

1-Saddle CNC Lathe

SPACE TURN LB3000EXII



LB that transcends LB

Okuma's LB series of NC lathes have always been pioneers, leaving a path for others to follow behind.

The LB series thus has an obligation to respond to the needs of the times, open possibilities for the next generation, and deliver new value to customers worldwide.

That means constantly developing LBs that transcend LB.

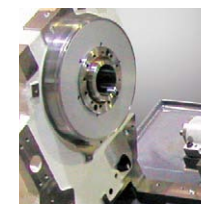
Okuma's advanced technology in its SPACE TURN LB EX II series continues to write new pages in world standards for machining quality, speed, power & torque, multitasking, ease of operation, and more.



SPACE TURN LB3000EXII

Machine photo shows optional specifications.

The machine against which all others will be measured



Highest Quality

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



Super Rigidity Speed

- Equipped with new high-power, high-torque motor
- Combination of larger and faster spindle
- Large through-hole diameter, large working range



Extreme Versatility

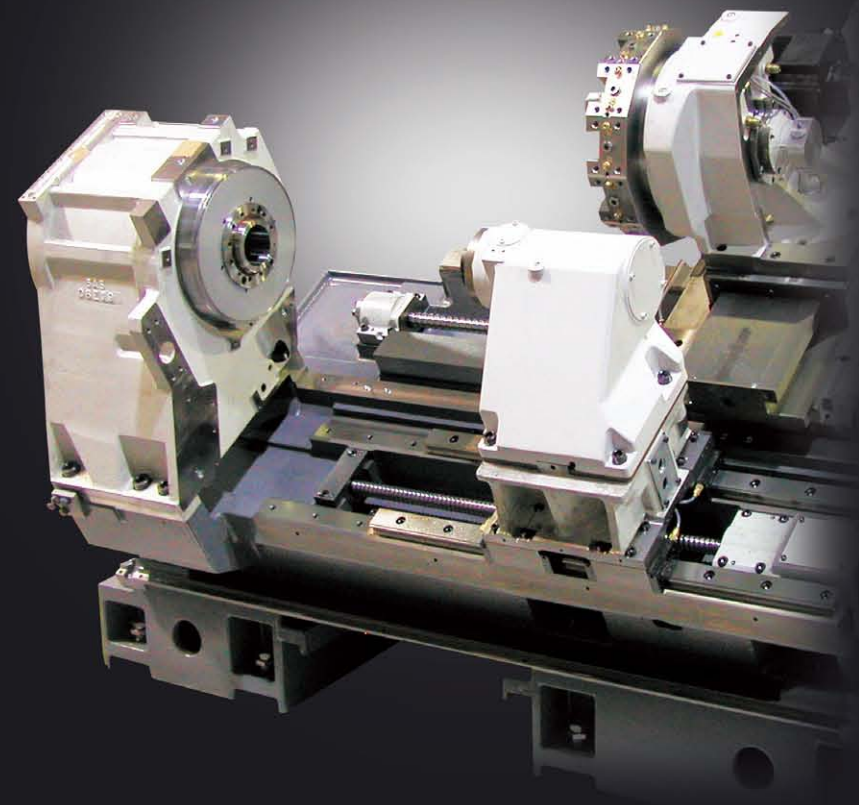
- Abundant series variation
- NC tailstock standard equipment



Easy Operation

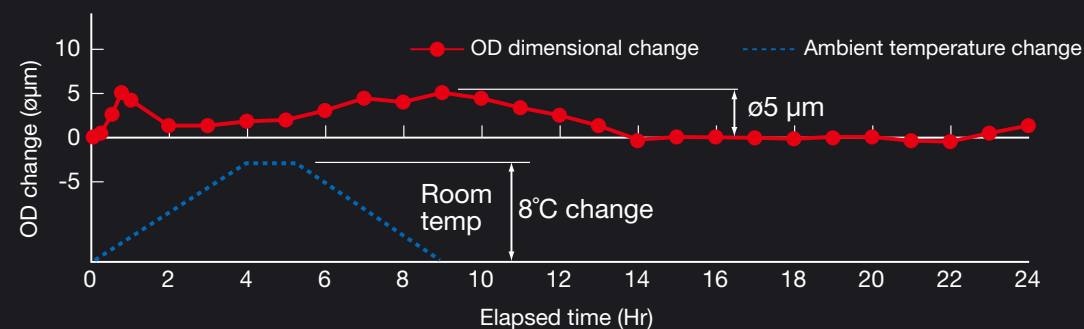
- The Next-Generation Intelligent CNC **OSP suite** *OSP-P300LA*

Highest Quality



Machining dimensional change over time: $\phi 5 \mu\text{m}$

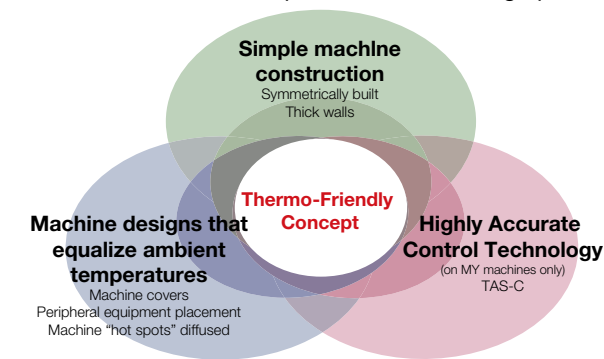
Actual data [LB3000 EX II(L) turning] (ambient temperature: 8°C change)



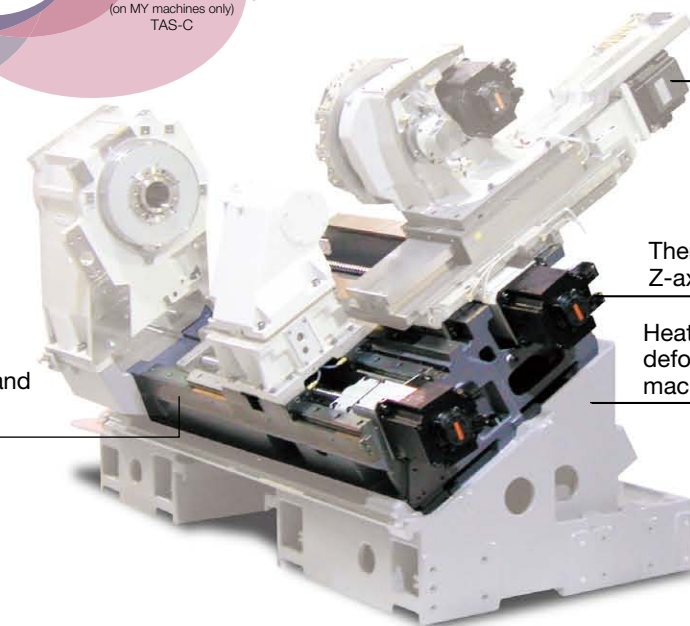
High accuracy specifications overall assure machining with high thermal stability

Thermo-Friendly Concept for unparalleled thermal 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 deviation control technology. Outstanding thermal 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 achieves outstanding thermal stability and high rigidity



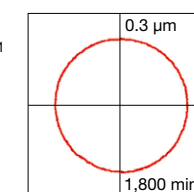
Optimized X-axis feed element

Thermal deformation minimized on Z-axis

Heat sources eliminated and thermal deformation suppressed from the machine's construction

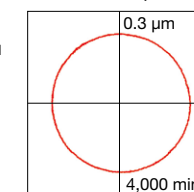
Roundness [Actual data*]

- Standard spindle
0.3 μm /1,800 min^{-1}



Standard spindle

- Sub-spindle
0.3 μm /4,000 min^{-1}

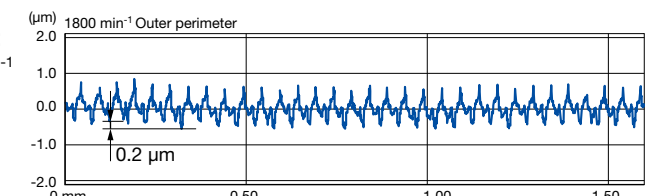


Sub-spindle

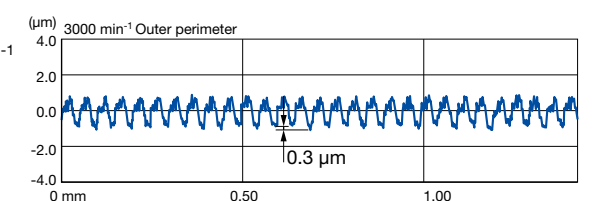
Material: BsB

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

- Standard spindle:
0.2 μm /1,800 min^{-1}



- Sub-spindle:
0.3 μm /3,000 min^{-1}



Material: BsB

* 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 Rigidity Speed

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

Powerful motor on the spindle gives turning capacity of 4.4 mm²

Spindle with a larger bearing internal diameter of $\phi 120$ mm can accommodate larger workpieces, and a turning capacity of 4.4 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 $\phi 120$ (bore $\phi 80$)
• Spindle speed	5,000 min ⁻¹
• Output	22 kW (30 hp)
• Torque	427 N-m (314 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	3.0 sec (5,000 min ⁻¹)
• Turret rotate	0.1 sec/index
• NC tailstock rapids	12 m/min (472 ipm)

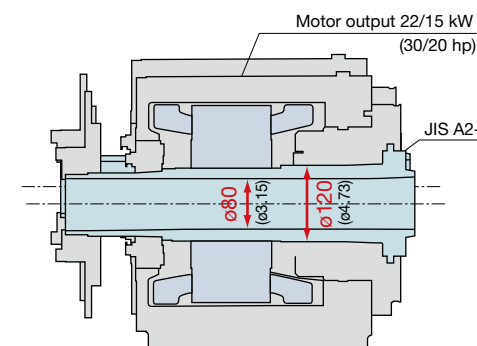
Turning 4.4 mm²

(Workpiece: S45C)

(Actual data*)

Cylindrical, heavy-duty cutting	4.4 mm ² (0.007 in. ²)
	Cutting speed V: 150 m/min (492 fpm)
	Cutting depth t: 8 mm (0.31 in.) Feedrate f: 0.55 mm/rev (0.02 ipr)

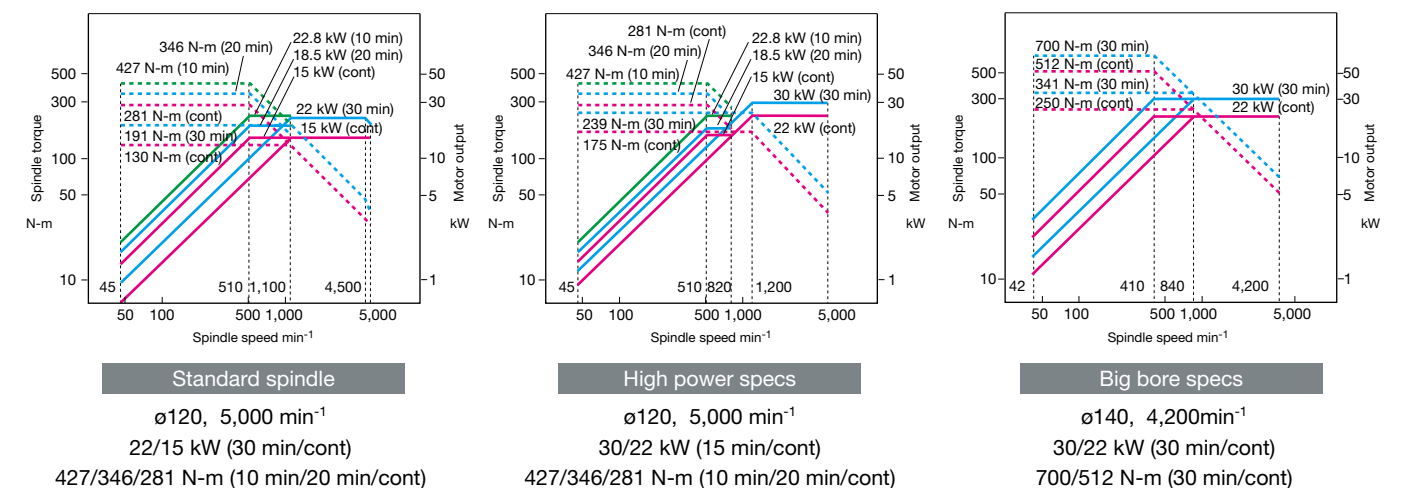
Drilling	$\phi 59$ ($\phi 2.32$) carbide insert drill
	Cutting speed V: 180 m/min (591 fpm)
	Feedrate f: 0.25 mm/rev (0.01 ipr)



