OKUMA

GENOS series

1-saddle CNC Lathes

World Trade Service

GENOS

The origin of gene, from Greek *genos* meaning race, offspring, origin (pronounced "*γένος*" as in "generous")

Global
Efficient
No.1
Standard

Agent

TATUNG-OKUMA

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2010.12 ②

New

GENOS SERIES

High quality·stability·productivity

Abundant spec variations

Global CNC Lathes

L250

STD+M,MY

L250E

STD+M,MY

L400

STD+M,MY,MW

L400E

STD+M,MY

High quality, Easy to use, Simple machine structure

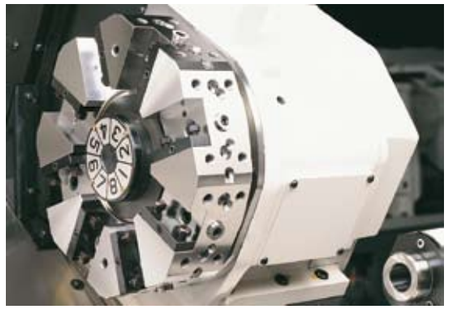
Main spindle

High speed, high rigidity gearless spindle minimizes vibration and heat.

- **ø100 spindle specs (GENOS L250/L200-M)**
  Spindle speed: 4,500 min^{-1}
  Output: VAC 7.5/5.5 kW (10/7.5 hp) (30 min/cont)
  Torque: 85 N·m (62 ft-lbf)
- **ø120 spindle specs (GENOS L400/L300-M)**
  Spindle speed: 3,000 min^{-1}
  Output: VAC 11/7.5 kW (15/10 hp) (30 min/cont)
  Torque: 417 N·m (307 ft-lbf)

Turret

V8, V12(option)

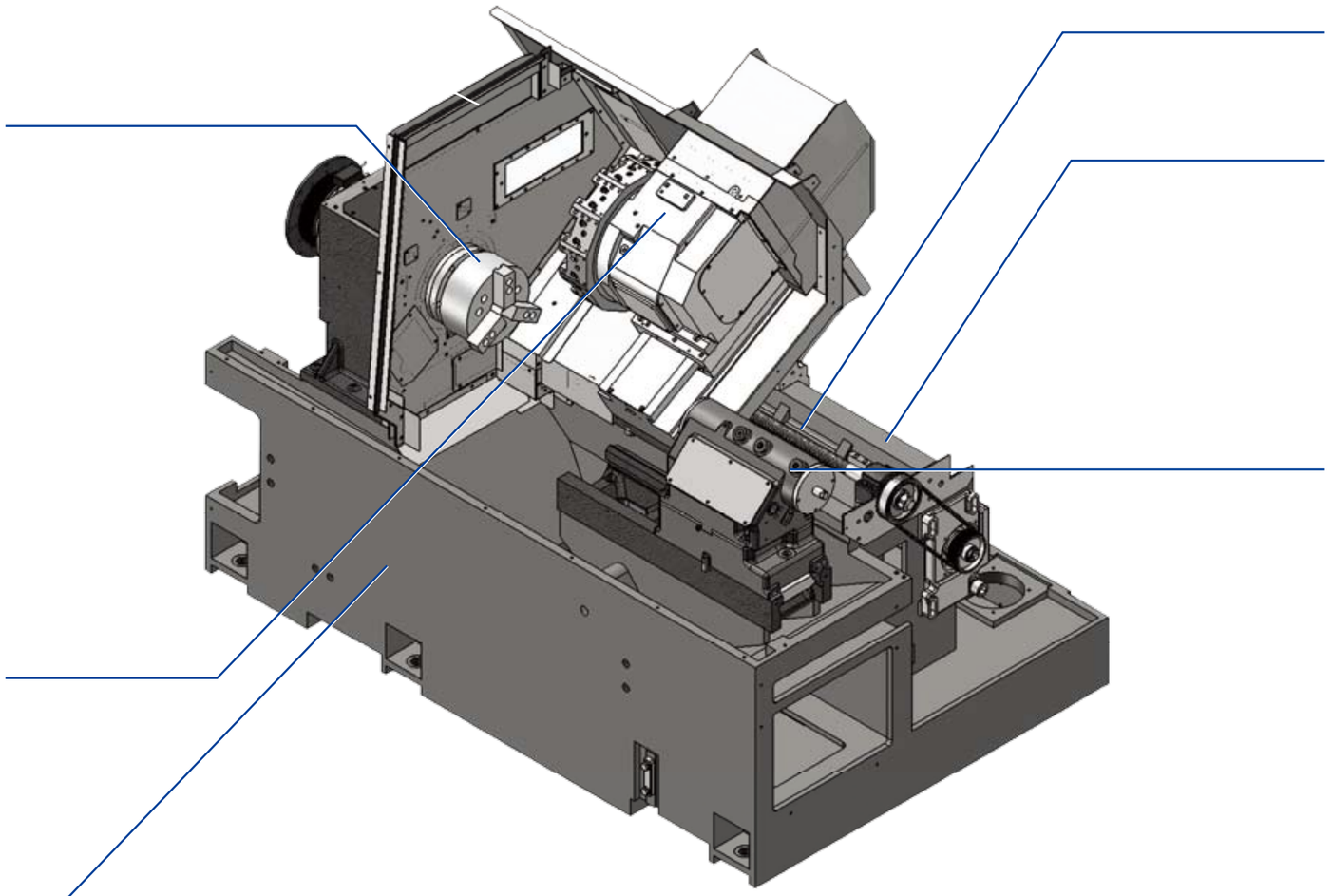


NC Turret (option)
Compact turret with a servo motor drive and 3-piece coupling clutch.(index time 0.3sec)

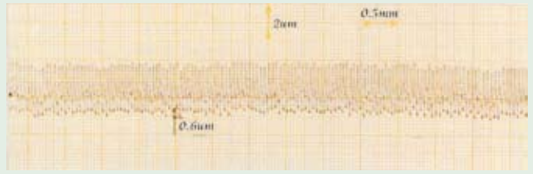
Bed

Solid cast iron provides superior rigidity, long service life and minimal thermal deviation.

Basic structure



Accuracy (example)



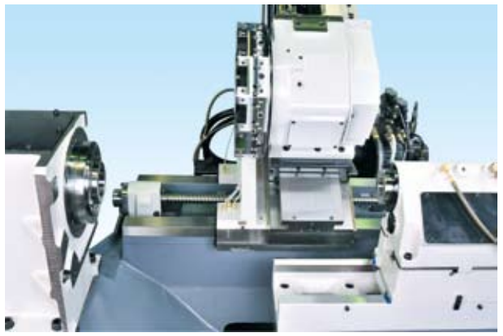
Surface roughness

- 0.6 µm 2,000 min^{-1}(rpm)
- Material: BSB

Roundness

- 1.0 µm 1,500 min^{-1}
- Material: BSB

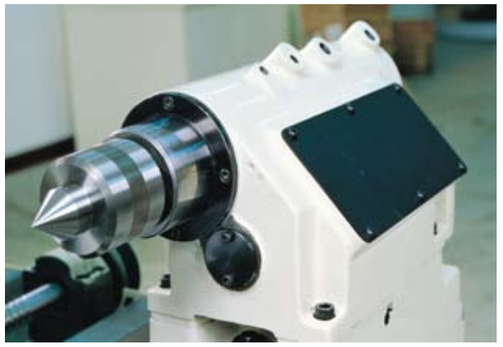
X , Z-axis



- Rapid traverse (X:20 m/min, Z:25 m/min)
- High-rigidity and Hardened rectangular slideways.
- Preloaded Ball-screw for minimal Thermal Deflection.

Tailstock

MT N0.5



Rugged tailstock with ø 90mm quill.

OSP P200L-R

User-freindly latest controller with advanced machining applications.

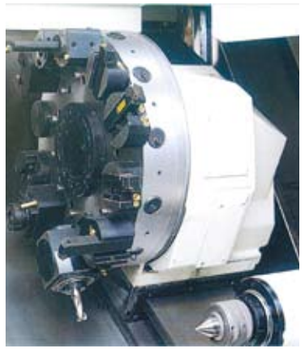
Greater efficiency with variable functions

M Funtion (M)

Turret

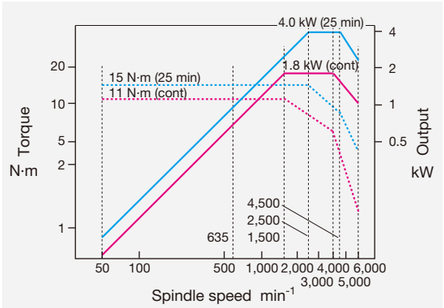
Compact turret with PREX motor
Rigid multitasking V12 NC turret

- 0.1 sec/index
- L/M 12 tools
- VDI quick-change tooling system
- Axial tooling system



● Milling tool spindle (GENOS L200-M)

Spindle speed: 6,000 min^{-1}
Output: PREX 4.0/1.8 kW (25 min/cont)
Torque: 15 N·m (11 ft-lbf)



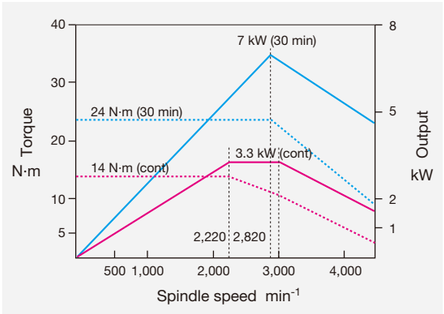
C-axis

Fast, high-precision C-axis headstock

- 200min^{-1} high-speed traverse
- Positioning accuracy : ± 0.015°
- Repeatability : ± 0.007°

