

2-Saddle CNC Lathes

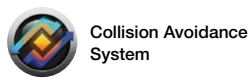
LU II series

LU35II/LU45II



2-Saddle CNC Lathes
LU II series

LU35II/LU45II



Highly efficient 4-axis machining of the mid-/large-size components

Okuma's LU Series of 2-saddle CNC lathes have been well-regarded in all the key performance aspects of speed, power, and accuracy, including incredible ease of use and maintenance. Moreover, the Thermo-Friendly Concept is used to deliver the best dimensional stability in its class.



LU35II (DBC 1,500)



LU45II (DBC 2,000)

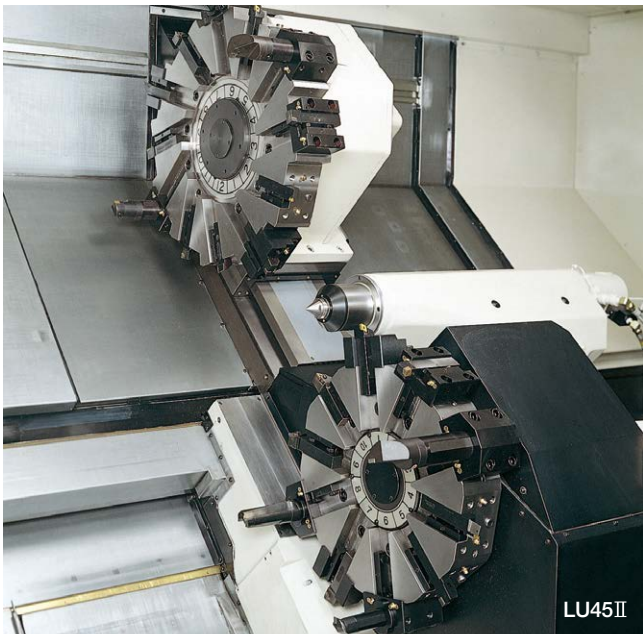
The size of the front door differs depending on the distance between centers.
Photographs used in this brochure may show optional equipment.

High productivity by simultaneous 4-axis machining



22-tool, high-speed indexing

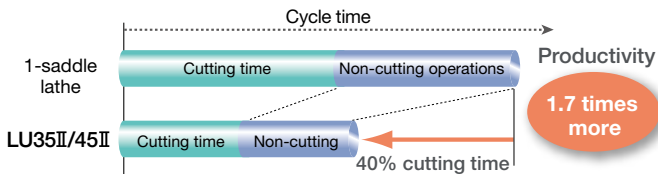
- Non-cutting time slashed dramatically by fast indexing by NC servos:
LU35II: 0.3 sec/1 index (non-lift)
LU45II: 0.7 sec/1 index (lift-up)
- Indexing speed not affected by unbalanced tooling
- Powerful hydraulic clamping mechanism and large-diameter couplings



Upper: V12, Lower: V10

Productivity 1.7 times

With simultaneous upper/lower turret operations, cycle times can be greatly reduced by turning inside and outside diameters at the same time.



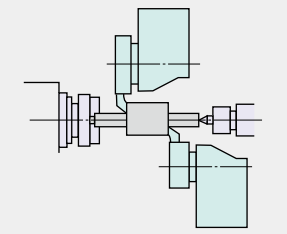
Close-tolerance, robust axial feed mechanism

- Fast rapid traverse by high-precision servos:
XA and XB axes: 15 m/min
ZA and ZB axes: 20 m/min
- Standard-equipped direct drive mechanism eliminates backlash
LU35II: for XA, ZA, ZB axes
LU45II: for XA axis

What 4-axis turning can do for you. . .

1

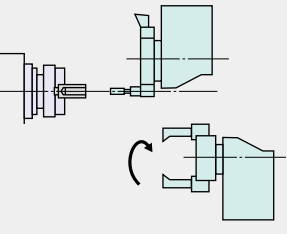
Shorter turning time



Vastly improved productivity and less processing time by simultaneous 4-axis turning with 2 turrets.

2

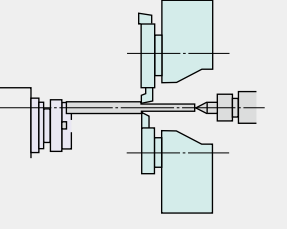
Shorter cycle times



Small workpieces that cannot be cut simultaneously due to tool interference can still achieve shorter cycle times by indexing and positioning the standby turret close to the workpiece while it's being cut by the other turret.

3

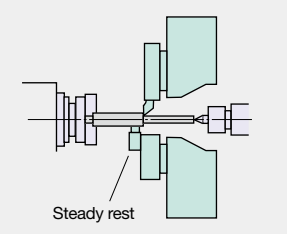
No chatter with long workpieces thanks to balanced cutting



Long workpieces that cannot be turned on 2-axis machines due to chatter, can be cut on 4-axis lathes with balanced and simultaneous upper/lower turret operations.

4

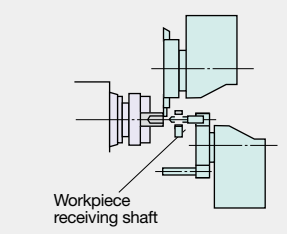
No chatter with steady rest



By supporting the workpiece with a steady rest attached to one of the turrets, chatter-free turning of cantilever bars is possible. Steady rests can also provide the in-process support required for micro machining.

5

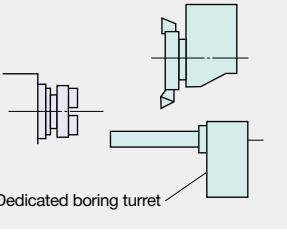
Unloading assist lightens operator load



One turret is equipped with a receiving shaft, tray, etc. to receive workpieces on cutoff, then carry to designated position by turret rotation.

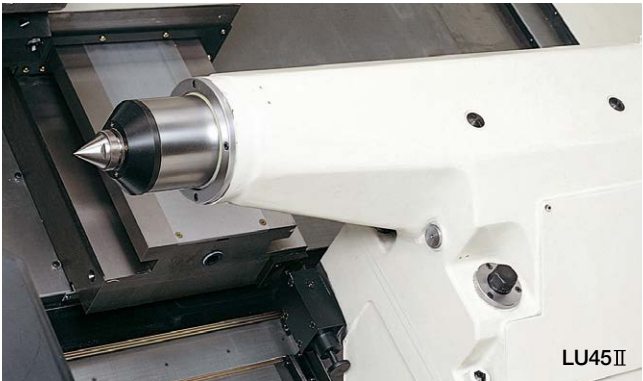
6

Dedicated boring turret (lower turret)



Using a dedicated boring turret (in place of the standard lower turret) allows a variety of different applications.

High-rigidity tow-along tailstock (manual)



- Standard-equipped with rugged live center:
LU35II ϕ 120 mm quill: MT No. 5
LU45II ϕ 130 mm quill: MT No. 5
- Smooth, E-Z tailstock positioning by using upper saddle.
(clamping/unclamping, coupling of tailstock itself is done manually)

Stable high speed cutting even of heavy workpieces

Machining capacity / accuracy (actual data)

LU35II(M)

- Turning capacity (Material: S45C)

Heavy-duty turning	Upper turret: 5 mm ² Lower turret: 4 mm ²
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- Milling capacity (Material: S45C)

End milling	ø30 6-flute end mill (roughing) Milling depth t: 12 mm Feedrate f: 0.1 mm/flute
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Tapping	M24 P3 (Synchronized Tapping)
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Note: The “actual data” referred to above for this brochure represent examples, and may not be obtained due to differences in specifications, tooling, cutting, and other conditions.

LU45II(M)

- Turning capacity (Material: S45C)

Heavy-duty turning	Upper turret: 6 mm ² Lower turret: 5 mm ²
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- Milling capacity (Material: S45C)

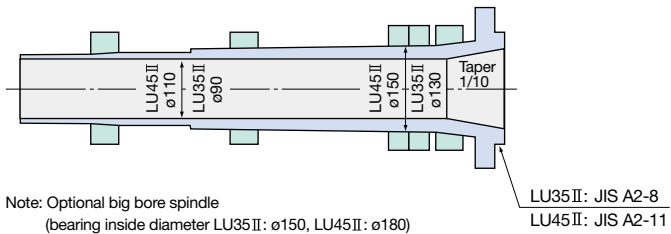
End milling	ø40 6-flute end mill (roughing) Milling depth t: 15 mm Feedrate f: 0.1 mm/flute
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Tapping	M33 P3.5 (Synchronized Tapping)
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High rigidity bolster high-accuracy turning

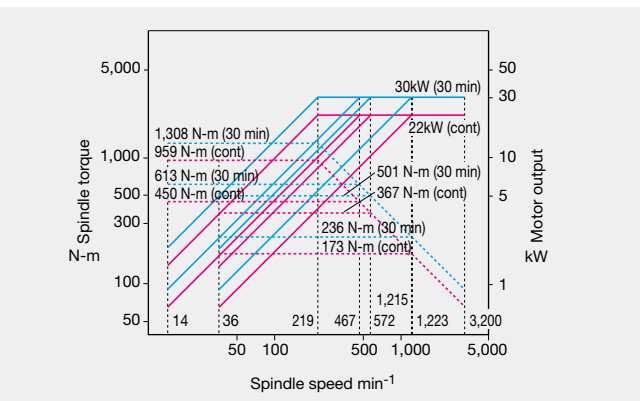


- Heavy hogging at high speeds, thanks to broad-span 3-point bearing support
- Thermally balanced construction of spindlehead from computer-assisted design analysis for consistent accuracies in long runs.