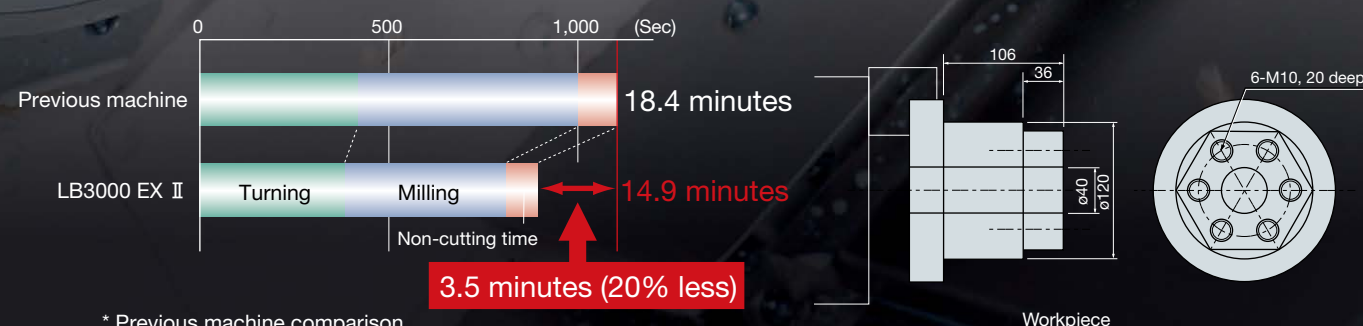
Built-in motor—Okuma's own powerful motor—retains full power over a wide area. There are no gears or belts that can cause vibration or bending, for stable machining without chatter.

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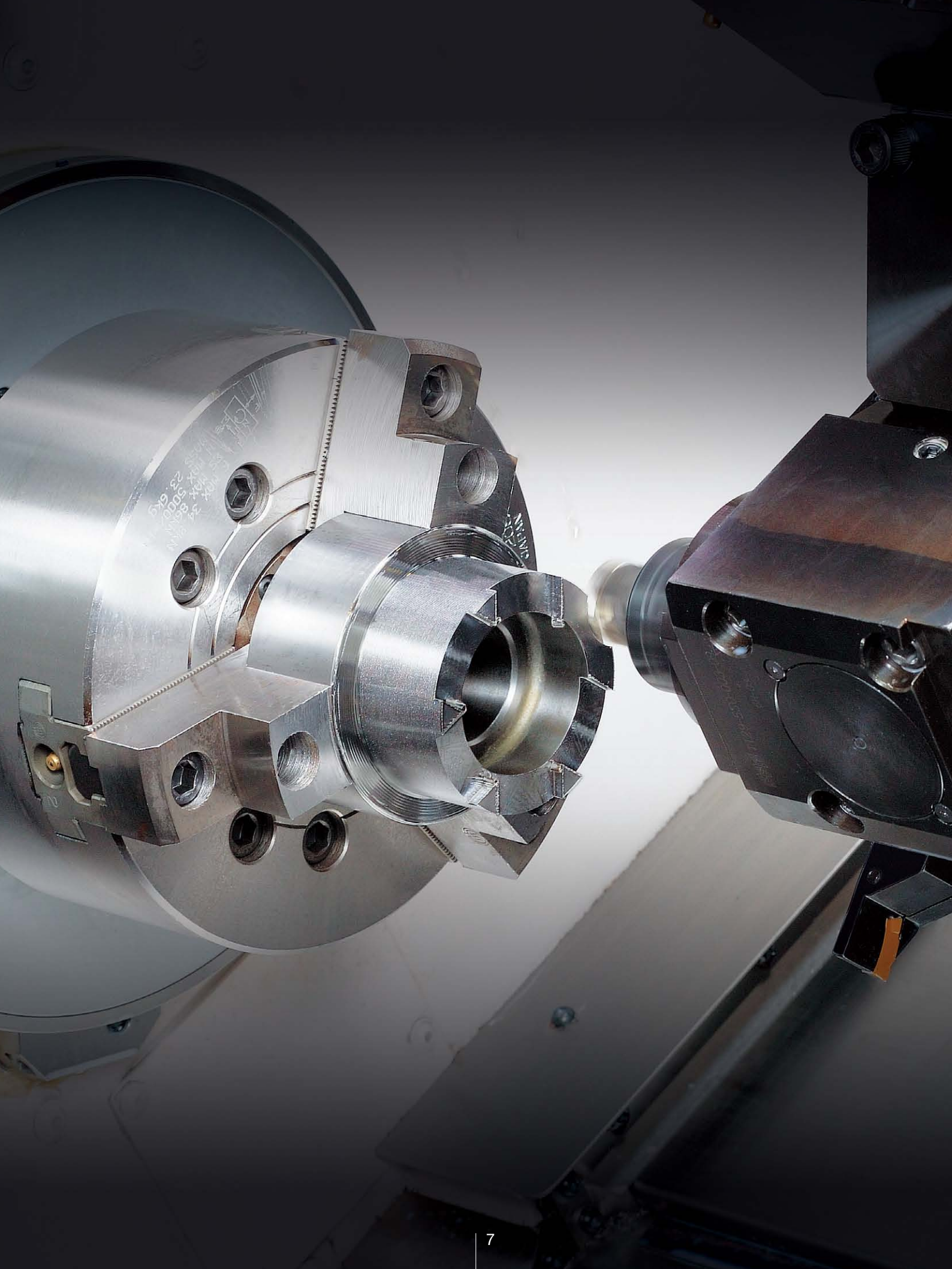
Spindle/motor variations



Improved productivity: 20% shorter cycle time*



* Previous machine comparison



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

Compact new PREX motor gives milling performance of 200 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 7.1 kW (9.5 hp)
• Torque	40.4 N-m (29.7 ft-lbf)

Reduced operation time achieved with higher speed machine movements

• Turret rotate	0.1 sec/ index
• M-spindle start/stop	0.3 sec (6,000 min ⁻¹)
• M-M switch	0.7 sec

Milling capacity 200 cm³/min

(Workpiece: S45C)

End milling	(Actual data*)
	Chip volume 200 cm ³ /min (12.2 in. ³ /min)
	ø20 7-flute carbide
	Cutting speed V: 200 m/min (7,874 ipm)
Drilling	Cutting depth t : 20 × 2.5 mm (0.79 × 0.10 in.)
	Feedrate f : 1.26 mm/rev (0.05 ipr)
Tapping	ø20 carbide solid drill
	Cutting speed V: 135 m/min (4,429 ipm)
	Feedrate f : 0.3 mm/rev (0.01 ipr)

Tapping	M20 P2.5
	(Synchronized tapping)

* 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.



Wide working range, new longitudinal expansion

Max machining dia: ø410 mm (M turret: ø340 mm)

• Standard spindle	JIS A2-6	8-in. chuck, 10-in. chuck
• Big-bore spindle	JIS A2-8	10-in. chuck, 12-in. chuck
• Super big-bore spindle	JIS A2-11	15-in. chuck

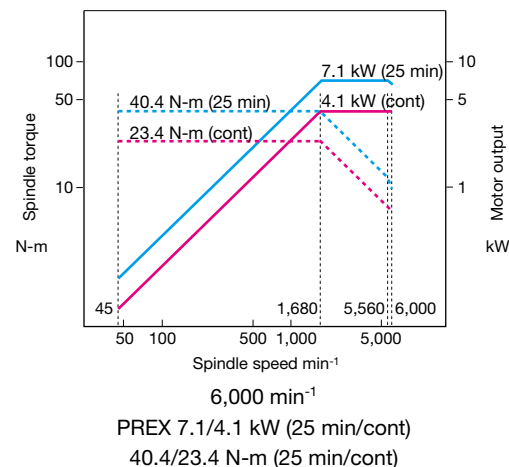
Distance between centers:

• L · M specs	500 / 1,000 / 1,300 mm
• MY specs	450 / 950 / 1,200 mm
• W · MW · MYW spec	500 / 800 mm

Spindle thru hole: Bigger

• Standard spindle:	ø80 mm (ø3.15 in.)
• Big-bore spindle:	ø91 mm (ø3.59 in.)
• Super big-bore spindle:	ø110 mm (ø4.33 in.)

Milling tool spindle



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: option)
High accuracy positioning is also possible with a high speed linear guide employing a ball screw guide.

• Tailstock thrust	0.5 to 5 kN (Opt: 1 to 7.5 kN)
• Rapid traverse	12 m/min (472 ipm)
• Approach	10 m/min (394 ipm)
• Retract	12 m/min (472 ipm)

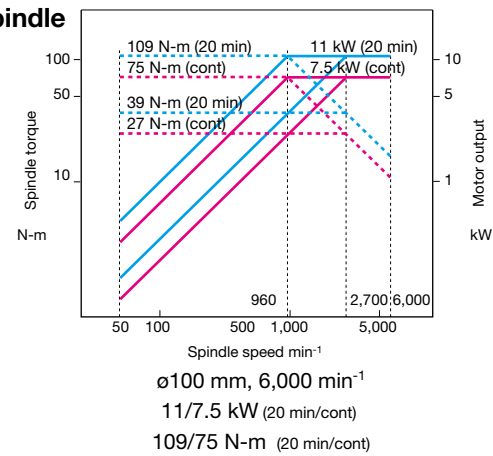
Note: Please select a hydraulic quill for face driver machining applications.

Integrated operations with sub-spindle

With these sub-spindle specifications, front and back machining can be done on a single LB3000 EXII. Interference is not a worry even in back face machining with a multitasking V12 radial turret. (Compatible only with W, MW, MYW specs with distance between centers of 500 mm, 1000 mm)



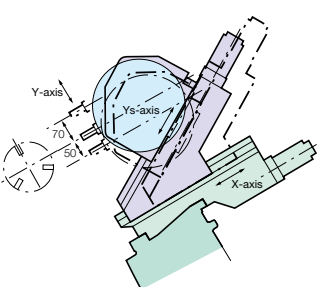
Sub-spindle



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

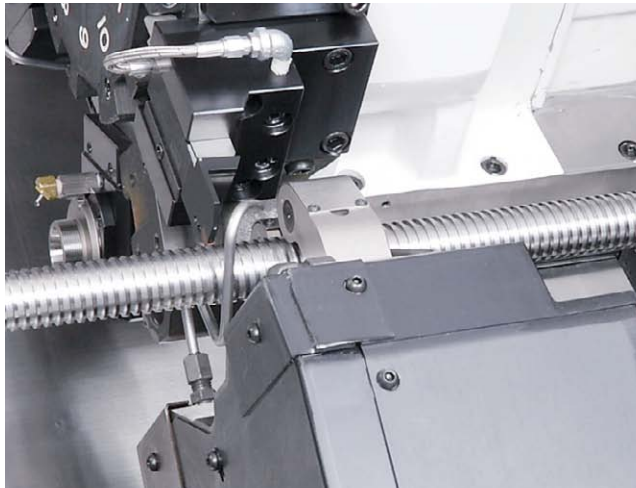
A variety of milling operations can be accommodated with high-accuracy, wide-range Y-axis travel using a double slide system. Achieves complete multitasking with a single chucking (MY, MYW specifications).

