

2-Saddle CNC Lathes

SIMUL TURN LU EX series

LU3000EX/LU4000EX



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Max power 2-saddle turning centers for even higher productivity

Huge productivity gains at higher performance levels

Achieve the best production system with our wide-ranging lineup

Wide array of intelligent technologies are powerful support for operator



SIMUL TURN LU3000EX



SIMUL TURN LU4000EX (MY specifications)

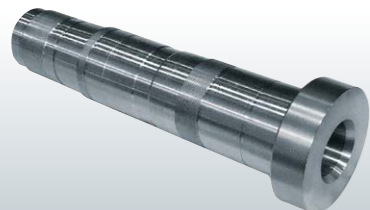
Photos include optional specifications.

Max power 2-saddle turning centers for even higher productivity



Shaft shapes are machined with high efficiency

● Part name : Spindle
● Size : $\phi 145 \times 465$ mm



● Part name : Drive shaft
● Size : $\phi 100 \times 500$ mm



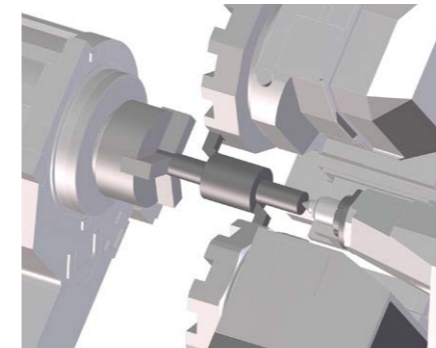
● Part name : Worm screw
● Size : $\phi 85 \times 500$ mm



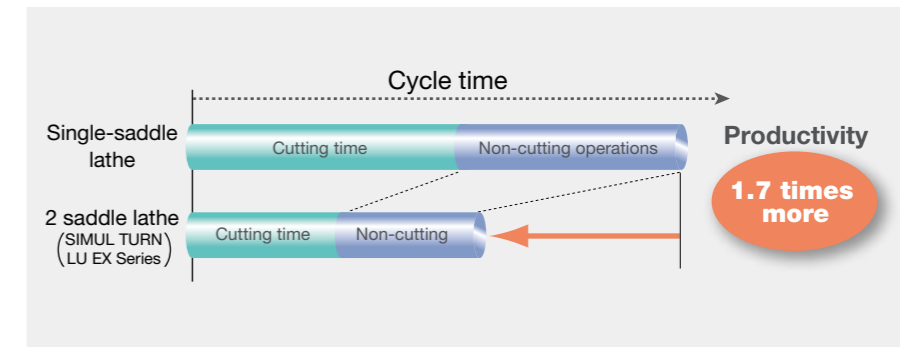
Many types of machining with the flexibility of 4 axes

Huge reduction in machining time with simultaneous 4-axis machining on upper and lower turrets

In other words, simultaneous OD/OD or ID/OD operations drastically reduce cycle times. In addition with optional turnaround stand and/or a steadyrest attached to the lower turret—the possibilities are endless.

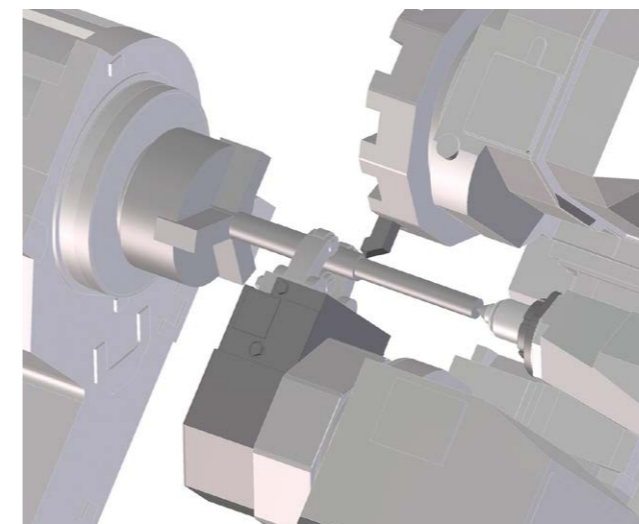


High-efficiency machining from simultaneous 4-axis turning



Turning long shafts with a steadyrest—without chatter

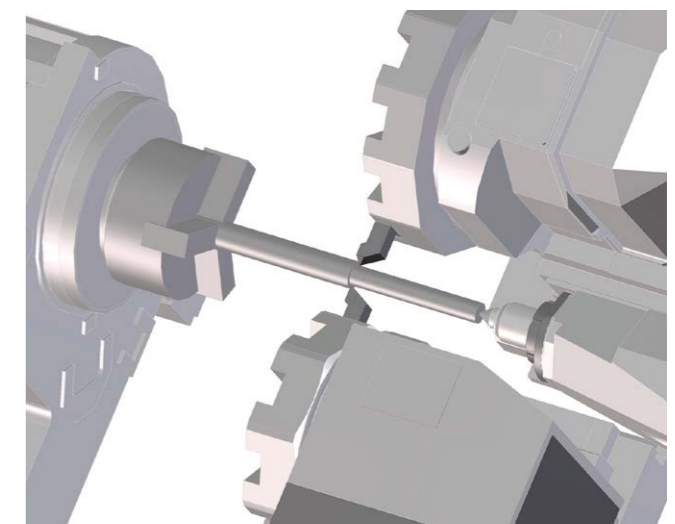
A steadyrest (optional) mounted on the lower turret does provide steady workpiece support. With an NC programmed upper turret and simultaneous control, long shafts will always be supported near the cutting point.



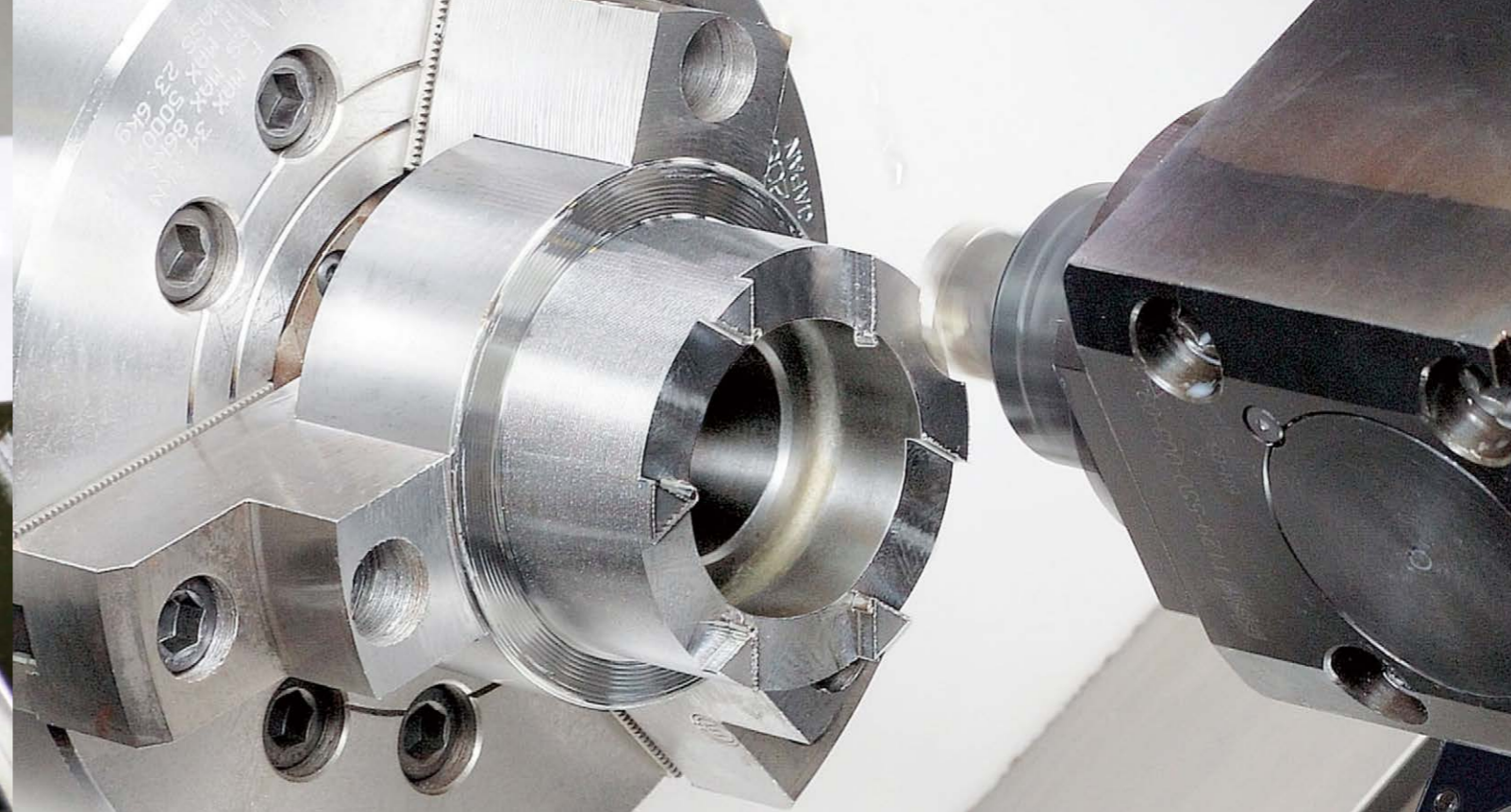
Prevents chatter with steadyrest support

Balanced cutting for highly efficient turning of long workpieces

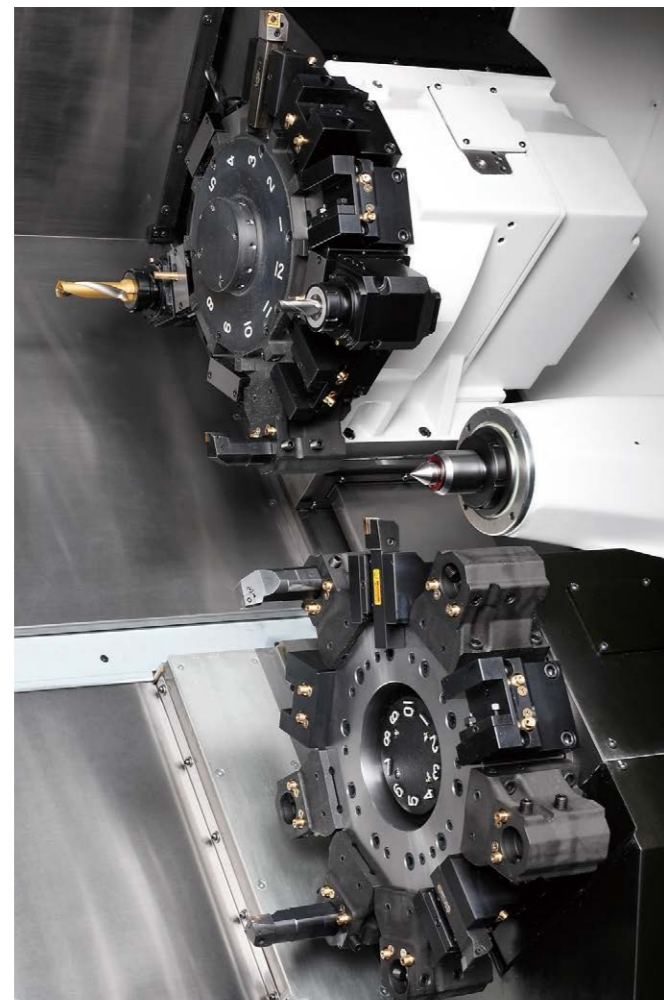
With balanced turning, tool passes can be reduced by a half. Cycle times are also reduced considerably, and chatter-free.



Balanced cutting prevents chatter during machining of long workpieces



Highly accurate machining of shafts



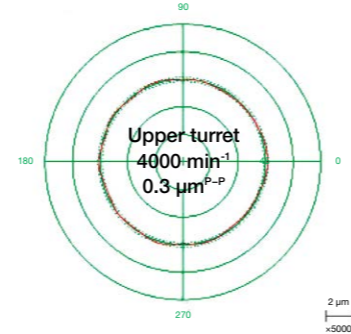
Wide working ranges for upper and lower turrets

X-axis travel	LU3000 EX	LU4000 EX
Upper turret	260 mm	300 mm
Lower turret	160 mm	195 mm

Example of high accuracy machining (LU3000 EX actual data)

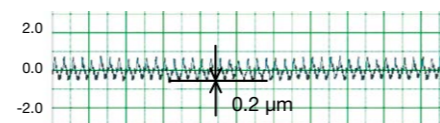
Roundness

- 0.3 μm (upper turret)/0.4 μm (lower turret)



Surface roughness (tool edge uniformity)

- 0.2 μm (upper turret)/0.5 μm (lower turret)



Powerful machining and rapid movements mean shorter cycle times

High-performance simultaneous (heavy) turning with power to spare (Actual data)

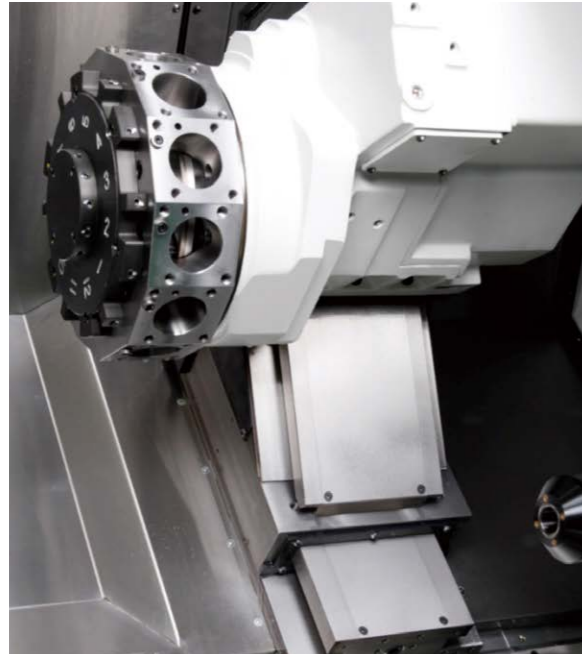
	<LU3000 EX>	<LU4000 EX>
Turning	Heavy-duty: 4.4 mm² (379 cm ³ /min)	Heavy-duty: 6.0 mm² (648 cm ³ /min)
● OD (S45C)	Cutting speed: 150 m/min Cutting depth: 8 mm Feed rate: 0.55 mm/rev	Cutting speed: 96 m/min Cutting depth: 10 mm Feed rate: 0.6 mm/rev
● ø63 carbide insert drill (S45C)	Cutting speed: 180 m/min Feed rate: 0.23 mm/rev	ø63 carbide insert drill Cutting speed: 150 m/min Feed rate: 0.23 mm/rev
Milling	Chip volume: 240 cm³/min	Chip volume: 240 cm³/min
● 7-Flute, carbide, ø20-mm end mill (S45C)	Cutting speed: 200 m/min Cutting depth: 18 mm Feed rate: 1.4 mm/rev Chip volume: 240 cm ³ /min	7-Flute, carbide, ø20-mm end mill Cutting speed: 200 m/min Cutting depth: 18 mm Feed rate: 1.4 mm/rev Chip volume: 240 cm ³ /min
● ø20 carbide drill (S45C)	Cutting speed: 135 m/min Feed rate: 0.25 mm/rev	ø28 carbide drill Cutting speed: 90 m/min Feed rate: 0.20 mm/rev
● Tapping (S45C)	M20 P2.5	M24 P3

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

Quick moving components shorten non-cutting times

Rapid feedrates	X axis: 25 m/min Z axis: 30 m/min	Turret indexing time	0.1 sec/index (LU3000 EX) 0.2 sec/index (LU4000 EX)
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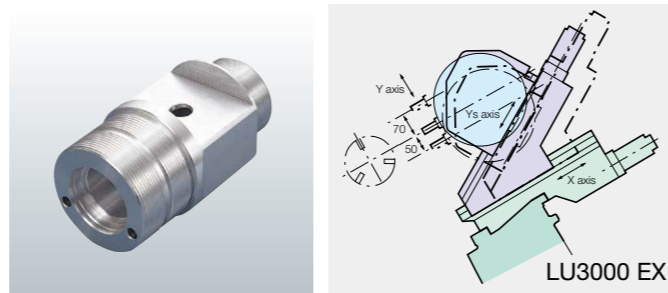
Achieve the best production system with our wide-ranging lineup



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

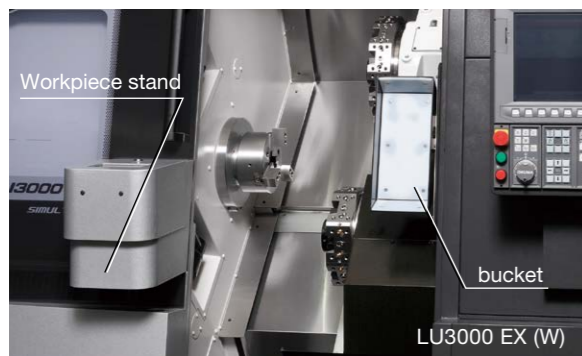
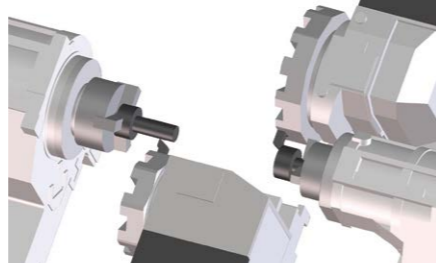
A variety of milling operations can be accommodated with high-accuracy, wide-range Y-axis travel using a double slide system. Achieves complete multitasking with a single chucking (MY specifications).

