

GENOS L II Series

GENOS L250 II / GENOS L400 II

1-Saddle CNC Lathes



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GENOS L250 II / GENOS L400 II



GENOS—The high-quality global machine. High-quality, compact lathes specifically for turning



GENOS L250 II

■ Specification extensions

	Spindle	Turret		Tailstock	DBC
GENOS L250 II	JIS A2-6 3,000 min ⁻¹ [2,000 min ⁻¹ 4,500 min ⁻¹]	V8 turret [V12 turret]	T	w/o tailstock	—
			C × 290	MT No. 4	290 mm
			C × 500	MT No. 5	500 mm

High rigidity gives machining accuracy and productivity exceeding expectations, with thorough ease of use from the customer's perspective.

Okuma squarely faced the challenge of these expectations from machine shops worldwide in developing the GENOS high quality global machine.

Since its launch in 2010, GENOS has earned an outstanding reputation from customers around the world.

Okuma's GENOS series has evolved at the leading edge of "Monozukuri"* , which seeks to balance quality improvement and cost reduction, contributing to improved productivity.

* Craftsmanship-based, sustainable manufacturing



GENOS L400 II

■ Specification extensions

	Spindle	Turret		Tailstock	DBC
GENOS L400 II	JIS A2-8 3,000 min ⁻¹ [2,000 min ⁻¹]	V8 turret [V12 turret]	T	w/o tailstock	—
			C × 500	MT No. 5	500 mm
			C × 1100	MT No. 4 (live quill)	1,100 mm

Photographs used in this brochure may show optional equipment.

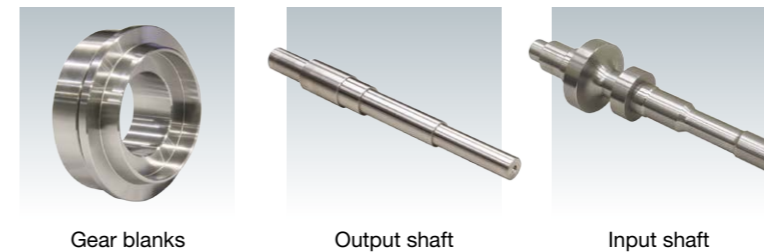


A turning specialist. A compact lathe suitable for mass production.

The highly stable machining accuracies and compact body really deliver high productivity. The GENOS LII series achieves the best cost performance customers require for high machining performance, accuracy, and ease of use.

Applicable workpieces

GENOS LII machines handle workpieces with diverse shapes.



Gear blanks

Output shaft

Input shaft

Improve productivity

A compact lathe with machine width of 1,400 mm* (GENOS L250II DBC 290) specifically for turning. The slideway for the turret is a slide guideway to support loads during powerful cutting and raise productivity. In addition, the feed rate is 20% faster than the previous machine, and non-cutting time is shorter.

* Cylinder cover, operation panel not included.

Ease of use in any shop floor was a thoroughly pursued objective

The machines were structurally designed to have easy access to the spindle and good maintainability. The coolant tank is separated, so the tank can be washed without removing the chip conveyor. In addition, the chip discharge outlet is 1.8 times larger than before, which keeps chip build-up low and machine-stop cleaning time short during continuous, long-run operations.

Mass production lines also compact

In combination with loaders and stockers, mass production system layouts can be flexibly arranged. Even a large number of machines lined up in mass production factories can also be kept compact and efficient. As the number of machines increase, the space-saving machine design itself will become a more valuable benefit.

Okuma's Intelligent Technology reduces operator burden

Thermo Active Stabilizer – Construction (TAS-C) is used to support dimensional stability at high levels during cycle start and machining restart, and of course during continuous operation. This significantly reduces man-hours for controlling dimensions. With graphic visualization of machining status provided by Machining Navi (option), any operator can easily use the machine and cutting tools to their fullest.

Improve productivity

Productivity increases with compact, high-speed operations

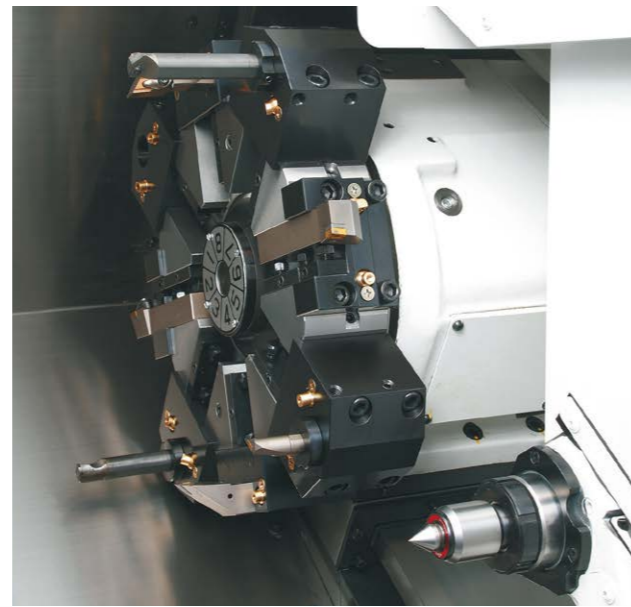
Compared to the previous model, productivity improves with faster feed rates for each axis. Machine width: 1,400 mm* (GENOS L250II DBC 290). The highly rigid structural design supports powerful cutting loads to offer high productivity.

* Cylinder cover, operation panel not included.



Turret (turning operations)

V8 and V12 turrets are available. Boring bars of $\phi 32$ mm or $\phi 40$ mm can be attached.

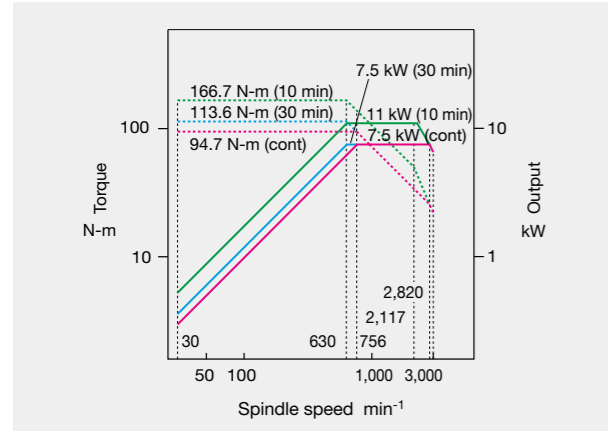


The V8 turret

Spindle

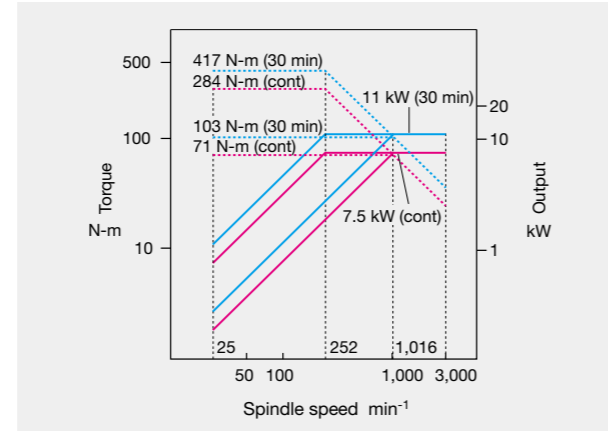
GENOS L250II

- Bearing ID/bore diameter: $\phi 100$ mm/ $\phi 66$ mm
- Spindle speed: 3,000 min⁻¹
- Power: 11/7.5/7.5 kW (10 min/30 min/cont)
- Torque: 166.7/113.6/94.7 N-m (10 min/30 min/cont)



GENOS L400II

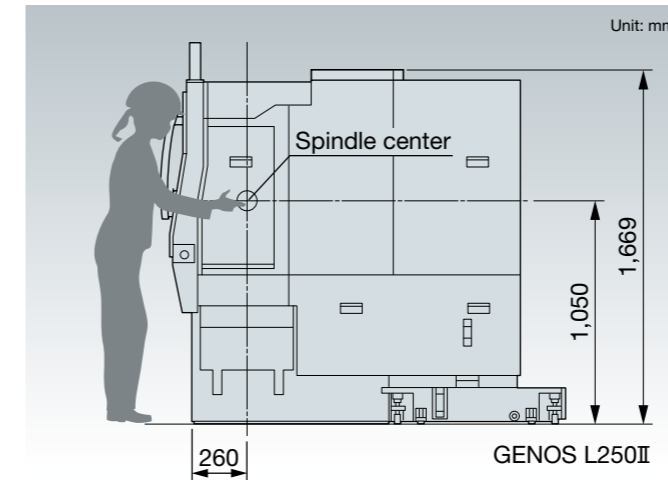
- Bearing ID/bore diameter: $\phi 120$ mm/ $\phi 80$ mm
- Spindle speed: 3,000 min⁻¹
- Power: 11/7.5 kW (30 min/cont)
- Torque: 417/284 N-m (30 min/cont)



