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CNC Horizontal Lathe NL Series



* The content of the catalogue is subject to change without notice.

NEWAY CNC Horizontal Lathe

Neway’s diverse CNC horizontal lathes are designed to meet the high class machining needs of the unique and different industries. The high quality and high precision guaranteed by our zero-defect manufacturing processes have won the trust and praise from many customers of worldwide.

- The well-organized layout of the machine provides easy access to check electrical, hydraulic, and pneumatic, which are all well labeled.
- The 45°slant bed design with compact structure provides high rigidity needed for heavy cutting. Key components are made by special resin sand cast iron,which can effectively improve the machining performance and guarantee better vibration dampening characteristics.
- Each casting is treated with up to 4 aging processes to improve the stability of the machine by the perfect cast iron.
- Through the finite element structure analysis, enhance the machine rigidity, heat dissipation and vibration reduction.
- All main components are machined by World-Class machines to ensure the accuracy of key components. Then, the parts will be measured on the best CMM measuring devices, re-checked and adjusted to ensure tolerance within the specification needed.
- Key components not made by NEWAY CNC utilize readily attainable world-famous brands,which greatly increase the long-term running reliability. The ease of gaining components from multiple sources in local market, makes these machines keep running well in 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 CNC lathe with compact structures and small footprints, which can effectively save customer's space, time and money; and while the fully enclosed protection and inclined structure make continuous chip removal easily.

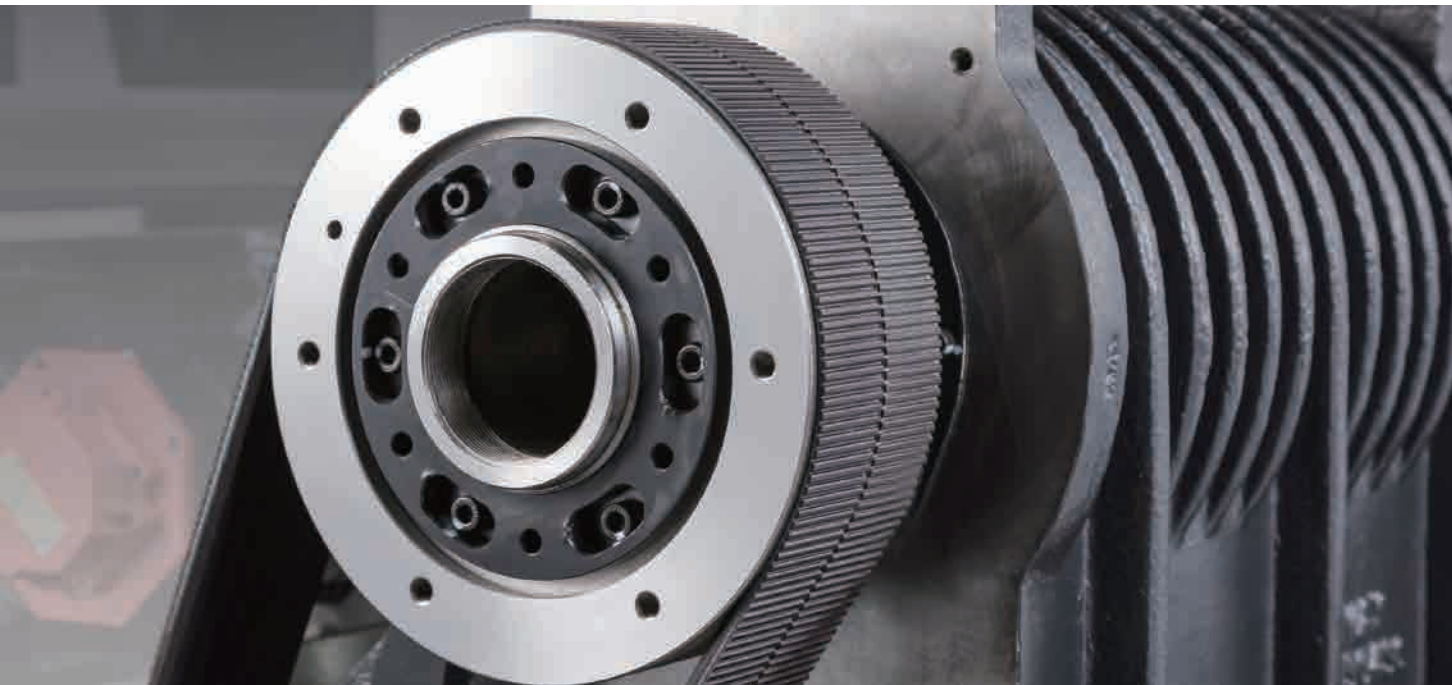
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01 High-Speed

Independently designed spindle, bed, saddle and tailstock are independently designed. The maximum speed of the machine tool can reach 6000rpm, and the rapid traverse speed can reach 30m/min, which greatly improves the processing efficiency of the machine tool.



Spindle

- Independently designed, the front and rear bearing supports are optimized by the finite element structure to ensure excellent rigidity and precision.
- 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, to guarantee the higher precision and excellent longevity.

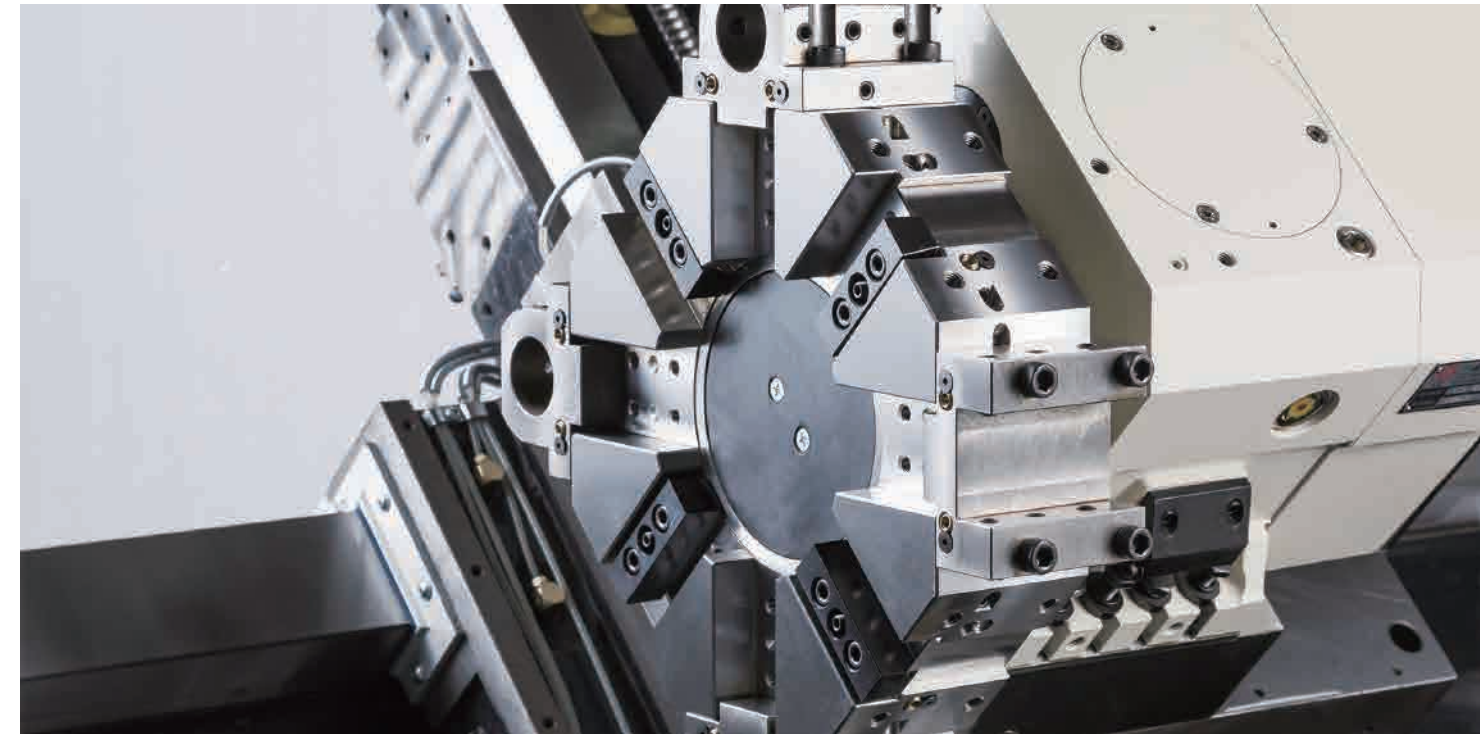
Max Spindle Speed ▶
NL16/20 6000r/min

Rapid Traverse X/Z ▶
NL16 Rapid Traverse X/Z 30/30m/min
NL20 Rapid Traverse X/Z 24/30m/min



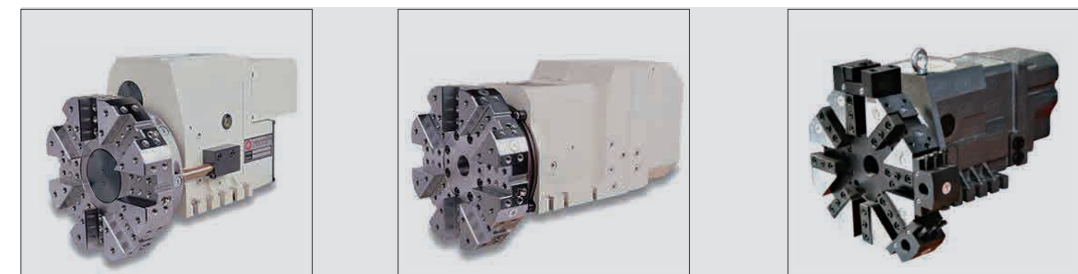
Headstock

- The use of thermal symmetry design combines with the wide range of heat dissipation. Reinforce rib supported structure dramatically resists and reduces the deformation caused by internal heat generation in the machine tool and they can also control thermal growth to improves the machining accuracy.
- The front and rear bores of the spindle box are completed through one-step machining on the World-Class Swiss SIP boring machine. This high level boring process provides micron tolerances and ensures excellent bore alignment and spindle alignment.



Turret

- Standard 8 station turret with customized thickened tool disc improve turret rigidity, cutting efficiency, positioning accuracy and realize automation of processing. Neway also offers various turrets, such as 10 or 12 station turret as options.
- Reinforced tool holders and keyway positioning stabilizes tool point and minimizes harmonics under heavy load cutting conditions.
- Different turret can be equipped according to customer's requirements.



Hydraulic turret

Servo turret

Electric turret



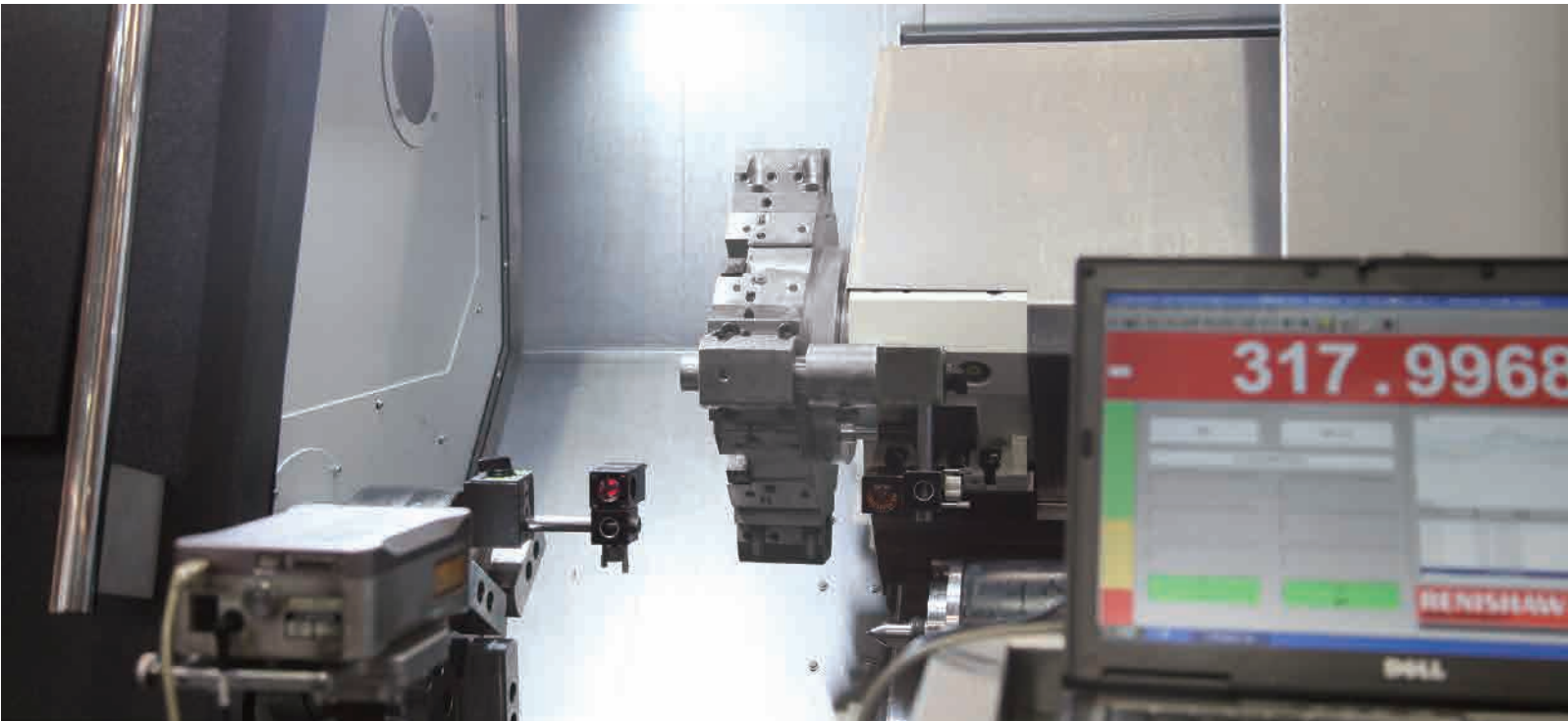
VDI Live turret

BMT Live turret

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

02 High Precision

All structural parts are produced by casting, aging treatment and managed correctly



- Laser interferometer testing to guarantee the all axes' precision.

- 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.
- Swiss Kellenberger cylindrical grinding machine machine the spindles. Huge Favretto Gantry type grinding machine finish the all castings grinding to realize the best castings in the World used on Neway machines.
- All these machines are some of the World' s Finest, which are continuously calibrated to ensure extremely predictably stable high precision.
- The overall bed design has plenty of built-in reinforce ribs, which is optimized through the finite element analysis. This realize high rigidity, better heat dissipation (thermal symmetry) and more accurate machining.

Fine Craftsmanship

The all contact surfaces, including spindle mounting surface, turret, tailstock, and pedestal base, are meticulously scraped to achieve high assembly accuracy, rigid structure, and balanced load.



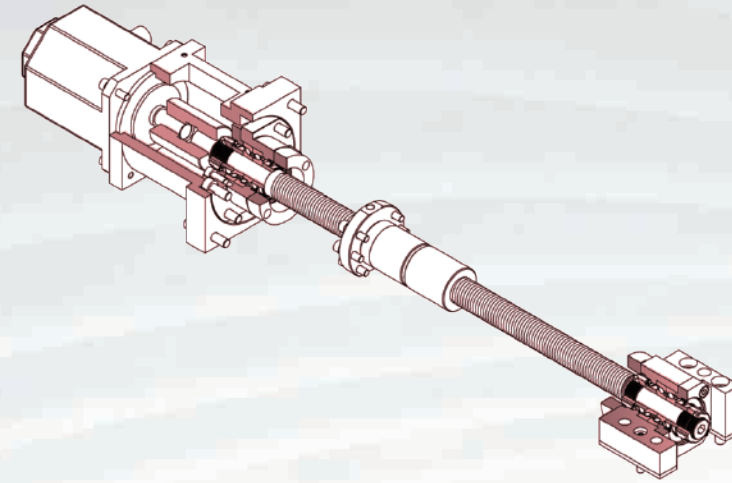
Double-nut Ball Screw

High speed, silent ball screw with double nuts, by pre-tensioned to realize no backlash, high precision and rapid travel.



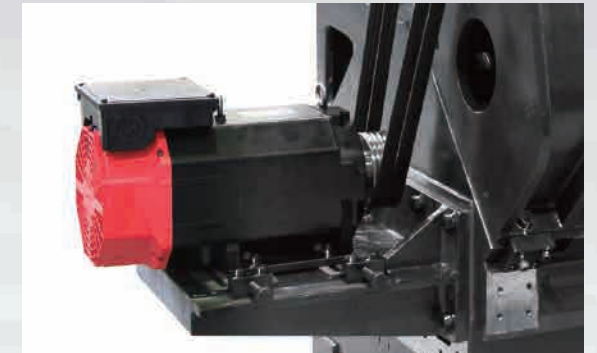
Pre-tensioning

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 of the machine, eliminates heat transfer and vibration caused by the motor.



03 High Stability

In the critical components assembling, multiple measuring and quantifying assembly process is the 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. Performs dynamic balance test on the spindle to guarantee the stability of the high-speed rotation of the spindle.



b. Through 48 hours spindle run-in test, monitoring the temperature changing of the rotating parts, applying corrective actions to eliminate any out of tolerance conditions of the assembly and ensure the stability and reliability in high-speed spindle rotating.



Torque Wrench

All major 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 all spindle belts' tension is measured by a special sonic tensiometer and adjusted to perfect condition 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.



04 R&D

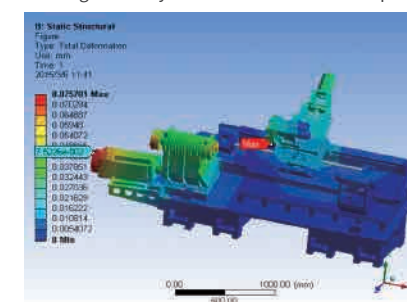
7 R&D departments and 150+ R&D engineers with specific expertise. Neway can develop 20+ new products per year. 10+ continuous improvement projects in fundamental areas, using the PLM full life cycle management system to enhance R&D efficiency.

Ongoing continuously improving quality refining projects:

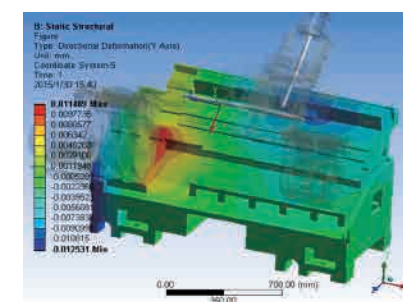
- Static stiffness testing and research of machine tools
- Research on vibration and dynamic stiffness of machine tools
- Research on spectrum analysis of machine tools
- Finite Element Analysis of complete machine and components
- Thermal deformation analysis of entire machine and components
- High-speed ball screw cooling system research and improving
- Research on intelligent development and application of CNC machine tool
- High-pressure chip breaking test and application

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.



