

1-Saddle CNC Lathe

SPACE TURN LB3000EX II



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.

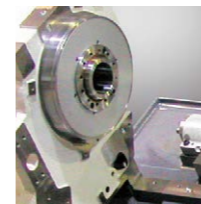
Okuma's advanced technology in its SPACE TURN LB EX II series continues to write new pages in world standards for machining quality, speed, power & torque, multitasking, ease of operation, and more.



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

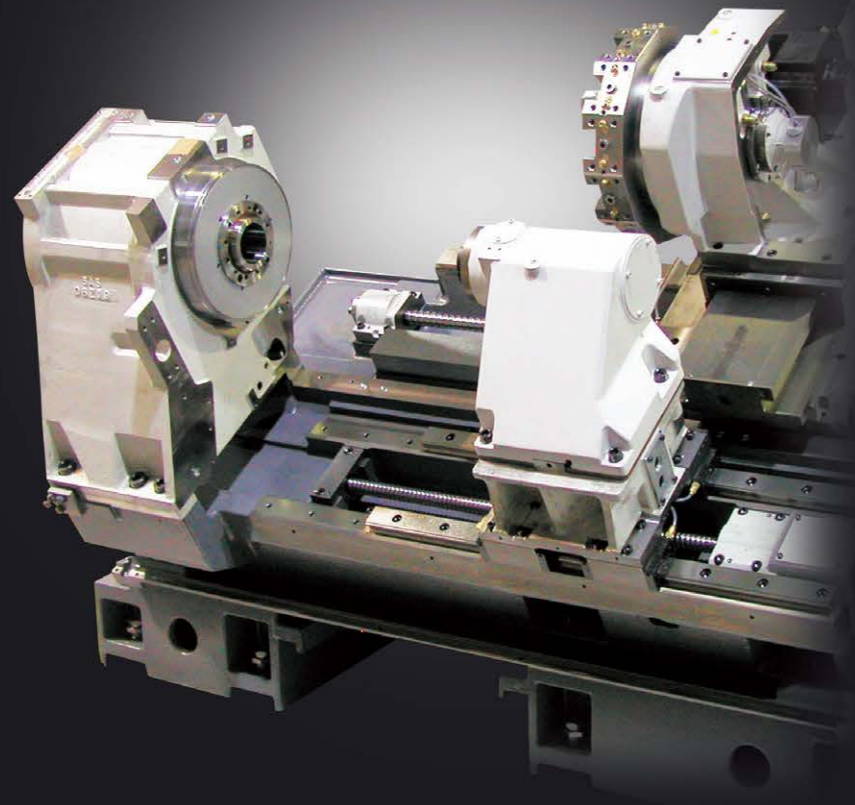
- Abundant series variation
- NC tailstock standard equipment



Easy Operation

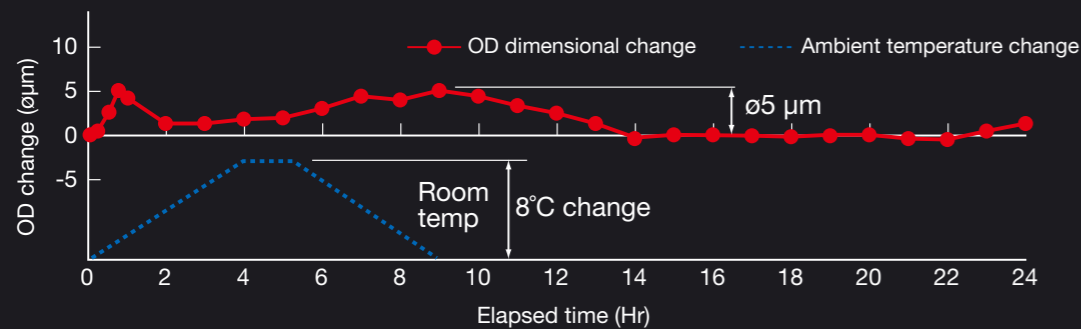
- The Next-Generation Intelligent CNC **OSP suite** *OSP-P300LA*

Highest Quality



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

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



- Cycle time: 60 sec
[X-axis travel: 60 mm
3 repetitions/cycle]
- Cutting conditions Spindle speed: 4,000 min⁻¹
Cutting depth : 0.05 mm
Feed : 0.05 mm/rev
- Workpiece material: BsB

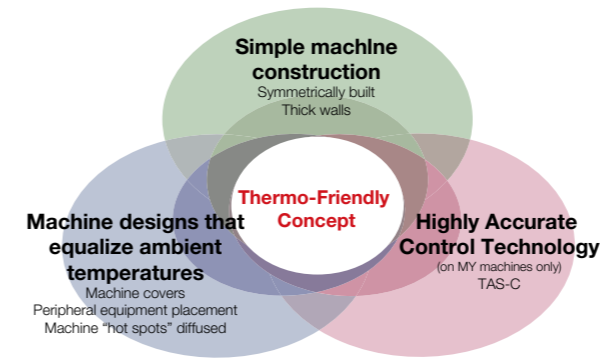
High accuracy specifications overall assure machining with high thermal stability

Thermo-Friendly Concept for unparalleled thermal stability

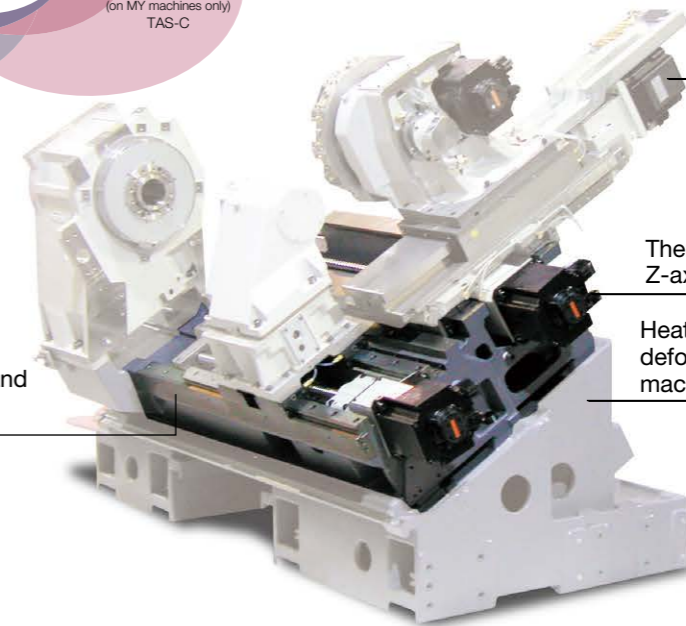
Okuma's Thermo-Friendly Concept is used on all the LB EX machines for extraordinary machining accuracy, using our unique machine design and thermal deviation control technology. Outstanding thermal stability in long-time continuous operation, multitasking, front and back side machining with a subspindle,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

Slanted-box bed 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 thermal stability and high rigidity. Exhibits stable machining accuracy even in heavy cutting.



Slanted-box bed achieves outstanding thermal stability and high rigidity



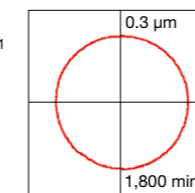
Optimized X-axis feed element

Thermal deformation minimized on Z-axis

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

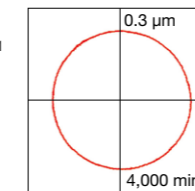
Roundness [Actual data*]

- Standard spindle
0.3 μm/1,800 min⁻¹



Standard spindle

- Sub-spindle
0.3 μm/4,000 min⁻¹



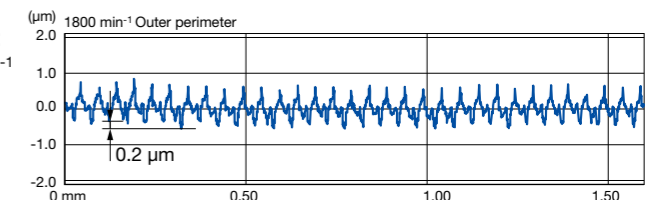
Sub-spindle

Material: BsB

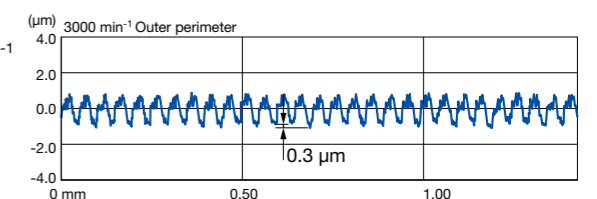
* The "actual data" referred to above for this brochure represent examples, and may not be obtained due to differences in specifications, tooling, cutting and other conditions.

