



CNC Horizontal Lathe NL Series



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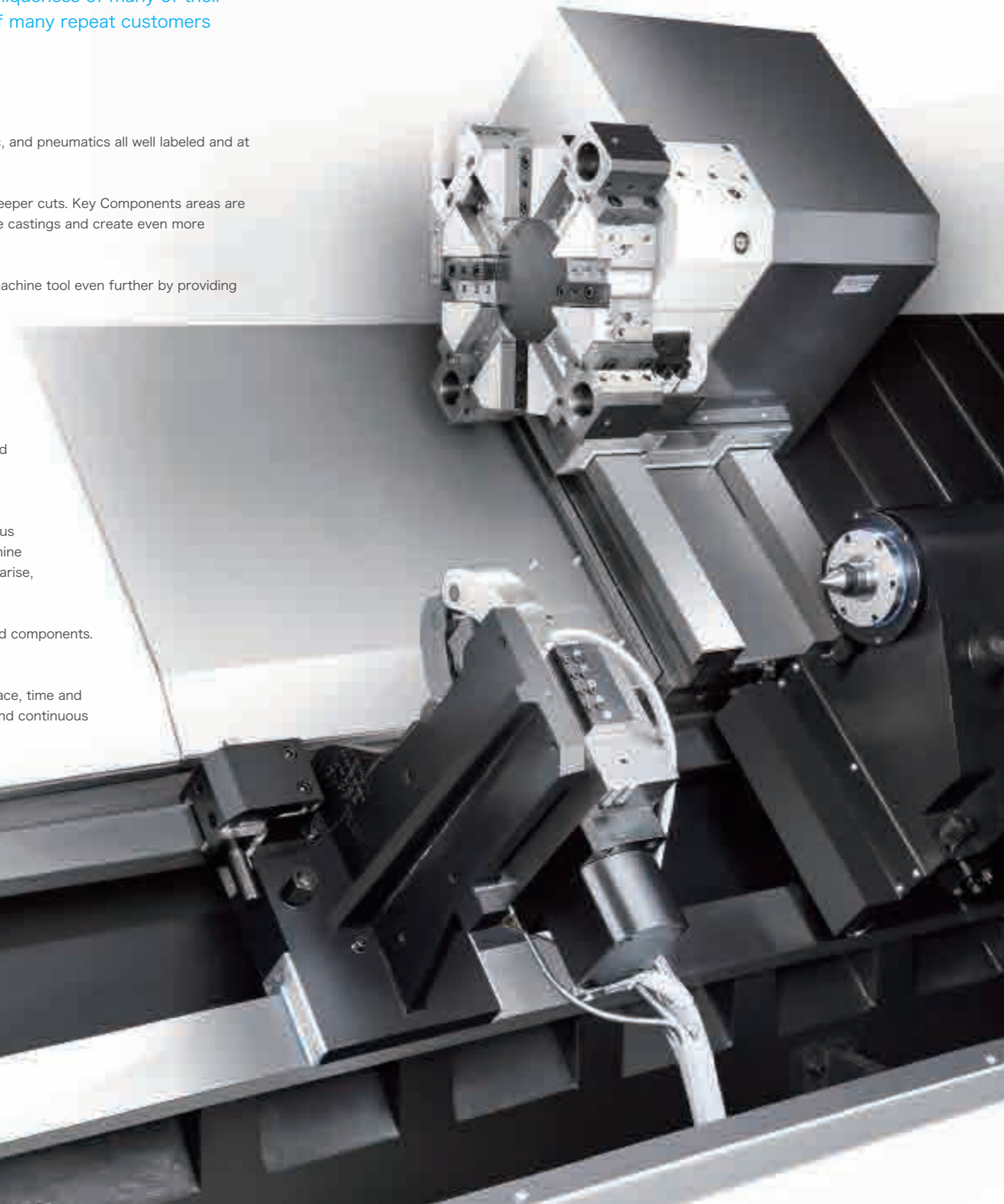
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NEWAY CNC Horizontal Lathe

Neway's Diverse New model line-up is designed and engineered to meet the World Class processing needs of several unique and different industries. The uniqueness of many of their zero-defect manufacturing process has won the trust and praise of many repeat customers worldwide.

- The well-organized layout of the machine provides easy access to electrical, hydraulic, and pneumatics all well labeled and at your fingertips.
- The 45° slant bed design with compact structure provides high rigidity needed for deeper cuts. Key Components areas are even cast of special resin sand, which can effectively improve the performance of the castings and create even more vibration dampening characteristics.
- Each casting is treated with up to 4 aging processes to improve the stability of the machine tool even further by providing the best-finished foundation casting base possible.
- Through the FEA finite element structure analysis, the machine tool is a further enhanced design with better rigidity, heat dissipation, vibration reduction and deflection resistance;
- All main components are first machined with World-Class "mother" machines to ensure the accuracy of key components fit and finish. Then measured and re-checked and adjusted to ensure tolerance within the specification needed on the best CMM measuring devices in the world.
- Key components not built by or made by NEWAY utilize readily attainable world-famous brands, which greatly increase the long-term value, reliability, and uptime of the machine tool. The ease of gaining components from multiple sources if the need should ever arise, makes these sustainable machines well into the future.
- The modular design is both flexible and diverse. Many platforms share technology and components. The goal is to efficiently and economically meet customers' special requirements.
- NEWAY compact structures and small footprints are effective in saving customer space, time and money; while the fully enclosed protection and inclined structure make chip control and continuous chip removal a snap.



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01 High-Speed

Great attention has been given to the design of all critical components. The precision spindle, bed construction, saddle, and tailstock all together to provide stability which allows for speeds of up to 6000 rpm. The rapid traverse reaches 30m/min, which significantly improves the speed and machining efficiency of these World Class machine tools.



Spindle

- Computer designed Castings use improved front and rear bearing support optimized by use of the finite element structural analysis which provides and compensates with material to stress areas to ensure the best rigidity, vibration dampening, deflection resistance characteristics under load.
- The spindle bearing mounting surface and the locking nut mounting thread are formed through a single grinding process. This method provides precise coordination between the spindle and the spindle box, which improves the spindle speed and stability.
- All spindle bearings are World Class imported P4-class machine tool bearings. They use permanent grease lubrication, for improved precision, and excellent longevity.

Max Spindle Speed ▶

NL16/20 **6000**r/min

Rapid Traverse X/Z ▶

NL16 Rapid Traverse X/Z **30/30**m/min

NL20 Rapid Traverse X/Z **24/30**m/min



Headstock

- The use of thermal symmetry design combines a wide range of heat dissipation. Ribbed supported structure dramatically resists and reduces the amount of deformation caused by internal heat generation in the machine tool and controls thermal growth which improves on machining accuracy.
- The front and rear bearing bores of the spindle box are completed through one-step machining of the World-Class Swiss SIP boring machine. This "Mother Machine" provides micron tolerances and ensures correct bore alignment and proper spindle alignment.



Turret

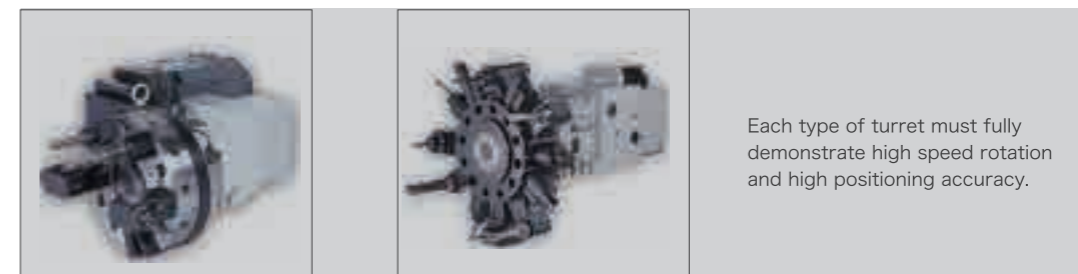
- Standard 8 station hydraulic turret with custom thickened tool disc offers improved turret rigidity, improved cutting efficiency, high positioning accuracy, maximum automation of processing, high efficiency; Neway offers 10 and 12 station optional turrets with many choices of drive available.
- Reinforced tool holders and keyway positioning stabilizes tool point and minimizes harmonics under heavy load cutting conditions.
- Multiple Turret Combinations offer custom.



• Hydraulic turret

• Servo turret

• Electric turret



• VDI Live turret

• BMT Live turret

Each type of turret must fully demonstrate high speed rotation and high positioning accuracy.

02 High Precision

Structural parts are cast, aged, managed correctly through every step of the aging process.



- Laser interferometer testing surfaces are laser checked for trueness

- The castings are machined for flatness and squareness with one of the World-Class Zayer Five-sided Bridge Milling machines. Smaller parts are manufactured on World Class Starrag- Heckert Athletic Horizontal Machining Centers.
- Kellenberger Swiss cylindrical grinders polish and grind super polished spindle tubes. Huge Favretto Gantry type grinders finish castings to Arguably some of the Best Machine Castings in the World.
- All these machines are some of the World's Finest and are continuously calibrated and recalibrated to ensure extremely predictably stable high precision foundation castings.
- The overall bed design has a small amount of built-in anti force-deformation which is optimized through the finite element analysis. This allows for better rigidity, heat dissipation (thermal symmetry) and more accurate workpiece results and the finish quality.

Fine Craftsmanship

The surface is meticulously scraped, and the spindle mounting surface, turret, tailstock, and pedestal base are matched to a master to achieve maximum assembly accuracy, rigid structure, and balanced load on all mating surfaces.



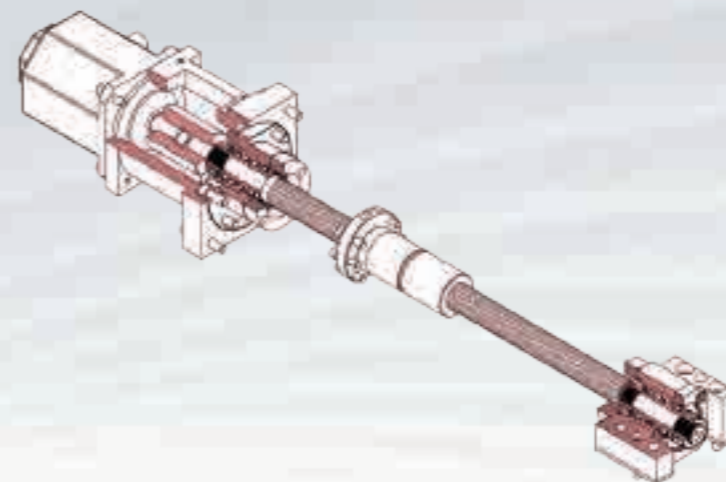
Double-nut Ball Screw

Double-nut which features high-speed pre-tensioned silent ball screws offering no backlash, high precision, and speedy rapids.



Pre-tensioning

The ball screw adopts the pre-tension process, which effectively reduces the slack in the ball screw and helps reduce the heat transfer and friction. This improves the accuracy and strengthens the rigidity and heat deformation resistance.



Spindle Motor

The motor seat is beside the machine that eliminates heat transfer and vibration caused by the motor.



03 High Stability

For the critical components assembling, multiple measuring and quantifying the assembly process is key to achieving Neway's quality goal. Each process has strict quality control to ensure the highest stability of the end-product.

Spindle Performance Testing

a. Neway performs a dynamic balance test to provide the stability of the high-speed rotation of the spindle.



b. 48 hours spindle run-in test that the spindle through the actual operation and monitoring of the temperature of the rotating parts. This monitoring and or corrective action is to eliminate any out of tolerance conditions of the assembly and ensure the stable and reliable high-speed operation of the spindle.



Torque Wrench

All major surface locking screws are locked by specially calibrated torque wrenches according to process standards to ensure the stability and reliability of the connection.



Tension Test for the spindle belt

The spindle belt's tension is all measured by a special sonic tensiometer and adjusted to factory values to ensure stable operation of the machine.



Availability of key components

Global purchasing of available key parts and selection of first-class brands in the industry have significantly ensured the long-term sustainability of the machine tools through attainability of available parts through World Class suppliers.

Neway's casting multiple aging process produces World Class castings

Through natural aging and secondary aging, the internal stress is fully released, and the machine tool accuracy can be maintained for a much longer time before adjustment is needed.



04 R&D

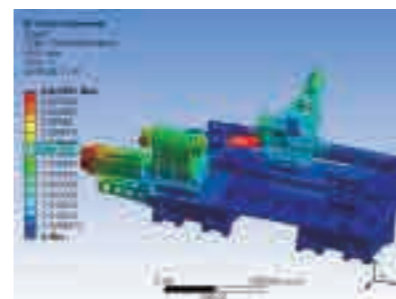
With 7 R&D departments all with specific expertise and 150+ R&D personnel. Neway strives up to 20+ new design products per year. 10+ continuous improvement projects in fundamental areas, using the PLM full lifecycle management system to enhance R&D efficiency are always ongoing.

Ongoing continuously improving quality refining projects:

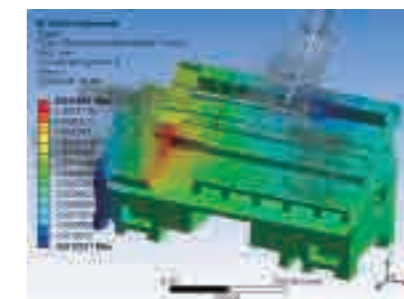
- Static stiffness testing and research of machine tools
- Research on Vibration and Dynamic Stiffness of Machine Tools
- Research on Spectrum Analysis of Machine Tools
- Finite Element Analysis of complete Machine and Components
- Thermal deformation analysis of entire machine and components
- High-Speed Ball Screw Cooling System is Continuously improving.
- Research on Intelligent Development and Application of CNC Machine Tools
- High-pressure chip breaking test and application of the protective seal

Finite Element Analysis

The essential parts are all based on finite element analysis. The layout of the optimized structure is cast from high-quality cast iron materials with high stability and excellent shock absorption.



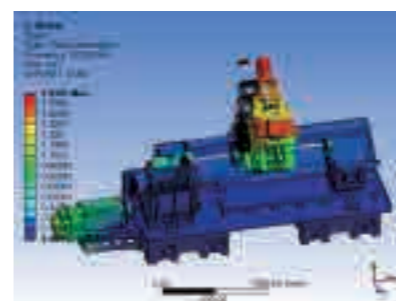
• Machine stiffness analysis deformation map shows where more material needs to be applied



• Y direction analyzes deformation

Dynamic Analysis

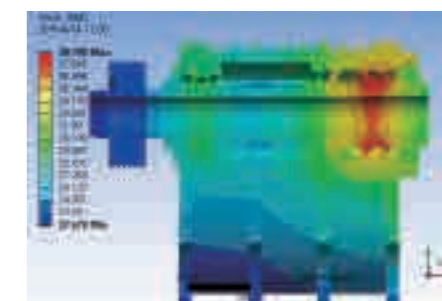
Through dynamic performance balancing analysis, harmonics are greatly reduced that improves the natural frequency and vibration resistance of the machine tool.



• Modal dynamic analysis

Thermal analysis

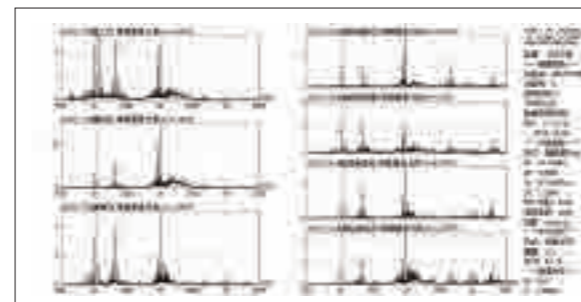
Thermal analysis of the spindle components reduces the thermal deformation of the spindle.



• Thermal analysis of lathe spindle

Vibration and Spectrum Analysis

The vibration spectrum analysis prevents and eliminates the excessive vibration of the machine.