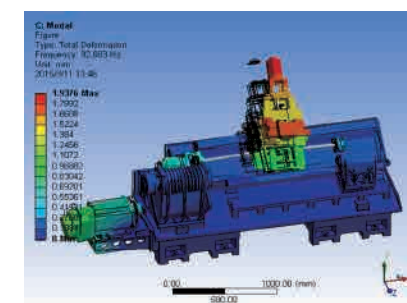
- Machine stiffness analysis deformation map shows where more material needs to be applied



- Y direction analyzes deformation

Dynamic Analysis

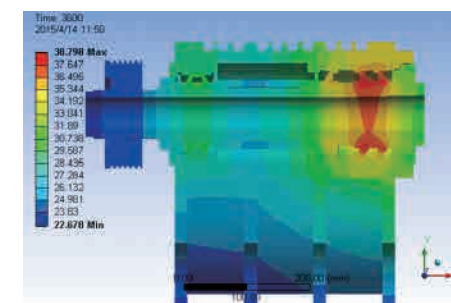
Through dynamic performance balancing analysis, greatly reduce harmonics, improves the natural frequency and vibration resistance of the machine tool.



- Modal dynamic analysis

Thermal Analysis

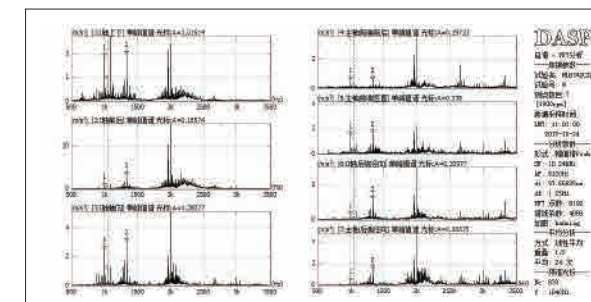
Thermal analysis of the spindle components reduces the thermal deformation of the spindle.



- 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 design: easy to clean, no chip buildup
- Swivel controller box: conveniently rotates to the optimal viewing position
- Pressure gauge and adjustment handle: convenient reading and adjustment
- Front spindle box access window: easy to maintenance and repair
- Inspection window: easy to inspect hydraulics and pneumatics.
- MPG with magnetic: attached to any metal surface

06 Case Studies

These machining applications show abundant choices and versatile configurations of Neway CNC lathe. Neway machine tools are widely use in various 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

Note: The above data are all from actual use cases. The data listed above may not be reached, when the cutting conditions and environmental conditions are different.

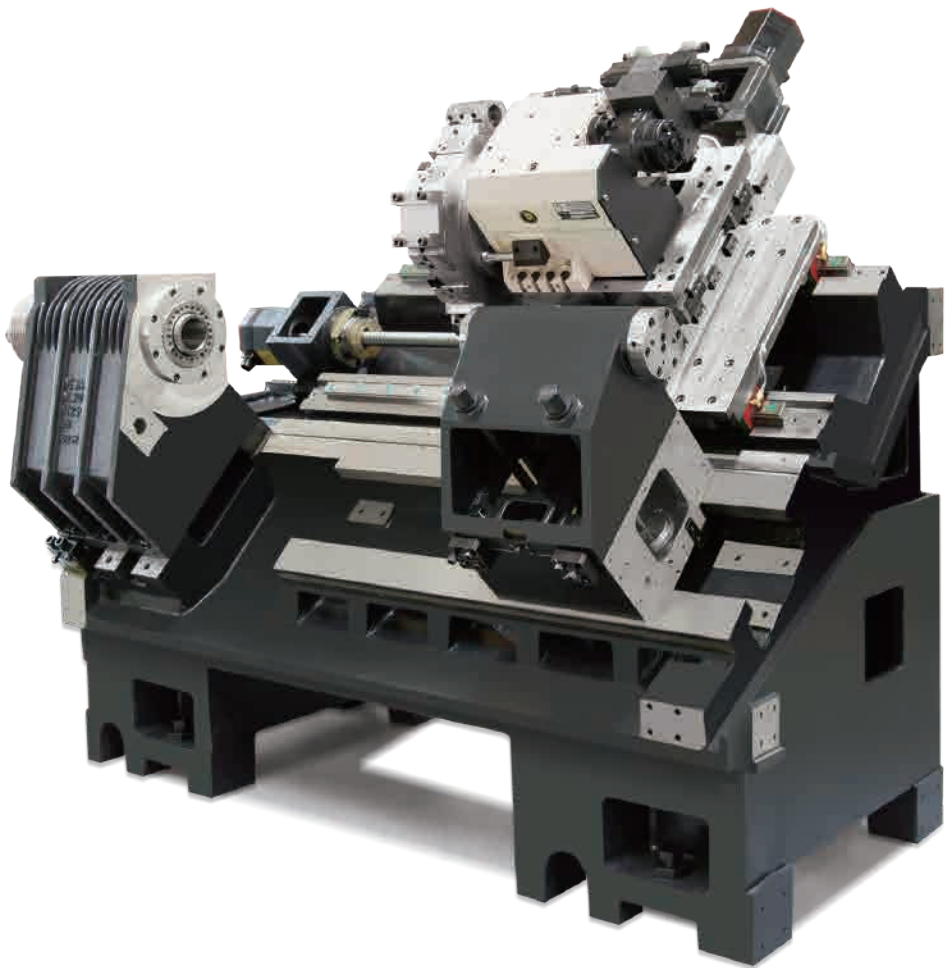
NL Series- Linear Guideway CNC Horizontal Lathe

- 45° overall slant bed design offers high rigidity for heavier cutting and excellent chip removal.
- FEA structure analysis realize the correct layout of casting ribs to increase rigidity and lessen stress.
- The X/Z axis ball screw is pre-tensioned to reduce influence of temperature increase on the accuracy of the ball screw during machining. Fasten bolts are installed on both sides of the ball screw itself to increase the protection of the ball screw bearing. The servo motor is directly connected with the high speed and silent ball screw.
- X/Z axis utilize linear guideways to guarantee excellent dynamic characteristics, stable machining accuracy, high rapid traverse speeds and 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. The tailstock center can be adjusted. The tailstock body can be moved manually or dragged by the slide board, and the quill is driven by hydraulic.
- Utilizes a high rigidity spindle box with lower noise, higher precision, better heat dissipation and and longer service life.
- World Class functional components, equipped with imported servo drivers and motors to realize reliable performance, excellent controllability, high indexing accuracy.
- The wide range of options: such as bar feeder, part catcher, larger hollow chuck, bigger spindle bore, programmable tailstock, tool measurement, hydraulic steady rest, etc.



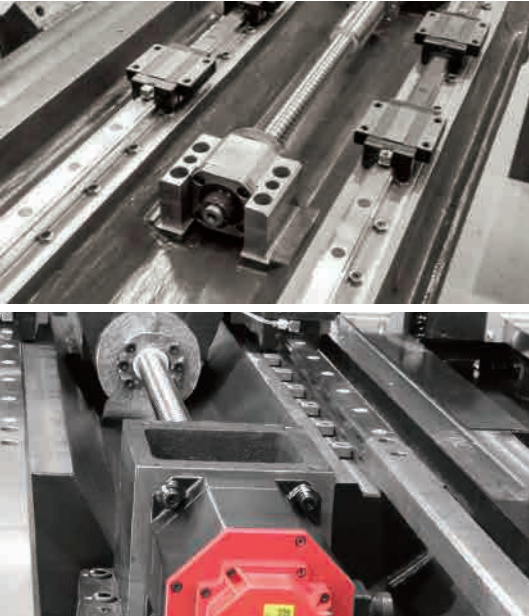
The main parameters

		NL161E	NL201E	NL251HA	NL253HA	NL322SA/HA	NL324SA/HA	NL402SA/HA
Max. swing on bed	mm	Φ500	Φ450	Φ550	Φ550	Φ570	Φ570	Φ650
Max. cutting dia	mm	Φ320	Φ350	Φ360	Φ360	Φ430	Φ430	Φ510
Max. cutting length	mm	320	445	435	810	565	1000	550
Motor power	kW	5.5/7.5	7.5/11	7.5/11	7.5/11	11/15	11/15	11/15
Spindle speed	r/min	6000	6000	5000	5000	3500(SA) 4000(HA)	3500(SA) 4000(HA)	3000(SA) 4000(HA)



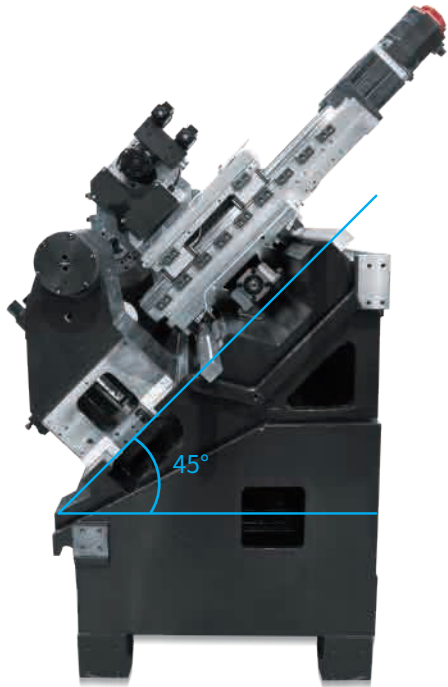
1 Linear Guideway

High-precision linear rolling guide way increase the speed of movement and improve cutting efficiency. The use of imported linear guide way realize high positioning accuracy and low wear. It can maintain accuracy for a long time, fully improve productivity and ensure high processing stability.



2 45° overall slant bed design

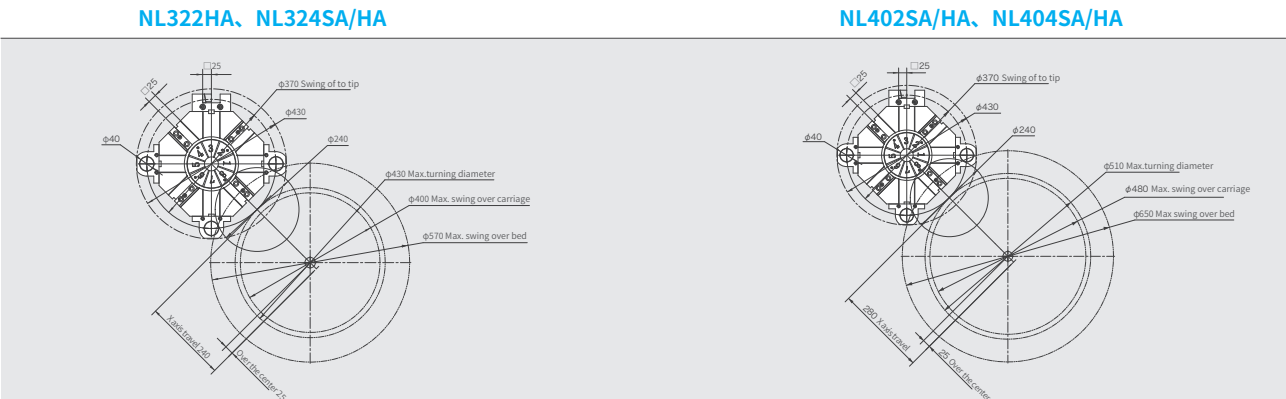
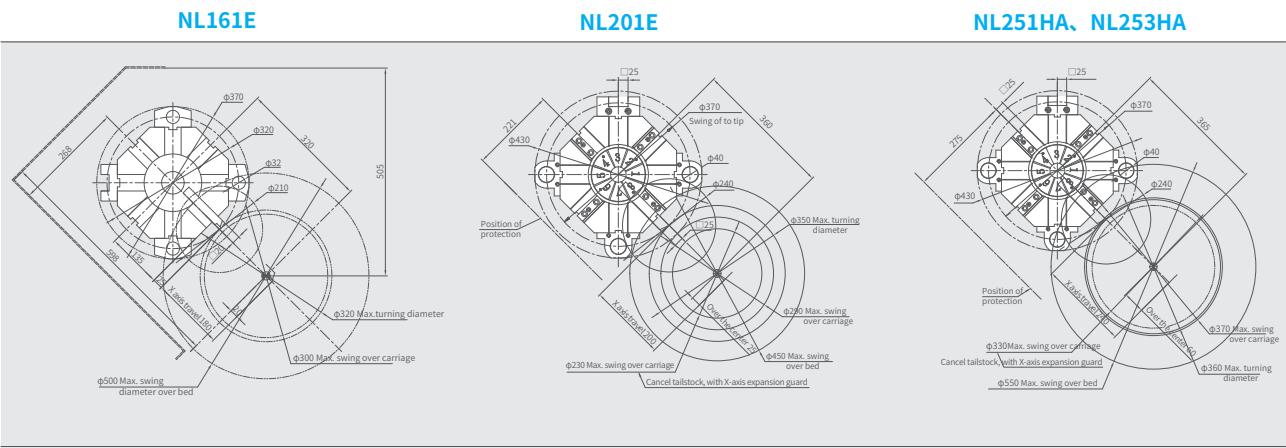
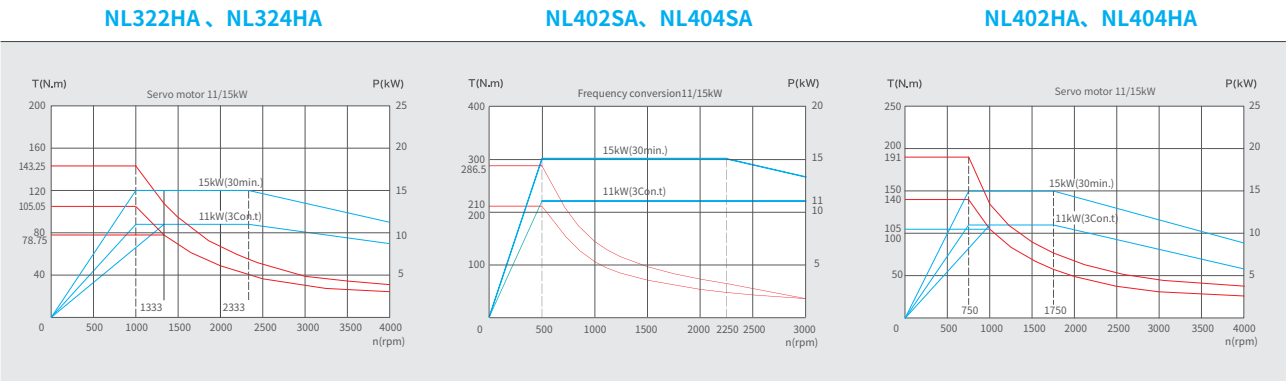
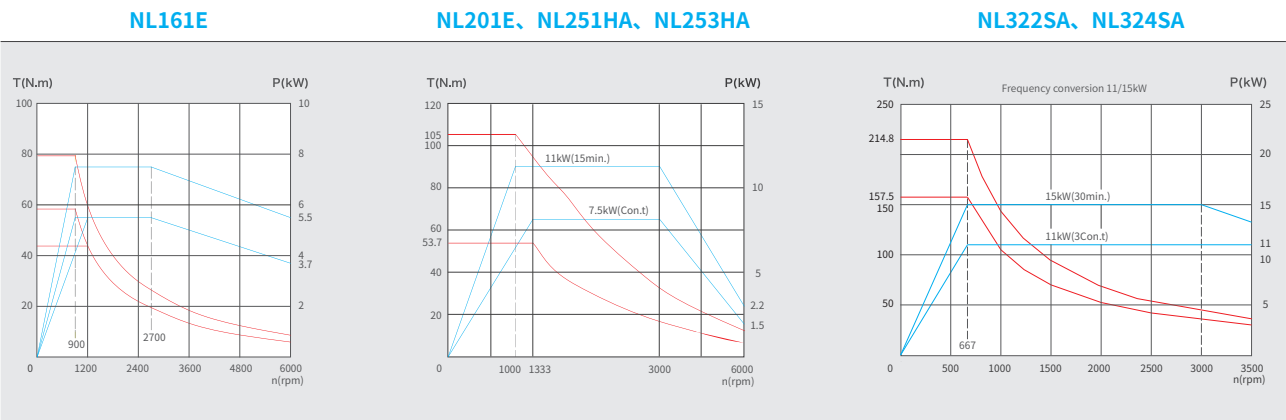
45 degree whole slant bed design to realize high stability of the CNC lathe and make chip removing easily and smoothly.