● Milling tool spindle (GENOS L300-M)

Spindle speed: 4,500 min^{-1}
Output: PREX 7.0/3.3 kW (30 min/cont)
Torque: 24 N·m (18 ft-lbf)



L200-M / L300-M Machining capacity (example)

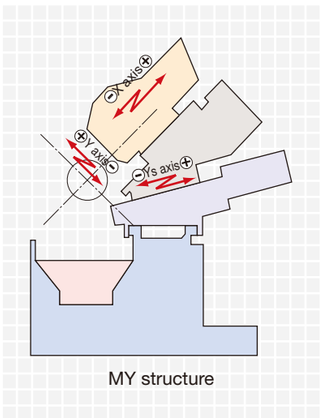
- Endmill ø13 [ø20]
- Drill ø13 [ø14] carbide drill
- TAP M10XP1.5 [M16XP2.0]

＊Workpiece : S45C [ ]:L300-M

Y-axis (MY)

Basic structure for Y-axis

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 structure

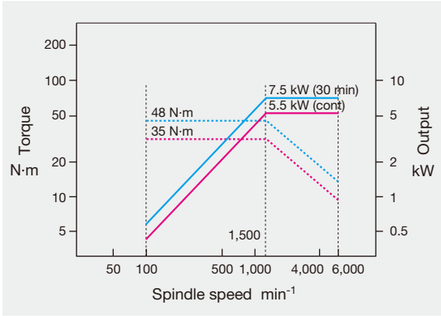
● Travels

GENOS L200-MY: 80 mm
(+30 to -50)
GENOS L300-MY : 100 mm
(+50 to -50)

W-axis / sub-spindle (MW)

● ø80 spindle specs (GENOS L300-MW)

Spindle speed: 6,000 min^{-1}
Output: VAC 7.5/5.5 kW (10/7.5 hp) (30 min/cont)
Torque: 48 N·m (35 ft-lbf)



Turret

- Compact milling spindle uses high power, high torque PREX motor for much faster multitasking operations.
- Radial tooling system

Sub-spindle (Built-in)

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

Spec extensions

Model	Spindle	Maximum machining length	Optional specs (○ → available)		
			Multitasking (M fuction)	Y axis	Sub-spindle (W axis)
GENOS L250/250E	A2-6 [7.5/5.5 kW] (10/7.5 hp)	290/500	—	—	—
GENOS L200-M/L200E-M		225/380	Ⓜ	Ⓜ Ⓨ	—
GENOS L400/L400E	A2-8 [11/7.5 kW] (15/10 hp)	500/1,100	—	—	—
GENOS L300-M/L300E-M		450/1,060	Ⓜ	Ⓜ Ⓨ	Ⓜ Ⓦ*

- GENOS L250/E ＋M → GENOS L200/E-M
- GENOS L400/E ＋M → GENOS L300/E-M

* Max machining length becomes 150 mm

With the GENOS L series you can machine workpieces like these.

STD Spec. M MY MW

Line-up
High Productive Automatic System

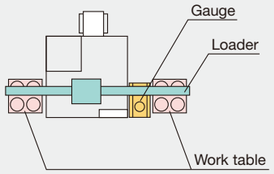
Loader

L250 1 set+ gantry loader
(1M 1L system)

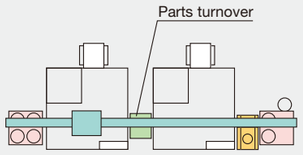
L250 2 sets+ gantry loader
(2M 1L system)

Loader Specs Example

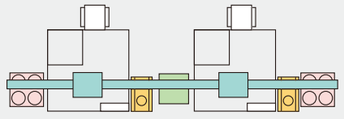
1-machine/1-loader cell



2-machines/1-loader cell



2-machines/2-loaders cell



- **Gantry loader specification**
  Workpiece: ø120x80L
  Weight for flange: 3kg
  shaft: 2kg
- **Work table specification**
  Pallet set: 6~10P
  Workpiece Size: ø20~150mm
  Stack Hight: 350mm

Barfeeder

Bar size

L250 / E	ø50mm (Max)
L200 / E-M	ø50mm (Max)
L400 / E	ø68mm (Max)
L300 / E-M	ø68mm (Max)

* Above specs. to discuss with our sales engineer.

CNC for the New Era

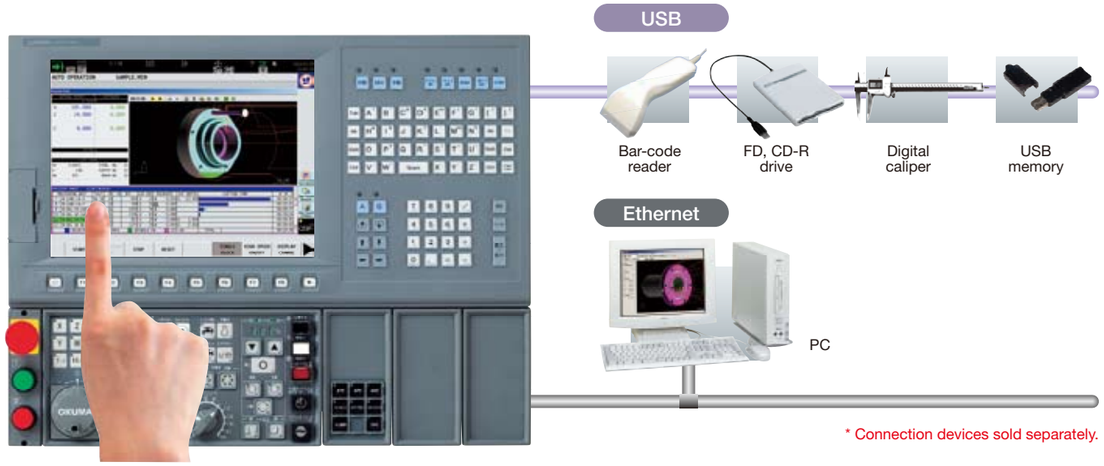
OKUMA
OSP-P200L
Okuma **S**ampling **P**ath Control

An OSP / Windows® Collaboration

■ Touch panel
Data can be directly manipulated, greatly improving operability.
High-durability panel is resistant to dirt and scratching

■ USB ports
2 ports are standard. Various devices can be connected for each purpose, including USB memory to transfer large program file and bar code reader for production management.

■ Ethernet
Machining programs can be downloaded and uploaded from and to server via Ethernet that is standard equipment.

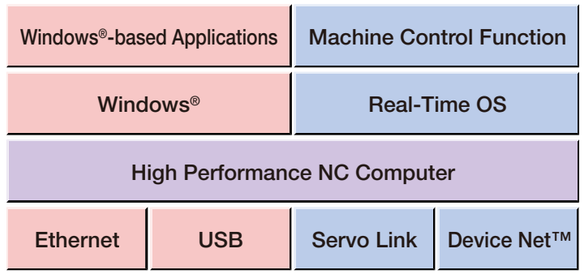


* Connection devices sold separately.

■ The advanced architecture

Windows® and Real-Time OS on a single high-performance NC computer synergistically improve operation.

For example, with the Collision Avoidance System for collision-free machining, the time from detection of a collision (processed on Windows) to machine stoppage (processed on Real-Time OS) is only 0.01 seconds. At a speed of 12 m/min, hairbreadth stops with a stopping distance of less than 2 mm are possible.



Windows is a registered trademark of Microsoft Corporation in the United States and other countries. Ethernet is a registered trademark of Fuji Xerox Co., Ltd. DeviceNet is a trademark of Open DeviceNet Vendors Association.

■ A high-performance NC computer in a flat panel

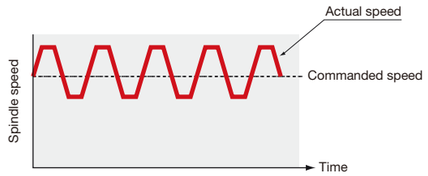
Gives high reliability for machine control and data protection in harsh environments.
- Main memory with ECC
- Vibration proof hard disk drive

Hi-tech Okuma mechatronics for advanced machining applications

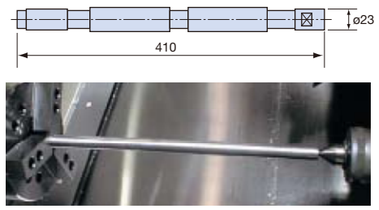
Variable spindle speed control (Optional)

Reduce machining chatter

Holds down machining chatter as spindle speed is periodically changed and resonance points change, when cutting large, thin workpieces or small-diameter, long workpieces.



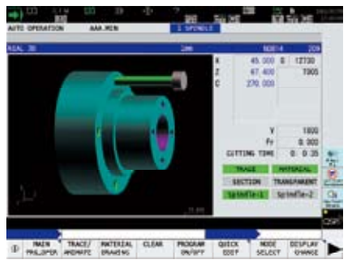
L/D = 18 is machined without steadyrest



Real 3-D simulation (Optional)

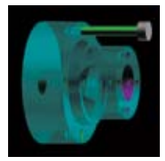
Live-performance machining

In all operating modes (auto, MDI, manual, etc), the cutting conditions are displayed in real time. Switching between solids, section views, transparent models, and performing machining simulation (dry runs with the machine locked) lets you check part program accuracy.