• Gear box spectrum analysis

Static and Dynamic Stiffness Studies

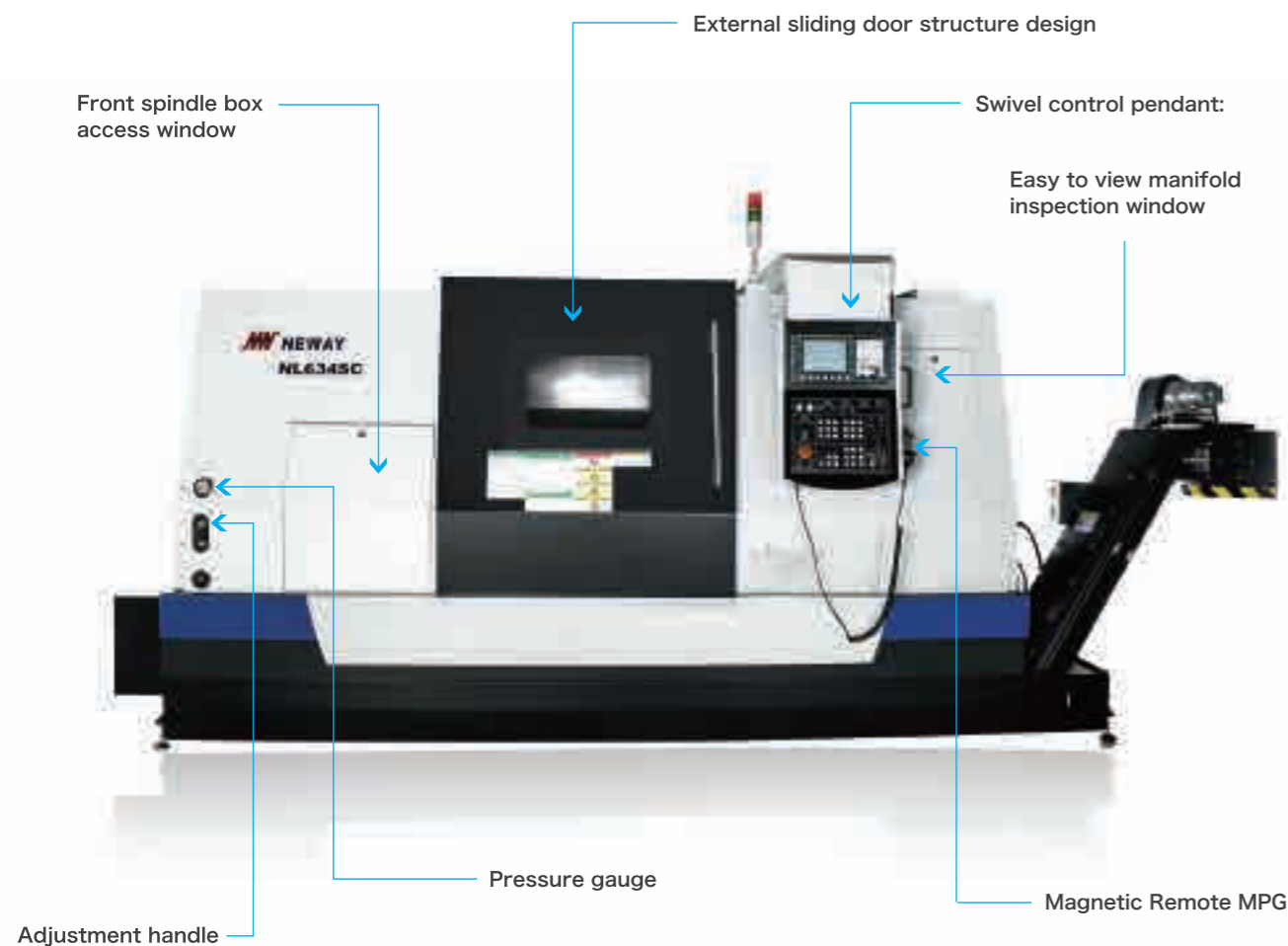
By measuring and studying the static and dynamic stiffness properties of the machine, Neway ensures the excellent stiffness performance.



• Dynamic stiffness test

05 Ergonomic Operator Friendly Design

Careful attention to design detail along with, constant optimization, ease of operation, convenient location of keyboard and ease of maintenance make our machines a favorite.



- **External sliding door structure design:** no iron inclusions, easy to clean no chip buildup
- **Swivel control pendant:** Conveniently rotates to an optimal viewing position
- **Pressure gauge and adjustment handle:** convenient reading and adjustment
- **Front spindle box access window:** no obstacles to maintenance and repair
- **Easy to view manifold inspection window:** allows inspection of hydraulics and pneumatics.
- **Magnetic Remote MPG:** attaches to any metal surface

06 Case Studies

These examples of completed product specifications and case studies show abundant choices and versatile configurations. Neway machine tools are applied to a wide range of end users and industries.



Sliding Sleeve

Industry:	Automotive	Cutting speed:	260m/min
Material:	55#	Workpiece size:	90mm
Task:	Thin-walled parts chip breaking processing	Processing time:	128s
		Processing machine:	NL201



Piston

Industry:	Automotive	Cutting speed:	310m/min
Material:	10#	Workpiece size:	37mm
Task:	High efficiency	Processing time:	32s
		Processing machine:	NL161



Cam

Industry:	Automotive	Cutting speed:	180m/min
Material:	HT250	Workpiece size:	30mm
Task:	A slender shaft	Processing time:	250s
		Processing machine:	NL253HA



Input shaft

Industry:	Automotive	Cutting speed:	200min
Material:	45#	Workpiece size:	22mm
Task:	High precision	Processing time:	38s
		Processing machine:	NL201



Plunger

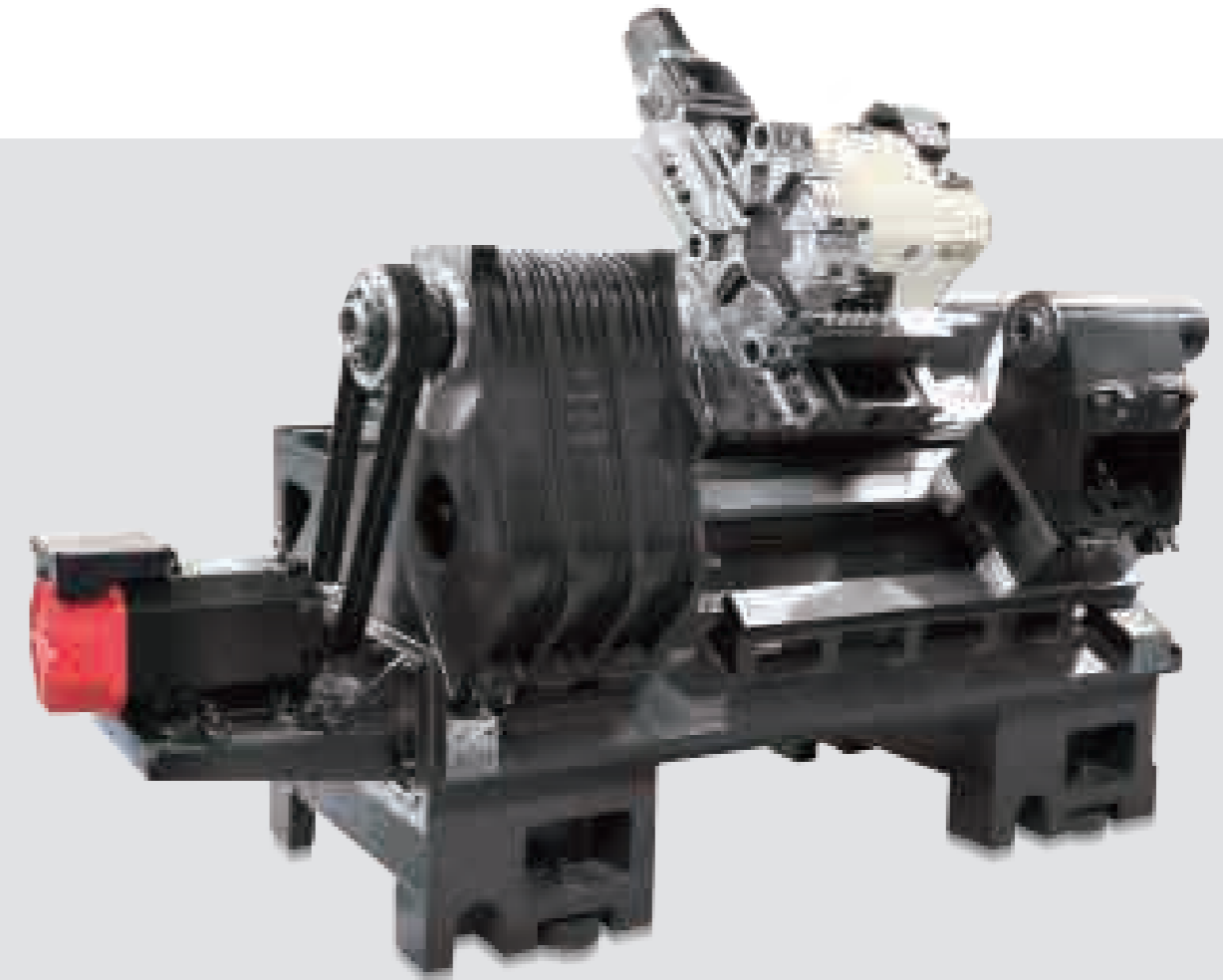
Industry:	Automotive	Cutting speed:	100m/min
Material:	20#、16MnCr5	Workpiece size:	10mm
Task:	Thin-walled workpiece High efficiency	Processing time:	12-16s
		Processing machine:	NL161

NL Series- Roller Guideway CNC Horizontal Lathe

- 45° overall slant bed design offers high rigidity for deeper cuts and excellent chip removal.
- FEA structure analysis allows the correct layout of casting ribs increasing rigidity, lessening stress.
- The X/Z axis screw is pre-tensioned to reduce sagging which has an influence of temperature increase on the accuracy of the ball screw during machining. Screws are installed on both sides of the screw itself to increase the protection of the screw bearing. The servo motor is then directly connected to drive the high speed and silent ball screw.
- X/Z axes utilize linear roller guideways. These provide excellent dynamic characteristics, stable machining accuracy, high rapid traverse speeds for high processing efficiency.
- Tailstock adopts rectangular guideway, with excellent rigidity both up and down the layered structure. There are micro-adjustment devices between the upper and lower tiers. These facilitate the fine adjustment of the tailstock center of rotation along the X-axis direction. The tailstock frame can be set, towed or driven into place, and the quill is driven hydraulically.
- Neway utilizes a high rigidity spindle box for lower noise, higher precision and long service life.
- World Class functional components, equipped with imported servo drive motors, reliable system performance, excellent controllability, high-speed indexing accuracy are the result.
- The wide range of options: such as bar feeders, part catcher, larger hollow chucks, increased spindle bore, programmable tailstocks, tool measurement, hydraulic steady rest, etc.

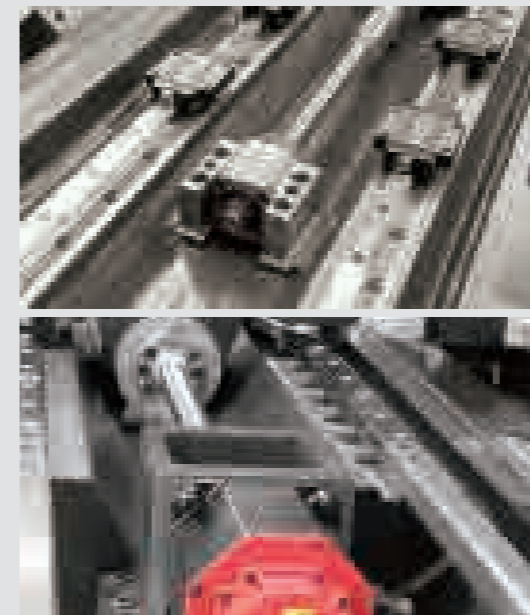


The main parameters		NL161H/L	NL201HA/L	NL251HA/L	NL322HA	NL402HA	NL635L
Max swing on bed	mm	Φ500	Φ450	Φ550	Φ570	Φ650	Φ650
Max cutting dia	mm	Φ210	Φ220	Φ360	Φ430	Φ510	Φ630
Max cutting length	mm	320	420/355	410/345	565	565	1500
Motor power	kW	5.5/7.5	7.5/11	7.5/11	11/15	11/15	15/18.5
Spindle max	r/min	6000	6000	5000	4000	4000	2000



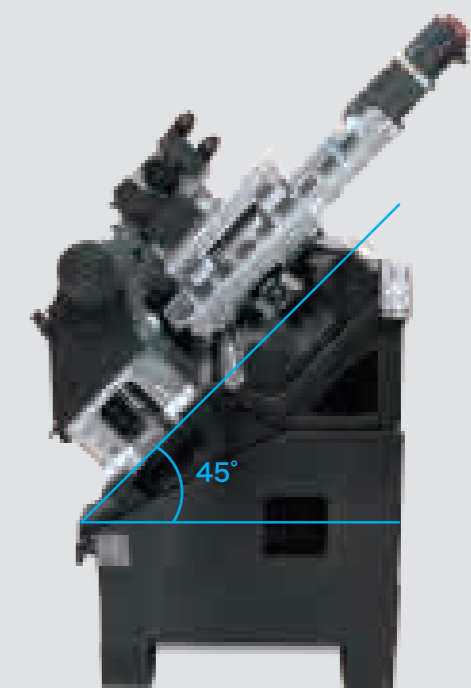
1 Roller Guideway

High-precision linear rolling guides increase the speed of movement and significantly reduce non-cutting time. The use of imported ball guides provides high positioning accuracy and low wear. It can maintain accuracy for a long time, fully improve productivity, and ensure its processing stability.



2 45° overall slant bed design

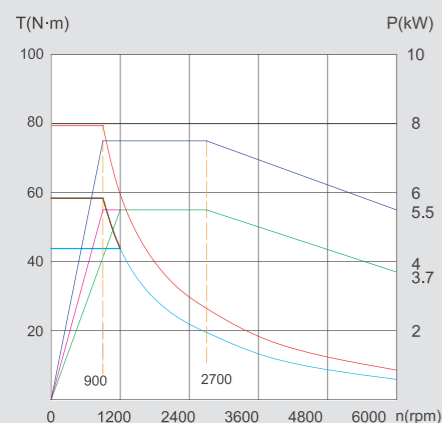
High-speed silent ball screw, improve machine tool accuracy, provide its processing stability, positioning accuracy, wear less can maintain accuracy for a long time.