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

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

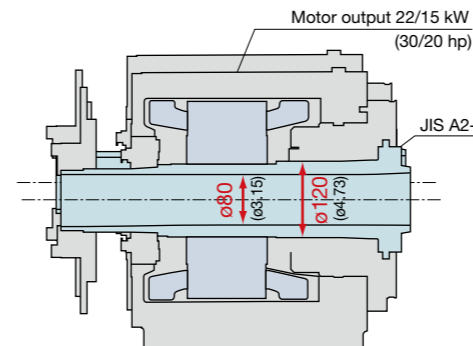
• Rapid traverse	X: 25 m/min (984 ipm)
	Z: 30 m/min (1,181 ipm)
• Spindle start/stop	3 sec (5,000 min ⁻¹)
• Turret rotate	0.1 sec/index
• NC tailstock rapids	12 m/min (472 ipm)

Turning 4.4 mm²

(Workpiece: S45C)

(Actual data*)

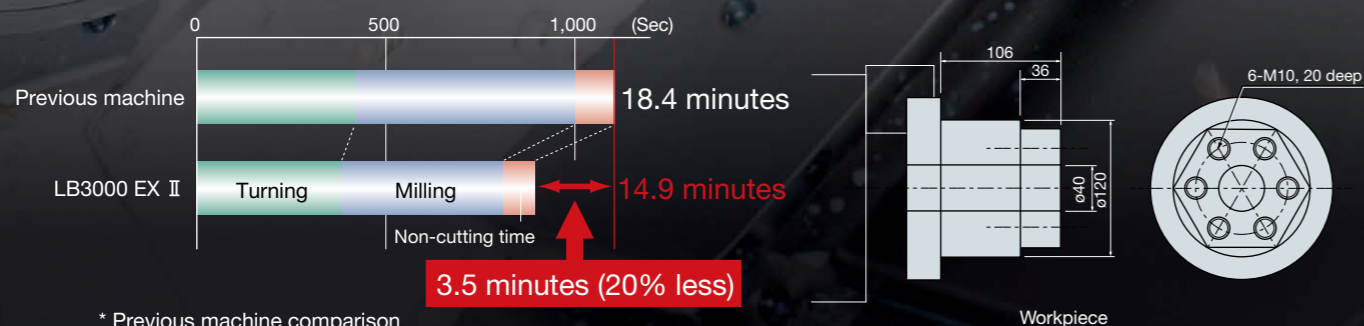
Cylindrical, heavy-duty cutting	4.4 mm ² (0.007 in. ²)
	Cutting speed V: 150 m/min (492 fpm)
	Cutting depth t: 8 mm (0.31 in.)
	Feedrate f: 0.55 mm/rev (0.02 ipr)
Drilling	$\phi 59$ ($\phi 2.32$) carbide insert drill
	Cutting speed V: 180 m/min (591 fpm)
	Feedrate f: 0.25 mm/rev (0.01 ipr)



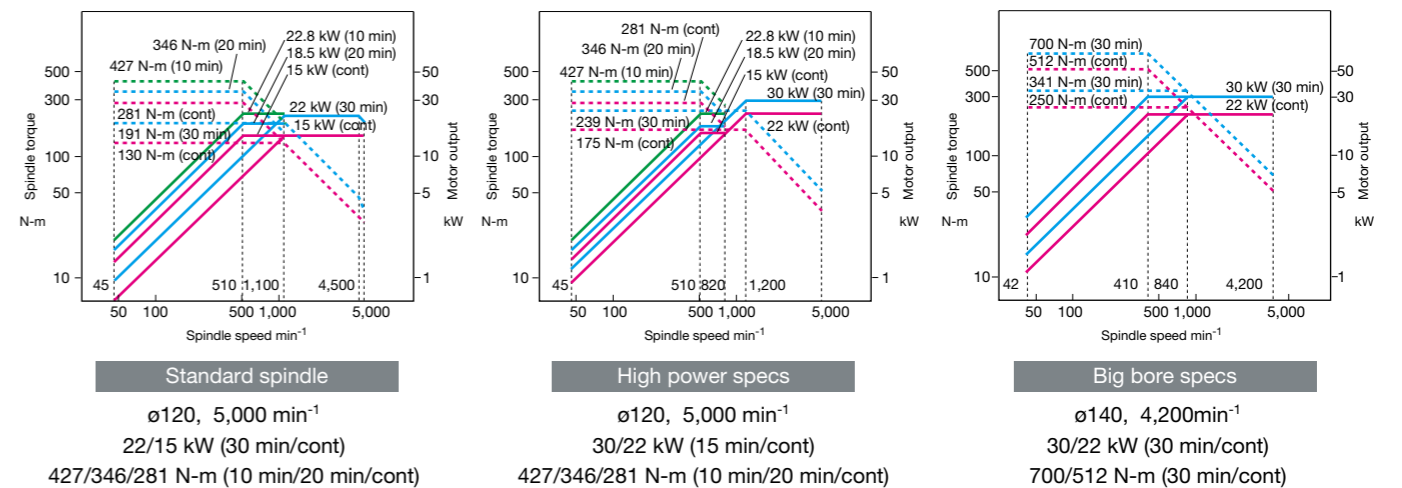
Built-in motor—Okuma's own powerful motor—retains full power over a wide area. There are no gears or belts that can cause vibration or bending, for stable machining without chatter.

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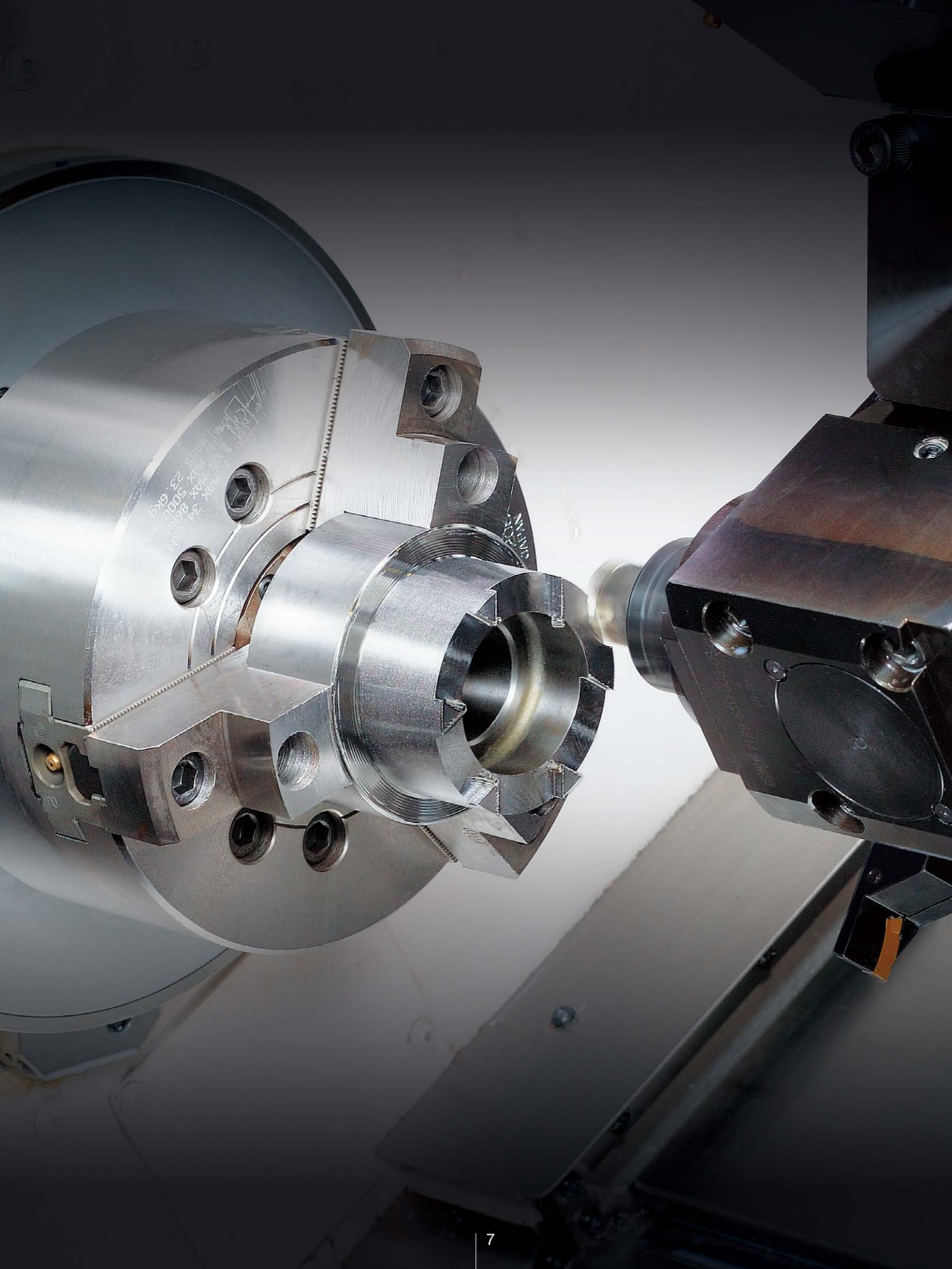
Improved productivity: 20% shorter cycle time*



Spindle/motor variations



* 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)

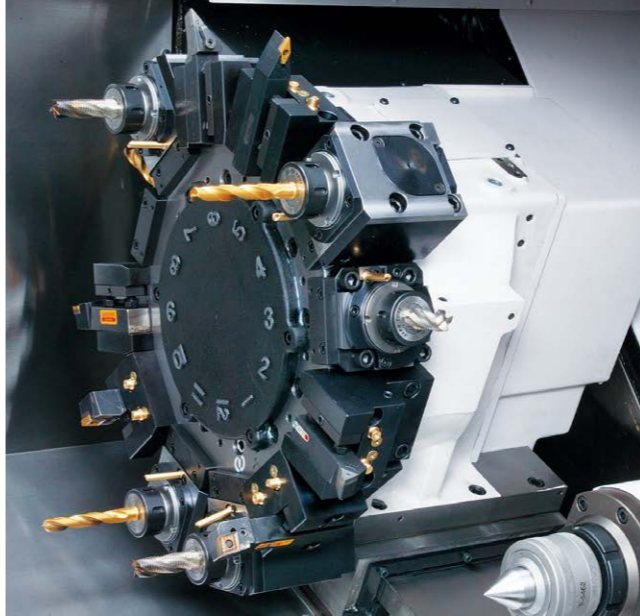
(Actual data*)

End milling	Chip volume	200 cm ³ /min (12.2 in. ³ /min)
	ø20 7-flute carbide	
	Cutting speed V	200 m/min (7,874 ipm)
	Feedrate	f : 1.26 mm/rev (0.05 ipr)

Drilling	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)	

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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