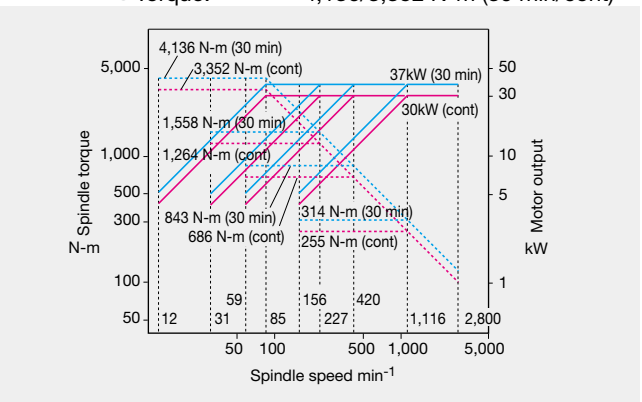


VAC spindle motor for fullpower across wide range

- LU35II
 - Spindle speed: 3,200 min⁻¹
 - Power: 30/22 kW (30 min/cont)
 - Torque: 1,308/959 N-m (30 min/cont)



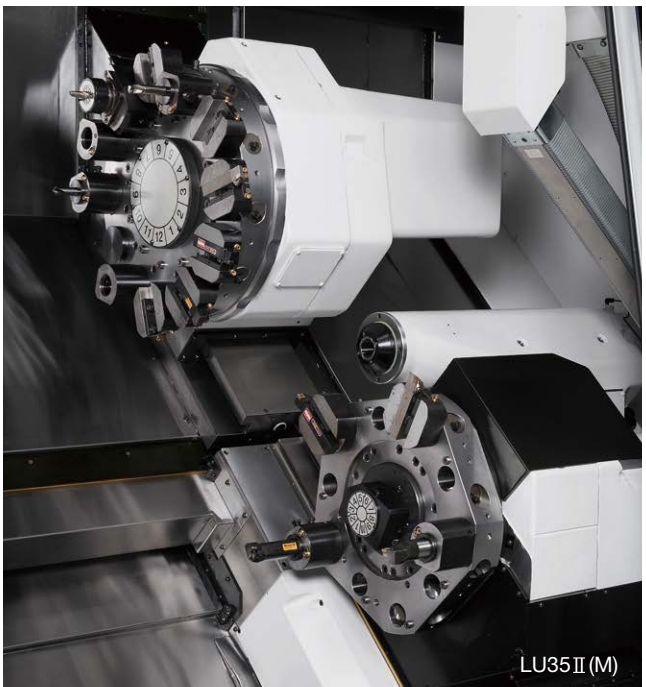
- LU45II
 - Spindle speed: 2,800 min⁻¹
 - Power: 37/30 kW (30 min/cont)
 - Torque: 4,136/3,352 N-m (30 min/cont)



Do it all in one chucking: turning, drilling, milling and tapping!

Highly rigid V12 multitasking NC turrets (upper)

- Every station accepts turning (L) and milling (M) tooling
- Fast-indexing turret under NC servo control: 0.3 sec/1 index for the LU35II, 0.7 sec/1 index for the LU45II.



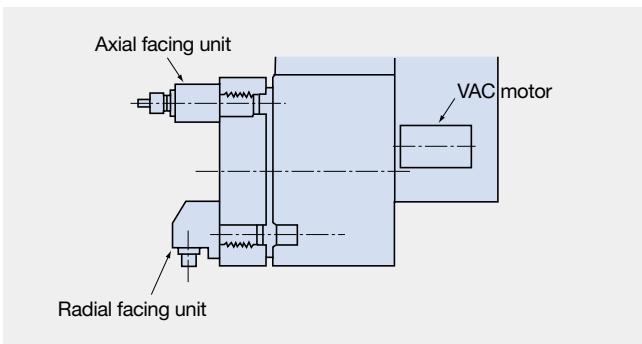
High-speed, high-accuracy C-axis headstock

- Fast rapid traverse: 100 min⁻¹
- C-axis geometric accuracy (G00 positioning)

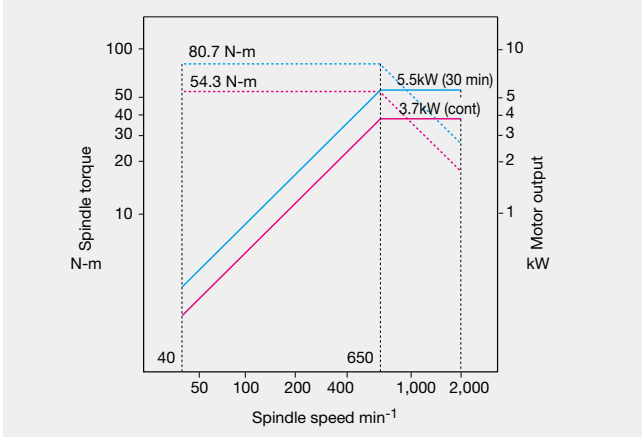
Indexing	± 0.01°
Repeatability	± 0.005°

Fast milling tool spindle

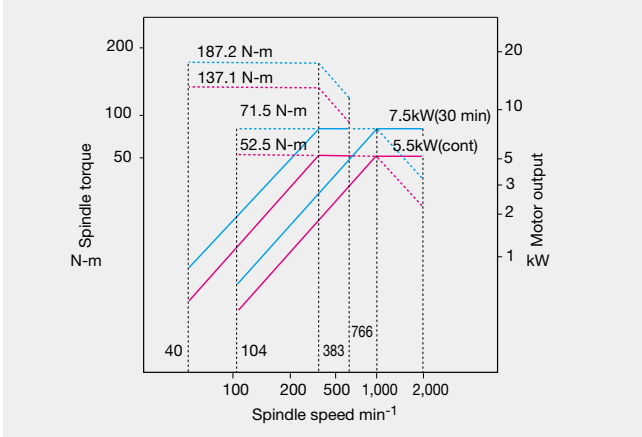
- Spindle speed : MAX 2,000 min⁻¹
- Output: LU35II (M): 5.5/3.7 kW (30 min/cont)
LU45II (M): 7.5/5.5 kW (30 min/cont)
- Torque: LU35II (M): 80.7/54.3 N-m (30 min/cont)
LU45II (M): 187.2/137.1 N-m (30 min/cont)



LU35II(M)



LU45II(M)

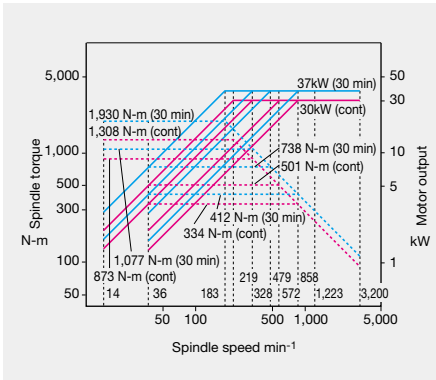


A full lineup of high-performance spindles

Spindle torque / output diagrams (Optional)

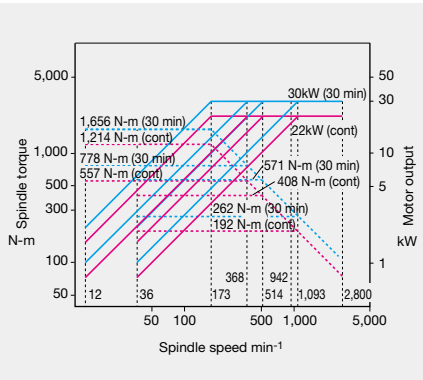
LU35II High power specs

- Spindle speed: 3,200 min⁻¹
- Power: 37/30 kW (30 min/cont)
- Torque: 1,930/1,308 N-m (30 min/cont)



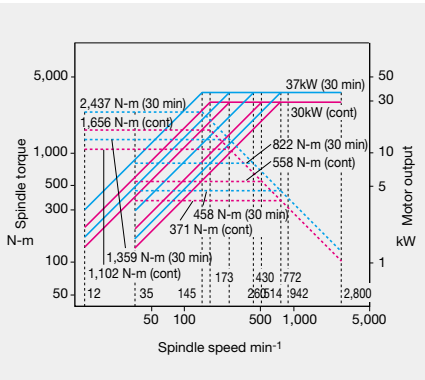
LU35II Big bore spindle

- Spindle speed: 2,800 min⁻¹
- Power: 30/22 kW (30 min/cont)
- Torque: 1,656/1,214 N-m (30 min/cont)



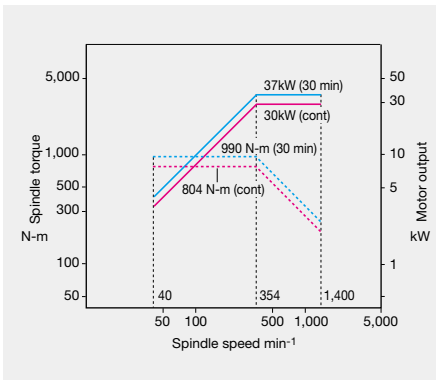
LU35II High power big bore spindle

- Spindle speed: 2,800 min⁻¹
- Power: 37/30 kW (30 min/cont)
- Torque: 2,437/1,656 N-m (30 min/cont)