• Travel	MY specs: 120 mm (+70 to -50)
	MYW specs: 115 mm (+70 to -45)
• Y-axis rapid traverse	12.5 m/min (492 ipm)



More efficient turning of long workpieces with auto follower rest

By synchronizing with turret in NC part program, support is always provided near the place being cut, even with long or cantilevered workpieces (optional for 1,300 DBC L/M, 1,200 DBC MY specs).



* Auto follower rest requires selection of auto tow-along tailstock and hydraulic tailstock

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

Every aspect of “monozukuri” encompassed with one finger

Suite apps for visualization of all information, from preparation to machining

Suite operation for stress-free operability



CNC—From machine controller to *monozukuri* controller

Suite apps for the visualization of all kinds of information, from workpiece drawings, tooling and other information needed in machining preparation to information on machining and machine status; suite operation for the full command of those functions. Okuma's next-generation intelligent CNC “OSP suite” combines intelligent technology to elicit maximum performance from machine tools with evolution of the CNC controller to all aspects of *monozukuri*, from production preparation to maintenance.

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

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

Smart factories implement advanced digitization and networking (IoT) in “Monozukuri,” (manufacturing) achieving enhanced productivity and added value.

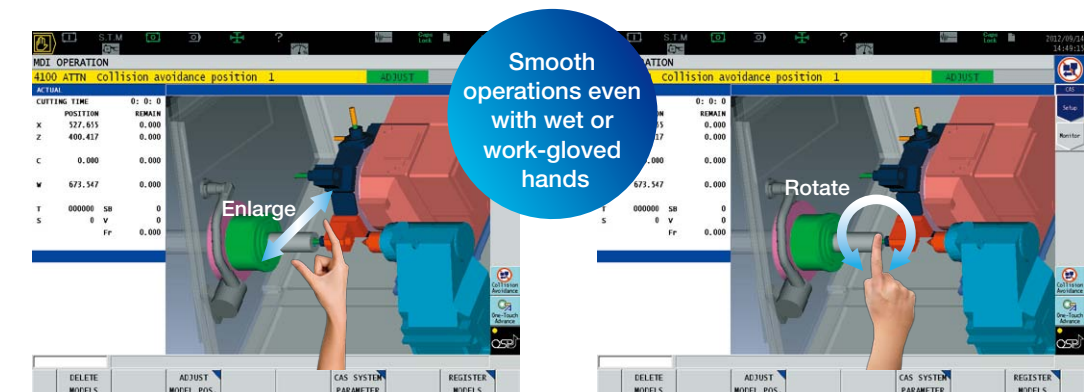
The OSP has evolved tremendously as CNC control suited to advanced intelligent technology. Okuma's new control uses the latest CPUs for a tremendous boost in operability, rendering performance, and processing speed.

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 tastes, and customized for needs from beginning to veteran operator.



Features you wanted – loaded with new OSP suite apps!

We made these real through the addition of Okuma's machining expertise based on requests we heard from customers in the machine shop. These are filled with intelligence that enhances the “strength in the field” that CNC control can accomplish because it's created by a machine-tool manufacturer.



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

Ensuring smooth machining preparations

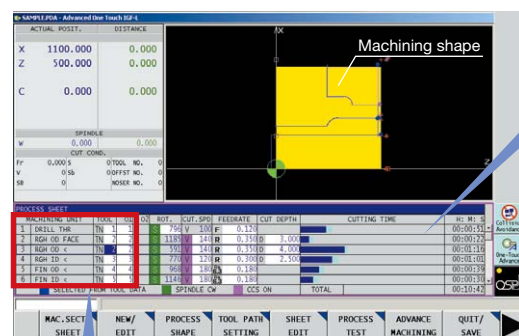
Interactive operations Advanced One-Touch IGF-L (Optional)

Part program create

After simple cutting data inputs (interactively), the required machining processes are determined and a part program is created (automatically).

Advanced run

To run the machine directly from the interactive part program screen.
When a problem is detected it can be quickly corrected and checked, speeding up first part machining.



Directly change cutting conditions for each process with this process sheet

Tables make it easy to make mid-cycle or individual process starts

PROCESS SHEET <CONTINUOUS>	
MACHINING UNIT	TOOL
1 DRILL THR	TN 1
2 RGH OD FACE	TN 2
3 RGH OD <	TN 2
4 RGH ID <	TN 3
5 FIN OD <	TN 4
6 FIN ID <	TN 5

Continuous run

PROCESS SHEET <MID-CYCLE>	
MACHINING UNIT	TOOL
1 DRILL THR	TN 1
2 RGH OD FACE	TN 2
3 RGH OD <	TN 2
4 RGH ID <	TN 3
5 FIN OD <	TN 4
6 FIN ID <	TN 5

Mid-cycle start
(finishing repeated)

PROCESS SHEET <INDIVIDUAL>	
MACHINING UNIT	TOOL
1 DRILL THR	TN 1
2 RGH OD FACE	TN 2
3 RGH OD <	TN 2
4 RGH ID <	TN 3
5 FIN OD <	TN 4
6 FIN ID <	TN 5

Individual run
(machining repeated with this tool only)

Easy to Operate

Operation screen split into four displays

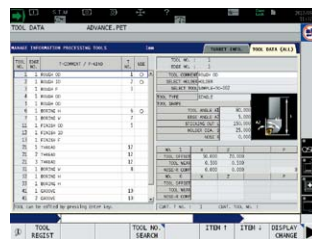
Simultaneous display includes setup work, current position needed in confirming movement in trial machining, NC program, and graphic simulation.



Tool registration

Register data for all of your tools. Since the registered tool data is also used by Okuma auto programming (Advanced One-Touch IGF) and a collision check function (Collision Avoidance System), this screen will complete the entire registering process.

When loading a tool in the machine, simply select it from among the registered tools. ATC manual operation does not require inputting the tool number. Just select the tool from the list and press the function key.



Forming soft jaws

Templates like this make it easy to set required jaw shape, tool, and cutting conditions. Part programming not required to do this.



Zero offsets

A simple function key operation is all it takes to shift a zero offset to either the left or right end of a workpiece. The required zero offset will be calculated automatically based on jaw and workpiece lengths. (when the tool offset is set with reference to the turret tool mounting surface)

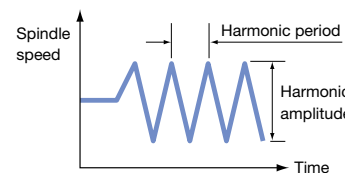


Okuma's Intelligent Technology reduces operator burden



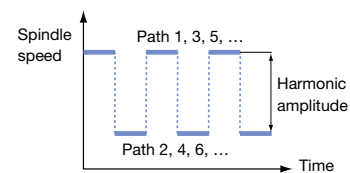
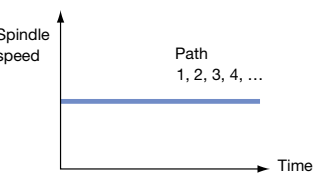
Cutting condition search function for turning Machining Navi L-g (guided, harmonic spindle speed control) (Optional)

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 (Optional)

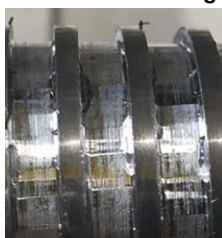
When chatter occurs in threading, general methods to resolve the problem have been to either lower cutting conditions at the expense of productivity, or to use special chatter-resistant tools at some cost. Machining Navi T-g (threading) provides optimum control, increasing or decreasing spindle speed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



Machining Navi L-g

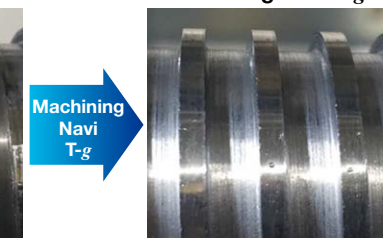


<Normal threading>



Chatter marks

<Machining Navi T-g>



Smooth surface, clean finished threads

Machine tool idling stop

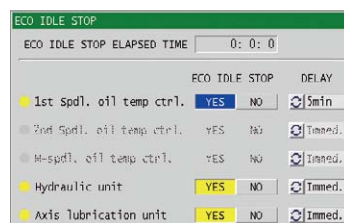
ECO Idling Stop

Only the necessary unit run

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)

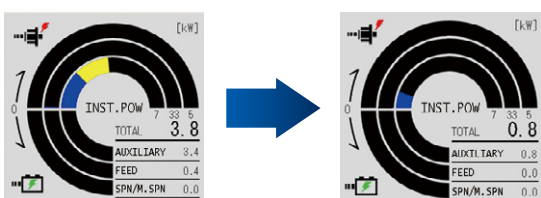
● Example of equipment that can use Idling Stop



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.

● Example of Power Monitor check



Before ECO Idling Stop

After ECO Idling Stop

The displayed values are one example.

Machine Specifications

Item	Model		LB3000 EX II (L)				LB3000 EX II (M)				
			T	C × 500	C × 1,000	C × 1,300	T	C × 500	C × 1,000	C × 1,300	
Capacity	Swing over bed	mm (in.)	ø580 (ø22.83)								
	Swing over saddle	mm (in.)	ø470 (ø18.5)								
	Distance between centers (W specs: DBN)	mm (in.)	–	520 (20.47)	1,020 (40.16)	1,335 (52.59)	–	520 (20.47)	1,020 (40.16)	1,335 (52.59)	
	Max turning dia	mm (in.)	ø410 (16.14)				ø340 (13.39)				
	Max work length	mm (in.)	250 (9.84)	500 (19.69)	1,000 (39.37)	1,300 (51.18)	250 (9.84)	500 (19.69)	1,000 (39.37)	1,300 (51.18)	
Travels	X axis	mm (in.)	260 (10.24)								
	Z axis	mm (in.)	565 (22.24)		1,065 (41.93)	1,380 (54.33)	565 (22.24)		1,065 (41.93)	1,380 (54.33)	
	Y axis	mm (in.)	–				–				
	C axis	deg	–				360 (0.001 increments)				
Spindle	Spindle speed	min ⁻¹ (rpm)	45 to 5,000 {42 to 4,200} <28 to 2,800>								
	Speed ranges		2 auto ranges (2 range motor coil switching)								
	Spindle nose		JIS A2-6 {JIS A2-8} <JIS A2-11>								
	Spindle bore dia	mm (in.)	ø80 {ø91} <ø110> {ø3.15 {ø3.58} <ø4.33>}								
	Front bearing dia	mm (in.)	ø120 {ø140} <ø150> {ø4.72 {ø5.51} <ø5.91>}								
Sub-spindle	Spindle speed	min ⁻¹ (rpm)	–								
	Speed ranges		–								
	Spindle nose		–								
	Spindle bore dia	mm (in.)	–								
	Front bearing dia	mm (in.)	–								
Turret	Type		V12 NC turret				M-V12 NC turret				
	No. of tools		L: 12				L / M: 12				
	OD tool shank	mm (in.)	□25 (1)								
	ID tool shank dia	mm (in.)	ø40 (1.57)								
	Turret rotation	sec/index	0.1								
Milling tool	Spindle speed	min ⁻¹ (rpm)	–				45 to 6,000				
	Speed range	infinitely variable	–				Infinitely variable				
Feedrates	Rapid traverse	m/min (ipm)	X: 25, Z: 30 (984, 1,181)								
	Tailstock rapids	m/min (ipm)	–	12 (472)				–	12 (472)		
	Rapid traverse (W)	m/min (ipm)	–				–				
	Rapid traverse (C)	min ⁻¹ (rpm)	–				200				
	Cutting (X-Z-Y)	mm/rev (ipr)	0.001 to 1,000.000 (0.00004 to 39.37)								
Tailstock	Tapered bore type		–	MT 5 (revolving center)				–	MT 5 (revolving center)		
	Quill travel	mm (in.)	–	515 (20.28)	1,015 (39.96)	1,330 (52.36)	–	515 (20.28)	1,015 (39.96)	1,330 (52.36)	
Motors	Main spindle (30 min/cont) kW (hp)		22/15 (30/20) {30/22 (40/30)} [30/22 (40/30)] <22/15 (30/20)>								
	Sub-spindle	kW (hp)	–				–				
	Milling tool spindle	kW (hp)	–				7.1/4.1 (9.5/5.5) (25 min/cont)				
	Axis drive	kW (hp)	X: 2.8/Z: 3.5 (3.8/4.7)								
	Tailstock travel	kW (hp)	–	2.9 (3.92)				–	2.9 (3.92)		
	Sub-spindle travel	kW (hp)	–				–				
	Coolant pump (60 Hz / 50 Hz)	kW (hp)	SD: 0.25/0.25 (0.34/0.34) RD: 0.82/0.52 (1.09/0.69)			SD: 0.82/0.52 (1.09/0.69)	SD: 0.25/0.25 (0.34/0.34) RD: 0.82/0.52 (1.09/0.69)			SD: 0.82/0.52 (1.09/0.69)	
	Height	mm (in.)	1,839 (72)		1,975 (77)	1,975 (77)	1,839 (72)		1,975 (77)	1,975 (77)	
Machine size	Floor space (side discharge L type tank)	mm (in.)	2,764 × 1,749 [2,964 × 1,749] (109 × 69 [117 × 69])		3,844 × 2,041 (151 × 80)	4,344 × 2,162 (171 × 85)	2,764 × 1,749 [2,964 × 1,749] (109 × 69 [117 × 69])		3,844 × 2,041 (151 × 80)	4,344 × 2,162 (171 × 85)	
	Floor space (side discharge I type tank)	mm (in.)	2,340 × 1,749 [2,540 × 1,749] (92 × 69 [100 × 69])		3,420 × 2,041 (135 × 80)	–	2,340 × 1,749 [2,540 × 1,749] (92 × 69 [100 × 69])		3,420 × 2,041 (135 × 80)	–	
	Weight (w/ CNC)	kg (lb)	4,250 (9,350)	4,400 (9,680)	6,000 (13,200)	6,700 (14,740)	4,350 (9,570)	4,500 (9,900)	6,100 (13,420)	6,800 (14,991)	
	CNC		OSP-P300LA								