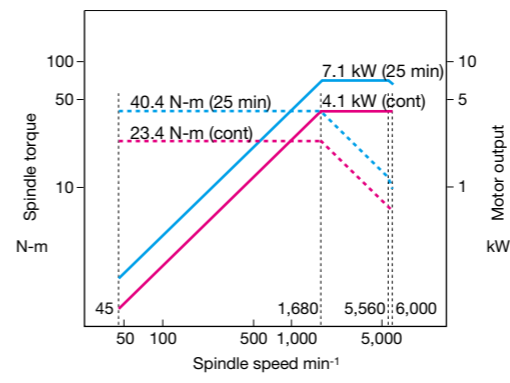
Distance between centers:

• 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

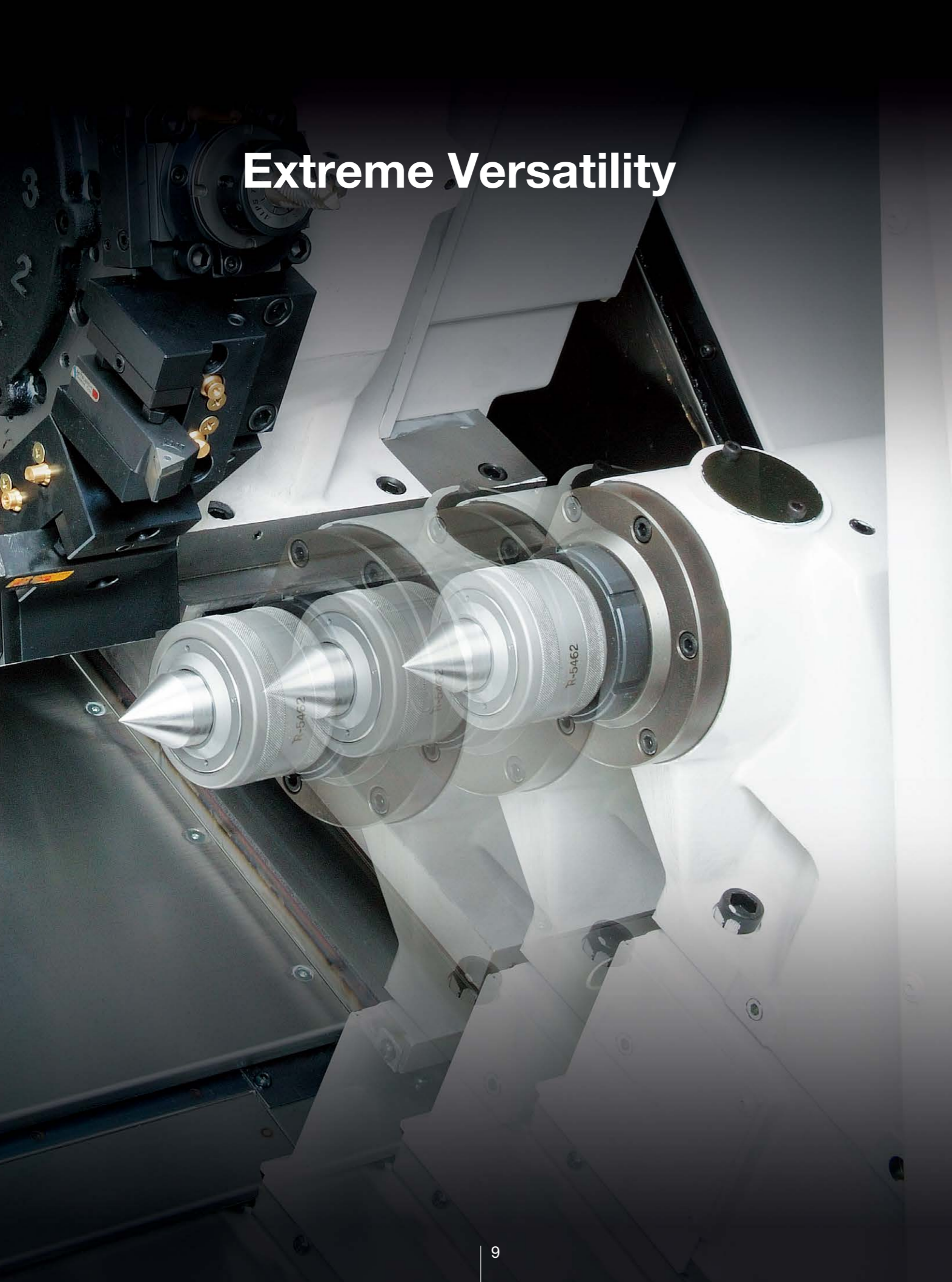
• Standard spindle:	ø80 mm (ø3.15 in.)
• Big-bore spindle:	ø91 mm (ø3.59 in.)
• Super big-bore spindle:	ø110 mm (ø4.33 in.)

Milling tool spindle



PREX 7.1/4.1 kW (25 min/cont)
40.4/23.4 N-m (25 min/cont)

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)

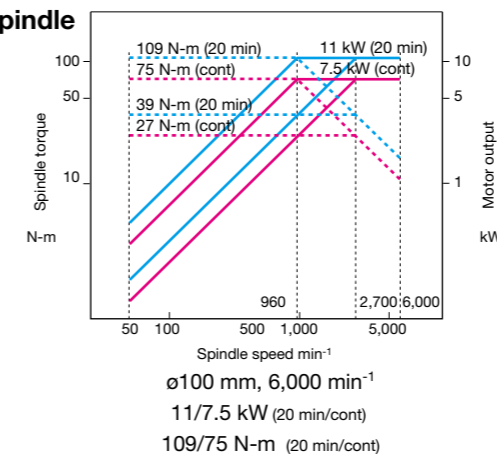
Note: Please select a hydraulic quill for face driver machining applications.

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)



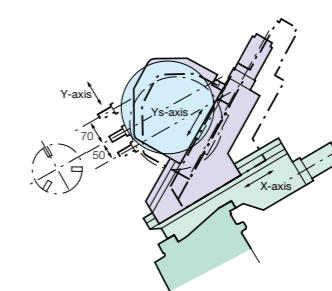
Sub-spindle



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

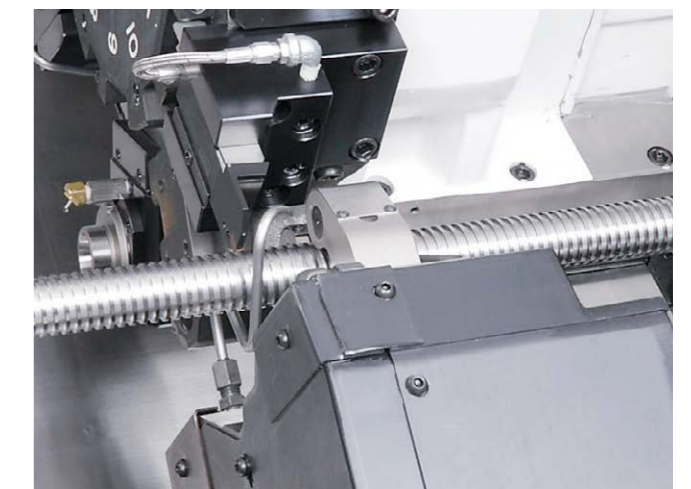
A variety of milling operations can be accommodated with high-accuracy, wide-range Y-axis travel using a double slide system. Achieves complete multitasking with a single chucking (MY, MYW specifications).

• 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

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

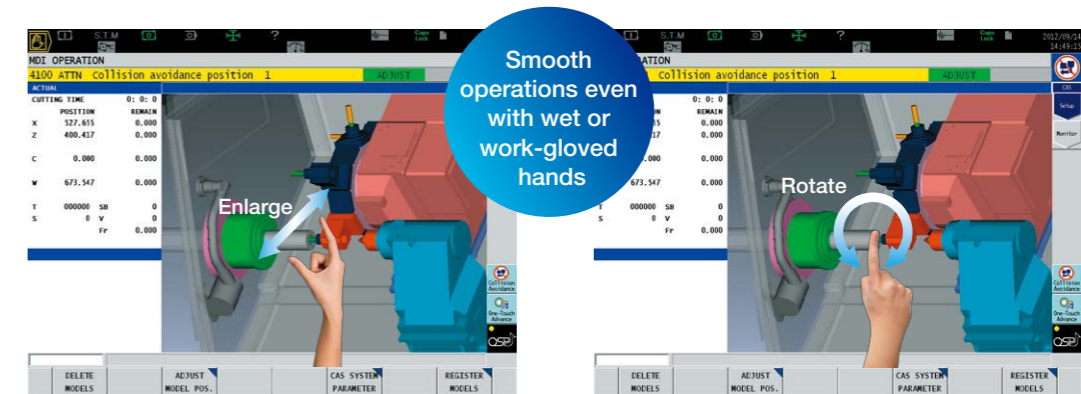
Suite apps for the visualization of all kinds of information, from workpiece drawings, tooling and other information needed in machining preparation to information on machining and machine status; suite operation for the full command of those functions. Okuma’s next-generation intelligent CNC “OSP suite” 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.

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

Smart factories implement advanced digitization and networking (IoT) 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 brainpower packed into the CNC, built by machine tool manufacturer, will “empower shop floor” management.