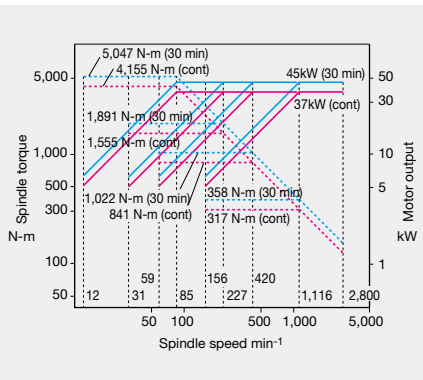
LU35II Super big bore spindle

- Spindle speed: 1,400 min⁻¹
- Power: 37/30 kW (30 min/cont)
- Torque: 990/804 N-m (30 min/cont)



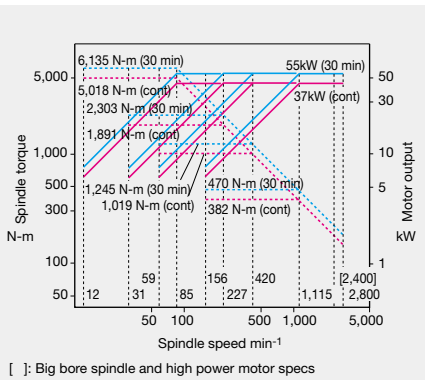
LU45II High power specs

- Spindle speed: 2,800 min⁻¹
- Power: 45/37 kW (30 min/cont)
- Torque: 5,047/4,155 N-m (30 min/cont)



LU45II Standard / High power big bore spindle

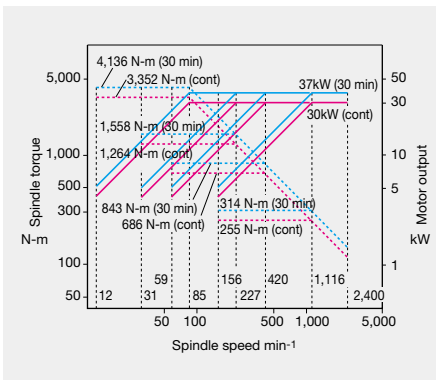
- Spindle speed: 2,800 min⁻¹ [2,400 min⁻¹]
- Power: 55/45 kW (30 min/cont)
- Torque: 6,135/5,018 N-m (30 min/cont)



[]: Big bore spindle and high power motor specs

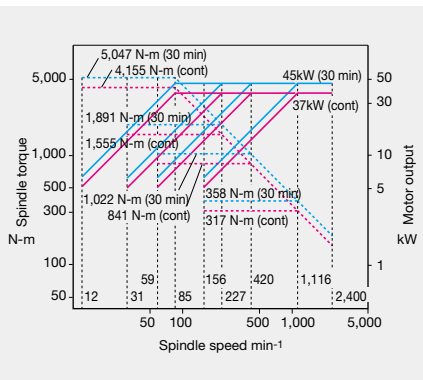
LU45II Big bore spindle

- Spindle speed: 2,400 min⁻¹
- Power: 37/30 kW (30 min/cont)
- Torque: 4,136/3,352 N-m (30 min/cont)



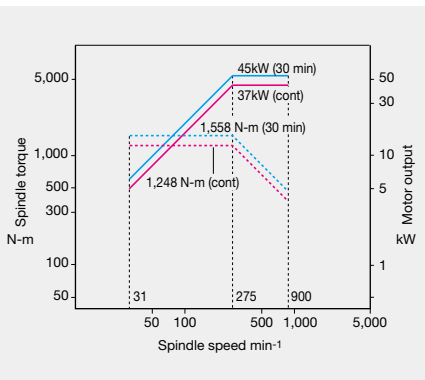
LU45II High power big bore spindle

- Spindle speed: 2,400 min⁻¹
- Power: 45/37 kW (30 min/cont)
- Torque: 5,047/4,155 N-m (30 min/cont)



LU45II Super big bore spindle

- Spindle speed: 900 min⁻¹
- Power: 45/37 kW (30 min/cont)
- Torque: 1,558/1,248 N-m (30 min/cont)



Okuma's Intelligent Technology brings advantages to machine shops

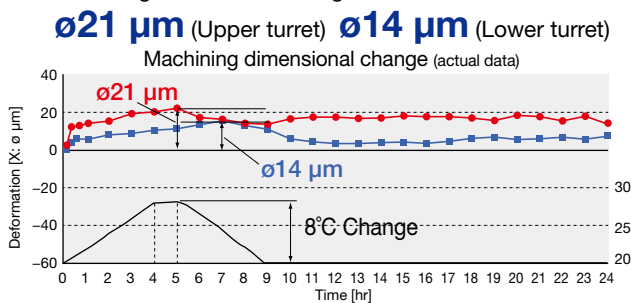


Manageable Deformation—Accurately Controlled Thermo-Friendly Concept

The unique approach of “accepting temperature changes”

Okuma machines that feature TFC are designed to respond to heat in certain (manageable) directions. Coupled with highly accurate thermal deformation compensation, the benefit is highly stable accuracy over long, continuous runs.

- Machining dimensional change (LU35II: actual data)



- Room temperature change: Rise of 8°C from 20°C over 4 hrs
After 1 hr, decline of 8°C over 4 hrs
- Cutting conditions: Cold start, coolant used
- Cutting depth: OD 0.2 mm
- Feedrate: 0.05 mm/rev
- Spindle speed: 2,240 min⁻¹
- Material: BsB

Note: The data shown here represent “actual data,” which may not be obtained under different environmental, machine specifications, tooling, cutting, and other conditions.

Next-Generation Energy-Saving System ECO suite

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.

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.

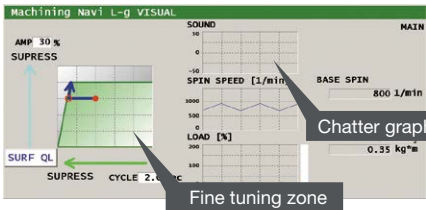
- Intermittent/linked operation of chip conveyor, or mist collector during machining
- “ECO Operation” (Optional)



Cutting condition search for turning Machining Navi L-g (Optional)

Chatter-free applications for lathes

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



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

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

Normal threading



Chatter marks

Machining Navi T-g



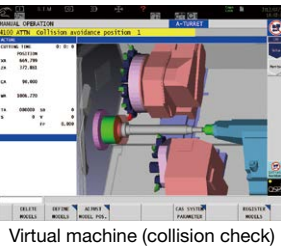
Smooth surface,
clean finished threads



Collision prevention Collision Avoidance System (Optional)

World's first “Collision-Free Machines”

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



Virtual machine (collision check)

LU35II /LU35 II(M)

Machine Specifications

	Item	Unit	LU35II				LU35II(M)											
			2ST × 600	2SC × 850	2SC × 1500	2SC × 2000	2ST × 600	2SC × 850	2SC × 1500	2SC × 2000								
Capacity	Swing over bed	mm (in)	ø740 (29.13)			ø690 (27.17)		ø740 (29.13)			ø690 (27.17)							
	Swing over saddle	mm (in)	ø480 (18.90)															
	Distance between centers	mm (in)	–	850 (33.46)		1,500 (59.06)		2,000 (78.74)		–	850 (33.46)		1,500 (59.06)		2,000 (78.74)			
	Max turning diameter	mm (in)	ø550 (21.65)															
	Max work length	mm (in)	600 (23.62)		920 (36.22)		1,570 (61.81)		2,070 (81.50)		600 (23.62)		920 (36.22)		1,570 (61.81)		2,070 (81.50)	
	Max work weight	kg	Single support: 210 [270], double-centered support: 1,000															
Travels	X axis	mm	UT: 380 (275+105)/LT: 250 (180+70)					UT: 380 (280+100)/LT: 250 (180+70)										
	Z axis	mm	UT: 920 LT: 875			UT: 1,570 LT: 1,525		UT: 2,070 LT: 2,025		UT: 920 LT: 875			UT: 1,570 LT: 1,525		UT: 2,070 LT: 2,025			
	C axis		–					360°										
Spindle	Speed	min ⁻¹	14 to 3,200 [12 to 2,800] <40 to 1,400>															
	Speed ranges		4 auto ranges (2 gears x 2 range motor coil switching) <stepless >															
	Spindle nose		JIS A2-8 [JIS A2-11] <JIS A2-15>															
	Spindle bore dia	mm (in)	ø90 (3.54) [ø110 (4.33)] <ø180 (7.09)>															
	Front bearing dia	mm (in)	ø130 (5.12) [ø150 (5.91)] <ø220 (8.66)>															
Turret (NC)	Type		UT: V12 / LT: V10					UT: M-V12 / LT: VDI-V10										
	No. of tools		UT: V12 / LT: V10					UT: 12 (L, M) / LT: 10										
	OD tool shank dimensions	mm (in)	25 x 25 (1 x 1)															
	ID tool shank diameter	mm (in)	ø50 (1.97)															
	Turre indexing time	sec	0.3/index (non-lift)															
Milling Tool	Spindle speed	min ⁻¹	–					40 to 2,000										
Feedrates	Rapid traverse	m/min (fpm)	X: 15 (49) / Z: 20 (66)					X: 15 (49) / Z: 20 (66) / C: 150 min ⁻¹										
Tailstock	Quill diameter	mm (in)	–	ø120 (4.72)				–	ø120 (4.72)									
	Quill bore taper		–	MT No. 5 (built-in)				–	MT No. 5 (built-in)									
	Quill travel	mm (in)	–	170 (6.69)				–	170 (6.69)									
Motors	Spindle drive (30 min/cont)	kW (hp)	Wide range 30/22 (40/30), 37/30 (50/40)* ¹ [30/22 (40/30), 37/30 (50/40)* ¹] <37/70 (50/93)>															
	Milling tool spindle motor (30 min/cont)	kW (hp)	–					5.5/3.7 (7.5/5) (30 min/cont)										
	Axis drive motors	kW (hp)	XA: 3.6 (4.8); XB: 3.0 (4); ZA/ZB: 4.2 (5.6)															
	Coolant pump motors	kW	Side discharge: 0.4 × 2, rear discharge: 0.4 × 1, 0.8 × 1															
Machine Size	Height *2	mm (in)	2,590 (101.97)				2,745 (108.07)		2,590 (101.97)				2,745 (108.07)					
	Floor space (including tank) *2	mm×mm	4,535 × 2,873			5,185 × 3,043		5,935 × 3,098		4,535 × 2,873			5,185 × 3,043		5,935 × 3,098			
	Weight (w/CNC system)	kg (lb)	13,100 (28,820)		13,700 (30,140)		15,400 (33,880)		16,600 (36,520)		13,200 (29,040)		13,800 (30,360)		15,500 (34,100)		16,700 (36,740)	
CNC			OSP-P300LA															