SD: side discharge, RD: rear discharge, DBN: Distance between nose

LB3000 EX II (MY)				LB3000 EX II (W)		LB3000 EX II (MW)		LB3000 EX II (MYW)	
T	C × 450	C × 950	C × 1,200	×500	×800	×500	×800	×450	×800
ø580 (ø22.83)									
ø470 (ø18.5)									
–	470 (18.5)	970 (38.19)	1,220 (48.03)	785 (30.91)	1,085 (42.72)	785 (30.91)	1,085 (42.72)	785 (30.91)	1,085 (42.72)
ø340 (13.39)				ø410 (16.14)		ø340 (13.39)		ø340 (13.39)	
250 (9.84)	450 (17.72)	950 (37.4)	1,200 (47.24)	–		–		–	
260									
510 (20.08)		1,010 (39.76)	1,255 (49.41)	565 (22.24)	1,065 (41.93)	550 (21.65)	995 (39.17)	510 (20.08)	1,010 (39.76)
120 (+70 to -50) (4.72 (+2.76 to -1.97))				–		–		115 (+70 to -45) (4.53 (+2.76 to -1.77))	
360 (0.001 increments)				–		360 (0.001 increments)			
45 to 5,000 {42 to 4,200} <28 to 2,800>									
2 auto ranges (2 range motor coil switching)									
JIS A2-6 {JIS A2-8} <JIS A2-11>									
ø80 {ø91} <ø110> {ø3.15 {ø3.58} <ø4.33>}									
ø120 {ø140} <ø150> {ø4.72 {ø5.51} <ø5.91>}									
–				50 to 6,000					
–				2 auto ranges (2 range motor coil switching)					
–				ø140 flat					
–				ø62 (2.44)					
–				ø100 (3.94)					
M-V12 NC turret				V12 NC turret		M-V12 NC turret			
L / M: 12				L: 12		L / M: 12			
□25 (1)									
ø40 (1.57)									
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)		X: 25, Z: 30 (984, 1,181)		X: 25, Z: 30, Y: 12.5 (984, 1,181, 492)	
–	12 (472)			–					
–				30					
200				–		200			
0.001 to 1,000.000 (0.00004 to 39.37)									
–	MT 5 (revolving center)			–					
–	515 (20.28)	1,015 (39.96)	1,330 (52.36)	–					
22/15 (30/20) {30/22 (40/30)} [30/22 (40/30)] <22/15 (30/20)>									
–				11/7.5 (15/10) (20 min/cont)					
–	7.1/4.1 (9.5/5.5) (25 min/cont)			–		7.1/4.1 (9.5/5.5) (25 min/cont)			
X: 3.5/Z: 4.6, Ys: 3.5 (4.7/6.1/4.7)				X: 2.8 / Z: 3.5 (3.8/4.7)		X: 2.8 / Z: 3.5 (3.8/4.7)		X: 3.5 / Z: 4.6, Ys: 3.5 (4.7/6.1/4.7)	
2.9 (3.92)				–					
–				2.8 (3.75)					
SD: 0.25/0.25 (0.34/0.34) RD: 0.82/0.52 (1.09/0.69)			SD: 0.82/0.52 (1.09/0.69)	SD: 0.25/0.25 (0.34/0.34) RD: 0.82/0.52 (1.09/0.69)					
2,250 (89)		2,455 (97)	2,455 (97)	1,839 (72)	1,975 (78)	1,839 (73)	1,975 (78)	2,250 (89)	2,455 (97)
2,764 × 1,751 [2,964 × 1,751] (109 × 69 [117 × 69])		3,844 × 2,041 (151 × 80)	4,344 × 2,162 (171 × 85)	3,164 × 1,749 [3,314 × 1,749] (125 × 69 [130 × 69])	3,844 × 2,041 (151 × 80)	3,164 × 1,749 [3,314 × 1,749] (125 × 69 [130 × 69])	3,844 × 2,041 (151 × 80)	3,274 × 1,751 [3,314 × 1,751] (129 × 69 [130 × 69])	3,844 × 2,041 (151 × 80)
2,340 × 1,751 [2,540 ×1,751] (92 × 69 [100 × 69])		3,420 × 2,041 (135 × 80)	–	2,740 × 1,749 [2,890 × 1,749] (108 × 69 [114 × 69])	3,420 × 2,041 (135 × 80)	2,740 × 1,749 [2,890 × 1,749] (108 × 69 [114 × 69])	3,420 × 2,041 (135 × 80)	2,850 × 1,751 [2,890 × 1,751] (112 × 69 [114 × 69])	3,420 × 2,041 (135 × 80)
4,850 (10,692)	5,000 (11,022)	6,600 (14,520)	7,400 (16,280)	4,650 (10,230)	6,250 (13,750)	4,750 (10,450)	6,350 (13,970)	5,250 (11,550)	6,850 (15,070)
OSP-P300LA									

[]: Big-Bore specs < >: Super Big-Bore specs { } : With power-up spec

Standard Specifications & Accessories

Model	LB3000 EX II																	
Specifications	L				M				MY				W		MW		MYW	
	T	Cx500	Cx1,000	Cx1,300	T	Cx500	Cx1,000	Cx1,300	T	Cx450	Cx950	Cx1,200	x500	x800	x500	x800	x450	x800
Spindle (30 min/cont)	A2-6 45 to 5,000 min ⁻¹ 22/15 kW (30/20 hp)																	
Sub-spindle (20 min/cont)	-												ø140 flat, 50 to 6,000 min ⁻¹ 11/7.5 kW (15/10 hp)					
Turret	NC indexing																	
	V12 bolt clamp				M-V12 radial 45 to 6,000 min ⁻¹ PREX 7.1/4.1 kW (9.5/5.5 hp)								V12 bolt clamp		M-V12 radial 45 to 6,000 min ⁻¹ PREX 7.1/4.1 kW (9.5/5.5 hp)			
Milling tool (25 min/cont)	-																	
Tailstock (dead quill)	-	NC travel * MT 5			-	NC travel * MT 5			-	NC travel * MT 5			-					
Standard accessories	Coolant system (water soluble)																	
	Work lamp																	
	Full enclosure shielding																	
	Jack screws, foundation washers																	
	Hand tools																	
Standard accessories	Door interlock (standard)																	
	Lube monitor (A-1 + oil source pressure 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; over 2 GB																	
	Operation buffer; over 2 MB																	
	-												Chuck open/close during spindle rotation					

* Auto follower rest not available.

Optional Specs & Accessories

■ Headstock	Big-Bore spindle: Bearing inside diameter ø140 JIS A2-8 42 to 4,200 min ⁻¹ 30/22 kW (30 min/cont) Super big bore specs Bearing inside diameter ø150 JIS A2-11 28 to 2,800 min ⁻¹ 22/15 kW (30 min/cont) High power spindle specs: 30/22 kW (30 min/cont)	■ Coolant	Shower coolant A,B Spindle ID coolant A,B Coolant pump, 0.82 kW/0.52 kW (60 Hz/50 Hz) Coolant sludge control Coolant detection; flow volume, level Mist collector Coolant gun
	■ Chucking		■ Air
■ Gauges	Chuck auto open/close confirm Chuck high/low pressure switch Work stopper in spindle	■ Cover	Front door auto open/close
	■ Tailstock	■ Chip handling	Chip pan side rear Chip conveyor side rear discharge* L, H Chip bucket L, H
■ Dustproofing			Air purge, double wiper
■ Steadyrests	In-process gauging system Touch setter M (manual), A (auto)	■ Automation	Bar feeder Bar puller NC robots NC loaders
	Revolving center: MT 5 Tailstock taper: Built-in center MT 4 Threaded center MT 4 High thrust specs		* 1,300 mm distance between centers available with side discharge only
■ Lubrication	Rollers (fixed position) Auto steadyrest (self-centering)		
	Lube monitor B-2, C-1, C-2		

Various chip conveyors

Chip conveyor types and application

Name	Hinge type	Scraper type	Magnet scraper type	Hinge scraper type*
Application	• For steel	• For castings	• For castings	• For steel, castings, nonferrous metal
Features	• General use	• Magnet scraper for sludge processing • Easy for maintenance • Blade scraper	• Suitable with sludge • Not suitable for nonferrous metals	• Filtration of long and short chips and coolant
Shape				

