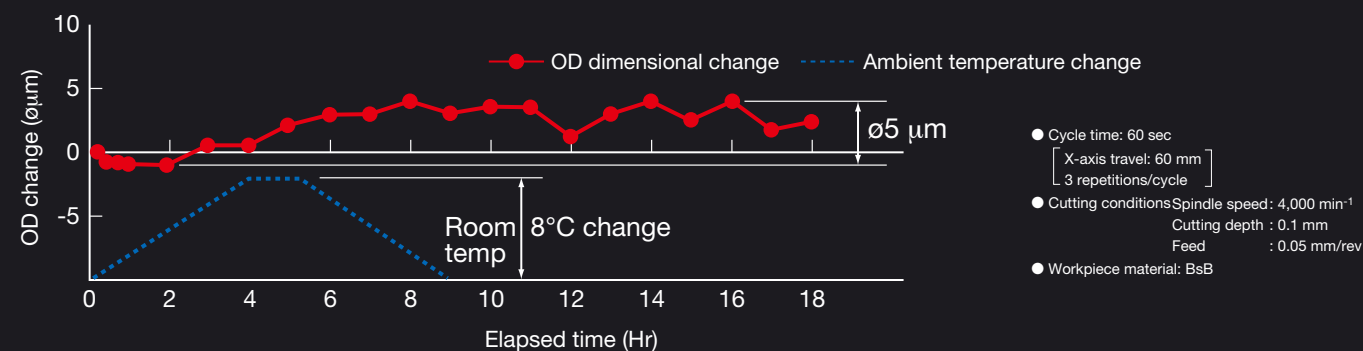
OSP suite *OSP-P300LA*
The Next-Generation Intelligent CNC

Highest Quality



Machining dimensional change over time: $\pm 5 \mu\text{m}^*$

Actual data [LB2000 EXII (L) turning] (ambient temperature: 8°C change)



* ± 0.0002 in

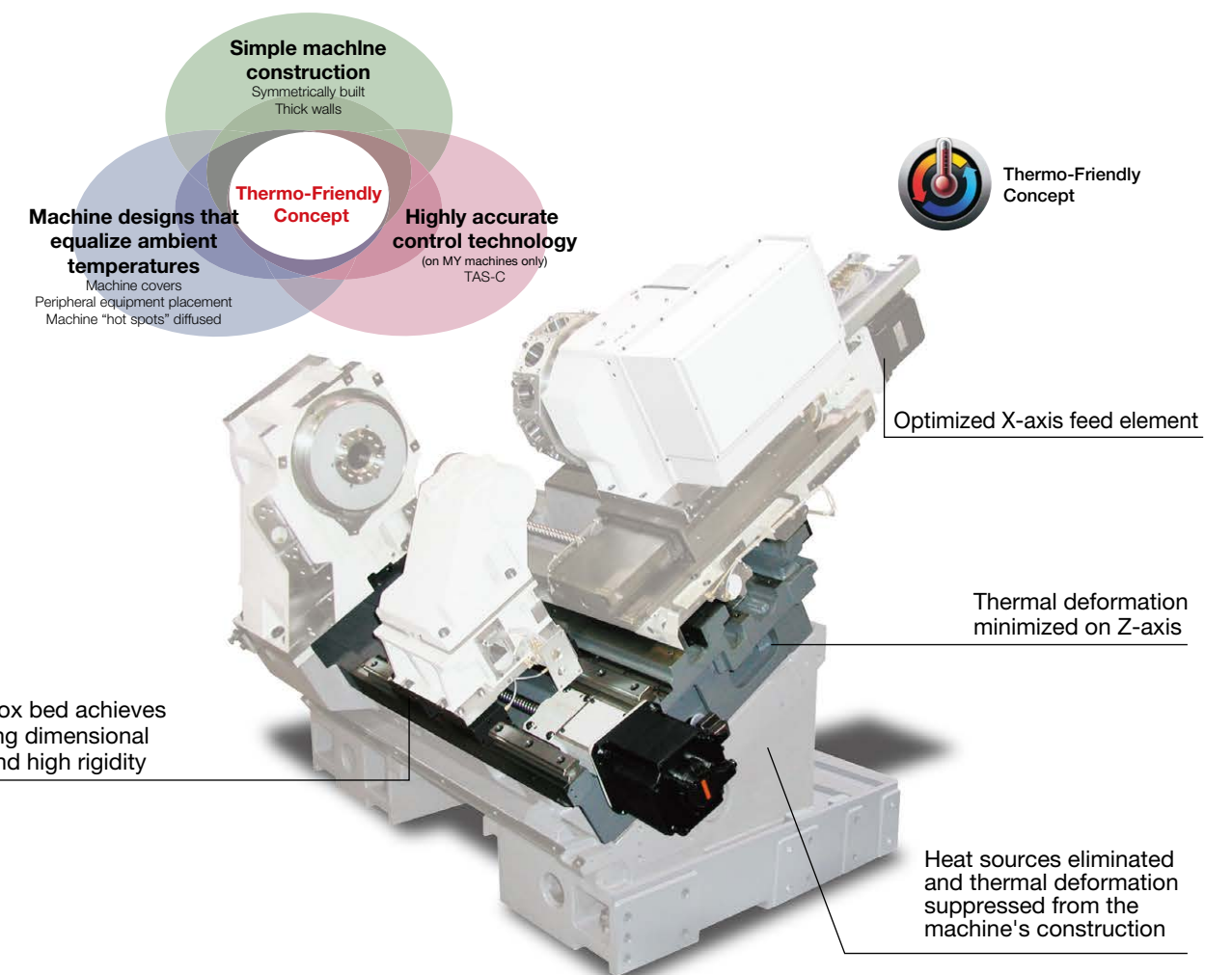
High accuracy specifications overall assure machining with high dimensional stability

Thermo-Friendly Concept for unparalleled dimensional stability

Okuma's Thermo-Friendly Concept is used on all the LB EX machines for extraordinary machining accuracy, using our unique machine design and thermal deformation control technology. Outstanding dimensional stability in long-time continuous operation, multitasking, front and back side machining with a subspindle, and even Y-axis machining without troublesome compensation or warming up.

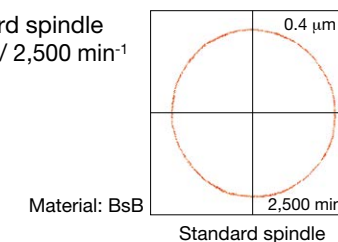
Slanted-box bed configuration with superior construction and rigidity

The next evolution of the slanted-box bed construction that has been highly praised as a "rugged, Okuma-like construction" in the SPACE TURN series. The primary units of headstock and turret on a box bed is optimally placed for outstanding dimensional stability and high rigidity. Exhibits stable machining accuracy even in heavy cutting.



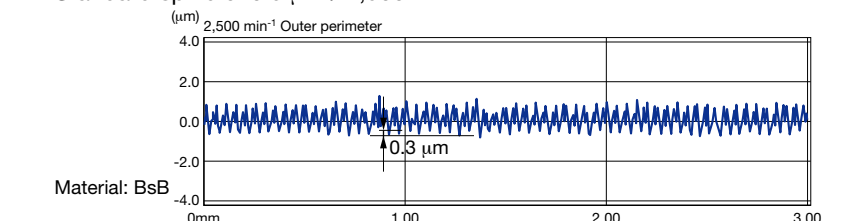
Roundness [actual data*]

- Standard spindle
0.4 μm / 2,500 min⁻¹



Tool nose uniformity (for better surface roughness) [actual data*]

- Standard spindle: 0.3 μm / 2,500 min⁻¹



* 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.

Super Fast and Rigid

Huge reduction in machining time with an original high power motor and faster machine movements

Powerful motor on the spindle gives turning capacity of 2.7 mm²

Spindle with a larger bearing internal diameter of $\phi 100$ mm can accommodate larger workpieces, and a turning capacity of 2.7 mm² is achieved with a high-speed, wide-area full power motor. Stable, high quality machining, from heavy to high speed cutting.

• Spindle size	Bearing ID $\phi 100$ (bore $\phi 62$)
• Spindle speed	6,000 min ⁻¹
• Output	11/7.5 kW (15/10 hp)
• Torque	160 N-m (118 ft-lbf)

Reduced operation time achieved with higher speed machine movements

• Rapid traverse	X: 25 m/min (984 ipm) Z: 30 m/min (1,181 ipm)
• Spindle start/stop	3.4 sec (6,000 min ⁻¹)
• Turret rotate	0.1 sec/index
• NC tailstock rapids	12 m/min (472 ipm)

Turning 2.7 mm² (Workpiece: S45C)

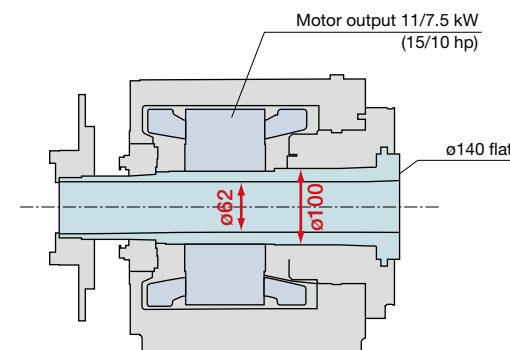
[Actual data*]

Cylindrical, heavy-duty cutting

2.7 mm² (0.0042 in²)
Cutting speed V: 120 m/min (393 fpm)
Cutting depth t: 6.0 mm (0.24 in)
Feedrate f: 0.45 mm/rev (0.02 ipr)

Drilling

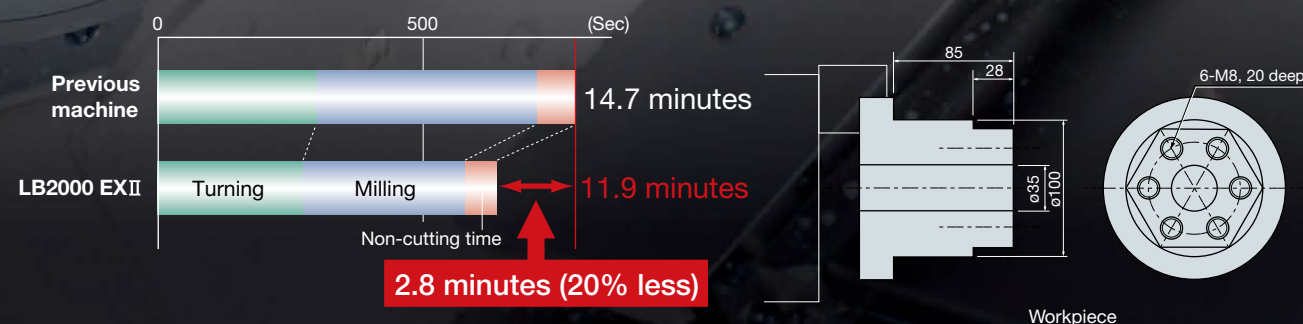
$\phi 30$ ($\phi 1.18$) carbide insert drill
Cutting speed V: 150 m/min (492 fpm)
Feedrate f: 0.22 mm/rev (0.01 ipr)



Integral motor/spindle—Okuma's own powerful motor—retains full power over a wide area. There are no gears or belts that can cause vibration or bending, for stable machining without chatter.