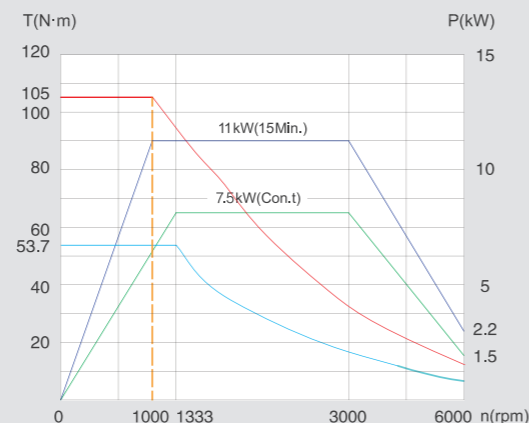
Spindle Power Torque Diagram

(Unit: mm)

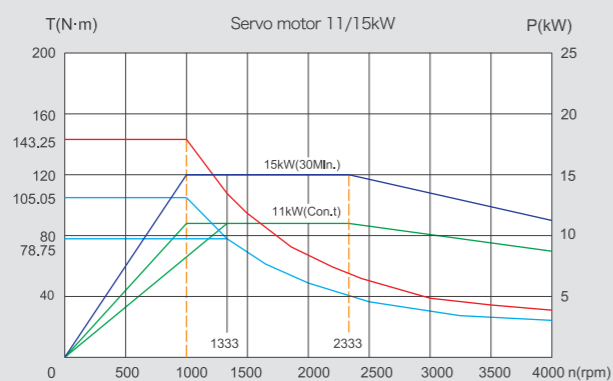
NL161H/L



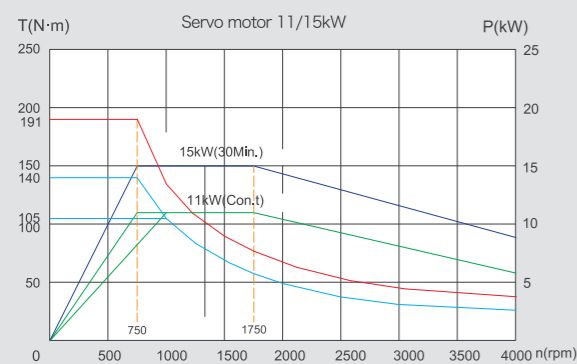
NL201HA/L, NL251HA/L, NL253HA



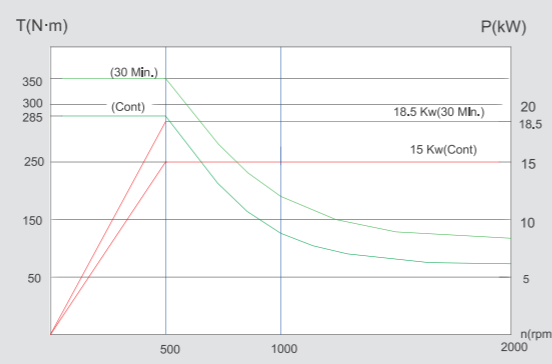
NL324HA/L



NL402/404HA



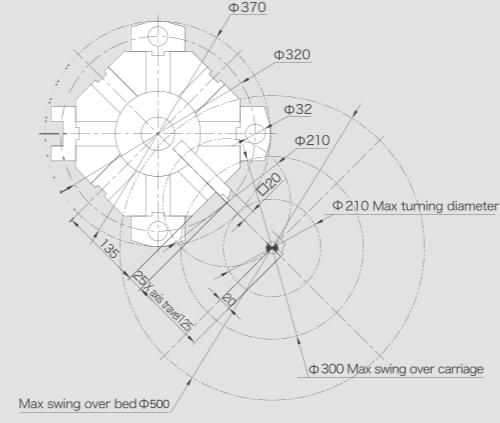
NL635L



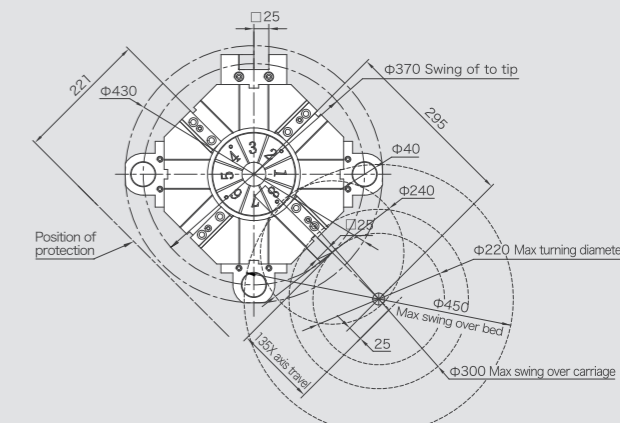
Tool Interference Diagram

(Unit: mm)

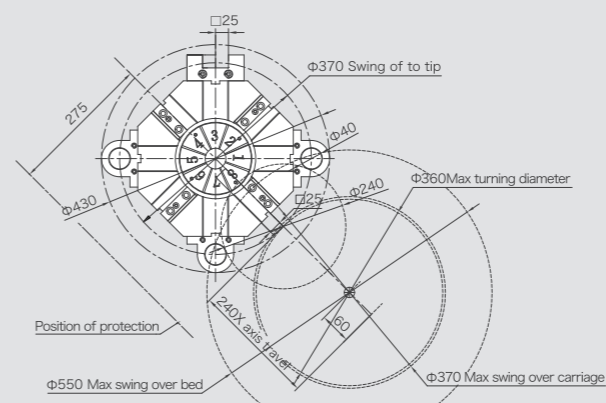
NL161H/L



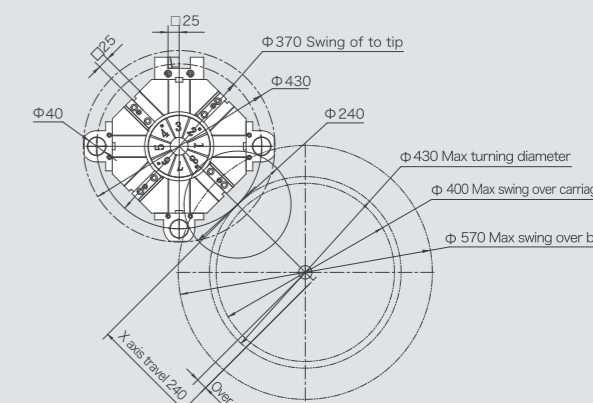
NL201HA/L



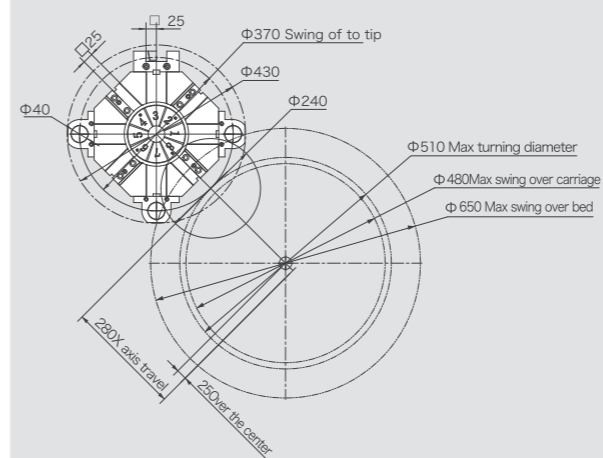
NL251HA/L, NL253HA



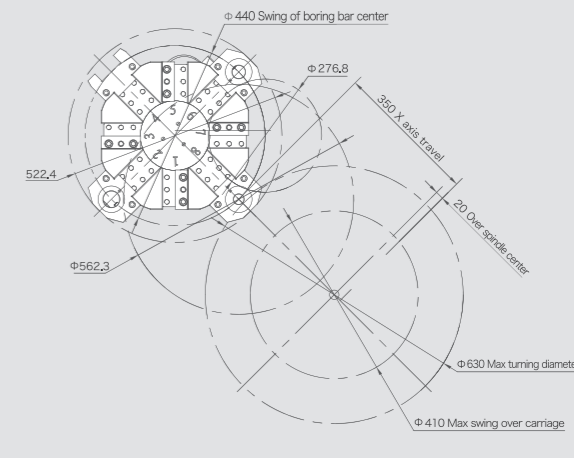
NL324HA/L



NL402/404HA



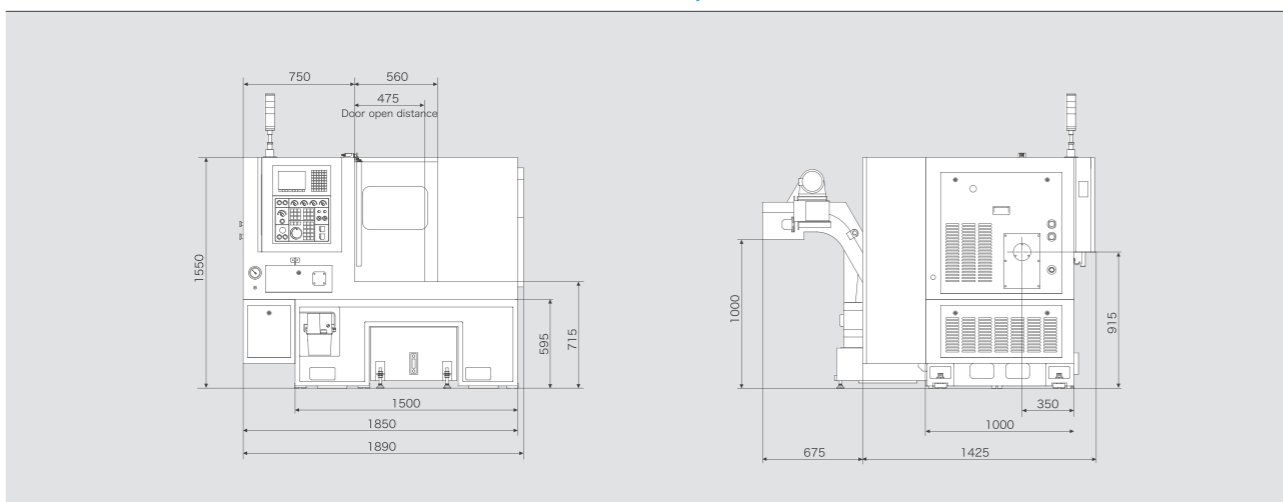
NL635L



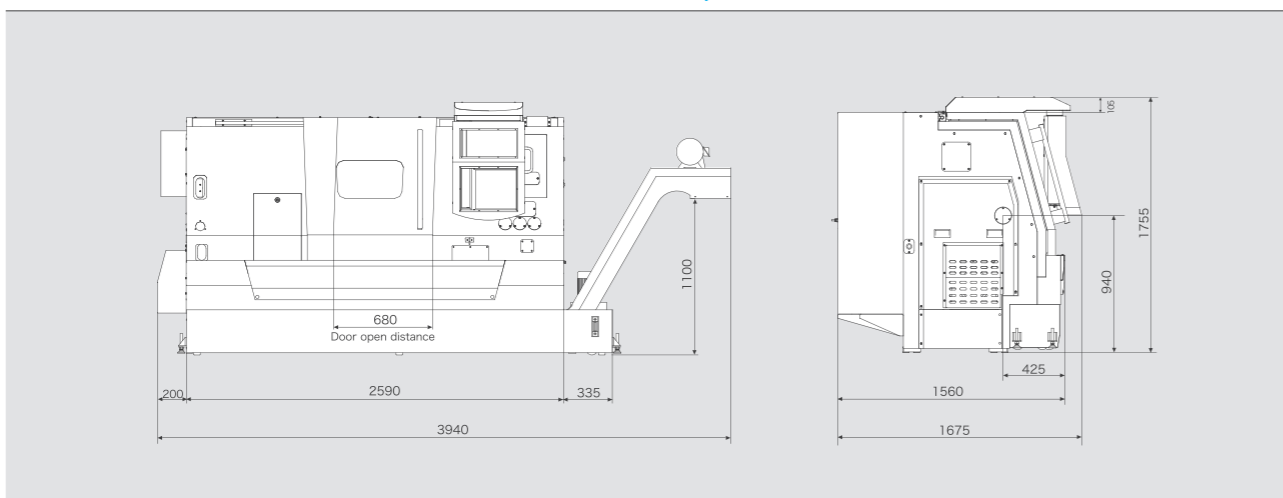
External Dimensions

(Unit: mm)

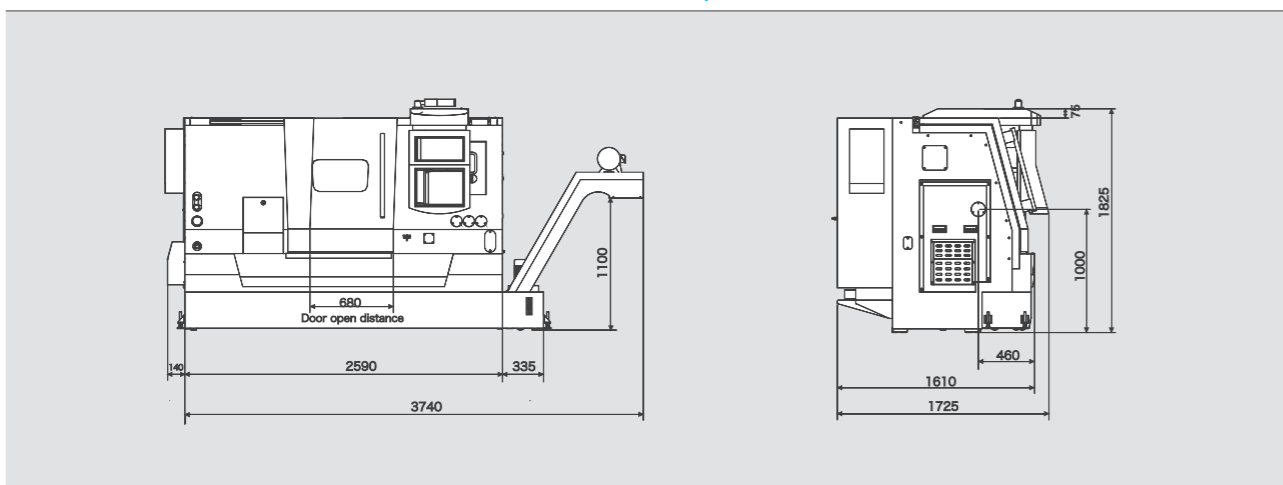
NL161H/L



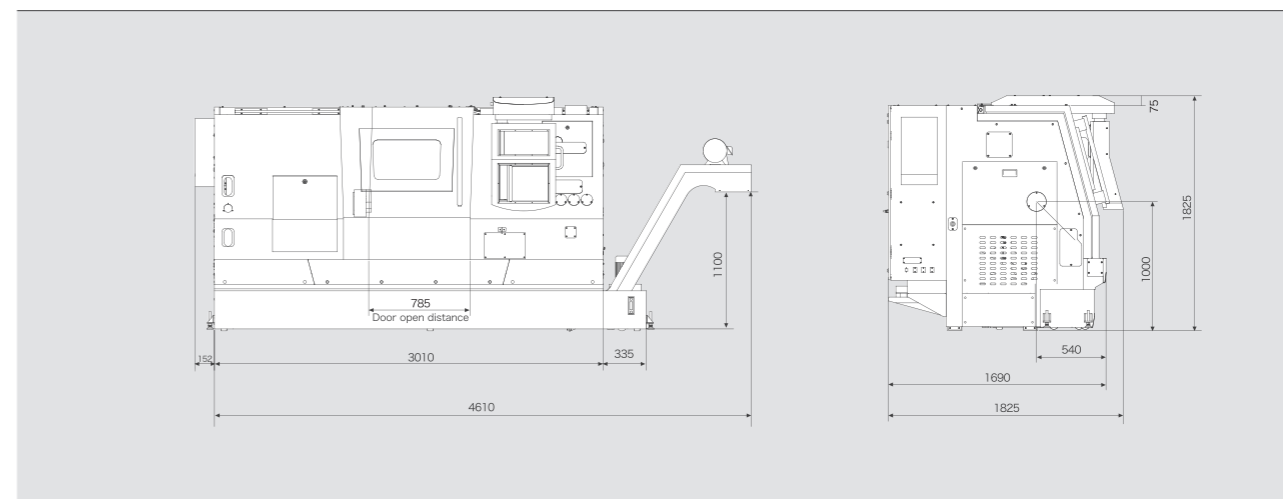
NL201HA/L



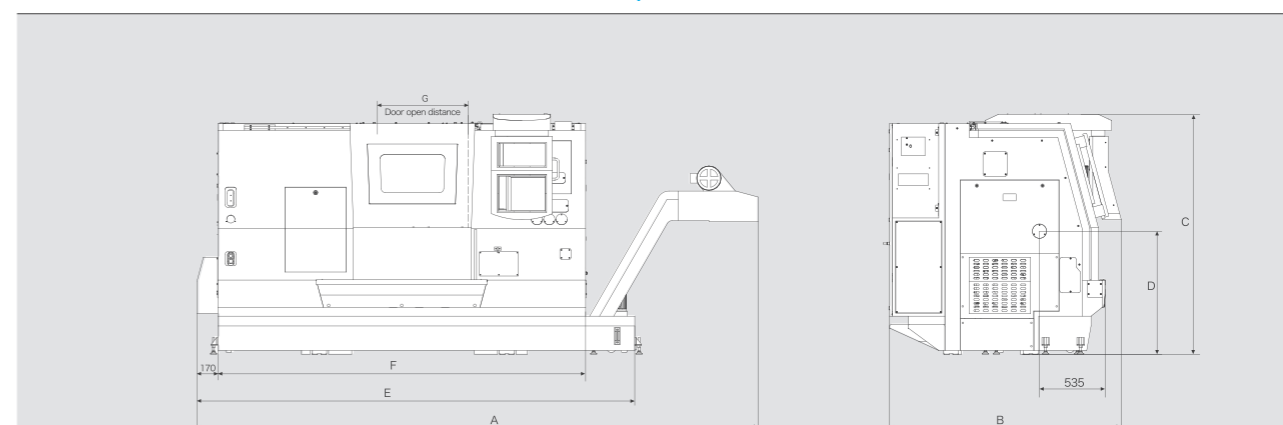
NL251HA/L



NL253HA

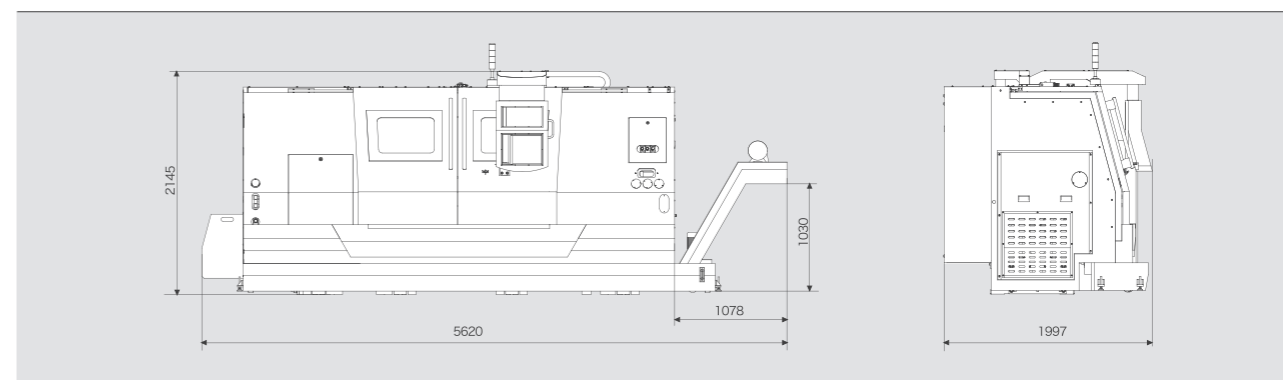


NL322HA, NL324HA/L, NL402HA, NL404HA



Models	A	B	C	D	E	F	G
NL322HA	4570	1845	1955	1000	3565	2995	740
NL324HA/L	5070	1845	1955	1000	4065	3495	890
NL402HA	4570	1885	1955	1000	3565	2995	740
NL404HA	5070	1885	1955	1000	4065	3495	890