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

* With drum filter

Chucking Kit / Tooling Kit

Model	LB3000 EX II									
Specifications	L			M		MY	W			
	Std Chucking Kit	Std Tooling Kit	Chucking Kit	Chucking Kit	Chucking Kit	Std Chucking Kit	Sub Chucking Kit	Std Tooling Kit	Tooling Kit	
Chuck	Solid 8 in. N-08A6		BB Kit : *1 E Kit : *2 D Kit : *3	BB Kit : *1 E Kit : *2 D Kit : *3	BB Kit : *1 E Kit : *2 D Kit : *3	Solid 8 in. N-08A6				
Drive	SR1453					SR1453				
Sub-spindle chuck							Hollow 6 in. B206			
Sup-spindle drive							SR1146			
Soft jaws, A			5	5	5					
Soft jaws, B			3	3	3					
Hard jaws			1	1	1					
OD-I		4	6	6	4 (T specs: 3)					
OD-II		2	3	2	2					
OD-I -S								2	3	
OD-II -S								2	1	
OD-III-S								2		
ID-H40		6	6	3	3					
ID-I -S								4		
ID-II-S								2		
ID-III-S								1		
ID-H40-S (main)									3	
ID-I-S (H40) (sub)									2	
DS MT No.1-H40			1							
DS MT No.2-H40			1							
DS MT No.3-H40		1	1	1	1			1		
DS MT No.4-H40			1							
BS 10-H40			2	2	2					
BS 12-H40			2	2	2				1	
BS 16-H40			2	2	2				2	
BS 20-H40		2	2	2	2				2	
BS 25-H40		2	2	2	2			2	2	
BS 32-H40			2	2	2			2		
BS 12-H20								1		
BS 16-H20								2		
Axial mill/drill unit				2	2				2	
Radial mill/drill unit				2	2				2	
Dummy holder				3	3				3	
Revolving center* MT No.5				1	1					

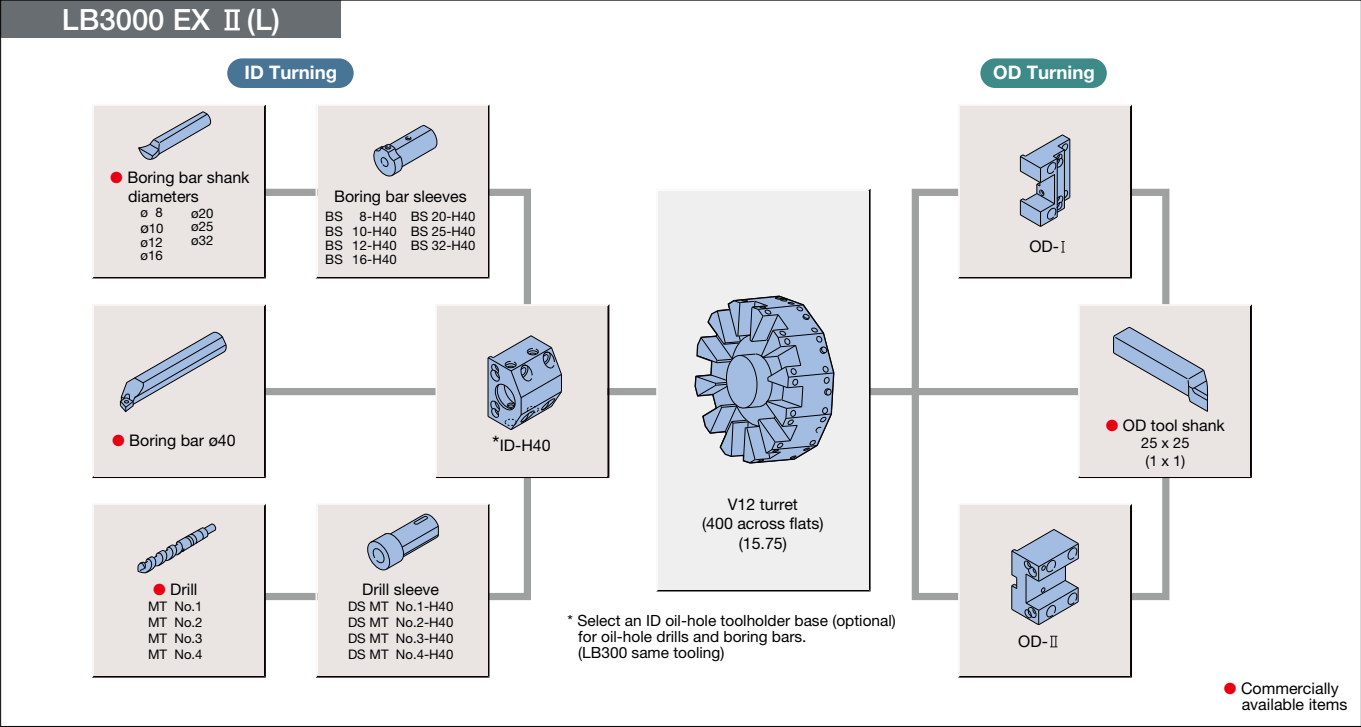
* Tailstock, MT 5; not for T specs

Chucking Kit Chuck Table

Chuck	BB Kit *1 Hollow 8 in. BB208A6	E Kit *2 Hollow 8 in. B-208A6	D Kit *3 Hollow 10 in. B-210A6
Drive	SR1670	SR1453	SR1670

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

Tooling System



LB3000 EX II(W)

ID Turning

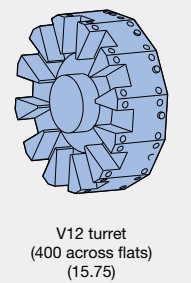
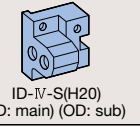
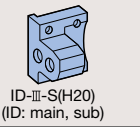
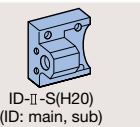
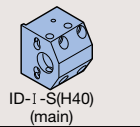
Boring bar sleeves
BS 8-H40 BS 20-H40
BS 10-H40 BS 25-H40
BS 12-H40 BS 32-H40
BS 16-H40

Drill sleeves
DS MT No.1-H40
DS MT No.2-H40
DS MT No.3-H40
DS MT No.4-H40

• Boring bar $\phi 40$

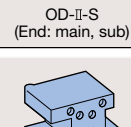
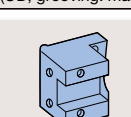
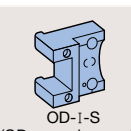
• Boring bar $\phi 20$

Boring bar sleeves
BS 8-H20 BS 20-H20
BS 10-H20 BS 25-H20
BS 12-H20 BS 32-H20
BS 16-H20



* Select an ID oil-hole toolholder base (optional) for oil-hole drills and boring bars. (LB300-W same tooling)

OD Turning



• Commercially available items

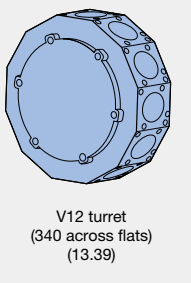
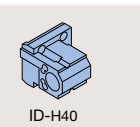
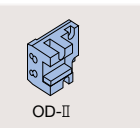
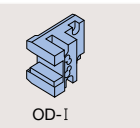
LB3000 EX II(M/MY)

Turning

Drill sleeves
DS MT No.1-H40
DS MT No.2-H40
DS MT No.3-H40
DS MT No.4-H40

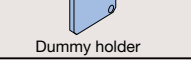
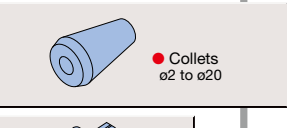
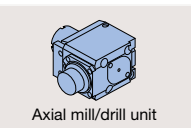
Boring bar sleeves
BS 8-H40 BS 20-H40
BS 10-H40 BS 25-H40
BS 12-H40 BS 32-H40
BS 16-H40

• Boring bar $\phi 40$



* Select an ID oil-hole toolholder base (optional) for oil-hole drills and boring bars. (Not compatible with LB300-M)

Mill/Drill



• Commercially available items

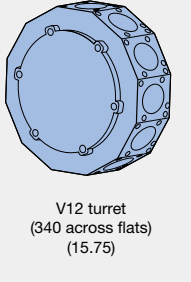
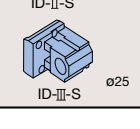
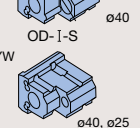
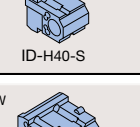
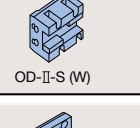
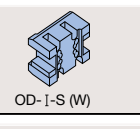
LB3000 EX II(MW/MYW)

Turning

Drill sleeves
DS MT No.1-H40
DS MT No.2-H40
DS MT No.3-H40
DS MT No.4-H40

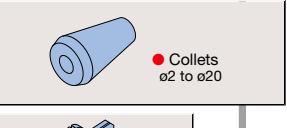
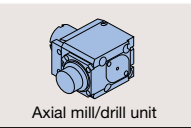
Boring bar sleeves
BS 8-H40 BS 20-H40
BS 10-H40 BS 25-H40
BS 12-H40 BS 32-H40
BS 16-H40

• Boring bar $\phi 40$



* Select an ID oil-hole toolholder base (optional) for oil-hole drills and boring bars. (Not compatible with LB300-M)
 ϕA is MW: $\phi 40$, MYW: $\phi 25$

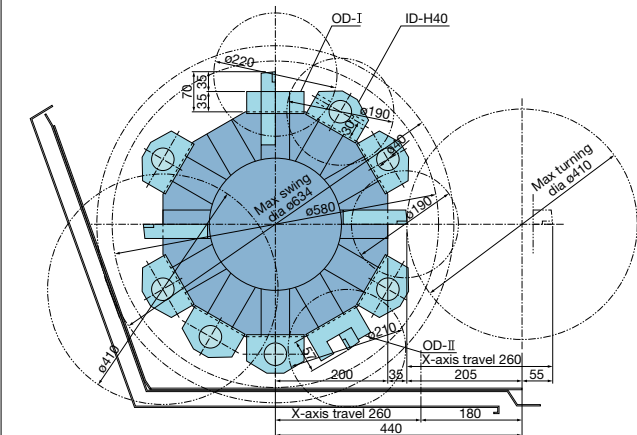
Mill/Drill



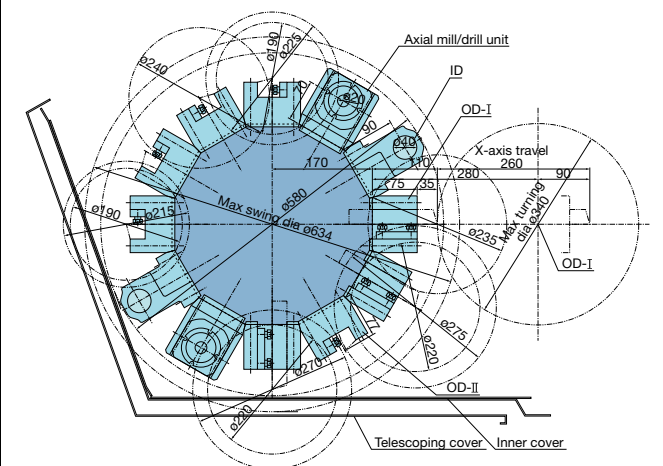
• Commercially available items

Tool Interference Drawings

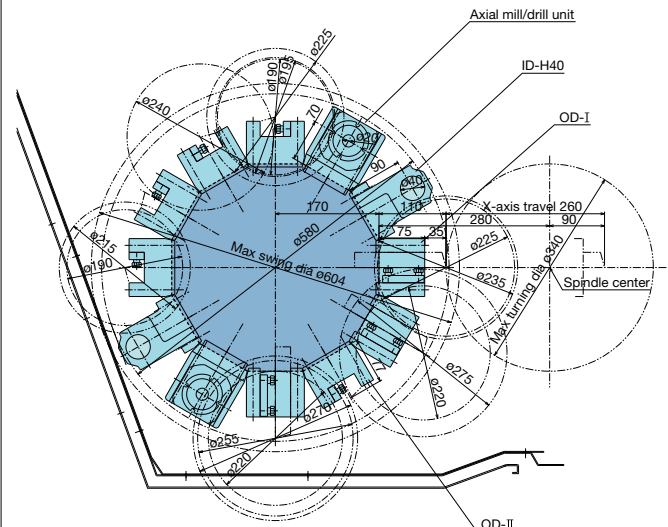
LB3000 EX II(L)