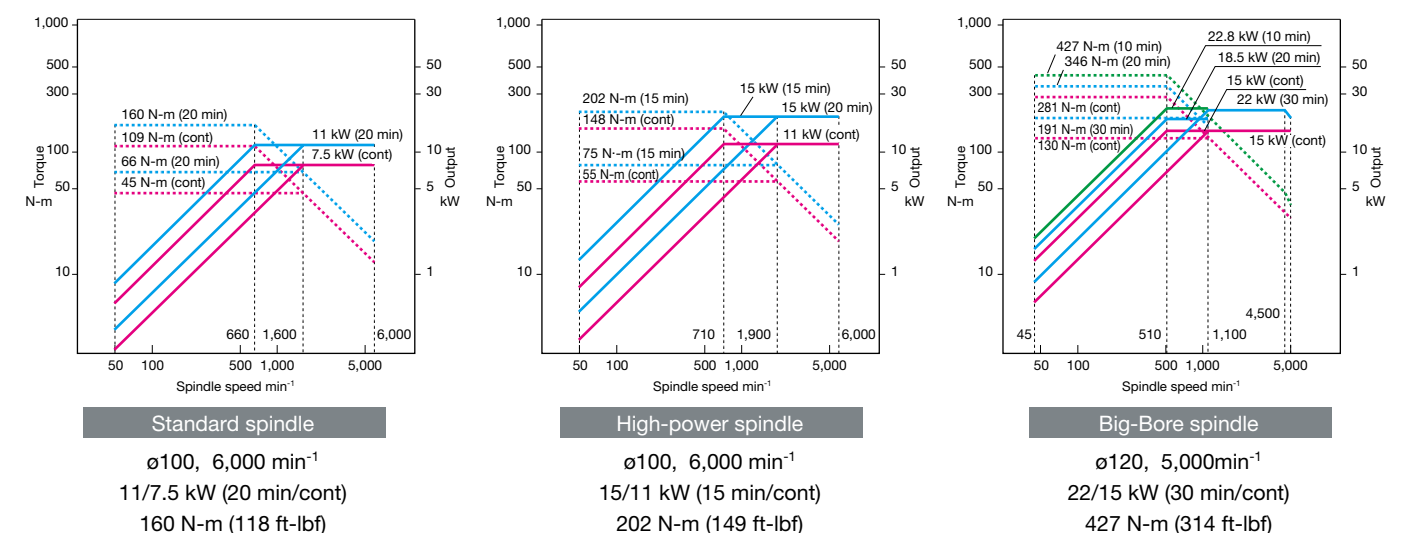
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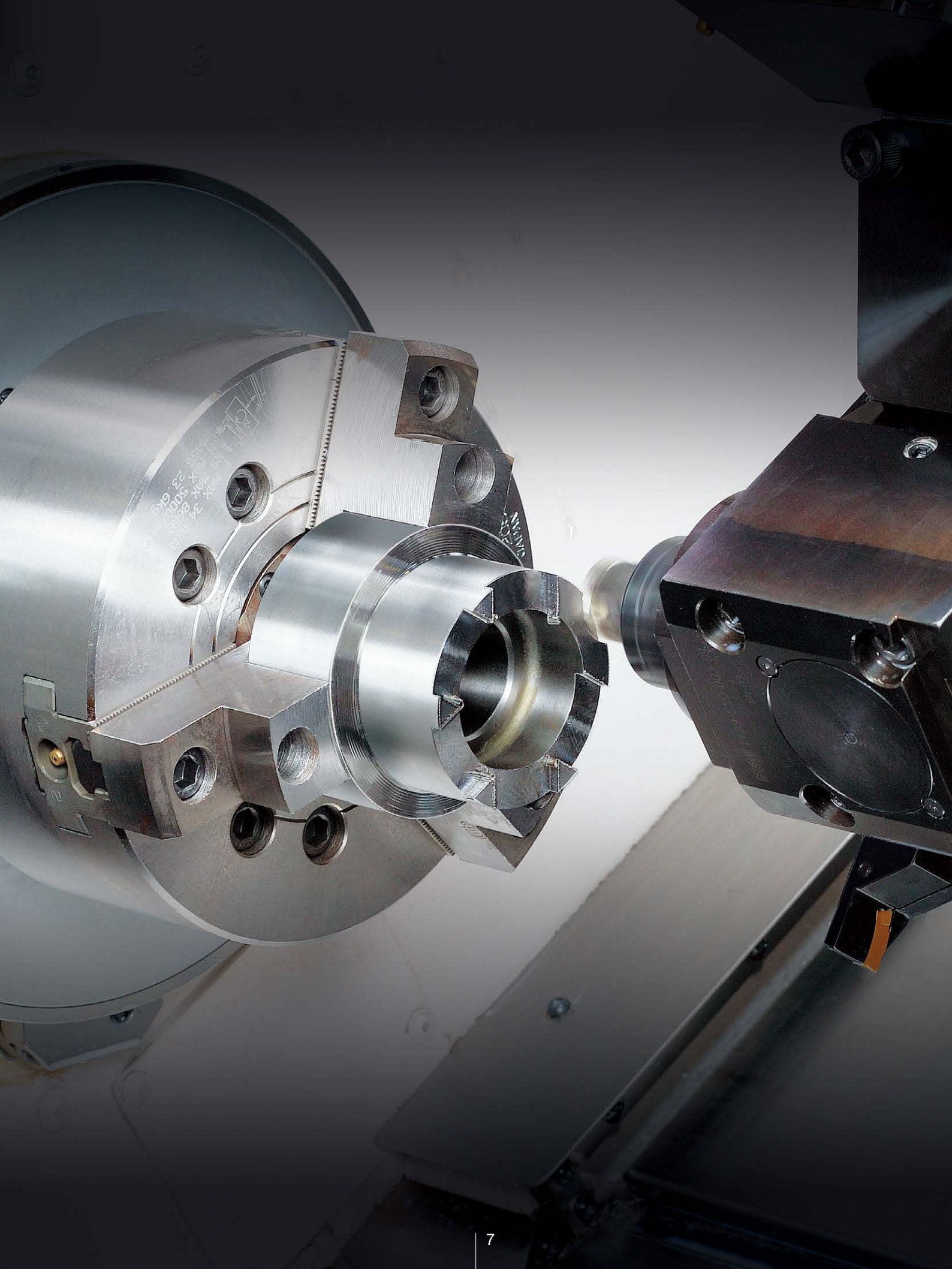
Improved productivity: 20% shorter cycle time*



* Previous machine comparison
Actual data

Motor/spindle variations





Greater efficiency with highest milling performance in its class and fast tool change times

Compact new PREX motor gives milling performance of 144 cm³/min

Compact, high-power, high-torque PREX motor also used for milling spindle of the multitasking V12 radial turret. This combined with a powerful, highly rigid bolt clamp system greatly increases multitasking speed.

• M spindle	6,000 min ⁻¹
• Output	PREX 5.5/3.7 kW (7.5/5 hp)
• Torque	31.3/20.9 N-m (23/15.4 ft-lbf)

Reduced operation time achieved with higher speed machine movements

• Turret rotate	0.1 sec/ index
• M-spindle start/stop	0.4 sec (6,000 min ⁻¹)
• M-M switch	1.2 sec

Milling capacity 144 cm³/min (Workpiece: S45C)

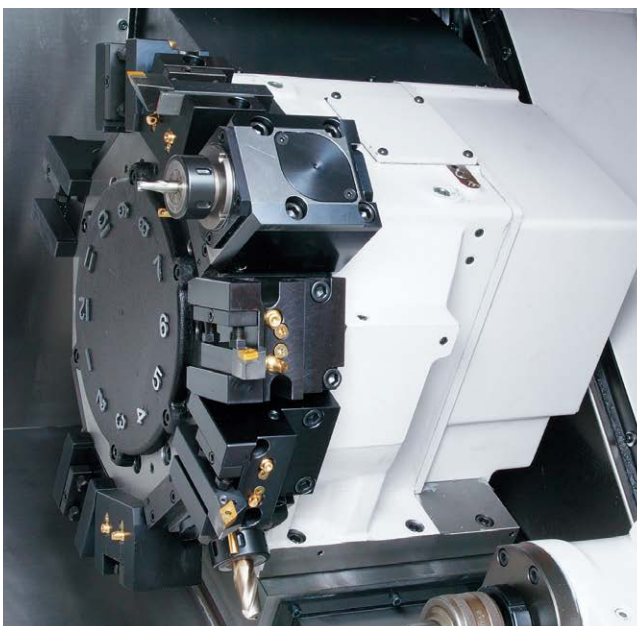
[Actual data*]

End milling Chip volume 144 cm³/min (8.8 in³/min)
ø16 6-flute carbide end mill
Cutting speed V: 100 m/min (328 fpm)
(Spindle speed N: 2,000 min⁻¹)
Cutting depth t : 20 x 6.0 mm (0.79 x 0.23 in)
Feedrate f : 0.60 mm/rev (0.02 ipr)

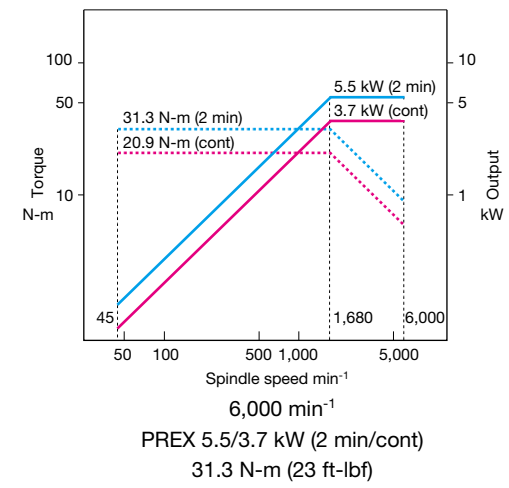
Drilling ø20 carbide insert drill
Cutting speed V: 135 m/min (443 fpm)
Feedrate f : 0.25 mm/rev (0.01 ipr)

Tapping M16 P2
(Synchronized tapping)

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Milling tool spindle



Wide working range

Max machining dia: ø430 mm (M turret: ø360 mm)

• Standard spindle ø140 flat	6-in chuck
• Big-Bore spindle JIS A2-6	8-in chuck
	10-in chuck

Distance between centers: 300 mm

Spindle thru hole: Bigger

• Standard spindle ø62 mm (ø2.44 in)
• Big-Bore spindle ø80 mm (ø3.15 in)

Extreme Versatility

Providing rich variation and optimum ease of use

NC tailstock that shortens setup and automates center work is standard equipment

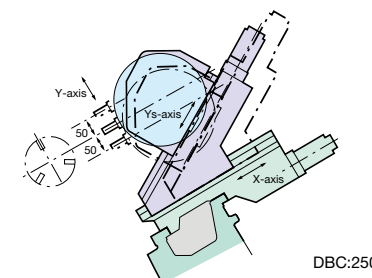
Up to 10 pairs of tailstock positions can be set, enabling continuous machining of workpieces with 10 different lengths without setup. In addition, thrust can be switched between high and low without resetting the workpiece. (Tailstock thrust high/low switch: Optional)
High accuracy positioning is also possible with a high speed linear guide employing a ball screw guide.