	LU3000 EX	LU4000 EX
Y-axis-travel	120 mm (+70 to -50)	140 mm (+70 to -70)
Y-axis rapid traverse	12.5 m/min	12.5 m/min



Sub-spindle for integrated front/back (1 machine) operations

With a sub-spindle, front and back machining can be done on a single machine. Since machining of both ends can be completed on one machine, workpiece storage space and post-process machines are unnecessary. (LU3000 EX only)



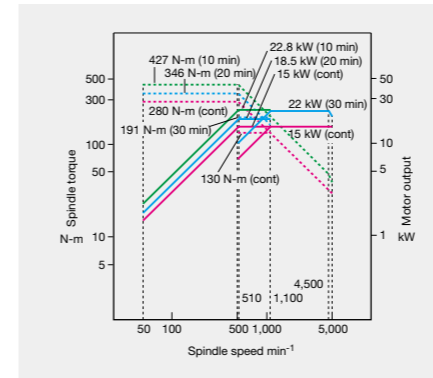
Simple automation with parts catcher (optional)

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

Spindle torque/output diagram

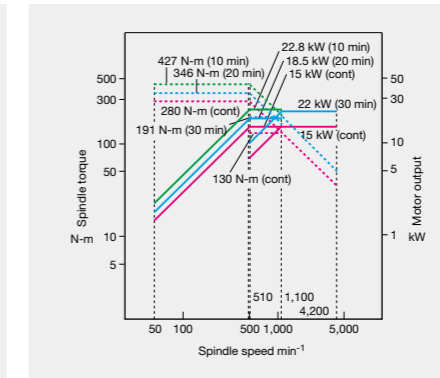
● LU3000 EX Turning spindle

Spindle speed 5,000 min⁻¹
Output 22/15 kW (30 min/cont)
Torque 427/280 N-m (10 min/cont)



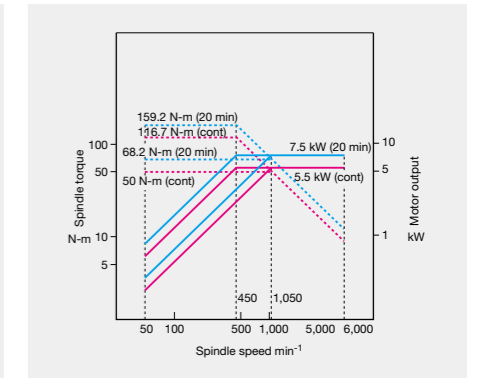
● LU3000 EX Big-Bore spindle (Optional)

Spindle speed 4,200 min⁻¹
Output 22/15 kW (30 min/cont)
Torque 427/280 N-m (10 min/cont)



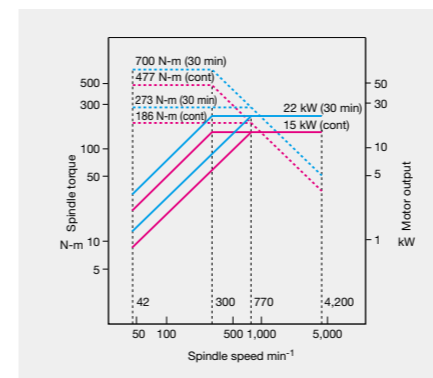
● LU3000 EX (W) Sub-spindle

Spindle speed 6,000 min⁻¹
Output 7.5/5.5 kW (20 min/cont)
Torque 159.2/116.7 N-m (20 min/cont)



● LU4000 EX Turning spindle

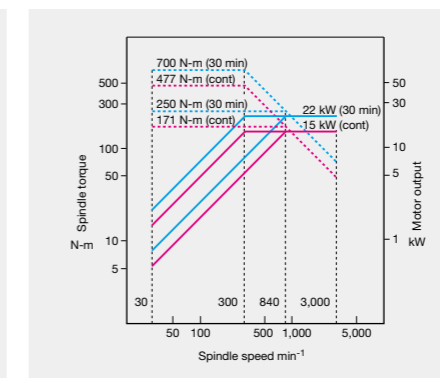
Spindle speed 4,200 min⁻¹
Output 22/15 kW (30 min/cont)
Torque 700/477 N-m (30 min/cont)



● LU4000 EX Big-Bore spindle (Optional)

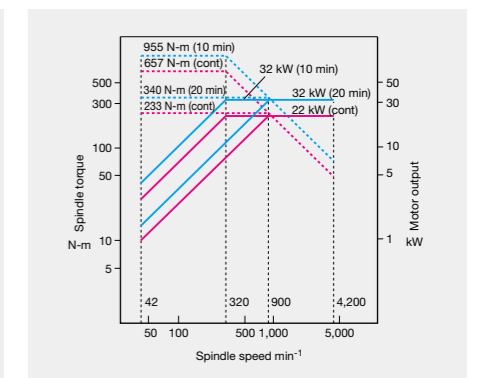
● LU3000 EX Super Big-Bore spindle (Optional)

Spindle speed 3,000 min⁻¹
Output 22/15 kW (30 min/cont)
Torque 700/477 N-m (30 min/cont)



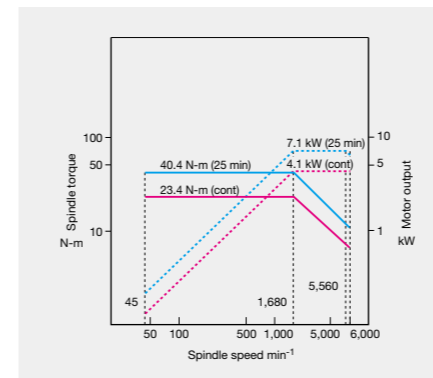
● LU4000 EX High Power Spindle (Optional)

Spindle speed 4,200 min⁻¹
Output 32/22 kW (20 min/cont)
Torque 955/657 N-m (10 min/cont)



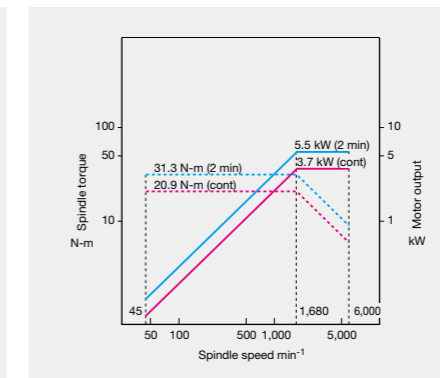
● LU3000 EX (M/2M/MY)

Upper turret milling tool spindle
Spindle speed 6,000 min⁻¹
Output 7.1/4.1 kW (25 min/cont)
Torque 40.4/23.4 N-m (25 min/cont)



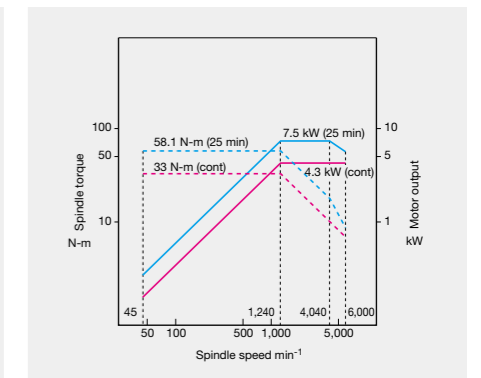
● LU3000 EX (2M/2MY)

Lower turret milling tool spindle
Spindle speed 6,000 min⁻¹
Output 5.5/3.7 kW (2 min/cont)
Torque 31.3/20.9 N-m (2 min/cont)



● LU4000 EX (M/MY) Milling tool spindle

Spindle speed 6,000 min⁻¹
Output 7.5/4.3 kW (25 min/cont)
Torque 58.1/33 N-m (25 min/cont)



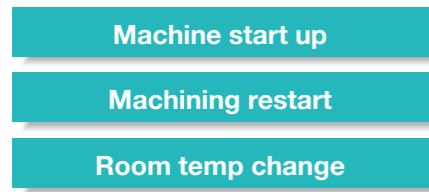
The unique approach of "accepting temperature "changes."

Manageable Deformation—Accurately Controlled
Thermo-Friendly Concept

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

Fewer tool compensation checks

Compensation due to ambient temperature changes and temporary midday or evening machine stops is performed fewer times thanks to outstanding dimensional stability. This leads to better machine utilization, improving efficiency especially for mass-production machining.

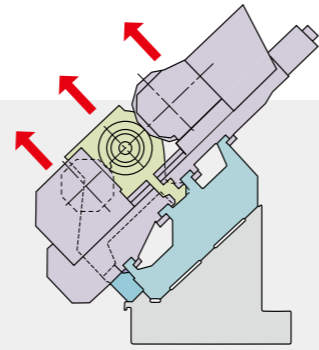


High dimensional stability

Simple machine construction

Machine designs that equalize ambient temperatures

Box slant bed
The innovative box slant bed gives you far more consistently higher accuracies than conventional lathes.



ECO suite

Only the necessary unit operates

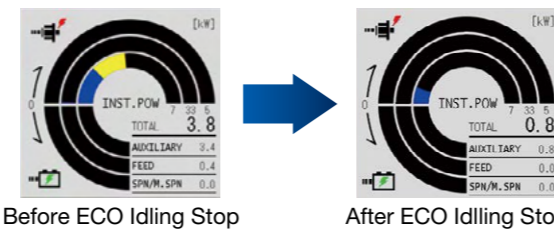
Operation only for the time required for each unit
ECO Idling Stop

Idling time can be set by individual unit for the spindle, feed shaft, and peripheral equipment. By reducing the idling time, power consumption can also be reduced.

● Example of equipment that can use Idling Stop

ECO IDLE STOP			
ECO IDLE STOP ELAPSED TIME		0: 0: 0	
	ECO IDLE STOP	DELAY	
1st Spdl. oil temp ctrl.	YES NO	3min	
2nd Spdl. oil temp ctrl.	YES NO	Immed.	
M-spdl. oil temp ctrl.	YES NO	Immed.	
Hydraulic unit	YES NO	Immed.	
Axis lubrication unit	YES NO	Immed.	

● Example of Power Monitor check



The displayed values are one example.

On-the-spot check of energy savings

ECO Power Monitor

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

- Intermittent/linked operation of chip conveyor, or mist collector during machining
- "ECO Operation" (Optional)

World's first "Collision-Free Machine"

Collision prevention
Collision Avoidance System

(Optional)

Allowing operators to focus on making parts

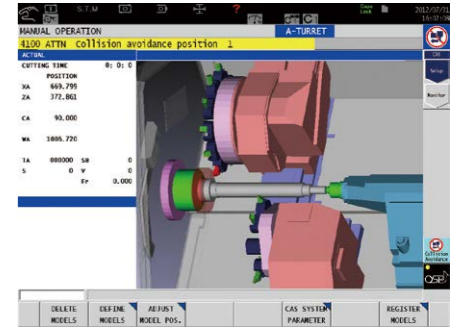
NC controller (OSP) with 3D model data of machine components—workpiece, tool, chuck, fixture, headstock, turret, tailstock—performs real time simulation just ahead of actual machine movements. It checks for interference or collisions, and stops the machine movement immediately before collision. Machinists (novice or pro) will benefit from reduced setup and trial cycle times, and the confidence to focus on making parts.

Collision prevention during automatic operation

NC program is read in advance and axial travel commands are checked for interference with consideration of zero point and tool compensation values set in NC. Axial travel movement is stopped temporarily before collision occurs.

Collision avoidance in manual operation

Especially useful for machine operators setting up a job, collision avoidance in manual mode provides collision-free confidence and faster machining preparations.

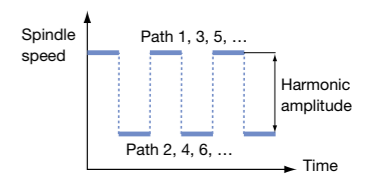
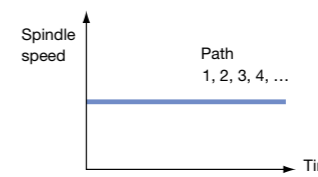
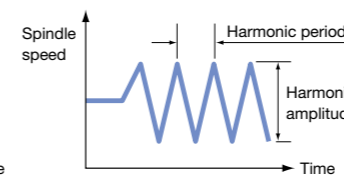
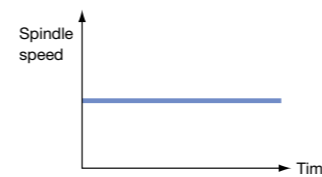


Virtual machine (interference check)

Find the best cutting condition for your application

Cutting condition search for turning
Machining Navi L-g (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 cycles times reduced with use of the optimum cutting conditions, producing significant effects in deep-hole boring bar, threading, and grooving applications.



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

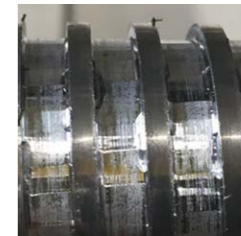
When chatter occurs in threading, general methods to resolve the problem have been to either lower cutting conditions at the expense of productivity, or to use special chatter-resistant tools at some cost. Machining Navi T-g (threading) provides optimum control, increasing or decreasing spindle speed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



Machining Navi L-g

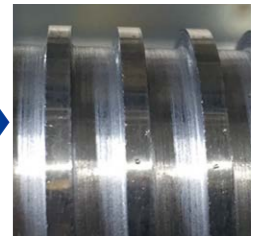


<Normal threading>



Chatter marks

<Machining Navi T-g>



Smooth surface, clean finished threads

<LU3000 EX>

Machine Specifications

Item	unit	LU3000 EX (L)			LU3000 EX (M)			LU3000 EX (2M)			LU3000 EX (MY)			LU3000 EX (2MY)		
		2ST	2SC × 600	2SC × 1000	2ST	2SC × 600	2SC × 1000	2ST	2SC × 600	2SC × 1000	2ST	2SC × 550	2SC × 950	2ST	2SC × 550	2SC × 950
Capacity	Swing over bed	mm (in.)														
	Max turning diameter	mm (in.)														
	Max work length	mm (in.)														
Travels	X-axis	mm (in.)														
	Z-axis	mm (in.)														
	Y-axis	mm (in.)														
	C-axis	deg														
Spindle	Speed	min ⁻¹														
	Speed ranges	Two auto ranges (motor coil switching ranges)														
	Spindle noze	JIS A2-6 [JIS A2-8, JIS A2-11]														
	Bore dia	mm (in.)														
	Front bearing dia	mm (in.)														
	Turret	Type	U: V12/L: V8													
No. of tools		U: 12/L: 8														
OD tool shank height		mm (in.)														
ID tool shank dia		mm (in.)														
Turret index time		sec/1 index														
Milling tool spindle		Spindle speed	min ⁻¹													
	Feedrates	m/min (fpm)														
Tailstock	Quill dia	mm (in.)														
	Quill bore taper	MT.No.5														
	Quill travel	mm (in.)														
Motors	Spindle	kW (hp)														
	Milling tool	kW (hp)														
	Axis drive	kW (hp)														
	Coolant pump (50 Hz/60 Hz)	kW (hp)														
Machine size	Height*	mm (in.)														
	Floor space	mm (in.)														
	Weight (w/ CNC)	kg (lb)														
CNC	OSP-P300LA															

Item	unit	LU3000 EX (W)		LU3000 EX (MW)		LU3000 EX (2MW)	
		2SW × 600	2SW × 1000	2SW × 600	2SW × 1000	2SW × 600	2SW × 1000
Capacity	Swing over bed	mm (in.)					
	Max turning diameter	mm (in.)					
	Max work length	mm (in.)					
Travels	X-axis	mm (in.)					
	Z-axis	mm (in.)					
	C-axis	deg					
Spindle	Speed	min ⁻¹					
	Speed ranges	Two auto ranges (motor coil switching ranges)					
	Spindle noze	Main: JIS A2-6 [JIS A2-8, JIS A2-11], Sub: ø140 flat					
	Bore dia	mm (in.)					
	Front bearing dia	mm (in.)					
	Turret	Type	U: V12/LV8				
No. of tools		U: 12/L: 8					
OD tool shank height		mm (in.)					
ID tool shank dia		mm (in.)					
Turret index time		sec/1 index					
Milling tool spindle		Spindle speed	min ⁻¹				
	Feedrates	m/min (fpm)					
Motors	Spindle	kW (hp)					
	Milling tool	kW (hp)					
	Axis drive	kW (hp)					
	Coolant pump (50 Hz/60 Hz)	kW (hp)					
Machine size	Height*	mm (in.)					
	Floor space	mm (in.)					
	Weight (w/ CNC)	kg (lb)					
CNC	OSP-P300LA						

[]: Optional *Raised machine height of 45 mm is standard for rear discharge.