[] : Big bore spindle < > : Super big bore spindle *1. High-power motor *2. For machine-side chip discharge setups

Standard Accessories & Specifications

Model			LU35II		LU35II(M)	
			2ST	2SC	2ST	2SC
Machine Specs	Spindle motor	30/22 kW (30 min/cont)	●			
	Spindle speed	14 to 3,200 min ⁻¹	●			
	Milling tool motor	5.5/3.7 kW (30 min/cont)	—		●	
	Milling tool speed	40 to 2,000 min ⁻¹	—		●	
	Turret	Upper: V12	●		—	
		Lower: V10	●		—	
		Upper: M-V12	—		●	
		Lower: VDI-V10	—		●	
	Hyd tailstock	Built-in MT No. 5	—	●	—	●
	Standard	Hydraulic unit	●			
	Equipment	Coolant system	●			
		Chip shield	●			
		Standard	Work lamp (LED)	●		
	Accessories	Foundation washers	●			
		Levelling jack screws	●			
Hand tools		●				
CNC	OSP-P300LA		●			

Chucking / Tooling Kits (Qty)

Model		LU35II						LU35II(M)						
		2ST			2SC			2ST			2SC			
Chucking	12" hyd chuck	1	1	–	1	1	–	1	1	–	1	1	–	
	12" hollow hyd chuck	–	–	1	–	–	1	–	–	1	–	–	1	
	Standard soft jaws, A	–	5	5	–	5	5	–	5	5	–	5	5	
	Standard soft jaws, B	–	3	3	–	3	3	–	3	3	–	3	3	
	Standard hard jaws	–	1	1	–	1	1	–	1	1	–	1	1	
Turret Tooling	OD I	6	8	8	8	10	10	–	–	–	–	–	–	
	OD II	4	6	6	2	4	4	–	–	–	–	–	–	
	OD A	–	–	–	–	–	–	4	6	6	2	4	4	
	OD B	–	–	–	–	–	–	2	4	4	4	6	6	
	OD C	–	–	–	–	–	–	2	2	2	2	2	2	
	ID H50	8	10	10	8	10	10	8	10	10	8	10	10	
	BS 12-H50	–	2	2	–	2	2	–	2	2	–	2	2	
	BS 16-H50	–	2	2	–	2	2	–	2	2	–	2	2	
	BS 20-H50	–	2	2	–	2	2	–	2	2	–	2	2	
	BS 25-H50	4	4	4	4	4	4	4	4	4	4	4	4	
	BS 32-H50	4	4	4	4	4	4	4	4	4	4	4	4	
	BS 40-H50	–	2	2	–	2	2	–	2	2	–	2	2	
	DS MT No. 2	–	1	1	–	1	1	–	1	1	–	1	1	
	DS MT No. 3	1	1	1	1	1	1	1	1	1	1	1	1	
	DS MT No. 4	–	1	1	–	1	1	–	1	1	–	1	1	
	Axial drill/mill unit	–	–	–	–	–	–	–	2	4	4	2	3	3
	Radial drill/mill unit	–	–	–	–	–	–	–	2	3	3	2	4	4
Dummy holder	–	–	–	–	–	–	–	3	3	3	3	3	3	
Tailstock	Dead center MT No. 5	–	–	–	1	1	1	–	–	–	1	1	1	

LU45II /LU45 II(M)

Machine Specifications

	Item	Unit	LU45II				LU45II(M)			
			2ST × 750	2SC × 1000	2SC × 2000	2SC × 3000	2ST × 750	2SC × 1000	2SC × 2000	2SC × 3000
Capacity	Swing over bed	mm (in)	ø840 (33.07)			ø780 (30.71)	ø840 (33.07)			ø780 (30.71)
	Swing over saddle	mm (in)	ø555 (21.85)							
	Distance between centers	mm (in)	—	1,000 (39.37)	2,000 (78.74)	3,000 (118.11)	—	1,000 (39.37)	2,000 (78.74)	3,000 (118.11)
	Max turning diameter	mm (in)	ø650 (25.59)							
	Max work length	mm (in)	750 (29.53)	1,000 (39.37)	2,000 (78.74)	3,000 (118.11)	750 (29.53)	1,000 (39.37)	2,000 (78.74)	3,000 (118.11)
	Max workpiece weight (including chuck)	kg	Single support: 300 [450], double-centered support: 1,500							
Travels	X axis	mm	UT: 440 [330+110]/LT: 305 [230+75]				UT: 440 [325+115]/LT: 305 [230+75]			
	Z axis	mm	UT: 1,090 LT: 1,025		UT: 2,090 LT: 2,025	UT: 3,090 LT: 3,025	UT: 1,090 LT: 1,025		UT: 2,090 LT: 2,025	UT: 3,090 LT: 3,025
	C axis		—				360°			
Spindle	Speed	min ⁻¹	12 to 2,800 [12 to 2,400] <31 to 900>							
	Speed ranges		Auto 4-speed (4 gears) <stepless >							
	Spindle nose		JIS A2-11 [JIS A2-11] <JIS A2-20>							
	Spindle bore dia	mm (in)	ø110 (4.33) [130 (5.12)] <ø260 (10.24)>							
	Front bearing dia	mm (in)	ø150 (5.91) [180 (7.09)] <ø320 (12.60)>							
Turret (NC)	Type		UT: V12 / LT: V10				UT: M-V12 / LT: VDI-V10			
	No. of tool		UT: 12 / LT: 10				UT: 12 (L, M) LT: 10			
	OD tool shank dimensions	mm (in)	32 x 32 (1.26 x 1.26)							
	ID tool shank diameter	mm (in)	ø63 (2.48)							
	Turre indexing time	sec	0.7/index (lift-up)							
Milling Tool	Spindle speed	min ⁻¹	—				M-VDI: 40 to 2,000			
Feedrates	Rapid traverse	m/min (fpm)	X: 15 (49) / Z: 20 (66)				X: 15 (49) / Z: 20 (66) / C: 100 min ⁻¹			
Tailstock	Quill diameter	mm (in)	—	ø130 (5.12)			—	ø130 (5.12)		
	Quill bore taper		—	MT No. 5 (built-in)			—	MT No. 5 (built-in)		
	Quill travel	mm (in)	—	170 (6.69)			—	170 (6.69)		
Motors	Spindle drive (30 min/cont)	kW (hp)	Wide range 37/30 (50/40), 45/37 (60/50)*, 55/45 (75/60)* [37/30 (50/40), 45/37 (60/50)*, 55/45 (75/60)*] <45/37 (60/50)>							
	Milling tool spindle motor (30 min/cont)	kW (hp)	—				7.5 / 5.5 (10/7.5) (30 min/cont)			
	Axis drive motors	kW (hp)	XA: 3.6 (4.8), XB: 3.0 (4), ZA/ZB: 4.6 (6.13)							
	Coolant pump motors	kW	Side discharge: 0.4 × 2, rear discharge: 0.4 × 1, 0.8 × 1							
Machine Size	Height	mm (in)	3,042 (119.76)			2,808 (110.55)	3,042 (119.76)			2,808 (110.55)
	Floor space (including tank)	mm×mm	4,750 × 3,338		6,060 × 3,365	8,020 × 3,043	4,750 × 3,338		6,060 × 3,365	8,020 × 3,043
	Weight (w/CNC system)	kg (lb)	17,000 (37,400)	17,500 (38,500)	23,000 (50,600)	25,500 (56,100)	17,500 (38,500)	18,000 (39,600)	23,500 (51,700)	26,000 (57,200)
CNC			OSP-P300LA							