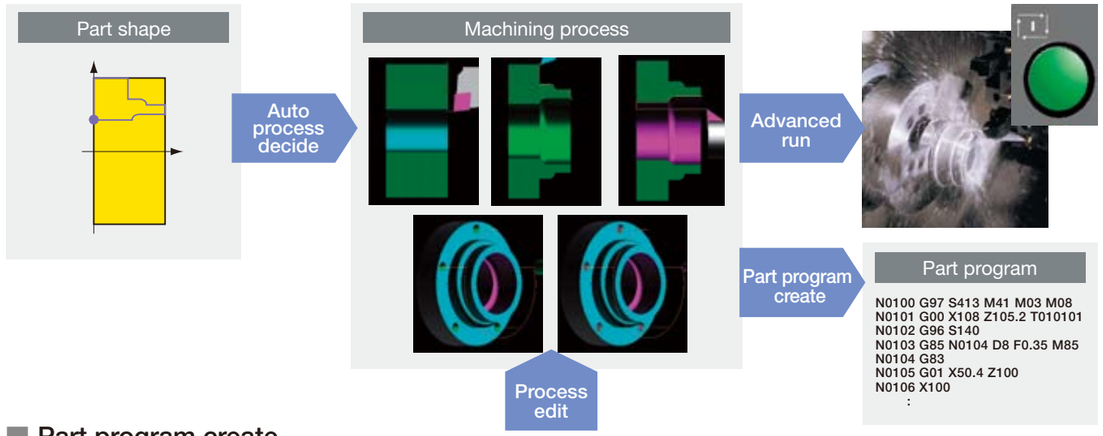
Solid view

Section view



Transparent view

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

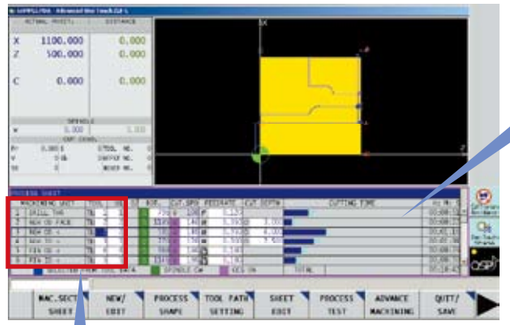


Part program create

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.



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

Continuous run

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

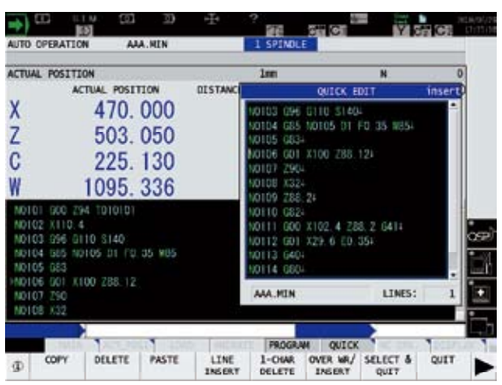
Mid-cycle start
(finishing repeated)

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

Individual run
(machining repeated with this tool only)

One touch editing

G/M programs can be edited with a single touch on the shop floor. Editing can be started immediately by moving the cursor to the program execution block or the block that produced an alarm during machining in automatic operation mode.



Machine Specifications

Item	Size		8-inch						10-inch						
Spec extension	Model name		GENOS L250		GENOS L200-M				GENOS L400		GENOS L300-M				
			L250	L250E	L200-M	L200E-M	L200-MY	L200E-MY	L400	L400E	L300-M	L300E-M	L300-MY	L300E-MY	L300-MW
Capacity	Swing over bed	mm	ø450						ø520						
	Swing over cross slide	mm	ø300						ø300		ø370		ø230		ø170
	Max turning dia	mm	ø280 [ø210]		ø200				ø390 [ø310]	ø410 [ø330]	ø300				
	Max work length	mm	290	500	220	380	220	380	500	1,100	450	1,060	450	1,050	150
Travels	X axis	mm	160 (20+140)		165 (65+100)				220 (195+25)	230 (205+25)	235 (150+85)	235 (150+85)	235 (230+5)		225 (195+30)
	Z axis	mm	330	520 [470]	245	400	245	400	520	1,144	520	1,144	450	1,050	460
	Y axis	mm	–				80 (+30~-50)		–				100 (+50~-50)		–
	W axis	mm	–						–						520
	C axis		–		360° (0.001° increments)				–		360° (0.001° increments)				
Spindle	Spindle speed	min^{-1} {rpm}	4,500						3,000						
	Speed ranges		Infinitely variable						Infinitely variable x 2 auto ranges (coil switching)						
	Spindle nose		JIS A2-6						JIS A2-8						
	Spindle bore dia	mm	ø66						ø80						
	Front bearing dia	mm	ø100						ø120						
Sub-spindle	Spindle speed	min^{-1} {rpm}	–						–						6,000
	Speed ranges		–						–						Infinitely variable
	Spindle nose		–						–						ø140 flat
	Spindle bore dia	mm	–						–						ø53
	Front bearing dia	mm	–						–						ø80
Turret	Type		V8 [V12] Turret / Hydraulic		V12 Turret / NC				V8 [V12] Turret / Hydraulic		V12 Turret / NC				
	No. of tools		8 [12]		12				8 [12]		12				
	OD tool shank	mm	□ 25x25		□ 20x20				□ 25x25						
	ID tool shank dia	mm	ø40 [ø32]		ø32				ø40						
	Turret indexing time	sec	0.8 [0.3/NC]		0.1				0.8 [0.3/NC]		0.1		0.2		0.3
Milling tool	Spindle speed	min^{-1} {rpm}	–		6,000 (standard radial mill/drill holder: 5,000)				–		4,500				
	Speed range		–		Infinitely variable				–		Infinitely variable				
Feedrates	Rapid traverse (X, Z)	m/min	X: 20、Z: 25						X: 20, Z: 25	X / Z: 20	X: 20, Z: 25	X / Z: 20	X: 20, Z: 25	X / Z: 20	X: 20, Z: 25
	Rapid traverse (Y)	m/min	–				Y: 10		–				Y: 10		–
	Rapid traverse (W)	m/min	–						–						W: 25
	Rapid traverse (C)	min^{-1} {rpm}	–		C: 200				–		C: 200				
	Feedrate (X, Z, Y)	mm/rev	0.001~1,000.000						0.001~1,000.000						
Tailstock	Tailstock quill diameter	mm	ø55[op]	ø90	–	ø90	–	ø90	ø90						–
	Tapered bore type		MT.4[op] (revolving center)	MT.5 (revolving center)	–	MT 5 (revolving center)	–	MT 5 (revolving center)	MT 5 (revolving center)	MT 4 (built-in center)	MT 5 (revolving center)	MT 4 (built-in center)	MT 5 (revolving center)	MT 4 (built-in center)	–
	Quill travel	mm	80 [op]	100	–	100	–	100	100						–
Motors	Main spindle (30 min/cont)	kW	VAC7.5/5.5 [VAC 11/7.5]						VAC 11/7.5 [VAC 15/11]						
	Sub-spindle (30 min/cont)	kW	–						–						VAC 7.5/5.5 Built_in
	Milling tool spindle	kW	–		PREX 4.0/1.8 (25 min/cont)				–		PREX 7.0/3.3 (30 min/cont)				
	Axis drive (X)	kW	2.2				3		3.0				3.0		3.0
	Axis drive (Z)	kW	3.0				3		3.5				3.5		3.5
	Axis drive (Ys)	kW	–				3		–				2.8		–
	Axis drive (W)	kW	–						–						2.2
	Coolant pump motor	kW	0.18						0.18						
Machine size	Height	mm	1,624	1,569	1,624	1,569	2,017	2,017	1,740	1,934	1,740	1,934	2,210	2,395	1,852
	Floor space	mm	1,652 × 1,592	2,075 × 1,550	1,752 × 1,592	2,075 × 1,550	1,752 × 1,590	2,075 × 1,550	2,280 × 1,800	3,537 × 2,155	2,280 × 1,800	3,537 × 2,155	2,280 × 2,175	3,537 × 2,393	3,031 × 1,856
	Weight (with CNC)	kg	2,800	3,700	2,800	3,700	3,700	4,600	4,600	6,400	4,600	6,400	5,500	7,300	5,300
CNC			OSP-P200L						OSP-P200L						

Specifications are subject to be changed without prior notice.

[ ]: Optional Specifications

GENOS L250 / L200-M

Machine Specifications

Model	L250		L250E	L200-M	L200E-M	L200-MY	L200E-MY	
Specifications	T	C	C	T	C	T	T	C
Spindle	A2-6 4500 min-1 VAC7.5/5.5 kW (10/7.5 hp) (30 min/cont)							
Turret	V8 (Hyd.)			M-V12 axial (NC)				
Milling tool	–			45~6000 min-1 PREX 4/1.8 kW (25 min/cont)				
Tailstock (Hydraulic)	–	○	○	–	○	–	–	○
• Dead quill	–	MT 4	MT 5	–	MT 5	–	–	MT 5
Standard accessories	Coolant system, work lamp, full enclosure shielding, jack screws, washers, hand tools							
Standard Specifications	Door interlock							
	Lube monitor							
CNC	OSP-P200L							