<LU4000 EX>

Machine Specifications

Item	unit	LU4000 EX (L)					LU4000 EX (M)					LU4000 EX (MY)									
		2ST	2SC × 650	2SC × 1250	2SC × 2000	2SC × 3000	2ST	2SC × 650	2SC × 1250	2SC × 2000	2SC × 3000	2ST	2SC × 650	2SC × 1250	2SC × 2000	2SC × 3000					
Capacity	Swing over bed	mm (in.)										mm (in.)									
	Max turning diameter	U: ø480/L: ø310 (U: ø18.90/L: ø12.20)										U: ø430/L: ø280 (U: ø16.93/L: ø11.02)									
	Max work length	400 (15.75)	650 (25.59)	1,250 (49.21)	2,080 (81.89)	3,080 (121.26)	400 (15.75)	650 (25.59)	1,250 (49.21)	2,080 (81.89)	3,080 (121.26)	400 (15.75)	650 (25.59)	1,250 (49.21)	2,080 (81.89)	3,080 (121.26)					
Travels	X-axis	U: 300/L: 195 (U: 11.81/L: 7.68)																			
	Z-axis	U: 740/L: 700 (U: 29.13/L: 27.56)			U: 1,340/L: 1,300 (U: 57.26/L: 51.18)		U: 2,140/L: 2,100 (U: 84.25/L: 82.68)		U: 3,140/L: 3,100 (U: 123.62/L: 122.05)		U: 740/L: 700 (U: 29.13/L: 27.56)			U: 1,340/L: 1,300 (U: 57.26/L: 51.18)		U: 2,140/L: 2,100 (U: 84.25/L: 82.68)		U: 3,140/L: 3,100 (U: 123.62/L: 122.05)			
	Y-axis	-																			
	C-axis	-																			
Spindle	Speed	42 to 4,200 [30 to 3,000]																			
	Speed ranges	Two auto ranges (motor coil switching ranges)																			
	Spindle noze	JIS A2-8 [JIS A2-11]																			
	Bore dia	ø91 [ø112] [ø3.59 [ø4.73]]																			
	Front bearing dia	ø140 [ø160] [ø5.52 [ø6.30]]																			
	Type	U: V12/L: V10																			
Turret	No. of tools	U: 12/L: 10																			
	OD tool shank height	□25 (0.98)																			
	ID tool shank dia	ø40 (ø1.57)																			
	Turret index time	0.23																			
	Spindle speed	45 to 6,000																			
Feedrates	Rapid traverse	X: 25, Z: 30 (X: 82/Z: 98)				X: 25, Z: 20 (X: 82/Z: 66)		X: 25, Z: 30 (X: 82/Z: 98), C: 200min ⁻¹				X: 25, Z: 20 (X: 82/Z: 66), C: 200min ⁻¹		X: 25, Z: 30 (X: 82/Z: 98), Y: 12.5 (Y: 41), C: 200min ⁻¹			X: 25, Z: 20, Y: 12.5 (X: 82/Z: 66/Y:41), C: 200min ⁻¹				
	Quill dia	ø120 (ø4.72)																			
Tailstock	Quill bore taper	MT.No5 (revolving center) [MT.No5 (Built-in)]																			
	Quill travel	150 (5.91)																			
	Spindle	22/15 (30/20) (30 min/cont) [32/22 (43/20) (20 min/cont)]																			
Motors	Milling tool	7.5/4.3 (25 min/cont)																			
	Axis drive	XA:3.5 (4.7), XB: 3.0 (4), ZA: 4.6 (6), ZB:4.6 (6)				XA:3.5 (4.7), XB: 3.0 (4), ZA: 5.2 (7), ZB:5.2 (7)		XA:3.5 (4.7), XB: 3.0 (4), ZA: 4.6 (6), ZB:4.6 (6)				XA:3.5 (4.7), XB: 3.0 (4), ZA: 5.2 (7), ZB:5.2 (7)		XA:3.5 (4.7), XB: 3.0 (4), Ys: 3.5 (4.7), ZA: 4.6 (6), ZB:4.6 (6)			XA:3.5 (4.7), XB: 3.0 (4), Ys:3.5 (4.7), ZA: 5.2 (7), ZB:5.2 (7)				
	Coolant pump (50 Hz/60 Hz)	0.55/0.75 (0.7/1)				0.55/0.75 (0.7/1) ×2		0.55/0.75 (0.7/1)			0.55/0.75 (0.7/1) ×2		0.55/0.75 (0.7/1)			0.55/0.75 (0.7/1) ×2					
	Machine size	Height*	2,200 (86.61) *		2,440 (96.06)		2,309 (90.91)		2,200 (86.61) *		2,440 (96.06)		2,309 (90.91)		2,587 (101.85) *		2,770 (109.06)		2,639 (103.90)		
		Floor space	3,570 × 2,310 (140.55 × 90.94)		4,780 × 2,620 (188.19 × 103.15)		6,480 × 2,837 (255.12 × 111.69)		8,405 × 2,471 (330.91 × 97.28)		3,570 × 2,310 (140.55 × 90.94)		4,780 × 2,620 (188.19 × 103.15)		6,480 × 2,837 (255.12 × 111.69)		8,405 × 2,471 (330.91 × 97.28)		3,570 × 2,310 (140.55 × 90.94)	4,880 × 2,645 (192.12 × 104.13)	6,480 × 2,937 (255.12 × 115.63)
Weight (w/ CNC)		9,000 (19,800)	9,600 (21,120)	11,400 (25,080)	14,500 (31,900)	17,500 (38,500)	9,100 (20,020)	9,700 (21,340)	11,500 (25,300)	14,500 (31,900)	17,500 (38,500)	9,600 (21,120)	10,200 (22,440)	12,000 (26,400)	15,000 (33,000)	18,000 (39,600)					
CNC	OSP-P300LA																				

[]: Optional *Raised machine height of 70 mm is standard for rear discharge.

<LU3000 EX>

Standard Specification

	L		M/MY		2M/2MY		W	MW	2MW
	2ST	2SC	2ST	2SC	2ST	2SC	2SW		
Spindle									
JIS A2-6 45 to 5,000 min ⁻¹					●				
Integral 22/15 kW (30 min/cont)									
Sub-spindle									
ø140 flat 50 to 6,000 min ⁻¹								●	
Integral 7.5/5.5 kW (20 min/cont)									
Turret									
Upper V12 + lower V8	●						●		
Upper multitasking V12 + lower V8			●					●	
Upper multitasking V12 + lower multitasking V8					●				●
Milling tool spindle									
45 to 6,000 min ⁻¹			●		●			●	●
7.1/4.1 kW (25 min/cont)									
Tailstock									
Dead hydraulic MT No. 5		●		●		●			
Manual tow-along		●		●		●			
Accessories									
Hydraulic unit					●				
Coolant system					●				
Full-enclosure shielding					●				
Work lamp (LED)					●				
Chuck foot switch					●				
Tailstock sleeve foot switch		●		●		●			
Lubrication monitor					●				
CNC	OSP-P300LA								

Chucking Kit

	A	B	C	D	E
N-08 Kit A Solid 8 in.	1	—	—	—	—
N-08 Kit B Solid 8 in.	—	1	—	—	—
B-208 Kit C Solid 8 in., hole diameter ø52	—	—	1	—	—
B-210 Kit D Solid 10 in., hole diameter ø70	—	—	—	1	—
BB208 Solid 8 in., for big bore spindle, E hole diameter ø66	—	—	—	—	1
Standard soft jaws, A	—	5	5	5	5
Standard soft jaws, B	—	3	3	3	3
Standard hard jaws	—	1	1	1	1

<LU4000 EX>

Standard Specification

	L		M/MY	
	2ST	2SC	2ST	2SC
Spindle				
JIS A2-6 42 to 4,200 min ⁻¹			●	
Integral 22/15 kW (30 min/cont)				
Turret				
Upper V12 + lower LV10	●			—
Upper multitasking V12 + lower LV10			●	
Milling tool spindle				
45 to 6,000 min ⁻¹			●	
7.5/4.3 kW (25 min/cont)				●
Tailstock				
Dead hydraulic MT No. 5		●		●
Manual tow-along		●		●
Accessories				
Hydraulic unit			●	
Coolant system			●	
Full-enclosure shielding			●	
Work lamp (LED)			●	
Chuck foot switch			●	
Tailstock sleeve foot switch		●		●
Lubrication monitor			●	
CNC	OSP-P300LA			

Chucking Kit

	A	B	C	D	E
N-10 Kit A Solid 10 in.	1	—	—	—	—
N-10 Kit B Solid 10 in.	—	1	—	—	—
B-210 Kit C Solid 10 in., hole diameter ø70	—	—	1	—	—
B-212 Kit D Solid 12 in., hole diameter ø70	—	—	—	1	—
BB210 Solid 10 in., for big bore spindle, E hole diameter ø75	—	—	—	—	1
Standard soft jaws, A	—	5	5	5	5
Standard soft jaws, B	—	3	3	3	3
Standard hard jaws	—	1	1	1	1

Optional Equipment & Accessories

Big-bore spindle	JIS A2-8 42 to 4,200 min ⁻¹	Front door with large window	
	Front bearing dia ø140 / spindle bore dia. ø91		
Super big-bore spindle	JIS A2-11 30 to 3,000 min ⁻¹	For air blower	Chuck, tailstock
	Front bearing dia ø160 / spindle bore dia. ø112		Upper turret (internal piping, common coolant nozzle)
L-VDI turret			Lower turret (common coolant nozzle)
Hydraulic tailstock	MT. No. 4		Upper/lower turret air blower outlet control (simultaneous, independent)
Programmable tailstock			
Chucking kit	Solid/hollow hydraulic power chuck, soft jaws	For coolant blower	Shower coolant (A, B), coolant gun
Tooling kit	Various toolholders		Spindle ID coolant (main, A, B)
Raised machine height	50 mm, 100 mm, 150 mm	Dust proofing	Spindle air purging, X-axis double wiper (Xa)
Chip discharge	Chip pan		Z-axis double wiper (Za + Zb)
	Chip conveyor (side discharge/rear discharge)	Gauging-related options	In-process work gauging
Chip bucket	Workrest		
Touch setter	M (manual), A (auto)	Stopper in spindle	
Steadyrest		Chuck internal sizing stopper	
Automation	On-machine loader, gantry loader	Coolant	Upper/lower turret air blower outlet control (independent)
	Robots, bar feeders		Coolant high/low switch (upper, lower turret)
Front cover	Auto open/close (safety tape SW, area sensor)	Mist collector	Coolant sensors (level sensor, flow sensor, level + flow sensors)
	Two-hand cycle start button		With/without machine link
For chucking	Chuck auto open/close confirm	Parts catcher	Main (ø80×150L, 5.8kg)
	Chucking miss detection (main, sub)		Sub (ø65×150L, 4kg)
For tailstock	Chuck high/low pressure switch with reclamping (main, sub)	Optional high-accuracy specifications	Turcite® lining (Xa axis, Za axis, Zb axis)
	Tailstock travel 230 mm		AbsoScale (Xa axis, Za axis, Xb axis)
	Tailstock quill auto advance/retract confirm, tailstock thrust high/low switch		Coolant temperature regulator, spindle temperature regulator
	Low tailstock thrust, tailstock quill position detection		Hydraulic oil temperature regulator
	2-speed tailstock quill		

Optional Equipment & Accessories

Big-bore spindle	JIS A2-11 30 to 3,000 min ⁻¹	Front door with large window	
	Front bearing dia ø160 / spindle bore dia. ø112		
High-Power spindle	32/22 kW (20 min/cont)	For air blower	Chuck, tailstock, Spindle ID
L-VDI turret			Upper turret (internal piping, common coolant nozzle)
Hydraulic tailstock	MT. No. 5		Lower turret (common coolant nozzle)
Programmable tailstock			Upper/lower turret air blower outlet control (simultaneous, independent)
Chucking kit	Solid/hollow hydraulic power chuck, soft jaws	For coolant blower	Shower coolant (A, B), coolant gun
Tooling kit	Various toolholders		Spindle ID coolant (main, A, B)
Raised machine height	50 mm, 100 mm, 150 mm	Dust proofing	Spindle air purging, X-axis double wiper (Xa)
Chip discharge	Chip pan		Z-axis double wiper (Za + Zb)
	Chip conveyor (side discharge/rear discharge)	Gauging-related options	In-process work gauging
Chip bucket	Workrest		
Touch setter	M (manual), A (auto)	Stopper in spindle	
Steadyrest		Chuck internal sizing stopper	
Automation	On-machine loader, gantry loader	Coolant	Upper/lower turret air blower outlet control (independent)
	Robots, bar feeders		Coolant high/low switch (upper, lower turret)
Front cover	Auto open/close (safety tape SW, area sensor)	Mist collector	Coolant sensors (level sensor, flow sensor, level + flow sensors)
	Two-hand cycle start button		With/without machine link
For chucking	Chuck auto open/close confirm	Parts catcher	Main (ø80×150L, 5.8kg)
	Chucking miss detection		Sub (ø65×150L, 4kg)
For tailstock	Chuck high/low pressure switch with reclamping	Optional high-accuracy specifications	Turcite® lining (Xa axis, Za axis, Zb axis)
	Tailstock travel 260 mm		AbsoScale (Xa axis, Za axis, Xb axis)
	Tailstock quill auto advance/retract confirm, tailstock thrust high/low switch		Coolant temperature regulator, spindle temperature regulator
	Low tailstock thrust, high tailstock thrust		Hydraulic oil temperature regulator
	Tailstock quill position detection, 2-speed tailstock quill		