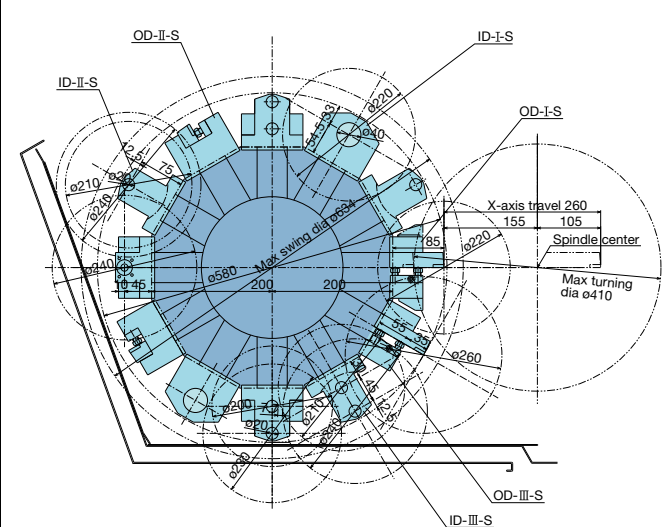
LB3000 EX II(M)



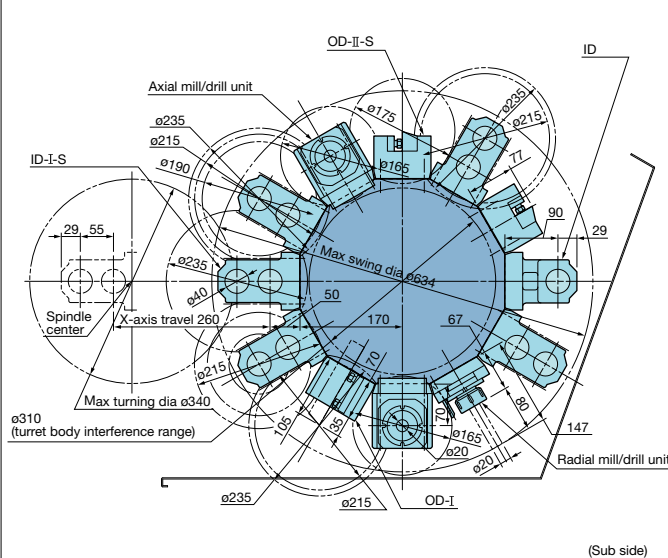
LB3000 EX II(MY)



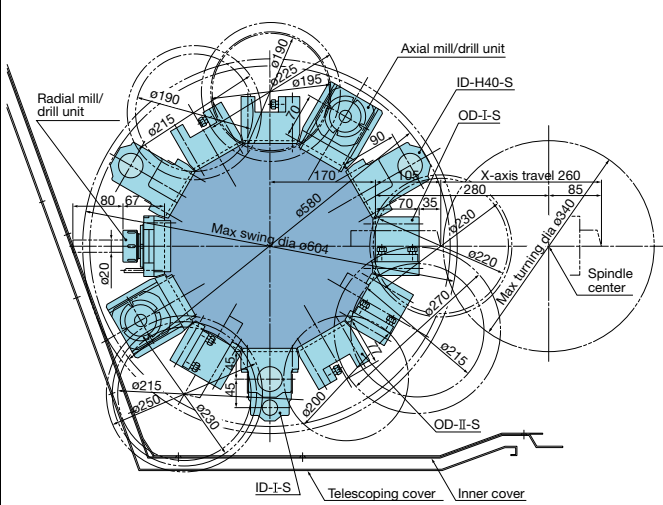
LB3000 EX II(W)



LB3000 EX II(MW)



LB3000 EX II(MYW)



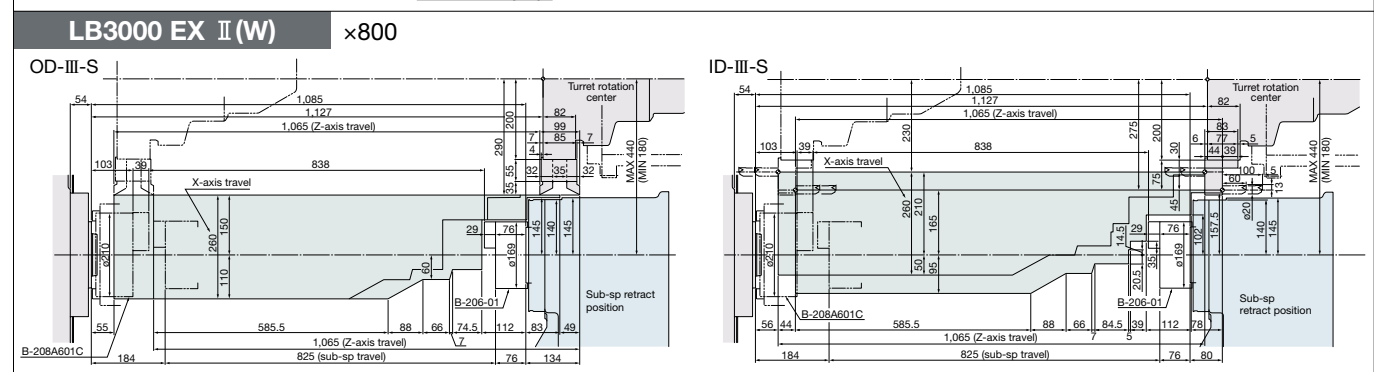
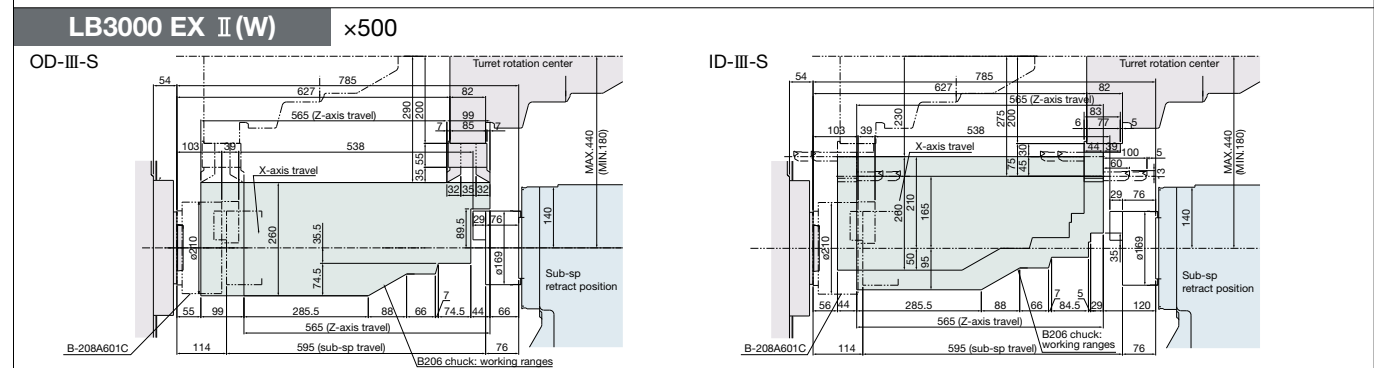
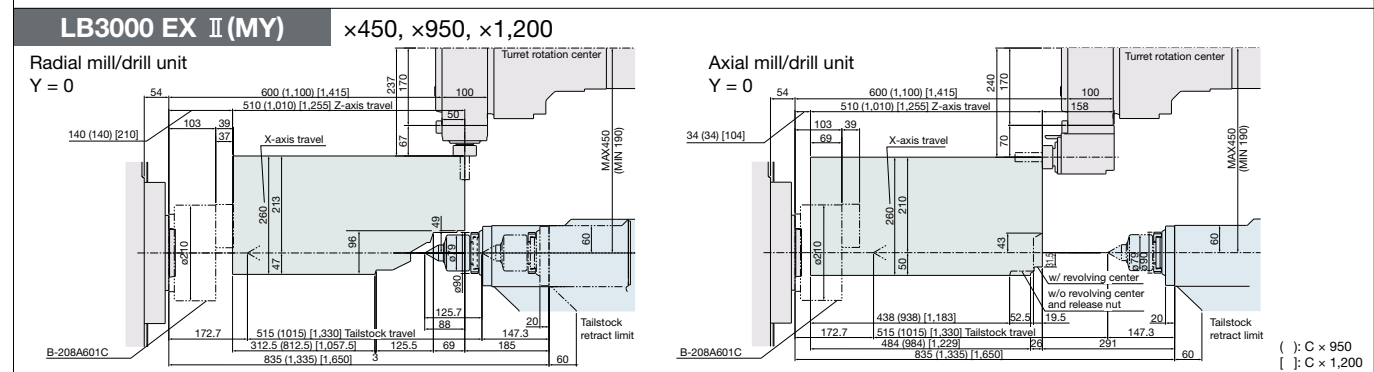
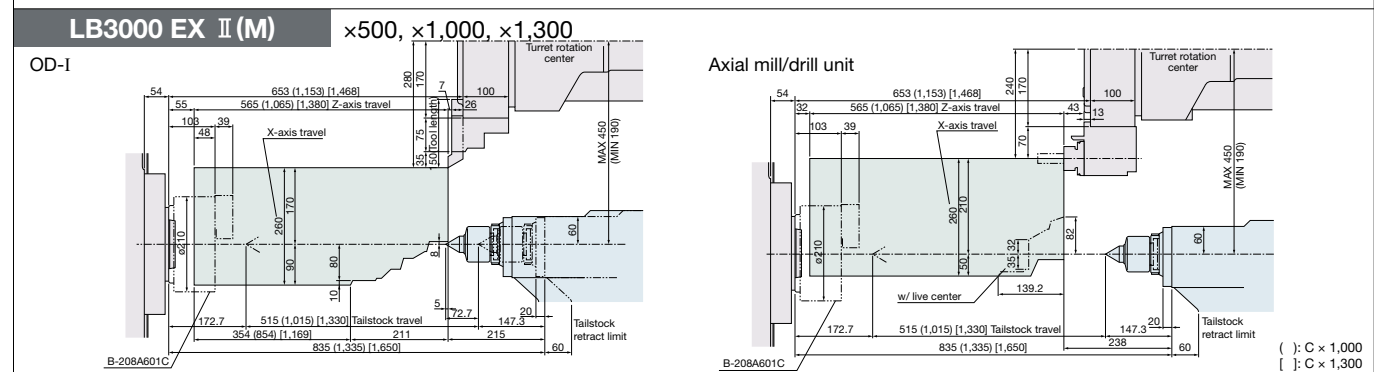
LB3000 EX II (L) $\times 500, \times 1,000, \times 1,300$

OD-I

Technical drawing of the LB3000 EX II (L) turret showing dimensions for OD-I configuration. Key dimensions include: X-axis travel (627 [1,127] [1,442]), Z-axis travel (270 [200]), Tailstock travel (515 [1,015] [1,330]), Tailstock retract limit (172.7 [147.3]), and Turret rotation center (MAX 440 (MIN 180)).