Chucking / Tooling Kit Specifications

Machine type		L250	L250E	L200-M	L200E-M	L200-MY	L200E-MY
Hydraulic solid chuck	ST	8"	8"	8"	8"	8"	8"
Standard soft jaw A	3pcs/ST	3	3	3	3	3	3
Standard soft jaw B	3pcs/ST	1	1	1	1	1	1
Tailstock center (MT)	ST	–	1(NO.5)	–	1(NO.5)	–	1(NO.5)
OD toolholder I	ST	0	0				
OD toolholder II	ST	2	2				
OD toolholder A (-M,MY)	ST			2	2	2	2
OD toolholder B (-M,MY)	ST			2	2	2	2
OD toolholder C (-M,MY)	ST			1	1	1	1
ID toolholder base H40	ST	4	4				
ID toolholder base H32 (-M,MY)	ST			3	3	3	3
Boring bar sleeve 12-H40	PC	2	2	2 (H32)	2 (H32)	2 (H32)	2 (H32)
Boring bar sleeve 16-H40	PC	2	2	2 (H32)	2 (H32)	2 (H32)	2 (H32)
Boring bar sleeve 20-H40	PC	2	2	2 (H32)	2 (H32)	2 (H32)	2 (H32)
Boring bar sleeve 25-H40	PC	2	2	2 (H32)	2 (H32)	2 (H32)	2 (H32)
Drill sleeve MT2-H40	PC	0	0				
Drill sleeve MT3-H40	PC	1	1				
Drill sleeve MT2-H32 (-M,MY)	PC			1(H32)	1(H32)	1(H32)	1(H32)
Radial drill / mill unit	ST			1	1	1	1
Axial drill / mill unit	ST			2	2	2	2
Dummy holder	ST			3	3	3	3
∗ VDI tooling				∗	∗	∗	∗

Optional Specifications

Spindle speed	2000 min-1 (A2-6)	Coolant pump	0.8 kW
	3000 min-1 (A2-6)	Spindle thru coolant	
	6000 min-1 (ø140)	Mist collector	
Main motor	High-power spindle VAC 11/7.5 kW (30 min/cont)	Coolant sludge prevention	Oil skimmer specs
			Sub-tank
Turret	V12 (Hyd.) V8,V12 (NC)	Chip conveyor	Side, rear, hinged L, H
Hydraulic power chuck	10" Solid chuck	Chip bucket	
	8",10" Hollow chuck	Air blower (blast)	Chuck air blower
	Soft jaws, Hard jaws		Turret air blower
Chuck auto open/close confirm			Thru-spindle air blower
Chucking miss detection			Tailstock air blower
Chuck high/low pressure switch	Re-gripping	Auto front door	
Work stopper in spindle		Bar feeders	
Touch Setter	M (manual)	Parts catcher	
Auto tailstock quill		Loader	
Tailstock thrust high/low switch			

GENOS L400 / L300-M

Machine Specifications

Model	L400		L400E	L300-M		L300E-M	L300-MY		L300E-MY		L300-MW
Specifications	T	C	C	T	C	C	T	C	T	C	
Spindle	A2-8 30~3000 min-1 VAC 11/7.5 kW (15/10 hp) (30 min/cont)										
Sub Spindle (30 min/cont)	–										ø140 flat~6,000 min-1 VAC 7.5/5.5 kW
Turret	V8 (Hyd.)			M-V12 axial (NC)							M-V12 radial (NC)
Milling tool	–			45~4,500 min-1 PREX 7/3.3 kW (30 min/cont)							
Tailstock (Hydraulic)	–	○	○	–	○	○	–	○	–	○	–
• quill	–	Dead MT 5	Built-in MT 4	–	Dead MT 5	Built-in MT 4	–	Dead MT 5	–	Built-in MT 4	–
Movable tailstock	–	Manual	Manual tow-along	–	Manual	Manual tow-along	–	Manual	–	Manual tow-along	–
Standard accessories	Coolant system, work lamp, full enclosure shielding, jack screws, washers, hand tools										
Standard specifications	Door interlock										
	Lube monitor										
CNC	OSP-P200L										

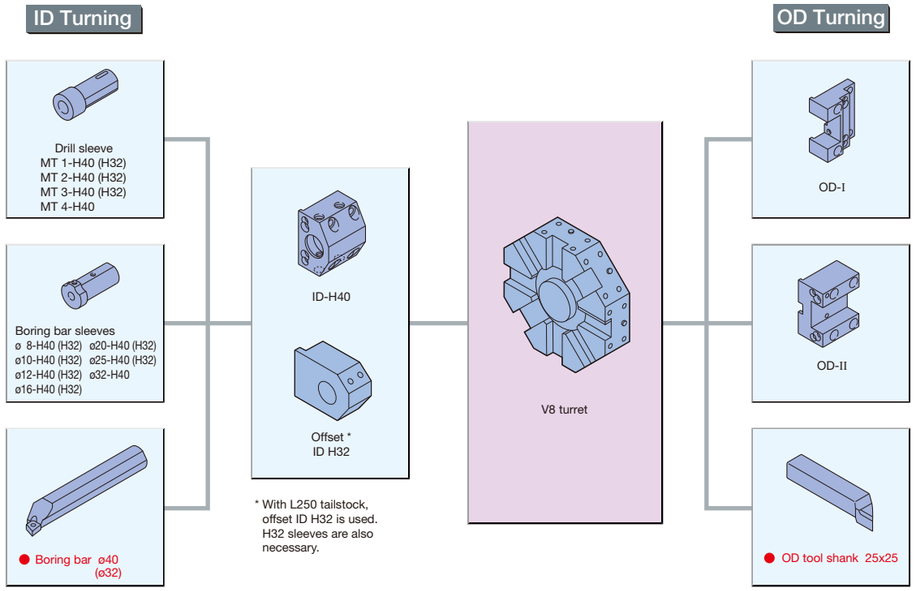
Chucking / Tooling Kit Specifications

Machine type		L400	L400E	L300-M	L300E-M	L300-MY	L300E-MY	L300-MW	
Hydraulic solid chuck	ST	10"	10"	10"	10"	10"	10"	main 10"	sub 6"
Standard soft jaw A	3pcs/ST	3	3	3	3	3	3	3	3
Standard soft jaw B	3pcs/ST	1	1	1	1	1	1	1	1
Tailstock center (MT)	ST	1(NO.5)	1(NO.4)	1(NO.5)	1(NO.4)	1(NO.5)	1(NO.4)	–	–
OD toolholder I (STD,MW)	ST							3	
OD toolholder II (STD,MW)	ST	2	2					1	
OD toolholder A (-M,MY)	ST			2	2	2	2		
OD toolholder B (-M,MY)	ST			2	2	2	2		
OD toolholder C (-M,MY)	ST			1	1	1	1		
ID toolholder base H40 (STD,MW/main)	ST	4	4					3	
ID toolholder base H40 (STD,MW/sub)	ST							2	
ID toolholder base H40 (-M,MY)	ST			3	3	3	3		
Boring bar sleeve 12-H40	PC	2	2	0	0	0	0	0	
Boring bar sleeve 16-H40	PC	2	2	2	2	2	2	2	
Boring bar sleeve 20-H40	PC	2	2	2	2	2	2	2	
Boring bar sleeve 25-H40	PC	2	2	2	2	2	2	2	
Boring bar sleeve 32-H40	PC			2	2	2	2	2	
Drill sleeve MT2-H40	PC								
Drill sleeve MT3-H40	PC	1	1						
Drill sleeve MT2-H40 (-M,MY)	PC			1	1	1	1	1	
Radial drill / mill unit	ST			1	1	1	1	2	
Axial drill / mill unit	ST			2	2	2	2	2	
Dummy holder	ST			3	3	3	3	3	
∗ VDI tooling				∗	∗	∗	∗		

Optional Specifications

Spindle speed	3800 min-1 (A2-8)	Coolant pump	0.8 kW
Main motor	High-power spindle VAC 15/11k W (30 min/cont)	Spindle thru coolant	
		Mist collector	
Turret	V12 (Hyd.) V8,V12 (NC)	Coolant sludge prevention	Oil skimmer specs
Hydraulic power chuck	12" Solid chuck		Sub-tank
	10",12" Hollow chuck	Chip conveyor	Side, rear (rear discharge not available with E specs)
	6" Hollow chuck		
	Soft jaws, Hard jaws		Hinged L, H
Chuck auto open/close confirm	MW spec is standard	Chip bucket	
Chucking miss detection		Air blower (blast)	Chuck air blower (MW spec is standard)
Chuck high/low pressure switch	Re-gripping		Turret air blower
Work stopper in spindle			Thru-spindle air blower
Touch Setter	M(manual)		Tailstock air blower
Auto tailstock quill		Auto front door	
Tailstock thrust high/low switch		Auto top door	
		Workrest	For L400E and L300E-M only
		Bar feeders	
		Part catcher	
		Loader	

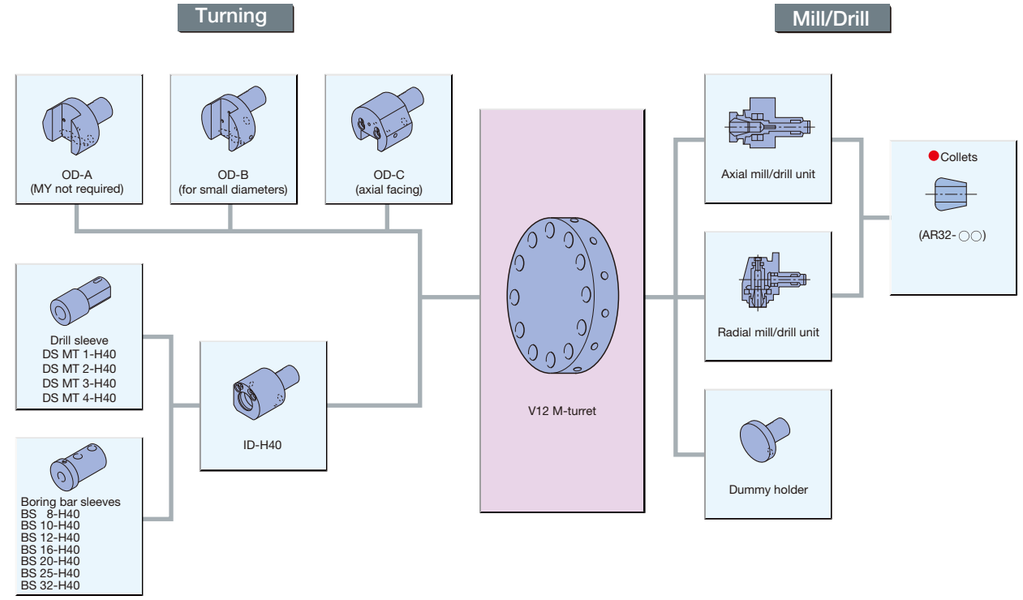
GENOS L250/E, L400/E V8 turret



＊ID toolholder base, sleeve for oil-hole drill is available
＊ID toolholder base H32 is needed for L250/E V12 turret