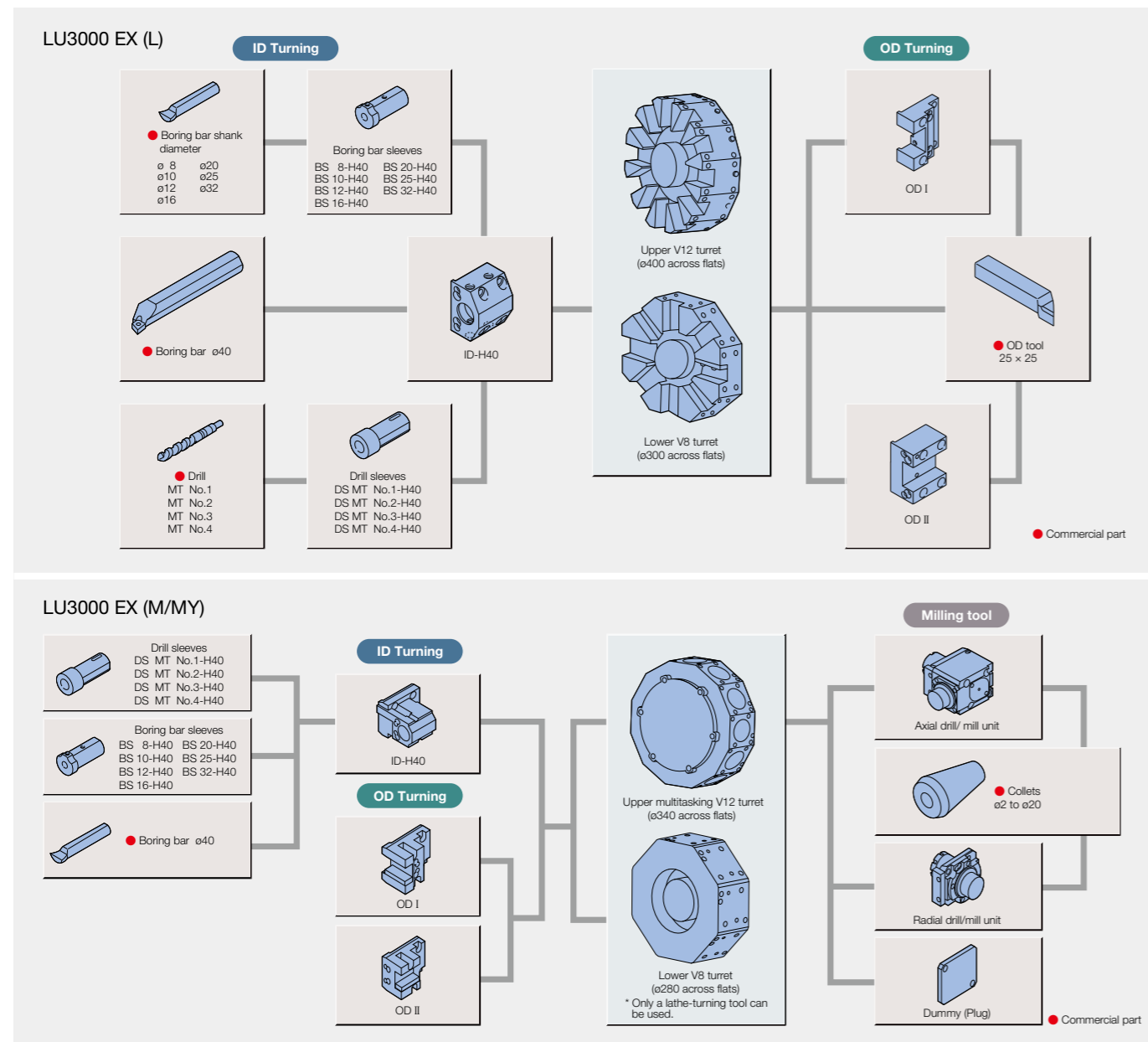
<LU3000 EX>

Tooling Kit

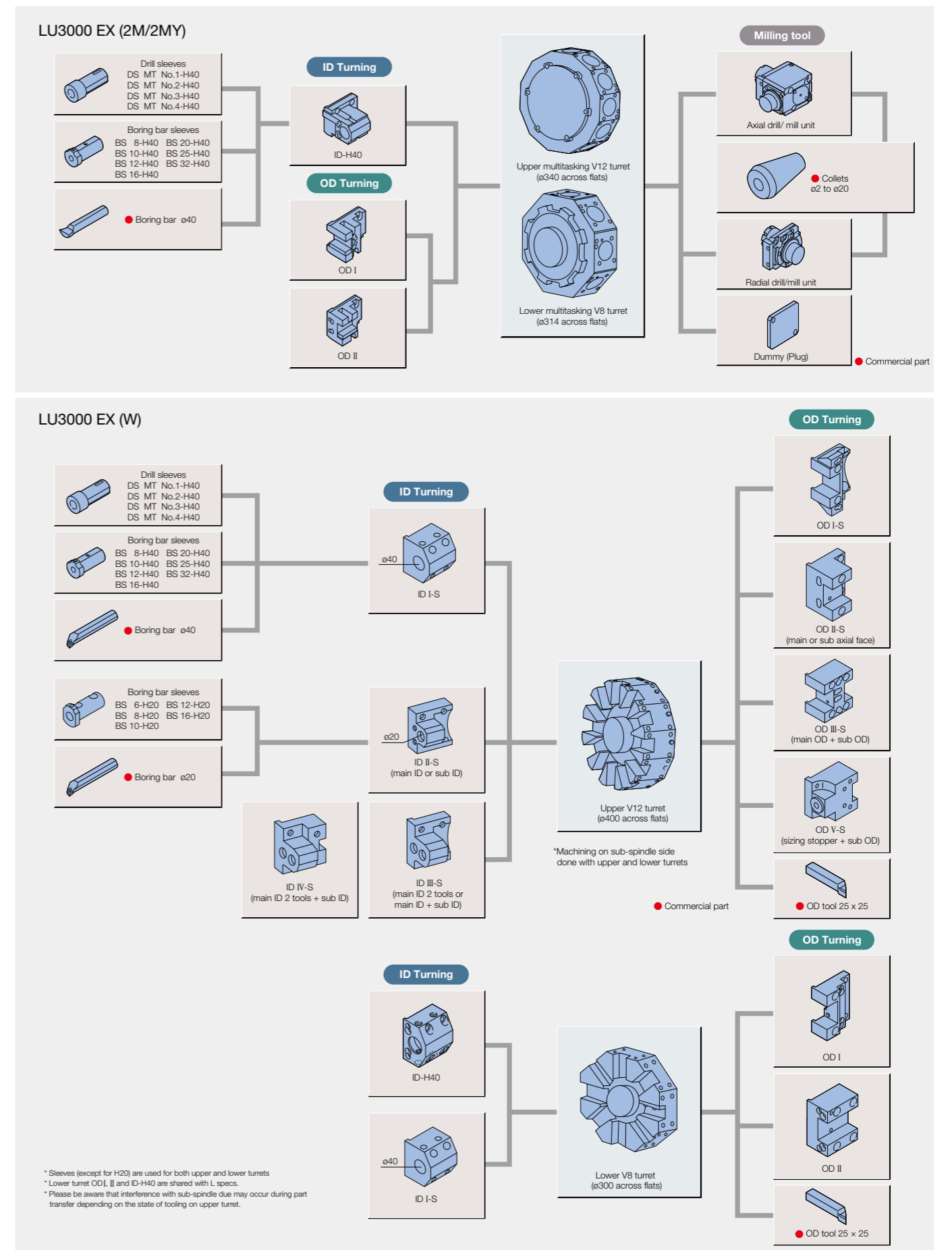
	LU3000 EX (L)				LU3000 EX (M/MY)			
	2ST		2SC		2ST		2SC	
	E	D	E	D	E	D	E	D
OD-I	6	8	8	10	6	8	6	8
OD-II	4	6	2	4	2	4	2	4
ID-H40	8	10	8	10	8	10	8	10
BS 10-H40	—	2	—	2	—	2	—	2
BS 12-H40	—	2	—	2	—	2	—	2
BS 16-H40	—	2	—	2	—	2	—	2
BS 20-H40	4	4	4	4	4	4	4	4
BS 25-H40	4	4	4	4	4	4	4	4
BS 32-H40	—	2	—	2	—	2	—	2
DS MT No. 1-H40	—	1	—	1	—	1	—	1
DS MT No. 2-H40	—	1	—	1	—	1	—	1
DS MT No. 3-H40	1	1	1	1	1	1	1	1
Axial drill/mill unit					2	4	2	3
Radial drill/mill unit					2	3	2	4
Dummy holder					3	3	3	3
Revolving center MT No. 5	—	—	1	1	—	—	1	1

E Kit: Economy
D Kit: Deluxe

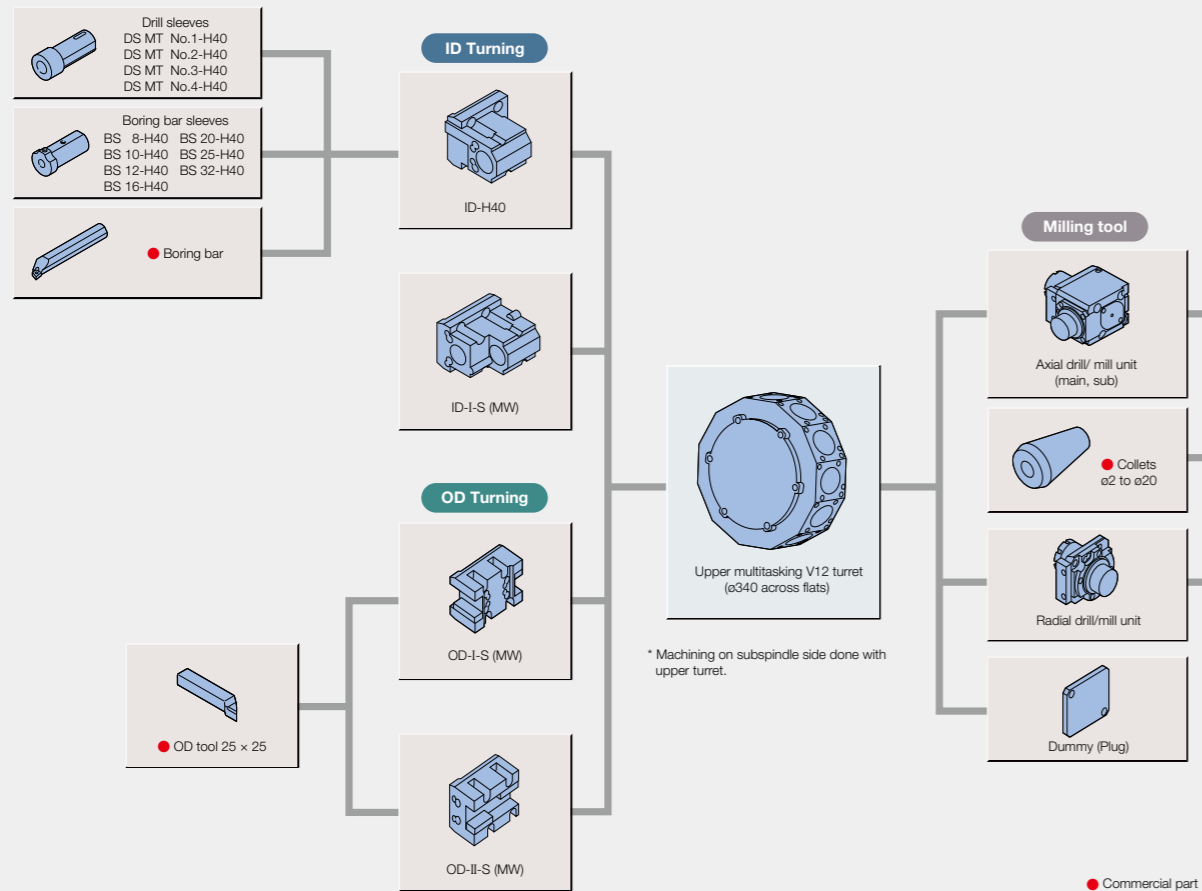
Tooling System



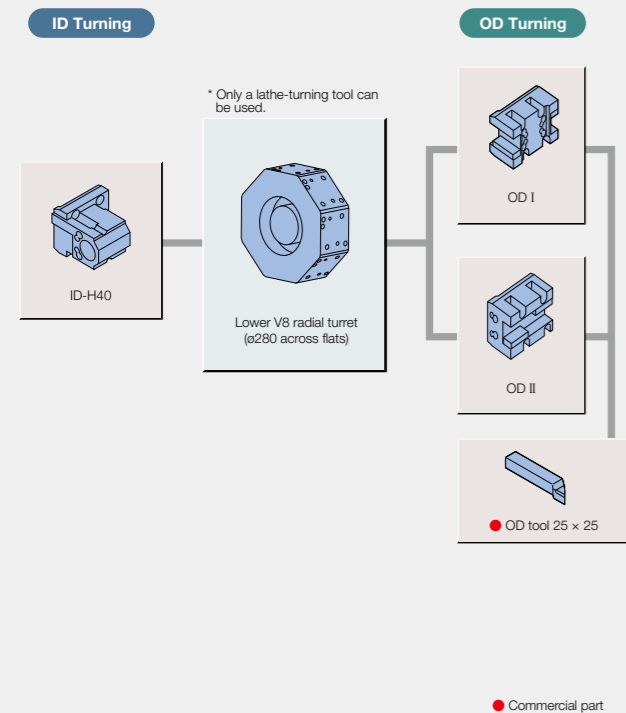
Tooling System



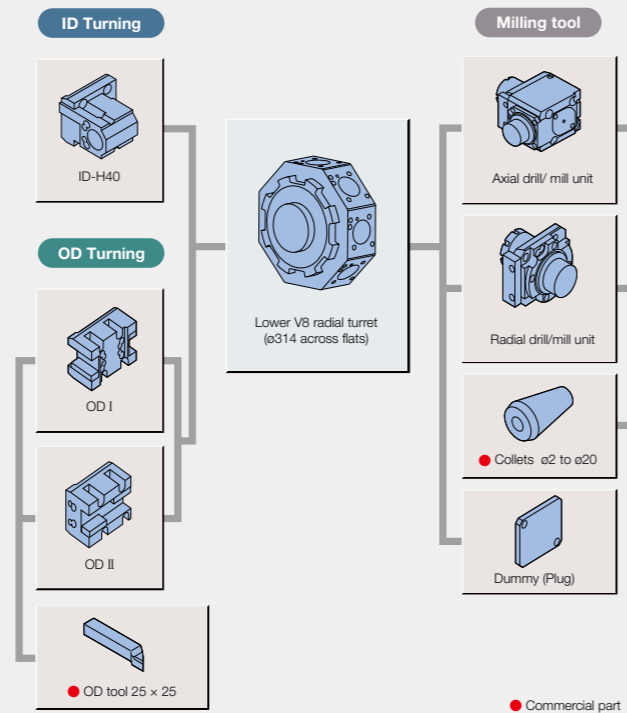
LU3000 EX (MW/2MW) Upper turret



LU3000 EX (MW) Lower turret



LU3000 EX (2MW) Lower turret



<LU4000 EX>

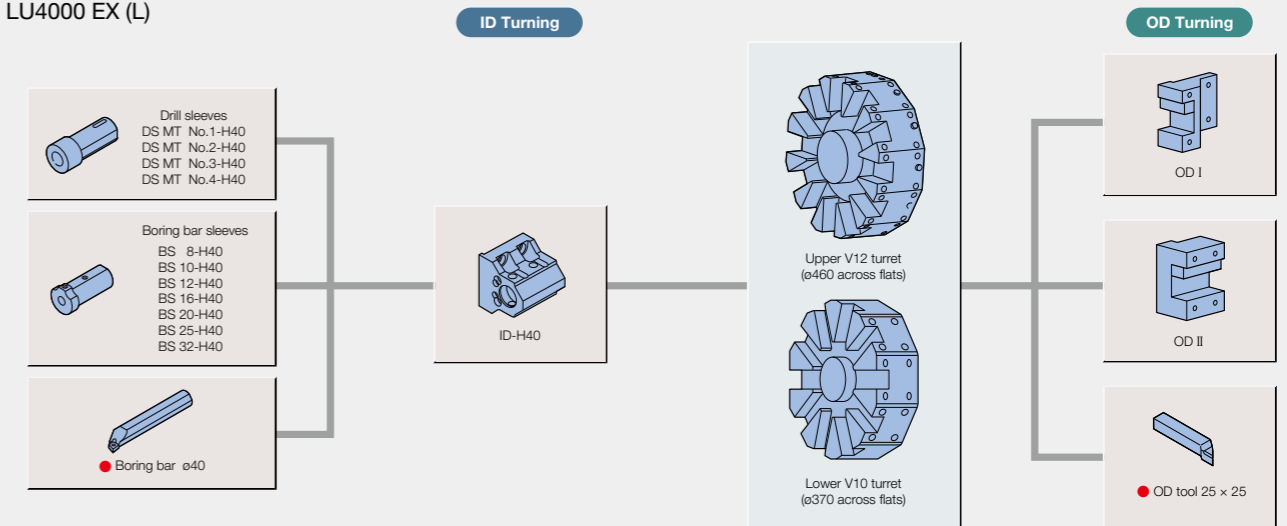
Tooling Kit

	LU4000 EX				LU4000 EX (M/MY)			
	2ST		2SC		2ST		2SC	
	E	D	E	D	E	D	E	D
OD-I	6	8	8	10	6	8	6	8
OD-II	4	6	2	4	2	4	2	4
ID-H40	8	10	8	10	8	10	8	10
BS 10-H40	—	2	—	2	—	2	—	2
BS 12-H40	—	2	—	2	—	2	—	2
BS 16-H40	—	2	—	2	—	2	—	2
BS 20-H40	4	4	4	4	4	4	4	4
BS 25-H40	4	4	4	4	4	4	4	4
BS 32-H40	—	2	—	2	—	2	—	2
DS MTNo.1-H40	—	1	—	1	—	1	—	1
DS MTNo.2-H40	—	1	—	1	—	1	—	1
DS MTNo.3-H40	1	1	1	1	1	1	1	1
Axial drill/mill unit					2	4	2	3
Radial drill/mill unit					2	3	2	4
Dummy holder					3	3	3	3
Revolving center MT No. 5	—	—	1	1	—	—	1	1