NL635L



Item		Unit	NL161H/L	NL201HA/L	NL251HA/L	NL253HA	NL322HA	NL324HA/L	NL402HA	NL404HA	NL635L	
Processing range	Max. swing over bed	mm	Φ500	Φ450	Φ550	Φ550	Φ570	Φ570	Φ650	Φ650	Φ650	
	Max swing over saddle	mm	Φ300	Φ300	Φ370	Φ370	Φ400	Φ400	Φ480	Φ480	Φ450	
	Max turning diameter	mm	Φ210	Φ220	Φ360	Φ360	Φ430	Φ430	Φ510	Φ510	Φ630	
	Max turning length	mm	320	420/355	410/345	810	565	1000	565	1000	1500	
	Max bar capacity	mm	Φ44	Φ44	Φ44	Φ44	Φ51	Φ51	Φ51	Φ51	Φ74	
Spindle	Max spindle speed	rpm	6000	6000	5000	5000	4000	4000	4000	4000	2000	
	Spindle nose	ISO	A2-5	A2-5	A2-6	A2-6	A2-6	A2-6	A2-6	A2-6	A2-8	
	Spindle bore	mm	Φ56	Φ56	Φ56	Φ56	Φ65	Φ65	Φ65	Φ65	Φ87	
	Spindle taper	-	Morse 6#	Morse 6#	Morse 6#	Morse 6#	Metric 80	Metric 80	Metric 80	Metric 80	Metric 100	
	Height from spindle center to ground	mm	915	940	1000	1000	1000	1000	1000	1000	1100	
Hydraulic tailstock	Tailstock quill diameter	mm	-/Servo tailstock	-/Servo tailstock	-/Servo tailstock	Φ100	Φ100/Servo tailstock	Φ100/Servo tailstock	Φ100	Φ100	Φ130	
	Tailstock quill travel	mm	-/Tailstock trip300	-/Tailstock trip 400	-/Tailstock trip 400	100	100/Tailstock trip1000	100/Tailstock trip1000	100	100	100	
	Quill Center	Morse	-/Live center4#	-/Live center 4#	-/Live center 5#	Live center 5#	Live center 5#	Live center 5#	Live center 5#	Live center 5#	Built-in center 5#	
Axis X/Z	Travel X/Z	mm	125/350	135/430	240/430	240/830	240/600	240/1100	280/600	280/1100	350/1600	
	Rapid traverse X/Z	m/min	30/30	24/30	24/30	24/30	24/30	24/30	24/30	24/30	16/18	
	X axis Ball screw Dia/Pitch	mm	Φ32/10	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ40/10	
	Z axis Ball screw Dia/Pitch	mm	Φ32/10	Φ32/10	Φ32/10	Φ32/10	Φ40/12	Φ40/12	Φ40/12	Φ40/12	Φ40/10	
Hydraulic turret	Tool position	-	8 (Servo turret)	8	8	8	8	8	8	8	8	
	Turning tool shank size	mm	20×20	25×25	25×25	25×25	25×25	25×25	25×25	25×25	32×25	
	Boring tool holder diameter	mm	Φ32	Φ40	Φ40	Φ40	Φ40	Φ40	Φ40	Φ40	Φ50	
Machining accuracy	Positioning accuracy	X	mm	0.006	0.006	0.006	0.006	0.008	0.008	0.01	0.01	0.01
		Z	mm	0.006	0.006	0.006	0.006	0.008	0.008	0.01	0.01	0.014
	Repeatability accuracy	X	mm	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.005
		Z	mm	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.008
Machine power capacity	kVA	15	25	25	25	25	25	25	25	25	35	
Machine dimension (L x W x H)	mm	2000×2250×1550	3940×1675×1755	3880×1725×1825	4315×1825×1825	4570×1845×1955	5070×1845×1955	4570×1885×1955	5070×1885×1955	5070×1885×1955	5770×2060×2170	
Machine weight	kg	3000	3900	4000	4500	4800	5500	5000	5700	8000		
CNC system	-	NEWAY FANUC [SIEMENS]					NEWAY FANUC [SIEMENS]					
Spindle motor power	kW	5.5/7.5	7.5/11	7.5/11	7.5/11	11/15	11/15	11/15	11/15	11/15	15/18.5	
Motor torque X/Z	N·m	7/7	7/7	7/7	7/7	7/7	7/7	7/7	7/7	7/7	20/20	
Hydraulic chuck	inch	hollow 6" [solid 6"]	hollow 6" [solid 6"/solid(hollow) 8"]	hollow 8" [solid 8"/solid(hollow)10"]	hollow 8" [solid 8"/solid(hollow)10"]	solid 8" [hollow 8"/solid(hollow)10"]	solid 8" [hollow 8"/solid(hollow)10"]	solid 10" [hollow 10"/solid(hollow)12"]	solid 10" [hollow 10"/solid(hollow)12"]	solid 10" [hollow 10"/solid(hollow)12"]	solid 12" [hollow 12"]	
[Hydraulic steady rest]	mm	-	-	Φ70	Φ70	Φ150	Φ150	Φ165	Φ165	Φ165	Φ165	
Automatic chip conveyor	-	Automatic rear chip conveyor	Automatic right chip conveyor [Automatic rear chip conveyor/ Automatic left chip conveyor]	Automatic right chip conveyor [Automatic rear chip conveyor/ Automatic left chip conveyor]	Automatic right chip conveyor [Automatic rear chip conveyor/ Automatic left chip conveyor]	Automatic right chip conveyor [Automatic rear chip conveyor/ Automatic left chip conveyor]	Automatic right chip conveyor [Automatic rear chip conveyor/ Automatic left chip conveyor]	Automatic right chip conveyor [Automatic rear chip conveyor/ Automatic left chip conveyor]	Automatic right chip conveyor [Automatic rear chip conveyor/ Automatic left chip conveyor]	Automatic right chip conveyor [Automatic rear chip conveyor/ Automatic left chip conveyor]	Automatic right chip conveyor [Automatic left chip conveyor]	

Standard on Neway Lathes:

Airconditioned electrical cabinet, installation kit, Automatic way lubricating device, standard tool attachment, An Operator friendly foot pedal clamp and unclamp switch, standard chuck and oil cylinder, soft jaw set, hydraulic device, air gun, tri-color status lamp, chip cart, fully enclosed cabinet protection, waste oil skimmer device, the LED illumination inside the work area lamp

Optional on Neway Lathes:

Hard jaw set, special chucks, automatic tool measurement, steady rests, automatic door, additional tool attachments, air-blow mechanisms, bar feeder, oil mist collector, oil skimmer, tailstock travel inspection, high-pressure chip breaker, custom functions, part catcher.

[]Option

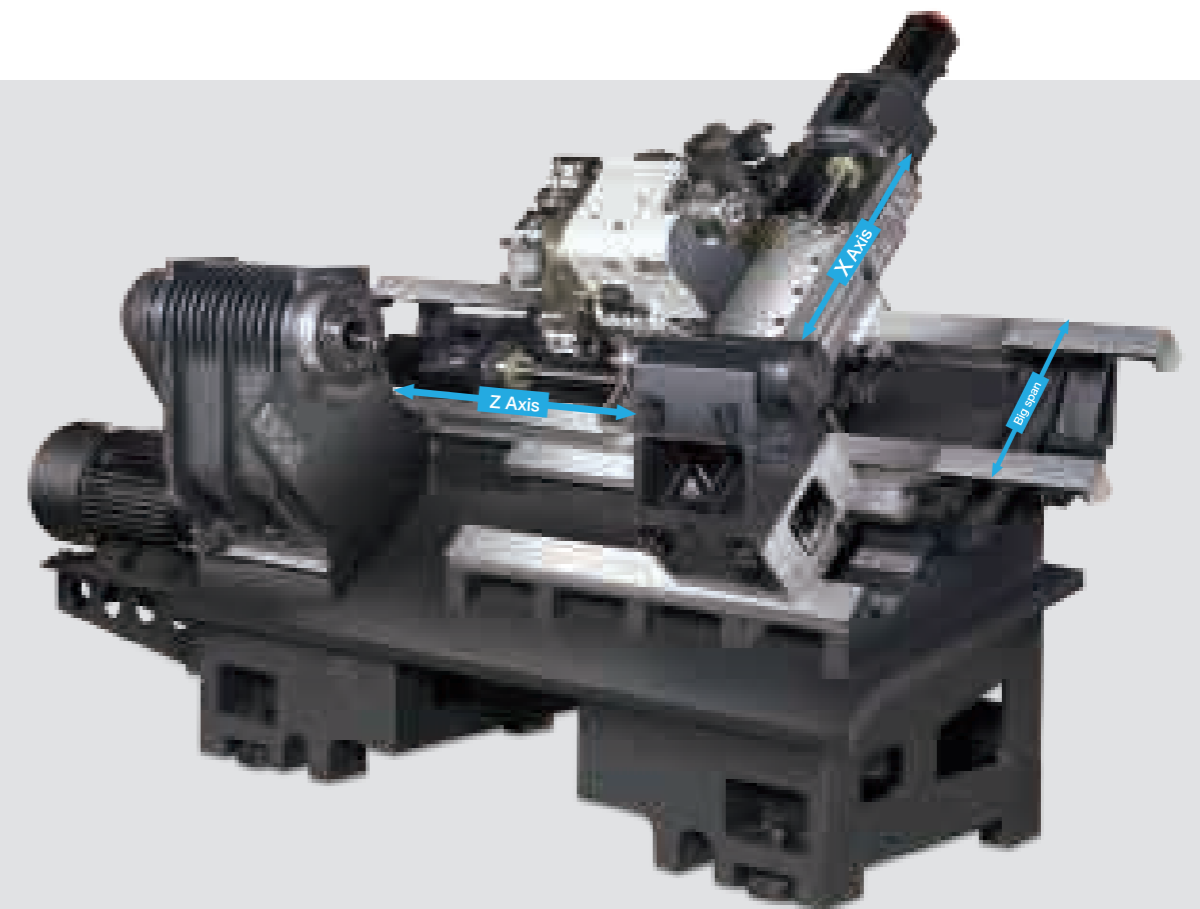
NL Series- Box Way Guideway CNC Horizontal Lathe

- 45° overall slant bed design offers high rigidity, the best chip removal. The X/Z axis screw is pre-tensioned to reduce sagging and the influence of temperature increase on the accuracy of the ball screw during machining. Screws are installed on the two sides of the screw rod to increase the protection of the screw bearing, and the servo motor is directly connected to drive the high speed and silent ball screw.
- X/Z axis box-way design, HRC48 hardness surface heat treatment, guideway span, rigidity, torsional shock resistance, stable machining accuracy, with lower friction with wear resistant imported Turcite offer smooth movement accuracy and dynamic characteristics.
- Tailstock adopts rectangular guideway, with excellent rigidity both up and down the layered structure. There are micro-adjustment devices between the upper and lower tiers. These facilitate the fine adjustment of the tailstock center of rotation along the X-axis direction. The tailstock frame can be set, towed or driven into place, and the quill actuated hydraulically.
- Neway utilizes a high rigidity spindle box for lower noise, higher precision better heat dissipation all to ensure long service life.
- Neway offers a wide range of options: such as bar feeders, part catcher, larger hollow chucks, increased spindle bore, programmable tailstocks, tool measurement, hydraulic steady rest, etc.



The main parameters

		NL502SC	NL504SC	NL634SC/SCZ	NL635SC/SCZ	NL636SC/SCZ
Max swing on bed	mm	Φ600	Φ600	Φ650	Φ650	Φ650
Max cutting dia	mm	Φ500	Φ500	Φ630	Φ630	Φ630
Max cutting length	mm	500	1000	1000	1500	2000
Motor power	kW	11/15	11/15	15/18.5	15/8.5	15/18.5
Spindle max	r/min	3000	3000	2000/1000	2000/1000	2000/1000



1 Box-way

Box-ways are used to provide a large contact area and large-span layout design with excellent rigidity. The X-axis and Z-axis of this type of machine are all rectangular-shaped box-way, all of which are carefully scraped by experienced expert technicians. Strict attention to matching surface fit and finish. Upon final quality acceptance, Neway warrants the machine's high precision has been achieved.



2 Tailstock

The tailstock structure is standard with the center structure, the quill is hydraulically driven, and the operation is programmable. The tailstock adopts a rectangular guideway bed saddle, tow bar drags into place mechanism, which has excellent accuracy and precise movement.



3 X/Z axis Bed Layout Design

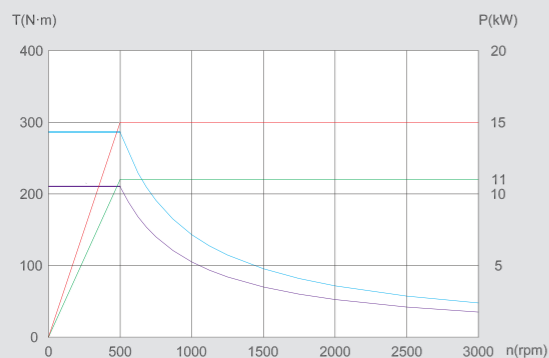
World Class Cast iron Meehanite Castings with a box-way design is further refined by an HRC48 hardness surface heat treatment. This treatment offers the full span, enhanced rigidity, longer life, vibration absorption and greatly improved deflection resistance.