● Commercially available items

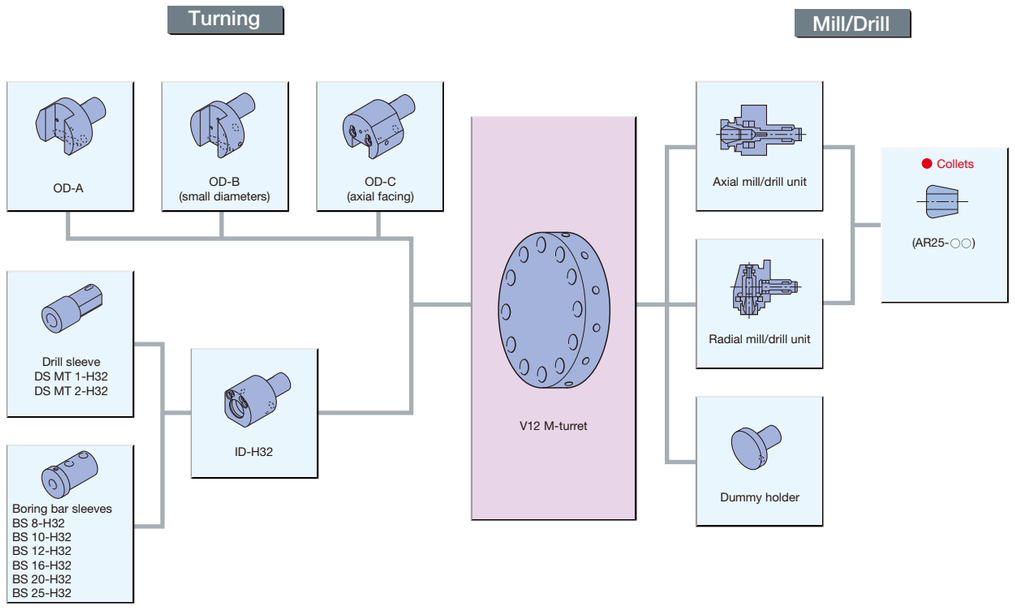
GENOS L300/E-M, MY V12 M-turret (axial) / VDI tooling



＊ID toolholder base, sleeve for oil-hole drill is available

● Commercially available items

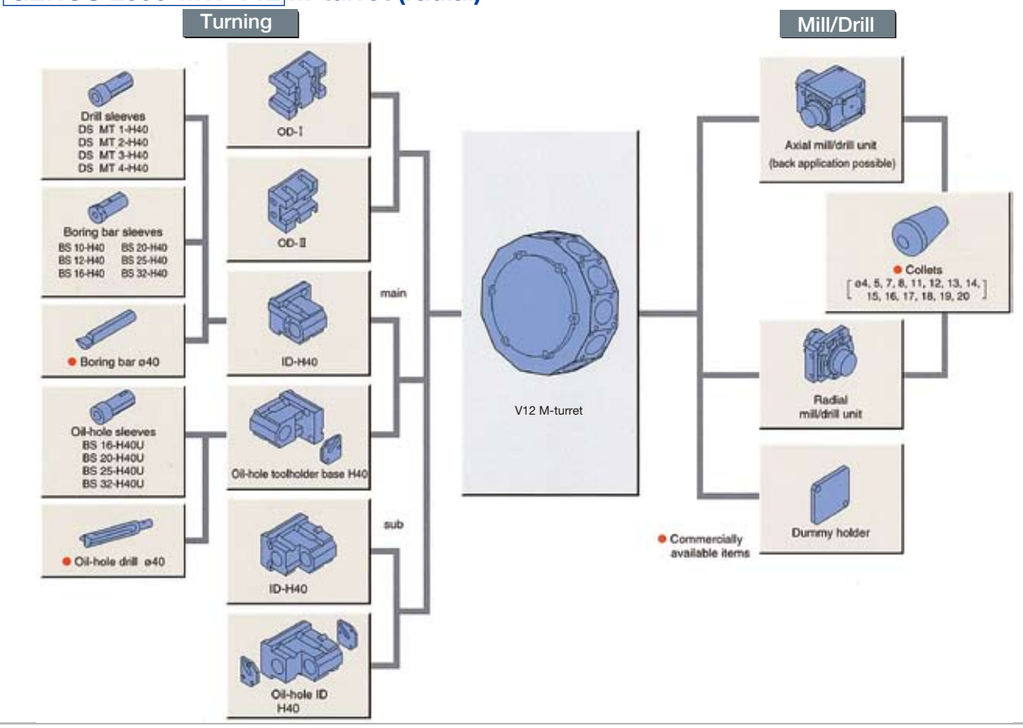
GENOS L200/E-M, MY V12 M-turret (axial) / VDI tooling



＊ID toolholder base, sleeve for oil-hole drill is available

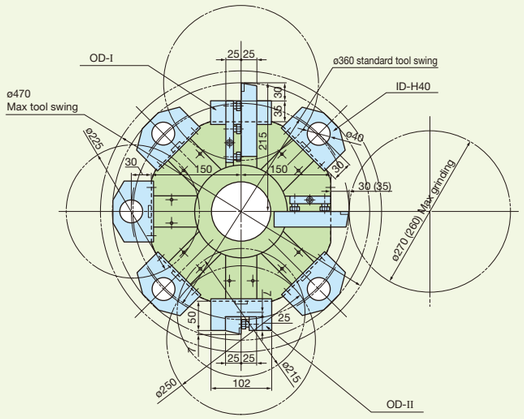
● Commercially available items

GENOS L300-MW V12 M-turret (radial)