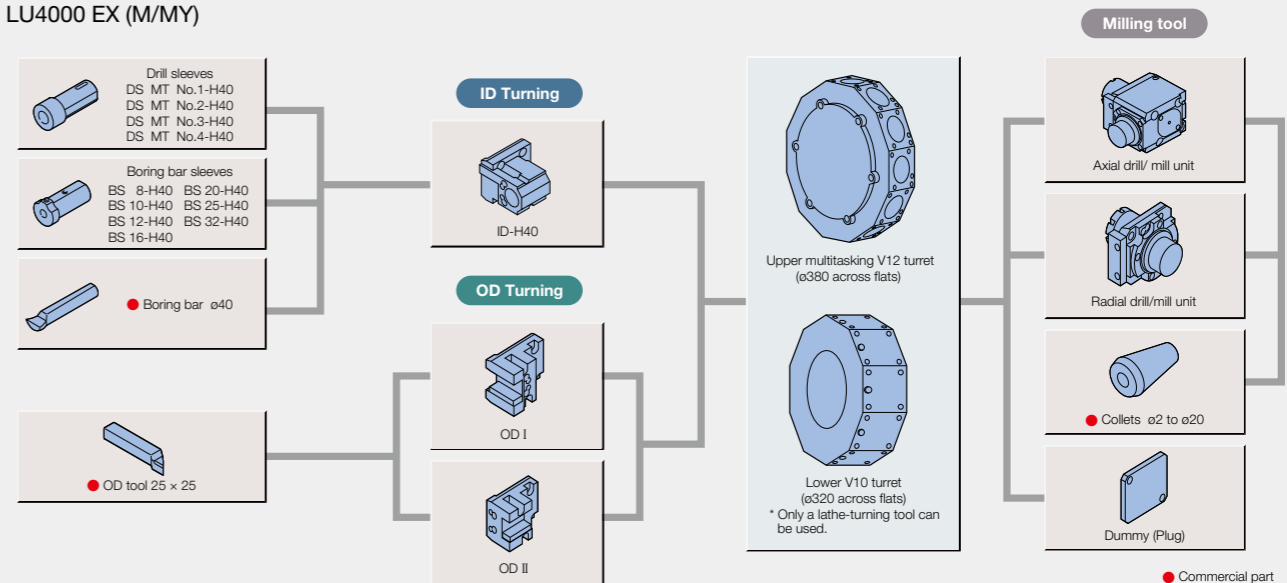
E Kit: Economy
D Kit: Deluxe

Tooling System

LU4000 EX (L)

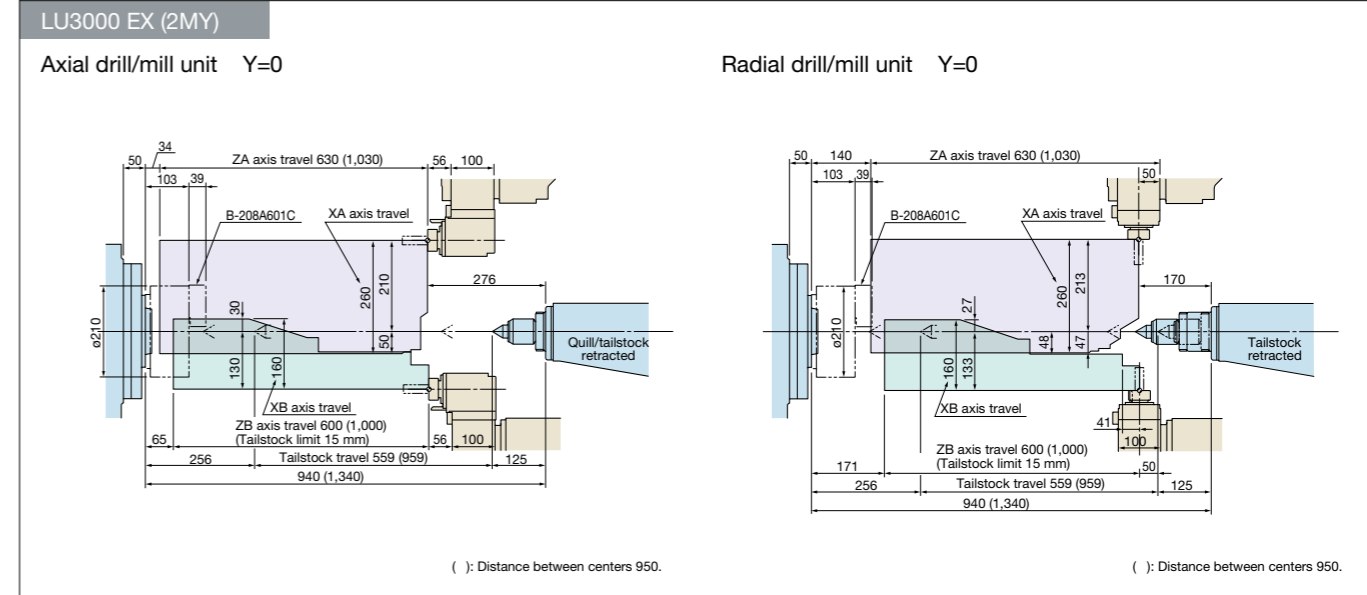
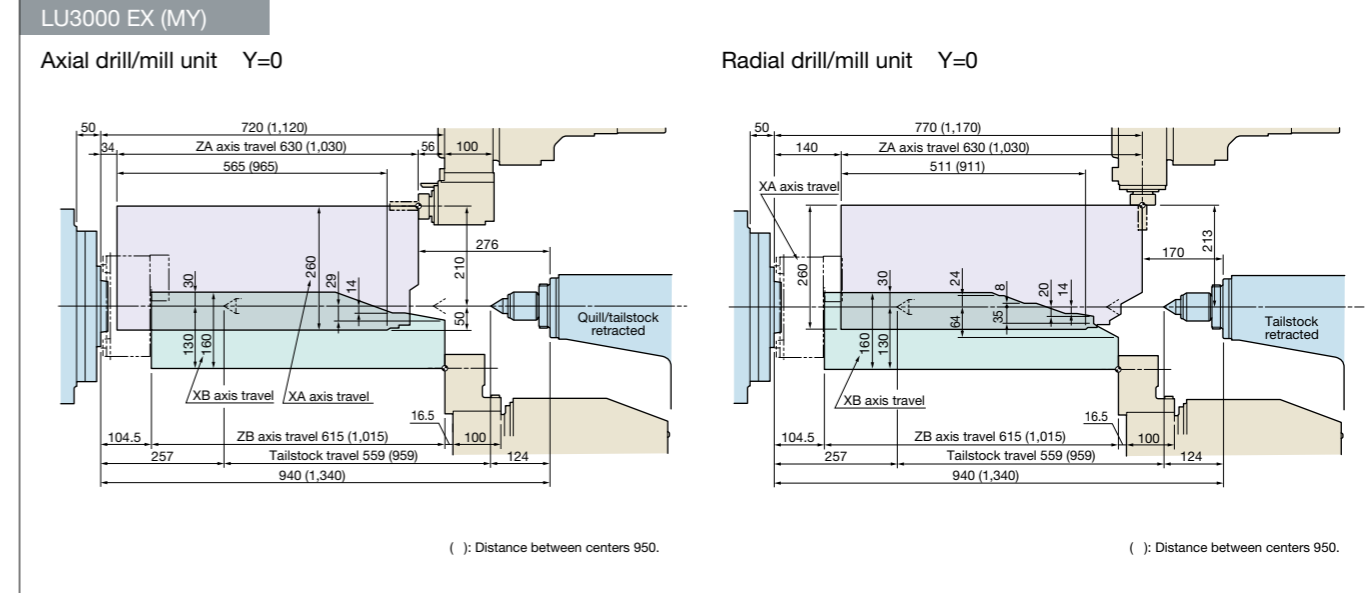
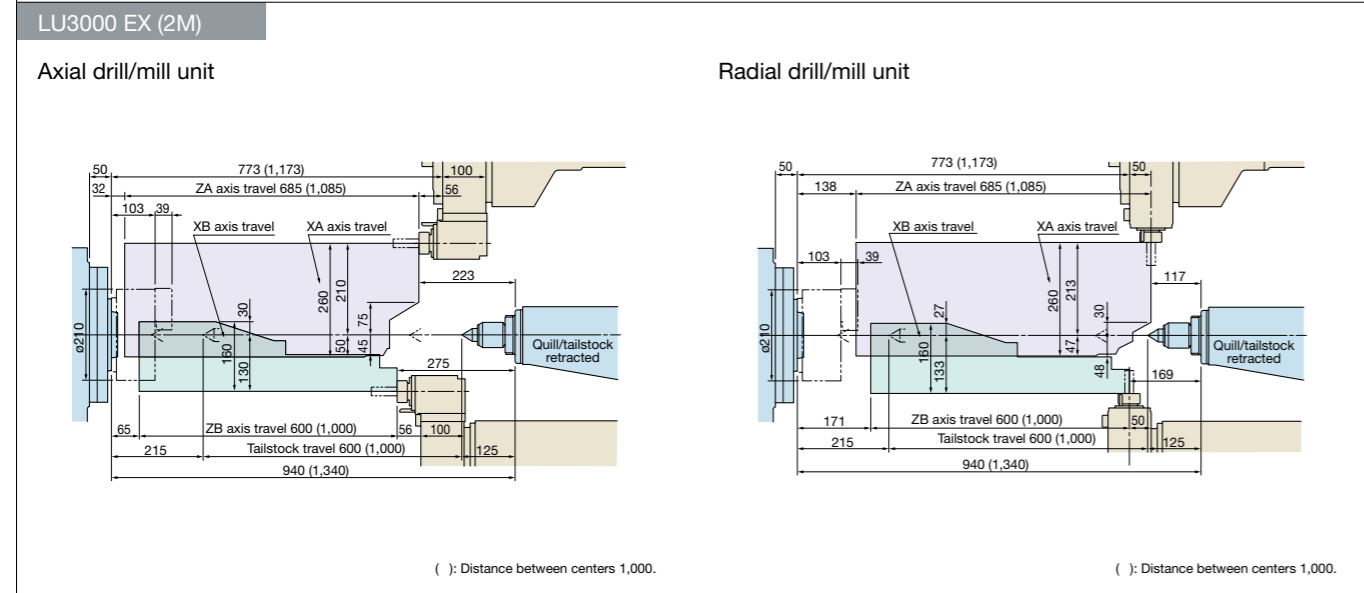
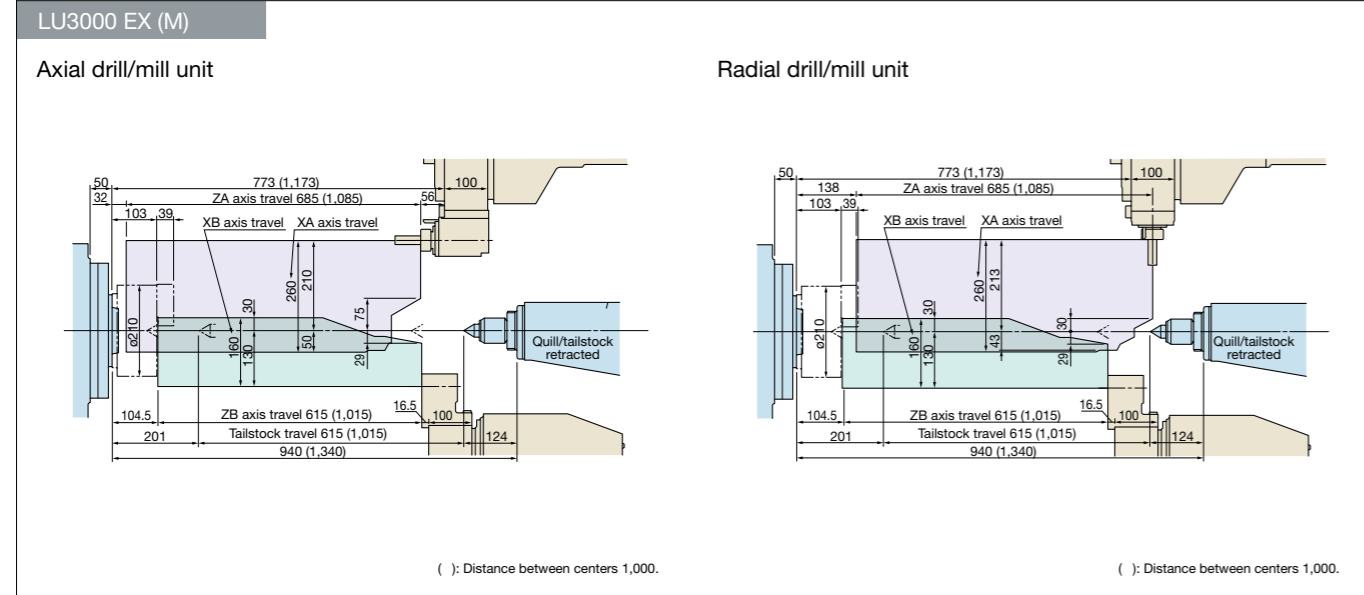
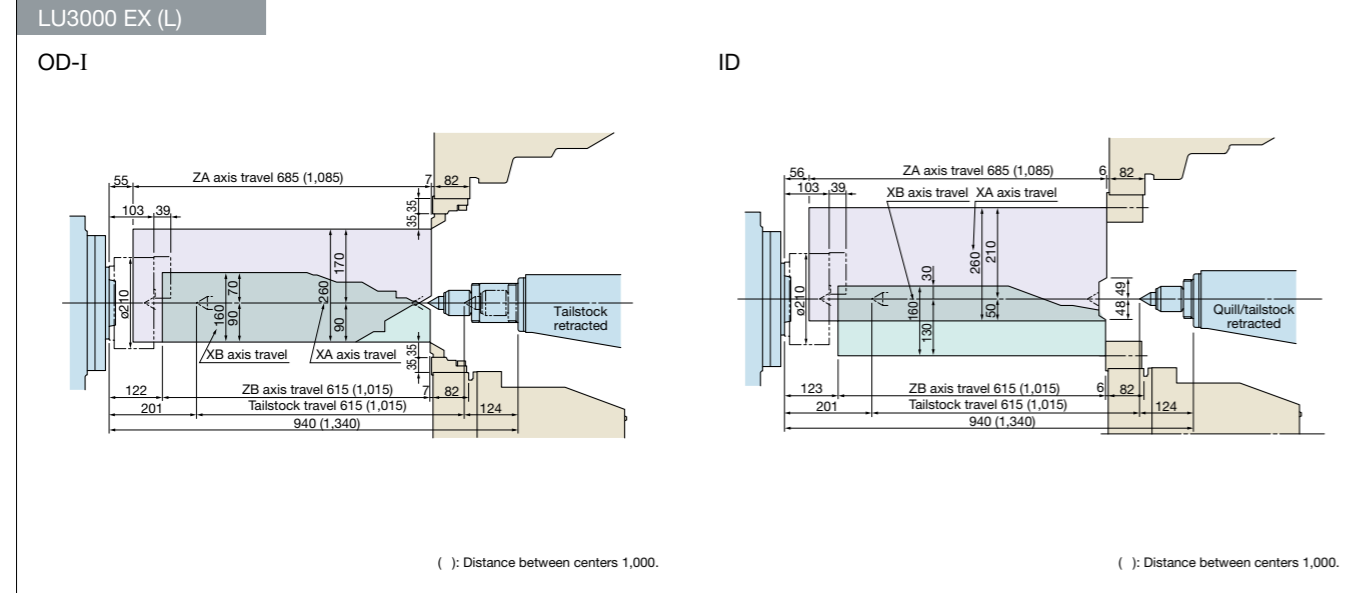