• Tailstock thrust	0.5 to 3 kN, 0.5 to 5 kN (DBC 500)
• Rapid traverse	12 m/min (472 ipm)
• Approach	10 m/min (394 ipm)
• Retract	12 m/min (472 ipm)

Complete multitasking with Y-axis functions One chuck machining even with irregularly shaped workpieces

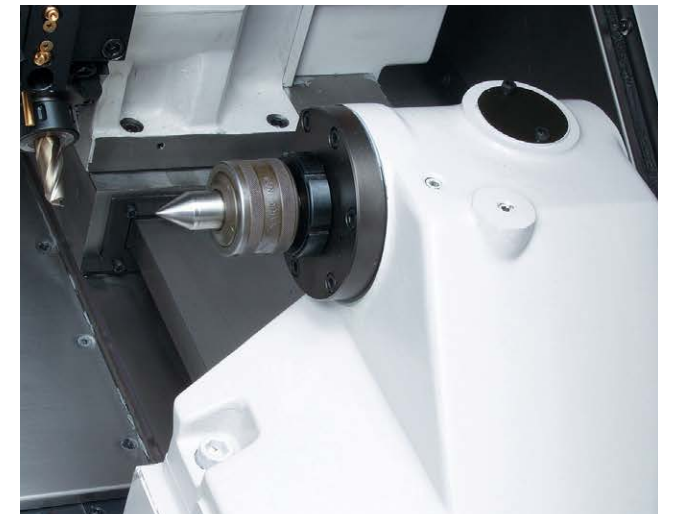
A variety of milling operations can be accommodated with high-accuracy, wide-range Y-axis travel using a double slide system. Achieves complete multitasking with a single chucking (MY specifications).

• Travel	100 mm (+50 to -50) (DBC:250) [3.94 in (+1.97 to -1.97)]
	120 mm (+70 to -50) (DBC:450) [4.72 in (+2.76 to -1.97)]
• Y-axis rapid traverse	12.5 m/min (492 ipm)



Simple automation with parts catcher (Optional)

Automation can be achieved easily with a simple mechanism in which the bucket swings and discharges workpieces outside the machine.

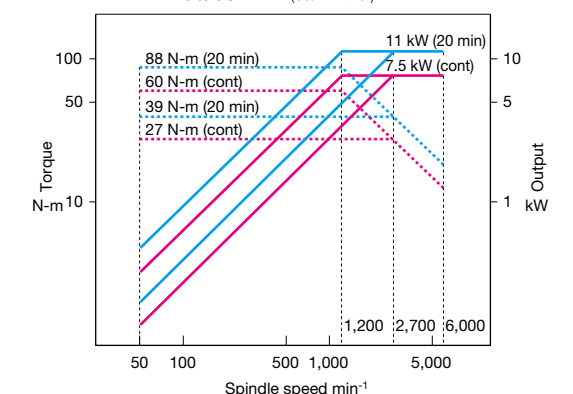


Note: Please select a hydraulic quill for face driver machining applications.

Integrated operations with sub-spindle

With these sub-spindle specifications, front and back machining can be done on a single LB2000 EXII. Interference is not a worry even in back face machining with a multitasking V12 radial turret (W, MW specifications).

■ Sub-spindle	ø100 mm (3.94 in)	6,000 min ⁻¹
	11/7.5 kW (15/10 hp)	(20 min/cont)
	88/60 N-m (65/44 ft-lbf)	

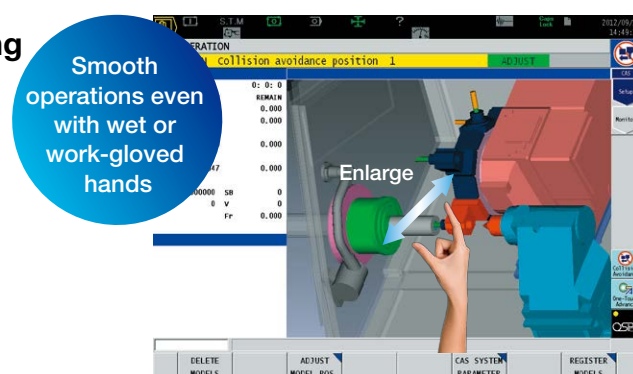


With revamped operation and responsiveness— ease of use for machine shops first!

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.



Spindle Output Monitor

Increased productivity through visualization of motor power reserve

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.



Scheduled Program Editor

Easy programming without keying in code



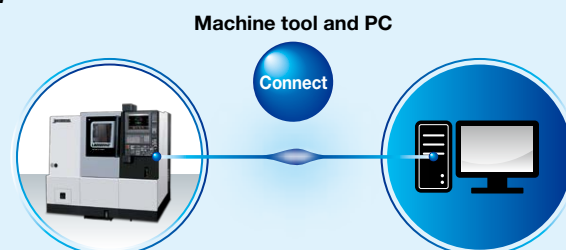
E-mail Notification

Monitoring utilization status even when away from the machine

Connect Plan Get Connected, Get Started, and Get Innovative with Okuma “Monozukuri”

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.

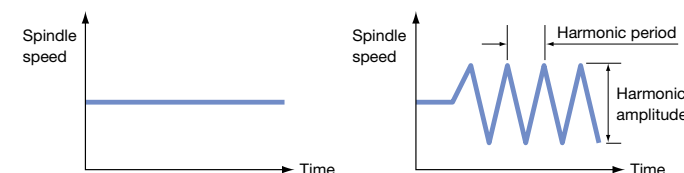


Okuma's Intelligent Technology reduces operator burden



Machining Navi L-gII (guided, harmonic spindle speed control) Cutting condition search function for turning (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.

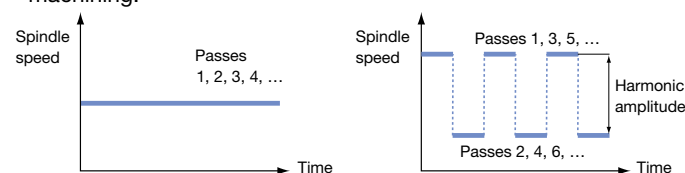


Machining Navi L-g II



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

When chatter occurred during threading, it was common to lower the cutting conditions or use special tools that resist chatter. Okuma's Machining Navi T-g (Threading) breaks the vibration periodicity with a different spindle speed for each threading pass, and suppresses chatter growth. The machining capacity of your normally used tools can be maximized for stable machining.

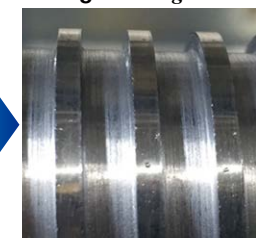


Normal threading



Chatter marks

Machining Navi T-g Threading



Smooth surface, clean finished threads

ECO suite

Next-Generation Energy-Saving System

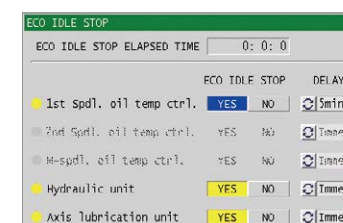
A suite of energy saving applications for machine tools

ECO Idling Stop

Operation only for the time required for each unit

Idling can be stopped for individual spindle, feed drives, and peripheral equipment. By reducing the idling time, power consumption can also be reduced.

● Example of equipment that can use Idling Stop

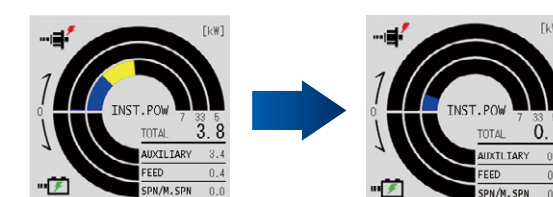


ECO Power Monitor

On-the-spot check of energy savings

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.

● Example of Power Monitor check



Before ECO Idling Stop

After ECO Idling Stop

The displayed values are one example.