Ease of use in any shop floor was a thoroughly pursued objective

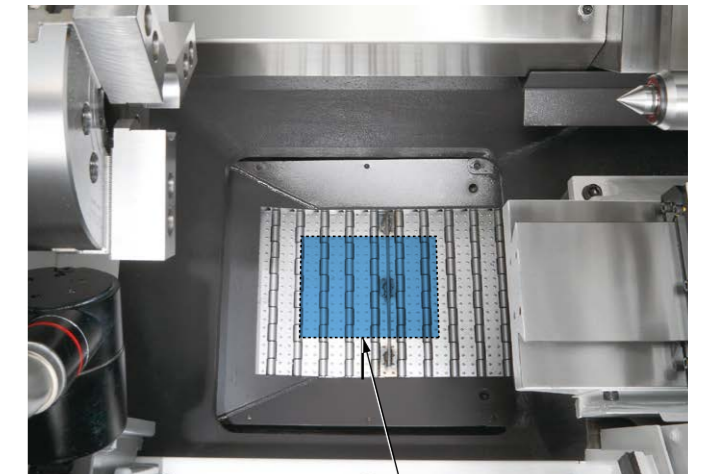
Structurally designed with good accessibility

The spindle centerline is just 260 mm from the front of the machine for easy access and reduced operator workload. The low 1,669-mm machine height also allows operators to easily see other machines and operators nearby. (GENOS L250II)



Outstanding chip discharge

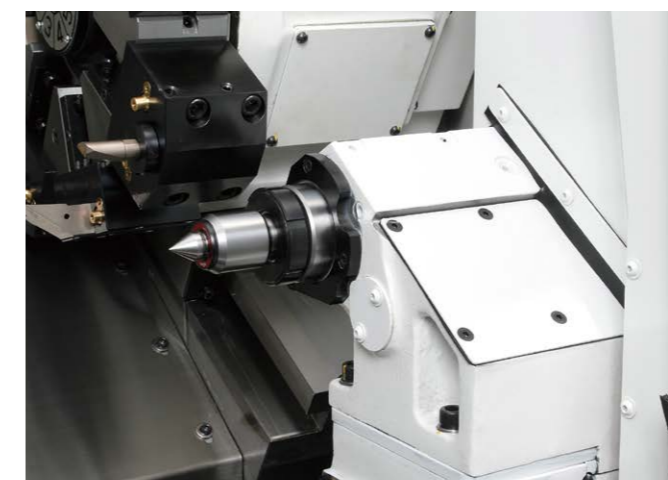
The chip discharge outlet is 1.8 times larger than on previous machines, minimizing chip accumulation. The cleaning frequency is reduced for maximum operation time.



Size of the chip discharge outlet of the previous model

Hydraulic tailstock

A high-rigidity hydraulic tailstock supports powerful, accurate machining.



GENOS L250II MT No. 4

Easy maintenance of the coolant tank

The separated coolant tank can slide out and be cleaned without removing the chip conveyor. In addition, it can be pulled out into the maintenance space, resulting in minimal machine installation space.



Mass production lines also compact

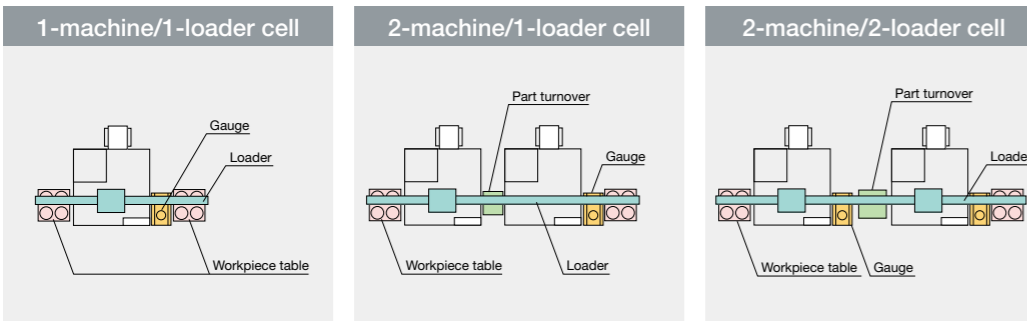
Ready-to-go systems for 1-machine 1-loader applications to full-scale production lines

Get outstanding flexibility from 1-machine/1-loader to multi-machine lines, with optimum cycle times, operation mix, work flow, floor space and the like. Okuma's selection of workpiece tables, part turnover stands, post-process gauges and other peripherals, can provide an ideal system arrangement to meet your needs.



- OGL5-0II
- Workpiece size
- Flange: $\phi 150 \times 100$ mm
- Shaft: $\phi 80 \times 150$ mm

Loader Specs



* Blanks and finished parts can be stacked on one workpiece table. (Not possible with 2-machine/2-loader.)

* 2-machine/2-loader cell machines can be laid out in parallel.

Peripheral equipment

Stockers

	Elevating workpiece table (Standard)	Palletized tray storage	Slat conveyor	Pitch-feed conveyor
Drawings				
Applicable workpieces	For flange	Mainly for flange	For flange only	For shaft only
Blanks and/or finished parts	Applicable to both blanks and finished parts		Dedicated to blanks or finished parts	
Variations	3 types of station ● 6 stations ● 10 stations ● 20 stations	● Mounted transfer device (removal direction switch)	Conveyor length 3 types ● 1 m ● 1.5 m ● 2 m	Conveyor length 2 types ● 1.5 m ● 2 m

Okuma's Intelligent Technology reduces operator burden



Machining Navi L-gII (Harmonic Spindle) (Speed Control) (option)

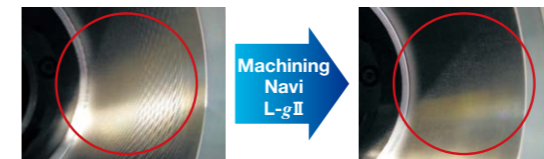
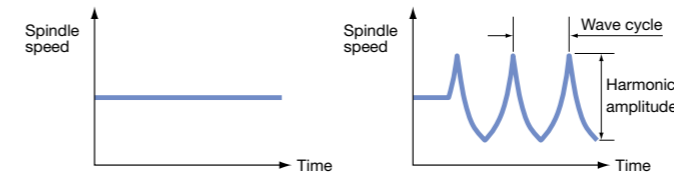
Cutting condition search for turning

Varying the spindle speed in accordance with the best amplitude and period makes it possible to suppress chatter during turning operations. Tool life can be extended and machining time reduced with use of the optimum cutting conditions, producing significant effects in drilling/boring bar, threading, and grooving applications.

Application example

Machined with a steel boring bar of L/D=5
Chatter would normally occur

Machine Navi ON → No chatter



ECO suite plus

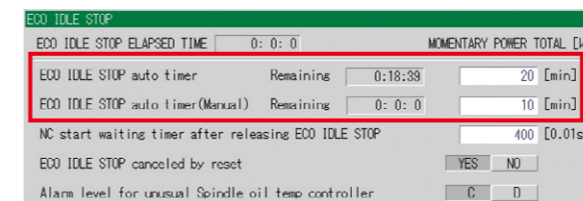
Next-Generation Energy-Saving System

A suite of energy saving applications for machine tools

ECO Idling Stop

Each unit operates only when required

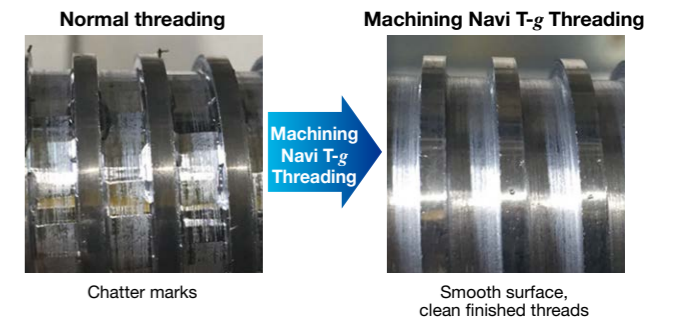
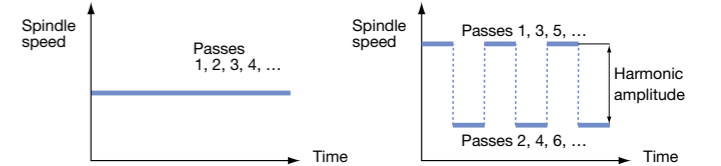
Auxiliary equipment consume a substantial portion of the power used in a factory. This function enables each of them to be turned off when not needed to reduce power consumption. In addition to when automatic operation is suspended, it is now possible to stop idling during manual operation. Power consumption and carbon dioxide emissions are reduced without conscious effort by the operator.