Increased productivity through visualization of motor power reserve

Spindle Output Monitor

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



Easy programing without keying in code

Scheduled Program Editor



Monitoring operating 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	<CONTINU	PROCESS SHEET	<CONTINU	PROCESS SHEET	<SINGLE
MACHINING UNIT	TOOL	MACHINING UNIT	TOOL	MACHINING UNIT	TOOL
1 DRILL THR	TN 1	1 DRILL THR	TN 1	1 DRILL THR	TN 1
2 RGH OD FACE	TN 2	2 RGH OD FACE	TN 2	2 RGH OD FACE	TN 2
3 RGH OD <	TN 2	3 RGH OD <	TN 2	3 RGH OD <	TN 2
4 RGH ID <	TN 3	4 RGH ID <	TN 3	4 RGH ID <	TN 3
5 FIN OD <	TN 4	5 FIN OD <	TN 4	5 FIN OD <	TN 4
6 FIN ID <	TN 5	6 FIN ID <	TN 5	6 FIN ID <	TN 5

Continuous run Mid-cycle start (finishing repeated) Individual run (machining repeated with this tool only)

Easy to operate

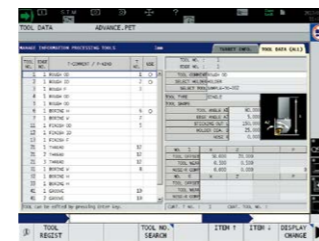
Operation screen split into four displays

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)

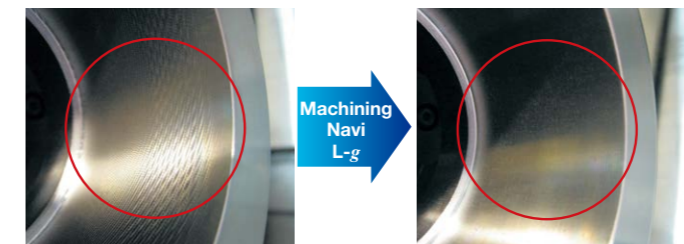
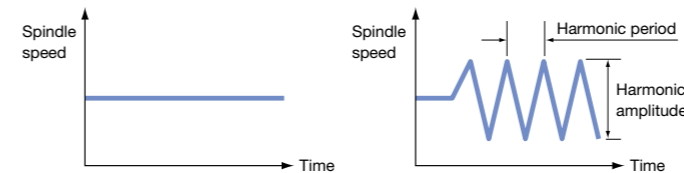


Okuma's Intelligent Technology reduces operator burden



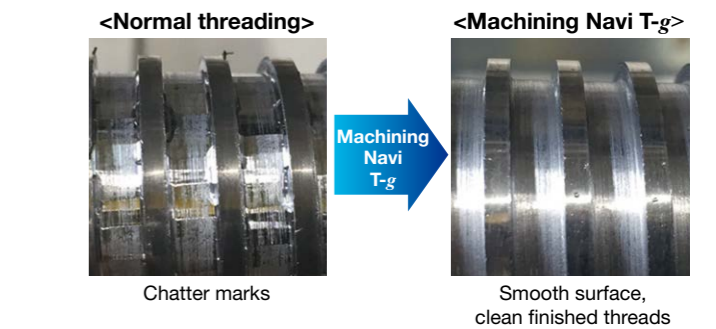
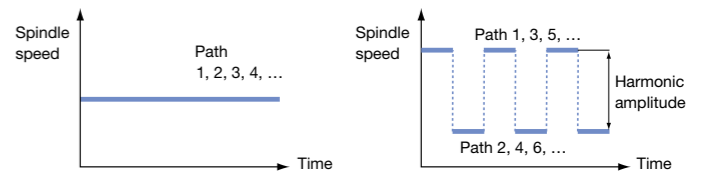
Cutting condition search function for turning Machining Navi L-g (guided, harmonic spindle) speed control (Optional)

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.

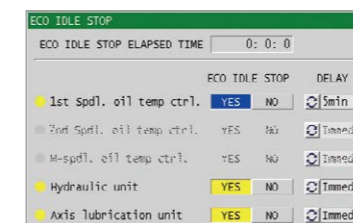


ECO suite

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)

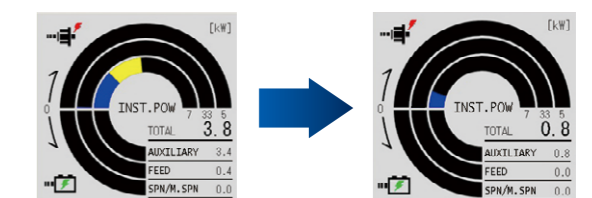
● Example of equipment that can use Idling Stop



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 mm (in.) (W specs: DBN)	-	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)	
	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)		-	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)				
	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)		-	2.9 (3.92)		
	Sub-spindle travel kW (hp)	-				-					
	Coolant pump kW (hp) (60 Hz / 50 Hz)	SD: 0.25/0.25 (0.34/0.34) RD: 0.75/0.55 (1/0.73)		SD: 0.82/0.52 (1.09/0.69)		SD: 0.25/0.25 (0.34/0.34) RD: 0.75/0.55 (1/0.73)		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)	
Machine size	Floor space*1 mm (in.) (side discharge L type tank)	2,764 × 1,749 (109 × 69)		3,844 × 2,041 (151 × 80)		4,344 × 2,162 (171 × 85)		2,764 × 1,749 (109 × 69)		3,844 × 2,041 (151 × 80)	
	Floor space*1 mm (in.) (side discharge I type tank)	2,340 × 1,749 (92 × 69)		3,420 × 2,041 (135 × 80)		-		2,340 × 1,749 (92 × 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

Item	Model	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
Capacity	Swing over bed mm (in.)	ø580 (ø22.83)									
	Swing over saddle mm (in.)	ø470 (ø18.5)									
	Distance between centers mm (in.) (W specs: DBN)	-	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)
	Max turning dia mm (in.)	ø340 (13.39)			ø410 (16.14)		ø340 (13.39)		ø340 (13.39)		
	Max work length mm (in.)	250 (9.84)	450 (17.72)	950 (37.4)	1,200 (47.24)	-	-	-	-		
Travels	X axis mm (in.)	260									
	Z axis mm (in.)	510 (20.08)		1,010 (39.76)		1,255 (49.41)		565 (22.24)		1,065 (41.93)	
	Y axis mm (in.)	120 (+70 to -50) (4.72 (+2.76 to -1.97))				-				115 (+70 to -45) (4.53 (+2.76 to -1.77))	
	C axis deg	360 (0.001 increments)				-				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	M-V12 NC turret			V12 NC turret		M-V12 NC turret				
	No. of tools	L / M: 12			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			-		45 to 6,000				
	Speed range infinitely variable	Infinitely variable			-		Infinitely variable				
Feedrates	Rapid traverse m/min (ipm)	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)		
	Tailstock rapids m/min (ipm)	-	12 (472)		-	-		30		-	
	Rapid traverse (W) m/min (ipm)	-			-		-				
	Rapid traverse (C) min ⁻¹ (rpm)	200			-		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)									
	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)	-			-		11/7.5 (15/10) (20 min/cont)				
	Milling tool spindle kW (hp)	7.1/4.1 (9.5/5.5) (25 min/cont)			-		7.1/4.1 (9.5/5.5) (25 min/cont)				
	Axis drive kW (hp)	X: 3.5/Z: 4.6, Ys: 3.5 (4.7/6.1/4.7)									
	Tailstock travel kW (hp)	2.9 (3.92)			-		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)
	Sub-spindle travel kW (hp)	-				-					
	Coolant pump kW (hp) (60 Hz / 50 Hz)	SD: 0.25/0.25 (0.34/0.34) RD: 0.75/0.55 (1/0.73)		SD: 0.82/0.52 (1.09/0.69)		SD: 0.25/0.25 (0.34/0.34) RD: 0.75/0.55 (1/0.73)		SD: 0.82/0.52 (1.09/0.69)		SD: 0.25/0.25 (0.34/0.34) RD: 0.75/0.55 (1/0.73)	
	Height mm (in.)	2,250 (89)		2,455 (97)		2,455 (97)		1,839 (72)		1,975 (78)	
Machine size	Floor space*1 mm (in.) (side discharge L type tank)	2,764 × 1,751 (109 × 69)		3,844 × 2,041 (151 × 80)		4,344 × 2,162 (171 × 85)		3,164 × 1,749 (125 × 69)		3,844 × 2,041 (151 × 80)	
	Floor space*1 mm (in.) (side discharge I type tank)	2,340 × 1,751 (92 × 69)		3,420 × 2,041 (135 × 80)		-		2,740 × 1,749 (108 × 69)		3,420 × 2,041 (135 × 80)	
	Weight (w/ CNC) kg (lb)	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)
	CNC	OSP-P300LA									

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

*1: Includes standard spindle, side discharge specs; tank

Standard Specifications & Accessories

Model Specifications	LB3000 EX II																	
	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 M-V12 radial 45 to 6,000 min ⁻¹ 7.1/4.1 kW (9.5/5.5 hp)																	
Milling tool (25 min/cont)	- V12 bolt clamp M-V12 radial 45 to 6,000 min ⁻¹ 7.1/4.1 kW (9.5/5.5 hp)																	
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) Chuck air blow (main/sub)																	
CNC	OSP-P300LA																	
	NC operation panel, 15-in. color TFT (touch panel)																	
	Program storage; over 2 GB																	
	Operation buffer; over 2 MB																	

* 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, 0.75 kW/0.55 kW (60 Hz/50 Hz) Coolant sludge control Coolant detection; flow volume, level Mist collector Coolant gun
■ Chucking	Chuck auto open/close confirm Chuck high/low pressure switch Work stopper in spindle	■ Air	Air blow (blast; chuck, center, spindle ID, turret)
■ Gauges	In-process gauging system Touch setter M (manual), A (auto)	■ Cover	Front door auto open/close
■ Tailstock	Revolving center: MT 5 Tailstock taper: Built-in center MT 4 Threaded center MT 4 High thrust specs	■ Chip handling	Chip pan side rear Chip conveyor side rear discharge* L, H Chip bucket L, H
■ Steadyrests	Rollers (fixed position) Auto steadyrest (self-centering)	■ Dustproofing	Air purge, double wiper
■ Lubrication	Lube monitor B-2, C-1, C-2	■ Automation	Bar feeder Bar puller NC robots NC loaders