Machine Specifications

Item	Model		LB2000 EXII (L)			LB2000 EXII (M)		
			T	C x 300	C x 500	T	C x 300	C x 500
Capacity	Swing over bed	mm (in)	ø580 (ø22.83)					
	Swing over saddle	mm (in)	ø470 (ø18.50)					
	Distance between centers (W specs: DBN)*1	mm (in)	150 (5.91)	300 (11.81)	540 (21.26)	—	300 (11.81)	540 (21.26)
	Max turning dia	mm (in)	ø430 (ø16.93)					
Travels	Max work length	mm (in)	—	300 (11.81)	520 (20.47)	150 (5.91)	300 (11.81)	500 (19.69)
	X axis	mm (in)	260 (10.24)					
	Z axis	mm (in)	390 (15.35)		565 (22.24)	390 (15.35)		565 (22.24)
	Y axis	mm (in)	—			—		
	C axis (minimum control angle)	deg	—			360 (0.001)		
Spindle	Speed	min ⁻¹	50 to 6,000 [45 to 5,000]					
	Speed ranges		2 auto ranges (motor coil switching)					
Sub-spindle	Nose		ø140 flat <JIS A2-6>					
	Bore dia / Front bearing dia	mm (in)	ø62 <ø80>/ø100 <ø120> (ø2.44 <ø3.15>/ø3.94 <4.72>)					
	Speed	min ⁻¹	—					
	Speed ranges		—					
	Nose		—					
Turret	Bore dia / Front bearing dia	mm (in)	—					
	Type		V12 NC turret			M-V12 NC turret		
	No. of tools		L: 12			L / M: 12		
	OD tool shank	mm (in)	□20 (3/4)					
	ID tool shank dia	mm (in)	ø32 (ø1-1/4)					
Milling tool	Turret rotation	sec/index	0.1					
	Spindle speed	min ⁻¹	—			45 to 6,000		
Feed rates	Speed range		—			Infinitely variable		
	Rapid traverse	m/min (ipm)	X: 25, Z: 30 (984, 1,181)					
Tailstock	Tailstock rapids	m/min (ipm)	—	12 (472)		—	12 (472)	
	Rapid traverse (W)	m/min (ipm)	—			—		
	Rapid traverse (C)	min ⁻¹	—			200		
	Tapered bore type		—	MT No. 4 (revolving center)		—	MT No. 4 (revolving center)	
Motors	Quill travel	mm (in)	—	415 (16.34)	515 (20.28)	—	415 (16.34)	515 (20.28)
	Main spindle	kW (hp)	11/7.5 (15/10) (20 min/cont) [15/11 (20/15) (15 min/cont)] <22/15 (30/20) (30 min/cont)>					
	Sub-spindle	kW (hp)	—					
	Milling tool spindle	kW (hp)	—			5.5/3.7 (7.5/5) (2 min/cont) [7.1/4.1 (9.5/5.5) (25 min/cont)]		
	Axis drive	kW (hp)	X: 2.8 / Z: 3.5 (3.7/4.7)					
Machine size	Tailstock travel	kW (hp)	—	2.9 (3.9)		—	2.9 (3.9)	
	Sub-spindle travel	kW (hp)	—			—		
	Coolant pump (60 Hz / 50 Hz)	kW (hp)	Side discharge: 0.25/0.25 (0.34/0.34), Rear discharge: 0.75/0.55 (1/0.73)					
	Height	mm (in)	1,839 (72)					
	Floor space (Side discharge)	mm (in)	1,980 x 1,734 (78 x 68)		2,290 x 1,734 (90 x 68)	1,980 x 1,734 (78 x 68)		2,290 x 1,734 (90 x 68)
CNC	Floor space (Rear discharge)	mm (in)	1,890 x 1,984 (74 x 78)		2,200 x 1,984 (87 x 78)	1,890 x 1,984 (74 x 78)		2,200 x 1,984 (87 x 78)
	Mass (w/ CNC)	kg (lb)	3,250 (7,150)	3,400 (7,480)	4,300 (9,460)	3,350 (7,370)	3,450 (7,590)	4,350 (9,570)
			OSP-P300LA					

Standard Specifications & Accessories

Model Specifications	LB2000 EXII											
	L			M			MY			W	MW	
	T	C x 300	C x 500	T	C x 300	C x 500	T	C x 300	C x 500	W x 500	W x 500	
Spindle	ø140 flat 50 to 6,000 min ⁻¹ 11/7.5 kW (15/10 hp) (20 min/cont)											
Sub-spindle	-									ø140 flat 50 to 6,000 min ⁻¹ 11/7.5 kW (15/10 hp) (20 min/cont)		
Turret	NC indexing											
	V12 bolt clamp			M-V12 radial 45 to 6,000 min ⁻¹						V12 bolt clamp		M-V12 radial 45 to 6,000 min ⁻¹
Milling tool (2 min/cont)	-			PREX 5.5/3.7 kW (7.5/5 hp) (2 min/cont)						-		PREX 5.5/3.7 kW (2 min/cont)
Tailstock	-	NC travel Dead quill MT No. 4		-	NC travel Dead quill MT No. 4		-	NC travel Dead quill MT No. 4		-		
Standard accessories	Coolant system (water soluble)											
	Work lamp (LED)											
	Full enclosure shielding											
	Jack screws, foundation washers											
	Hand tools											
Standard accessories	Door interlock (standard)											
	Lube monitor (A-1 + hydraulic pressure source detector)											
	-									Chuck auto open/close confirm (main/sub)		
CNC	-									Chuck air blow (main/sub)		
	OSP-P300LA											
	NC operation panel, 15-in color TFT (touch panel)											
	Program storage; 4 GB											
	Operation buffer; 2 MB											
	-									Chuck open/close during spindle rotation		

Optional Specs & Accessories

■ Headstock	Big-Bore spindle Spindle bearing ID ø120 JIS A2-6 45 to 5,000 min ⁻¹ Spindle motor 22/15 kW (30 min/cont) High-power spindle 15/11 kW (15 min/cont)
■ Chucking	Chuck auto open/close confirm Chuck high/low pressure switch Work stopper in spindle
■ Gauges	In-process gauging system Touch Setter M (manual), A (auto)
■ Tailstock	Revolving center: MT No. 4 Tailstock taper: Built-in center MT No. 3 Built-in center MT No. 4 (DBC 500) Threaded center MT No. 3 High thrust specs
■ Lubrication	Lube monitor B-2, C-1, C-2
■ Coolant	Shower coolant A, B Spindle ID coolant A, B Pump motor: 0.82/0.52 kW (60/50 Hz) Sludge control Flow/Level detection Mist collector Coolant gun
■ Air	Air blow (blast; chuck, center, spindle ID, turret)
■ Shielding	Front door auto open/close
■ Chip handling	Chip pan side or rear Chip conveyor side or rear discharge L, H Chip bucket L, H
■ Dustproofing	Air purge, double wiper
■ Automation	Bar feeder NC robots NC loaders

LB2000 EX II (MY)			LB2000 EX II (W)	LB2000 EX II (MW)
T	C x 250	C x 450	W x 500	W x 500
ø580 (ø22.83)				
ø470 (ø18.50)				
—	250 (9.84)	490 (19.29)	791 (31.14)	791 (31.14)
ø360 (ø14.17)			ø430 (ø16.93)	ø360 (ø14.17)
150 (5.91)	250 (9.84)	450 (17.72)	—	—
260 (10.24)				
350 (13.78)		510 (20.08)	565 (22.24)	550 (21.65)
100 (+50 to -50) (3.94 (+1.57 to -1.57))		120 (+70 to -50) (4.72 (+2.76 to -1.57))	—	—
360 (0.001)			—	360 (0.001)
50 to 6,000 <45 to 5,000>				
2 auto ranges (motor coil switching)				
ø140 flat <JIS A2-6>				
ø62 <ø80>/ø100 <ø120> (ø2.44 <ø3.15>/ø3.94 <ø4.72>)				
—			50 to 6,000	
—			2 auto ranges (motor coil switching)	
—			ø140 flat	
—			ø62/ø100 (ø2.44/ø3.94)	
M-V12 NC turret			V12 NC turret	M-V12 NC turret
L / M: 12			L: 12	L / M: 12
□20 (3/4)				
ø32 (ø1-1/4)				
0.1				
45 to 6,000			—	45 to 6,000
Infinitely variable			—	Infinitely variable
X: 25, Z: 30, Y: 12.5 (984, 1,181, 492)			X: 25, Z: 30 (984, 1,181)	
—	12 (472)		—	
—			30 (1,181)	
200			—	200
—	MT No. 4 (revolving center)		—	
—	415 (16.34)	515 (20.28)	—	—
11/7.5 (15/10) (20 min/cont) [15/11 (30/15) (15 min/cont)] <22/15 (30/20) (30 min/cont)>				
—			11/7.5 (15/10) (20 min/cont)	
5.5/3.7 (7.5/5) (2 min/cont) [7.1/4.1 (9.5/5.5) (25 min/cont)]			—	5.5/3.7 (7.5/5) (2 min/cont) [7.1/4.1 (9.5/5.5) (25 min/cont)]
X: 3.5 / Z: 4.6, Ys: 3.5 (4.7/6.2/4.7)			X: 2.8 / Z: 3.5 (3.8/4.7)	
—	2.9 (3.9)		—	
—			2.8 (3.7)	
Side discharge: 0.25/0.25 (0.34/0.34), Rear discharge: 0.75/0.55 (1/0.73)				
2,250 (88)			1,839 (72)	
2,020 x 1,734 (80 x 68)		2,290 x 1,734 (90 x 68)	2,740 x 1,734 (108 x 68)	
2,020 x 1,984 (80 x 78)		2,250 x 1,984 (89 x 78)	2,650 x 1,984 (104 x 78)	
4,050 (8,910)	4,200 (9,240)	4,850 (10,670)	4,600 (10,120)	4,700 (10,340)
OSP-P300LA				

[]: High-power spindle specs < >: Big-Bore spindle specs

*1. DBN: Distance between noses

Various chip conveyors

Chip conveyor types and application

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				

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

■ Chucking Kit / Tooling Kit

Model Specifications	LB2000 EXII								
	L			M			W		MW
	Std Chucking Kit	Std Tooling Kit	Chucking Kit			Chucking Kit	Std Chucking Kit	Sub Chucking Kit	Std Tooling Kit
Chuck	Solid 6 in N-06		BB kit *1	E kit *2	D kit *3	BB kit *1	Solid 6 in N-06		
Sub-spindle chuck								Hollow 6 in B-206	
Soft jaws, A			5			5			
Soft jaws, B			3			3			
Hard jaws			1			1			
OD-I		4	6			6			
OD-II		2	3			2			
OD-I-S									2
OD-II-S									2
OD-III-S									2
OD-IV-S									1
ID-H32		6	6			3			
ID-I-S (H32)									4
ID-II-S (H20)									2
ID-III-S (H20)									1
ID-H32-S (main)									
ID-H32-S (sub)									3
DS MT No. 1-H32			1						2
DS MT No. 2-H32		1	1			1			
DS MT No. 3-H32									1
BS 8-H32			2						
BS 10-H32			2			2			
BS 12-H32			2			2			
BS 16-H32		2	2			2			2
BS 20-H32		2	2			2			2
BS 25-H32			2			2			2
BS 12-H20									1
BS 16-H20									2
Axial mill/drill unit						2			
Radial mill/drill unit						2			
Dummy holder						3			
Revolving center* MT No. 4						1			