Machining Navi T-g Threading (option)

Cutting condition search for threading

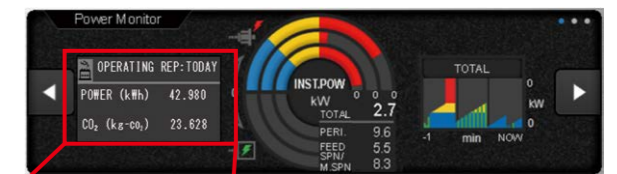
When chatter occurred during threading, it was common to lower the cutting conditions or use special tools that resist chattering. Okuma's Machining Navi T-g (threading) breaks the vibration periodicity with a different spindle speed for each threading pass, and suppresses chatter growth. The machining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



ECO Power Monitor

On-the-spot check of energy savings

Spindle, feed axis, and auxiliary equipment power indicators are displayed separately on the OSP operation panel. The operation status of each device and power consumption/ carbon dioxide emissions can be checked on the spot.



	INTE. POW[kWh]	INST. POW[kw]	-1 [min]	CURRENT
Spdl. oil temp ctrl.	14.0	0.6		
Axis oil temp ctrl.	14.0	0.6		
Coolant temp ctrl.	20.6	0.8		

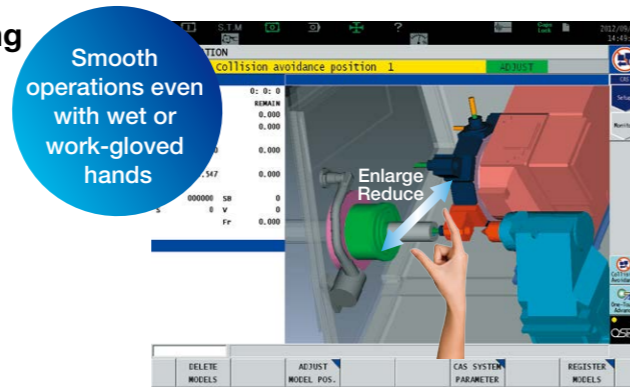
The displayed values are examples.

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

Smart factories are using advanced digitization and networking (IIoT) 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 smartphone**

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 smartphone. 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.

Spindle Output Monitor
Increased productivity through visualization of motor power reserve

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.



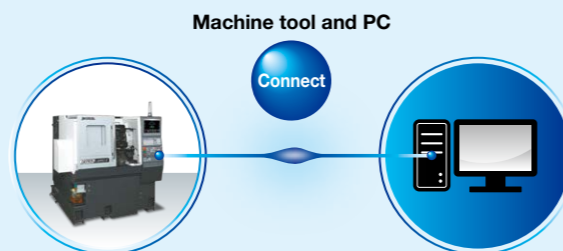
Scheduled Program Editor
Easy programming without keying in code

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

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

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.



Ensuring smooth machining preparations

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

Part program create

Simply inputting data on the machining shape in an interactive way will automatically determine the machining processes and create a part program.

Advanced run

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

Directly change cutting conditions for each operation with this process sheet

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

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

Individual run (machining repeated with this tool only)

Easy to Operate

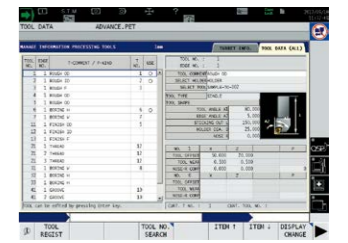
Operation screen split into four displays

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



Tool registration

Register data for all of your tools. Since the registered tool data is also used by Okuma auto programming (Advanced One-Touch IGF) and a collision check function (Collision Avoidance System), this screen will complete the entire registering process. When loading a tool in the machine, simply match it to each turret station from among the registered tools.



Forming soft jaws

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



Zero offsets

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



Machine Specifications

Item	Model name	GENOS L250II			
		T	C × 290	C × 500	
Capacity	Spec extension				
	Swing over bed	mm (in)	ø450 (17.72)		
	Swing over carriage	mm (in)	ø350 (13.78)		
	Swing over cross-slide	mm (in)	ø300 (11.81)		
	Max turning dia	mm (in)	V8 turret: ø280 (11.02) [V12 turret: ø220 (8.66)]		
Travels	Max work length	mm (in)	290 (11.42)	500 (19.69)	
	X axis	mm (in)	160 (6.30)		
Spindle	Z axis	mm (in)	330 (12.99)	520 (20.47) [V12: 470 (18.50)]	
	Speed	min ⁻¹	30 to 3,000 [high torque: 20 to 2,000, high speed: 45 to 4,500]		
Turret	Speed ranges		Infinitely variable		
	Nose		JIS A2-6		
	Bore dia	mm (in)	ø66 (2.60)		
	Front bearing dia	mm (in)	ø100 (3.94)		
	Type		V8 [V12]		
Feedrates	No. of tools		8 [12]		
	OD tool shank	mm (in)	□25 (0.98)		
	ID tool shank dia	mm (in)	ø40 (1.57) [V12: ø32 (1.26)]	ø32 (1.26)	ø40 (1.57) [V12: ø32 (1.26)]
	Turret indexing time	sec	0.3/index		
	Rapid traverse	m/min (fpm)	X: 25 (82), Z: 30 (98)		
Tailstock	Quill diameter	mm (in)	—	ø70 (2.76)	ø90 (3.54)
	Tapered bore type		—	MT No. 4 (revolving center)	MT No. 5 (revolving center)
	Quill travel	mm (in)	—	80 (3.15)	100 (3.94)
Motors	Main spindle	kW (hp)	11/7.5/7.5 (15/10/10) (10 min/30 min/cont)		
	Axis drive	kW (hp)	X: 3.0 (4), Z: 3.0 (4)		
	Coolant electric motor (50/60 Hz)	kW (hp)	0.55/0.75 (0.7/1)		
Machine size	Height	mm (in)	1,669 (65.71)		
	Floor space: width × depth (including tank)	mm × mm (in)	1,522 × 1,844 (59.92 × 72.60)	2,130 × 1,844 (83.86 × 72.60)	
	Machine weight	kg (lb)	2,800 (6,160)	2,900 (6,380)	3,300 (7,260)
CNC			OSP-P300LA		

[]: option * Cylinder cover not included.

Standard Specifications

Model	GENOS L250II			GENOS L400II		
	T	C × 290	C × 500	T	C × 500	C × 1100
Spindle	A2-6, 30 to 3,000 min ⁻¹			A2-8, 25 to 3,000 min ⁻¹		
Turret	11/7.5/7.5 (10 min/30 min/cont)					
Tailstock	V8 bolt clamp					
Traveling system	—	MT No. 4 (revolving center)	MT No. 5 (revolving center)	—	MT No. 5 (revolving center)	MT No. 4 (dead center**)
Standard Accessories	Manual					
CNC	Manual tow-along					
Standard Accessories	Full enclosure shielding, lighting equipment (LED), door interlock, hand tools					
	Coolant system, hydraulic unit, lubrication monitor, NC operation panel 15 in color TFT (touch panel)					
	Chuck foot switch, tailstock quill foot switch					
CNC	OSP-P300LA					

** Live quill

Chuck Sizes

Model	Chuck size	Solid / hollow chuck			
		6 in	8 in	10 in	12 in
GENOS L250II	Standard spindle A2-6	●	●	●	—
GENOS L400II	Standard spindle A2-8	—	●	●	●

Chucking Kits

Kit (solid / hollow)	A kit	B kit
Chuck (solid / hollow)	8 / 10 / 12 in	
Soft jaws, A	—	5
Soft jaws, B	—	3
Hard jaws	—	1

* 12-inch chuck cannot be selected with GENOS L250II.

* 6-inch chuck cannot be selected with GENOS L400II.