Optional Specifications & Accessories

Standard spindle (high power)	Turret	Steady rest
LU35II A2-8 3,200 min ⁻¹ 37/30 kW (30 min/cont) Spindle bore dia ø130/ Front bearing dia ø90	LU35II /45II Upper V12 + Lower V10 Wedge clamp	Lower turret, lower cross-slide
	LU35II /45II Upper V12 + Lower V10 VDI	Chip discharge
		Chip conveyor, chip bucket, chip pan
LU45II A2-11 2,800 min ⁻¹ 45/37 kW (30 min/cont) 55/45 kW (30 min/cont) Spindle bore dia ø150/ Front bearing dia ø110	Tailstock	Gauging
	Dead center screw MT No. 5	In-process work gauging, auto work gauging compensation (in-machine, off-machine)
	Auto tailstock quill advance/retract confirm	Touch Setter M (manual), A (automatic)
	Tailstock thrust high/low switch	Face plate
	Tailstock quill position detection (multi-sizing, high-accuracy sizing)	ø350, ø400
Big bore spindle	Cover	High accuracy optional specifications
LU35II A2-11 2,800 min ⁻¹ 30/22 kW (30 min/cont) Spindle bore dia ø150/ Front bearing dia ø110	Auto front cover open/close	Turcite® lining (XA axis, ZA axis, ZB axis)
	Chuck	AbsoScale (XA axis, XB axis, ZA axis, ZB axis)
	Chuck auto open/close confirm	Temperature regulators (coolant, spindle, hydraulic oil)
LU45II A2-11 2,400 min ⁻¹ 37/30 kW (30 min/cont) Spindle bore dia ø180/ Front bearing dia ø130	Air Blower (blast)	Other
	Chuck	Mist collector
Big bore spindle (high power)		OGL high-speed NC gantry loader
LU35II A2-11 2,800 min ⁻¹ 37/30 kW (30 min/cont) Spindle bore dia ø150/ Front bearing dia ø110	Upper turret (internal / external piping, common coolant nozzle)	Raised machine height (50, 100, 150 mm)
	Lower turret (external piping, common coolant nozzle)	
	Upper/lower turret air blower (blast) control (simultaneous, individual)	
LU45II A2-11 2,400 min ⁻¹ 45/37 kW (30 min/cont) 55/45 kW (30 min/cont) Spindle bore dia ø180/ Front bearing dia ø130	Coolant discharge	
	Shower type (A, B), in-machine chip washer (A, B)	
	Dustproofing	
Super big bore spindle	Spindle air purging, turret air purging X-axis double wiper (XA only, XB is standard) Z-axis double wiper (ZA only, ZB is standard)	
LU35II A2-15 1,400 min ⁻¹ 37/30 kW (30 min/cont) Spindle bore dia ø220/ Front bearing dia ø180	Coolant	
	Turret coolant pump 0.8 kW (side, rear)	
	Chip flusher pump 0.8 kW (side, rear)	
LU45II A2-20 900 min ⁻¹ 45/37 kW (30 min/cont) Spindle bore dia ø320/ Front bearing dia ø260	Upper/lower turret coolant blast control (simultaneous, separate)	
	Coolant level sensor, coolant flow sensor	
	High pressure coolant, coolant high/low pressure switch (upper/lower turret)	

Chip conveyors

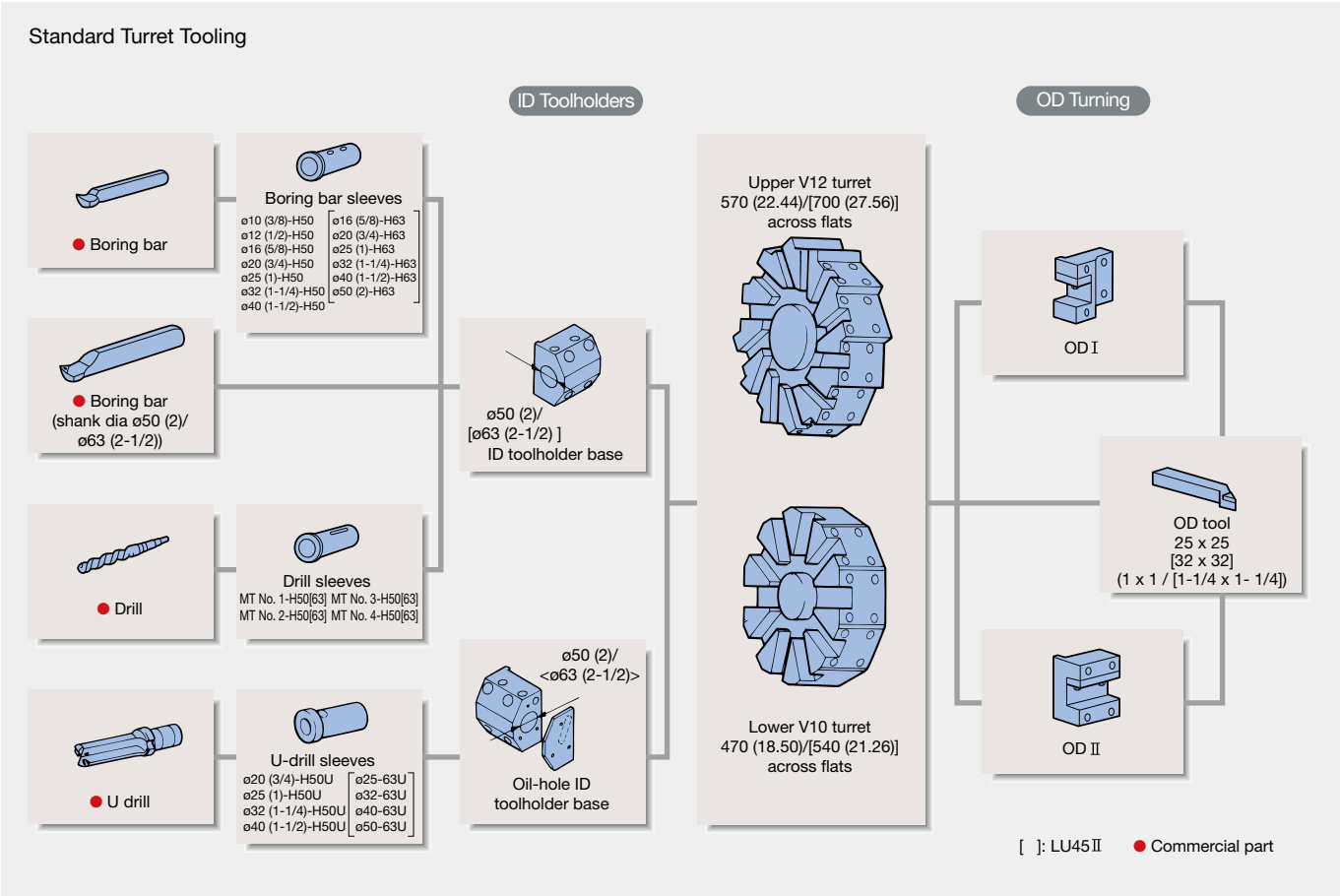
Chip conveyor types and applications

Type	Hinge	Scraper	Magnet scraper	Hinge + scraper (With drum filter)
Application	● For steel	● For castings	● For castings	● For steel, castings, nonferrous metal
Features	● General use	● Magnet scraper 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				

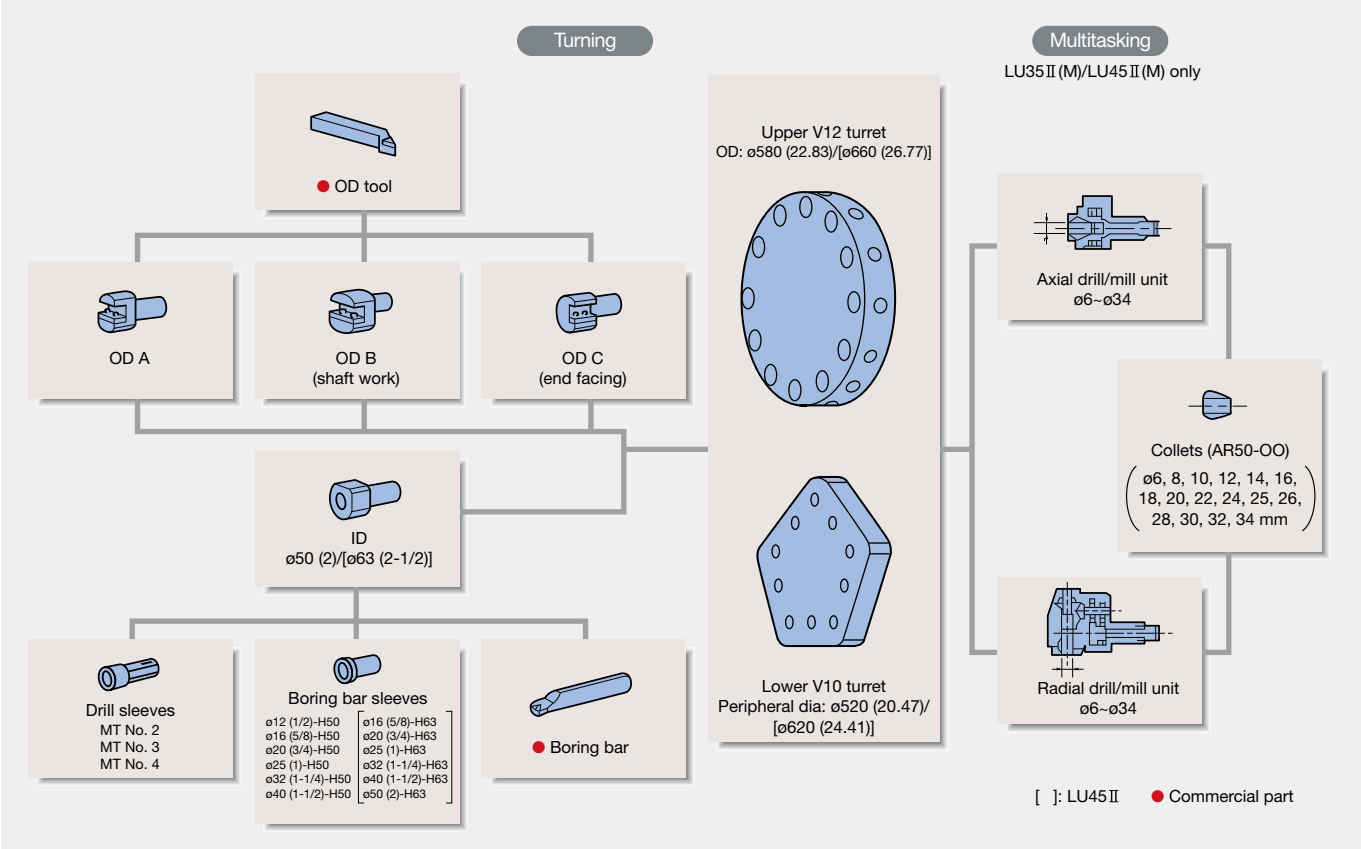
Note: Raised machine arrangements may be necessary depending on the type of conveyor.