LU4000 EX (M/MY)

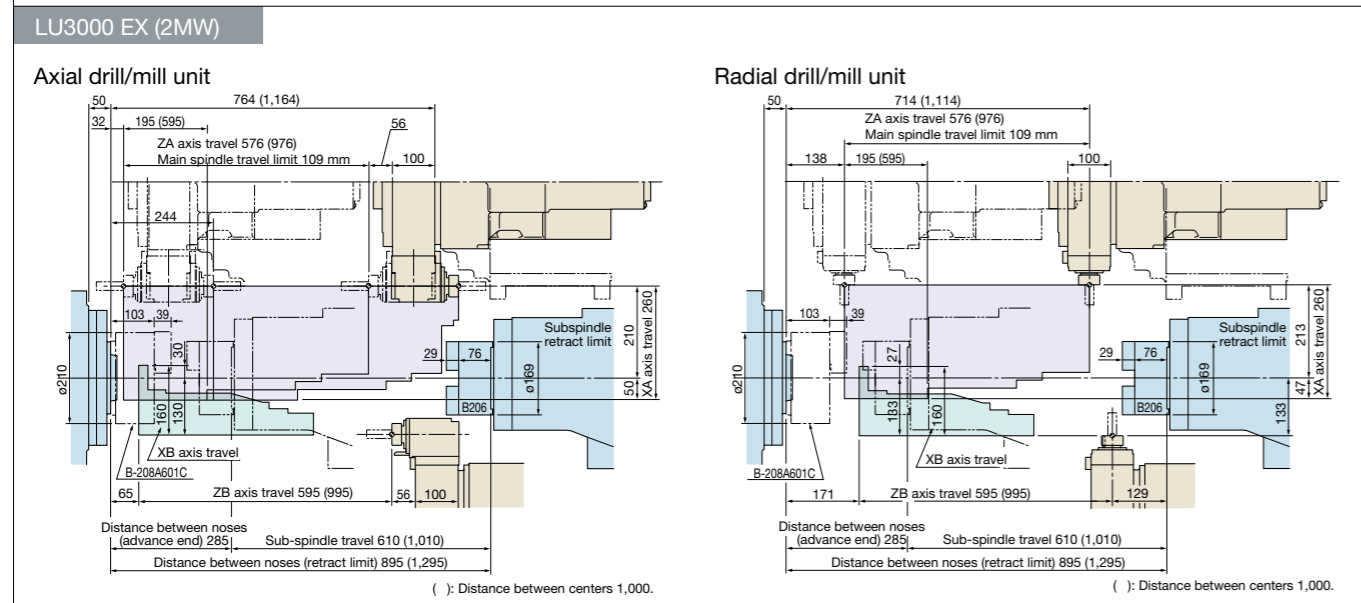
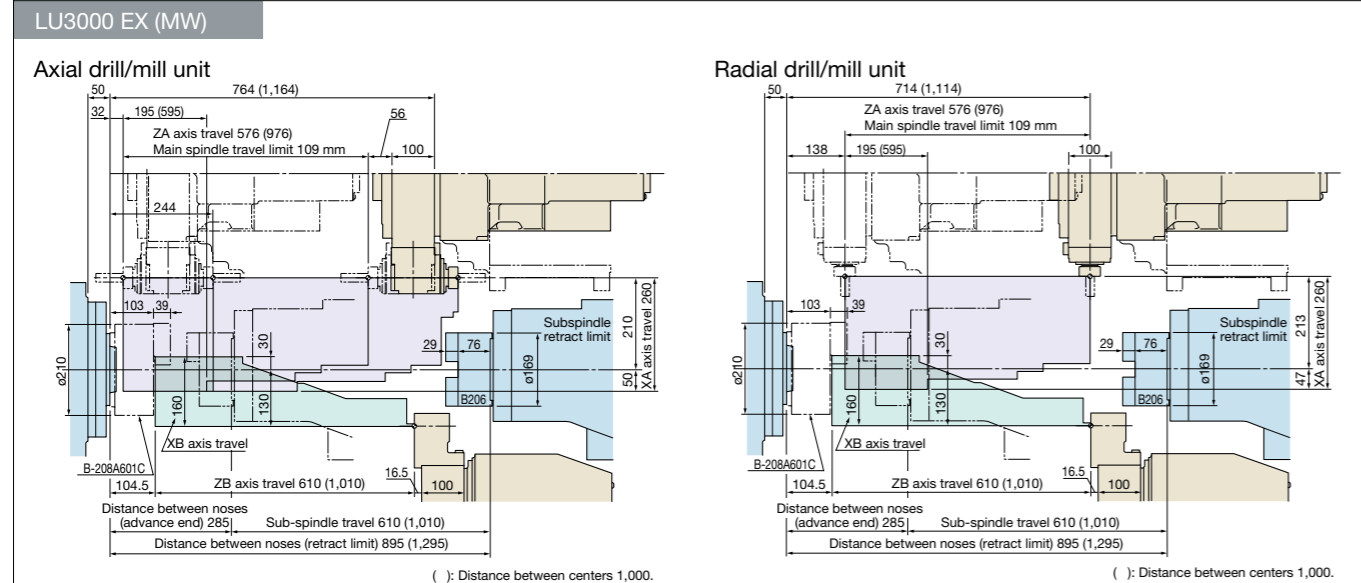
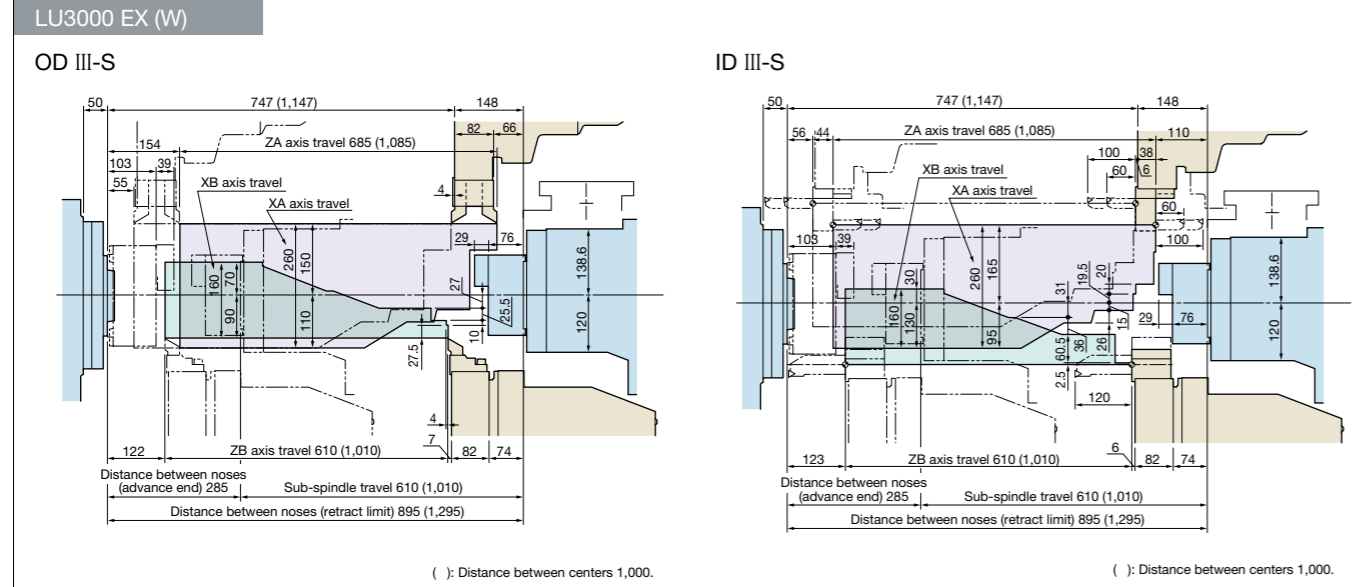


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Working Ranges

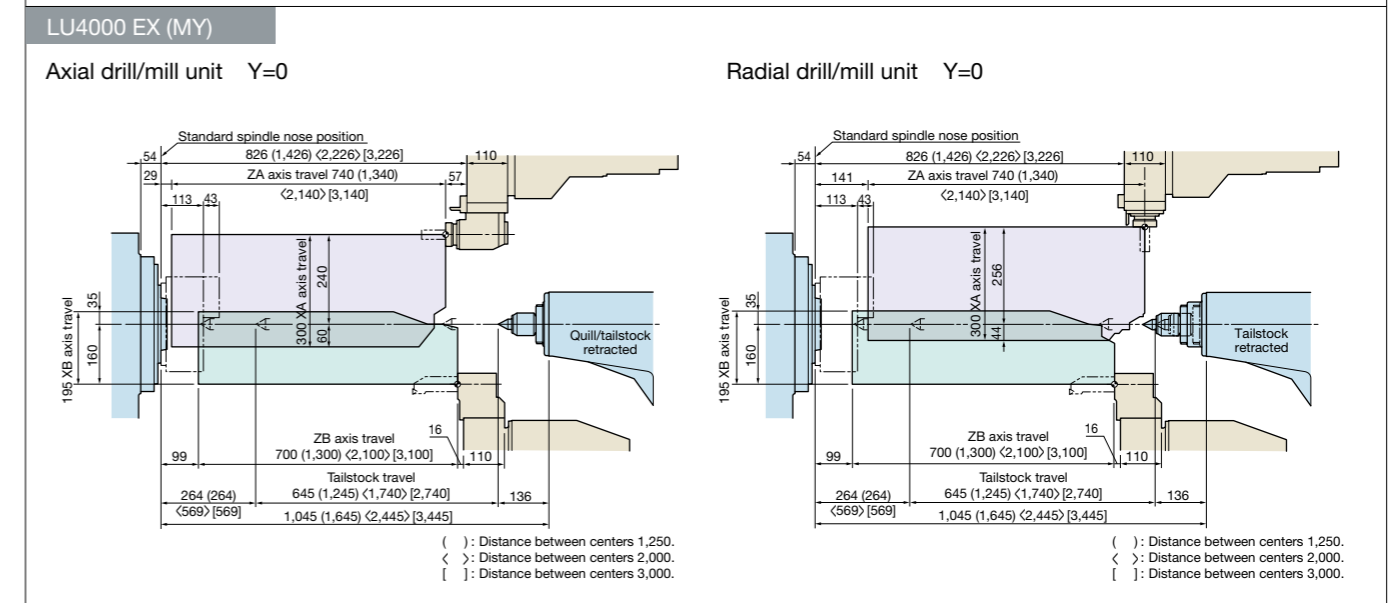
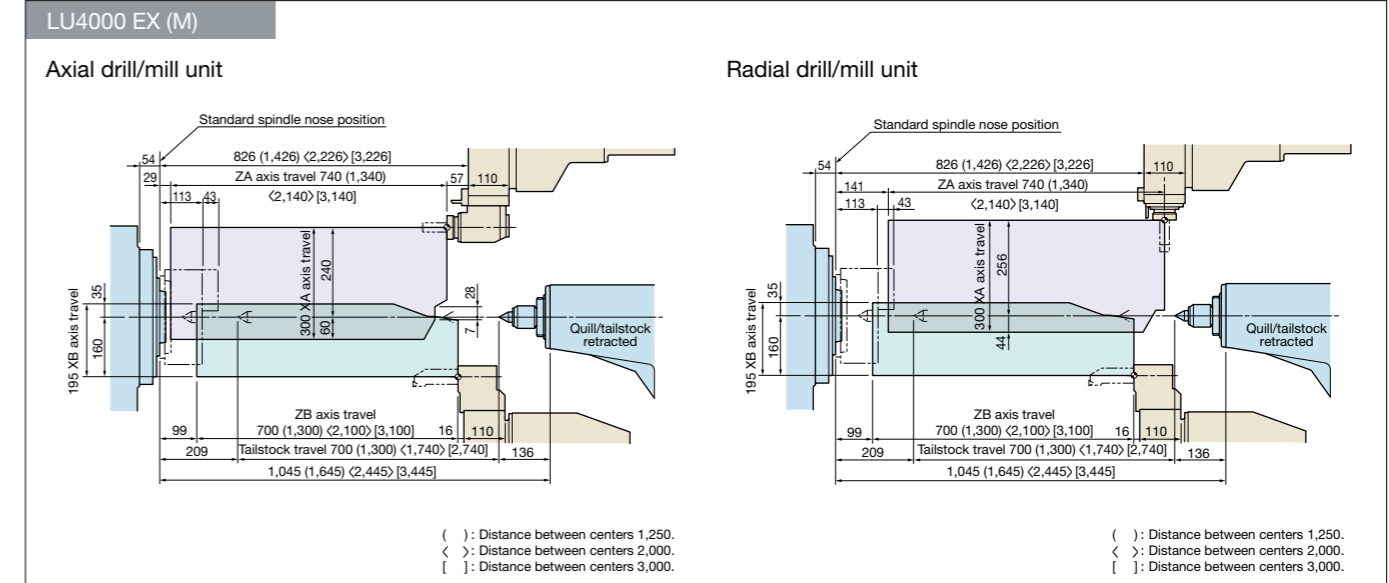
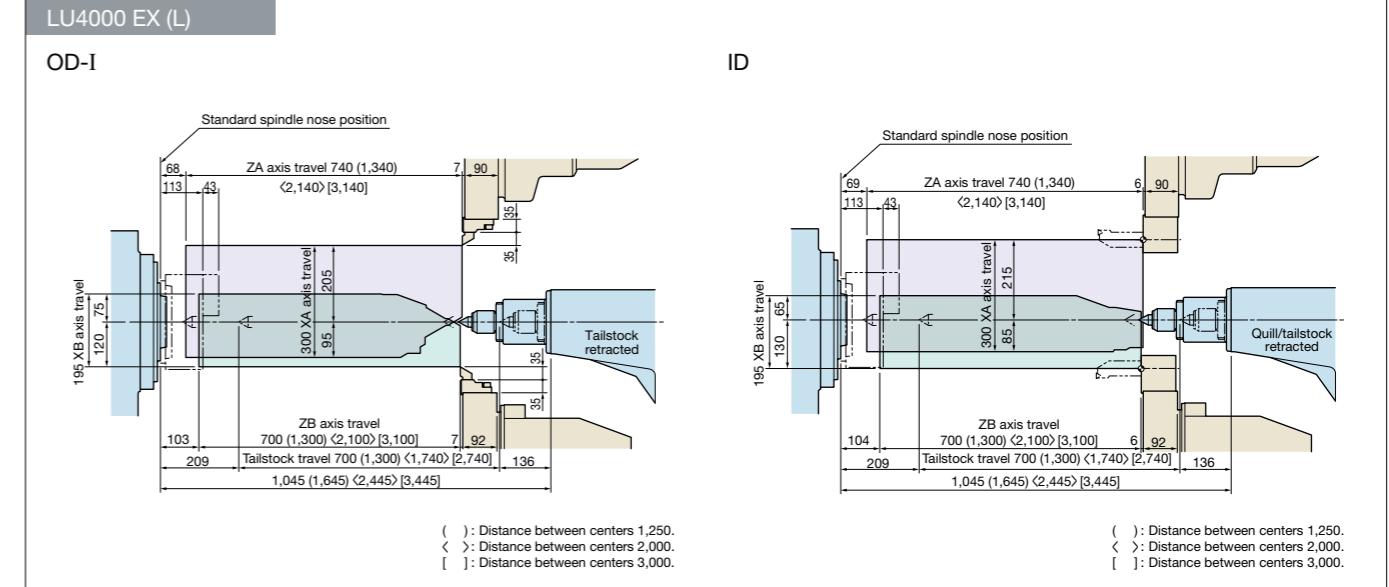