* Not available for T model specifications

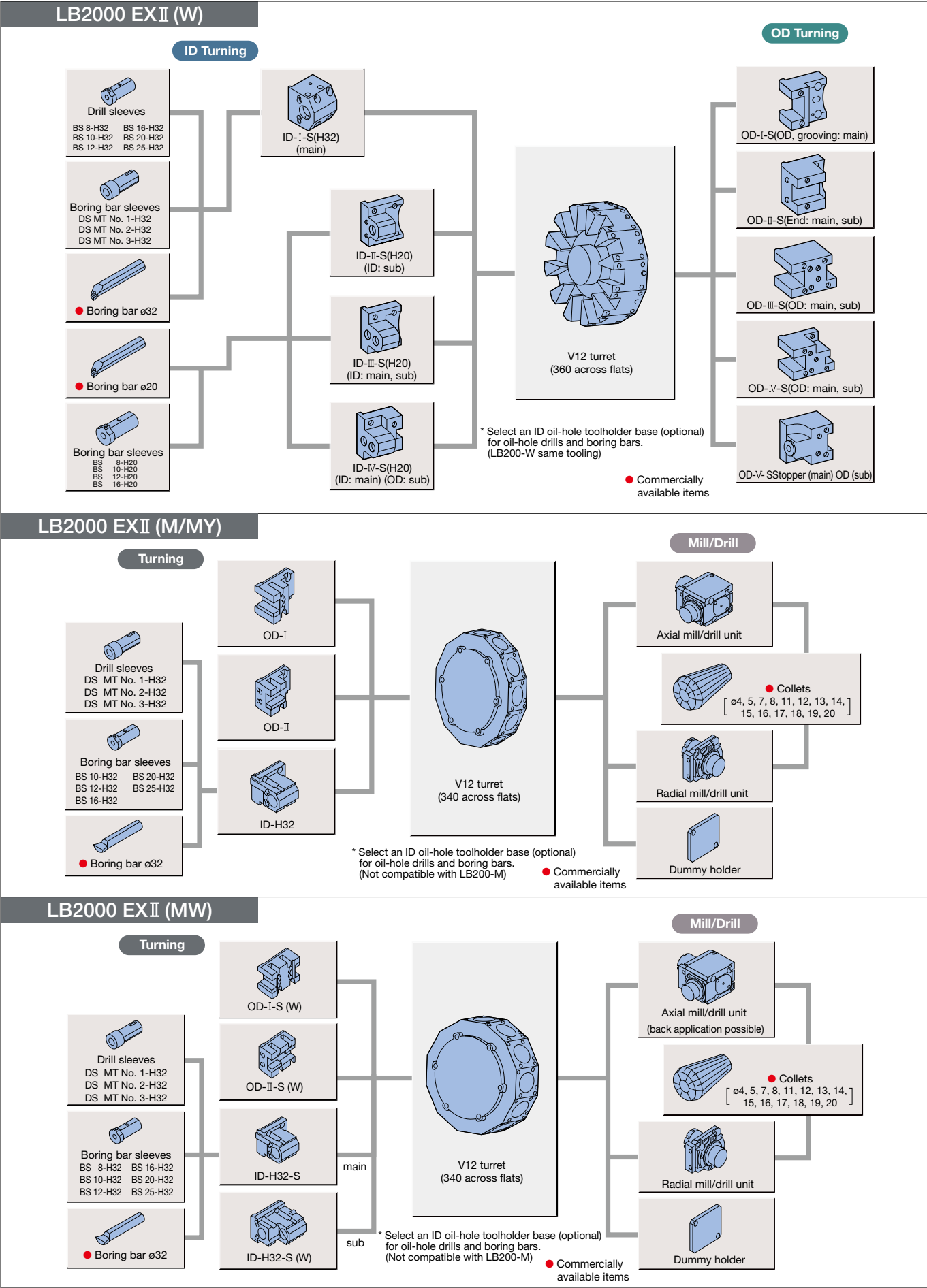
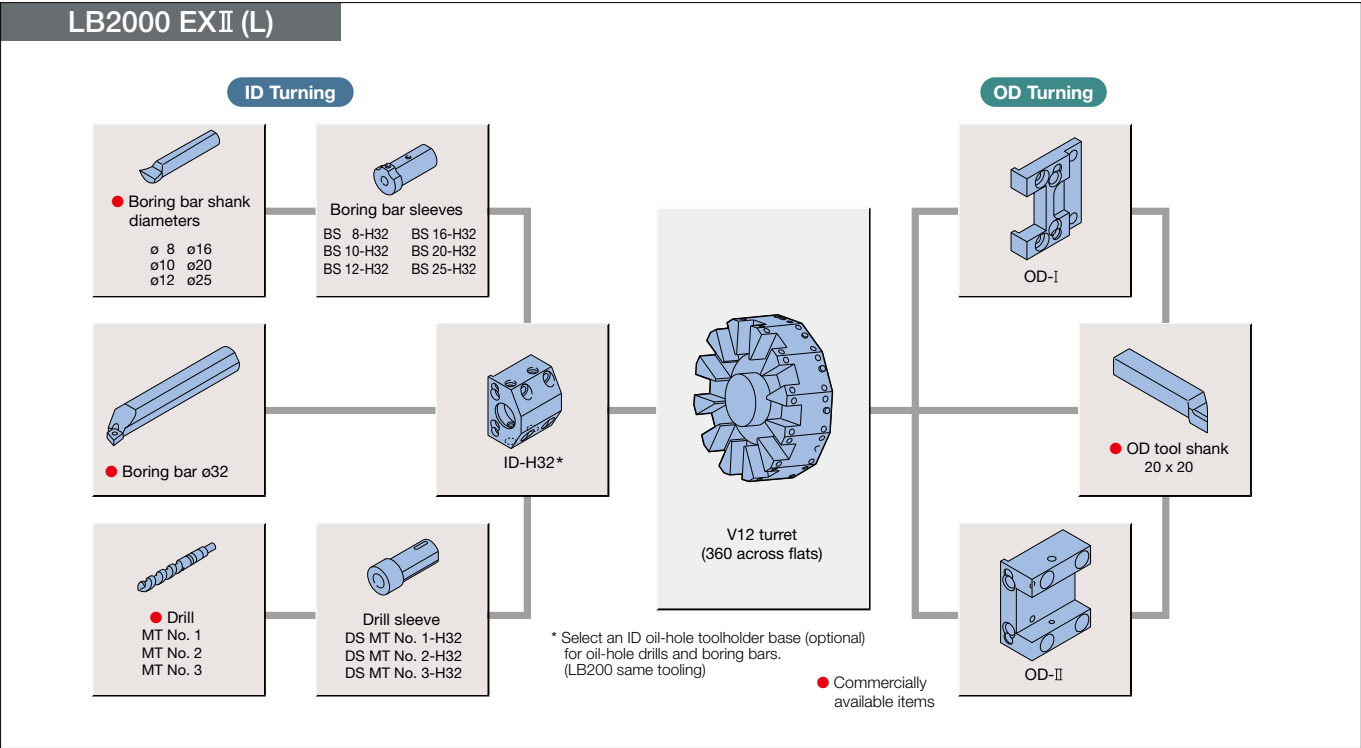
MY kit specs not available.

■ Chucking Kit

	BB Kit : *1	E Kit : *2	D Kit : *3
Chuck	Hollow 6 in B-206-01	Hollow 6 in B-206-01	Hollow 8 in B-208-01