LU35II/LU45II

Tooling System

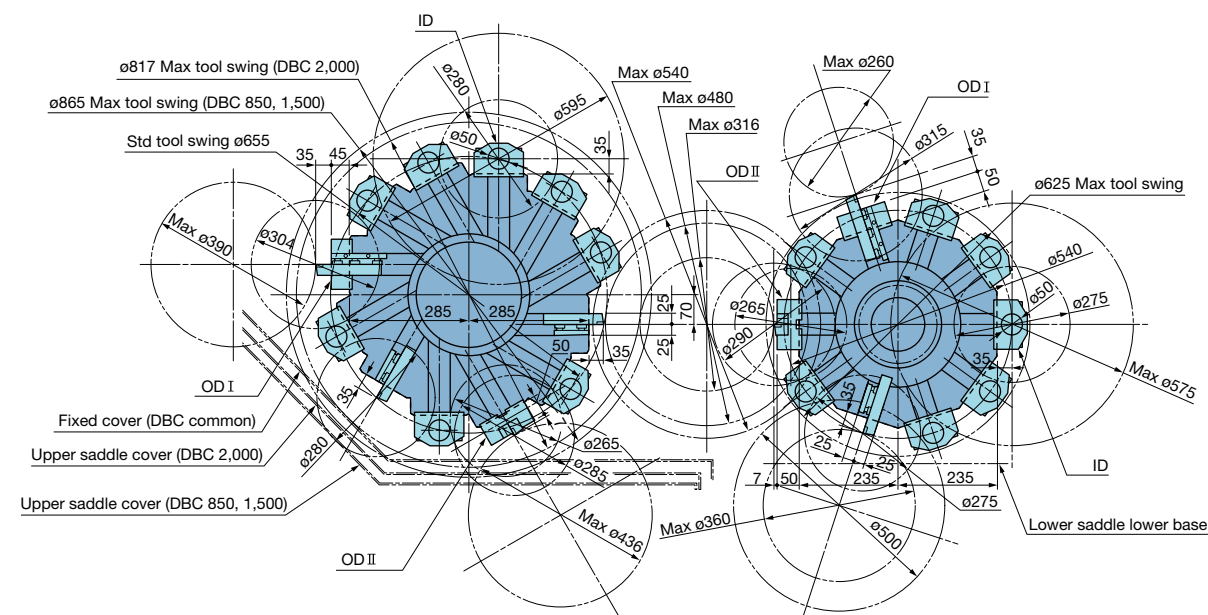


VDI Turret Tooling (Optional)



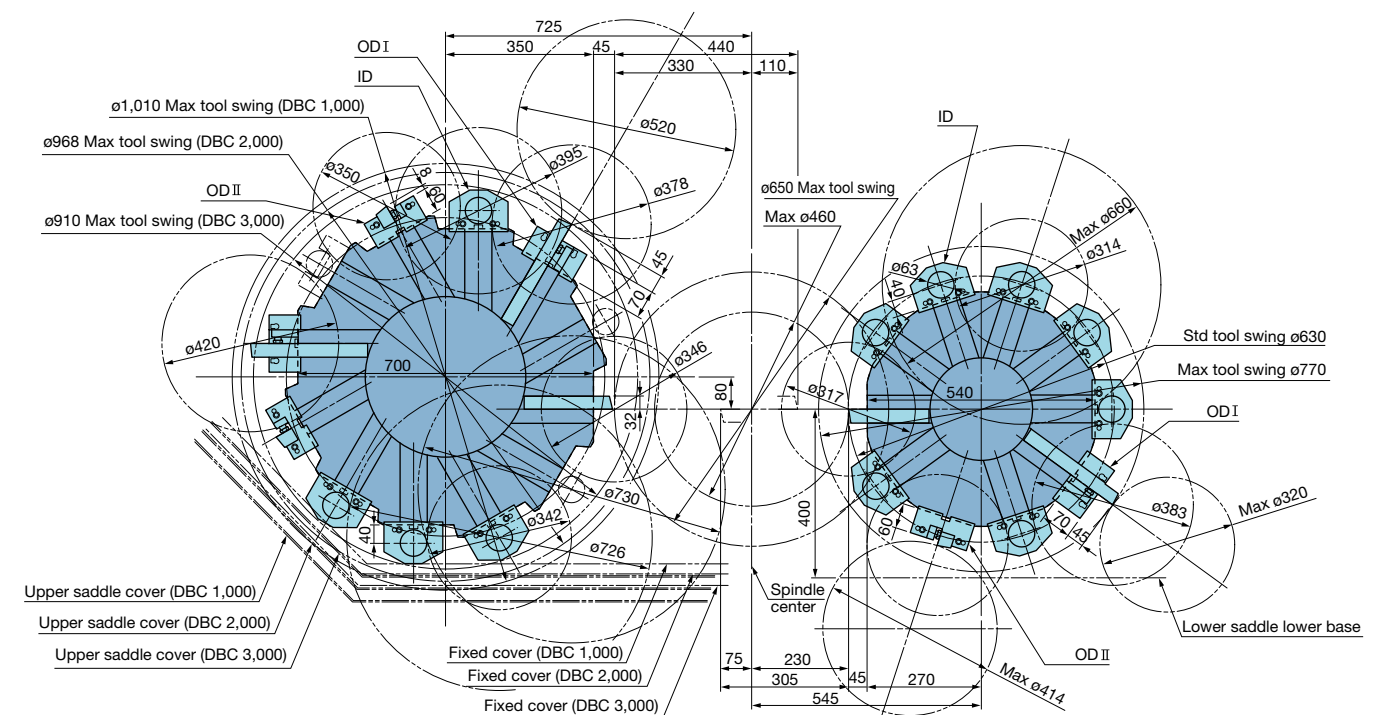
■ Working Ranges

Unit: mm



■ Working Ranges

Unit: mm



The Next-Generation Intelligent CNC

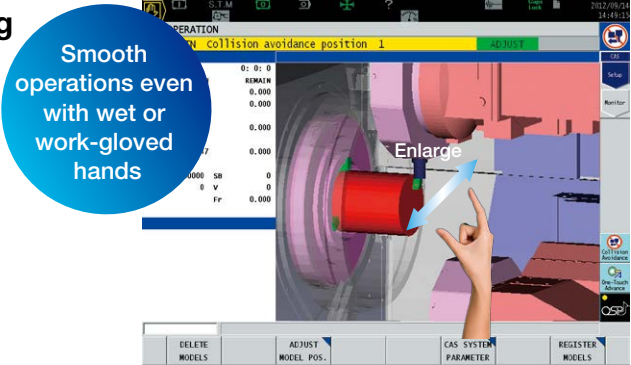
OSP suite OSP-P300LA

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

Smart factories implement advanced digitization and networking (IoT) in manufacturing to achieve enhanced productivity and added value. The OSP has evolved tremendously as a CNC suited to advanced intelligent technology. Okuma’s new control uses the latest CPUs for a tremendous boost in operability, rendering performance, and processing speed. The OSP suite also features a full range of useful apps that could only come from a machine tool manufacturer, making smart manufacturing a reality.

Smooth, comfortable operation with the feeling
of using a smart phone

Improved rendering performance and use of a multi-touch panel achieve intuitive graphical operation. Moving, enlarging, reducing, and rotating 3D models, as well as list views of tool data, programs, and other information can be accomplished through smooth, speedy operations with the same feel as using a smart phone. The screen display layout on the operation screen can also be changed to suit operator preferences and customized for the novice and/or veteran machinists.



“Just what we wanted.”— Refreshed OSP suite apps

This became possible through the addition of Okuma's machining expertise based on requests we heard from real, machine-shop customers. The brain power packed into the CNC, built by a machine tool manufacturer, will “empower shop floor” management.



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

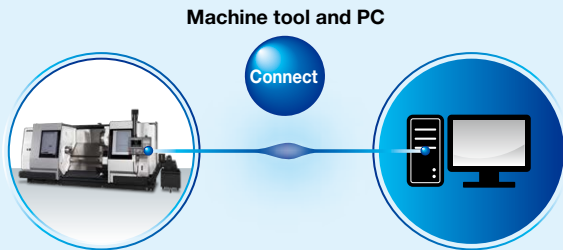
E-mail Notification

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

Connect Plan

Connect, Visualize, Improve

Okuma’s Connect Plan is a system that provides analytics for improved utilization by connecting machine tools and visual control of factory operation results and machining records. Simply connect the OSP and a PC and install Connect Plan on the PC to see the machine operation status from the shop floor, from an office, from anywhere. The Connect Plan is an ideal solution for customers trying to raise their machine utilization.