Spindle Power Torque Diagram

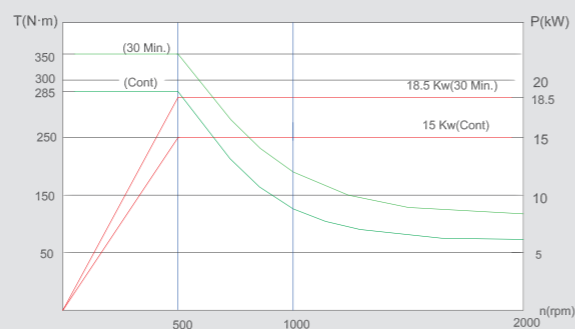
Tool Interference Diagram

(Unit: mm)

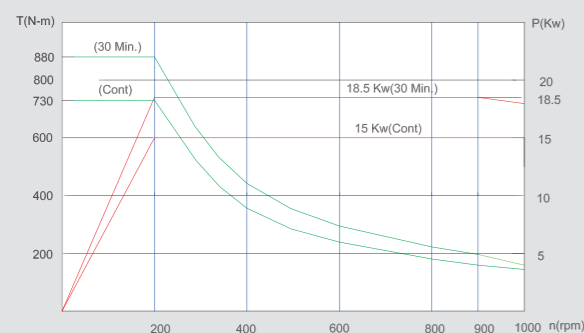
NL502/504SC



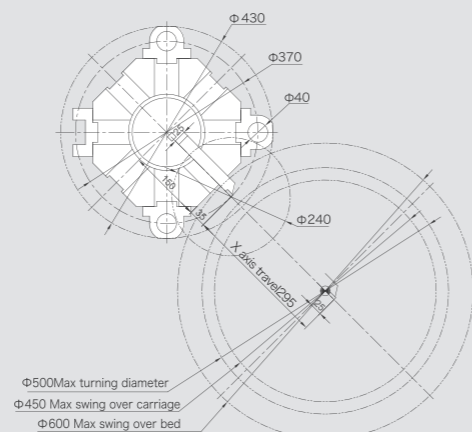
NL634/635SC



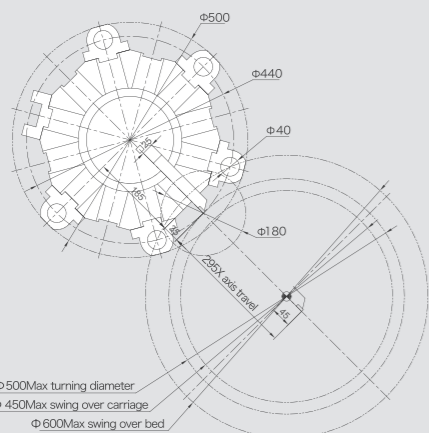
NL634/635/636SCZ



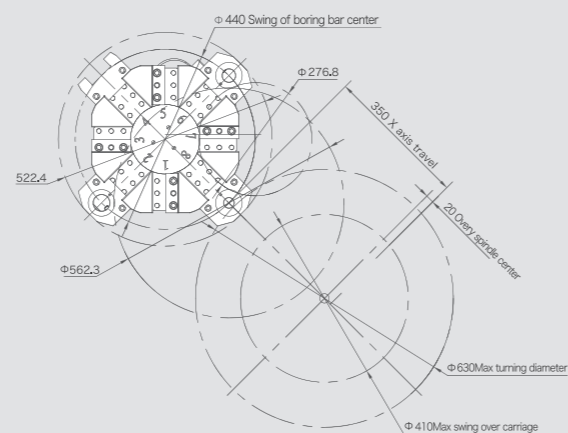
NL502/504SC Standard 8 pos turret



NL502/504SC Option 12 pos turret



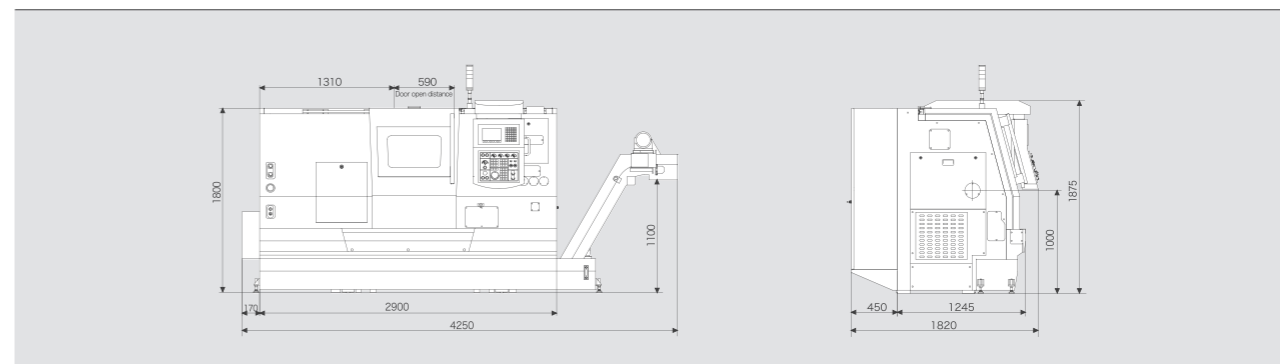
NL634SC/SCZ, NL635SC/SCZ, NL636SC/SCZ



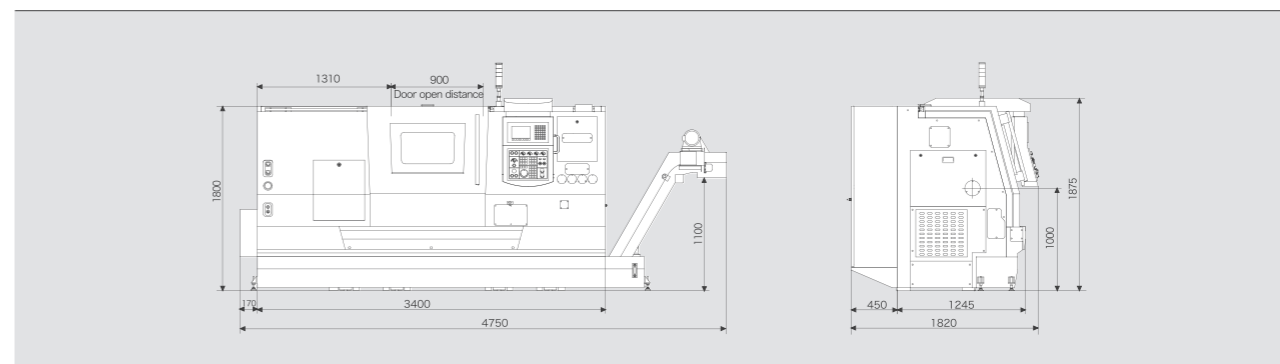
External Dimensions

(Unit: mm)

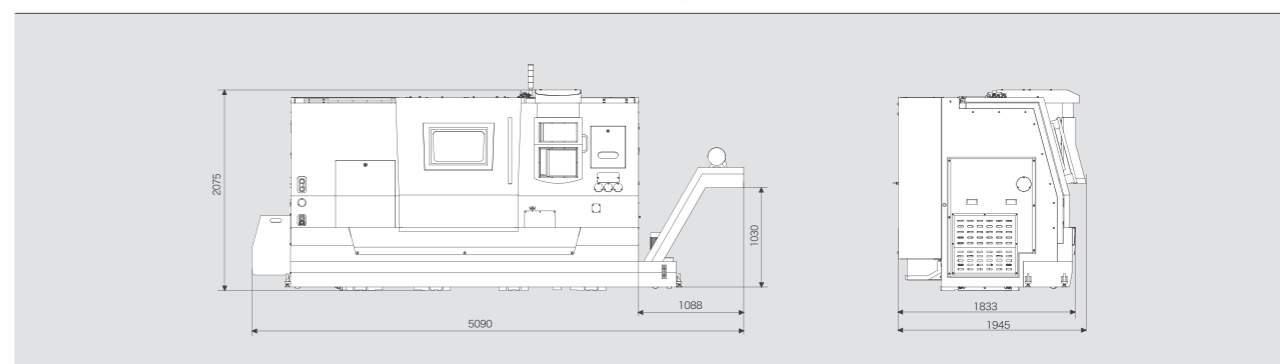
NL502SC



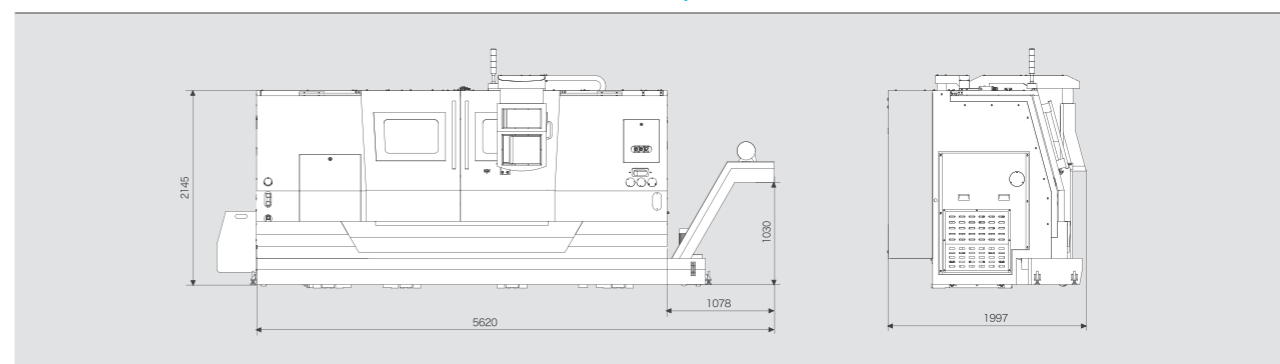
NL504SC



NL634SC/SCZ



NL635SC/SCZ



Item		Unit	NL502SC	NL504SC	NL634SC	NL634SCZ	NL635SC	NL635SCZ	NL636SC	NL636SCZ	
Processing range	Max. swing over bed	mm	Φ600	Φ600	Φ650	Φ650	Φ650	Φ650	Φ650	Φ650	
	Max swing over saddle	mm	Φ450	Φ450	Φ410	Φ410	Φ410	Φ410	Φ450	Φ450	
	Max turning diameter	mm	Φ500	Φ500	Φ630	Φ630	Φ630	Φ630	Φ630	Φ630	
	Max turning length	mm	500	1000	1000	1000	1500	1500	2000	2000	
	Max bar capacity	mm	Φ51	Φ51	Φ74	Φ89	Φ74	Φ89	Φ89	Φ89	
Spindle	Max spindle speed	rpm	3000	3000	2000	1000	2000	1000	2000	1000	
	Spindle nose	ISO	A2-6	A2-6	A2-8	A2-11	A2-8	A2-11	A2-8	A2-11	
	Spindle bore	mm	Φ65	Φ65	Φ87	Φ106	Φ87	Φ106	Φ102	Φ106	
	Spindle taper	-	Metric 80	Metric 80	Metric100	Metric120	Metric100	Metric120	Metric120	Metric120	
	Height from spindle center to ground	mm	1000	1000	1100	1100	1100	1100	1100	1100	
Hydraulic tailstock	Tailstock quill diameter	mm	Φ100	Φ100	Φ130	Φ130	Φ130	Φ130	Φ130	Φ130	
	Tailstock quill travel	mm	100	100	100	100	100	100	100	100	
	Quill Center	Morse	Live center 5#	Live center 5#	Built-in center 5#	Built-in center 5#	Built-in center 5#	Built-in center 5#	Built-in center 5#	Built-in center 5#	
Axis X/Z	Travel X/Z	mm	295/600	295/1100	330/1100	330/1100	330/1600	330/1600	350/2100	350/2100	
	Rapid traverse X/Z	m/min	12/16	12/16	8/12	8/12	8/12	8/12	8/12	8/12	
	X axis Ball screw Dia/Pitch	mm	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ32/8	
	Z axis Ball screw Dia/Pitch	mm	Φ40/10	Φ40/10	Φ40/10	Φ40/10	Φ40/10	Φ40/10	Φ50/10	Φ50/10	
Hydraulic turret	Tool position	-	8	8	8	8	8	8	8	8	
	Turning tool shank size	mm	25×25	25×25	32×25	32×25	32×25	32×25	32×25	32×25	
	Boring tool holder diameter	mm	Φ40	Φ40	Φ50	Φ50	Φ50	Φ50	Φ50	Φ50	
Machining accuracy	Positioning accuracy	X	mm	0.010	0.010	0.012	0.012	0.012	0.012	0.016	0.016
		Z	mm	0.012	0.012	0.014	0.014	0.014	0.014	0.040	0.040
	Repeatability accuracy	X	mm	0.005	0.005	0.006	0.006	0.006	0.006	0.007	0.007
		Z	mm	0.007	0.007	0.008	0.008	0.008	0.008	0.020	0.020
Machine power capacity	kVA	25	25	35	35	35	35	35	35		
Machine dimension (L x W x H)	mm	4250×1880×1950	4750×1880×1950	5090×1945×2075	5090×1945×2075	5620×1997×2145	5620×1997×2145	6230×2170×2135	6230×2170×2135		
Machine weight	kg	4300	4800	7500	7600	8000	8100	10000	10100		
CNC system	-	NEWAY FANUC [SIEMENS]				NEWAY FANUC [SIEMENS]					
Spindle motor power	kW	11/15	11/15	15/18.5	15/18.5	15/18.5	15/18.5	15/18.5	15/18.5		
Motor torque X/Z	N·m	10.5/10.5	10.5/10.5	10.5/20	10.5/20	10.5/20	10.5/20	10.5/20	10.5/20		
Hydraulic chuck	inch	solid10" [hollow 10"/solid(hollow)12"]	solid10" [hollow 10"/solid(hollow)12"]	solid12" [hollow12"]	solid15" [hollow15"]	solid12" [hollow12"]	solid15" [hollow15"]	solid12" [hollow12"]	solid15" [hollow15"]		
[Hydraulic steady rest]	mm	Φ200	Φ200	Φ200	Φ200	Φ200	Φ200	Φ200	Φ200		
Automatic chip conveyor	-	Automatic right chip conveyor [Automatic rear chip conveyor/ Automatic left chip conveyor]	Automatic right chip conveyor [Automatic rear chip conveyor/ Automatic left chip conveyor]	Automatic right chip conveyor [Automatic left chip conveyor]	Automatic right chip conveyor [Automatic left chip conveyor]	Automatic right chip conveyor [Automatic left chip conveyor]	Automatic right chip conveyor [Automatic left chip conveyor]	Automatic right chip conveyor [Automatic left chip conveyor]	Automatic right chip conveyor [Automatic left chip conveyor]		

Standard on Neway Lathes:

Airconditioned electrical cabinet, installation kit, Automatic way lubricating device, standard tool attachment. An Operator friendly foot pedal clamp and unclamp switch, standard chuck and oil cylinder, soft jaw set, hydraulic device, air gun, tri-color status lamp, chip cart, fully enclosed cabinet protection, waste oil skimmer device, the LED illumination inside the work area lamp.

Optional on Neway Lathes:

Hard jaw set, special chucks, automatic tool measurement, steady rests, automatic door, additional tool attachments, air-blow mechanisms, bar feeder, oil mist collector, oil skimmer, tailstock travel inspection, high-pressure chip breaker, custom functions, part catcher.