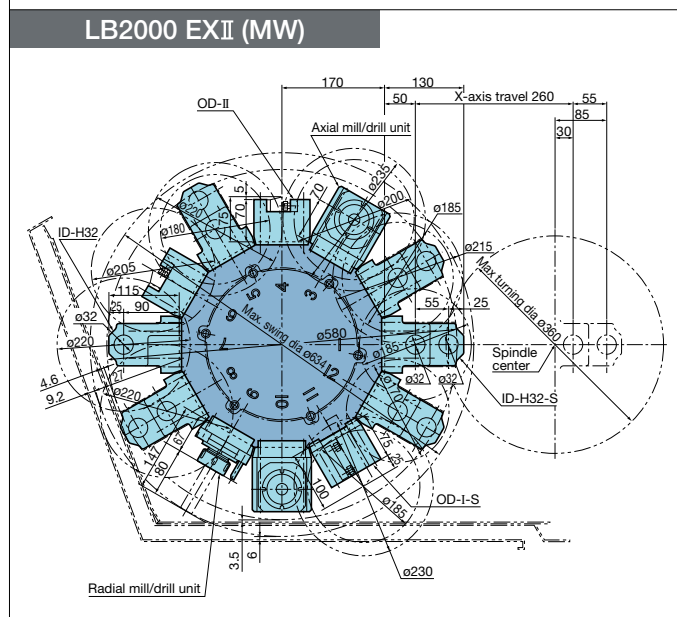
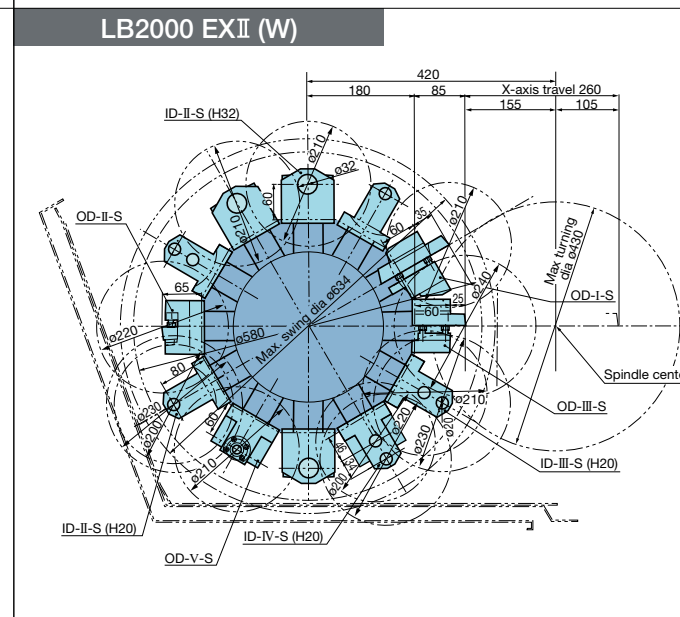
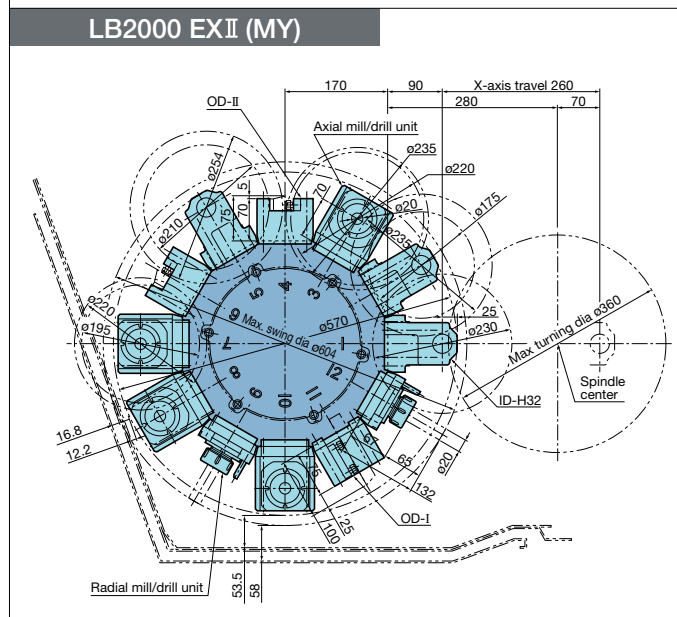
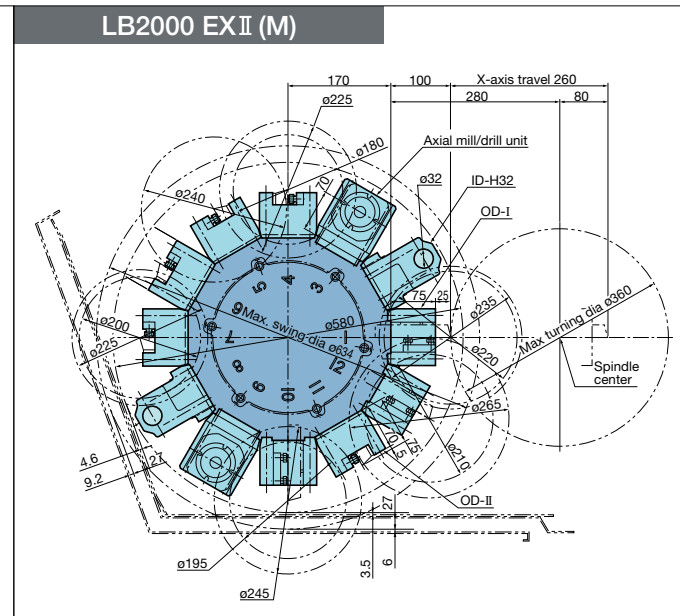
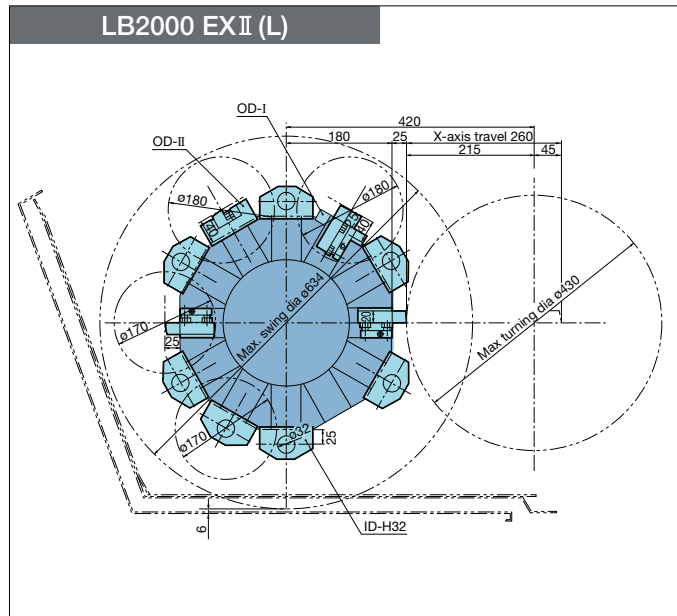
*1, *2, *3 cross-referenced for these two tables.

■ Tooling System



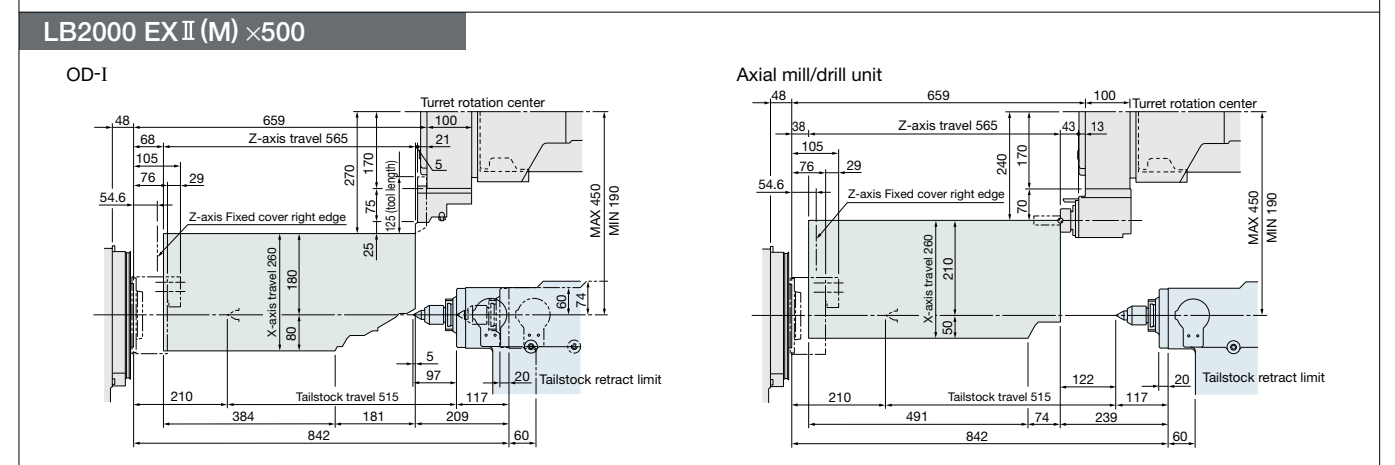
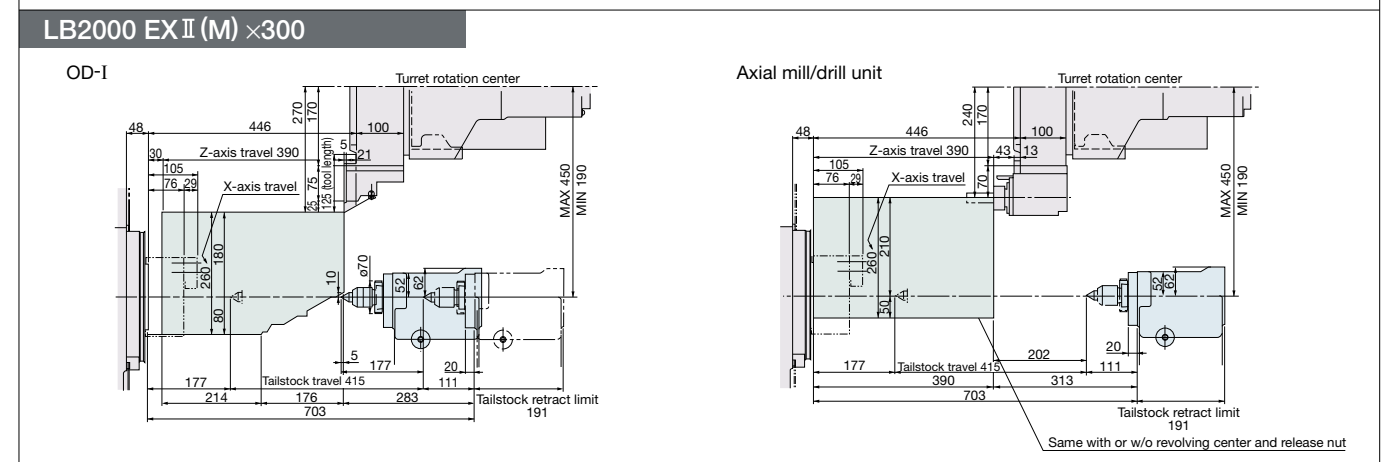
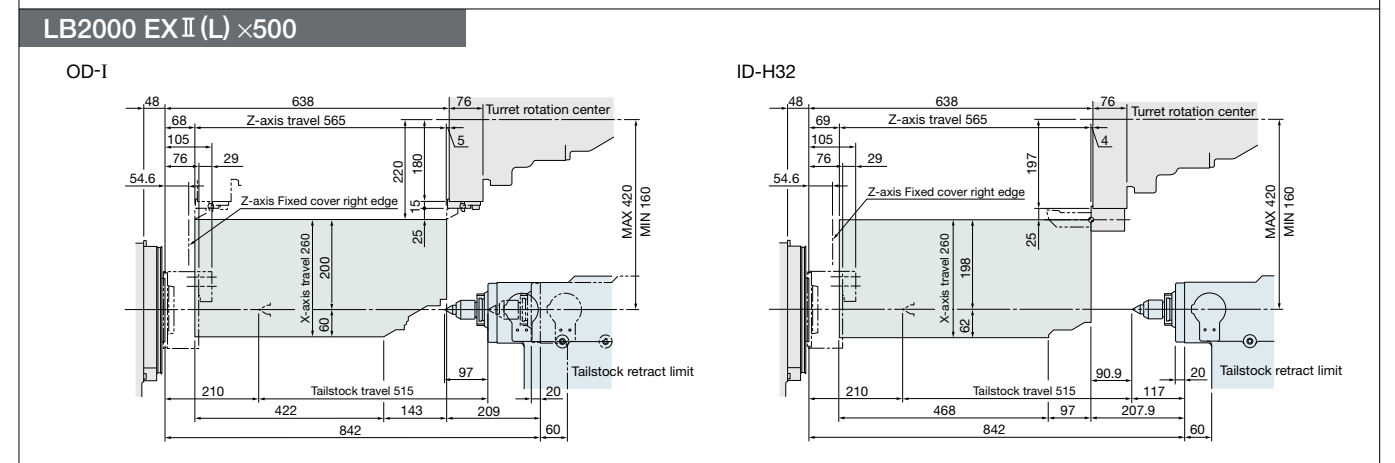
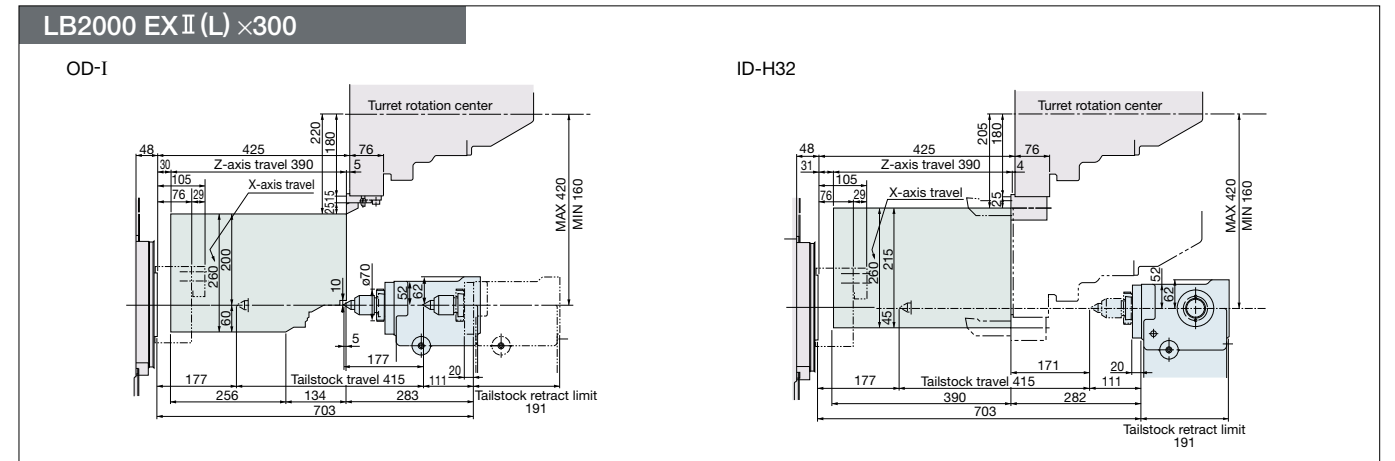
Tool Interference Drawings