Tooling Kits (V8 turret)

	GENOS L250II	GENOS L400II
OD-I		2
OD-II		2
ID-H40 (offset ID-32)		4
DS No. 2 H40 (H32)	1	—
DS No. 3 H40	—	1
BS 16-H40 (32)	2	—
BS 20-H40 (32)		2
BS 25-H40	—	2

* () are for GENOS L250II C × 290

Machine Specifications

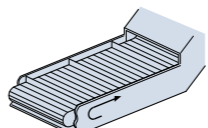
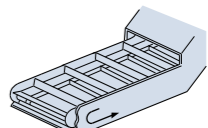
Item	Model name	GENOS L400II			
		T	C × 500	C × 1100	
Capacity	Spec extension				
	Swing over bed	mm (in)	ø520 (20.47)		
	Swing over carriage	mm (in)	ø400 (15.75)		
	Max turning dia	mm (in)	V8 turret: ø390 (15.35) [V12 turret: ø310 (12.20)]	V8 turret: ø410 (16.14) [V12 turret: ø330 (12.99)]	
	Max work length	mm (in)	500 (19.69)	1,100 (43.31)	
Travels	X axis	mm (in)	220 (8.66)	230 (9.06)	
	Z axis	mm (in)	520 (20.47)	1,144 (45.04)	
Spindle	Speed	min ⁻¹	25 to 3,000 [high torque: 13 to 2,000, high torque, high power: 17 to 2,000]		
	Speed ranges		2 auto ranges (2 range motor coil switching)		
	Nose		JIS A2-8		
	Bore dia	mm (in)	ø80 (3.15)		
	Front bearing dia	mm (in)	ø120 (4.72)		
Turret	Type		V8 [V12]		
	No. of tools		8 [12]		
	OD tool shank	mm (in)	□25 (0.98)		
	ID tool shank dia	mm (in)	ø40 (1.57)		
	Turret indexing time	sec	0.3/index		
Feedrates	Rapid traverse	m/min (fpm)	X: 25 (82), Z: 30 (98)		
Tailstock	Quill diameter	mm (in)	—	ø90 (3.54)	
	Tapered bore type		—	MT No. 5 (revolving center)	MT No. 4 (dead center*)
	Quill travel	mm (in)	—	100 (3.94)	
Motors	Main spindle	kW (hp)	11/7.5 (15/10) (30 min/cont) [high power motor: 15/11 (30 min/cont)]		
	Axis drive	kW (hp)	X: 2.8 (4), Z: 3.5 (5)		
	Coolant electric motor (50/60 Hz)	kW (hp)	0.55/0.75 (0.7/1)		
Machine size	Height	mm (in)	1,791 (70.51)	2,057 (80.98)	
	Floor space: width × depth (including tank)	mm × mm (in)	2,280 × 1,855 (89.76 × 73.03)	3,537 × 2,453 (139.25 × 96.57)	
	Machine weight	kg (lb)	4,350 (9,570)	4,500 (9,900)	6,600 (14,520)
CNC			OSP-P300LA		

* Live quill []: option

Optional Specifications

Spindle speeds	(L250II)	High-torque specs (A2-6) 20 to 2,000 min ⁻¹	Tailstock	Tailstock quill auto advance/retract confirmation, tailstock thrust high/low switch
	(L400II)	High-speed specs (A2-6) 45 to 4,500 min ⁻¹		Coolant
Main spindle motor (special)	(L400II)	High-torque specs (A2-8) 13 to 2,000 min ⁻¹	Air blower (blast)	Chuck, turret, spindle bore, tailstock center
	(L400II)	High-power spindle motor specs 15/11 kW (30 min/cont)	Coolant	High/low pressure switch
V12 turret		Bolt clamp		Pump: 0.8 / 0.5 kW (60/50 Hz)
Chucking		Auto chuck open/close with confirmation, chucking miss detection, chuck high/low pressure switch, spindle workpiece stopper, chuck workpiece stopper		Detection (level), mist collector mount
			Chip discharge	Sludge measures
Measuring		In-process workpiece gauging, Touch Setter M (manual), A (automatic)	Door auto open/close	Pan (side, rear), bucket
			Automation specs	Conveyor (side, rear; hinged L, H)
Centers	(L250II)	MT No. 5, MT No. 4, for small diameters		Front door, the upper door
	(L400II)	MT No. 5, MT No. 4 threaded dead center (live quill), MT No. 5 for small diameters		Work rest, bar feeder, parts catcher, workpiece discharge conveyor, loader (OGL)

Chip Conveyors and Applications

Name	Hinge type	Scraper type (rear discharge only)
Application	● For steel	● For castings
Features	● General use	● Magnet scraper for sludge processing ● Easy for maintenance ● Blade scraper
Shape		

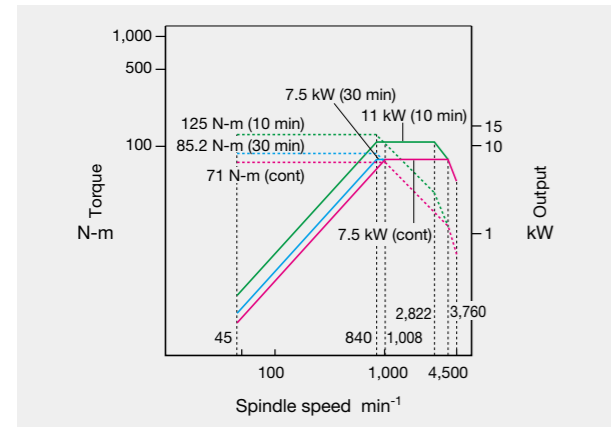
* The machine may need to be raised (platform) depending on the type of chip conveyor.

Spindle output/torque diagrams (option)

GENOS L250II

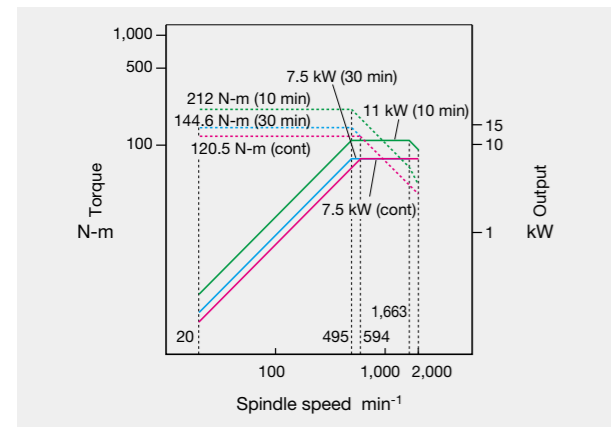
High-speed spindle

- Spindle speed: 4,500 min⁻¹
- Power: 11/7.5/7.5 kW (10 min/30 min/cont)
- Torque: 125/85.2/71 N-m (10 min/30 min/cont)



High-torque spindle

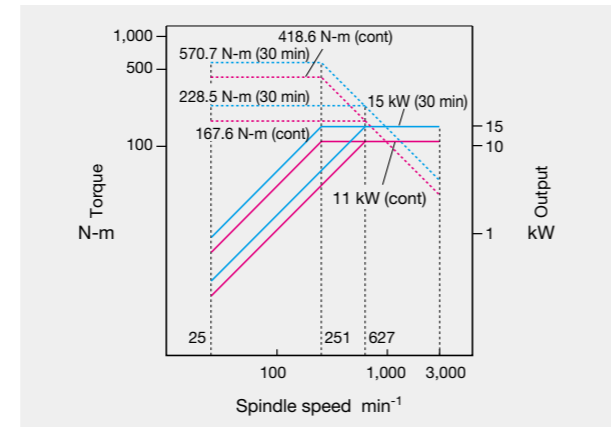
- Spindle speed: 2,000 min⁻¹
- Power: 11/7.5/7.5 kW (10 min/30 min/cont)
- Torque: 212/144.6/120.5 N-m (10 min/30 min/cont)



GENOS L400II

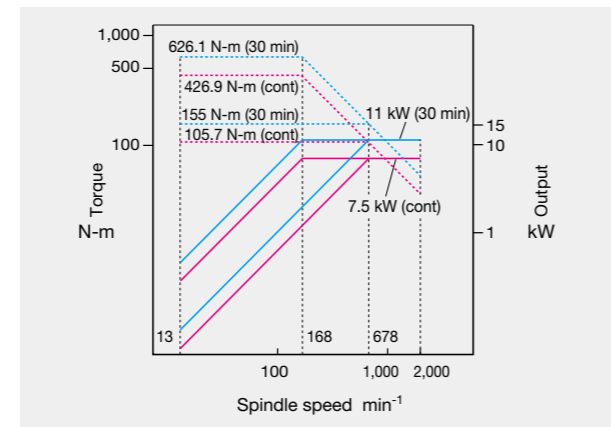
High-power spindle

- Spindle speed: 3,000 min⁻¹
- Power: 15/11 kW (30 min/cont)
- Torque: 570.7/418.6 N-m (30 min/cont)