* 1,300 mm distance between centers available with side discharge only

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 Specifications	LB3000 EX II									
	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				
Sub-spindle chuck							Hollow 6 in. B206			
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					

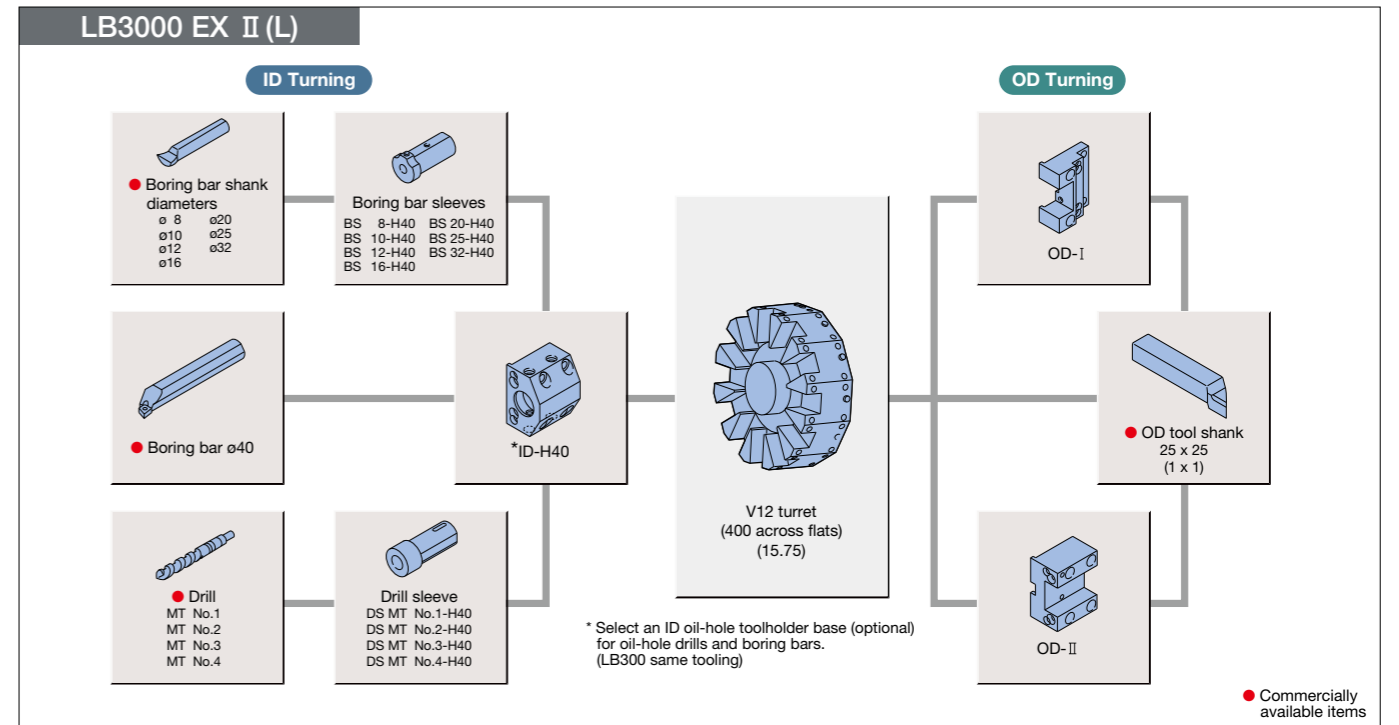
* Tailstock, MT 5; not for T specs

Chucking Kit Chuck Table

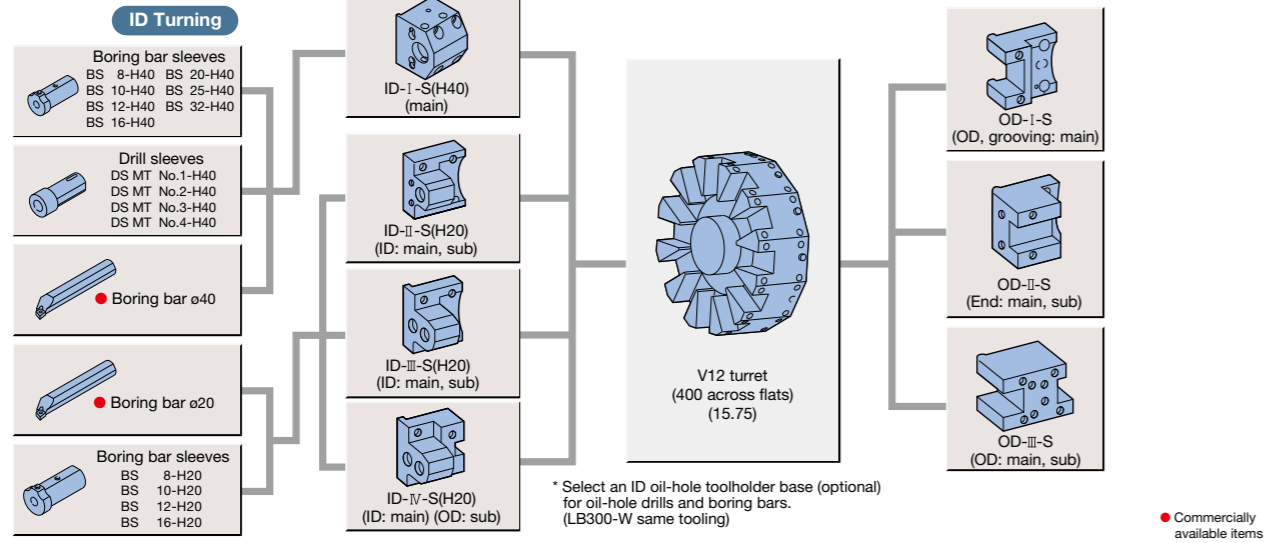
Chuck	BB Kit *1	E Kit *2	D Kit *3
Hollow 8 in. BB208A6		Hollow 8 in. B-208A6	Hollow 10 in. B-210A6

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

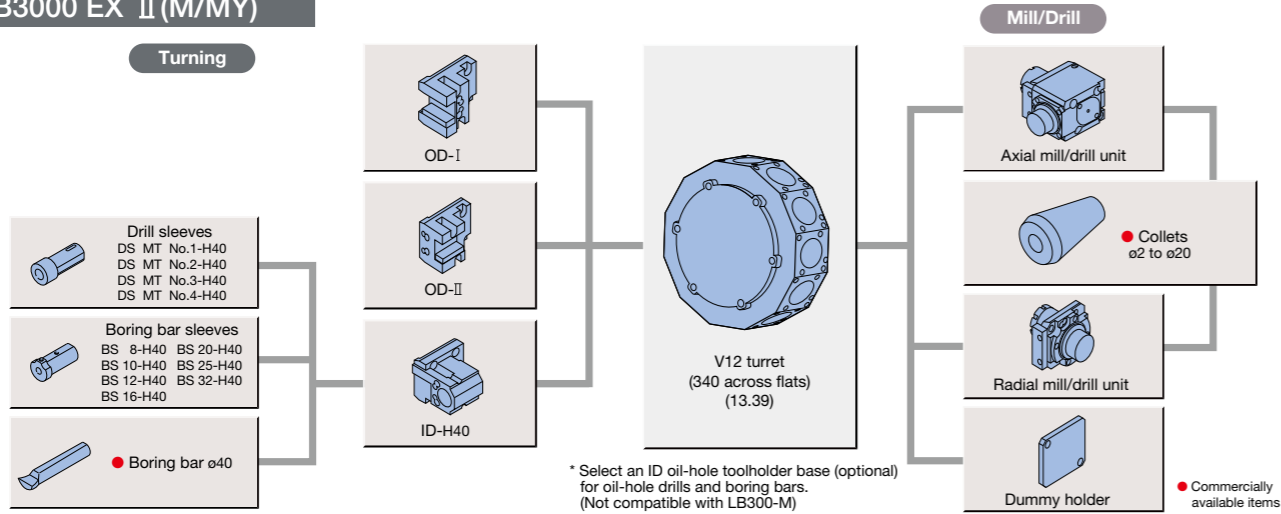
Tooling System



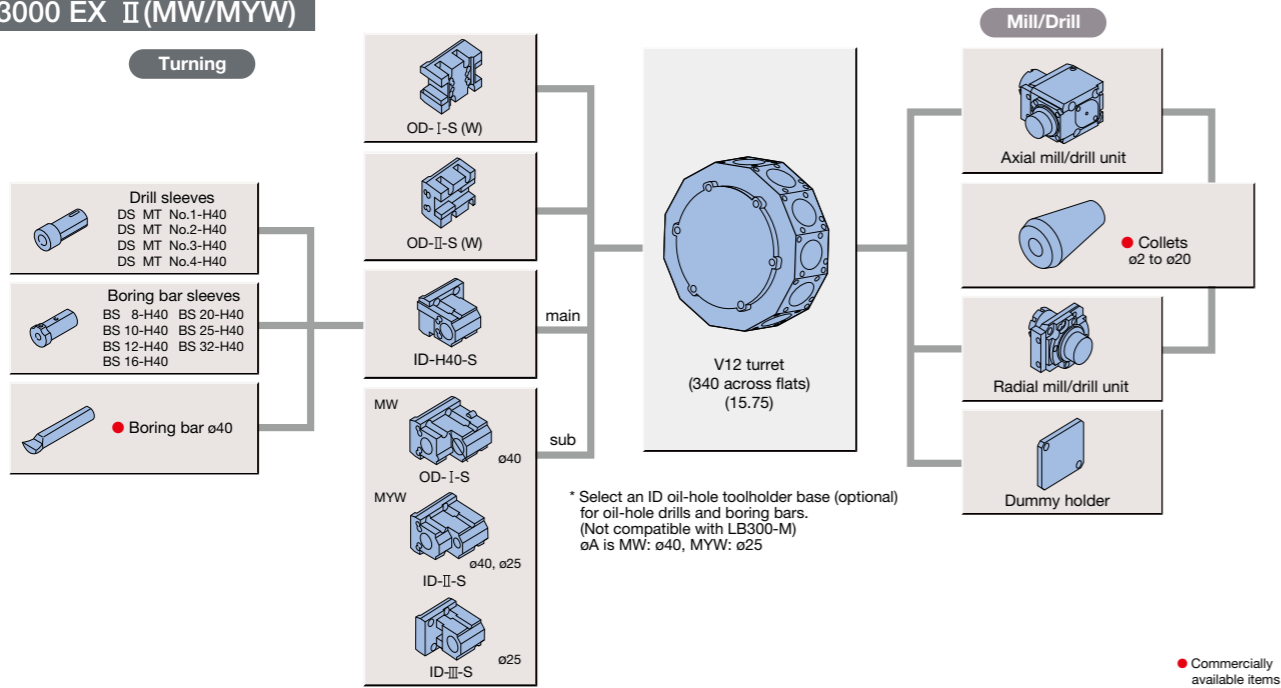
LB3000 EX II (W)