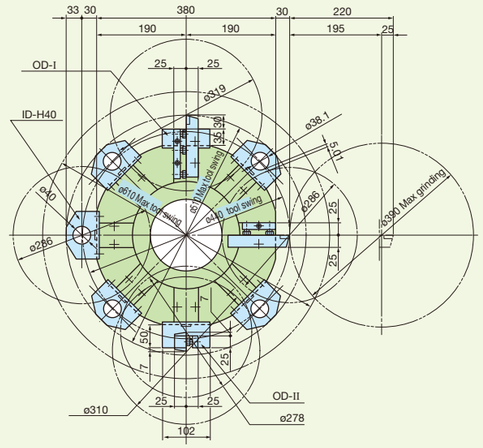


Tool Interference Drawings

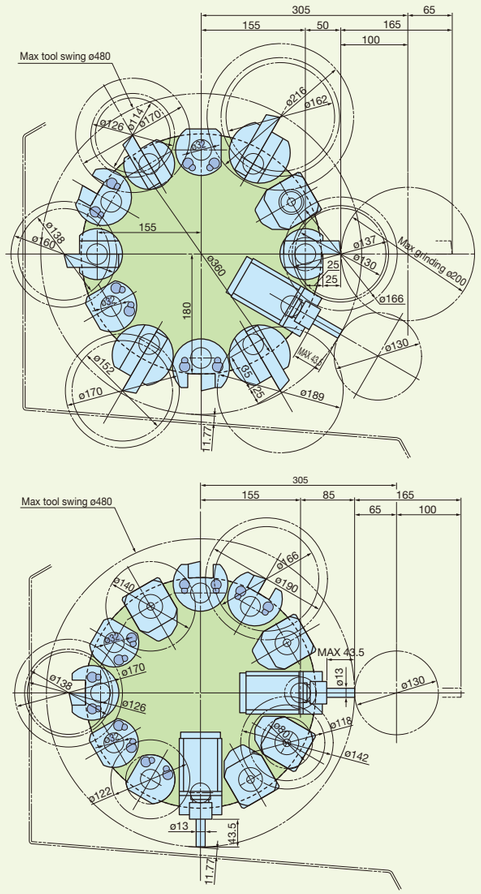
GENOS L250 / E V8 turret



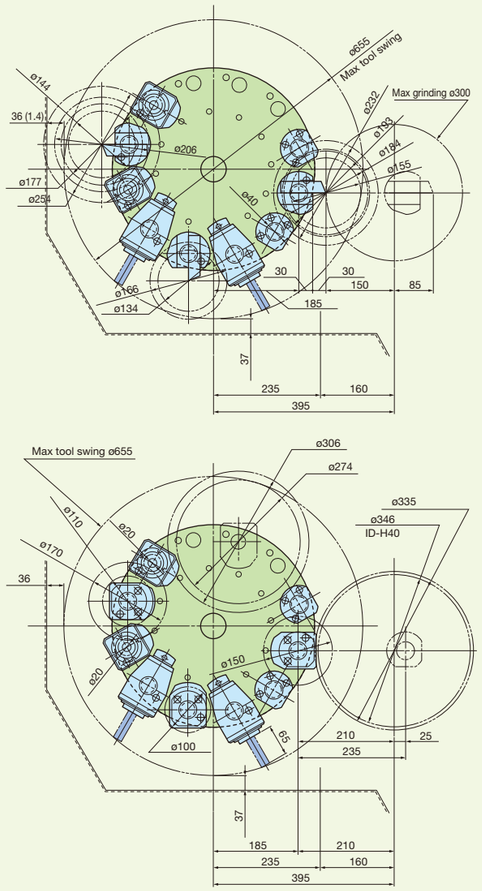
GENOS L400 / E V8 turret



GENOS L200-M / E-M V12 turret

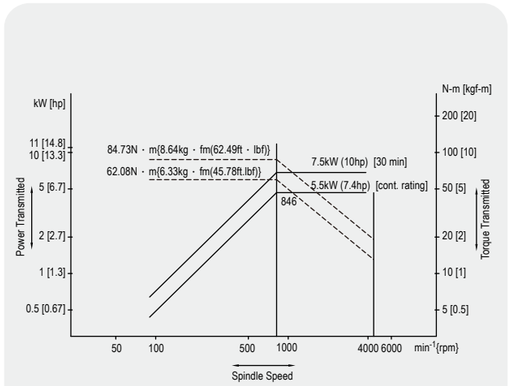


GENOS L300-M / E-M V12 turret



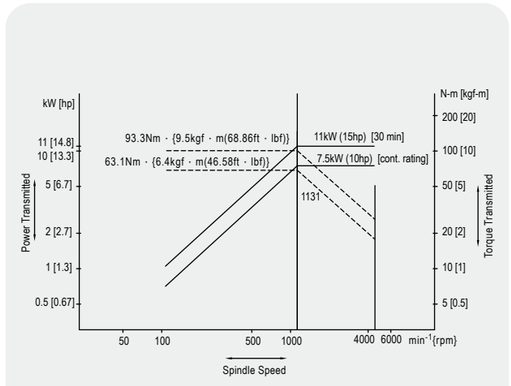
SPINDLE MOTOR OUTPUT/TORQUE

STD



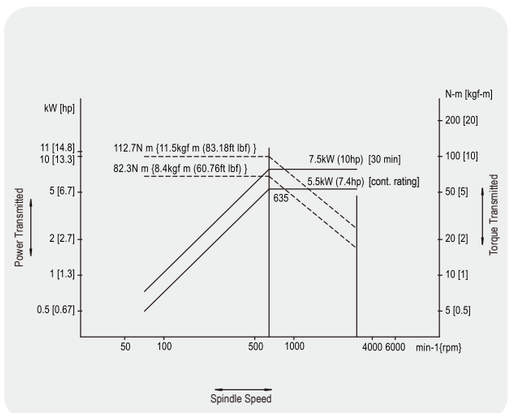
L250/E 7.5/5.5kw 4,500rpm

OP



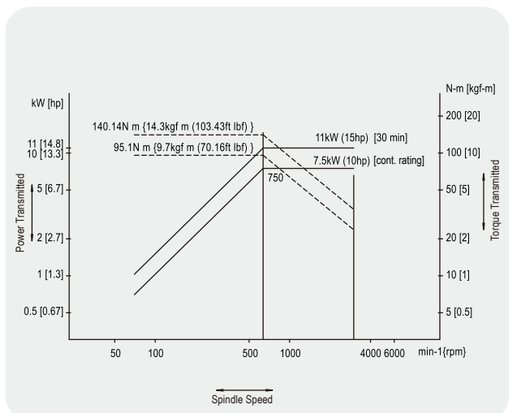
L250/E 11/7.5kw 4,500rpm

OP



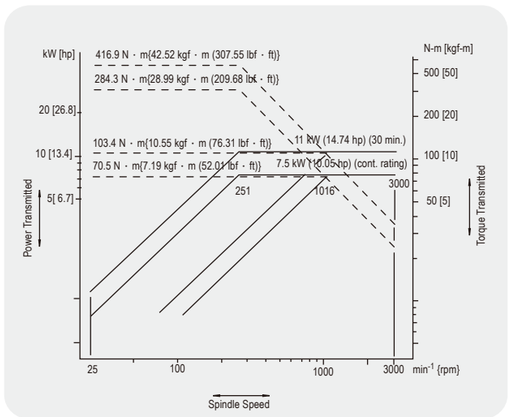
L250/E 7.5/5.5kw 3,000rpm

OP



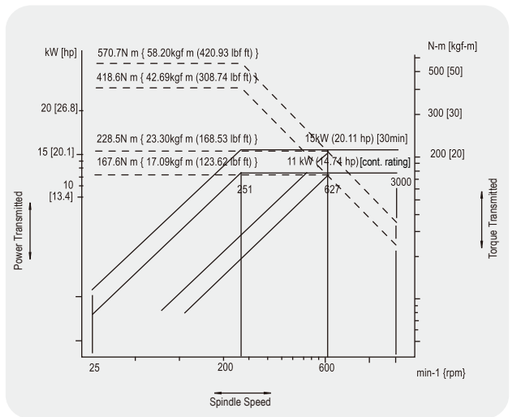
L250/E 11/7.5kw 3,000rpm

STD



L400/E 11/7.5kw 3,000rpm

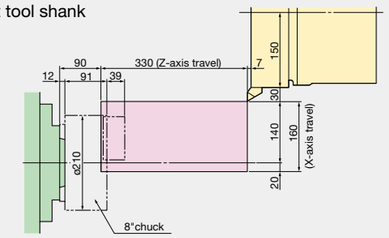
OP



L400/E 15/11kw 3,000rpm

GENOS L250 V8 turret

Direct tool shank



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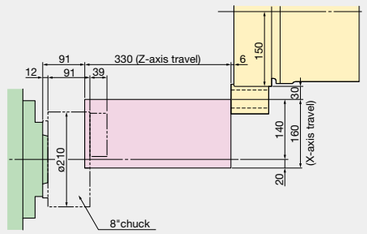
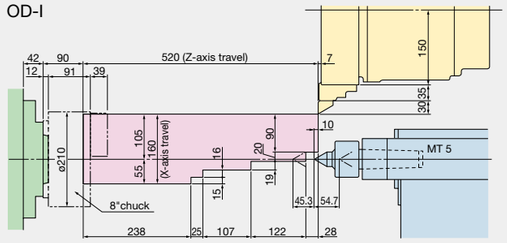
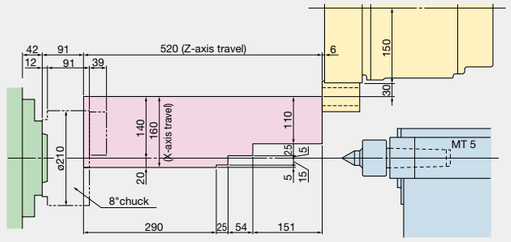


GENOS L250E V8 turret

OD-I

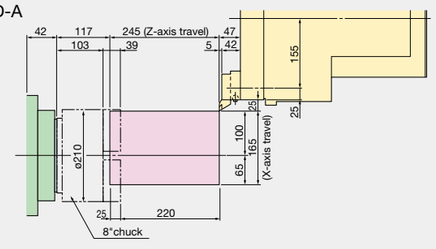


ID

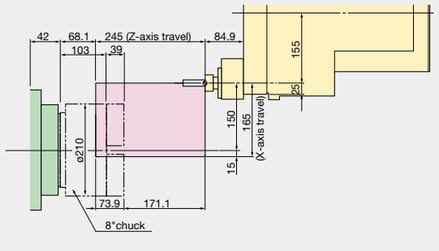


GENOS L200-M V12 turret

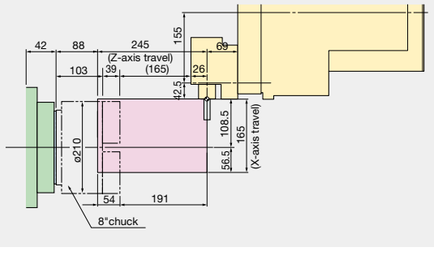
OD-A



Axial mill/drill unit

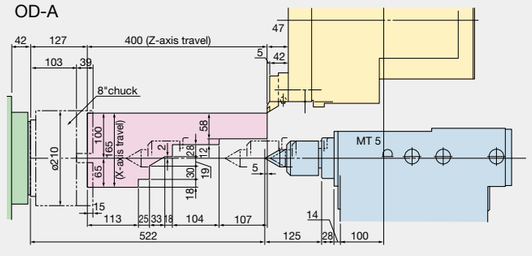


Radial mill/drill unit

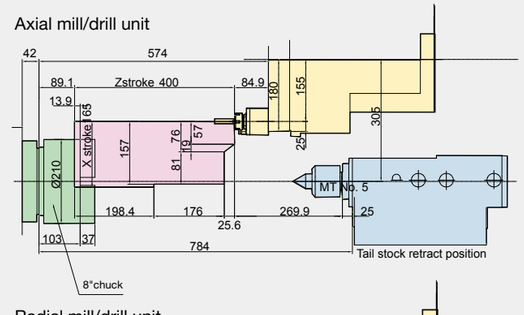


GENOS L200E-M V12 turret

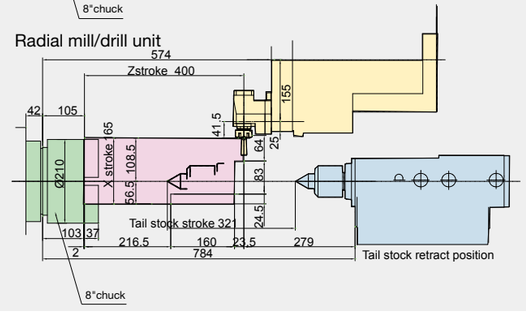
OD-A



Axial mill/drill unit

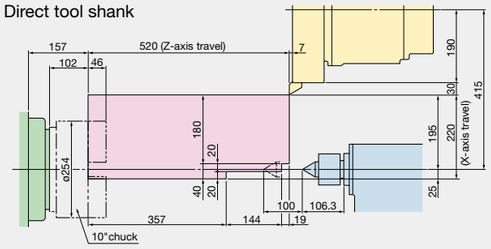


Radial mill/drill unit



GENOS L400 V8 turret

Direct tool shank



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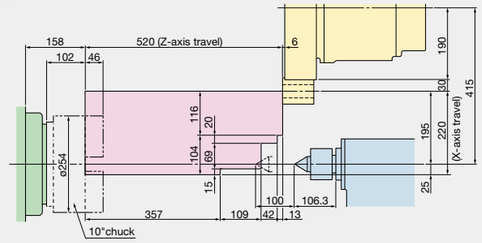
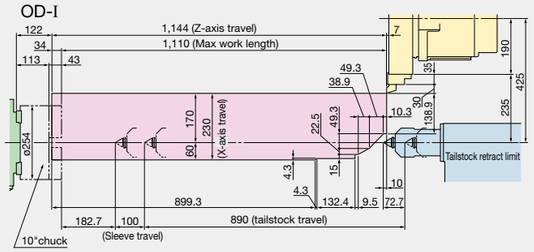