Spindle Power Torque Diagram

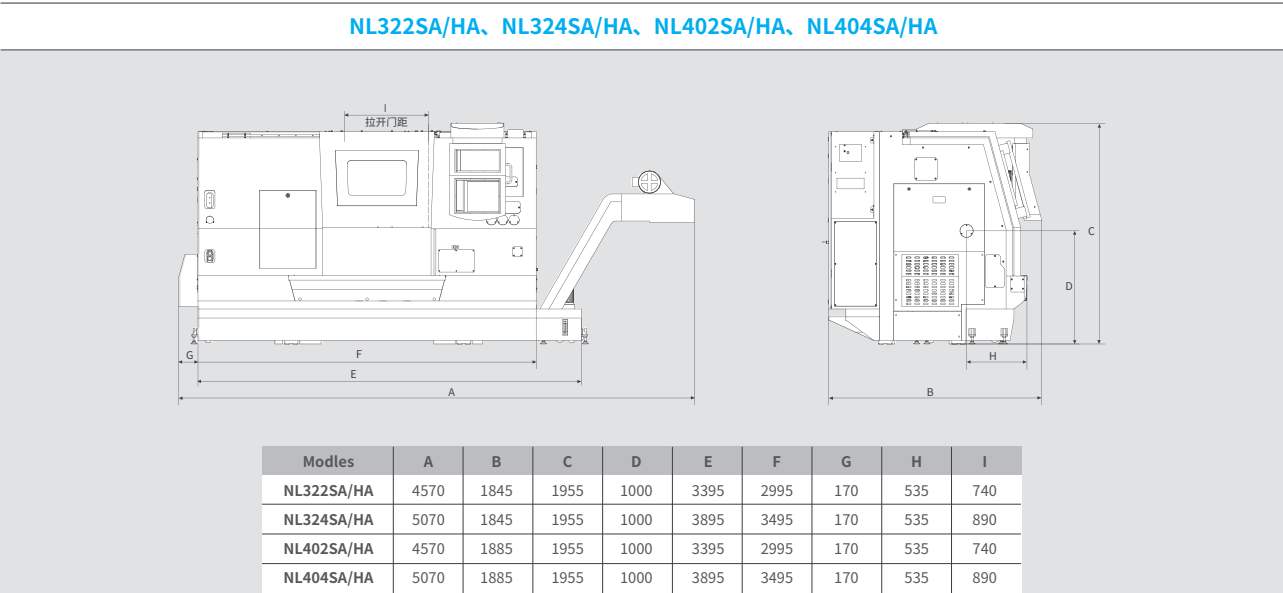
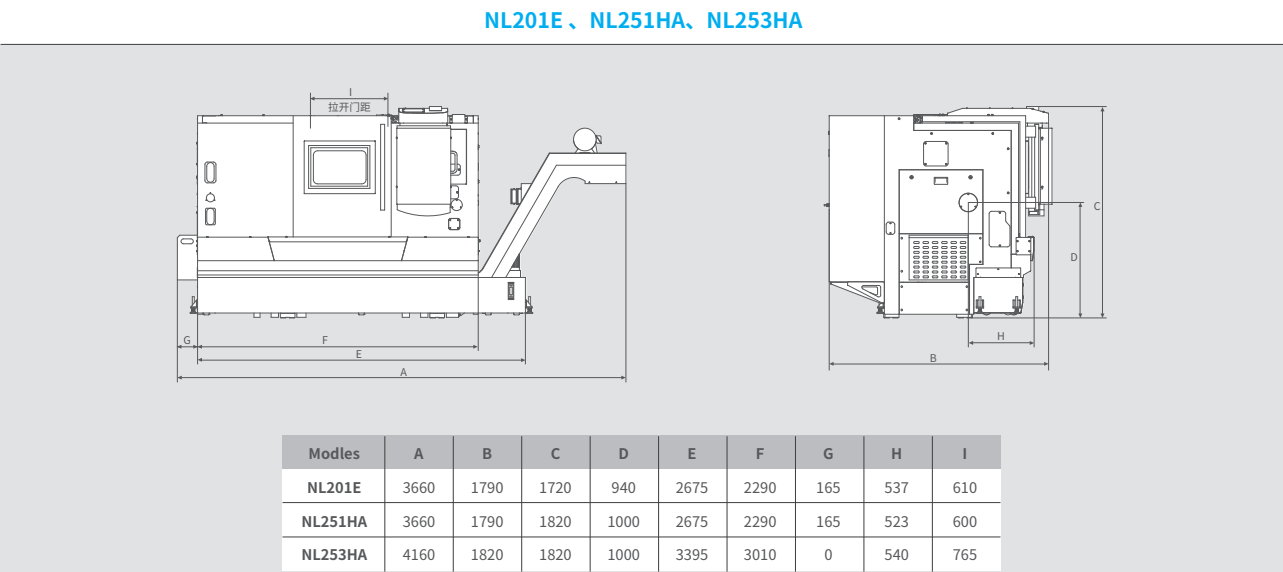
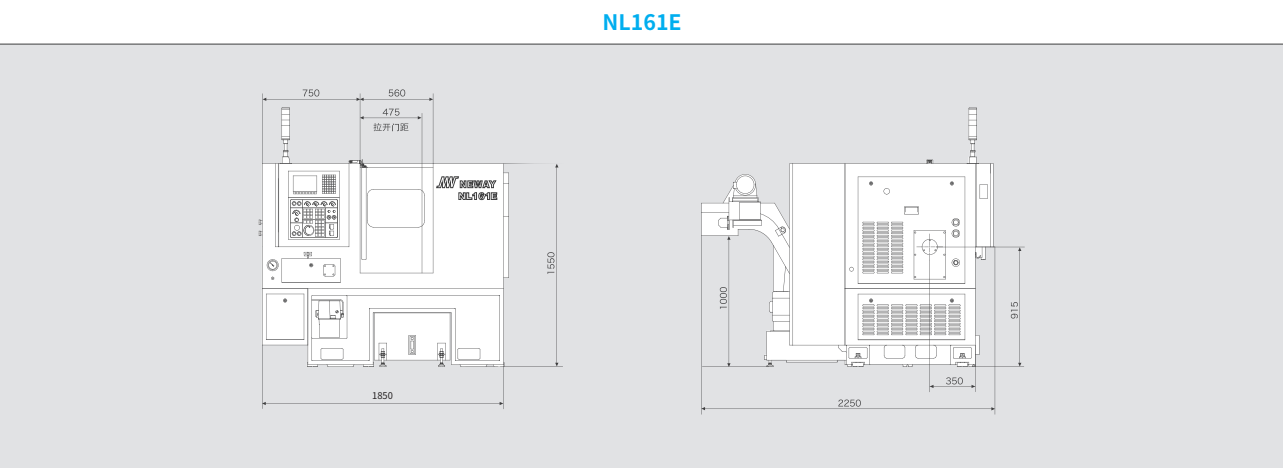
Tool Interference Diagram

(Unit: mm)



External Dimensions

(Unit: mm)



Item		Unit	NL161E	NL201E	NL251HA	NL253HA	NL322SA/HA	NL324SA/HA	NL402SA/HA	NL404SA/HA
Max. swing over bed		mm	Φ500	Φ450	Φ550	Φ550	Φ570	Φ570	Φ650	Φ650
Max. swing over saddle		mm	Φ300	Φ230	Φ330	Φ370	Φ400	Φ400	Φ480	Φ480
Max. turning diameter		mm	Φ320	Φ350	Φ360	Φ360	Φ430	Φ430	Φ510	Φ510
Max. turning length		mm	320	445	435	810	565	1000	550	1000
Max. bar capacity		mm	Φ44	Φ44	Φ44	Φ44	Φ51	Φ51	Φ51	Φ51
Max. spindle speed		rpm	6000	6000	5000	5000	3500 (SA) 4000 (HA)	3500 (SA) 4000 (HA)	3000 (SA) 4000 (HA)	3000 (SA) 4000 (HA)
Spindle nose		ISO	A2-5	A2-5	A2-6	A2-6	A2-6	A2-6	A2-6	A2-6
Spindle bore		mm	Φ56	Φ56	Φ56	Φ56	Φ65	Φ65	Φ65	Φ65
Spindle taper		-	Morse 6#	Morse 6#	Morse 6#	Morse 6#	公制80	Metric 80	Metric 80	Metric 80
Height from spindle center to ground		mm	915	940	1000	1000	1000	1000	1000	1000
Tailstock quill diameter		mm	-	-	-	Φ100	Φ100	Φ100	Φ100	Φ100
Tailstock quill travel		mm	-	-	-	100	100	100	100	100
Quill Center		Morse	-	-	-	5#(Live center)	5#(Live center)	5#(Live center)	5#(Live center)	5#(Live center)
Travel X/Z		mm	180/350	200/455	240/455	240/830	240/600	240/1100	280/600	280/1100
Rapid travel speed X/Z		m/min	30/30	24/30	24/30	24/30	24/30	24/30	24/30	24/30
X axis ball screw dia/pitch		mm	Φ32/10	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ32/8
Z axis ball screw dia/pitch		mm	Φ32/10	Φ32/10	Φ32/10	Φ32/10	Φ40/12	Φ40/12	Φ40/12	Φ40/12
Tool position		-	8 (servo turret)	8 (servo turret)	8 (servo turret)	8	8	8	8	8
Turning tool shank size		mm	25×25	25×25	25×25	25×25	25×25	25×25	25×25	25×25
Boring tool holder diameter		mm	Φ40	Φ40	Φ40	Φ40	Φ40	Φ40	Φ40	Φ40
Positioning accuracy	X	mm	0.006	0.006	0.006	0.006	0.008	0.008	0.01	0.01
	Z	mm	0.006	0.006	0.006	0.006	0.008	0.008	0.01	0.01
Repeatability accuracy	X	mm	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	Z	mm	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
Machine power capacity		kVA	15	25	25	25	25/30	25/30	25/30	25/30
Machine dimension (L x W x H)		mm	1850×2250×1550	3660×1790×1720	3660×1790×1820	4160×1820×1820	4570×1845×1955	5070×1845×1955	4570×1885×1955	5070×1885×1955
Machine weight		kg	2600	3400	3500	4200	4200	4400	4400	4600
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
Motor torque X/Z		N.m	7/7	7/7	7/7	7/7	7/7	7/7	7/7	7/7
Hydraulic chuck		inch	hollow6"	hollow 6" [solid (hollow)8"]	solid 10" [hollow 10"/solid (hollow)12"]		solid 10" [hollow 10"/solid (hollow)12"]		solid 10" [hollow 10"/solid (hollow)12"]	
[Hydraulic steady rest]		mm	-	-	Φ70	Φ70	Φ150	Φ150	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]]			
Standard on Neway Lathes: Installation kit, automatic lubricating device, standard tool attachment, foot pedal clamp and unclamp switch, hydraulic chuck and cylinder, soft jaws, hydraulic device, air gun, tri-color status lamp, chip cart, fully enclosed cabinet protection, waste oil collection device, LED lamp Optional on Neway Lathes: Hard jaws, special chuck, automatic tool measurement, steady rest, automatic door, additional tool attachment, air-blow mechanism, bar feeder, oil mist collector, oil skimmer, tailstock travel inspection, high-pressure coolant chip break, parts catcher.										

[]Option

NL201EP	NL251HP	NL253HP
Φ450	Φ550	Φ550
Φ230	Φ330	Φ370
Φ350	Φ320	Φ320
435	435	810
Φ66	Φ66	Φ66
4000	4000	4000
A2-6	A2-6	A2-6
Φ76	Φ76	Φ76
Metric 85	Metric 85	Metric 85
940	1000	1000
-	-	Φ100
-	-	1000
-	-	5#(Live center)
200/455	240/455	240/830
30/36	30/36	30/36
Φ32/10	Φ32/10	Φ32/10
Φ32/12	Φ32/12	Φ32/12
8	12	12
25×25	25×25	25×25
Φ40	Φ40	Φ40
0.006	0.006	0.006
0.006	0.006	0.006
0.004	0.004	0.004
0.004	0.004	0.004
25	25	25
3660×1790×1720	3660×1790×1820	4105×1820×1820
3400	3500	4200
NEWAY FANUC [SIEMENS]		
11/15	11/15	11/15
11/11	11/11	11/11
hollow 8" [solid 8"/solid (hollow)10"]		
-	-	Φ70
Automatic right chip conveyor [Automatic rear chip conveyor/Automatic left chip conveyor]]		

NLSeries-

High efficiency CNC horizontal lathe

[]Option

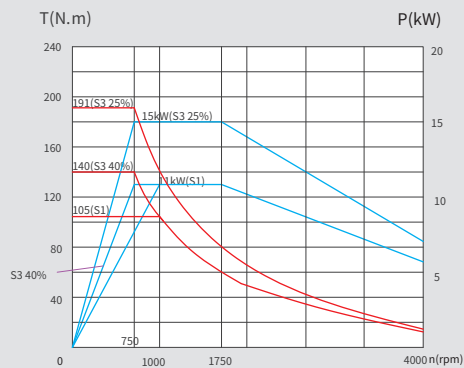
Spindle Power Torque Diagram

Tool Interference Diagram

External Dimensions

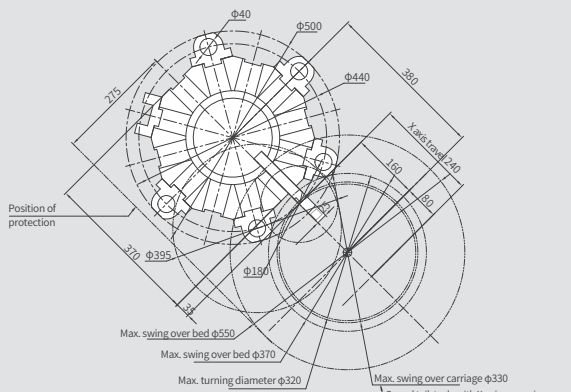
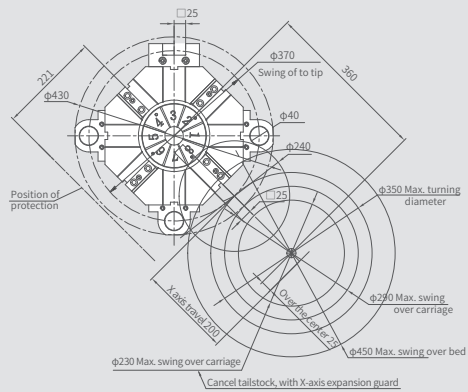
(Unit: mm)

NL201EP, NL251HP, NL253HP

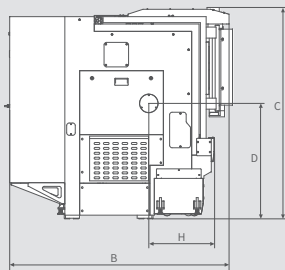
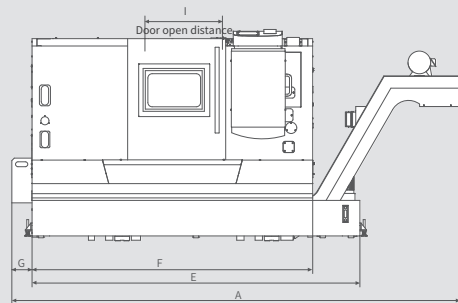


NL201EP

NL251HP, NL253HP



NL201EP, NL251HP, NL253HP



Models	A	B	C	D	E	F	G	H	I
NL201EP	3660	1790	1720	940	2675	2290	165	537	610
NL251HP	3660	1790	1820	1000	2675	2290	165	523	600
NL253HP	4105	1820	1820	1000	3295	2910	45	540	765

NL series-

Gang tooling type CNC slant bed lathe

- 60° overall slant bed design, with high rigidity and smooth chip removal
- FEA structure analysis realize the correct layout of casting ribs to increase rigidity and lessen stress.
- The X/Z axis ball screw is pre-tensioned to reduce influence of temperature increase on the accuracy of the ball screw during machining. The servo motor is directly connected with the high speed and silent ball screw.
- Utilizes a high rigidity spindle box with lower noise, higher precision and longer service life.
- World Class functional components, equipped with imported servo drivers and motors to realize reliable performance, excellent controllability, high indexing accuracy.
- The wide range of options: such as bar feeder, parts catcher, larger hollow chuck, bigger spindle bore, tool measurement, etc.



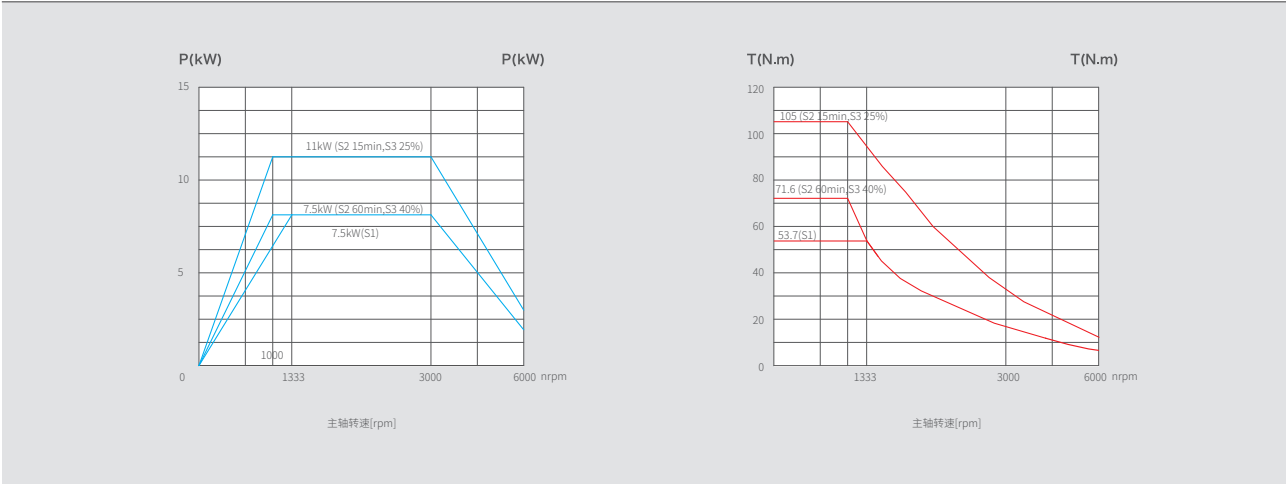
Spindle Power Torque Diagram

Tool Interference Diagram

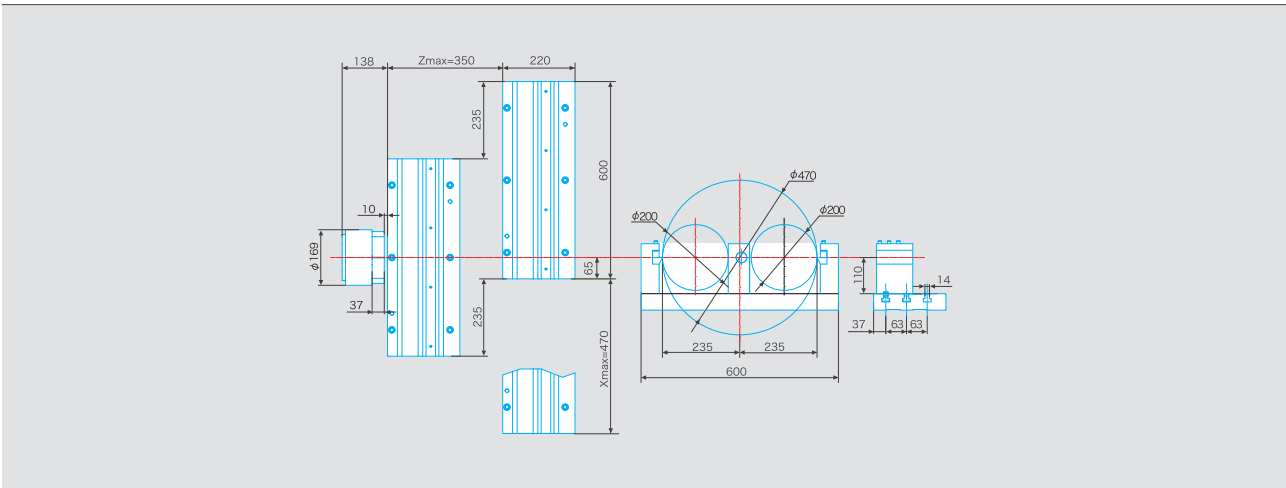
External Dimensions

(Unit: mm)