LB3000 EX II (M/MY)

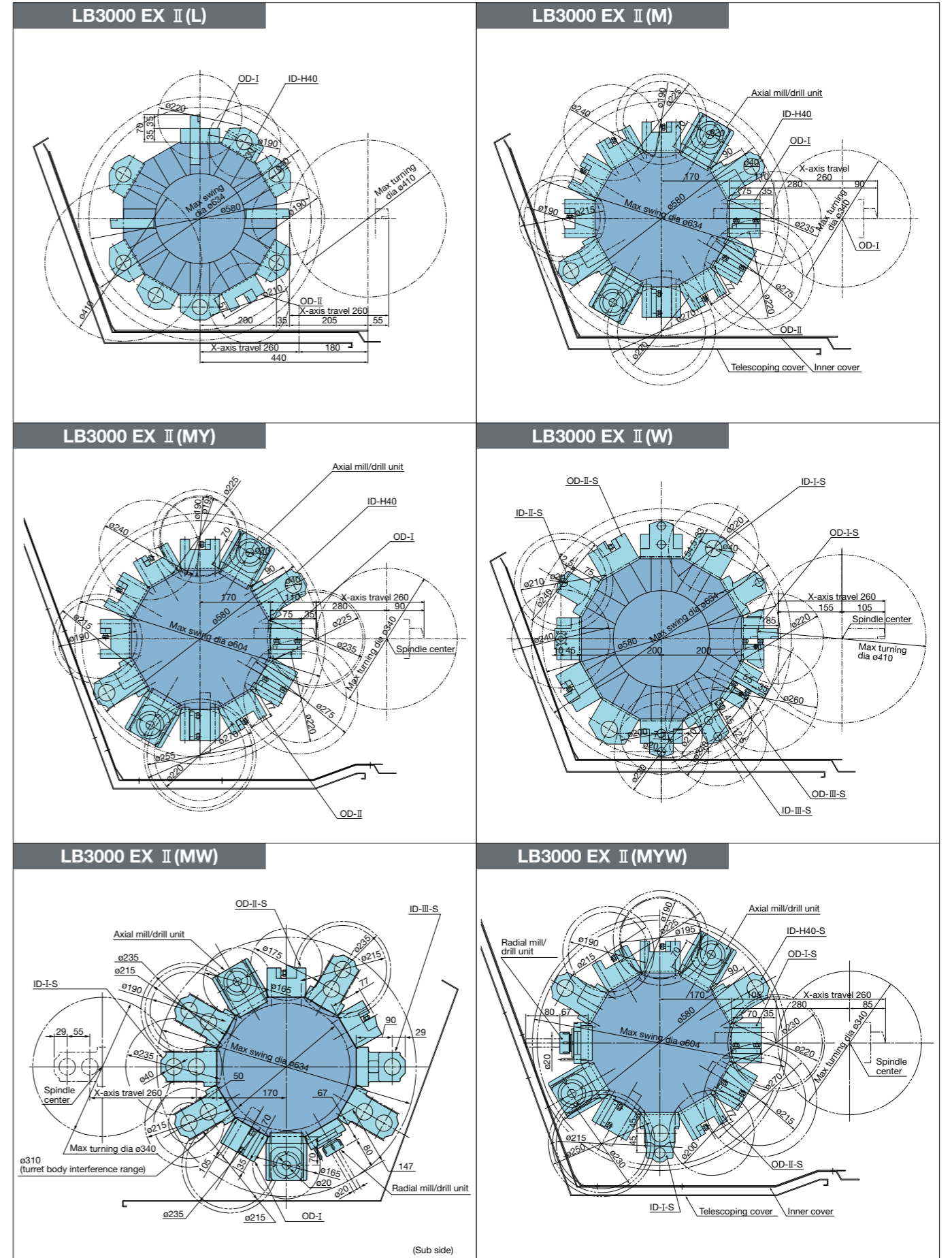


LB3000 EX II (MW/MYW)



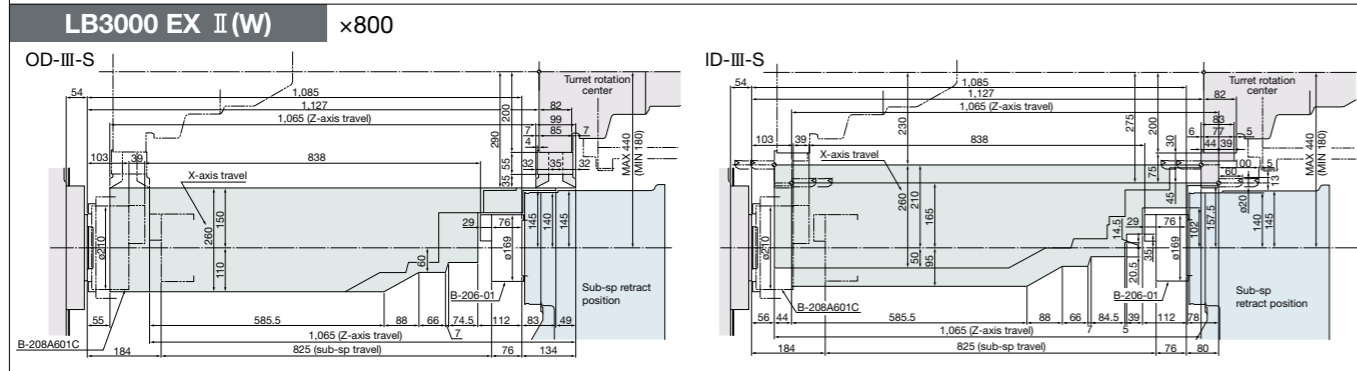
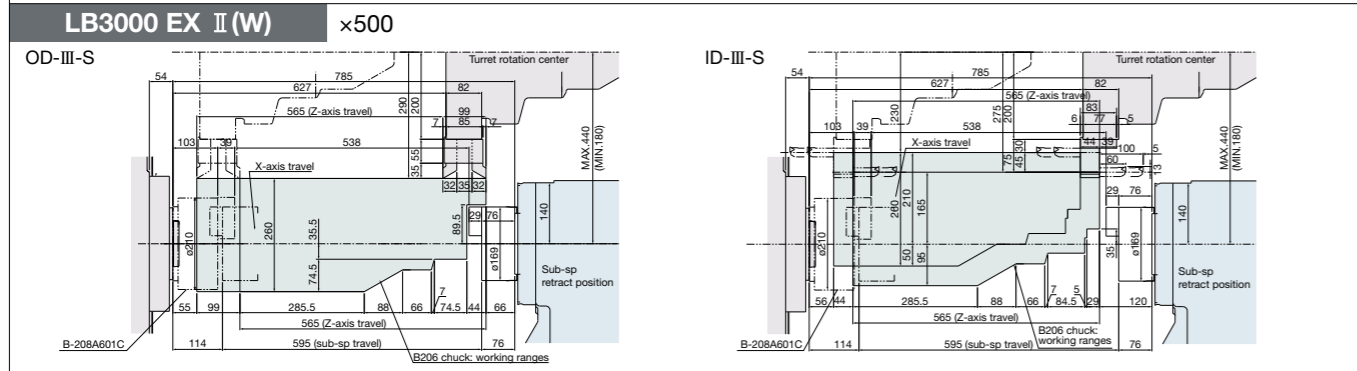
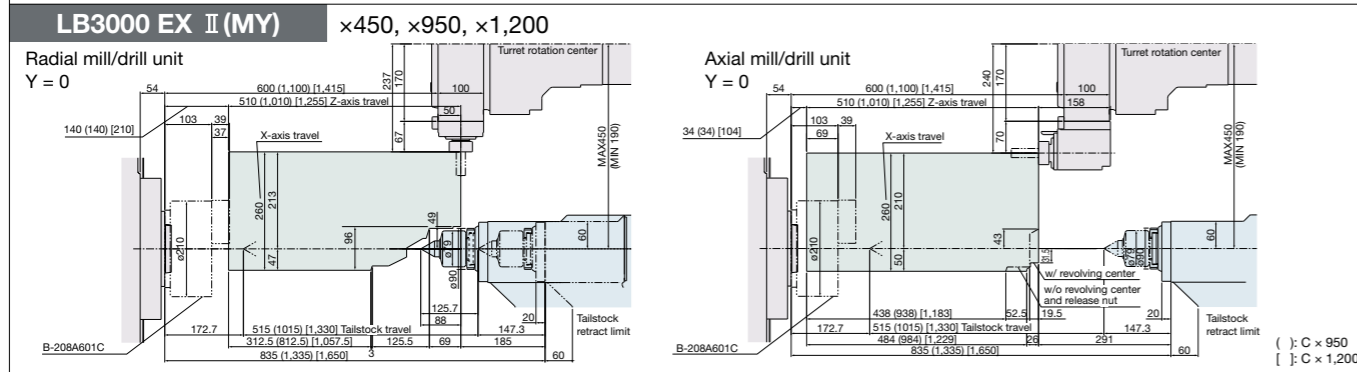
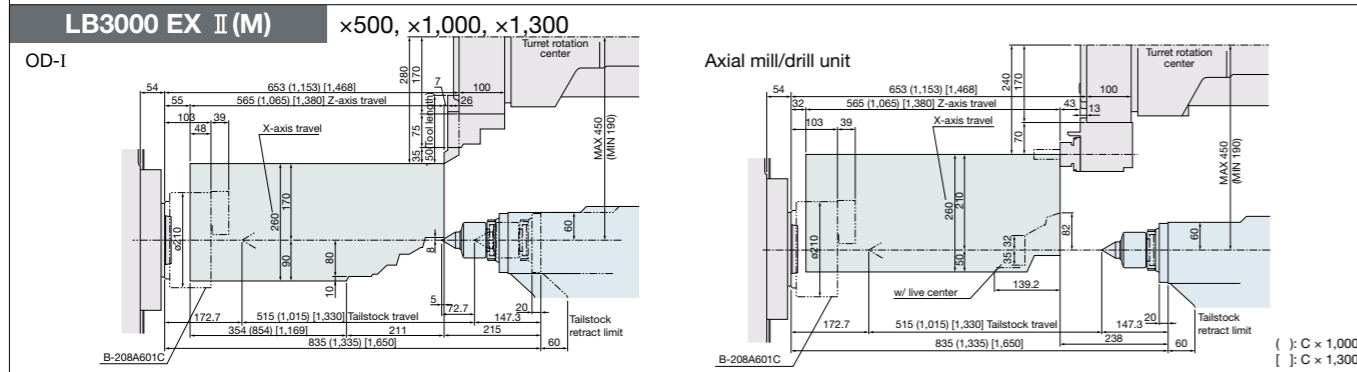
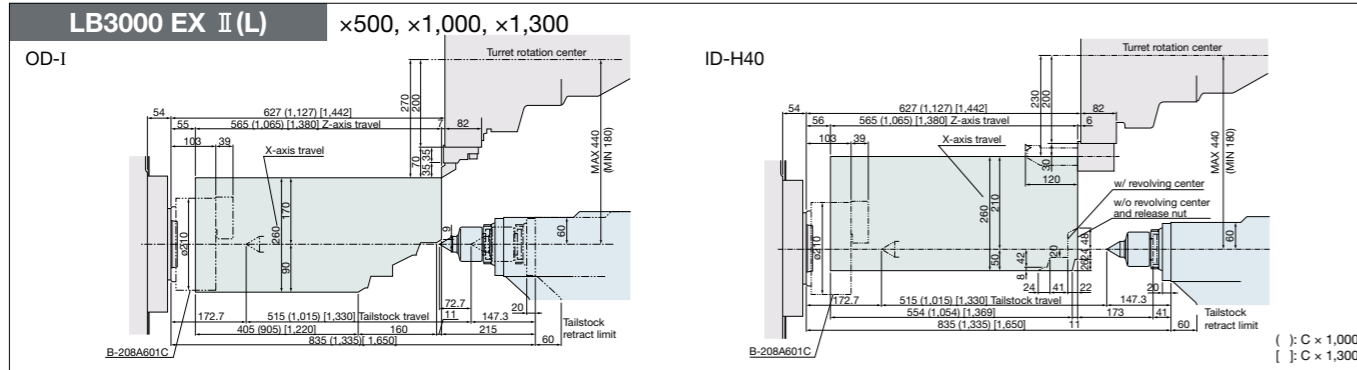
Tool Interference Drawings