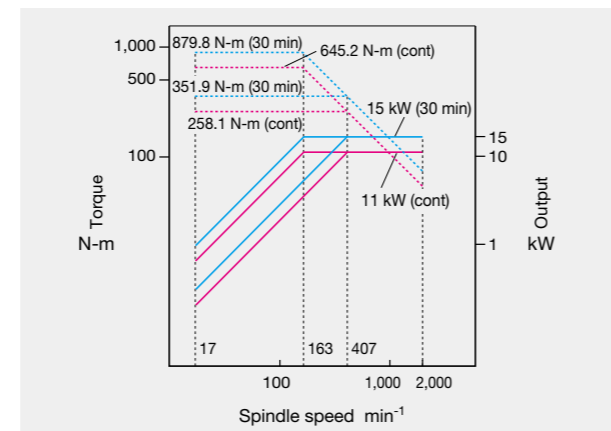
High-torque spindle

- Spindle speed: 2,000 min⁻¹
- Power: 11/7.5 kW (30 min/cont)
- Torque: 626.1/426.9 N-m (30 min/cont)



High-torque, high-power spindle

- Spindle speed: 2,000 min⁻¹
- Power: 15/11 kW (30 min/cont)
- Torque: 879.8/645.2 N-m (30 min/cont)

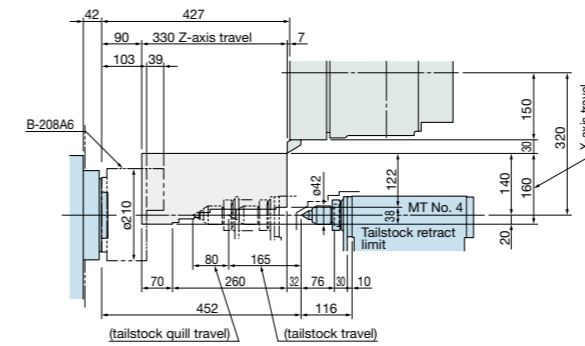


Working Ranges

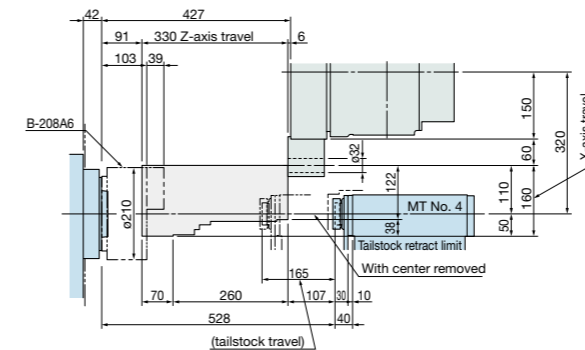
Unit: mm

GENOS L250II V8 turret (C × 290)

OD Direct tool shank

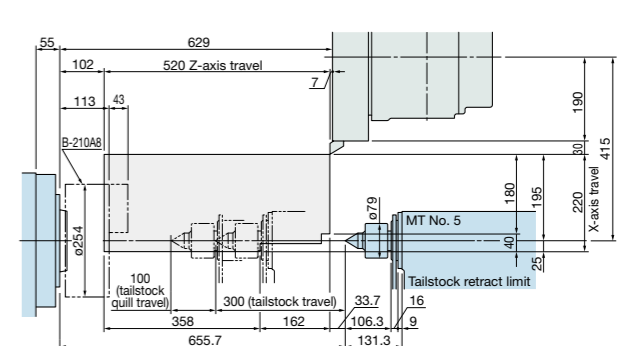


ID ID

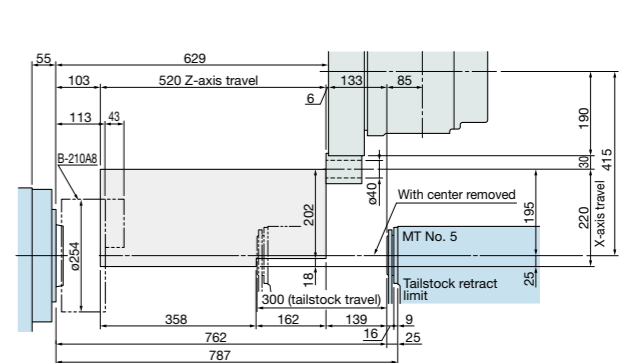


GENOS L400II V8 turret (C × 500)

OD Direct tool shank

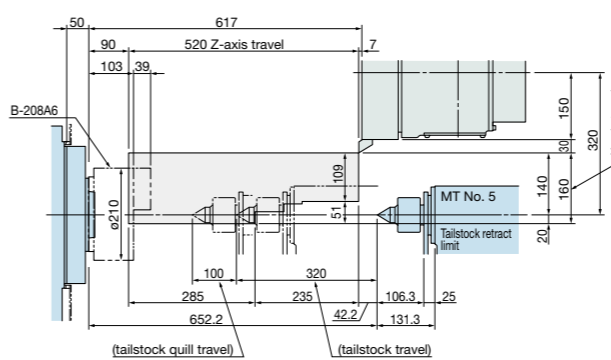


ID ID

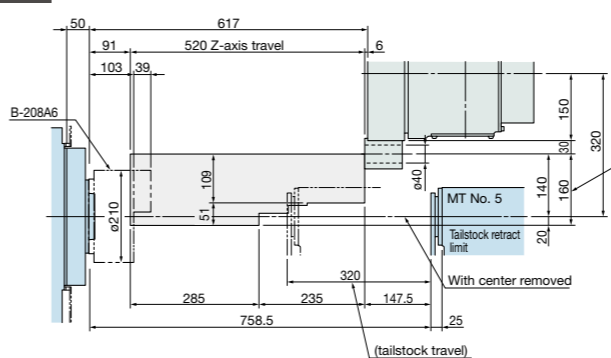


GENOS L250II V8 turret (C × 500)

OD Direct tool shank

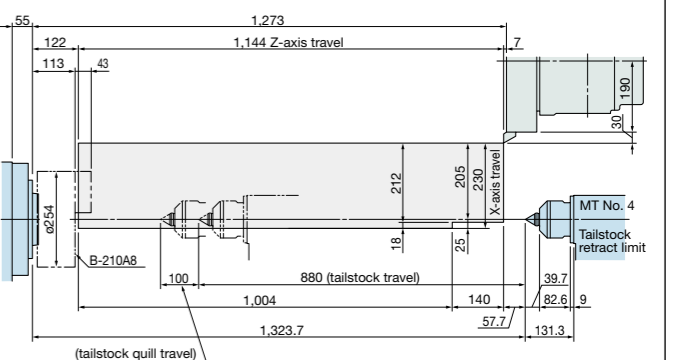


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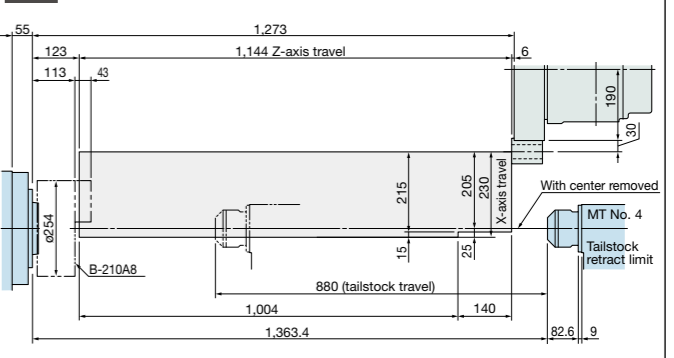


GENOS L400II V8 turret (C × 1100)