ID-H40

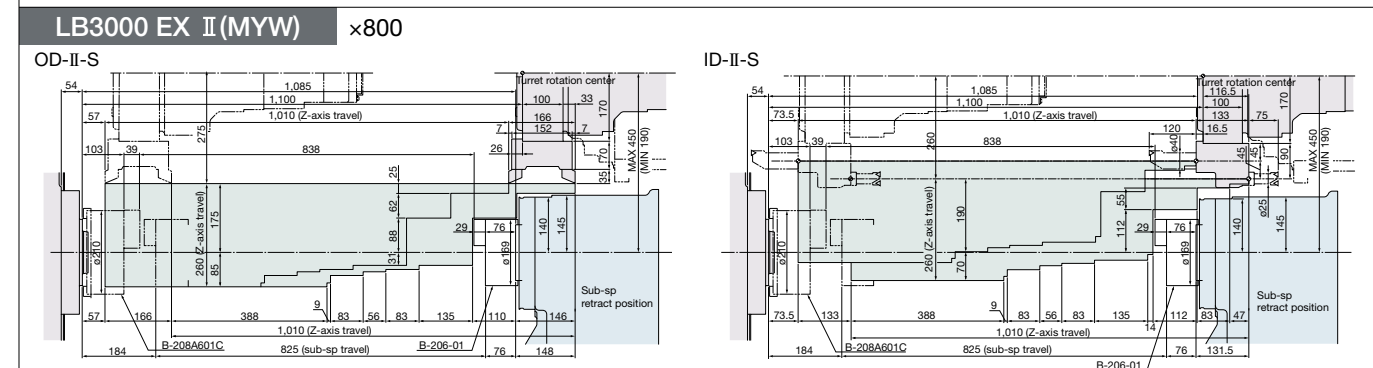
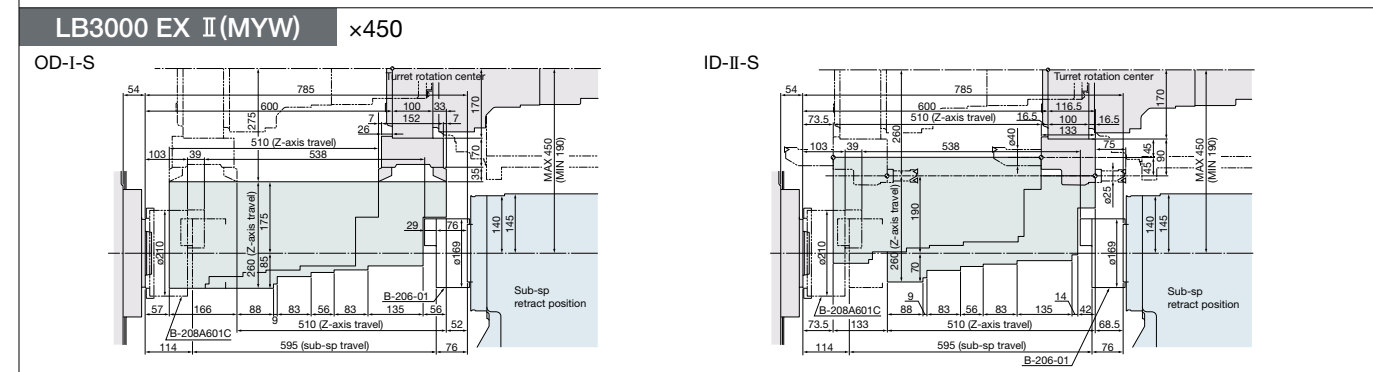
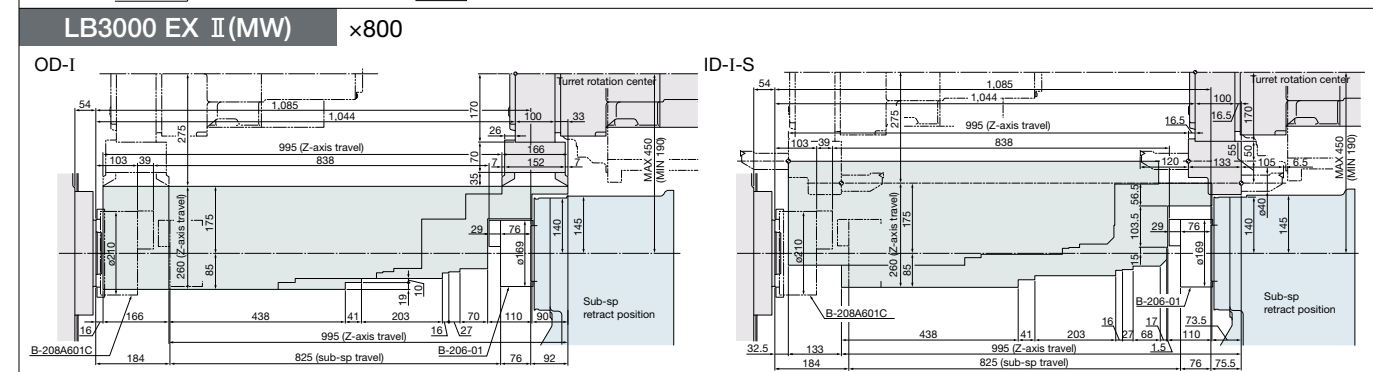
Technical drawing of the LB3000 EX II (L) turret showing dimensions for ID-H40 configuration. Key dimensions include: X-axis travel (627 [1,127] [1,442]), Z-axis travel (230 [200]), Tailstock travel (515 [1,015] [1,330]), Tailstock retract limit (172.7 [147.3]), and Turret rotation center (MAX 440 (MIN 180)).