Unit: mm



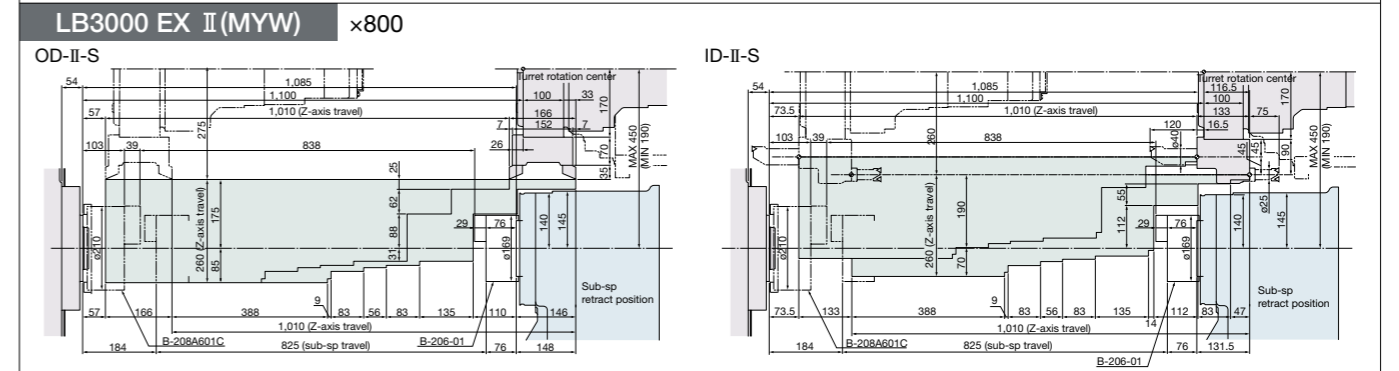
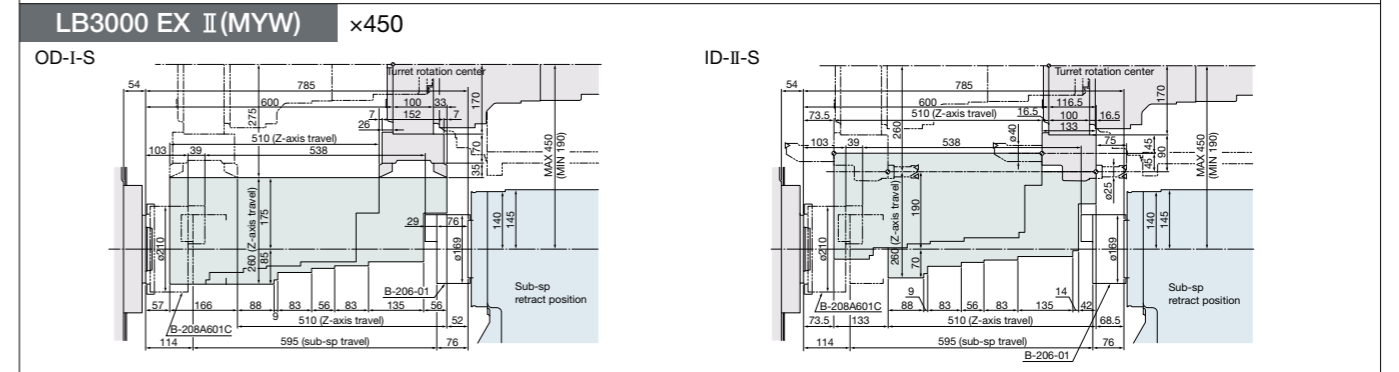
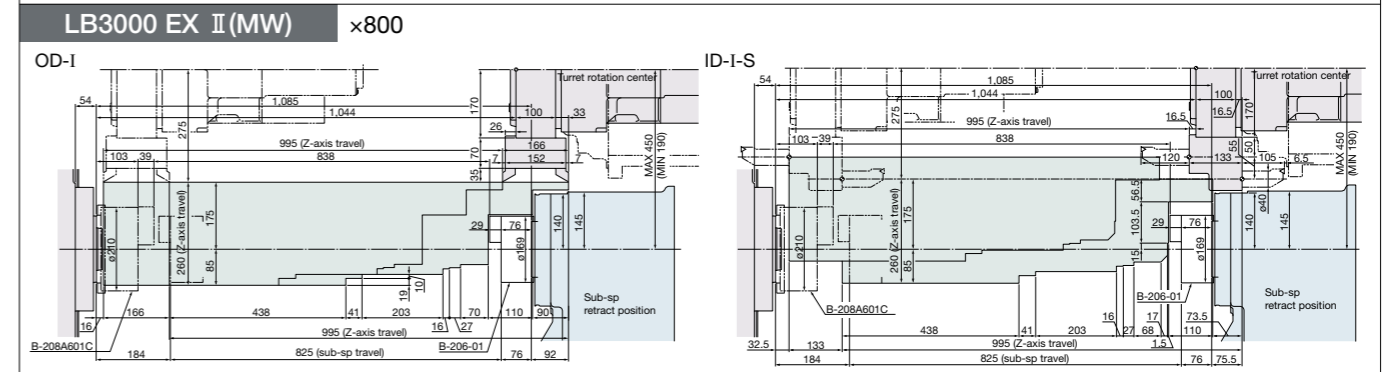
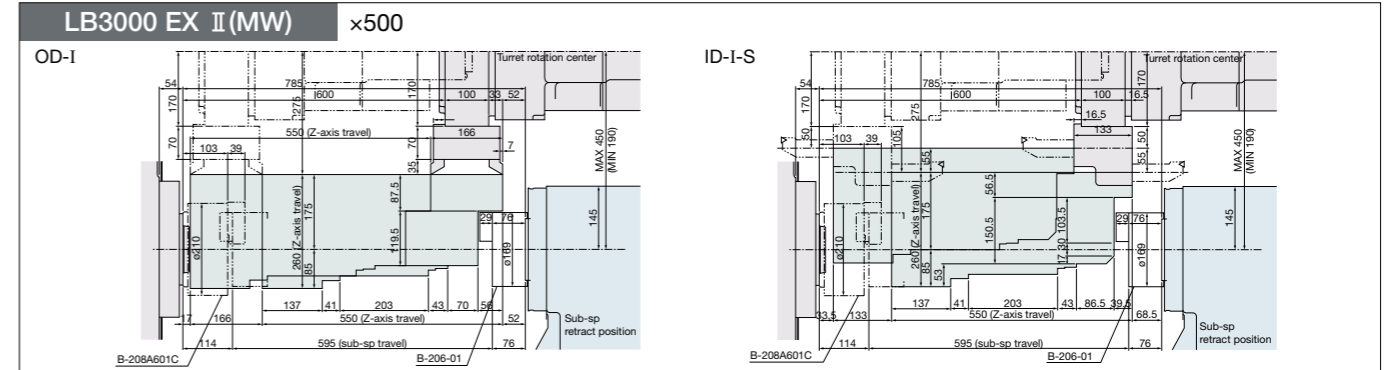
Working Ranges