GENOS L400E V8 turret

OD-I



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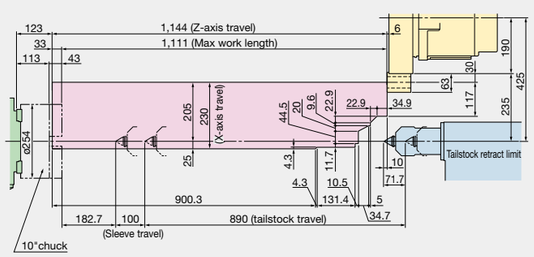
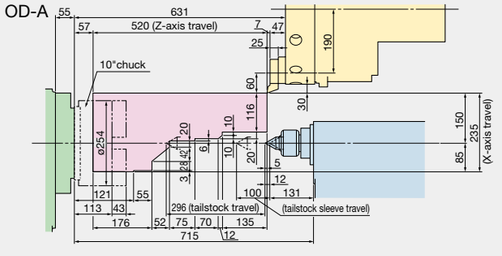
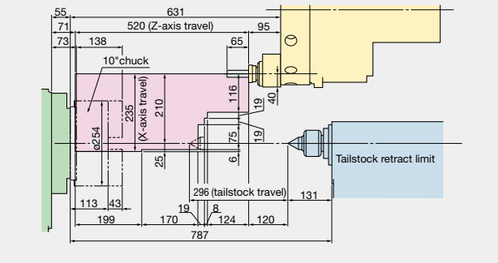


GENOS L300-M V12 turret

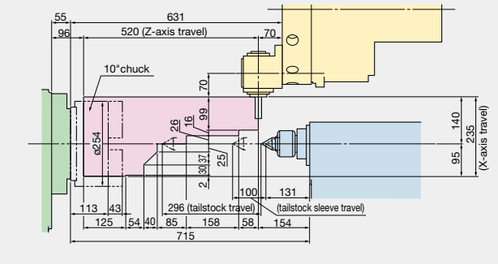
OD-A



Axial mill/drill unit

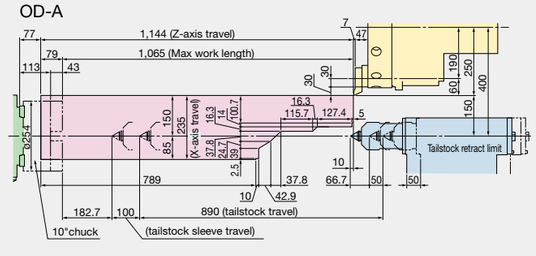


Radial mill/drill unit

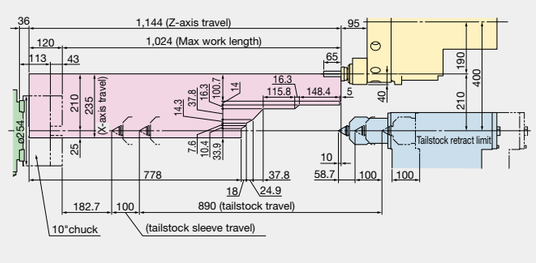


GENOS L300E-M V12 turret

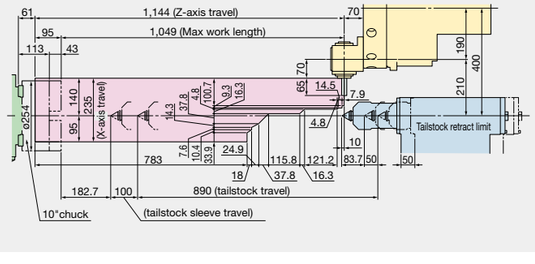
OD-A



Axial mill/drill unit



Radial mill/drill unit



OSP-P200L-R CNC
Standard Specifications

Features	Axis control	X, Z simultaneous 2-axis running, X, Z, C simultaneous 3-axis multi-processing
	Position feedback	Full range absolute position (zero point return not required)
	Tape format	N4.G3, X+53, Z+53, I+53, K+53, F+53, S4, T6, M3
	RS-232C interface	RS-232C interface, 1 channel
	Programming	Auto ISO/EIA code recognition, absolute, incremental or both
	Min command units	X-axis: 1μm(dia)　Z-axis: 1μm　C-axis: 0.001˚
	Max command units	8-digit decimal, ±99999.999mm
	Programmable units	Freely selectable: 1μm, 10μm, 1mm
	Decimal point data	1μm, 10μm, 1mm increments
	Feedrates feed	Feedrates are listed in the machine specs; override: 0～200%, dwell: 0.01～99999.99 sec.
	Tooling	Tool selection: 8/12 sets, tool offset(compensation): 32 sets, max compensation value: ±99999.999 mm Auto tool compensation: calculated from manually input wear and tear measurment values
	Spindle VAC motor operation	Direct spindle speed commands (S4), fixed cutting speed Spindle speed override (50～200%), optimum turing speed designation
	M-spindle motor operation (multi-machining)	Direct motor speed input
	Display	15˝ Color display panel, touch pannel.
	Manual operation	Spindle (inching, CW, CCW), tool rotation, pulse handle, X/Z-axis manual feed
	Multitasking	Program writing, editing during work
	Self-diagnostics	Automatic diagnostics and display of program, operation, machine and NC system problems
	Door interlock	Safety function to interlock machine movement when the door is opened or closed
	NC torque limiter	Instant detection of machine collision to reduce machine damage
	Hi-G control	Calculates of the speed control and torque properties of a motor for high-speed, high-stability positioning
	Other	Buffer resister, zero offset, tool interference, software limit, chuck barrier, turret barrier, droop control, single block machine lock, block delete, optional stop, dry-run, stroke end-limit cancel, etc.
Operation	OSP-Win XP	Featuring easy-to-manipulate screen windows, Pop-up function displays, Quick closing windows.
	Sequence number search	Cursor advances to a specified sequence number in the selected program
	Sequence restart	Restart from an interrupted sequence
	Manual interrupt/auto return	Manual operation during automatic operation; return to interrupt point
	Threading slide hold	Slide hold during threading (optional for G34/G35 non-fixed cycles)
Output Management Function	Programming	Two programs can be edited simulataneously on one screen.
	Memory operation*	Tapeless operation: Program storage capacity:2GB, Operation backup capacity: 2MB
	Useful help	Alarm help, G/M-code help, variable help, operation help, diagram display
	PLC monitor	Display of PLC ladder drawings and PLC data
	Display	Finished work list, operation results and alarm records
	External output	Output above items to a USB port.
Programming Function	Nose R compensation	Auto compensation for nose R dimension errors including arbitrary shapes and arcs
	Arc radius designation	Circular interpolation by ordering the radius L and end points X and Z
	Arbitrary angle chamfering	Simple programming of arbitrary angle chamfers (C, R)
	Taper angle designation	Taper interpolation by designating either the X or Z-axis and the starting point angle
	mm/min (ipm) programming	Both mm/rev and mm/min feedrate units are possible
	Program schedule	Non-stop operation possible by setting the sequence order of several work programs
	Zero offsets via G-codes	Program zero point offsets are possible
	Threading	Thread lead: 0.001～1000.000mm; possible to set the threading lead pitch Chamfering on/off, fix cycle threading, non-fixed threading cycle (the thread lead indicates the CNC limit value, the max thread lead differs per machine specification)
	Custom fixed cycle	Threading cycle, grooving cycle, drilling cycle
	Fixed drilling cycle (multi-maching)	Drill, deep-hole drilling, boring, tapping (Synchronized Tapping)
	User task1	GOTO, IF statements, arithmetic, common variable, local variable, system operation variables
	Program notes	Comments can be added to programs