Unit: mm



Working Ranges

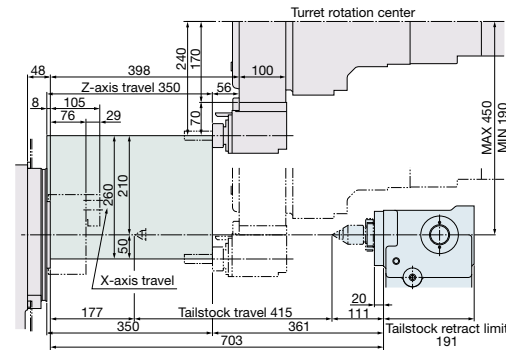
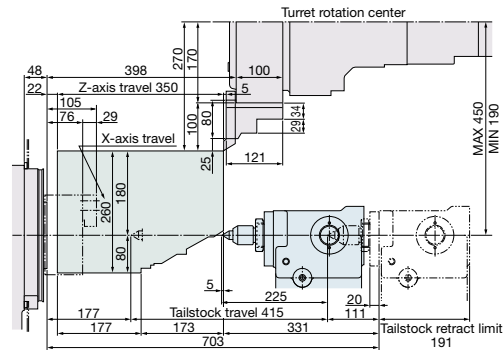
Unit: mm



LB2000 EXⅡ (MY) ×250

OD-I

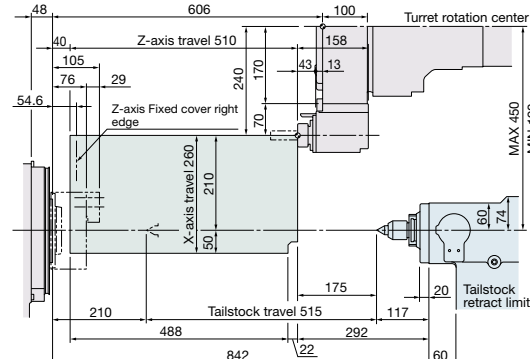
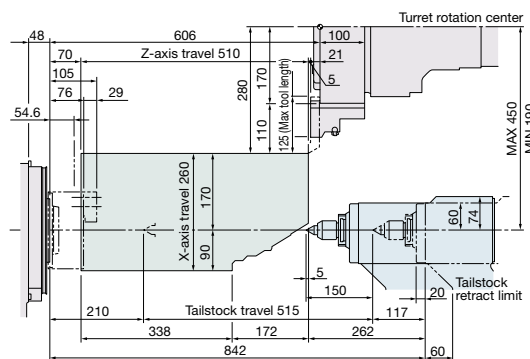
Axial mill/drill unit



LB2000 EXⅡ (MY) ×450

OD-I

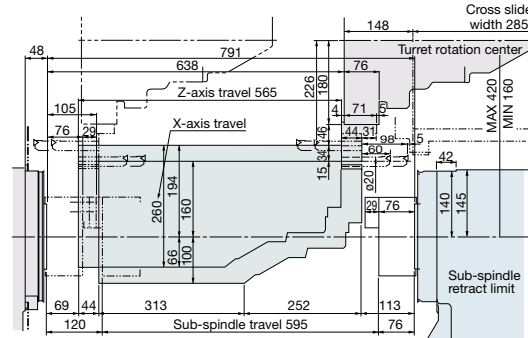
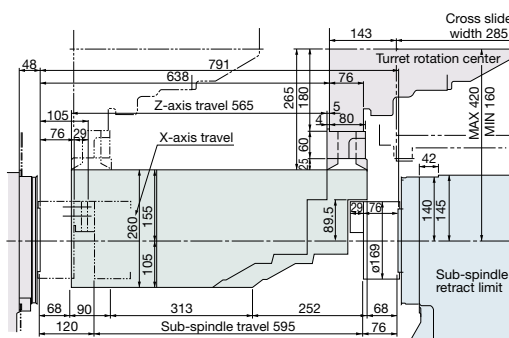
Axial mill/drill unit



LB2000 EX II (W)

OD-IV-S

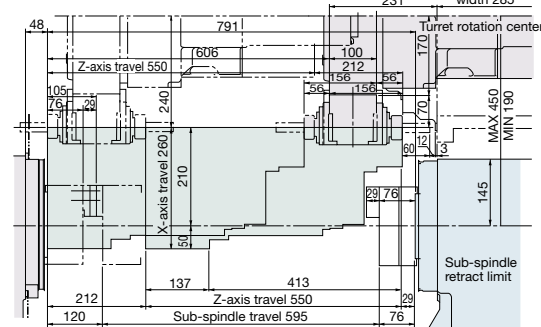
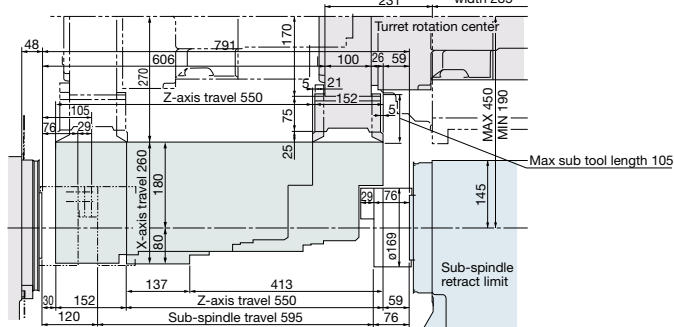
ID-III-S



LB2000 EX II (MW)

OD-I

Axial mill/drill unit



All travel range drawings shown are with standard spindle specs.
This will differ with big bore and super big bore specs.

Floor Space

3.4 m²



**Small machine footprint
of 3.4 m² for effective use
of plant floor space.**

With a mere 3.4 m² (37 ft²) required for installation, workpieces of up to ø430 x 300 mm (16.93 x 11.81 in) can be accommodated. This enables maximum use of limited factory space.

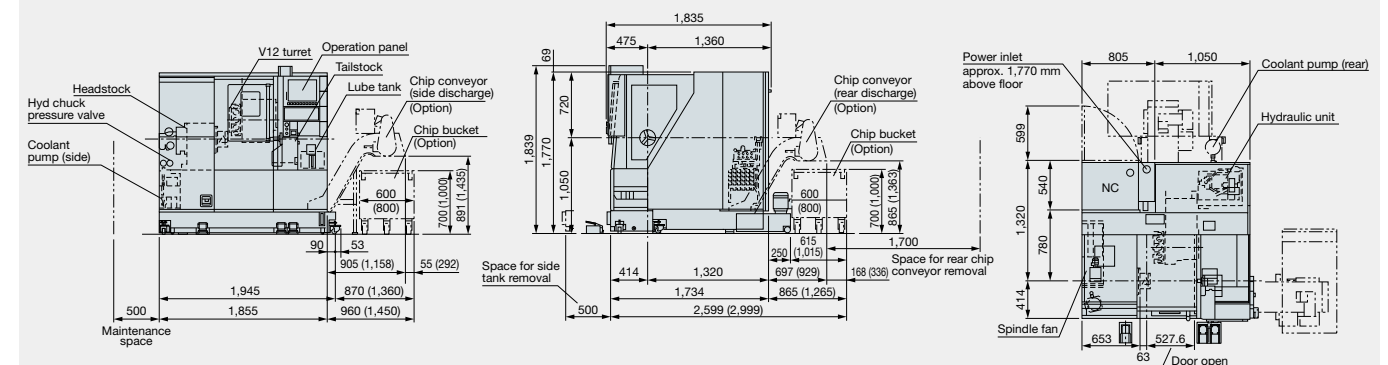
Photo includes some optional specifications.