Unit: mm



Working Ranges

Unit: mm



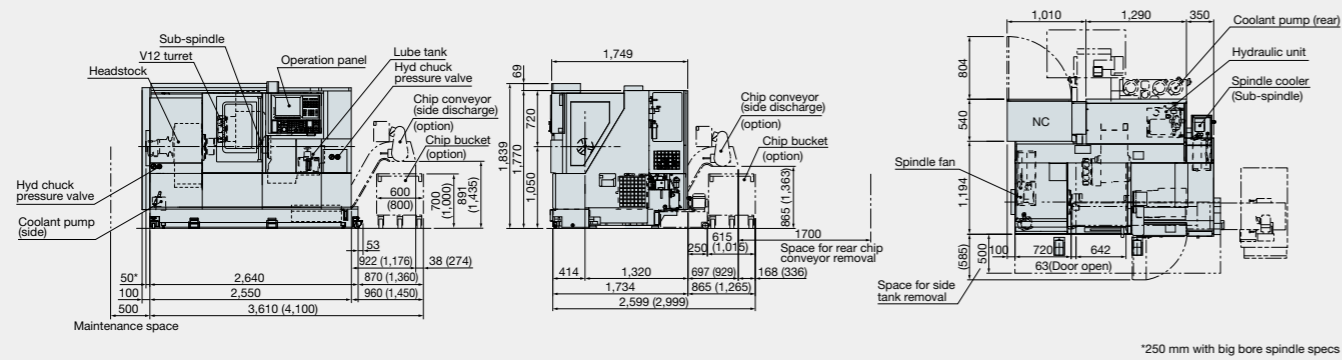
All travel range drawings shown are with standard spindle specs.
This will differ with big bore and super big bore specs.

Dimensional Drawings

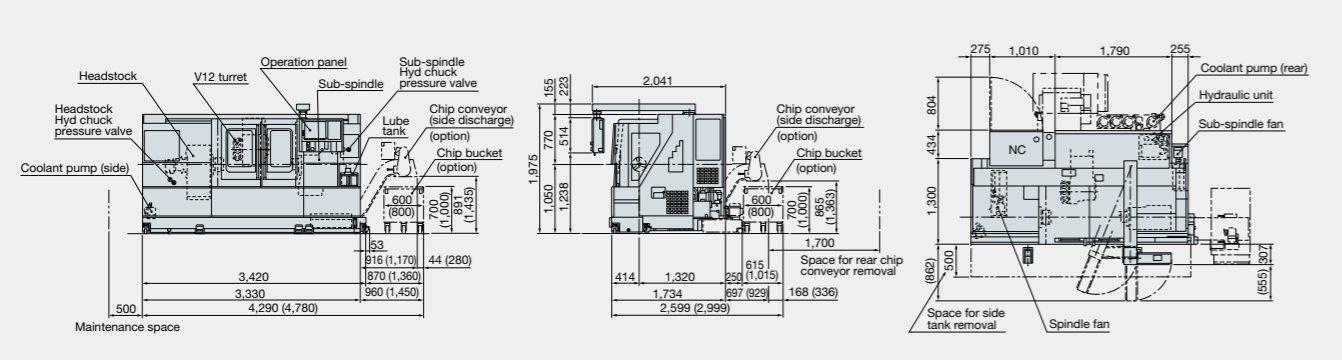
Unit: mm

() dimensions for H chip conveyor

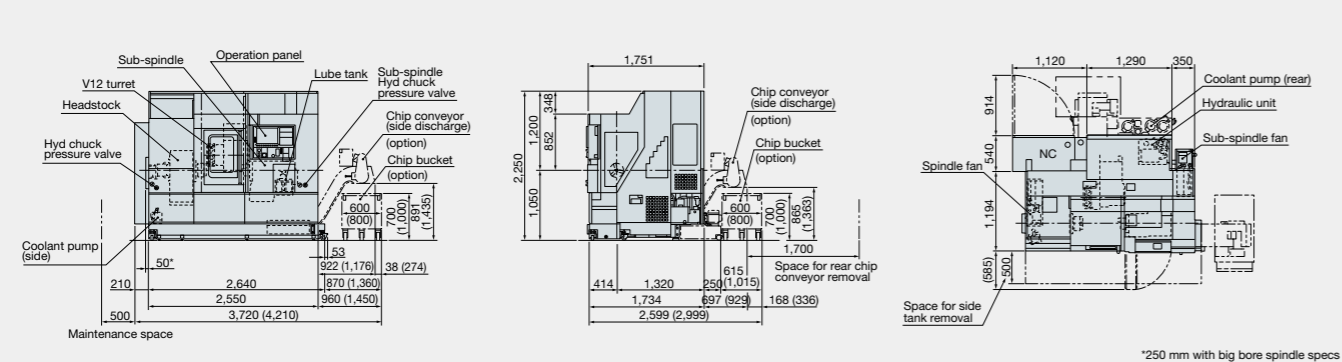
LB3000 EXII (W / MW) x500



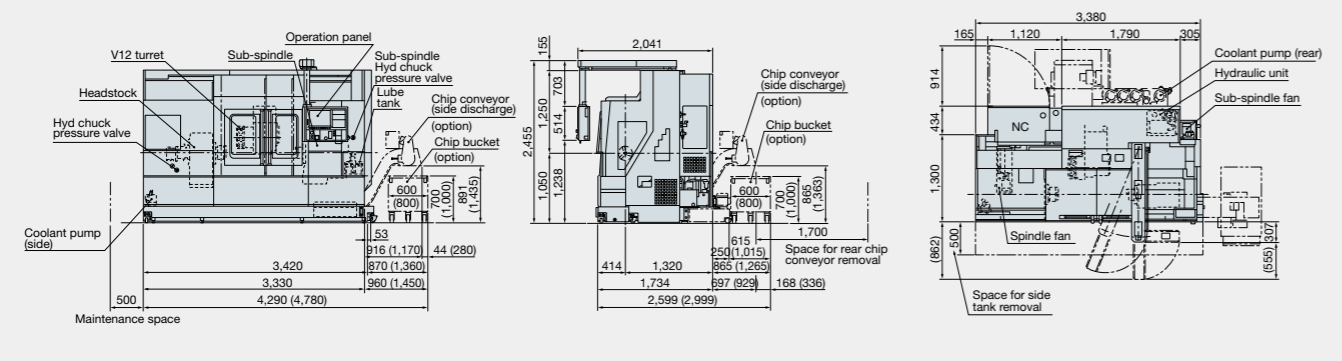
LB3000 EXII (W / MW) x800



LB3000 EXII (MYW) x450



LB3000 EXII (MYW) x800



Drawings shown are with standard spindle specs.

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 inputs	8-digit decimal, ±99999.999 to 0.001 mm (±3937.0078 to 0.0001 in.), 0.001" Decimal: 1 μm, 10 μm, 1 mm (0.0001, 0.001, 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
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: 2 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
Machine operations	Programming	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
	MDI, manual (rapid traverse, pulse handle), load meter, operations help, alarm help, sequence restart, manual interrupt & auto return, data I/O, oriented spindle stop (electric)	
	MacMan	Machining Management: machining results, machine utilization, fault data compile & report, external output
Communications/Networks	USB ports, Ethernet	
High speed/accuracy	Hi-G control	
Energy-saving function	ECO suite	

Optional Specifications

Item	Kit specs*1	NML		3D		OT-IGF		OTM	
		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									
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									
Status Logger									
Tool life warning									
Operation end buzzer									
Chucking miss detection									
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									
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)									
BCD									
RS-232-C (dedicated channel)									
Touch setter [M, A]									

Item	Kit specs*1	NML		3D		OT-IGF		OTM	
		E	D	E	D	E	D	E	D
External Input/Output and Communication Functions									
OSP-MTConnect *4									
RS-232-C connector									
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									
Bar feeders									
Bar feeder									
Included in machine specs									
Interface only									
Cycle time reduction *3									
Operation time reduction									
Spindle rotating chuck open/close									
Spindle rotating tailstock advance/retract									
High-Speed/High-Accuracy Functions									
0.1 μm control *3									
Pitch error compensation									
AbsoScale detection *3									
Hi-Cut Pro									
ECO suite (energy saving function)									
ECO Operation									
Chip conveyor intermittent/linked operation									
Mist collector intermittent/linked operation									
Spindle Power Peak Limiter									
Other Functions									
Collision Avoidance System (CAS)									
One-Touch Spreadsheets									
Machining Navi L-g									
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, ()]									
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. Engineering discussions required.
 *3. ▲Triangle items for M function (milling tool) machines only.
 *4. API library (THINC-API) is required to add OSP-MTConnect.

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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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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