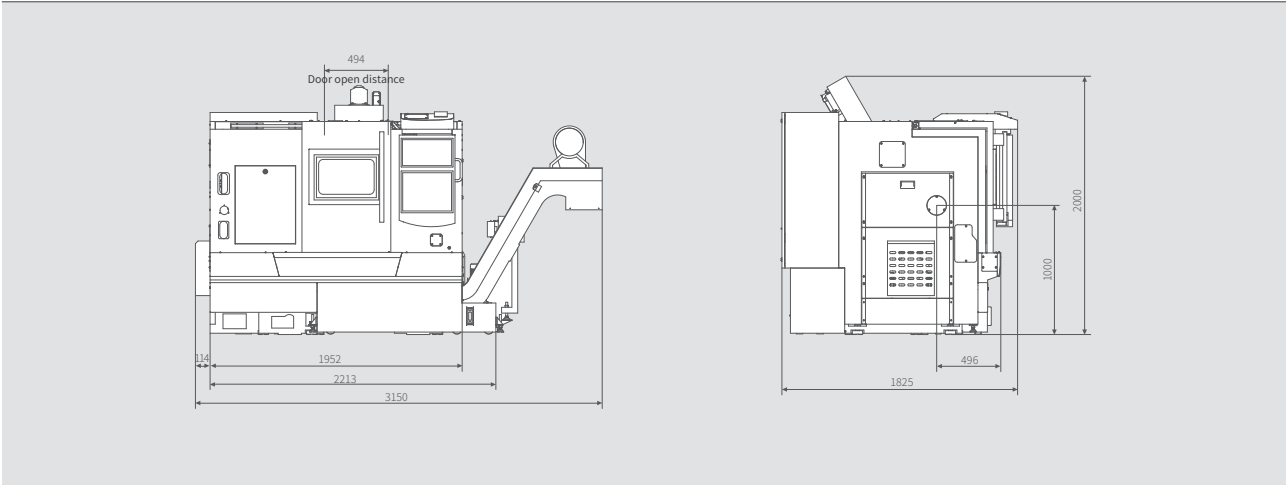
NL201HG



NL201HG



NL201HG



Item			Unit	NL201HG
Processing range	Max. swing over bed		mm	Φ590
	Max. swing over saddle		mm	Φ200
	Max. turning diameter		mm	Φ200
	Max. turning length		mm	350
	Max. bar capacity		mm	Φ44
Spindle	Max. spindle speed		rpm	6000
	Spindle nose		ISO	A2-5
	Spindle bore		mm	Φ56
	Spindle taper		-	Morse 6#
	Height from spindle center to ground		mm	1000
Hydraulic tailstock	Tailstock quill diameter		mm	-
	Tailstock quill travel		mm	-
	Quill Center		Morse	-
Axis X/Z	Travel X/Z		mm	470/350
	Rapid travel speed X/Z		m/min	30/30
	X axis ball screw dia. / pitch		mm	Φ32/10
	Z axis ball screw dia. / pitch		mm	Φ32/10
Gang tooling	Tool position		-	1~6
	Turning tool shank size		mm	20×20
	Boring tool holder diameter		mm	Φ32
Machining accuracy	Positioning accuracy	X	mm	0.006
		Z	mm	0.006
	Repeatability accuracy	X	mm	0.004
		Z	mm	0.004
Machine power capacity			kVA	25
Machine dimension (L x W x H)			mm	3150×1825×2000
Machine weight			kg	3000
CNC system			-	NEWAY FANUC [SIEMENS]
Spindle motor power			kW	7.5/11
Motor torque X/Z			N.m	7/7
Hydraulic chuck			inch	hollow 6"[solid 6"/ solid(hollow)8"]
[Hydraulic steady rest]			mm	-
Automatic chip conveyor			-	Automatic right chip conveyor [Automatic rear chip conveyor]

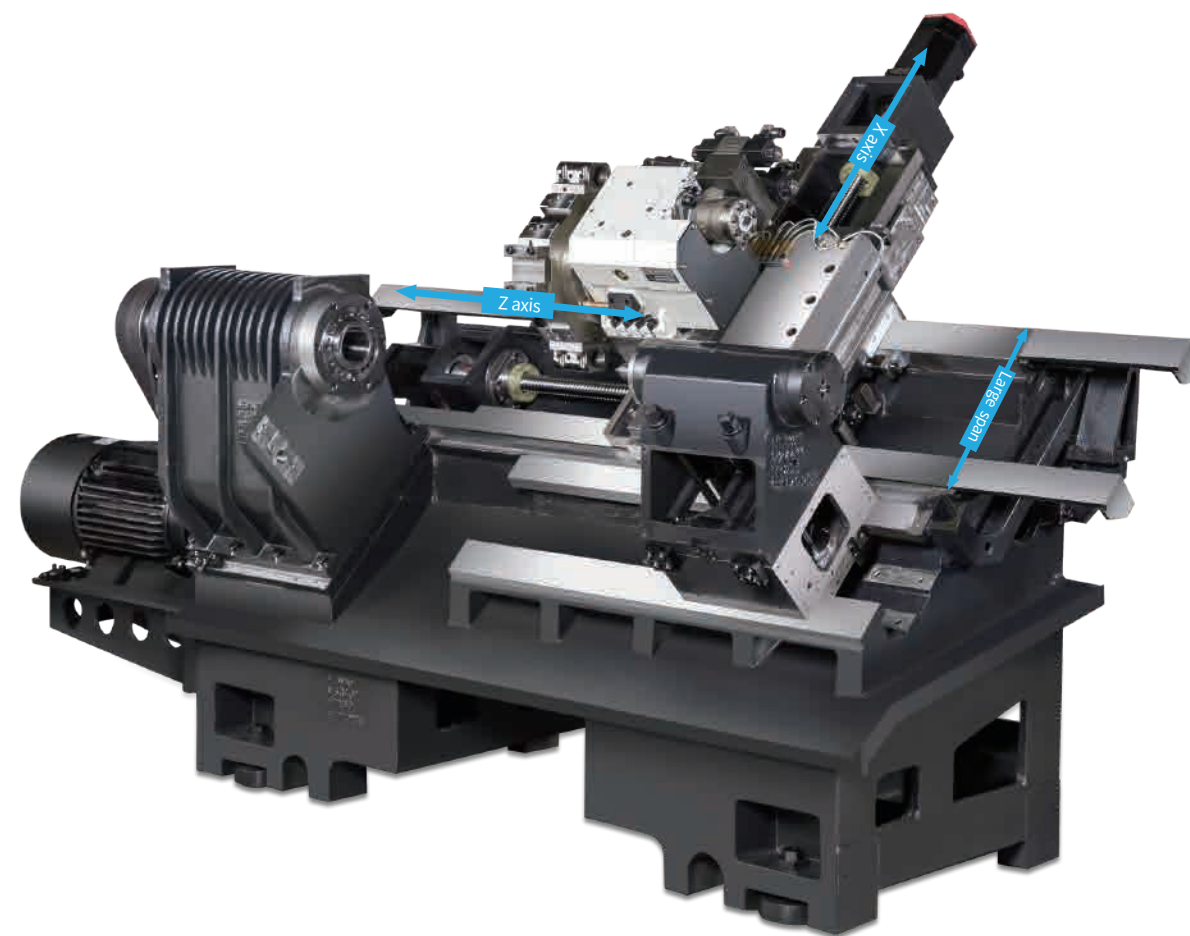
NL Series- Box Way Guideway CNC Horizontal Lathe

- 45° overall slant bed design offers high rigidity for heavier cutting and excellent chip removal. The X/Z axis ball screw is pre-tensioned to reduce influence of temperature increase on the accuracy of the ball screw during machining. Fasten bolts are installed on both sides of the ball screw itself to increase the protection of the ball screw bearing. The servo motor is directly connected to drive the high speed and silent ball screw.
- X/Z axis is box-way design with HRC48 hardness surface through heat treatment, bigger guideway span, higher rigidity, better torsional and shock resistance, stable machining accuracy. The box ways are equipped with imported wear resistant turcite to realize lower friction, smooth movement and good 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. The tailstock center height can be adjusted. The tailstock body can be moved manually or dragged by the slide board, and the quill is driven by hydraulic.
- Utilizes a high rigidity spindle box with lower noise, higher precision, better heat dissipation and and longer service life.
- The wide range of options: such as bar feeder, parts catcher, larger hollow chuck, bigger spindle bore, programmable tailstock, tool measurement, hydraulic steady rest, etc.



The main parameters

		NL502SC/H	NL504SC/H	NL634SC/SCZ	NL635SC/SCZ	NL636SC/SCZ	NL638SC
Max. swing over bed	mm	Φ600	Φ600	Φ650	Φ650	Φ650	Φ650
Max. cutting dia	mm	Φ500	Φ500	Φ630	Φ630	Φ630	Φ630
Max. cutting length	mm	500	1000	1000	1500	2000	3000
Motor power	kW	11/15	11/15	15/18.5	15/18.5	15/18.5	18.5/22
Spindle speed	rpm	3000	3000	2000/1000	2000/1000	2000/1000	2000



1 Box-way

Box-ways are used to provide a large contact area and large-span layout to realize 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. Special attention is paid to the surface matching and finishing. After final quality acceptance, Neway machines achieve high precision level.



2 Tailstock

The tailstock is center structure. Tailstock quill is driven through hydraulic and controlled by CNC controller. The tailstock adopts a rectangular guideway bed saddle. The tailstock body is dragged by the slide board (drag pin on the tailstock seat connect the tailstock body and the slide board), which has excellent accuracy and precise movement.



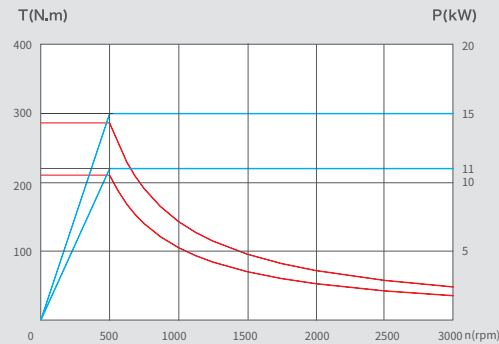
3 X/Z axis Bed Layout Design

The bed are made from world class Meehanite castings. The heat treatment make the hardness reach HRC48. This treatment offers the full span with enhanced rigidity, longer life, good vibration absorption and higher deflection resistance.

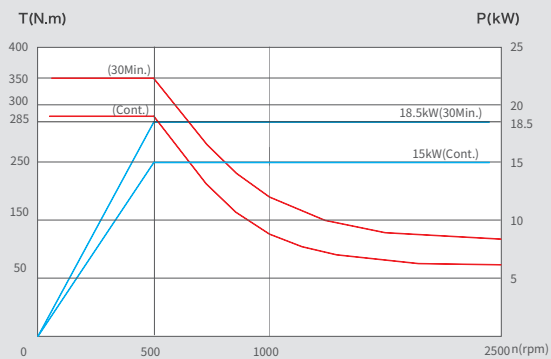
Spindle Power Torque Diagram

(Unit: mm)

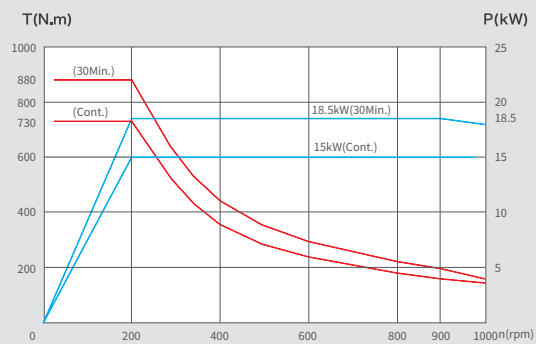
NL502SC, NL504SC



NL634SC, NL635SC, NL636SC



NL634SCZ, NL635SCZ, NL636SCZ

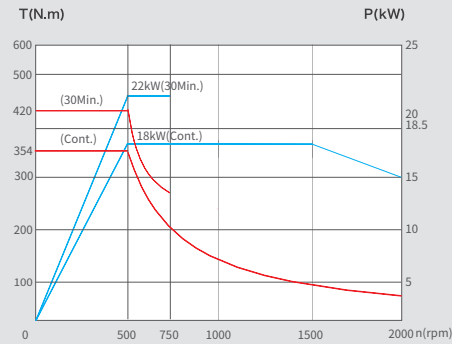


Spindle Power Torque Diagram

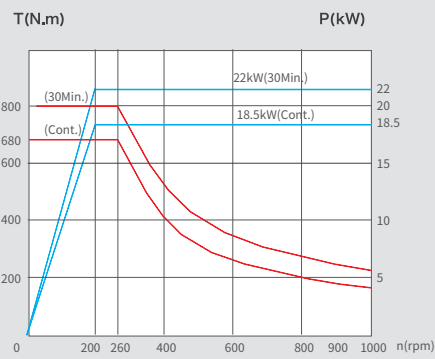
Tool Interference Diagram

(Unit: mm)

NL638SC

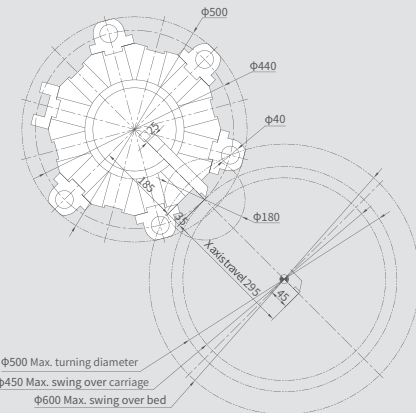
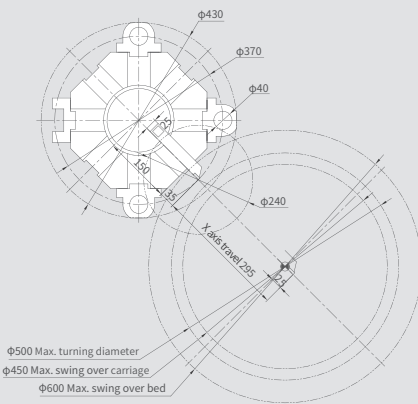


NL63SCZ



NL502SC, NL504SC Standard 8 pos turret

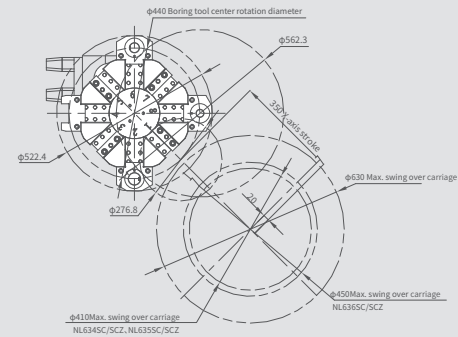
NL502SC, NL504SC Option 12 pos turret



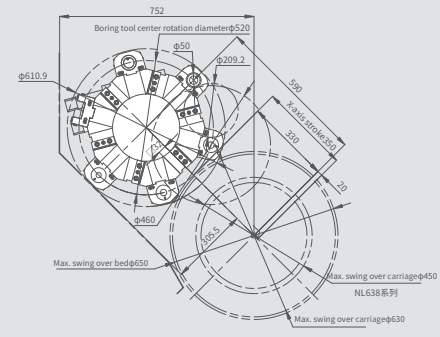
Tool Interference Diagram

(Unit: mm)

NL634SC/SCZ、NL635SC/SCZ、NL636SC/SCZ



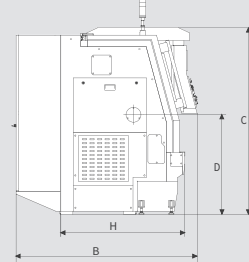
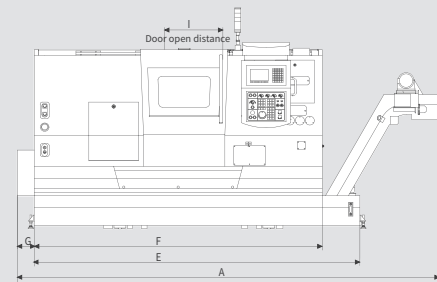
NL638SC/SCZ 选配12工位



External Dimensions

(Unit: mm)

NL502SC/H、NL504SC/H

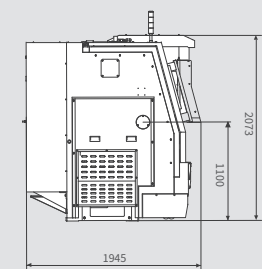
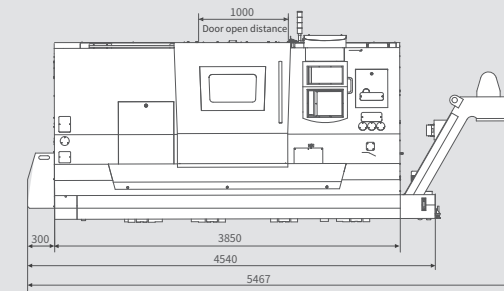


Models	A	B	C	D	E	F	G	H	I
NL502SC/H	4250	1880	1875	1000	3280	2900	170	1245	620
NL504SC/H	4750	1880	1875	1000	3780	3400	170	1245	920

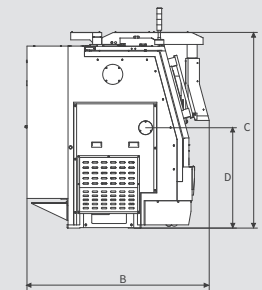
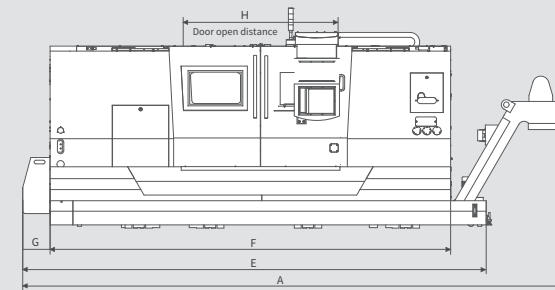
External Dimensions

(Unit: mm)

NL634SC/SCZ

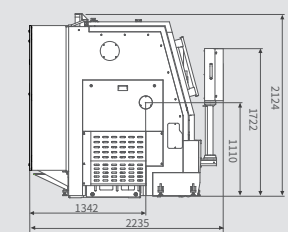
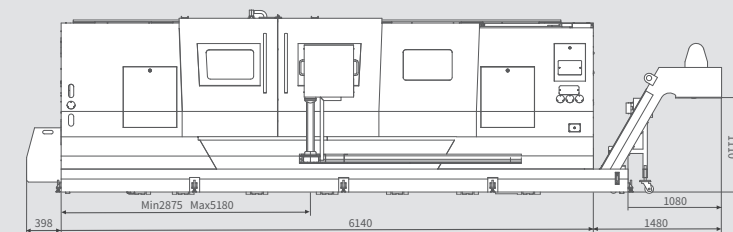


NL635SC/SCZ、636SC/SCZ



Models	A	B	C	D	E	F	G	H
NL635SC/SCZ	6007	1997	2145	1100	5080	4390	300	1500
NL636SC/SCZ	6890	2045	2140	1100	5780	4990	400	2000