OD Direct tool shank



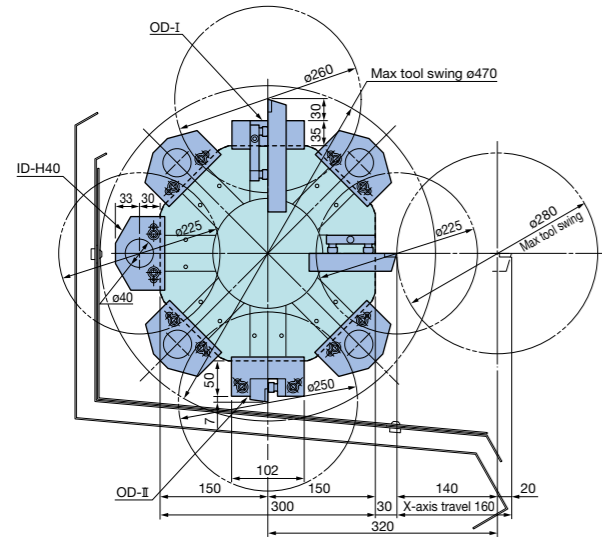
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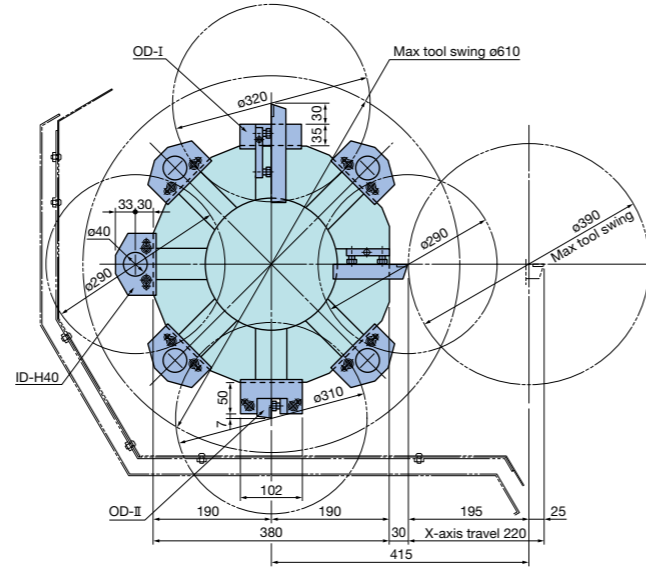
Tool Interference Drawings

GENOS L250II V8 turret

Unit: mm

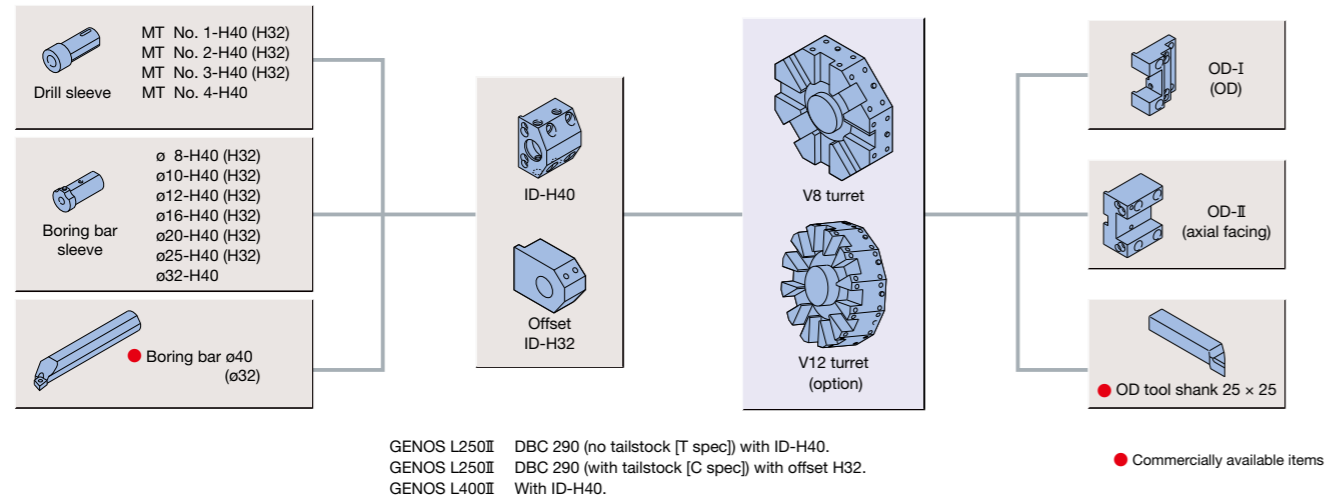


GENOS L400II V8 turret



Tooling System

GENOS L250II, L400II V8/V12 turret

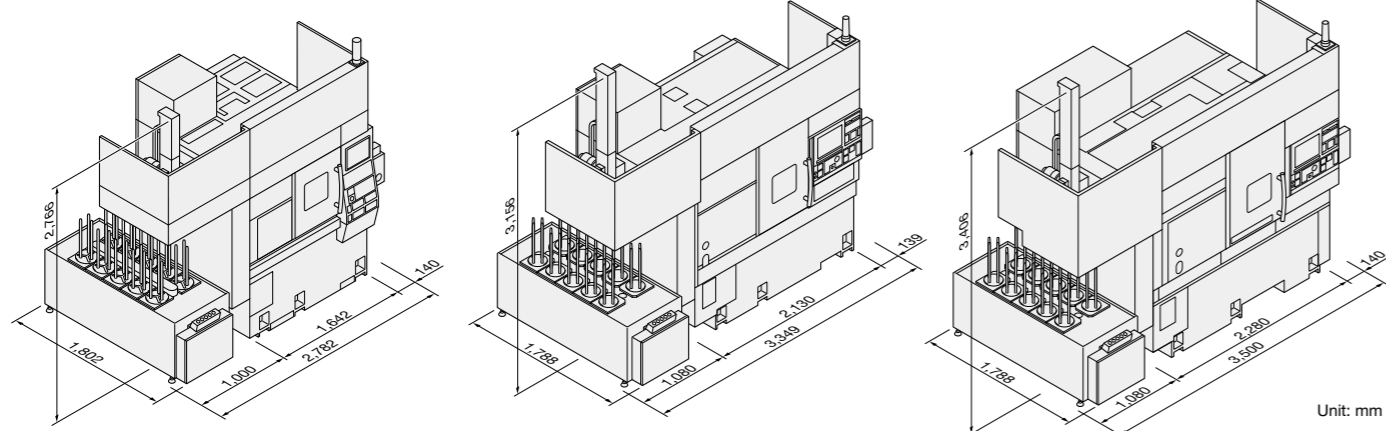


On-Machine Loader Examples (Dimensions differ depending on loader specifications)