OSP-P200L-R CNC
Optional Specifications

			Kit specifications TE	TD	TEX
Programing	User task2	Sub-programming, function operations, logic operations I/O variables can be used(each 8 points)	○	○	○
	Automatic programming (LAP4)	Add roughing conditions to finish programs for roughing to finish work optimized cutting by matching the best cutting mode with the material shape	○	○	○
	Inch/metric switching	Inch, metric switching possible Via parameters		○	○
	Arc threading	Threading possible along arc traces			
	Tool offset compensation	□ 96 sets □ 200 sets (Standard 32 sets)			
	Tool wear compensation	□ 96 sets □ 200 sets (Standard 32 sets)			
	Program storage (capacity)	Standard：2GB Operation backup：2MB	○	○	○
	Coordinate switching (multi-machining)	Programming possible by changing X, C-axes to X, Y-axis rectangular coordinate system	△	△	△
	Work generation (multi-mechining)	Programming X, C-axis lines as straight flat surfaces is easy	△	△	△
	Advance One touch IGF-L	Quick and simple: even operations without any NC knowledge can input a few keystrokes and be programming in on time Realistic 3D simulated test cut			
	Real 3-D simulation	Real time simulation of all machining modes		○	○
Monitoring	Condition display	Automatic operation, work completion, alarm conditions displayed with a 3-color (A-type) signal tower	○	○	○
	NC operation monitor	Display of cutting, operation, spindle speed, etc., on the CRT; workplece count-up	○	○	○
	NC work counter	Counts M30 occurrences (displayed on the CRT): alarm-stop at count-up	○	○	○
	Tool life management	Automatically calculates workpieces and cutting time, rotates a spare tool in when the set value for the tool life has been reached		○	○
	Load monitor	Load conditions are monitored and X, Z-axis and the spindle stop with an alarm			○
Gauging	Cycle time over check	An alarm occurs after the completion of a set cycle	○	○	○
	DNC-T1	Ethernet part program transfers	○	○	○
	DNC-T*	Personal computer DNC: Work program transter, etc.			
	Auto work gauging/compensation	□ Integral □ External			
	Touch setter tool tip	□ Manual □ Automatic			
Automated Unattended Operation	Auto chuck open/close	Automatic chuck jaw open/close via M-codes (w/ chcuck grip confirmation)			
	Chuck pressure switching	High/low switching via M-codes			
	Auto tailstock quil	Automatic tailstock quil via M-codes (w/ confirmation)			
	Tailstock quil pressure switching	High/low tailstock quil thrust switching with M-codes			
	Auto cover open/close	Auto cover open/close via M-codes (w/ interlock ON/OFF switch)			
	Air cleaner	An air blower is applied to the chuck area and the tailstock center via M-codes			
	Spindle orientation (Electric)	Stops the spindle at a designated position via M-codes:			○
	Extra M-codes	□ 2 sets □ 4 sets			
	Auto power shut-off	Power supply is shut off automatically according to M30 and alarm conditions			
	Cycle time reduction	Possible to ignore a various of answers with M-codes	○	○	○
	Other*	□ Chuck open/close during spindle rotation □ Auto tailstock quill thrust during spindle rotation □ Bar feeder interface □ Loader interface			

* Need to discuss with sales engineer　△Multi-machining Corresponding　○ Kit Corresponding

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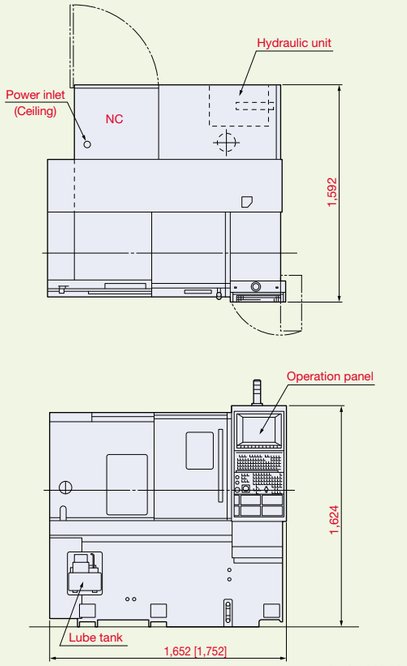

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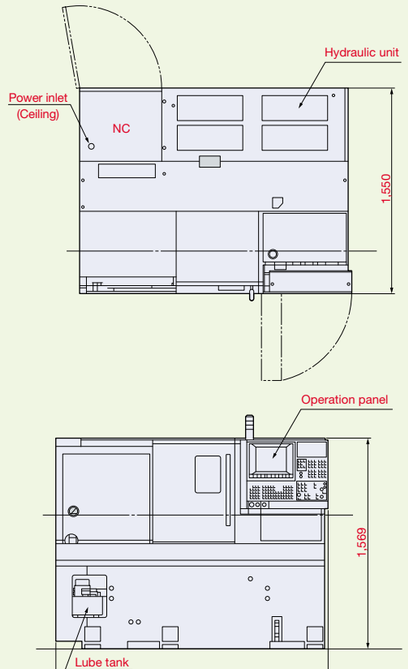

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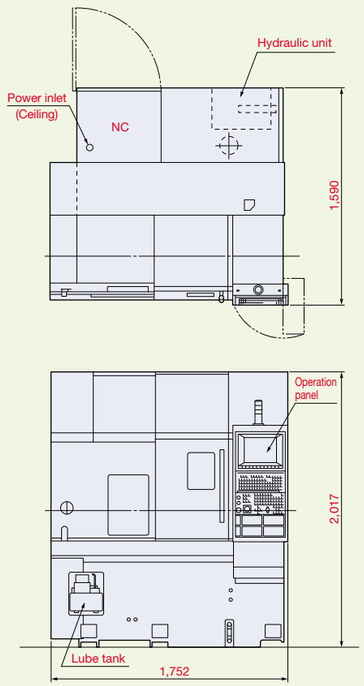

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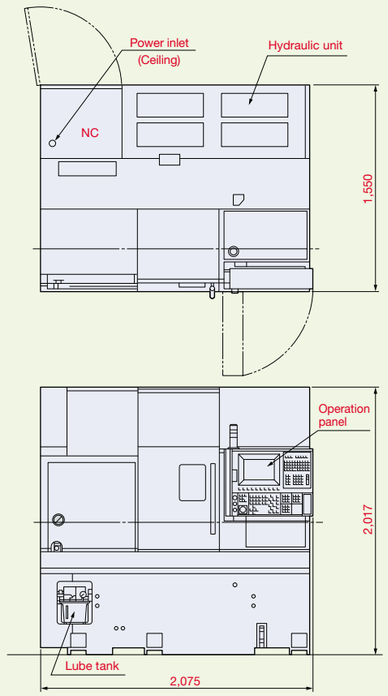

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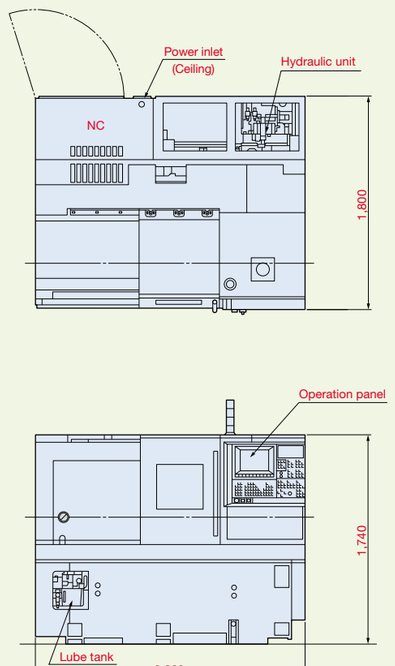

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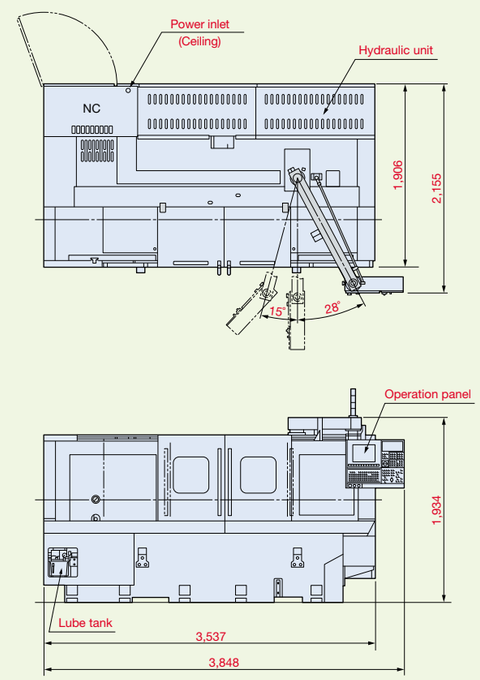

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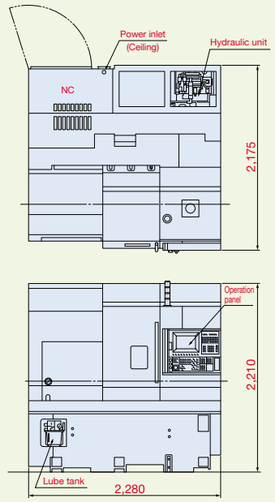

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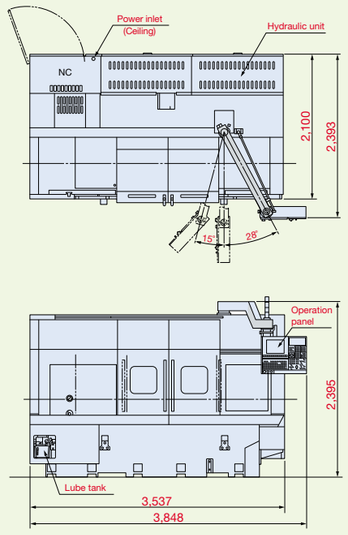
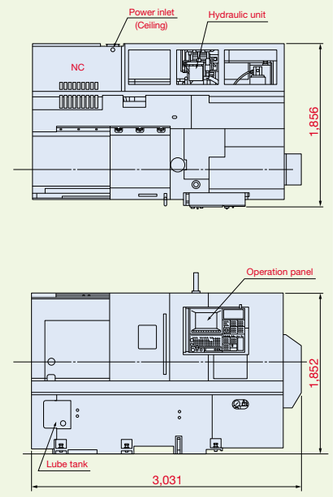
GENOS L300-MW