Working Ranges



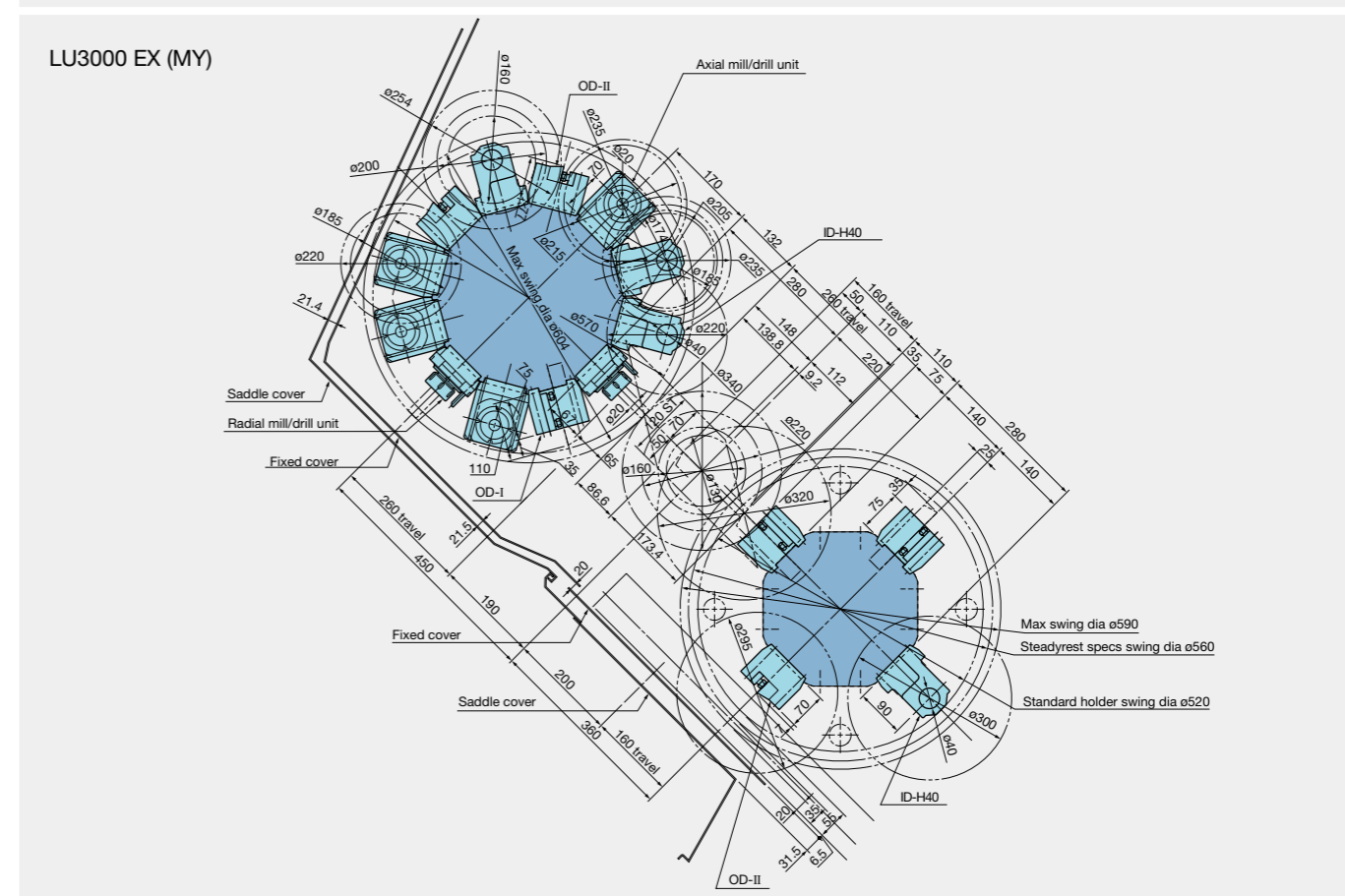
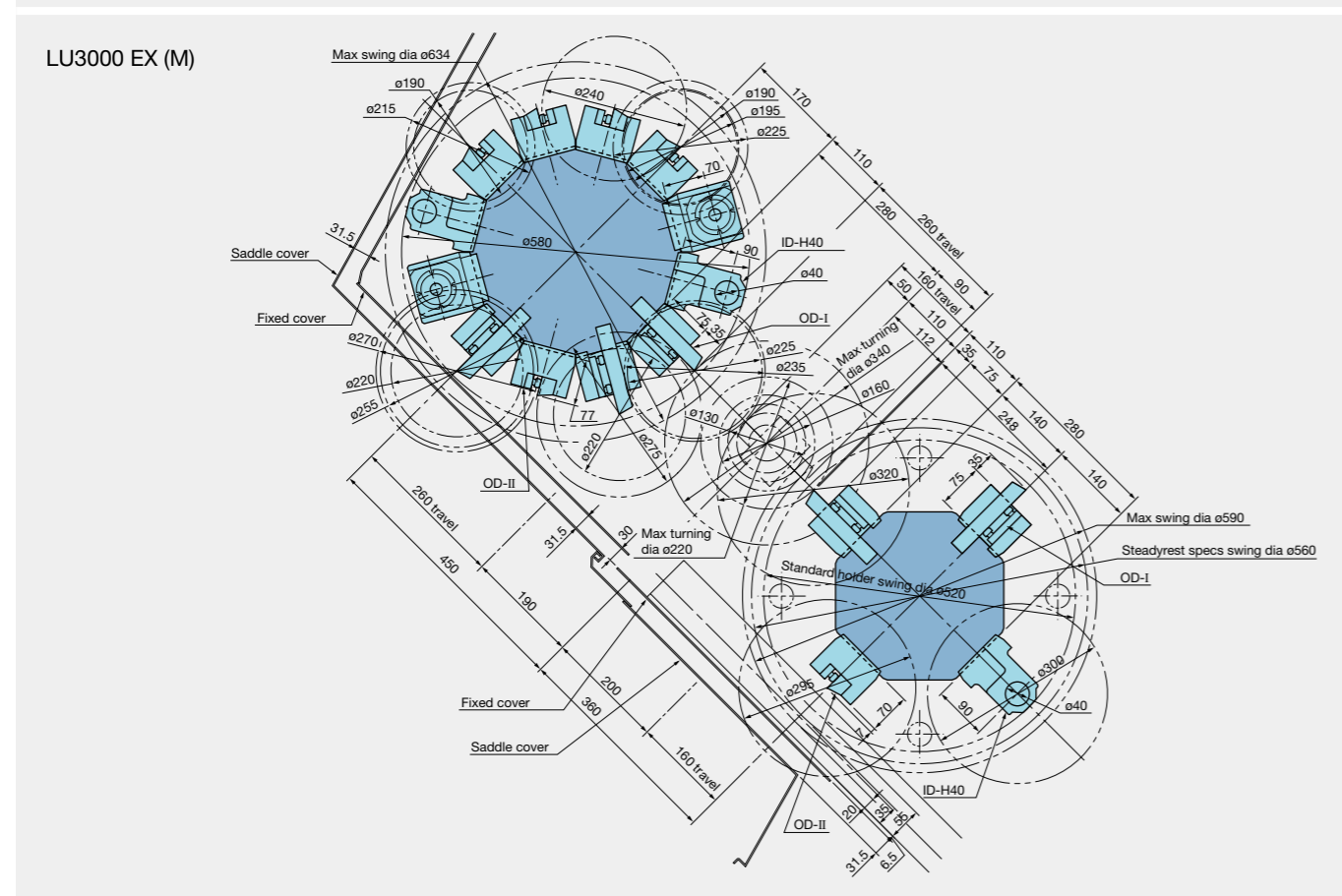
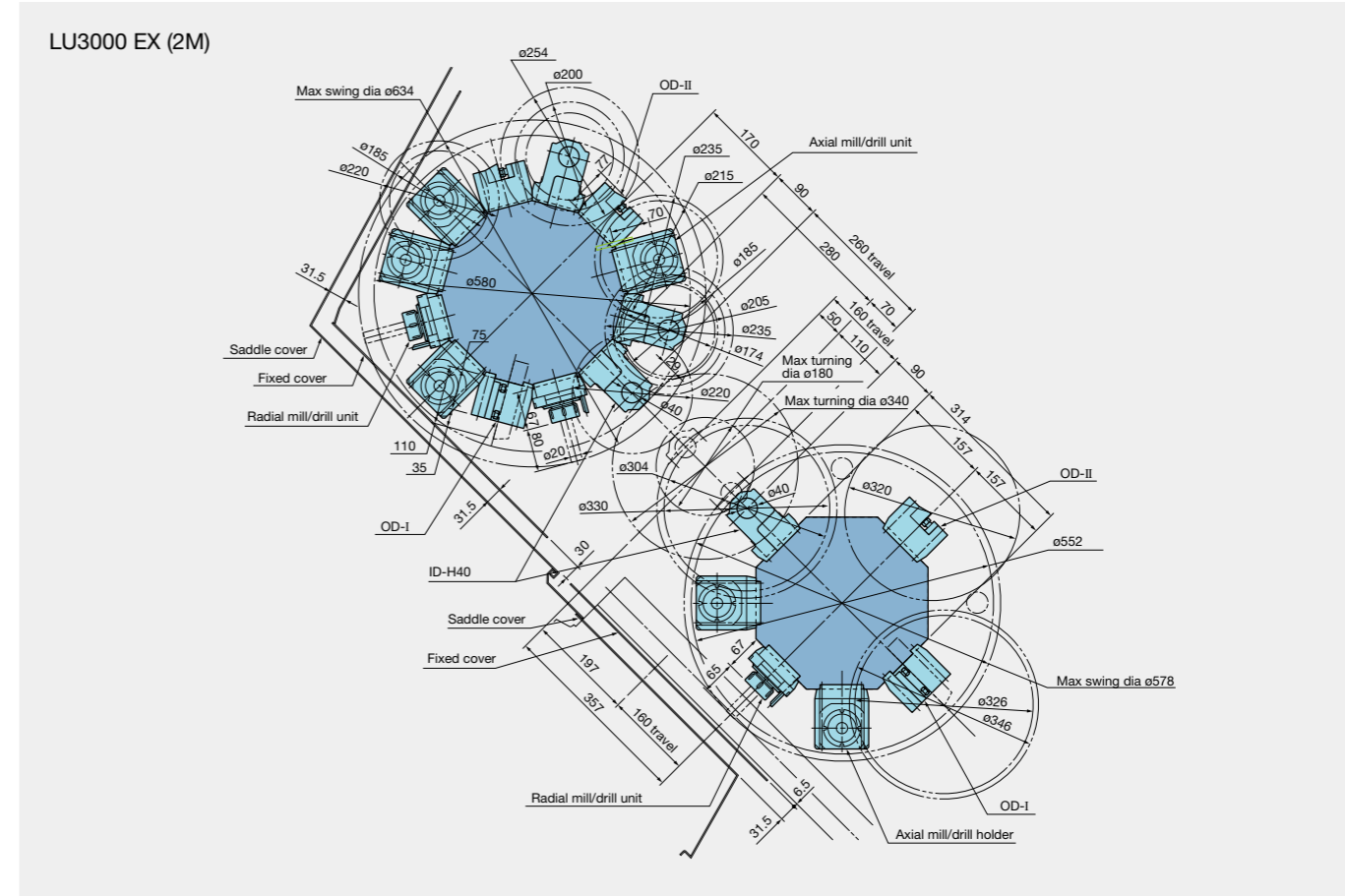
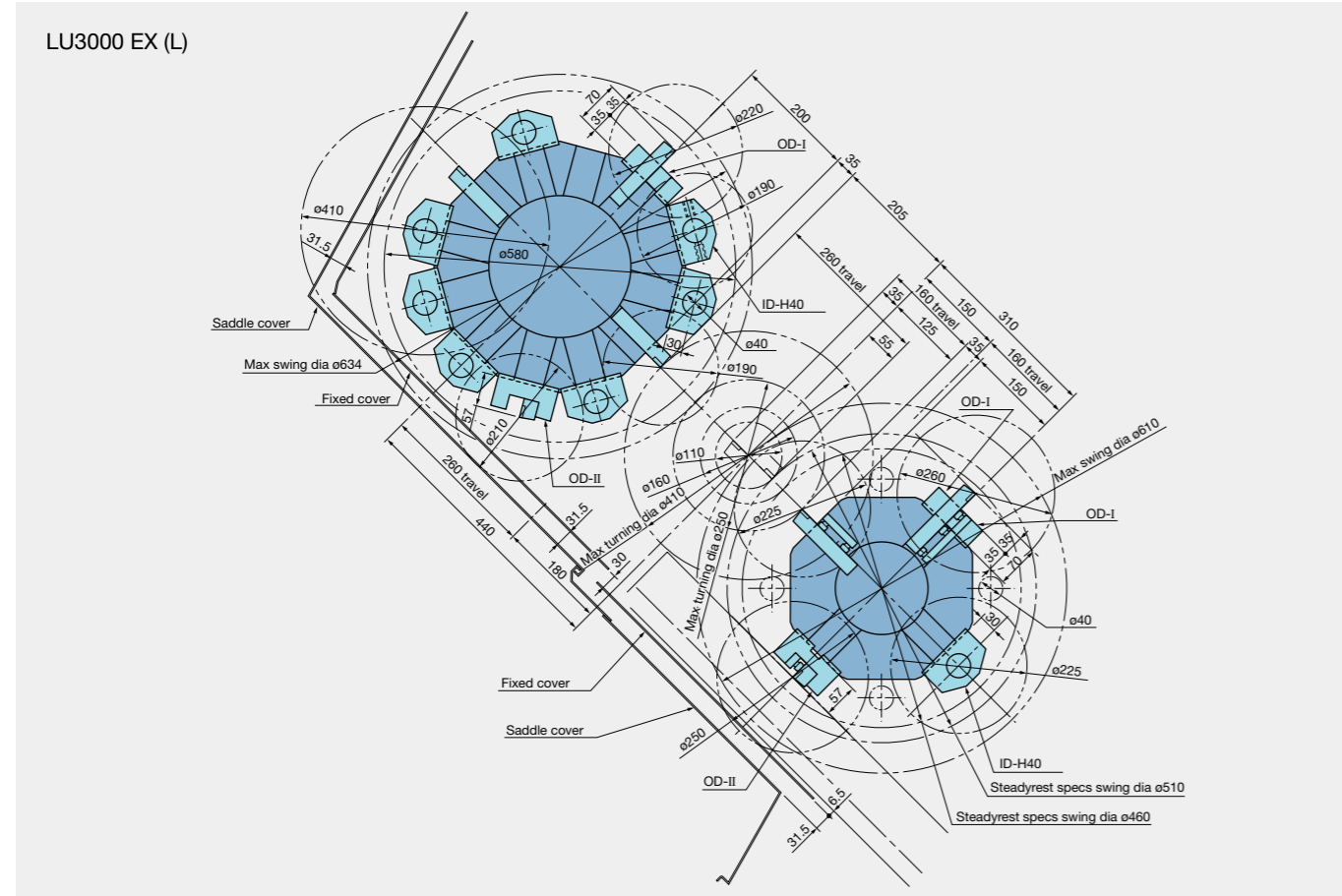
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Working Ranges