NL638SC/SCZ



Item		Unit	NL502SC/H	NL504SC/H	NL634SC	NL634SCZ	NL635SC	NL635SCZ	NL636SC	NL636SCZ	NL638SC	NL638SC	
Processing range	Max. swing over bed	mm	Φ600	Φ600	Φ650	Φ650	Φ650	Φ650	Φ650	Φ650	Φ650	Φ650	
	Max. swing over saddle	mm	Φ450	Φ450	Φ410	Φ410	Φ410	Φ410	Φ450	Φ450	Φ450	Φ450	
	Max. turning diameter	mm	Φ500	Φ500	Φ630	Φ630	Φ630	Φ630	Φ630	Φ630	Φ630	Φ630	
	Max. turning length	mm	500	1000	1000	1000	1500	1500	2000	2000	3000	3000	
	Max. bar capacity	mm	Φ51	Φ51	Φ74	Φ89	Φ74	Φ89	Φ89	Φ89	Φ89	Φ89	
Spindle	Max. spindle speed	rpm	3000	3000	2000	1000	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	A2-11	A2-11	
	Spindle bore	mm	Φ65	Φ65	Φ87	Φ106	Φ87	Φ106	Φ102	Φ106	Φ102	Φ106	
	Spindle taper	-	Metric 80	Metric 80	Metric 100	Metric 120	Metric 100	Metric 120	Metric 120	Metric 120	Metric 120	公制120	
	Height from spindle center to ground	mm	1000	1000	1100	1100	1100	1100	1100	1100	1100	1100	
Hydraulic tailstock	Tailstock quill diameter	mm	Φ100	Φ100	Φ130	Φ130	Φ130	Φ130	Φ130	Φ130	Φ130	Φ130	
	Tailstock quill travel	mm	100	100	100	100	100	100	100	100	100	100	
	Quill Center	Morse	5#(Live center)	5#(Live center)	5#	5#	5#	5#	5#	5#	5#	5#	
Axis X/Z	Travel X/Z	mm	295/600	295/1100	330/1100	330/1100	330/1600	330/1600	350/2100	350/2100	350/3100	350/3100	
	Rapid travel speed X/Z	m/min	12/16	12/16	8/12	8/12	8/12	8/12	8/12	8/12	8/10	8/10	
	X axis ball screw dia. / pitch	mm	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ40/10	Φ40/10	
	Z axis ball screw dia. / pitch	mm	Φ40/10	Φ40/10	Φ40/10	Φ40/10	Φ40/10	Φ40/10	Φ50/10	Φ50/10	Φ50/12	Φ50/12	
Hydraulic turret	Tool position	-	8	8	8	8	8	8	8	8	12	12	
	Turning tool shank size	mm	25×25	25×25	32×25	32×25	32×25	32×25	32×25	32×25	32×32	32×32	
	Boring tool holder diameter	mm	Φ40	Φ40	Φ50	Φ50	Φ50	Φ50	Φ50	Φ50	Φ50	Φ50	
Machining accuracy	Positioning accuracy	X	mm	0.01	0.01	0.012	0.012	0.012	0.012	0.016	0.016	0.016	
		Z	mm	0.012	0.012	0.014	0.014	0.014	0.014	0.04	0.04	0.05	
	Repeatability accuracy	X	mm	0.005	0.005	0.006	0.006	0.006	0.006	0.007	0.007	0.007	
		Z	mm	0.007	0.007	0.008	0.008	0.008	0.008	0.02	0.02	0.022	0.022
Machine power capacity		kVA	25	25	35	35	35	35	35	35	35	35	
Machine dimension (L x W x H)		mm	4250×1880×1950	4750×1880×1950	5467×1945×2075	5467×1945×2075	6007×1997×2145	6007×1997×2145	6890×2045×2140	6890×2045×2140	8020×2235×2125	8020×2235×2125	
Machine weight		kg	4300	4800	7500	7600	8000	8100	8800	8900	10000	10100	
CNC system		-	NEWAY FANUC [SIEMENS]								NEWAY FANUC [SIEMENS]		SIEMENS [NEWAY FANUC]
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	18.5/22	18.5/22	
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	11/20	10.5/20	
Hydraulic chuck		inch	solid 10" [hollow10"/solid(hollow)12"]	solid 10" [hollow10"/solid(hollow)12"]	solid 12" [hollow12"]	solid15" [hollow15"]	solid12" [hollow12"]	solid15" [hollow15"]	solid12" [hollow12"]	solid15" [hollow15"]	solid12" [hollow12"]	solid12" [hollow12"]	
[Hydraulic steady rest]		mm	Φ200	Φ200	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 left chip conveyor]							

Standard on Neway Lathes:

Coolant system, installation kit, automatic lubricating device, standard tool attachment, foot pedal clamp and unclamp switch, hydraulic chuck and cylinder, soft jaws, hydraulic device, air gun, tri-color status lamp, chip cart, fully enclosed cabinet protection, waste oil collection device, LED lamp

Optional on Neway Lathes:

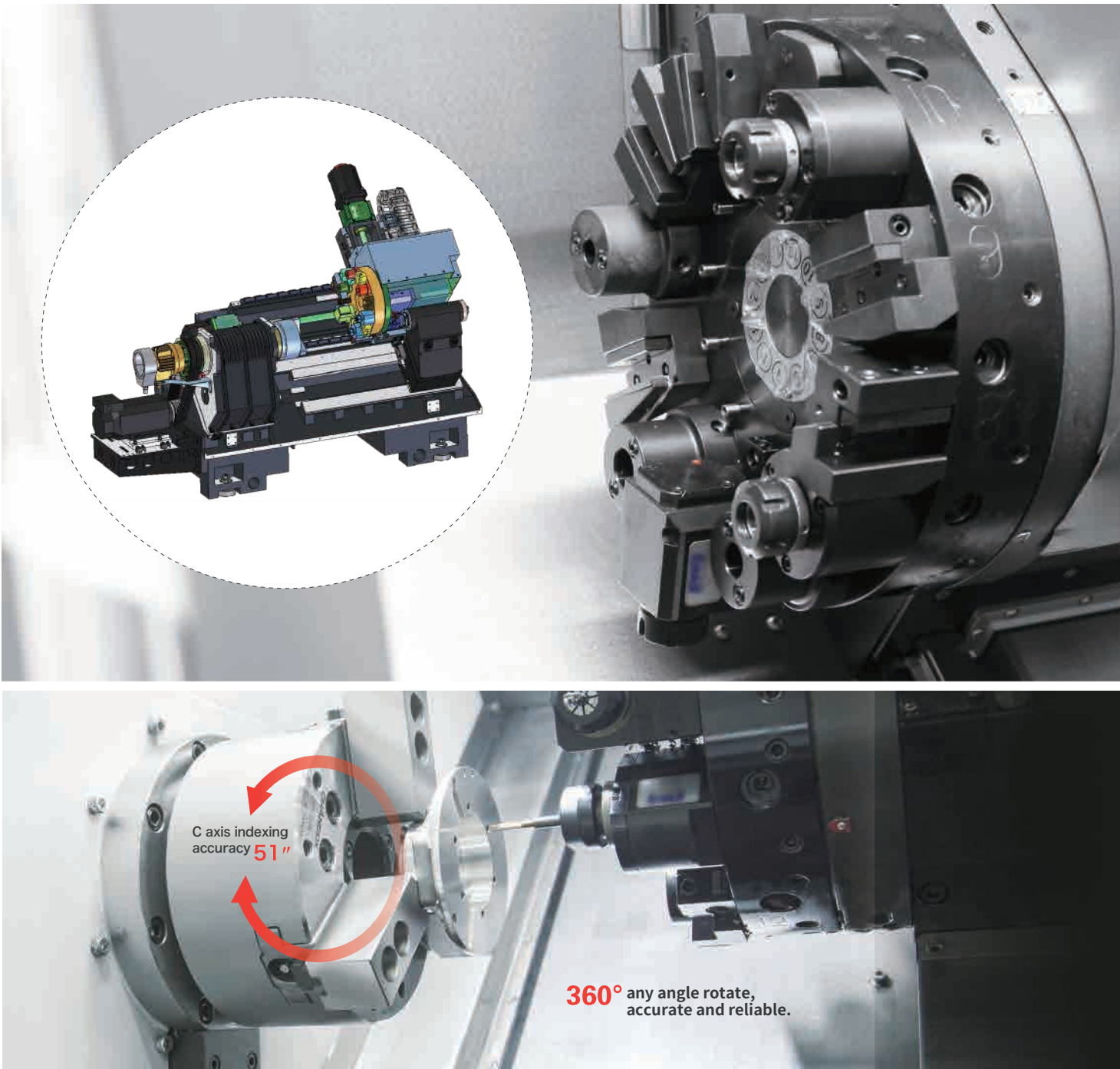
Hard jaws, special chuck, automatic tool measurement, steady rest, automatic door, additional tool attachment, air-blow mechanism, bar feeder, oil mist collector, oil skimmer, tailstock travel inspection, high-pressure coolant chip break, parts catcher.

NL Series- Horizontal Turning and Milling Center

- The horizontal turning center is with three-axis interpolation, semi-closed-loop control, C-axis indexing function and living turret to finish the milling, drilling, tapping, turning and many other processing.
- 45° overall slant bed design, with advantages of compact structure, high rigidity, smooth chip removal and ease operation.
- NL turning and milling centers are with fully enclosed protection, automatic chip removal, automatic lubrication, automatic cooling, to realize easier maintenance and higher performance.
- Live tools are used for rotary parts with complex geometry, various sizes, and high precision requirements, which can finish axial milling, radial groove, plane milling, drilling, reaming, tapping, etc.



The main parameters		NL161T	NL251T	NL322T	NL402T	NL502T	NL504T	NL635T
Max. swing over bed	mm	Φ500	Φ550	Φ570	Φ650	Φ600	Φ600	Φ650
Max. cutting dia	mm	Φ240	Φ350[Φ290]	Φ320	Φ400	Φ430	Φ430	Φ540[Φ630]
Max. cutting length	mm	320	395[325]	475[500]	460[500]	500	1000	1500
Motor power	kW	7	7.5/11	11	11	11	11	17
Spindle speed	rpm	6000	5000	4000	4000	3000	3000	2000



1 Live Tool Driven Turret

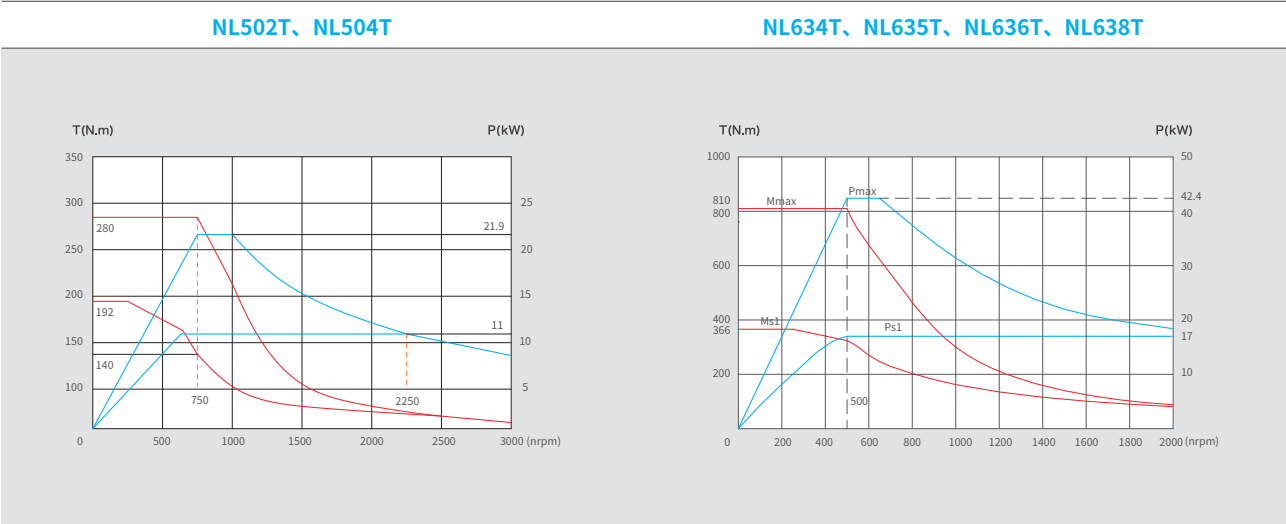
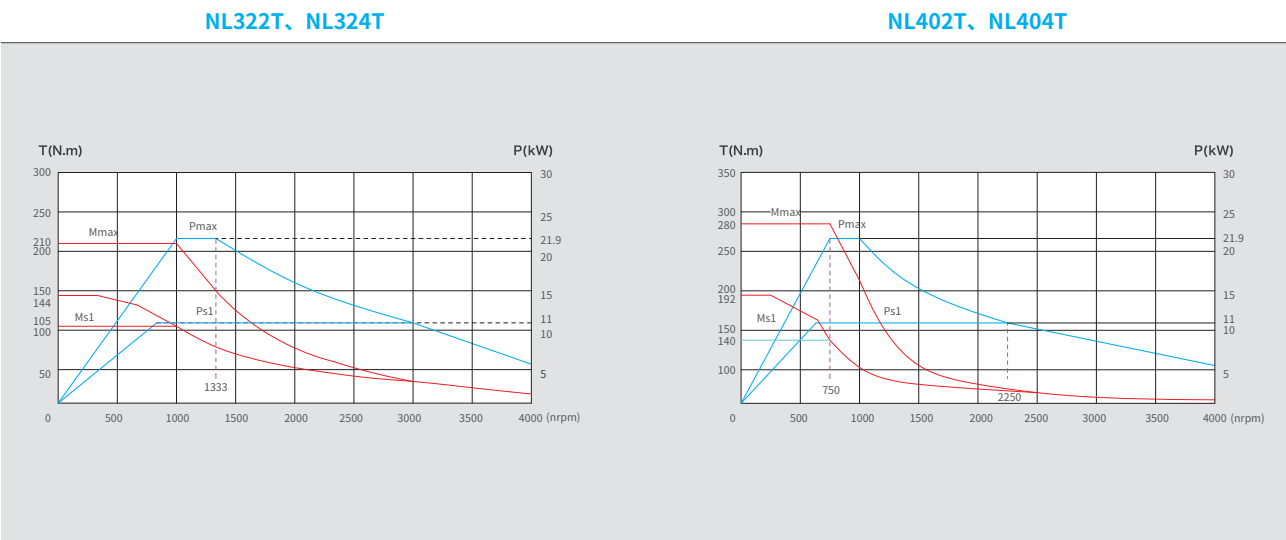
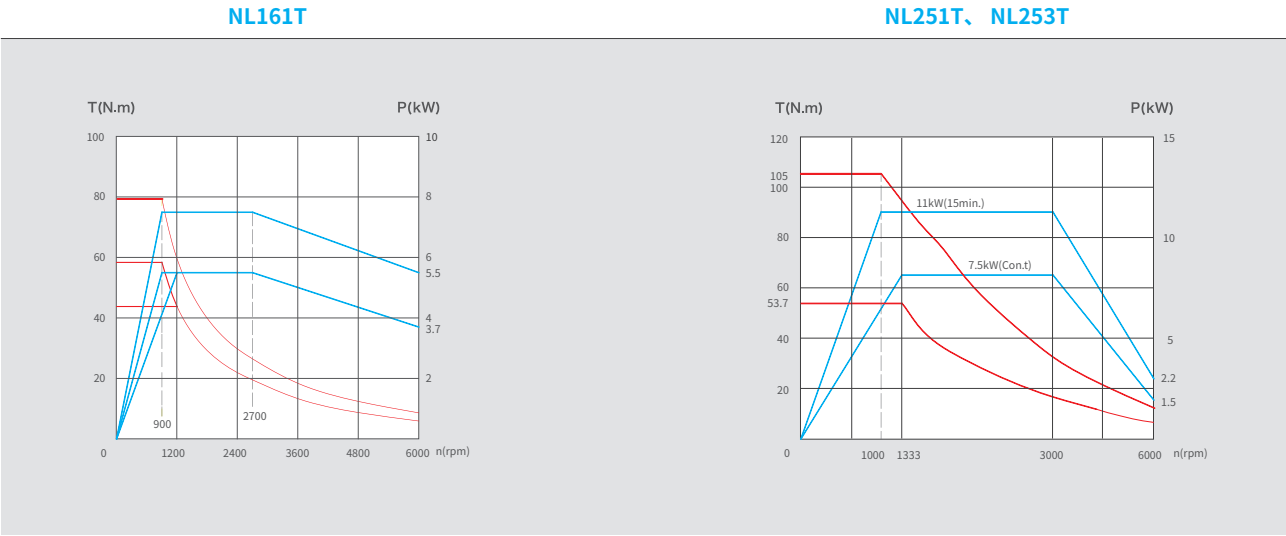
Equipped with an imported high-performance live turret, with milling and drilling functions.

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.