LB3000 EX II (MW) x500

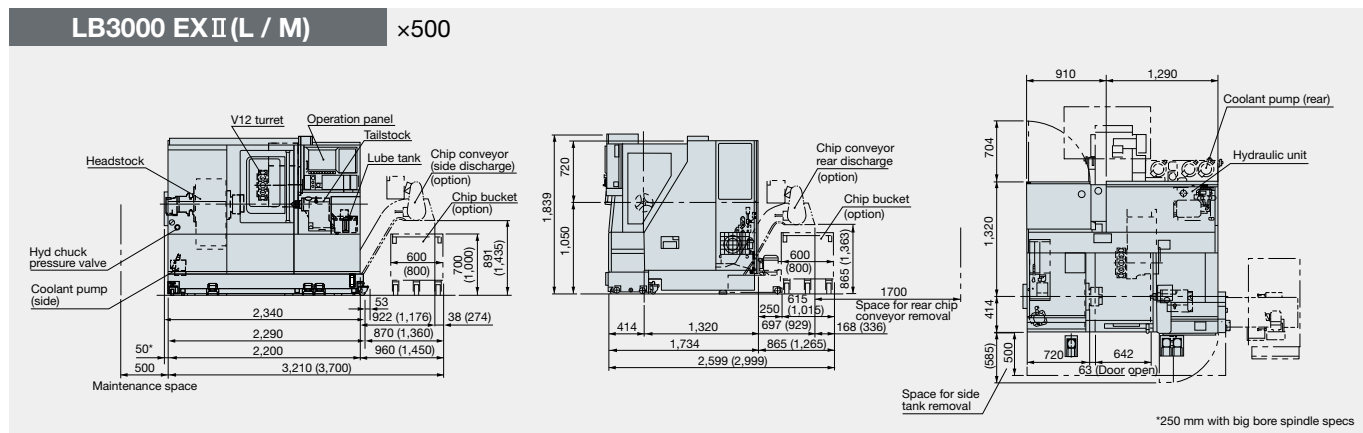
OD-I

ID-I-S

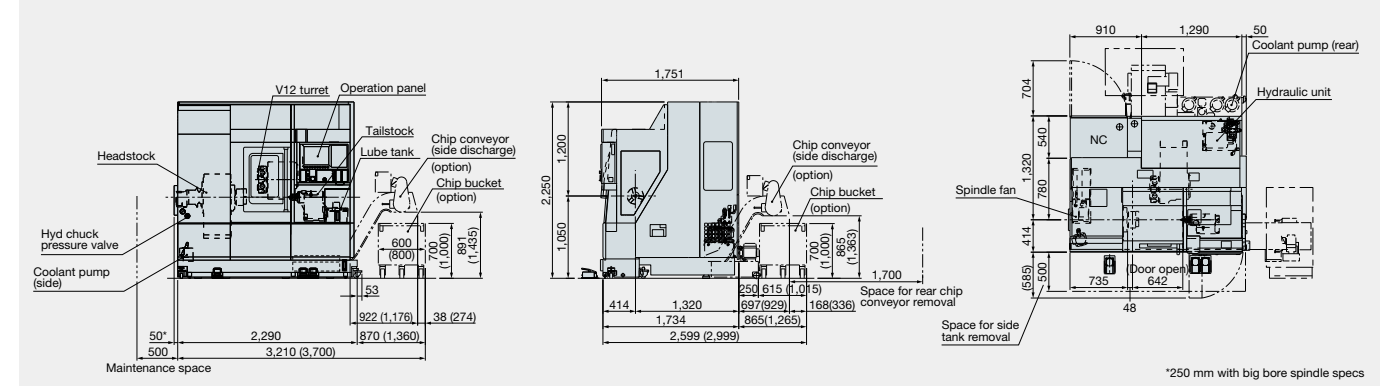


Dimensional Drawings

() dimensions for H chip conveyor

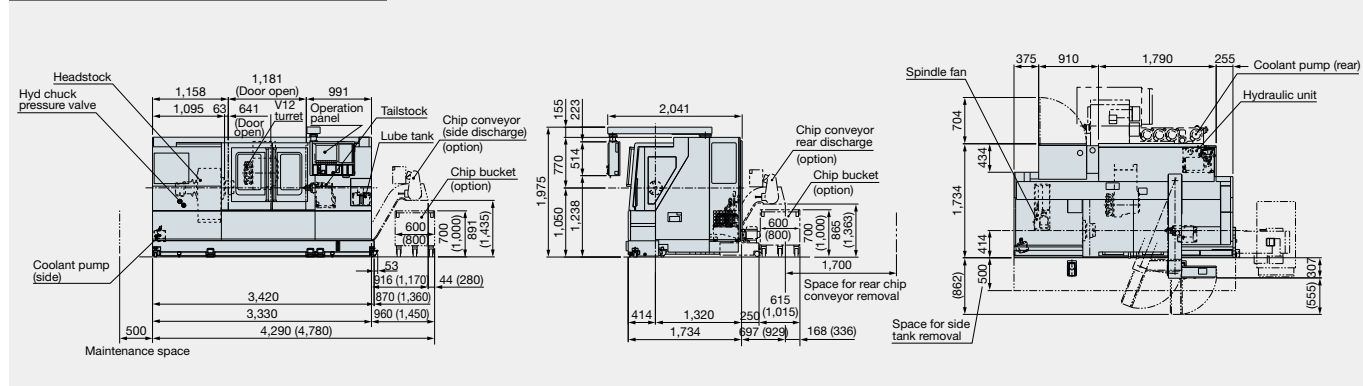


LB3000 EX II (MY) x450

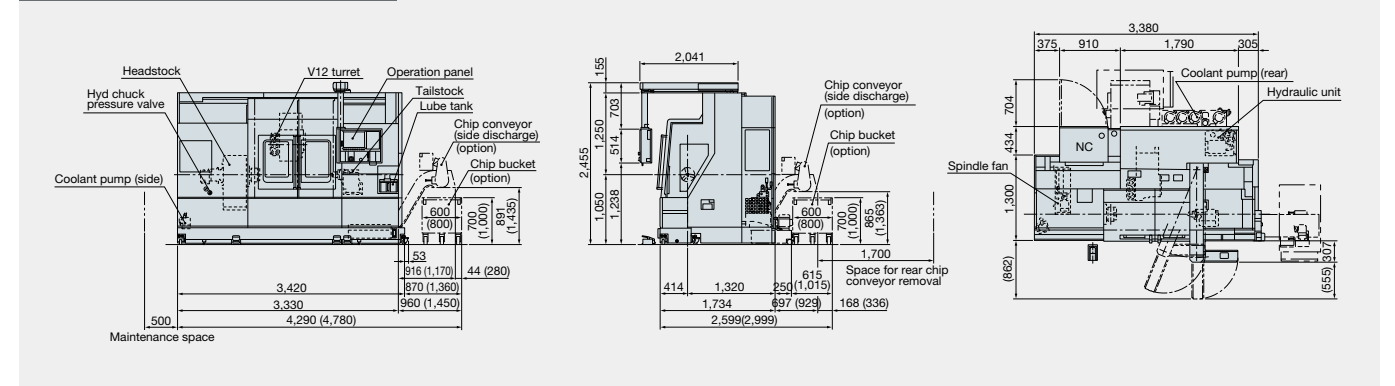


() dimensions for H chip conveyor

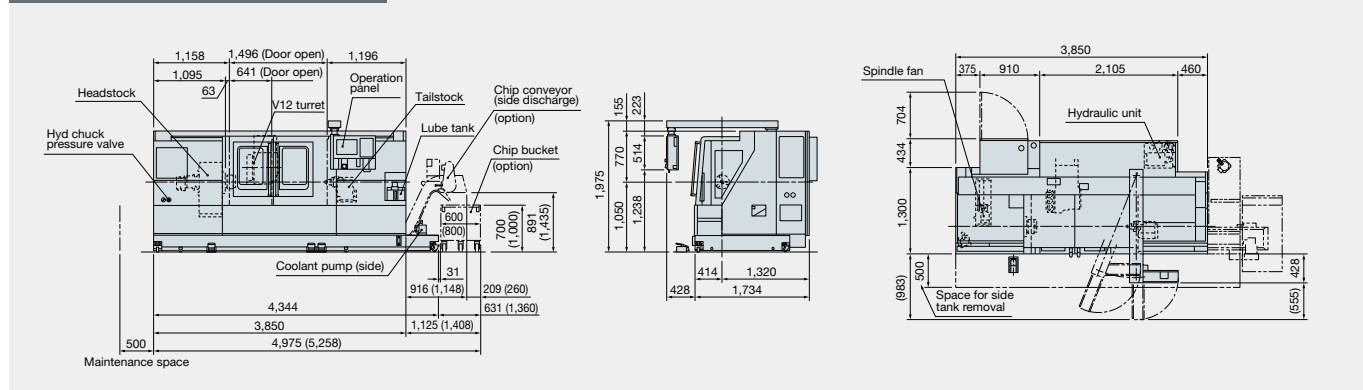
LB3000 EXⅡ(L / M) ×1,000



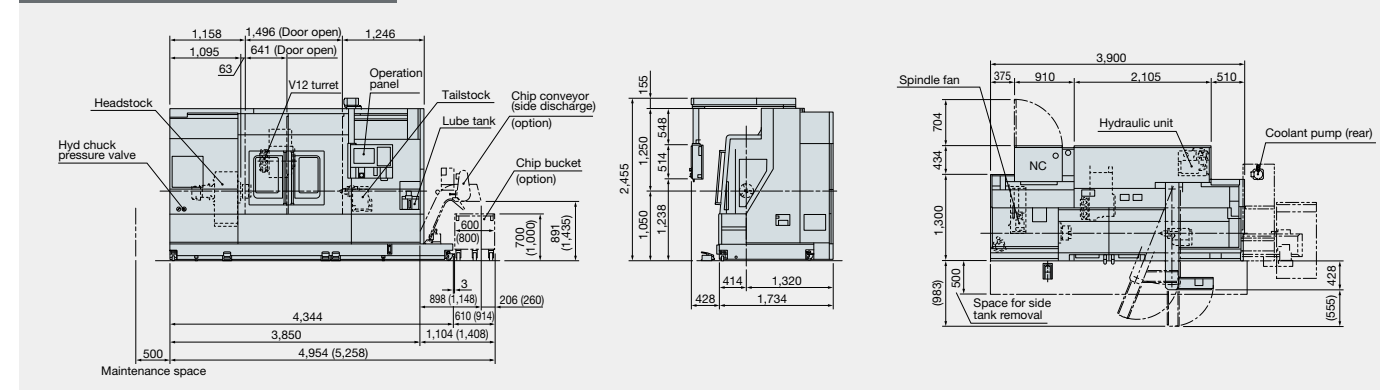
LB3000 EX II (MY) x950



LB3000 EX II (L / M) ×1,300



LB3000 EX II (MY) ×1,200

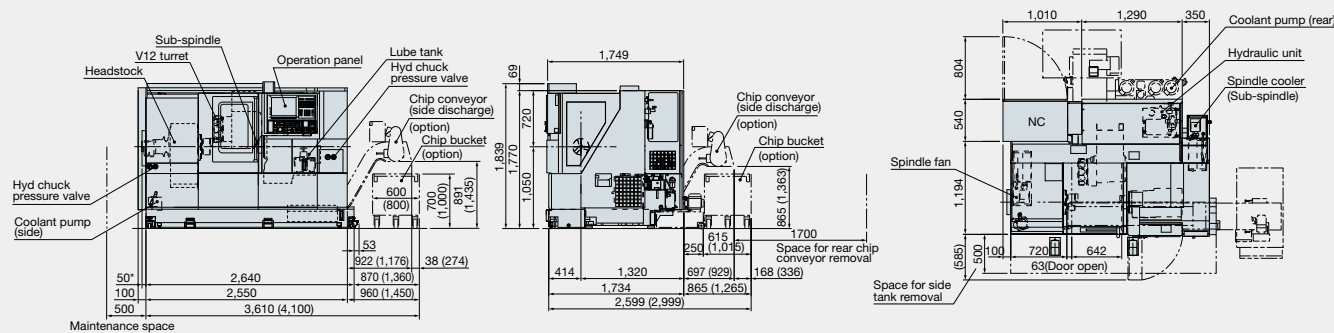


Drawings shown are with standard spindle specs.

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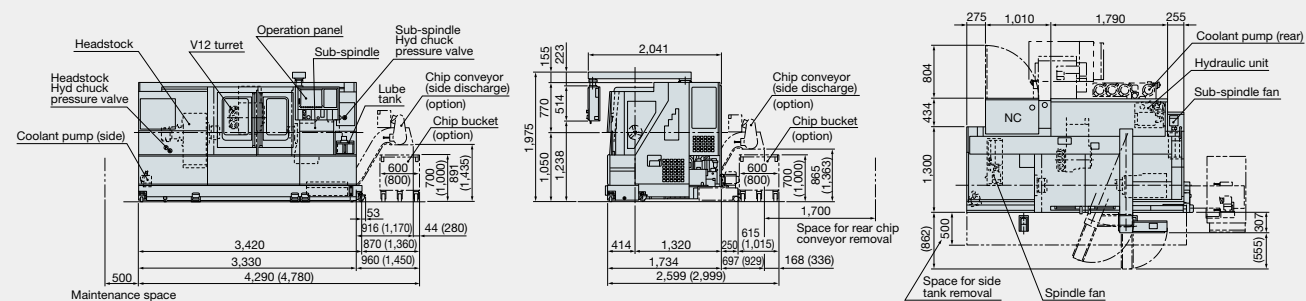
() dimensions for H chip conveyor

×500

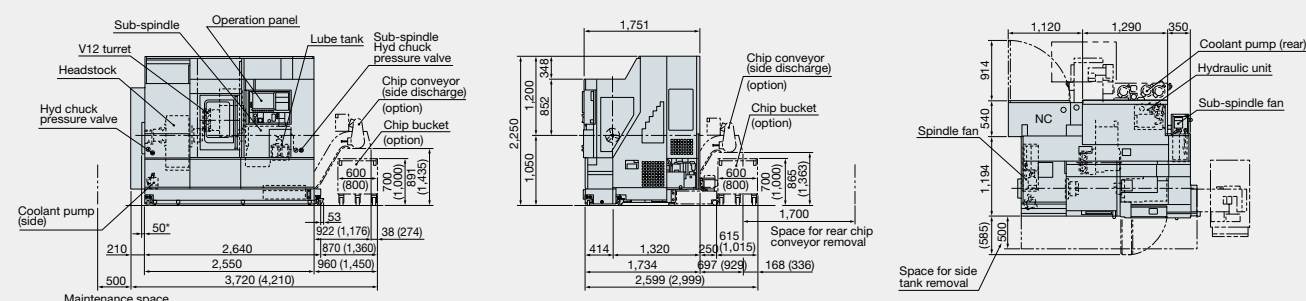


*250 mm with big bore spindle specs

×800

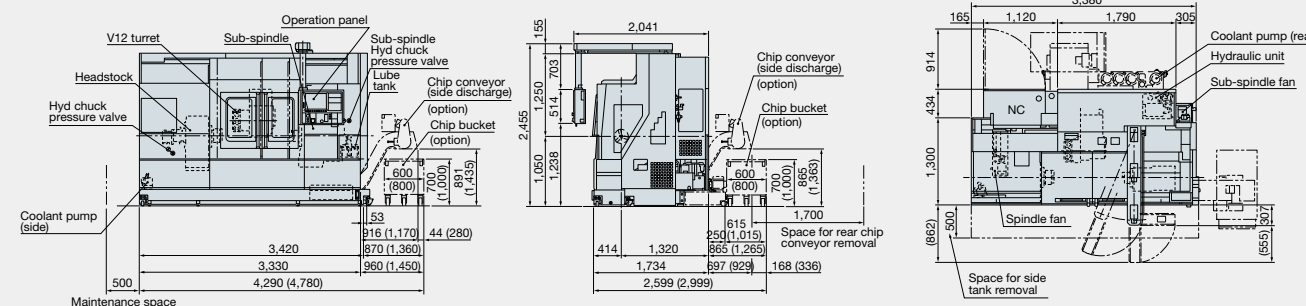


×450



*250 mm with big bore spindle specs

×800



Drawings shown are with standard spindle specs.

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 inputs	8-digit decimal, ± 99999.999 to 0.001 mm (± 3937.0078 to 0.0001 in.), 0.001° Decimal: $1\text{ }\mu\text{m}$, $10\text{ }\mu\text{m}$, 1 mm ($0.0001, 1\text{ in.}$) (1° , 0.01° , 0.001°)
	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
	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: 2 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
	Programing	Program management, edit, multitasking, 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, manual cutting feed, pulse handle), load meter, operations help, alarm help, sequence, return, manual interrupt & auto return, threading slide hold, data I/O, chuck open/close during spindle rotation, spindle orientation (electric)
	MacMan	Machining Management: machining results, machine utilization, fault data compile & report, external output
Communications/Networks		USB ports, Ethernet, RS232C interface (1 channel)
High speed/accuracy		Hi-G control
Energy-saving function	ECO suite	ECO Idling Stop, ECO Power Monitor

Item		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 each											
Work coordinate system select	10 sets										
	50 sets										
	100 se										
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 (spindle orientation required)											
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)											
Tool life management				●				●		●	
Tool life warning											
Operation end buzzer											
Chuck miss detection		Included in machine specs									
Work counters	Count only										
	Cycle stop										
	Start disabled										
Hour meters	Power ON										
	Spindle rotation										
	NC operating										
NC operation monitor (counter, totaling)		●	●	●	●	●	●	●	●	●	●
NC work counter (stops at full count with alarm)											
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											
Gauge data output	File output										
Post-process work gauging interface	Set levels (5-level, 7-level)										
	RS-232-C (dedicated channel)										
Touch setter [M, A]		Included in machine specs									

Item	NML				3D		OT-IGF		OTM		
	E	D	E	D	E	D	E	D	E	D	
External Input/Output and Communication Functions											
Additional RS-232-C channel 2 channels (Std 1 channel)											
DNC link	DNC-T3										
	DNC-C/Ethernet										
	DNC-DT										
USB (additional)	2 additional ports possible										
Automation/Untended Operation											
Auto power shutoff MO2, alarm											
Warmup 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 *2	Type B (machine)										
	Type C (robot and loader)										
	Type D										
	Type E										

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

E: Economy, D: Deluxe

*2. Engineering discussions required.

*3. ▲Triangle items for M function (milling tool) machines only.

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. SPACE TURN LB3000 EXII-E-(15a)-500 (Feb 2017)

This product is subject to the Japanese government Foreign Exchange and Foreign Trade Control Act with regard to security controlled items; whereby Okuma Corporation should be notified prior to its shipment to another country.



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