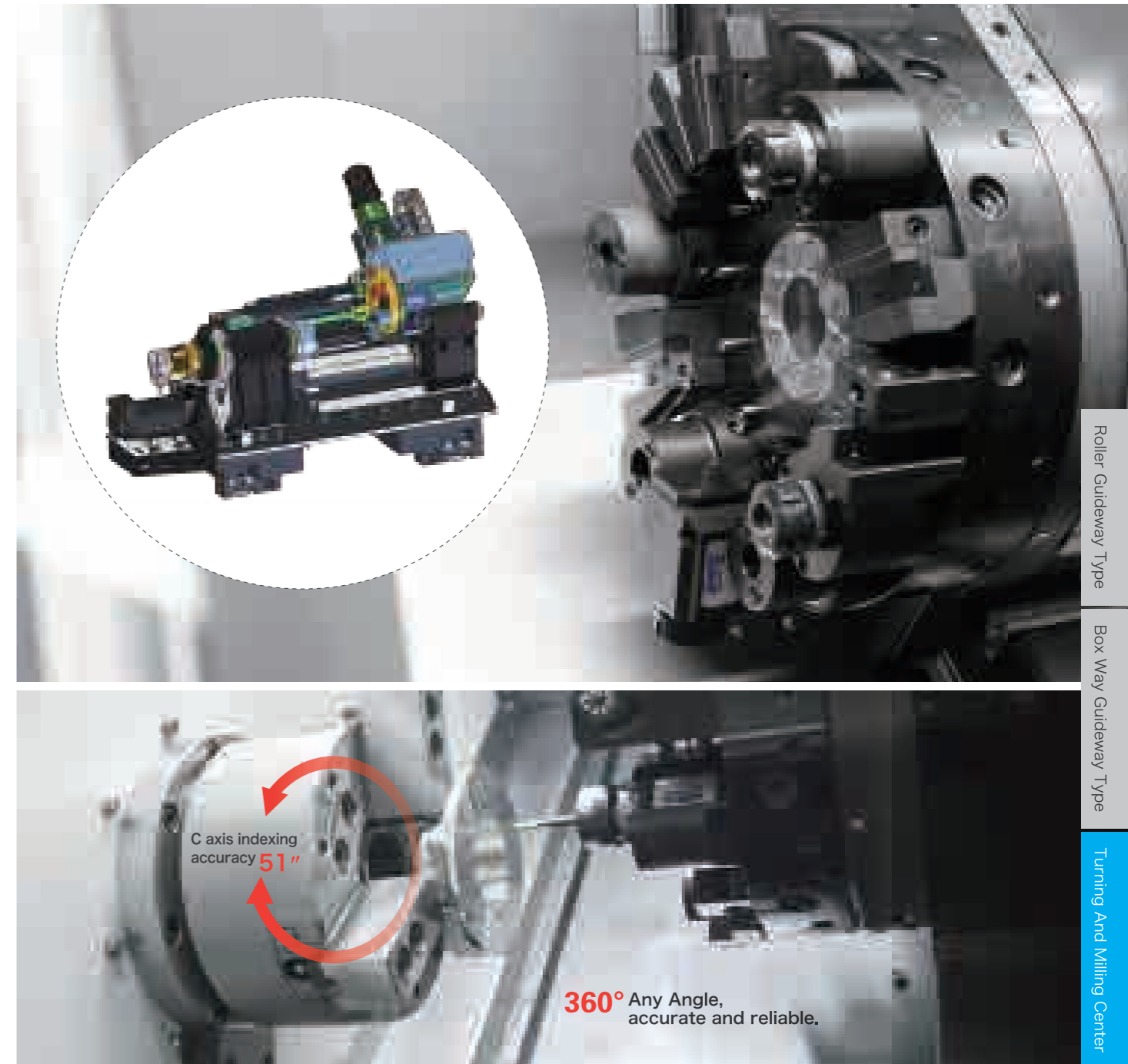
[]Option

NL Series- Horizontal Turning and Milling Center

- The horizontal turning center is a three-axis linkage, semi-closed-loop control, with C-axis indexing function and equipped with live tool driven turret. Milling, Drilling, Tapping and many other functions are available with this configuration.
- 45° overall slant bed design, with advantages of compact structure, high rigidity, smooth chip evacuation and ease of operation.
- Neway offers fully enclosed protection, automatic chip removal, automatic lubrication, automatic cooling, to provide a low maintenance high-performance machine.
- Live tooling is for rotary parts with complex geometry, various sizes, and high precision requirements. The power tool can be used to mill axial, radial grooves, milling planes, drilling, reaming, tapping, etc.



The main parameters		NL161T	NL251T	NL322T	NL402T	NL502T	NL635T
Max swing on bed	mm	Φ500	Φ550	Φ570	Φ650	Φ600	Φ650
Max cutting dia	mm	Φ130	Φ350[Φ290]	Φ320	Φ400	Φ430	Φ540[Φ630]
Max cutting length	mm	320	395[325]	500[475]	500[460]	500	1500
Motor power	kW	5.5/7.5	7.5/11	11/15	11/15	11/15	15/18.5
Spindle max	r/min	6000	5000	4000	4000	3000	2000



Roller Guideway Type

Box Way Guideway Type

Turning And Milling Center

1 Live Tool Driven Turret

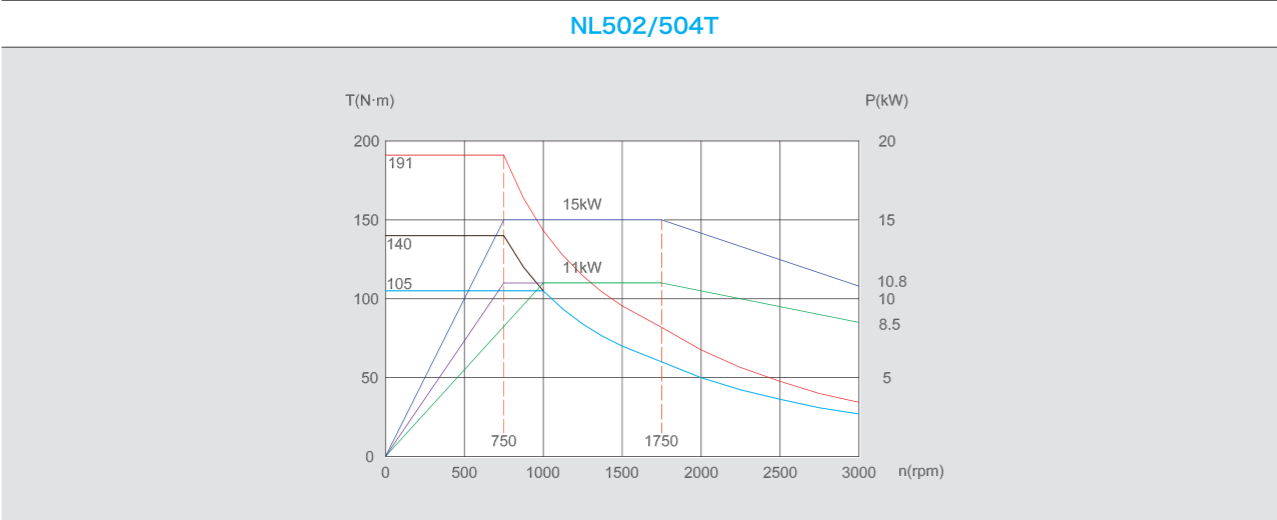
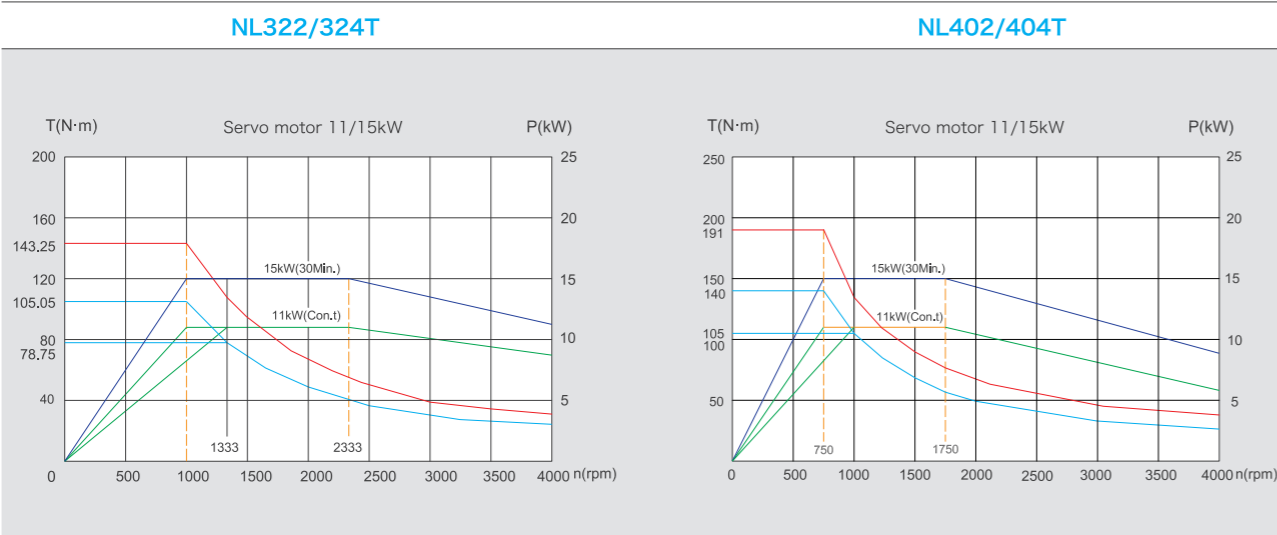
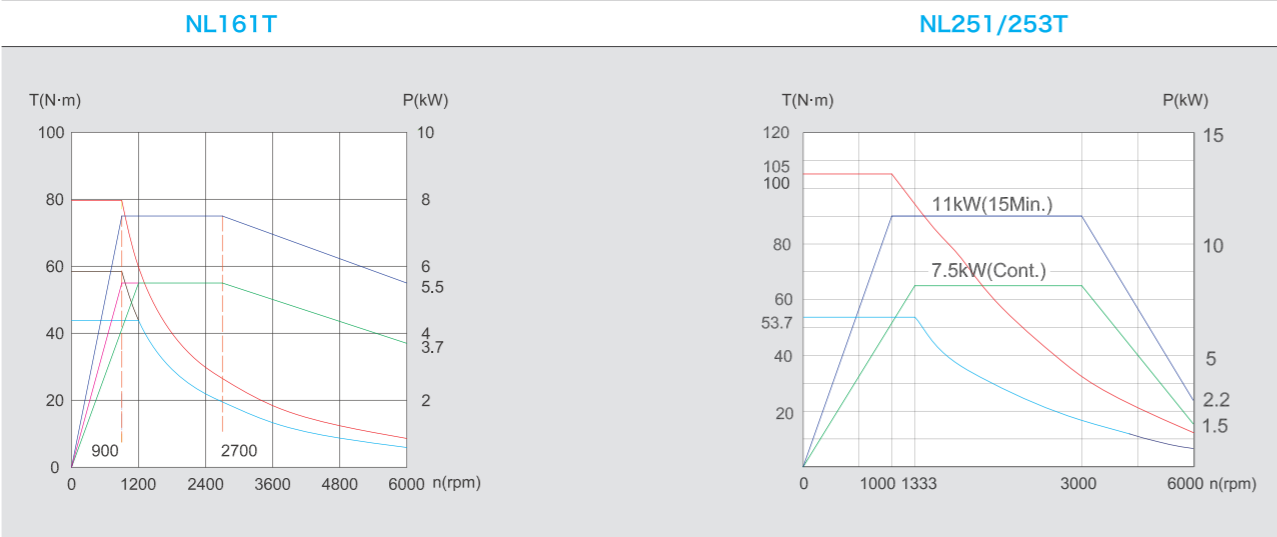
Equipped with an imported high-performance live turret, with milling and drilling functions.

2 C Axis Index Positioning Function

C-axis and live turret can satisfy multiple operations such as turning, milling, drilling and tapping in a single set up with high efficiency and high precision.

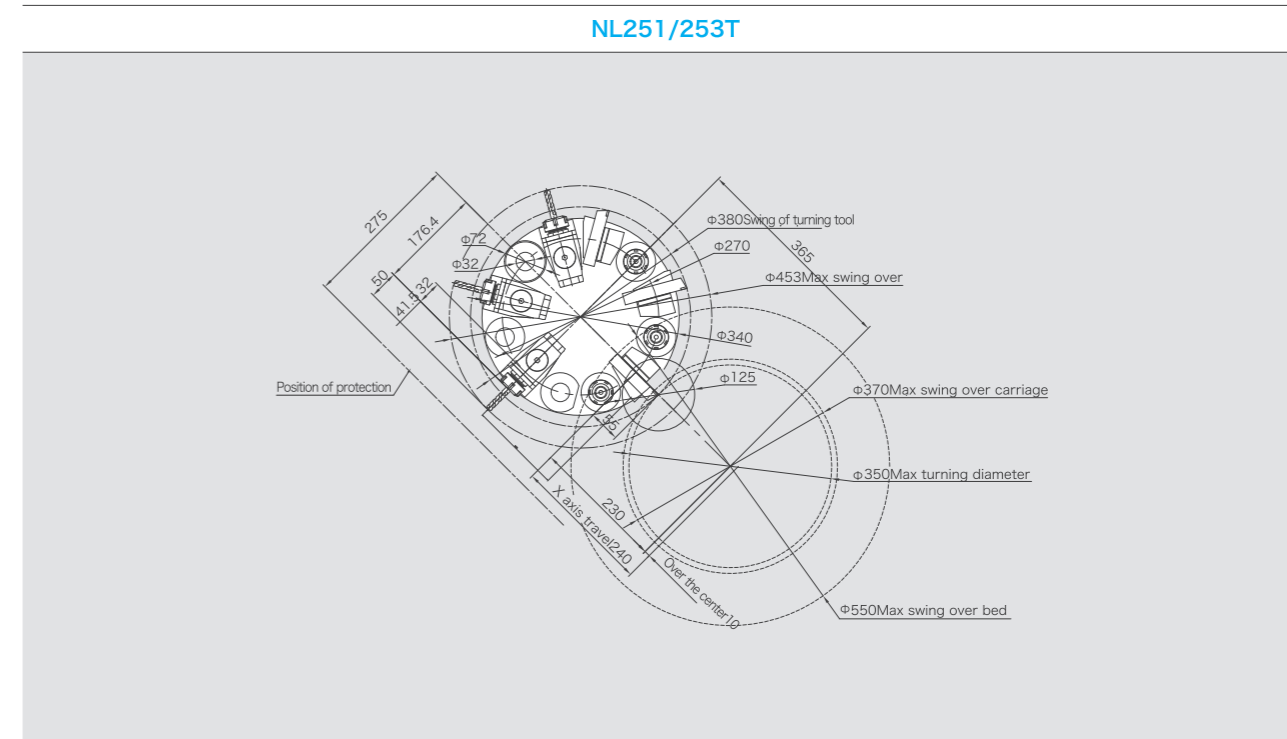
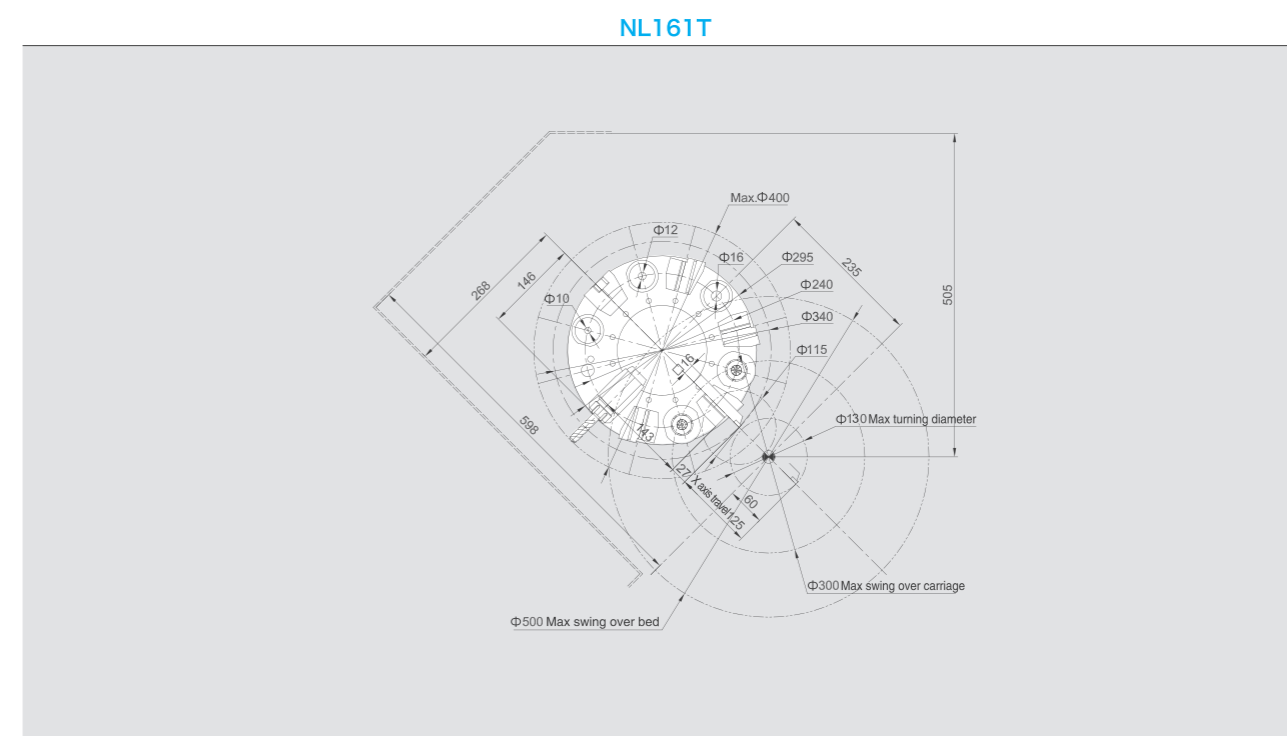
Spindle Power Torque Diagram

(Unit: mm)