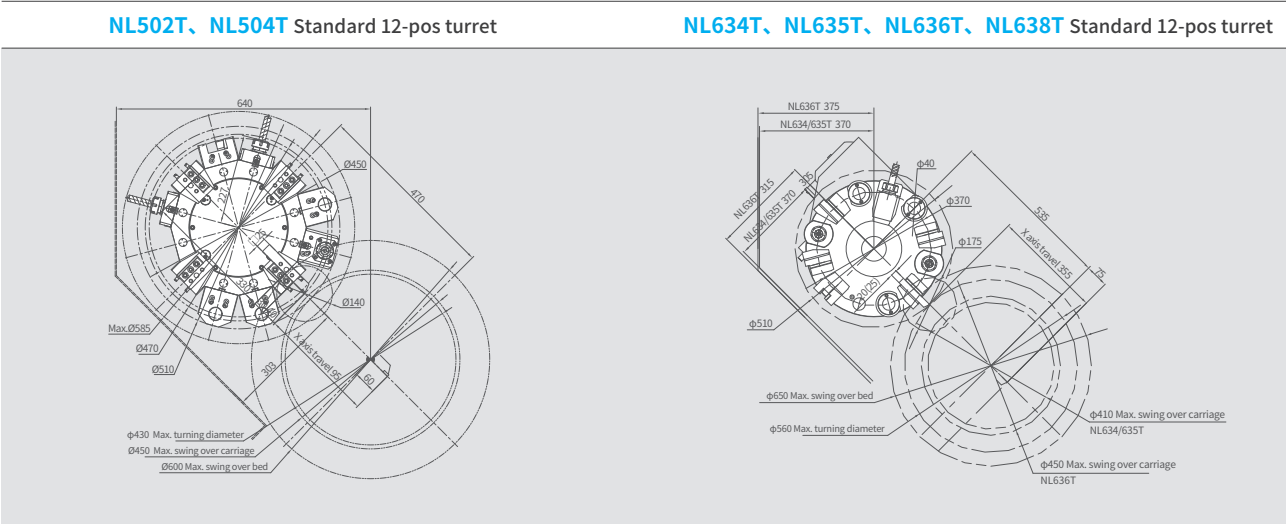
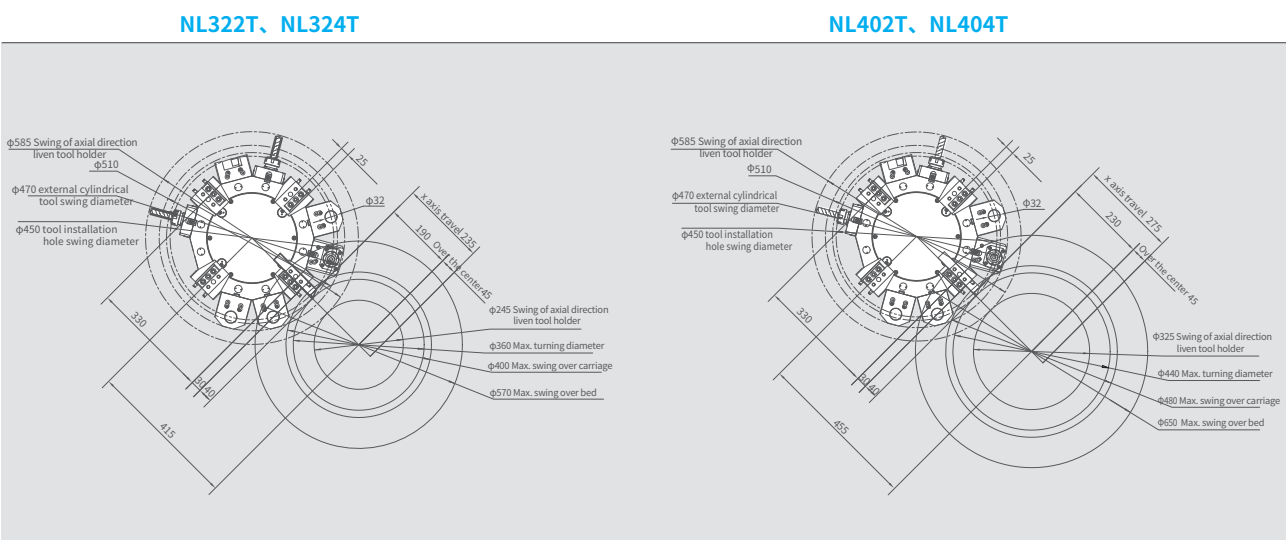
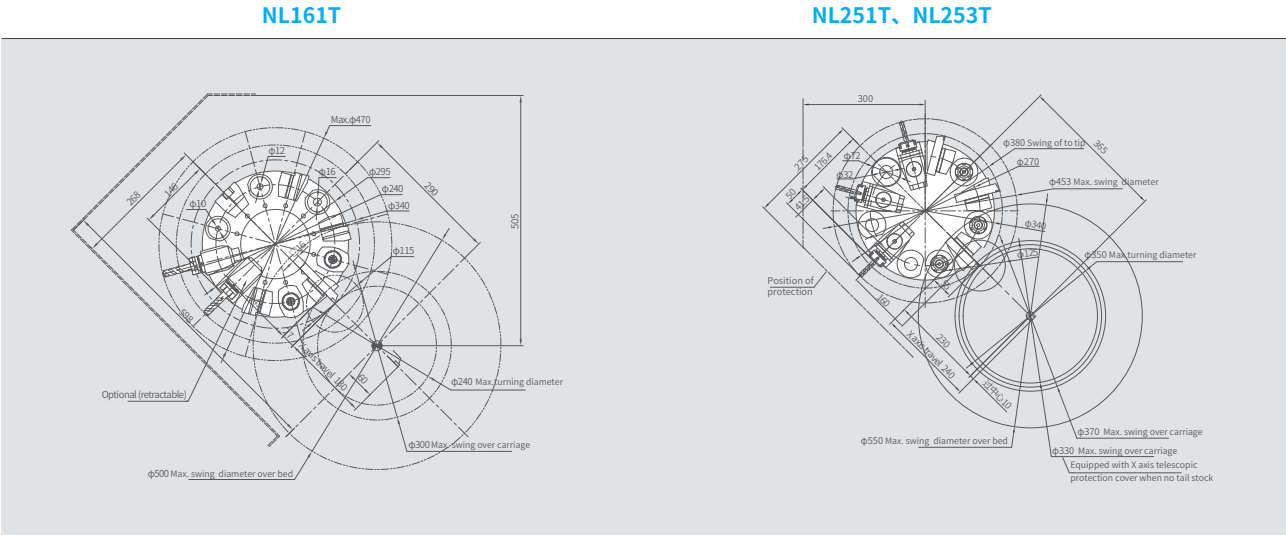
Spindle Power Torque Diagram

(Unit: mm)



Tool Interference Diagram

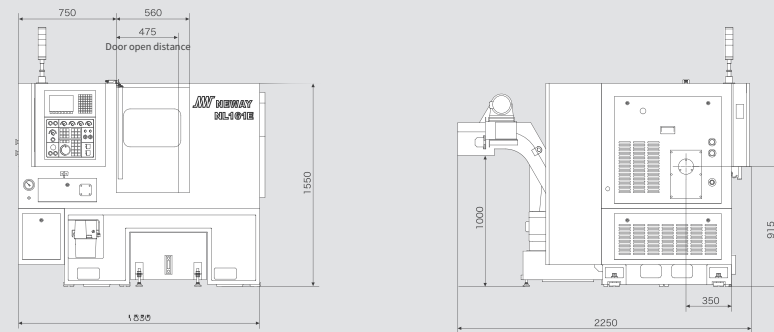
(Unit: mm)



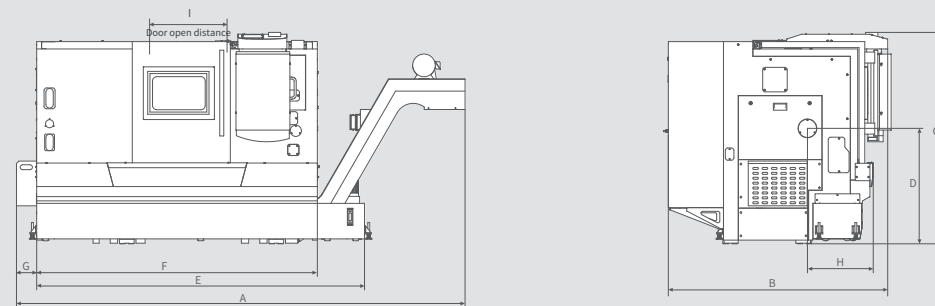
External Dimensions

(Unit: mm)

NL161T

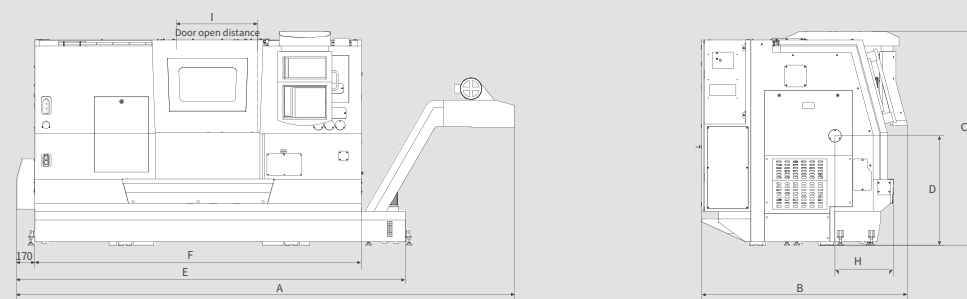


NL251T, NL253T



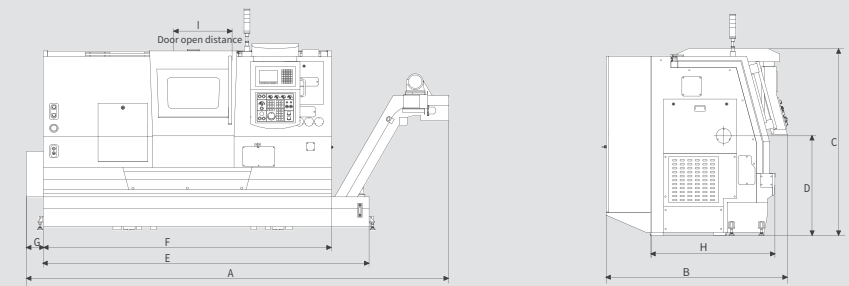
Models	A	B	C	D	E	F	G	H	I
NL251T	3660	1790	1820	1000	2675	2290	165	523	600
NL253T	4160	1820	1820	1000	3395	3010	0	540	765

NL322T, NL324T, NL402T, NL404T



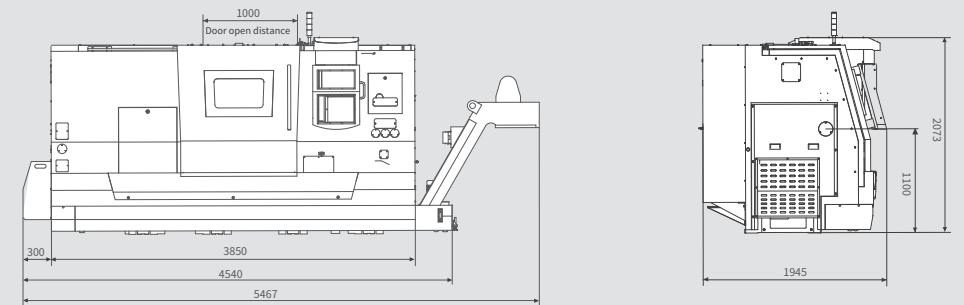
Models	A	B	C	D	E	F	G	H	I
NL322T	4570	1845	1955	1000	3565	2995	170	535	740
NL324T	5070	1845	1955	1000	4065	3495	170	535	890
NL402T	4570	1885	1955	1000	3565	2995	170	535	740
NL404T	5070	1885	1955	1000	4065	3495	170	535	890

NL502T, NL504T

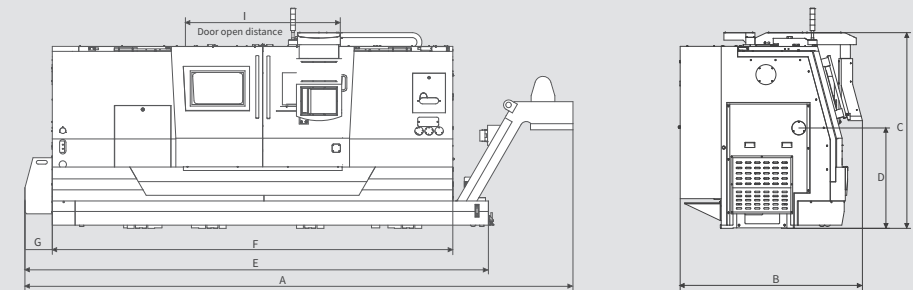


Models	A	B	C	D	E	F	G	H	I
NL502T	4250	1880	1875	1000	3280	2900	170	1245	620
NL504T	4750	1880	1875	1000	3780	3400	170	1245	920

NL634T

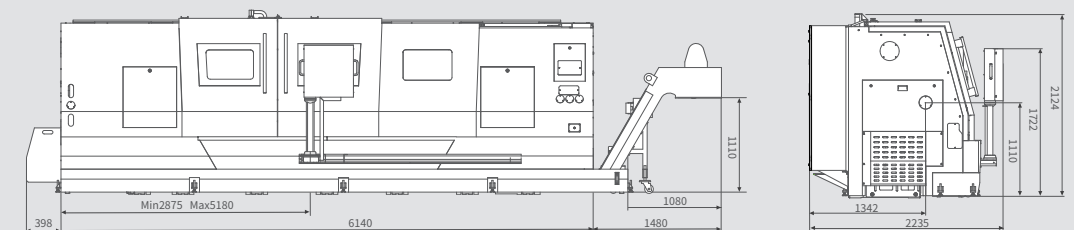


NL635T, NL636T



Models	A	B	C	D	E	F	G	H
NL635T	6007	1997	2145	1100	5080	4390	300	1245
NL636T	6834	2045	2140	1100	5780	4990	300	1245

NL638T



Item			Unit	NL161T	NL251T	NL253T	NL322T	NL324T	NL402T	NL404T	NL502T	NL504T	NL634T	NL635T	NL636T	NL638T	HL635T	
Processing range	Max. swing over bed		mm	Φ500	Φ550	Φ550	Φ570	Φ570	Φ650	Φ650	Φ600	Φ600	Φ650	Φ650	Φ650	Φ650	Φ720	
	Max. swing over saddle		mm	Φ300	Φ330	Φ370	Φ400	Φ400	Φ480	Φ480	Φ450	Φ450	Φ410	Φ410	Φ450	Φ450	Φ530	
	Max. turning diameter		mm	Φ240	Φ350[Φ290]	Φ350[Φ290]	Φ320	Φ320	Φ400	Φ400	Φ430	Φ430	Φ540[Φ630]	Φ540[Φ630]	Φ540[Φ630]	Φ540[Φ630]	Φ630	
	Max. turning length		mm	320	395[325]	795[725]	475[500]	955[1000]	460[500]	940[1000]	500	1000	1000	1500	2000	3000	1500	
	Max. bar capacity		mm	Φ44	Φ44	Φ44	Φ51	Φ51	Φ51	Φ51	Φ51	Φ51	Φ89	Φ89	Φ89	Φ89	Φ74	
Spindle	Max. spindle speed		rpm	6000	5000	5000	4000	4000	4000	4000	3000	3000	2000	2000	2000	2000	2000	
	Spindle nose		ISO	A2-5	A2-6	A2-6	A2-6	A2-6	A2-6	A2-6	A2-6	A2-6	A2-8	A2-8	A2-8	A2-11	A2-11	
	Spindle bore		mm	Φ56	Φ56	Φ56	Φ65	Φ65	Φ65	Φ65	Φ65	Φ65	Φ102	Φ102	Φ102	Φ102	Φ100	
	Spindle taper		-	Morse 6#	Morse 6#	Morse 6#	Metric 80	Metric 80	Metric 80	Metric 80	Metric 80	Metric 80	Metric 120	Metric 120	Metric 120	公制120	Metric 120	
	Height from spindle center to ground		mm	915	1000	1000	1000	1000	1000	1000	1000	1000	1100	1100	1100	1100	1105	
Hydraulic tailstock	Tailstock quill		mm	-	-	Φ100	Φ100	Φ100	Φ100	Φ100	Φ100	Φ100	Φ130	Φ130	Φ130	Φ130	Φ160	
	Tailstock quill travel		mm	-	-	100	100	100	100	100	100	100	100	100	100	100	180	
	Tailstock quill center		Morse	-	-	5#(Live center)	5#(Live center)	5#(Live center)	5#(Live center)	5#(Live center)	5#(Live center)	5#(Live center)	5#	5#	5#	5#	5#	
Axis X/Z	Travel X/Z		mm	180/350	240/430	240/830	235/530	235/1050	275/530	275/1050	295/550	295/1050	355/1100	355/1600	355/2100	355/3100	350/1600	
	Rapid travel speed X/Z		m/min	30/30	24/30	24/30	24/30	24/30	24/30	24/30	12/16	12/16	8/12	8/12	8/12	8/10	8/12	
	X axis Ball screw Dia/Pitch		mm	Φ32/10	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ32/8	Φ40/10	Φ40/10	
	Z axis Ball screw Dia/Pitch		mm	Φ32/10	Φ32/10	Φ32/10	Φ40/12	Φ40/12	Φ40/12	Φ40/12	Φ40/10	Φ40/10	Φ40/10	Φ40/10	Φ40/10	Φ50/12	Φ50/10	
Hydraulic Turret	Tool position		mm	12(VDI 20)	12(VDI 30)[BMT55]	12(VDI 30)[BMT55]	12[BMT55][VDI 40]	12(BMT55)[VDI 40]	12[BMT55][VDI 40]	12(BMT55) [VDI 40]	12(BMT55)[VDI 40]	12(BMT55)[VDI 40]	12(VDI 40) [BMT55]	12(VDI 40) [BMT55]	12(VDI 40)[BMT55]	12(VDI 40)[BMT55]	12(VDI 50)[BMT65]	
	Max. live tool speed		rpm	4000	5000[6000]	5000[6000]	6000[5000]	6000[5000]	6000[5000]	6000[5000]	4000	4000	5000[6000]	5000[6000]	5000[6000]	5000[6000]	4000[5000]	
	Turning tool shank size		mm	16×16	20×20[25×25]	20×20[25×25]	25×25	25×25	25×25	25×25	25×25	25×25	25×25	25×25	25×25	25×25	32×25[25x25]	
	Max. boring tool holder		mm	Φ16	Φ25[Φ32]	Φ25[Φ32]	Φ32	Φ32	Φ32	Φ32	Φ32	Φ32	Φ40[Φ32]	Φ40[Φ32]	Φ40[Φ32]	Φ40[Φ32]	Φ50[Φ40]	
	Max. drilling capacity		mm	Φ12×0.14	Φ14×0.15	Φ14×0.15	Φ14×0.16 [Φ16×0.2]	Φ14×0.16 [Φ16×0.2]	Φ14×0.16 [Φ16×0.2]	Φ14×0.16 [Φ16×0.2]	Φ14×0.16 [Φ16×0.2]	Φ14×0.16 [Φ16×0.2]	Φ16×0.2 [Φ14×0.16]	Φ16×0.2 [Φ14×0.16]	Φ16×0.2 [Φ14×0.16]	Φ16×0.2 [Φ14×0.16]	Φ20×0.23 [Φ16×0.2]	
	Max. tapping capacity		mm	M8×1.5/M14×1	M10×1.5/M24×1	M10×1.5/M24×1	M10×1.5/M24×1 [M14×2/M20×1.5]	M10×1.5/M24×1 [M14×2/M20×1.5]	M10×1.5/M24×1 [M14×2/M20×1.5]	M10×1.5/M24×1 [M14×2/M20×1.5]	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 [M10×1.5/M24×1]	M14×2/M20×1.5 [M10×1.5/M24×1]	M14×2/M20×1.5 [M10×1.5/M24×1]	M14×2/M20×1.5 [M10×1.5/M24×1]	M18×2/M27×1.5 [M14×2/M20×1.5]	
	Max. milling capacity		mm	Φ12×8×45	Φ20×10×40	Φ20×10×40	Φ16×12×40 [Φ20×12×40]	Φ16×12×40 [Φ20×12×40]	Φ16×12×40 [Φ20×12×40]	Φ16×12×40 [Φ20×12×40]	Φ16×12×40 [Φ20×12×40]	Φ16×12×40 [Φ20×12×40]	Φ20×12×40 [Φ16×12×40]	Φ20×12×40 [Φ16×12×40]	Φ20×12×40 [Φ16×12×40]	Φ20×12×40 [Φ16×12×40]	Φ22×25×40 [Φ20×12×40]	
Machining accuracy	Positioning accuracy	X/Z/C	mm	0.006/0.006/51″	00.006/0.006/51″	0.008/0.008/51″	0.008/0.008/51″	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″	0.016/0.050/51″	0.012/0.016/51″	
	Repeatability accuracy	X/Z/C	mm	0.004/0.004/20″	0.004/0.004/20″	0.004/0.004/20″	0.004/0.004/20″	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″	0.007/0.022/20″	0.006/0.008/20″	
Other	Machine power capacity		kVA	20	25	40	40	40	40	40	40	40	55	55	55	55	55	
	Machine dimension (L x W x H)		mm	1850×2250×1550	3660×1790×1820	4160×1820×1820	4570×1845×1955	5070×1845×1955	4570×1885×1955	5070×1885×1955	4250×1880×1950	4750×1880×1875	5467×1945×2075	6007×1997×2145	6834×2165×2135	8020×2235×2125	6530×2300×2360	
	Machine weight		kg	2600	3500	4200	4200	4400	4400	4600	4300	4800	7500	8100	8800	10000	13000	
	CNC system			SIEMENS														
	Spindle motor power		kW	7	7.5/11	7.5/11	11	11	11	11	11	11	17	17	17	17	21.2	
	Motor torque X/Z		N.m	7/7	7/7	7/7	11/11	11/11	11/11	11/11	11/11	11/11	11/16	11/16	11/16	11/20	20/20	
	Hydraulic chuck		inch	hollow 6" [solid 6"/solid(hollow)8"]	Solid 8" [Solid 8"/solid(hollow)10"]	hollow 8" [Solid 8"/solid(hollow)10"]	Solid 8" [Hollow8"/solid(hollow)10"]		Solid 10" [Hollow 10"/solid(hollow)12"]				Solid 12" [Hollow12"]				Hollow 15" [15" solid]	
	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 right chip conveyor	

Standard on Neway Lathes:

Hard jaws, special chuck, automatic tool measurement, steady rest, automatic door, additional tool attachment, air-blow mechanism, bar feeder, oil mist collector, oil skimmer, tailstock travel inspection, high-pressure coolant chip break, parts catcher.