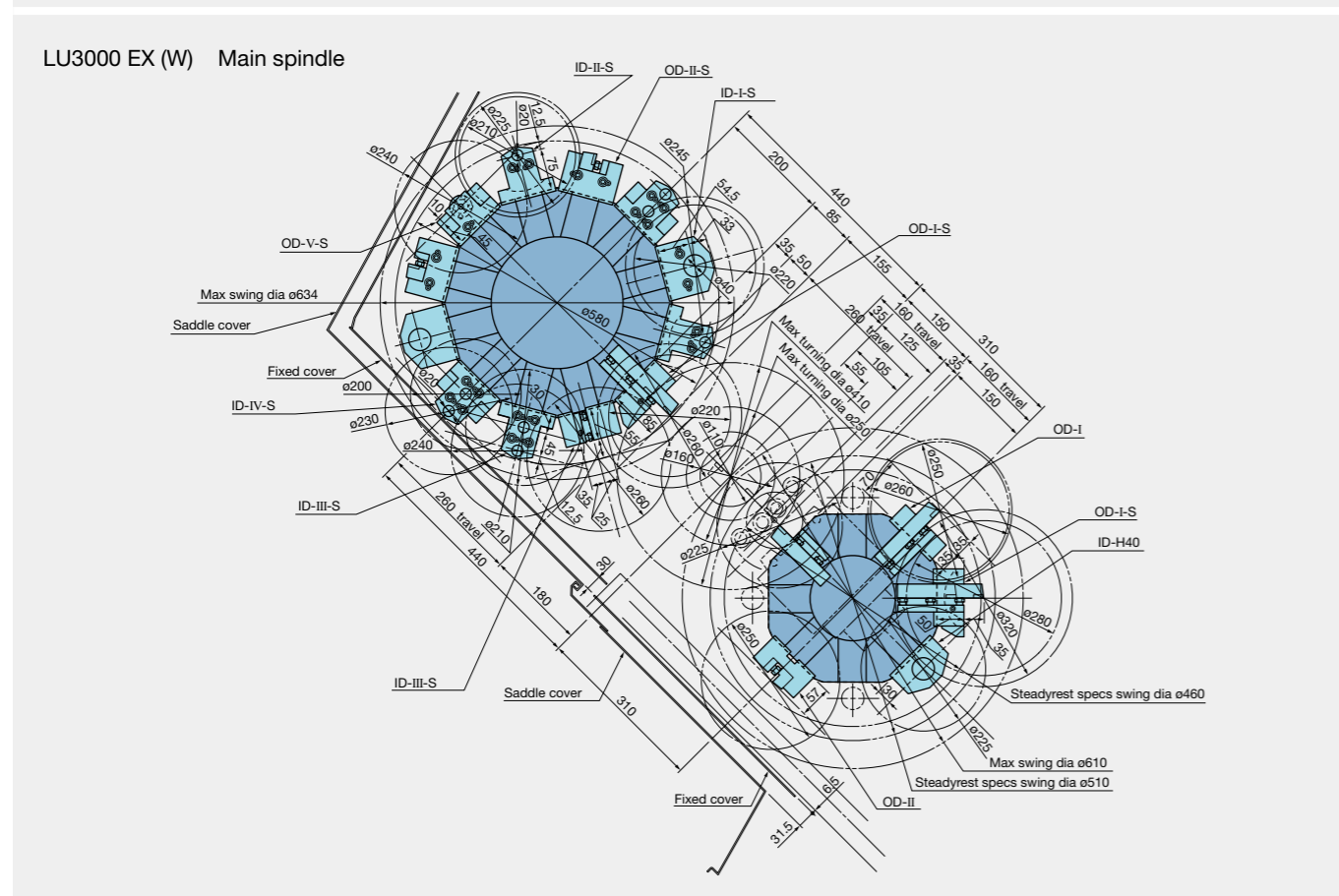
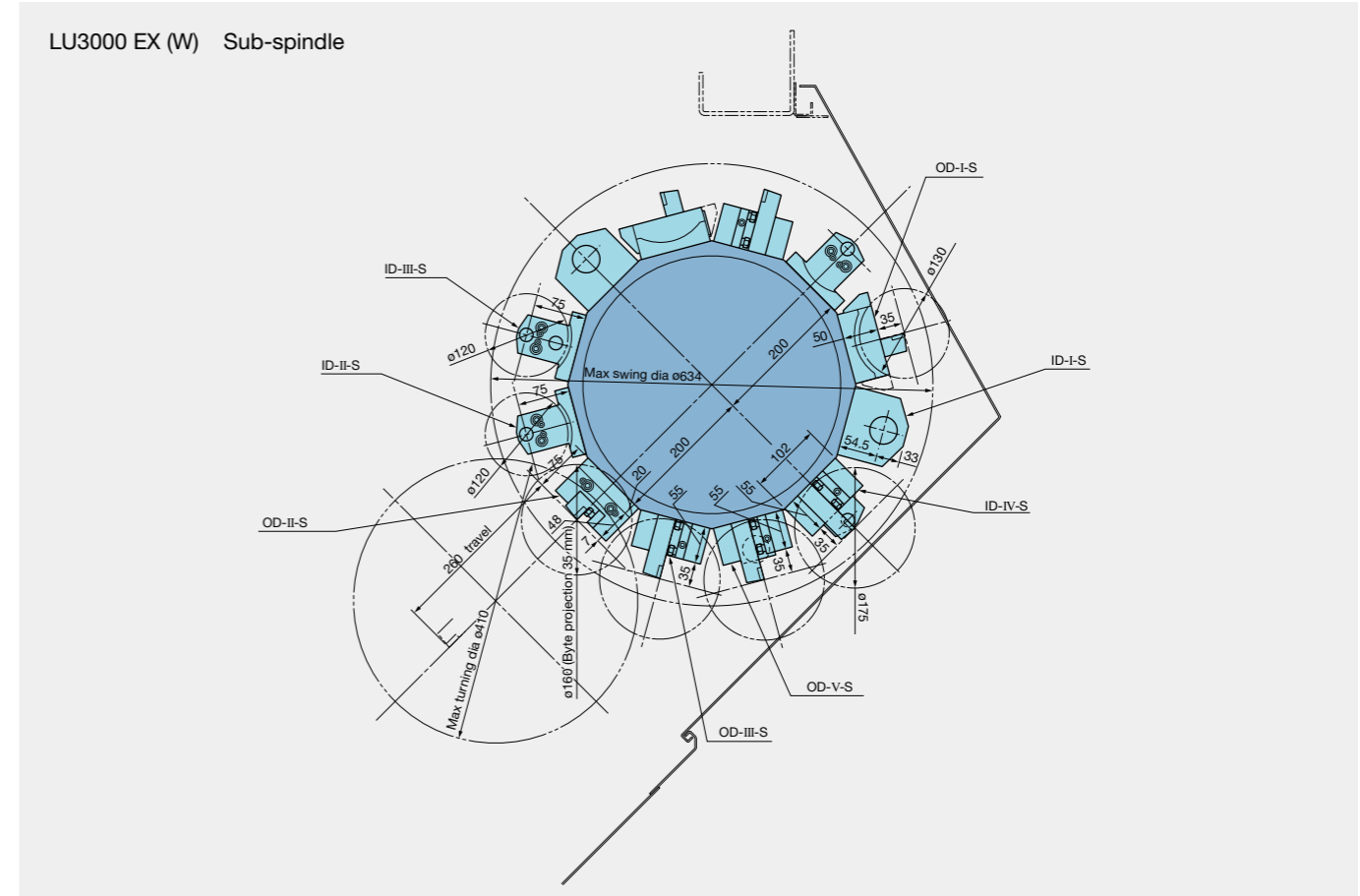
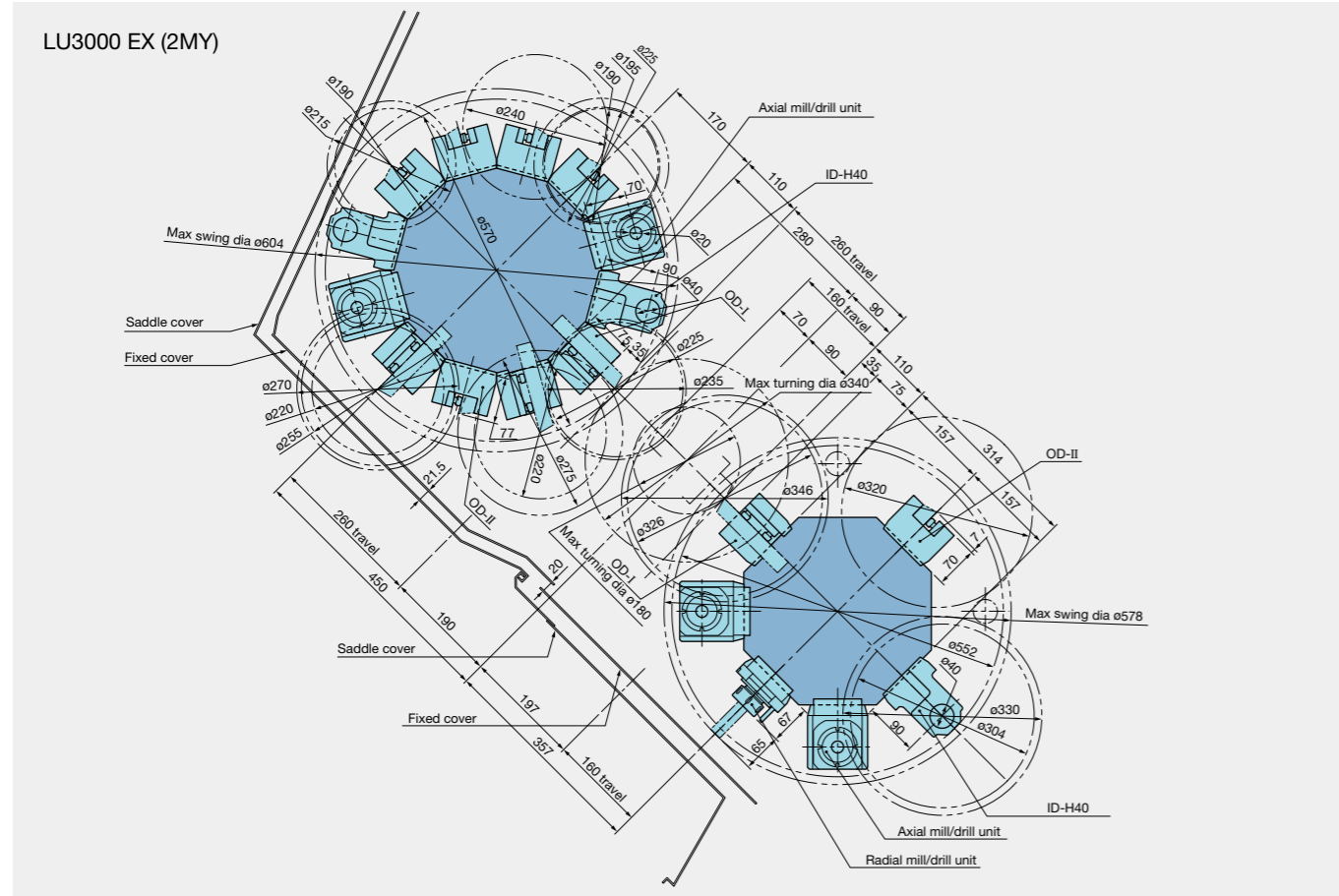


<LU3000 EX>

■ Turret interference diagrams



Turret interference diagrams

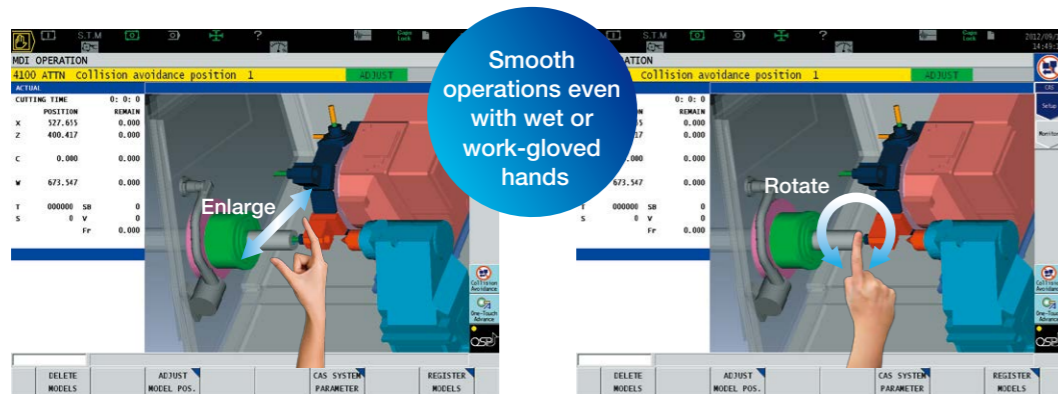


**With revamped operation and responsiveness—
ease of use for machine shops first!**

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 programming without keying in code
Scheduled Program Editor

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

Standard Specifications

Basic Specs	Control	Turning: X, Z simultaneous 2-axis + 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, 1 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, 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
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
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
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, spindle orientation (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, TAS-C (Thermal Active Stabilizer–Construction) (MY specifications only)
Energy-saving function	ECO suite	ECO Idling Stop, ECO Power Monitor

Optional Specifications

Item	Kit specs*1	NML		3D		OT-IGF		OTM	
		E	D	E	D	E	D	E	D
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 sets									
Tool compensation									
(Std: 32 sets)									
Tool compensation 64 sets									
Tool compensation 96 sets									
Tool compensation 200 sets									
Tool compensation 999 sets									
Common variables 1,000 sets (Std: 200 sets)									
Thread matching (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								●	●
Helical cutting (within 360 degrees)									
Helical Contour Generation									
Monitoring									
Real 3-D simulation				●	●	●	●	●	●
Cycle time over check				●	●	●	●	●	●
Load monitor (spindle, feed axis)				●	●	●	●	●	●
Load monitor no-load detection (load monitor ordered)									
Status Logger									
Tool life management				●	●	●	●	●	●
Tool life warning									
Operation end buzzer									
Chucking 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 B]				●	●	●	●	●	●
Measuring									
In-process work gauging									●
Included in machine specs									
Z-axis automatic zero offset by touch sensor									
C-axis automatic zero offset by touch sensor									
Y-axis gauging									
Gauge data output									
File output									
Post-process work gauging interface									
Set levels (5-level, 7-level)									
BCD									
RS-232-C (dedicated channel)									
Touch setter [M, A]									●
Included in machine specs									
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 M02, 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 *3									
Type B (machine)									
Type C (robot and loader)									
Type D									
Type E									
Bar feeders									
Bar feeder									●
Interface only									
Included in machine specs									
Cycle time reduction *3									
Operation time reduction									●
Chuck open/close during spindle rotation									●
Tailstock advance/retract during spindle rotation									●
High-Speed/High-Accuracy Functions									
Thermo Active Stabilizer–Construction TAS-C									
0.1 μm control *3									
Pitch error compensation									
Hi-Cut Pro									●
Y-axis alignment compensation									●
Energy-saving function ECO suite									
ECO Operation									
Chip conveyor intermittent/linked operation									
Mist collector intermittent/linked operation									
Spindle Power Peak Limiter									
Other Functions									
Collision Avoidance System (CAS)									
One-Touch Spreadsheet									
Machining Navi L-g, T-g (threading)									
Variable spindle speed control (VSSC)									●
Spindle dead-slow cutting									●
Spindle speed setting									●
Manual cutting feed									●
Spindle power peak cutting									●
Short circuit breaker									●
External M signals [2 sets, 4 sets, 8 sets, 16 sets]									●
Edit interlock									●
OSP-VPS (Virus Protection System)									●

*1. NML: Normal, 3D: Real 3D simulation, OT-IGF: One-Touch IGF, OTM: One-Touch M
 E: Economy, D: Deluxe *2. Real 3-D simulation is included *3. Engineering discussions required.
 *4. API library (THINC-API) needed in adding OSP-MTConnect.
 Note. ▲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.
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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.