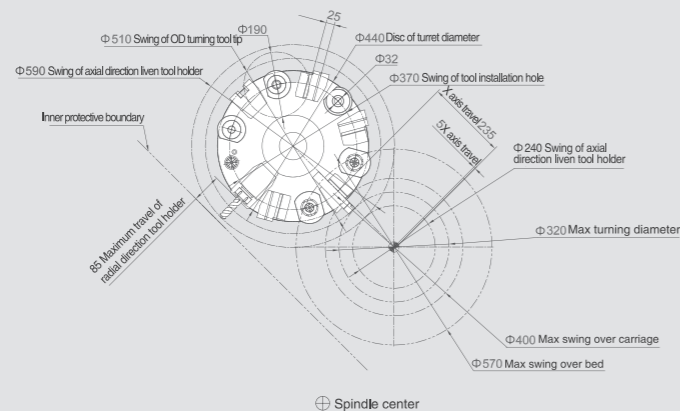


Tool Interference Diagram

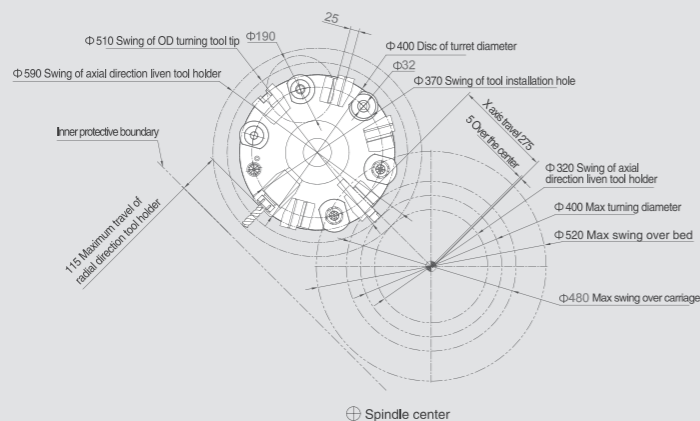
(Unit: mm)



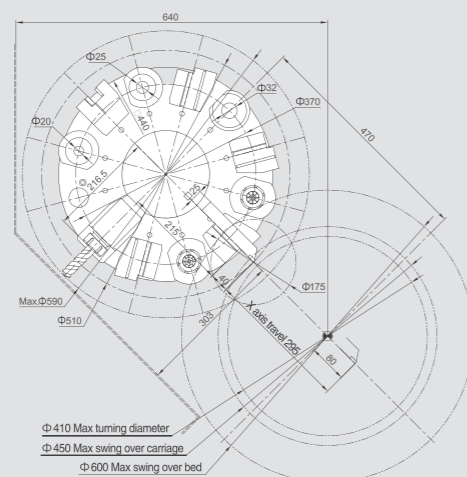
NL322T/324T



NL402/404T



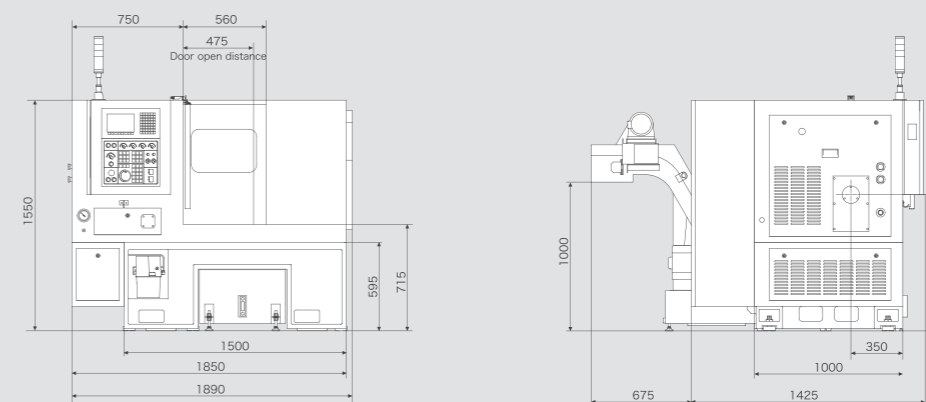
NL502/504T Standard 12-pos turret



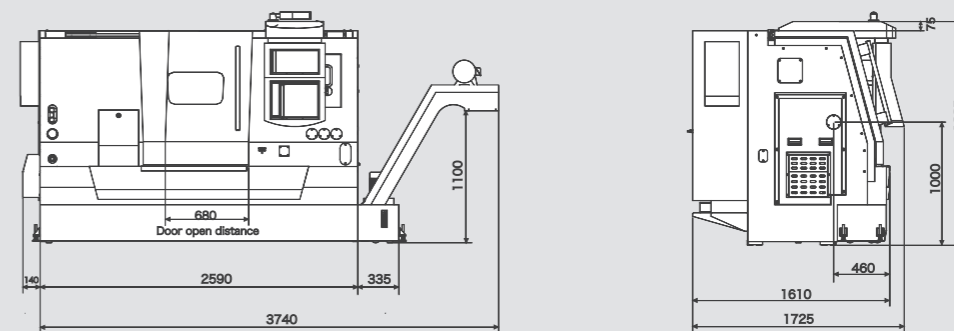
External Dimensions

(Unit: mm)

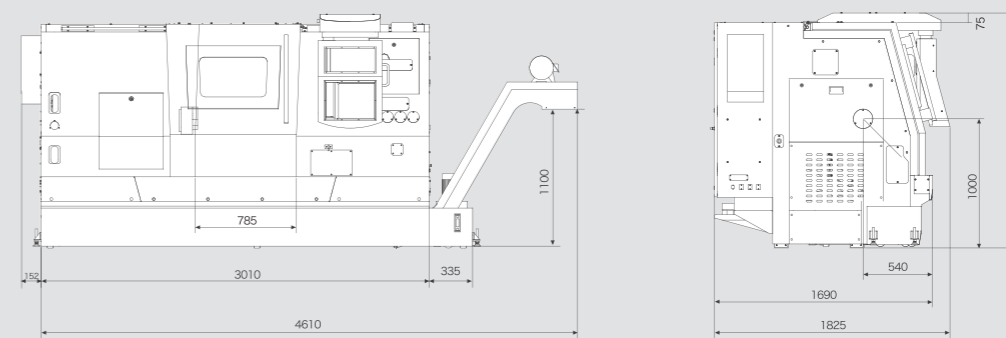
NL161T



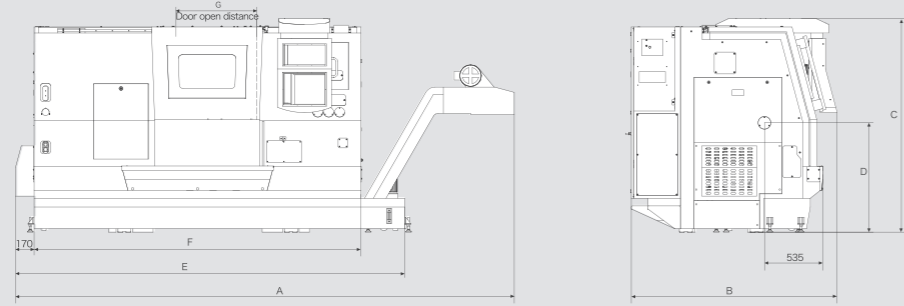
NL251T



NL253T

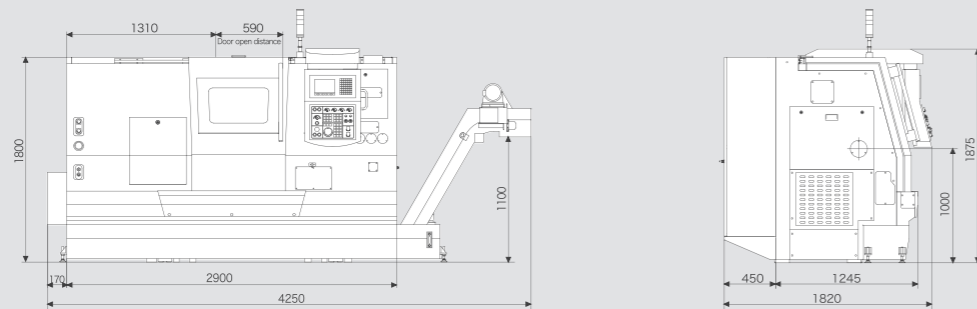


NL322/324/402/404T

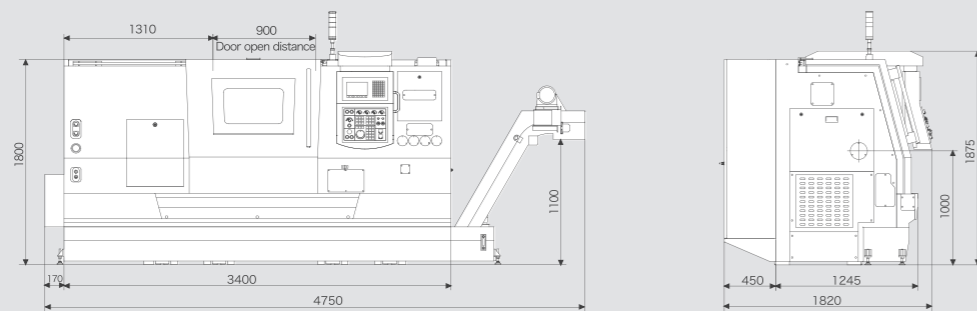


Models	A	B	C	D	E	F	G
NL322T	4570	1845	1955	1000	3565	2995	740
NL324T	5070	1845	1955	1000	4065	3495	890
NL402T	4570	1885	1955	1000	3565	2995	740
NL404T	5070	1885	1955	1000	4065	3495	890

NL502T



NL504T



Item		Unit	NL161T	NL251T	NL253T	NL322T
Processing range	Max. swing over bed	mm	Φ500	Φ550	Φ550	Φ570
	Max swing over saddle	mm	Φ300	Φ370	Φ370	Φ400
	Max turning diameter	mm	Φ130	Φ350[Φ290]	Φ350[Φ290]	Φ320
	Max turning length	mm	320	395[325]	795[725]	500[475]
	Max bar capacity	mm	Φ44	Φ44	Φ44	Φ51
Spindle	Max spindle speed	rpm	6000	5000	5000	4000
	Spindle nose	ISO	A2-5	A2-6	A2-6	A2-6
	Spindle bore	mm	Φ56	Φ56	Φ56	Φ65
	Spindle taper	-	Morse 6#	Morse 6#	Morse 6#	Metric 80
	Height from spindle center to ground	mm	915	1000	1000	1000
Hydraulic tailstock	Tailstock quill	mm	-	-	Φ100	Φ100
	Tailstock quill travel	mm	-	-	100	100
	Quill Center	Morse	-	-	Live Center 5#	Live Center 5#
Axis X/Z	Travel X/Z	mm	125/350	240/430	240/830	235/530
	Rapid traverse X/Z	m/min	30/30	24/30	24/30	24/30
	X axis Ball screw Dia/Pitch	mm	Φ32/10	Φ32/8	Φ32/8	Φ32/8
	Z axis Ball screw Dia/Pitch	mm	Φ32/10	Φ32/10	Φ32/10	Φ40/12
Hydraulic Turret	Tool position	mm	12 (VDI 20)	12(VDI 30) [BMT55]	12(VDI 30) [BMT55]	12(VDI 40) [BMT55]
	Max live tool speed	rpm	5000	5000[6000]	5000[6000]	5000[6000]
	Turning tool shank size	mm	16×16	20×20[25×25]	20×20[25×25]	25×25
	Max boring tool holder	mm	Φ16	Φ25[Φ32]	Φ25[Φ32]	Φ32
	Max drilling capacity	mm	Φ10×0.1	Φ14×0.15[Φ16×0.2]	Φ14×0.15[Φ16×0.2]	Φ16×0.2
	Max tapping capacity	mm	M8×1.25/M16×1	M10×1.5/M24×1 [M14×2/M20×1.5]	M10×1.5/M24×1 [M14×2/M20×1.5]	M14×2/M20×1.5
Machining accuracy	Positioning accuracy	X/Z/C	mm	0.006/0.006/51"	0.006/0.006/51"	0.006/0.006/51"
	Repeatability accuracy	X/Z/C	mm	0.004/0.004/20"	0.004/0.004/20"	0.004/0.004/20"
Machine power capacity	kVA		20	25	25	25
Machine dimension (L x W x H)	mm		2000×2250×1550	3880×1725×1825	4315×1825×1825	4570×1845×1955
Machine weight	kg		3000	4000	4500	4800
CNC system			NEWAY FANUC [SIEMENS]			
Spindle motor power	kW		5.5/7.5	7.5/11	7.5/11	11/15
Motor torque X/Z	N·m		7/7	7/7	7/7	11/11
Hydraulic chuck	inch		hollow 6" [hollow 6"/solid(hollow) 8"]	hollow 8" [solid 8"/solid(hollow) 10"]	hollow 8" [solid 8"/solid(hollow) 10"]	solid 8" [hollow 8"/solid(hollow) 10"]
Automatic chip conveyor	-		Automatic rear chip conveyor	Automatic right chip conveyor [Automatic left chip conveyor/ Automatic rear chip conveyor]	Automatic right chip conveyor [Automatic left chip conveyor/ Automatic rear chip conveyor]	Automatic right chip conveyor [Automatic left chip conveyor/ Automatic rear chip conveyor]

Item		Unit	NL324T	NL402T	NL404T	NL502T	NL504T	NL634T	NL635T	NL636T	
Processing range	Max. swing over bed	mm	Φ570	Φ650	Φ650	Φ600	Φ600	Φ650	Φ650	Φ650	
	Max swing over saddle	mm	Φ400	Φ480	Φ480	Φ450	Φ450	Φ410	Φ410	Φ450	
	Max turning diameter	mm	Φ320	Φ400	Φ400	Φ430	Φ430	Φ540[Φ630]	Φ540[Φ630]	Φ540[Φ630]	
	Max turning length	mm	1000[955]	500[460]	1000[940]	500	1000	1000	1500	2000	
	Max bar capacity	mm	Φ51	Φ51	Φ51	Φ51	Φ51	Φ89	Φ89	Φ89	
Spindle	Max spindle speed	rpm	4000	4000	4000	3000	3000	2000	2000	2000	
	Spindle nose	ISO	A2-6	A2-6	A2-6	A2-6	A2-6	A2-8	A2-8	A2-8	
	Spindle bore	mm	Φ65	Φ65	Φ65	Φ65	Φ65	Φ102	Φ102	Φ102	
	Spindle taper	-	Metric 80	Metric 80	Metric 80	Metric 80	Metric 80	Metric120	Metric120	Metric120	
	Height from spindle center to ground	mm	1000	1000	1000	1000	1000	1100	1100	1100	
Hydraulic tailstock	Tailstock quill	mm	Φ100	Φ100	Φ100	Φ100	Φ100	Φ130	Φ130	Φ130	
	Tailstock quill travel	mm	100	100	100	100	100	100	100	100	
	Quill Center	Morse	Live center 5#	Live center 5#	Live center 5#	Live center 5#	Built-in center 5#	Built-in center 5#	Built-in center 5#	Built-in center 5#	
Axis X/Z	Travel X/Z	mm	235/1050	275/530	275/1050	295/550	295/1050	355/1100	355/1600	355/2100	
	Rapid traverse X/Z	m/min	24/30	24/30	24/30	12/16	12/16	8/12	8/12	8/12	
	X axis Ball screw Dia/Pitch	mm	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ32/8	
	Z axis Ball screw Dia/Pitch	mm	Φ40/12	Φ40/12	Φ40/12	Φ40/10	Φ40/10	Φ40/10	Φ40/10	Φ40/10	
Hydraulic Turret	Tool position	mm	12(VDI 40) [BMT55]	12(VDI 40) [BMT55]	12(VDI 40) [BMT55]	12(VDI 40) [BMT55]	12(VDI 40) [BMT55]	12(VDI 40) [BMT55]	12 (VDI 40) [BMT55]	12 (VDI 40) [BMT55]	
	Max live tool speed	rpm	5000[6000]	5000[6000]	5000[6000]	5000[6000]	5000[6000]	5000[6000]	5000[6000]	5000[6000]	
	Turning tool shank size	mm	25×25	25×25	25×25	25×25	25×25	25×25	25×25	25×25	
	Max boring tool holder	mm	Φ32	Φ32	Φ32	Φ32	Φ32	Φ40[Φ32]	Φ40[Φ32]	Φ40[Φ32]	
	Max drilling capacity	mm	Φ16×0.2	Φ16×0.2	Φ16×0.2	Φ16×0.2	Φ16×0.2	Φ16×0.2	Φ16×0.2	Φ16×0.2	
	Max tapping capacity	mm	M14×2/M20×1.5	M14×2/M20×1.5	M14×2/M20×1.5	M14×2/M20×1.5	M14×2/M20×1.5	M14×2/M20×1.5	M14×2/M20×1.5	M14×2/M20×1.5	
Machining accuracy	Positioning accuracy	X/Z/C	mm	0.008/0.008/51"	0.010/0.010/51"	0.010/0.010/51"	0.010/0.012/51"	0.010/0.012/51"	0.012/0.016/51"	0.012/0.016/51"	0.016/0.040/51"
	Repeatability accuracy	X/Z/C	mm	0.004/0.004/20"	0.004/0.004/20"	0.004/0.004/20"	0.005/0.007/20"	0.005/0.007/20"	0.006/0.008/20"	0.006/0.008/20"	0.007/0.020/20"
Machine power capacity		kVA	25	25	25	40	40	55	55	55	
Machine dimension (L x W x H)		mm	5070×1845×1955	4570×1885×1955	5070×1885×1955	4250×1880×1950	4750×1880×1875	5090×1945×2075	5620×1997×2145	6230×2220×2135	
Machine weight		kg	5500	5000	5700	4300	4800	7500	8100	10000	
CNC system			NEWAY FANUC [SIEMENS]				NEWAY FANUC [SIEMENS]				
Spindle motor power		kW	11/15	11/15	11/15	11/15	11/15	15/18.5	15/18.5	15/18.5	
Motor torque X/Z		N·m	11/11	11/11	11/11	11/11	11/11	10.5/20	10.5/20	10.5/20	
Hydraulic chuck		inch	solid 8" [hollow 8"/solid(hollow)10"]	solid10" [hollow10"/solid(hollow)12"]	solid10" [hollow10"/solid(hollow)12"]	solid10" [hollow10"/solid(hollow)12"]	solid10" [hollow10"/solid(hollow)12"]	solid12" [hollow12"]	solid12" [hollow12"]	solid12" [hollow12"]	
Automatic chip conveyor		-	Automatic right chip conveyor [Automatic left chip conveyor/ Automatic rear chip conveyor]	Automatic right chip conveyor [Automatic left chip conveyor/ Automatic rear chip conveyor]	Automatic right chip conveyor [Automatic left chip conveyor/ Automatic rear chip conveyor]	Automatic right chip conveyor [Automatic left chip conveyor/ Automatic rear chip conveyor]	Automatic right chip conveyor [Automatic left chip conveyor/ Automatic rear chip conveyor]	Automatic right chip conveyor [Automatic left chip conveyor/]	Automatic right chip conveyor [Automatic left chip conveyor/]	Automatic right chip conveyor [Automatic left chip conveyor/]	