Standard Specifications

Basic Specs	Control	Turning: X, Z simultaneous 4-axis. Multitasking: X, Z, C simultaneous 3-axis
	Position feedback	OSP full range absolute position feedback (zero point return not required)
	Min / Max inputs	±99999.999 mm 8-digit decimal, command units: 0.001 mm, 0.01 mm, 1 mm
	Feed	Override: 0 to 200%
	Spindle control	Direct spindle speed command 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
Operations	Program capacity	Program storage: 4 GB, operation buffer: 2 MB
	Suite apps	Applications to 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, pulse handle), load meter, operations help, alarm help, sequence, return, manual interrupt & auto return, 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: Thermo Active Stabilizer—Construction, SERVONAVI (Inertia Auto Setting) (LU45 II only)
Energy-saving functions		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 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											
Milling machine specs	Coordinate convert	▲	▲	▲	▲					●	●
	Profile generate	▲	▲	▲	▲					●	●
	Flat turning										
Helical Contour Generation											
Monitoring											
Real 3D 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											
Gauge data output	File output										
	Set levels (5-level, 7-level)										
Post-process work gauging interface	BCD										
	RS-232C (dedicated channel)										
Touch Setter [M, A]		Included in machine specs									

Item		Kit specs*1		NML		3D		OT-IGF		OTM	
		E	D	E	D	E	D	E	D		
External Input/Output and Communication Functions											
OSP-MTConnect *4											
RS-232C connector											
DNC link	DNC-T3										
	DNC-C/Ethernet										
	DNC-DT										
USB (additional)		2 additional ports possible									
Automation/Untended Operation											
Auto power shutoff M02, alarm											
Warmup function (by calendar timer)											
Tool retract cycle											
External program selections	A (pushbutton) 8 types										
	B (rotary switch) 8 types										
	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										
Cycle time reduction *3		Operation time reduction									
		●	●	●	●	●	●	●	●	●	●
High-Speed/High-Accuracy Functions											
Thermo Active Stabilizer—Construction TAS-C											
0.1 μm control *3											
Pitch error compensation											
Hi-Cut Pro		▲	▲	▲	▲					●	●
Energy-saving function ECO suite											
ECO Operation	Chip conveyor intermit/link op										
	Mist collector intermit/link op										
	Spindle Power Peak Limiter										
Other Functions											
Collision Avoidance System (CAS)											
One-Touch Spreadsheet											
Machining Navi L-g, T-g (Threading)											
Harmonic spindle speed control (HSSC)		●	●	●	●	●	●	●	●	●	●
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)											

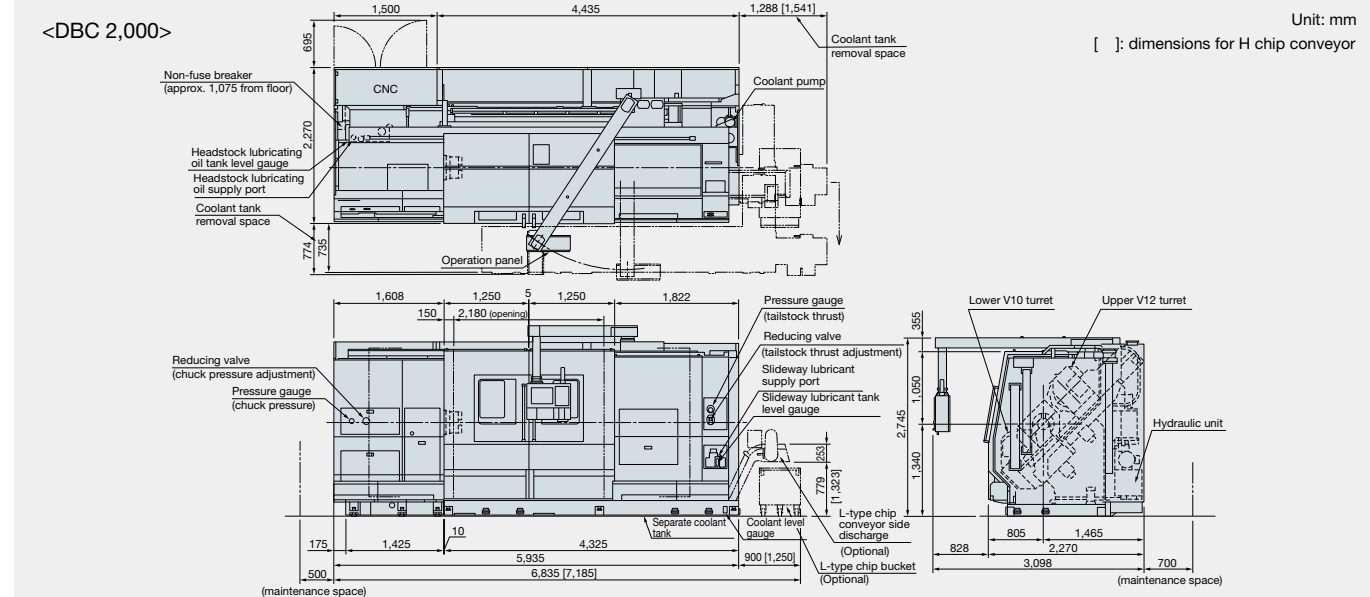
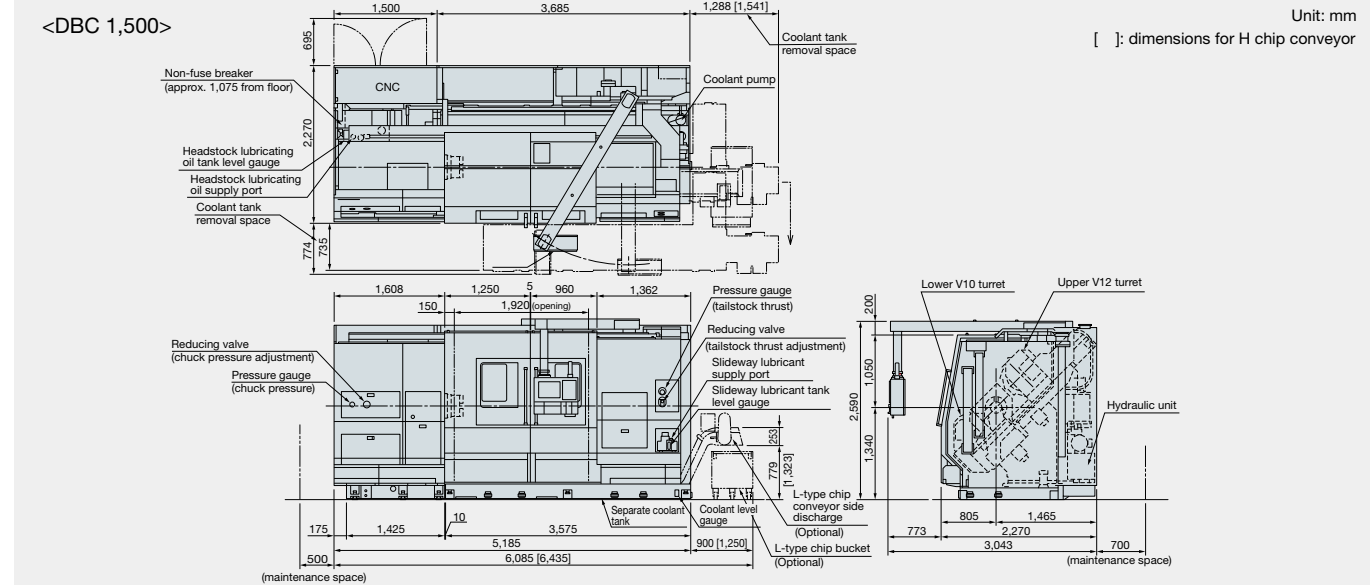
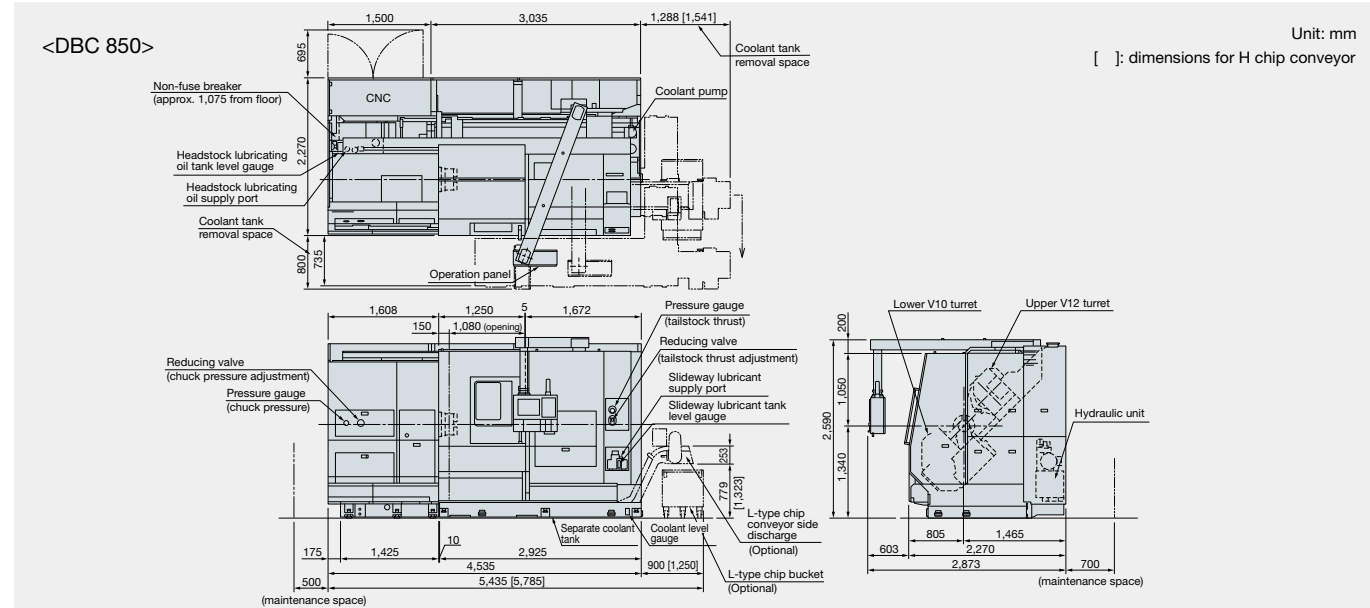
*1. NML: Normal, 3D: Real 3D simulation, OT-IGF: One-Touch IGF, OTM: One-Touch M, E: Economy, D: Deluxe *2. Real 3D simulation is included *3. Engineering discussions required.