GENOS L250II DBC 290 loader specs

GENOS L250II DBC 500 loader specs

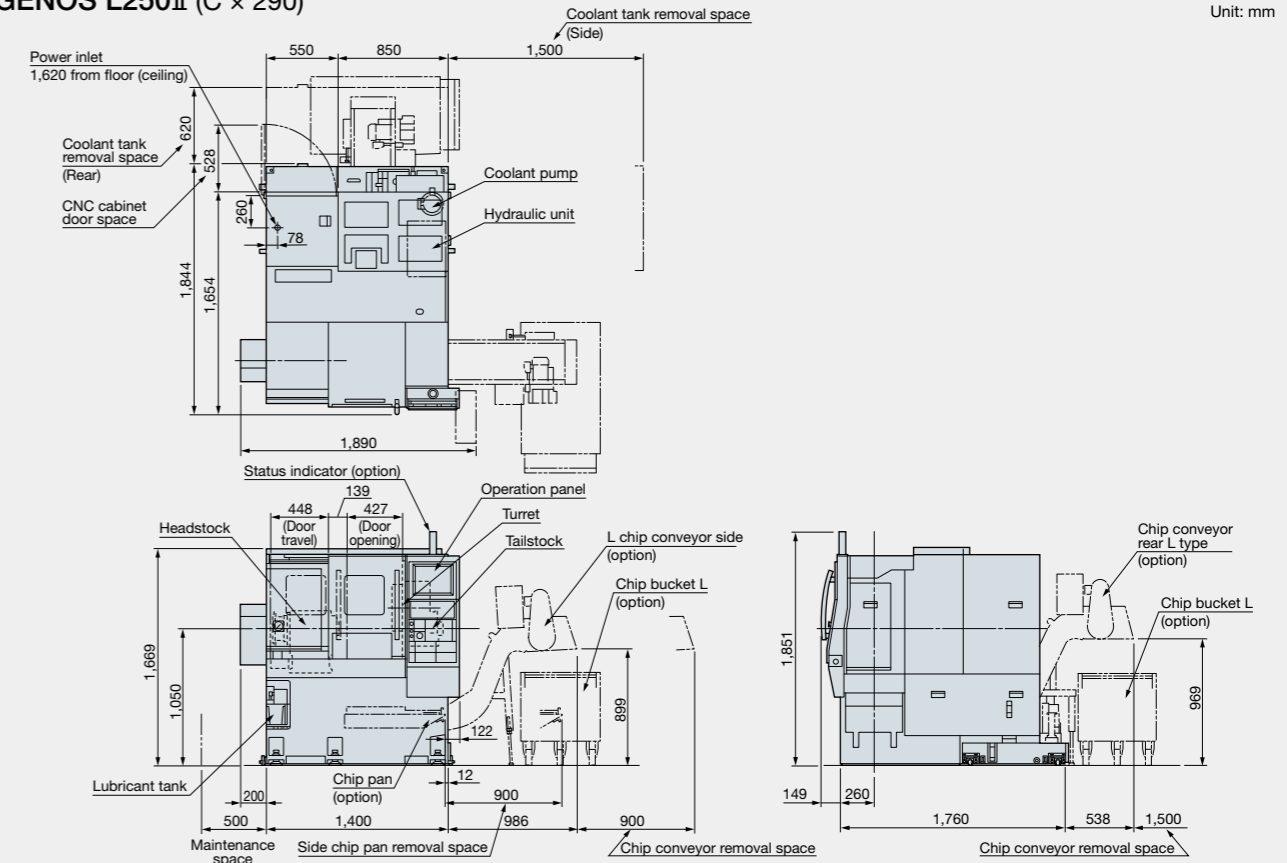
GENOS L400II DBC 500 loader specs



Dimensional Drawing

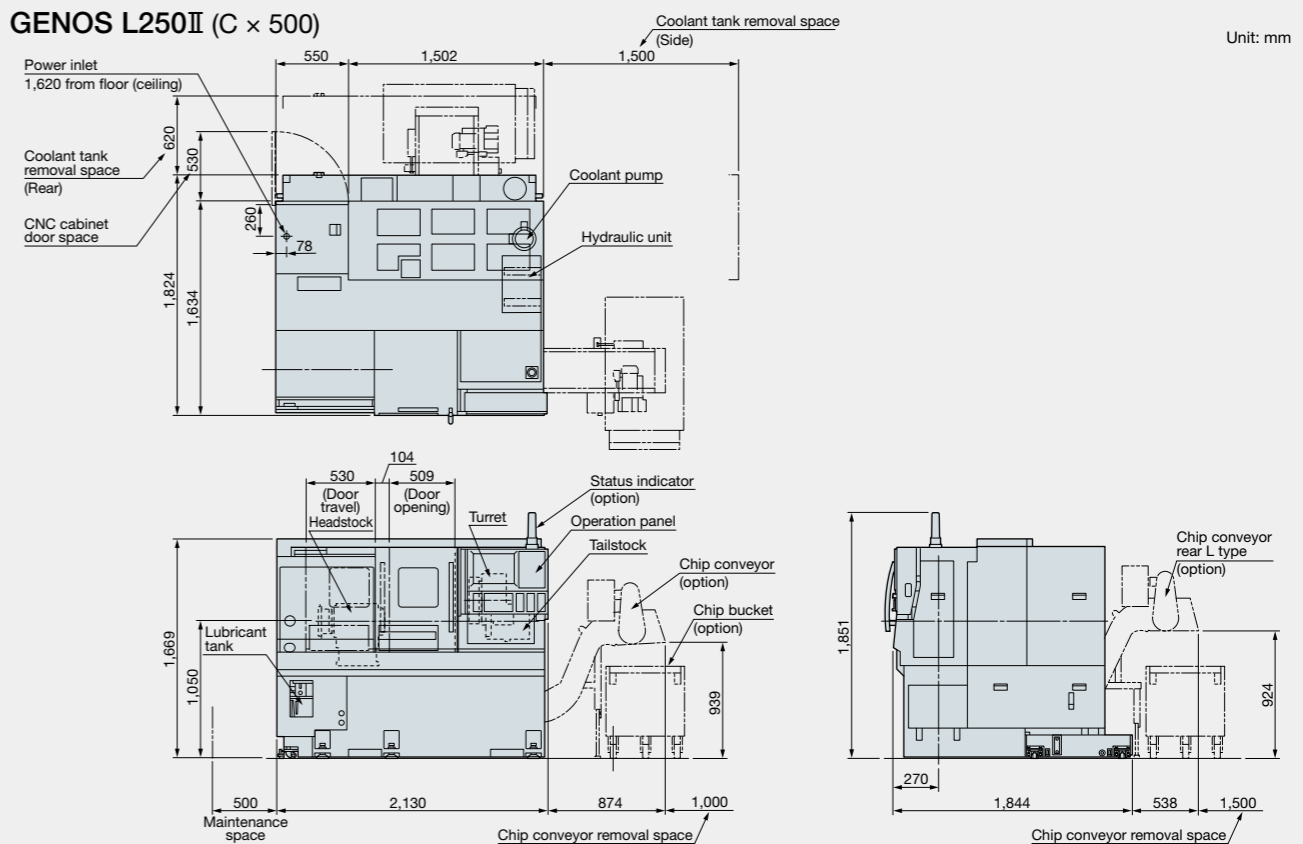
GENOS L250II (C x 290)

Unit: mm



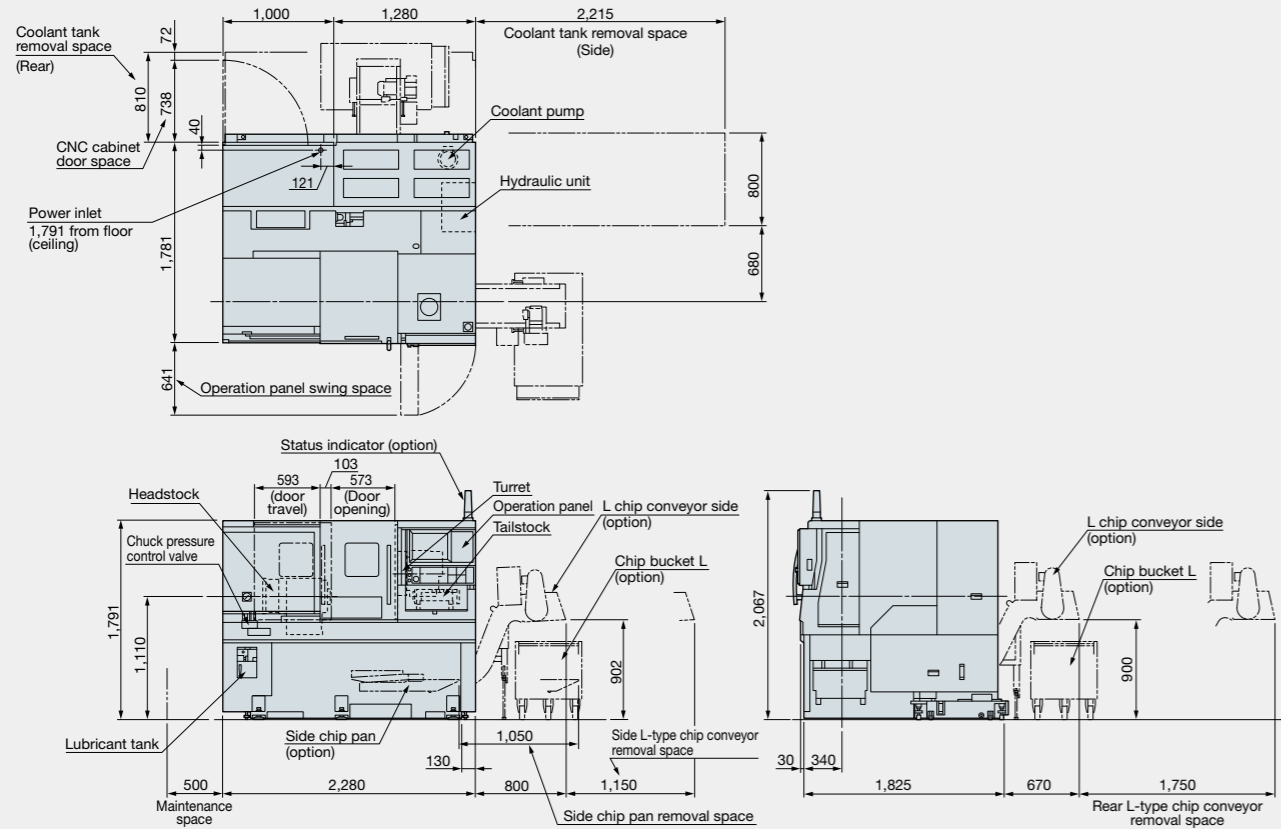
GENOS L250II (C x 500)