Dimensional Drawings

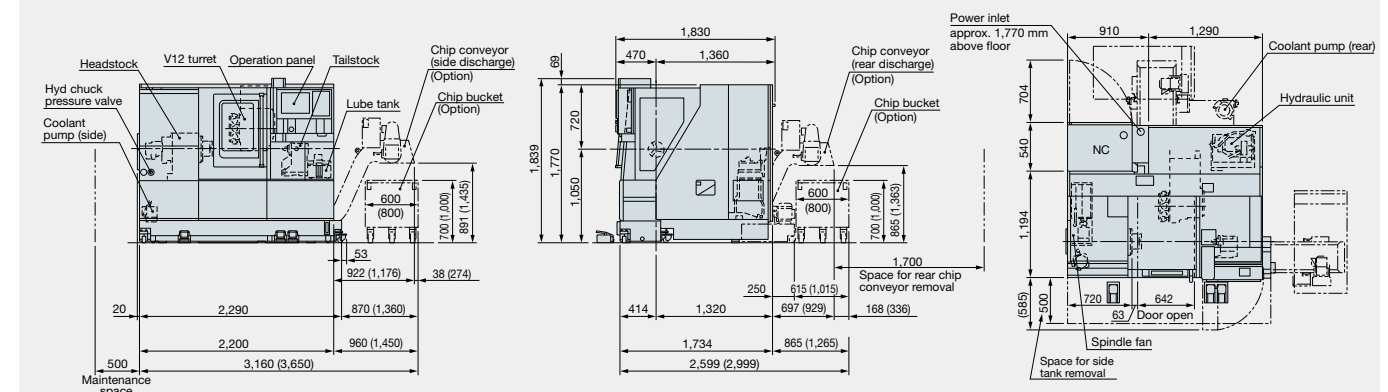
Unit: mm

() dimensions for H chip conveyor (High)

LB2000 EXII (L / M) Specifications×300



LB2000 EXII (L / M) Specifications×500

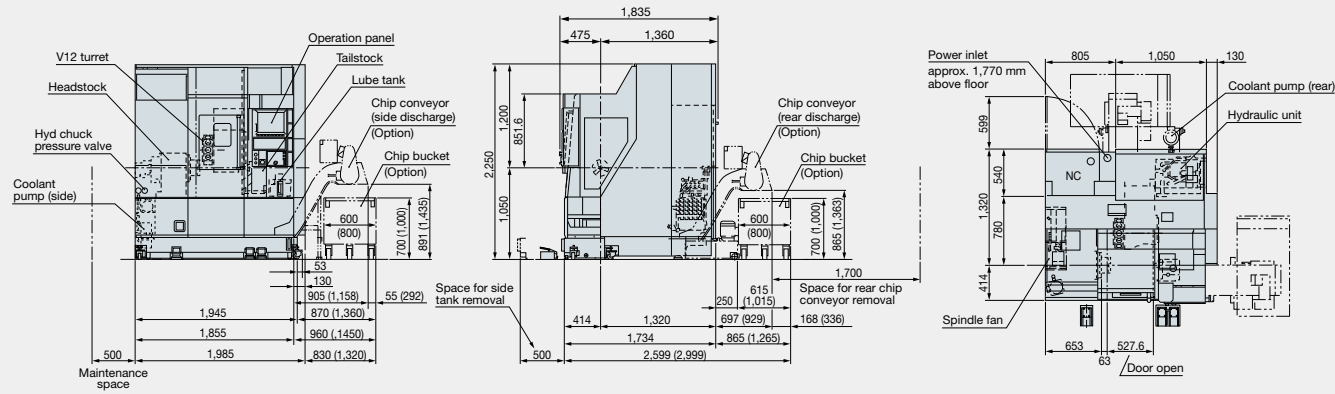


Dimensional Drawings

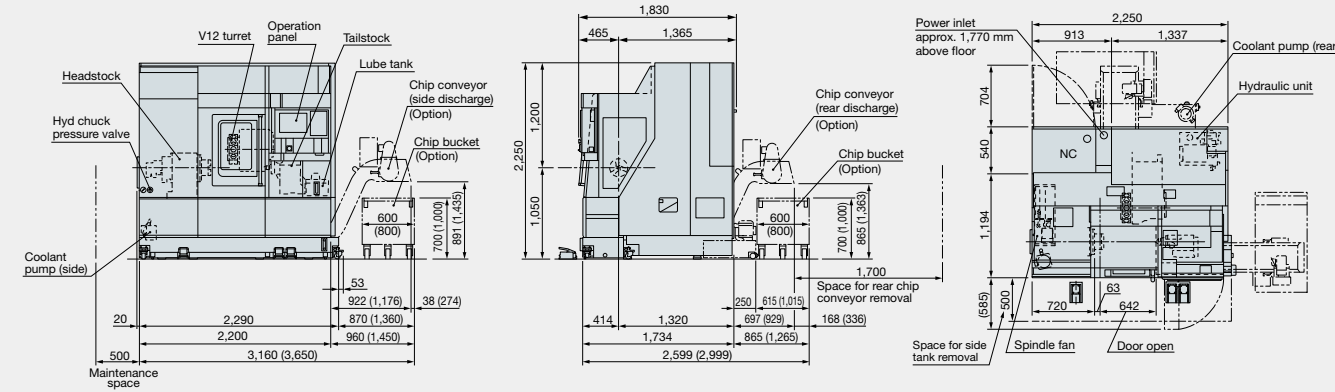
Unit: mm

() dimensions for H chip conveyor (High)

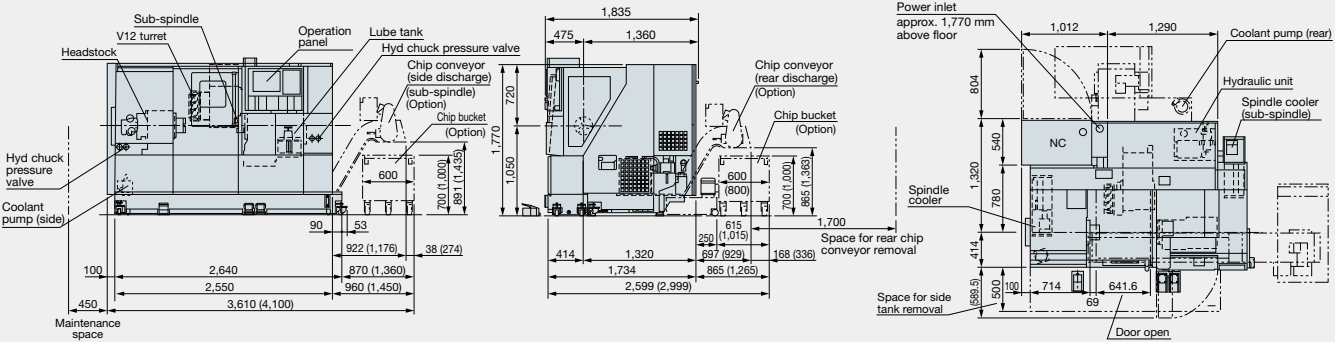
LB2000 EXII (MY) Specifications×250



LB2000 EXII (MY) Specifications×450



LB2000 EXII (W / MW) Specifications



Drawings shown are with standard spindle specs.

OSP suite OSP-P300LA

The Next-Generation Intelligent CNC

Standard Specifications

Basic Specs	Control	Turning: X, Z simultaneous 2-axis, Multitasking: X, Z, C simultaneous 3-axis
	Position feedback	OSP full range absolute position feedback (zero point return not required)
	Min / Max command	±99999.999 mm, 99,999.999° 8-digit decimal, command units: 0.001 mm, 0.01 mm, 1 mm, 0.001°, 0.01°, 1°
	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, tool offset: 32 sets
Operations	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
	"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
	Programming	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, spindle orientation (electric), easy setting of cycle time reduction
Communications/Networks	MacMan	Machining Management: machining results, machine utilization, fault data compile & report, external output
	USB (2 port), Ethernet	
	High speed/accuracy	Hi-G control
Energy-saving function	ECO suite	ECO Idling Stop, ECO Power Monitor

Optional Specifications

Item		Kit Specs *1				NML		3D		OT-IGF		OTM	
		E	D	E	D	E	D	E	D	E	D		
New Operations													
Advanced One-Touch IGF-L *2								●	●				
Advanced One-Touch IGF-L Multitasking *2										●	●		
Programming													
Circular threading				●			●			●		●	
Program notes				●			●			●		●	
User task 2 I/O variables, 8 ea													
Work coordinate system select	10 sets												
	50 sets												
	100 sets												
Tool compensation (Std: 32 sets)	Tool compensation 64 sets												
	Tool compensation 96 sets												
	Tool compensation 200 sets												
	Tool compensation 999 sets												
Common variables 1,000 sets (Std: 200 sets)													
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												
	3-dimensional coordinate conversion												
Helical cutting (within 360 degrees)													
Monitoring													
Real 3-D simulation					●	●	●	●	●	●	●	●	●
Cycle time over check		●	●	●	●	●	●	●	●	●	●	●	●
Load monitor (spindle, feed axis)					●	●	●	●	●	●	●	●	●
Load monitor no-load detection (load monitor ordered)					●	●	●	●	●	●	●	●	●
AI machine diagnostics (feed axes)													
Machine Status Logger													
Tool life management				●		●			●		●		
Tool life warning													
Operation end buzzer													
Chuck miss detection													
Work counters													
Hour meters	Count only												
	Cycle stop												
	Start disabled												
NC operation monitor (counter, totaling)	Power ON												
	Spindle rotation												
	NC operating												
Status indicator (triple lamp) Type C [Type A, Type B]		●	●	●	●	●	●	●	●	●	●	●	●
Measuring													
In-process work gauging													
Z-axis automatic zero offset by touch sensor													
C-axis automatic zero offset by touch sensor													
Gauge data output													
Post-process work gauging interface	File output												
	Set levels (5-level, 7-level)												
	BCD												
Touch Setter [M, A]													
Included in machine specs													

Item		Kit Specs *1				NML		3D		OT-IGF		OTM	
		E	D	E	D	E	D	E	D	E	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/Unattended Operation													
Auto power shutoff: M02, alarm													
Warm-up function (by calendar timer)													
Tool retract cycle													
External program selections	A (pushbutton) 8 types												
	B (rotary switch) 8 types												
	C (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													
Cycle time reduction *3	Bar feeder												
	Interface only												
	Operation time reduction	●	●	●	●	●	●	●	●	●	●	●	●
	Chuck open/close during spindle rotation												
Tailstock advance/retract during spindle rotation													
High-Speed/High-Accuracy Functions													
1/10 μm control *3													
Pitch error compensation													
AbsoScale detection *3													
Hi-Cut Pro													
ECO suite (energy saving functions)													
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-gII													
Machining Navi T-g (Threading)													
Harmonic Spindle Speed Control (HSSC)		●	●	●	●	●	●	●	●	●	●	●	●
Spindle dead-slow cutting													
Spindle speed setting													
Manual cutting feed													
Short circuit breaker													
External M signals [2 sets, 4 sets, 8 sets, 16 sets]													
Edit interlock													
OSP-VPS (Virus Protection System)													

*1. NML: Normal, 3D: Real 3D simulation, OT-IGF: One-Touch IGF, OTM: One-Touch M
E: Economy, D: Deluxe

*2. Real 3-D Simulation included

*3. Engineering discussions required.

Note: ▲Triangle items for M function (milling tool) machines only.

*1. NML: Normal, 3D: Real 3D simulation, OT-IGF: One-Touch IGF, OTM: One-Touch M
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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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