*4. API library (THINC-API) needed when adding OSP-MTConnect.

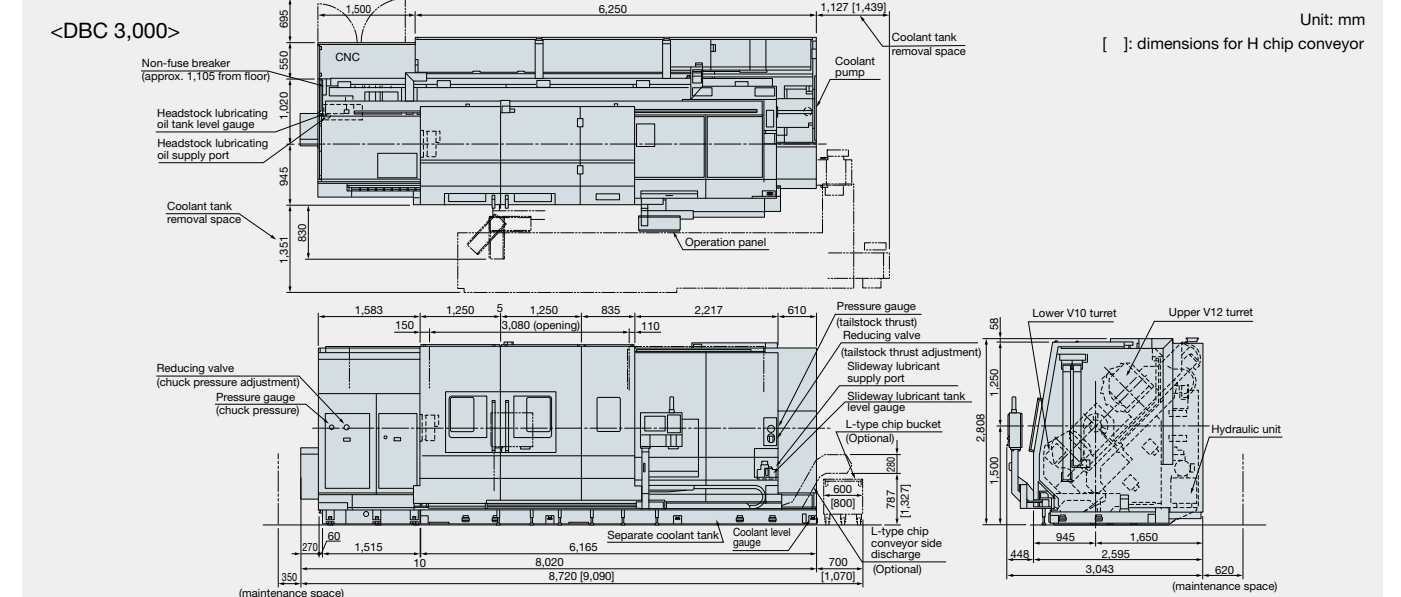
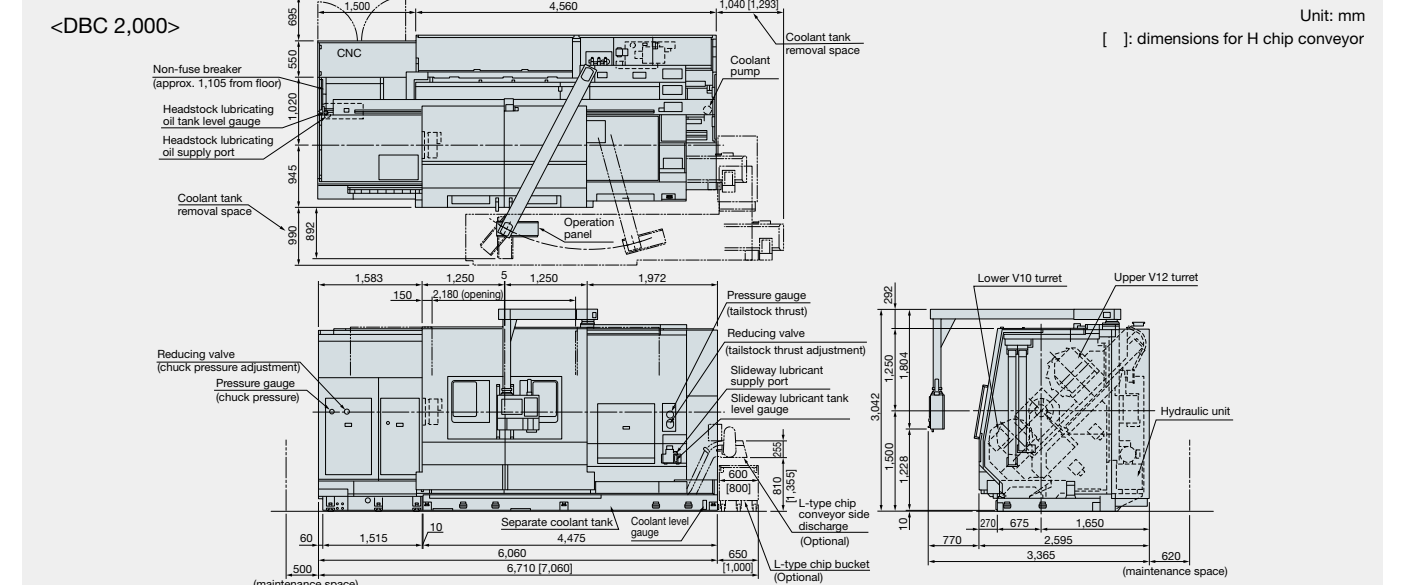
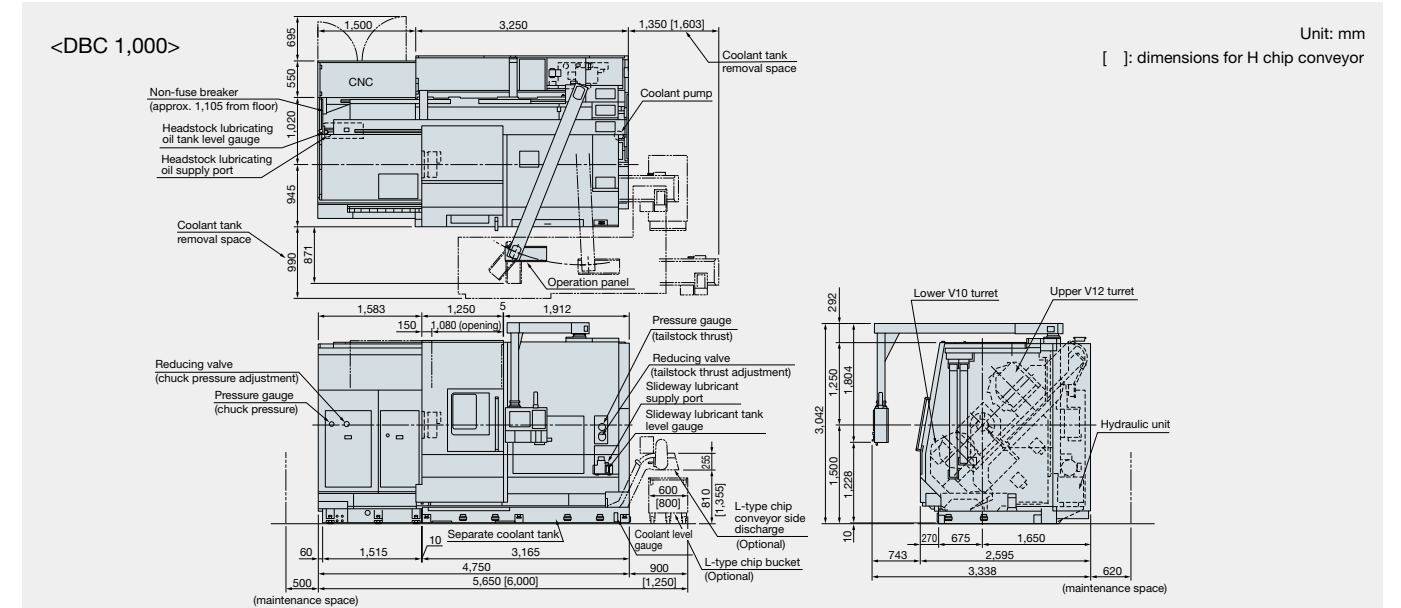
Note. ▲Triangle items for M function (milling tool) machines only.

*1. NML: Normal, 3D: Real 3D simulation, OT-IGF: One-Touch IGF, OTM: One-Touch M, E: Economy, D: Deluxe *2. Real 3D simulation is included *3. Engineering discussions required. *4. API library (THINC-API) needed when adding OSP-MTConnect. Note. ▲Triangle items for M function (milling tool) machines only.

■ LU35II / LU35II (M) Dimensional / Installation Drawings



■ LU45II / LU45II (M) Dimensional / Installation Drawings



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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