Standard on Neway Lathes:

Airconditioned electrical cabinet, installation kit, Automatic way lubricating device, standard tool attachment. An Operator friendly foot pedal clamp and unclamp switch, standard chuck and oil cylinder, soft jaw set, hydraulic device, air gun, tri-color status lamp, chip cart, fully enclosed cabinet protection, waste oil skimmer device, the LED illumination inside the work area lamp.

Optional on Neway Lathes:

Hard jaw set, special chucks, automatic tool measurement, steady rests, automatic door, additional tool attachments, air-blow mechanisms, bar feeder, oil mist collector, oil skimmer, tailstock travel inspection, high-pressure chip breaker, custom functions, part catcher.

[]Option

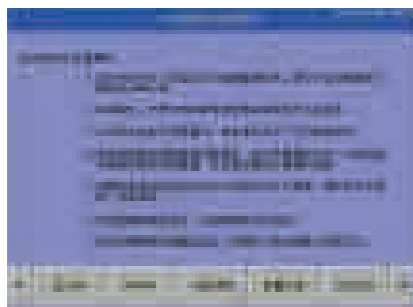
World Class Motion Controllers

Neway uses the FANUC PICTURE function to carry out a truly user friendly Human Interface (HMI).

Neway Quality Control Manufacturing and Measurement

1 Machine Maintenance

Machine maintenance precautions and related tips.



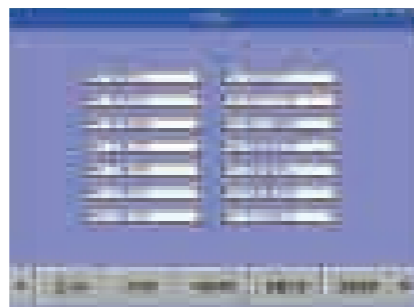
2 Diagnostic Alarms

FANUC System PMC processing alarm information and processing methods allow the machine operator/maintenance person users quick access to find out the cause of the alarm.



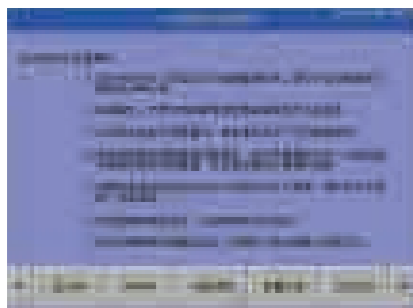
3 M code

Machine tool auxiliary function codes "modal codes" can be customized, this interface can make the programming faster and considerably more intuitive.



4 Chuck control

Optional manual chuck or hydraulic chuck has specific parameters and auxiliary function codes That can be accessed on the control for further control on processes.



5 Turret

Shows the tool change process and the status of tool change and the tool library.



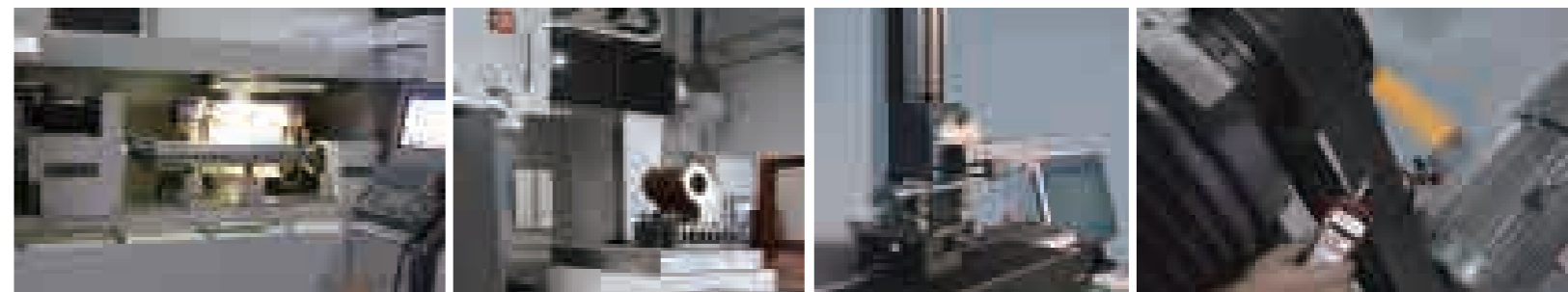
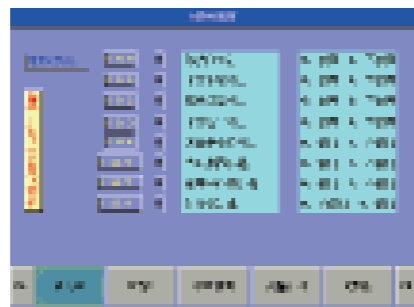
6 Tailstock control

Optional servo tailstock or hydraulic tailstock can be viewed and or manipulated at the control.



7 Parameter Interface

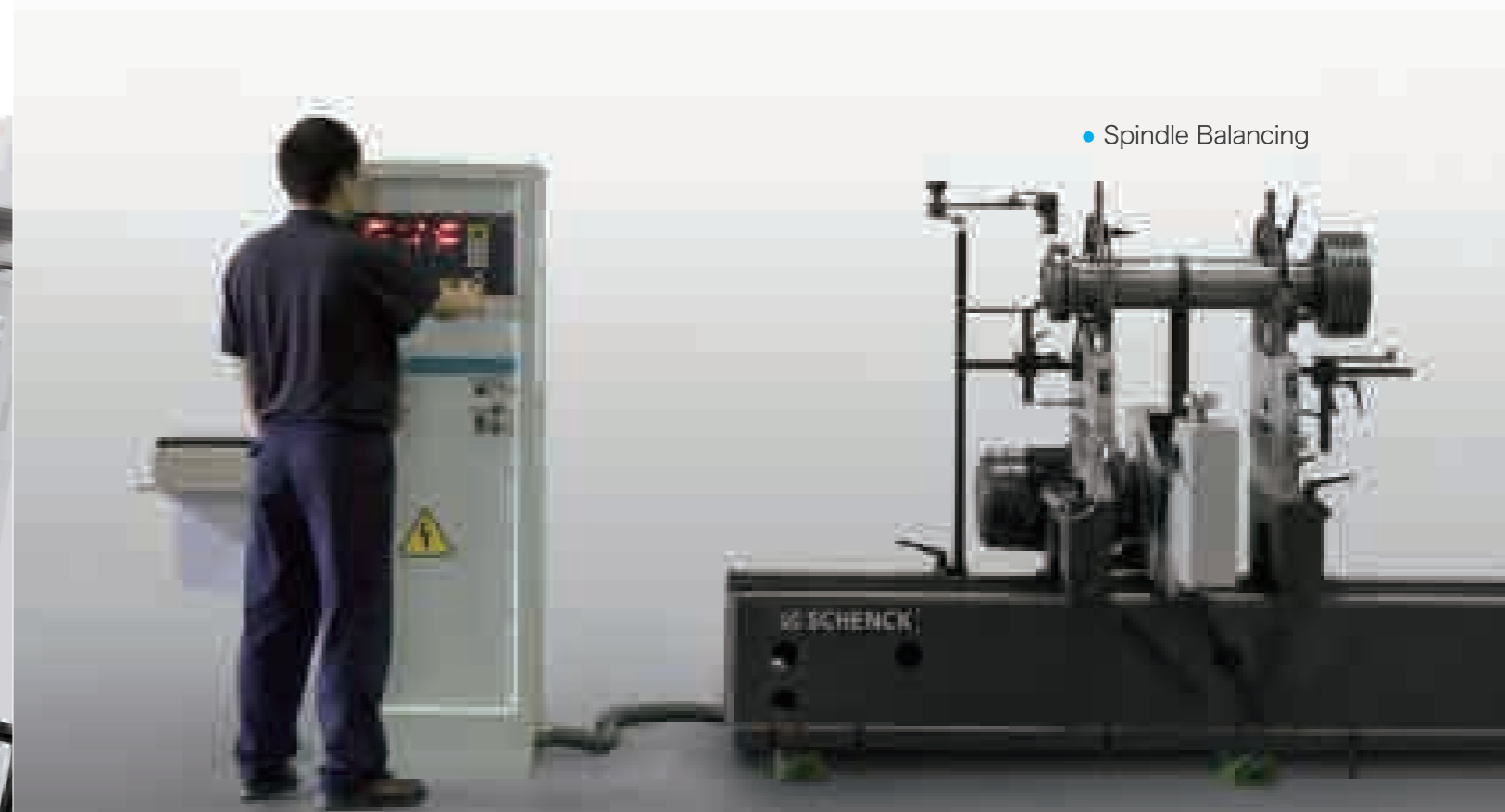
The Keeper Relay parameter can be selected by alarm information, auxiliary functions, and turn on/off on the screen.



• High-precision spindle grinding • High precision spindle boring • Optics test equipment • Belt tension test



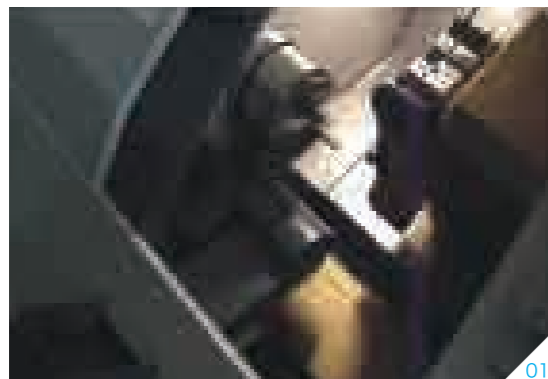
• Assembly inspection • Boring bar concentricity inspection • Hand scraping • Laser calibration



• Spindle Balancing

Additional Productivity Options

Production Automation Lines



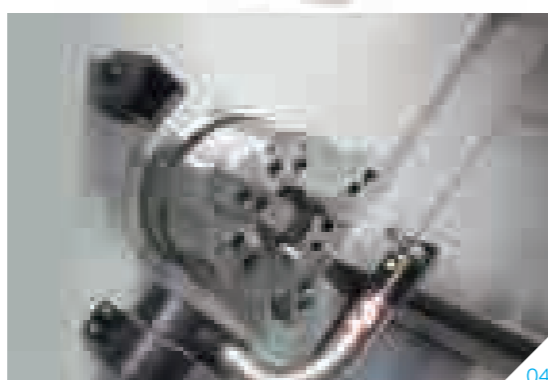
01



02



03



04



05

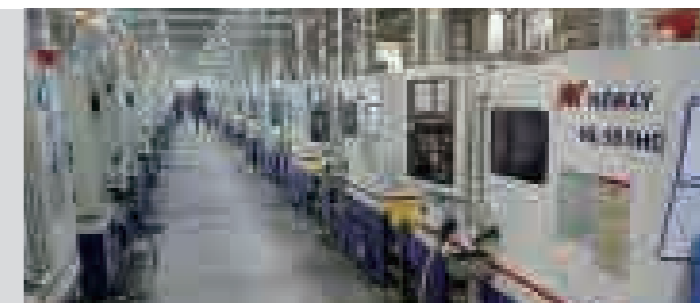


06

- 01 Automatic part catcher
- 02 Automatic bar feeder
- 03 Programmable Steady rest
- 04 Automatic Tool measurement
- 05 Pneumatic auto door
- 06 Oil skimmer

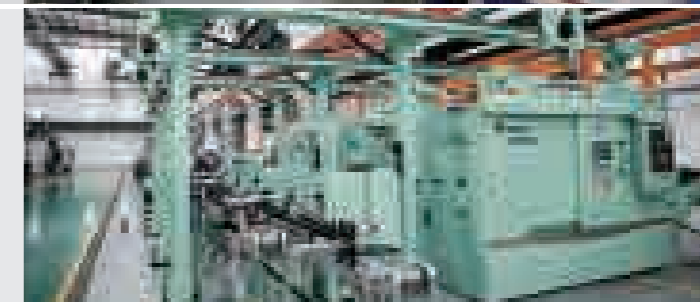
NL161

Automatic Line Project: Auto parts
 Machine Model: NL161
 Workpiece Name: Throttle valve
 Workpiece Material: 40Cr



NL402

Automatic Line Project: Auto parts
 Machine Model: 402
 Workpiece Name: Cylinder Liner
 Workpiece Material: HT250



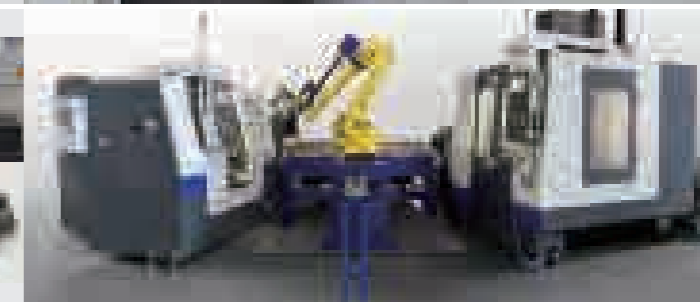
NL201

Automatic Line Project: Auto parts
 Machine Model: NL201HA
 Workpiece Name: Jaw pole
 Workpiece Material: 42CrMo



NL502

Automatic Line Project: Small parts
 Machine Model: NL201HA
 Workpiece Name: Jaw pole
 Workpiece Material: 42CrMo



NL504

Automatic Line Project: Elevator shaft
 Machine Model: NL504
 Workpiece Name: Elevator shaft
 Workpiece Material: 45#steel