Unit: mm



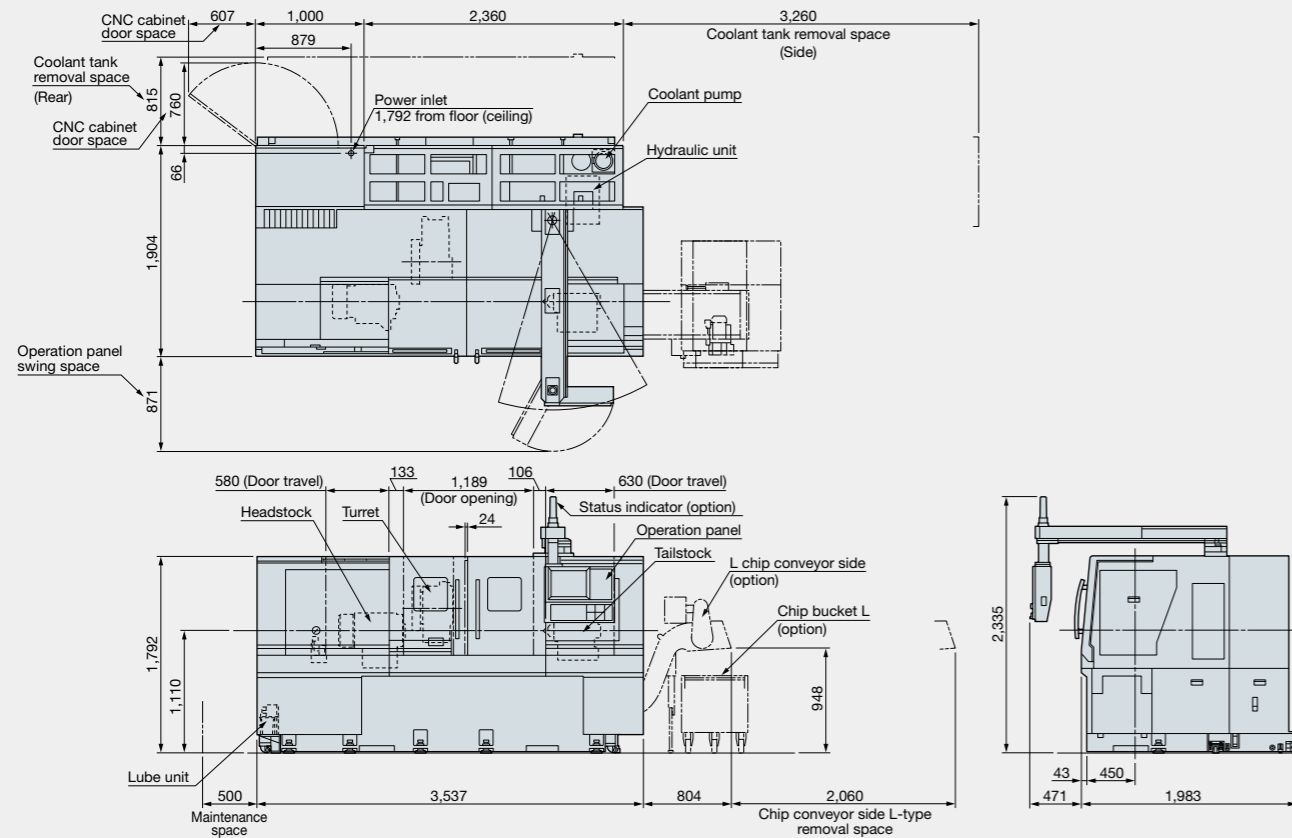
GENOS L400II (C × 500)

Unit: mm



GENOS L400II (C × 1100)

Unit: mm



Standard Specifications

Basic Specs	Control	Turning: X, Z simultaneous 2-axis
	Position feedback	OSP full range absolute position feedback (zero point return not required)
	Min / Max command	±99999.999 mm 8-digit decimal, command units: 0.001 mm, 0.01 mm, 1 mm
	Feed	Override: 0 to 200%
Operations	Spindle control	Direct spindle speed commands (S4) override 50 to 200%, constant cutting speed, optimum turning speed designate
	Tool compensation	Tool selection: 32 sets, tool offset: 32 sets
	Display	15-inch color display operational panel, multi-touch panel
	Program capacity	Program storage: 4 GB, operation buffer: 2 MB
	"suite apps"	Applications to graphically visualize and digitize information needed on the shop floor
	"suite operation"	Highly reliable touch panel suited to shop floors. One-touch access to suite apps.
Machine operations	Easy Operation	"Single-mode operation" to complete a series of operations
	Programing	Program management, edit, scheduled programs, fixed cycles, special fixed cycles, tool nose R compensation, fixed drilling cycles, arithmetic functions, logic statements, trig functions, variables, branch statements, auto programming (LAP4), programming help
	MacMan	Machining Management: machining results, machine utilization, fault data compile & report, external output
Communications/Networks	USB (2 ports), Ethernet	
High speed/accuracy	Thermo Active Stabilizer-Construction (TAS-C), thermal deformation compensation	
Energy-saving function	ECO suite	ECO Idling Stop, ECO Power Monitor
	Power Regeneration System	Regenerative power is used when the spindle and feed axes decelerate to reduce energy waste.

Optional Specifications

Item	Kit specs*1	NML		3D		One-Touch	
		E	D	E	D	E	D
New Operations							
Advanced One-Touch IGF-L						●	●
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	Tool compensation 96 sets (Std: 32 sets)						
Common variables	1,000 sets (Std: 200 sets)						
Thread matching							
Threading slide hold (G34, G35)							
Variable Spindle Speed Threading (VSST)							
Inverse time feed							
Monitoring							
Real 3D simulation				●	●	●	●
Cycle time over check		●	●	●	●	●	●
Load monitor (spindle, feed axis)				●	●	●	●
Load monitor no-load detection (load monitor ordered)							
AI machine diagnostics (feed axis bearings)							
Machine Data Logger							
Tool life management			●		●		●
Tool life warning							
Operation end buzzer							
Work counters	Count only						
	Cycle stop						
	Start disabled						
Hour meters	Power ON						
	Spindle rotation						
	NC operating						
	NC operation monitor (counter, totaling)		●	●	●	●	●
Status indicator (triple lamp) Type C [Type A, Type B]		●	●	●	●	●	●
Measuring							
Z-axis automatic zero offset by touch sensor							
Gauge data output	File output						
Post-process workpiece gauging interface	Set levels (5-level, 7-level)						
	BCD						
	RS-232C (dedicated channel)						

Item	Kit specs*1	NML		3D		One-Touch	
		E	D	E	D	E	D
External Input/Output and Communication Functions							
RS-232C connector							
DNC link	DNC-T3						
	DNC-C/Ethernet						
	DNC-DT						
USB (additional)	2 additional ports possible						
Automation/Unattended 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					
	C1 (digital switch)	BCD, 2-digit					
	C2 (external input)	BCD, 4-digit					
Okuma loader (OGL) interface							Including loader specs
Third party robot and loader interface *2	Type B (machine)						
	Type C (robot and loader)						
	Type D						
	Type E						
Bar feeders	Interface only						
Cycle time reduction *2	Operation time reduction	●	●	●	●	●	●
	Spindle rotating chuck open/close						
	Spindle rotating tailstock advance/retract						
High-Speed/High-Accuracy Functions							
0.1 μm control *2							
Pitch error compensation							
ECO suite plus (energy-saving function)							
ECO Operation	Chip conveyor intermit/link op						
	Mist collector intermit/link op						
	Spindle Power Peak Limiter						
ECO Power Monitor	Wattmeter						
Other Functions							
Collision Avoidance System (CAS) *3							
One-Touch Spreadsheet							
Machining Navi L-gII, T-g (threading)							
Harmonic Spindle Speed Control (HSSC)							
Spindle dead-slow cutting							
Spindle acceleration setting							
Manual cutting feed							
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, E: Economy, D: Deluxe

*2. Engineering discussions required.

*3. The manual tailstock is not compatible with the collision avoidance system.

When using Okuma products, always read the safety precautions mentioned in the instruction manual and attached to the product.

● The specifications, illustrations, and descriptions in this brochure vary in different markets and are subject to change without notice.
Pub.No.GENOS-L2-E-(6a)-150 (Jul 2023)

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



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