Optional on Neway Lathes:

Hard jaws, special chuck, automatic tool measurement, steady rest, automatic door, additional tool attachment, air-blow mechanism, bar feeder, oil mist collector, oil skimmer, tailstock travel inspection, high-pressure coolant chip break, parts catcher.

NL Series- Multi-axis horizontal turning center

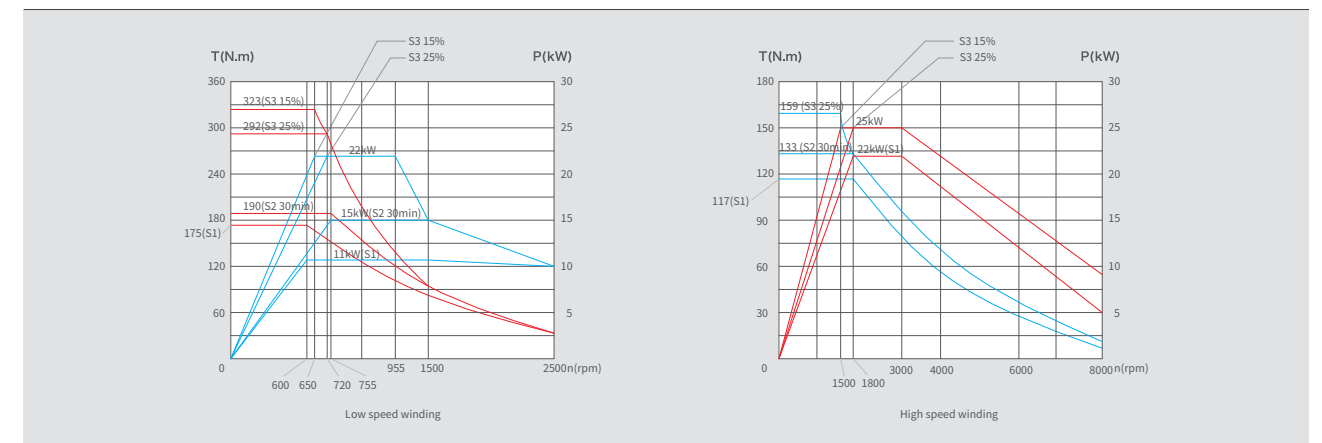
- 45° overall slant bed design offers high rigidity for heavier cutting and excellent chip removal.
- FEA structure analysis realize the perfect layout of casting ribs to increase rigidity and lessen stress.
- The X/Z axis high speed and silent ball screw is pre-tensioned to reduce influence of temperature increase on the accuracy of the ball screw during machining.
- X/Z axis utilize linear guideways to guarantee excellent dynamic characteristics, stable machining accuracy, high rapid traverse speeds and high processing efficiency.
- This series turning center can realize X, Y, Z, C four axis interpolation, which can finish eccentric hole processing and wide slot milling.
- NL322M is equipped with double electrical spindle, double live turret (upper one turret and downside one turret) to realize high production capacity.
- NL301Y and NL302Y can be quipped with the servo tail stock as option. Easy control and high efficiency.



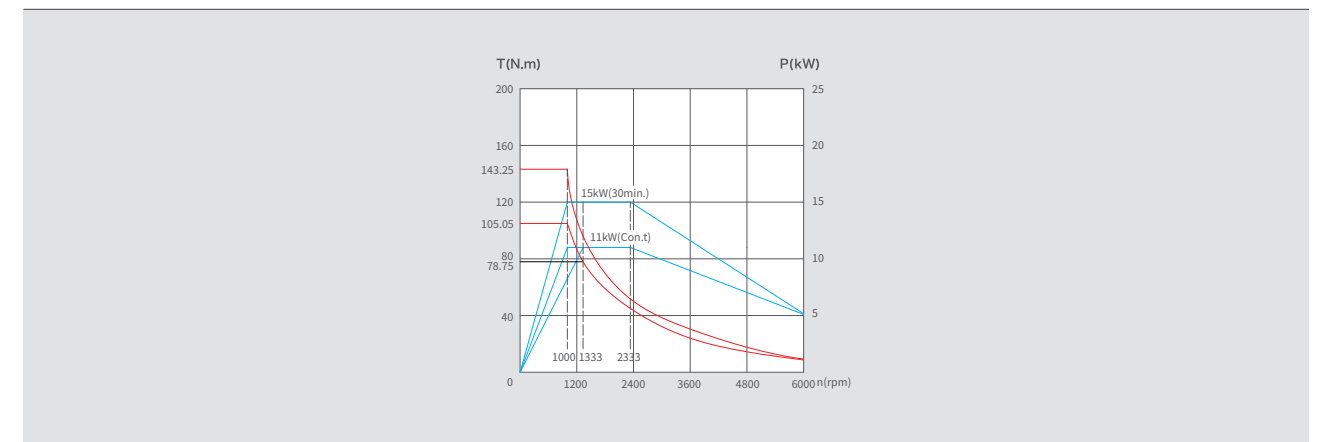
Spindle Power Torque Diagram

(Unit: mm)

NL322M

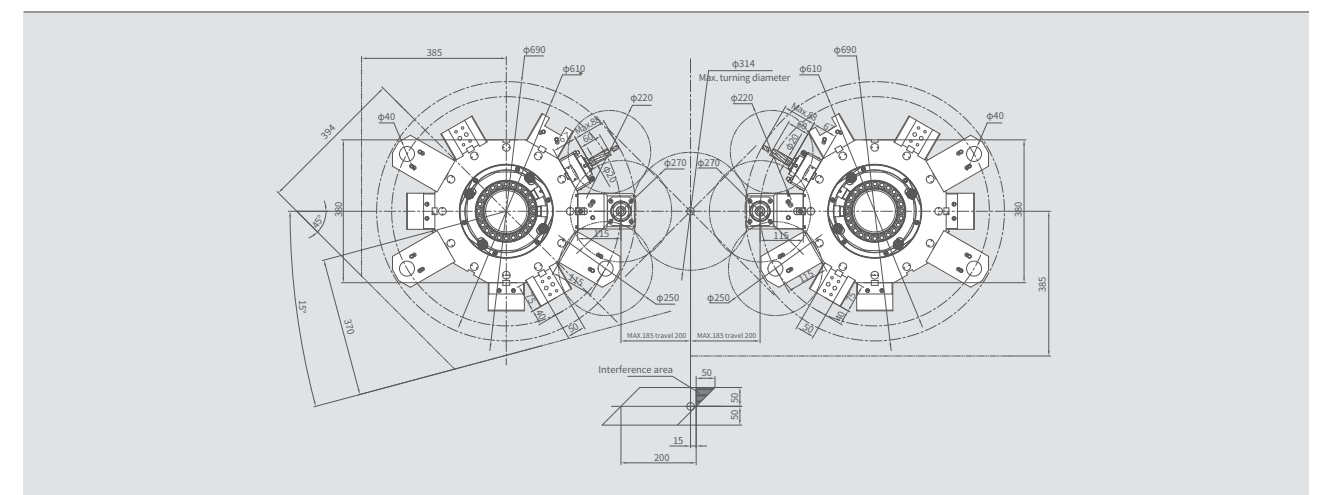


NL301Y, NL302Y

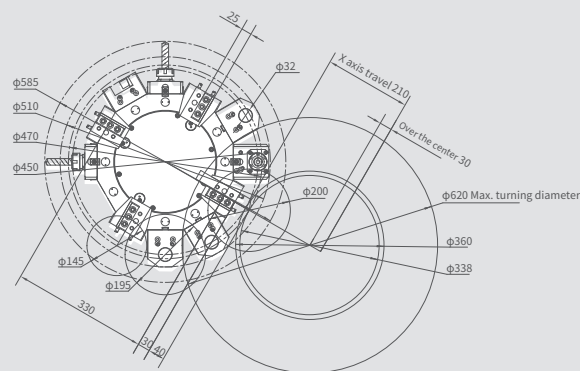


Tool Interference Diagram

NL322M

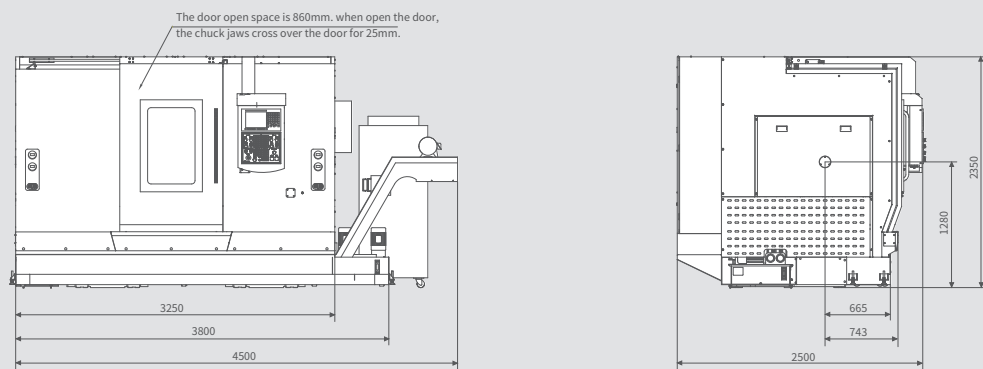


NL301Y、NL302Y

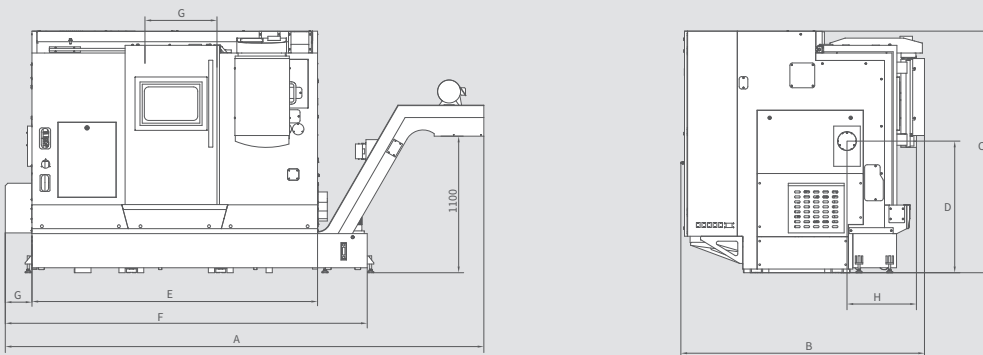


External Dimensions

NL322M



NL301Y、NL302Y



Models	A	B	C	D	E	F	G	H	I
NL301Y	3855	1940	1950	1060	2915	2300	215	460	580
NL302Y	4105	1940	1950	1060	3165	2700	65	460	730

Item			Unit	NL322M	NL301Y	NL302Y
Processing range	Max. turning diameter		mm	Φ314	Φ620	Φ620
	Max. cutting diameter		mm	Φ314	Φ300	Φ300
	Max. cutting length		mm	550	300	550
Soindle	Max. spindle speed		rpm	4500	6000	6000
	Spindle power		kW	Built-in motor 22/25	11/15	11/15
	Spindle nose		ISO	A2-6	A2-6	A2-6
	Spindle bore		mm	Φ66	Φ56	Φ56
	Max. bar capacity		mm	Φ51	Φ44	Φ44
	Spindle taper		-	Metric 80	Morse 6#	Morse 6#
	Hydraulic chuck		inch	8 (Hollow)	6 (Hollow)	6 (Hollow)
	Height from spindle center to ground		mm	1280	1060	1060
Sub-spindle	Max. spindle speed		rpm	4500	-	-
	Spindle power		kW	Built-in motor 22/25	-	-
	Spindle nose		ISO	A2-6	-	-
	Spindle bore		mm	Φ66	-	-
	Max. bar capacity		mm	Φ51	-	-
	Spindle taper		-	Metric 80	-	-
	Hydraulic chuck		inch	8 (Hollow)	-	-
X&Z&Y axis	Travel		mm	650	-	-
	Travel X1/X2		mm	200	210 (X)	210 (X)
	Travel Z1/Z2		mm	650	400 (Z)	600 (Z)
	Travel Y		mm	100(±50)	105(±52.5)	105(±52.5)
	Travel speed X1/X2		m/min	30	30 (X)	30 (X)
	Travel speed Z1/Z2		m/min	40	30 (Z)	30/10 (Z1/Z2)
	Travel speed Y		m/min	15	10	10
Upper/lower tool rest	Tool position		mm	12×2 (BMT65)	12 (BMT55)	12 (BMT55)
	Max. live tool speed		rpm	5000	6000	6000
	Turning tool shank size		mm	25×25	25×25	25×25
	Boring tool holder diameter		mm	Φ40	Φ32	Φ32
	Max. drilling capacity		mm	Φ16×0.2	Φ14×0.16	Φ14×0.16
	Max. tapping capacity		mm	M14×2/M20×1.5	M10×1.5/M24×1	M10×1.5/M24×1
	Max. milling capacity		mm	Φ20×12×40	Φ16×12×40	Φ16×12×40
Machining accuacy	Positioning accuracy	X1/X2	mm	0.01	0.008	0.008
		Z1/Z2	mm	0.01	0.008	0.008
		Y	mm	0.01	0.008	0.008
		C1/C2	-	51"	51"	51"
	Repeatability accuracy	X1/X2	mm	0.005	0.004	0.004
		Z1/Z2	mm	0.005	0.004	0.004
		Y	mm	0.005	0.004	0.004
		C1/C2	-	20"	20"	20"
Other	Machine power capacity		kVA	66	45	45
	Machine dimension (L x W x H)		mm	4500×2500×2350	3855×1940×1950 (including Chip removal machine)	
	Machine weight		kg	8500	3800	4200
	CNC system		-	NEWAY FANUC		
	Motor torque X/Y/Z		N.m	12	11	11
	Automatic chip conveyor		-	Automatic right chip conveyor [Automatic left chip conveyor/Automatic rear chip conveyor]		

Standard on Neway Lathes:

Standard system, installation kit, automatic lubricating device, standard tool attachment, foot pedal clamp and unclamp switch, hydraulic chuck and cylinder, soft jaws, hydraulic device, air gun, tri-color status lamp, chip cart, fully enclosed cabinet protection, waste oil collection device, LED lamp.

Optional on Neway Lathes:

Hard jaws, special chuck, automatic tool measurement, steady rest, automatic door, additional tool attachment, air-blow mechanism, bar feeder, oil mist collector, oil skimmer, tailstock travel inspection, high-pressure coolant chip break, parts catcher.

[]Option

HL Series- Heavy cutting CNC horizontal lathe

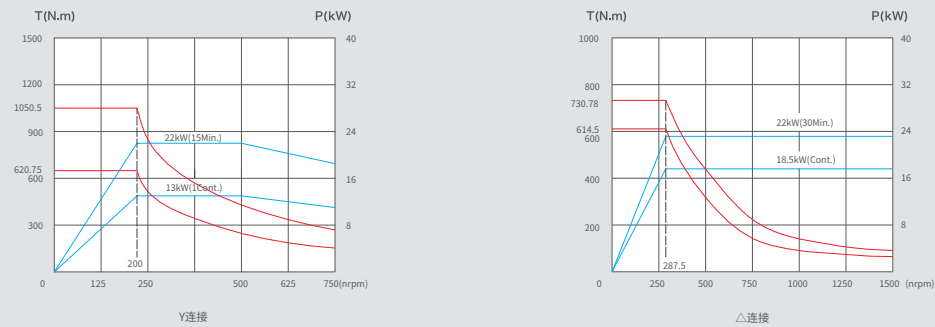
- The overall bed is L-shaped structure layout, the bed surface is inclined 45° from the vertical direction, the rectangular guide way, the large span layout of the spindle, X-axis and Z-axis, high precision and high rigidity, the main drive system adopts wide-area motor driven with features high performance and high torque.



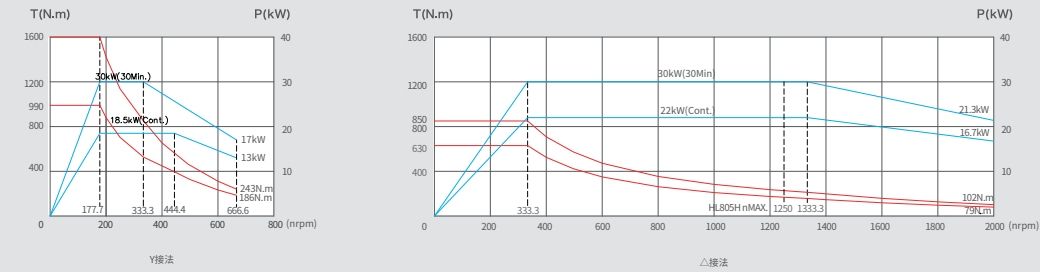
Spindle Power Torque Diagram

(Unit: mm)

HL503H



HL635H, HL805H

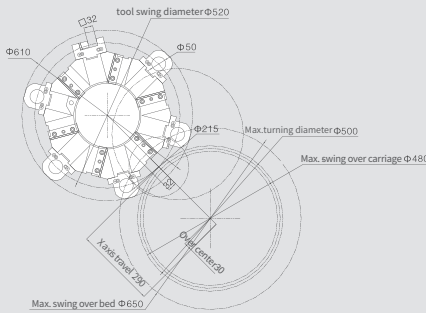


Tool Interference Diagram

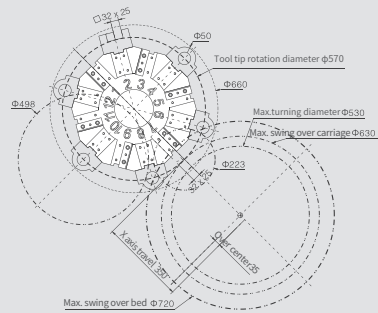
External Dimensions

(Unit: mm)

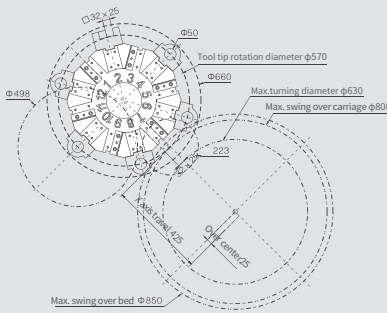
HL503H



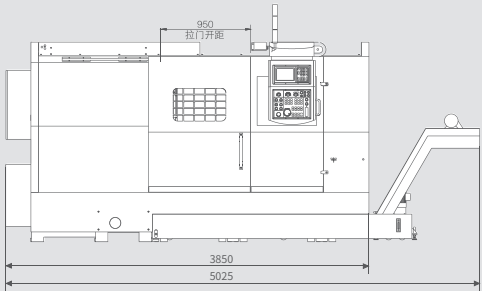
HL635H



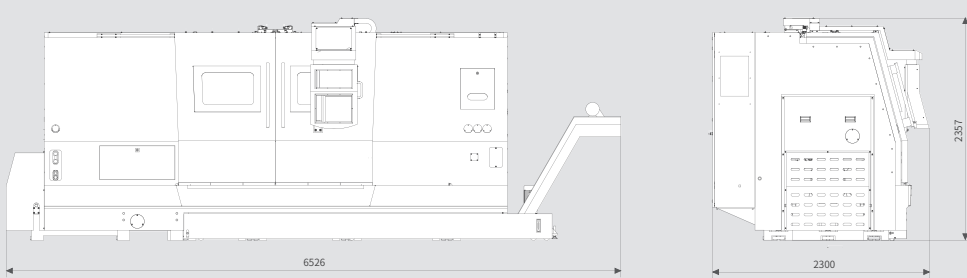
HL805H



HL503H



HL635H



	Item		Unit	HL503H	HL635H	HL805H
Processing range	Max. swing over bed		mm	Φ650	Φ720	850
	Max. swing over saddle		mm	Φ480	Φ530	Φ630
	Max. turning diameter		mm	Φ500	Φ630	Φ800
	Max. turning length		mm	750	1500	1500
	Max. bar capacity		mm	Φ74	Φ74	Φ89
Spindle	Max. spindle speed		rpm	1500	2000	1250
	Spindle nose		ISO	A2-8	A2-11	A2-11
	Spindle bore		mm	Φ87	Φ100	Φ106
	Spindle taper		-	Metric 100	Metric 120	Metric 120
	Height from spindle center to ground		mm	1065	1105	1290
Hydraulic tailstock	Tailstock quill		mm	Φ130	Φ160	Φ160
	Tailstock quill travel		mm	100	180	180
	Tailstock quill center		Morse	5#	5#	5#
Travel	Travel X/Z		mm	290/850	350/1600	425/1600
	Rapid travel speed X/Z		m/min	16/16	8/12	8/12
Axis X/Z	X axis Ball screw Dia/Pitch		mm	Φ40/8	Φ40X10	Φ50/10
	Z axis Ball screw Dia/Pitch		mm	Φ50/10	Φ50X10	Φ63/10
Hydraulic Turret	Tool position		-	12	12	12
	Turning tool shank size		mm	32×25	32×25	32×25
	Max. boring tool holder		mm	Φ50	Φ50	Φ50
Machining accuracy	Positioning accuracy	X	mm	0.01	0.012	0.012
		Z	mm	0.012	0.016	0.016
	Repeatability accuracy	X	mm	0.006	0.006	0.006
		Z	mm	0.006	0.008	0.008
Other	Machine power capacity		kVA	35	40	45
	Machine dimension (L x W x H)		mm	5040×1950×2120	6530×2300×2360	7000×2360×2430
	Machine weight		kg	9000	13000	15000
	CNC system		-	NEWAY FANUC [SIEMENS]		
	Spindle motor power		kW	△18.5/22 (Y13/22)	△22/30 (Y18.5/30)	△22/30 (Y18.5/30)
	Motor torque X/Z		N.m	12/22	22/22	22/22
	Hydraulic chuck		inch	Solid 12"[hollow12"]	hollow 15"[Solid 15"Solid (hollow)18"]	
	[Hydraulic center frame]		mm	Φ200	Φ200	Φ200
	Automatic chip conveyor		-	Automatic right chip conveyor	Automatic right chip conveyor	Automatic right chip conveyor [Automatic left chip conveyor]

Standard on Neway Lathes:

Coolant system, installation kit, automatic lubricating device, standard tool attachment, foot pedal clamp and unclamp switch, hydraulic chuck and cylinder, soft jaws, hydraulic device, air gun, tri-color status lamp, chip cart, fully enclosed cabinet protection, waste oil collection device, LED lamp.

Optional on Neway Lathes:

Hard jaws, special chuck, automatic tool measurement, steady rest, automatic door, additional tool attachment, air-blow mechanism, bar feeder, oil mist collector, oil skimmer, tailstock travel inspection, high-pressure coolant chip break, parts catcher.

[]Option

Special purpose machine

- The NL120HD is equipped with a parallel double-spindle CNC lathe with a high-speed three-axis truss robot. It has excellent characteristics such as high production efficiency and small footprint, and is especially suitable for rapid and large-scale processing of small parts. The left and right separated bed can effectively suppress thermal deformation and vibration and maintain stable working performance;
- The structure of the bed is analyzed and optimized by finite element, and the castings are treated by secondary aging, which has high rigidity and high stability;
- The bed guide is a linear guide, with small friction coefficient, fast moving speed and high positioning accuracy;The headstock adopts a thermally symmetrical structure of left-right symmetry to effectively control the thermal deformation of the spindle;
- The spindle bearing adopts NSK high-rigidity double-row cylindrical roller bearing and high-speed thrust angular contact ball bearing, which can meet the processing requirements of high precision and heavy cutting;
- The design of the unique cylindrical sliding turret slide shaft utilizes the large-span support in the turret slide seat to achieve high rigidity and high rigidity processing under stable conditions;
- Adopt hydraulic locking large-diameter precision end gear coupling to ensure the high rigidity of the turret and the excellent repeatability of positioning during indexing;
- Driven by FANUC βiSc series servo motor, improve the stability of turret indexing, shorten tool change time, and improve production efficiency.



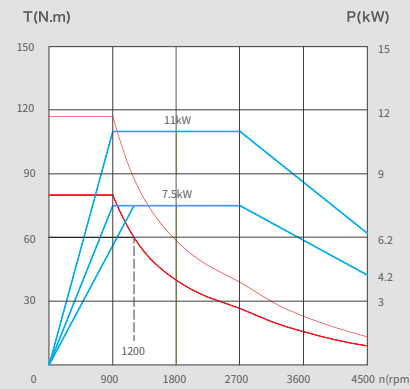
Spindle Power Torque Diagram

Tool Interference Diagram

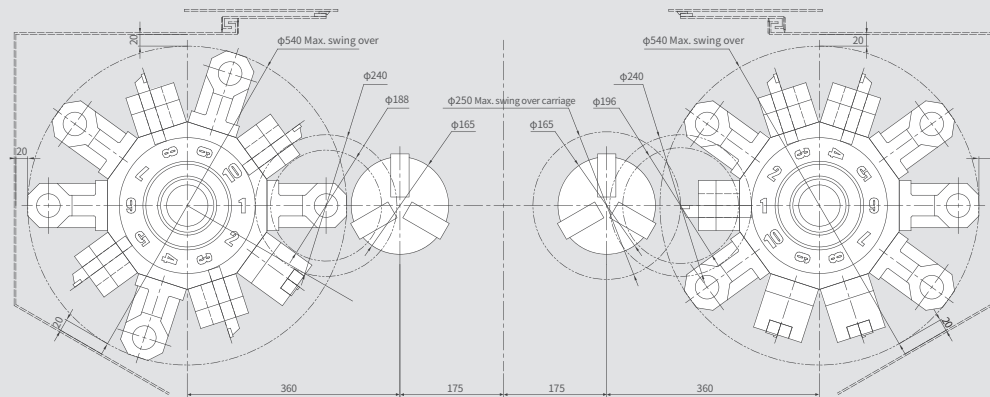
External Dimensions

(Unit: mm)

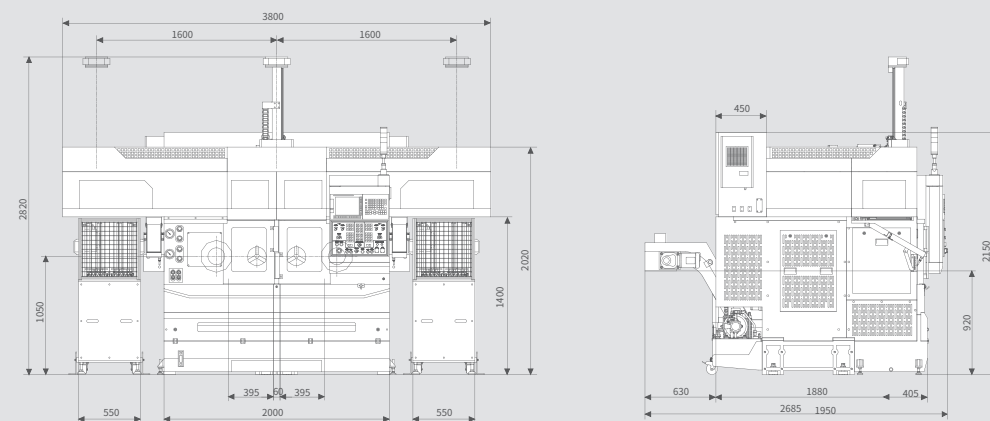
NL120HD



NL120HD



NL120HD



项 目		单位	NL120HD	
Processing range	Distance between two spindle	mm	350	
	Max. swing diameter over bed	mm	Φ300	
	Max. cutting diameter	mm	Φ250	
	Max. cutting length	mm	160	
	Bar capacity	mm	Φ45	
Soindle	Spindle quantity	-	2	
	Main motor power	kW	7.5/11	
	Max. spindle speed	rpm	4500	
	Spindle nose	ISO	A2-5	
	Spindle bore diameter	mm	Φ56	
Chuck	Hydraulic chuck	inch	6" × 2	
Feed system	Servo motor torque X/Z	Nm	7/7	
	Servo motor power X/Z	kW	1.2/1.2	
	X/Z axis travel	mm	140/160	
	X/Z axis rapid travel speed	m/min	24/24	
Servo tool carrier	Turret number	-	2	
	Tool position	-	10 × 2	
	Turning tool shank size	mm	20 × 20	
	Boring tool holder diameter	mm	Φ40	
	Indexing time of tool rest	s	0.25	
Truss manipulator	Max. workpiece weight		kg	3.0 × 2
	Max. workpiece diameter		mm	Φ120
	Max. workpiece length		mm	80
	travel	XG (left & right)	mm	3200
		YG (up & down)	mm	600
		ZG (forward and backward)	mm	220
	rapid travel speed	XG (left & right)	m/min	160
		YG (up & down)	m/min	120
		ZG (forward and backward)	m/min	40
	Repeatability accuracy	XG (eft & right))	mm	0.05
		YG (eft & right))	mm	0.05
		ZG (forward and backward)	mm	0.05
	Gantry robot gripper	Type	-	3爪
		Travel	mm	Φ16
		Repeatability accuracy	mm	0.01
Machining accuacy	Positioning accuracy		mm	0.010/0.010
	Repeatability accuracy		mm	0.005/0.005
CNC system		-	NEWAY FANUC[SIEMENS]	
Machine weight		kg	5000	
Automatic chip conveyor		-	Automatic rear chip conveyor	
Machine dimension (L x W x H)		mm	3800 × 2685 × 2850	

[]Option

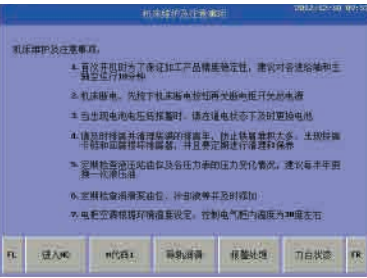
Control system

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

Production and detection

1 Machine Maintenance

Machine maintenance precautions and related tips.



2 Diagnostic Alarms

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



3 M code

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



• High-precision spindle grinding



• High precision spindle boring



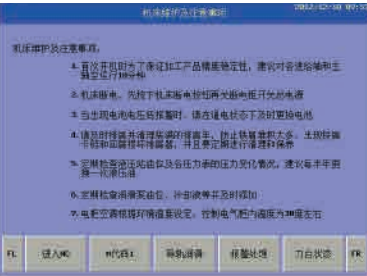
• Optics test equipment



• Belt tension test

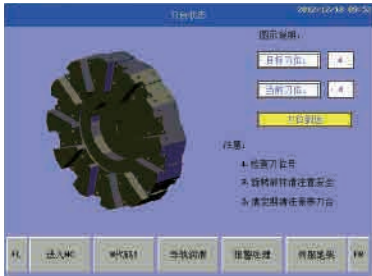
4 Chuck control

Manual chuck or hydraulic chuck can be chosen as options. Controller has specific parameters and auxiliary function codes for further control on processes.



5 Turret

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



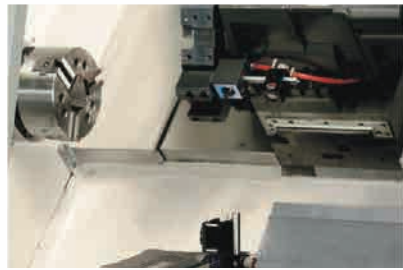
• Assembly inspection



• Boring bar concentricity inspection



• Hand scraping



• Laser calibration

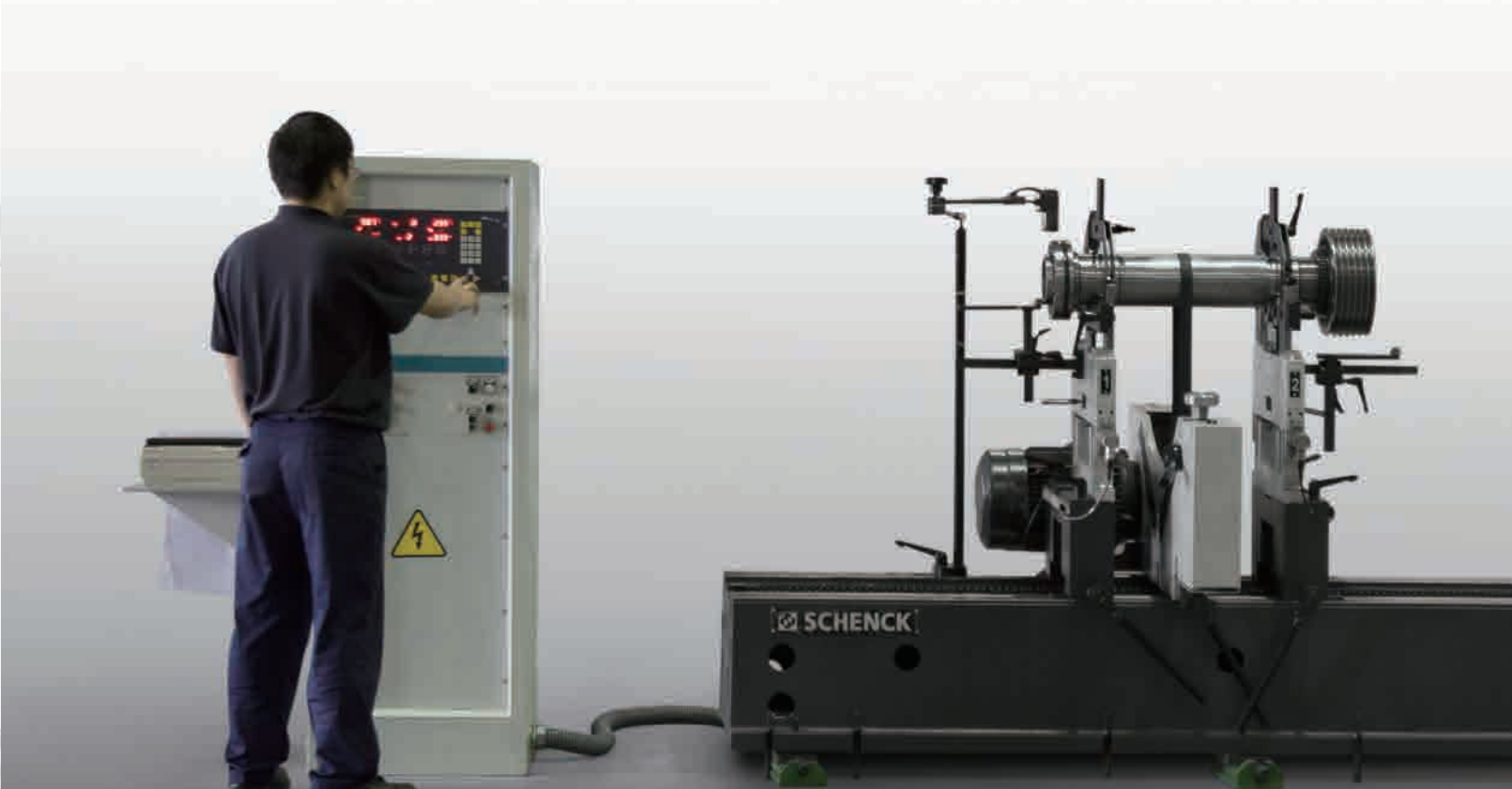
6 Tailstock control

Servo tailstock or hydraulic tailstock as option, which can be viewed and manipulated at the controller.



7 Parameter Interface

The Keeper Relay parameter can be selected on screen to turn on or turn off the different alarm information and auxiliary functions.



Option functions



01



02



03



04



05



06

- 01 Automatic parts catcher
- 02 Automatic bar feeder
- 03 Programmable steady rest
- 04 Automatic tool measurement
- 05 Pneumatic auto door
- 06 Oil skimmer

Automatic production lines

NL161E

Automatic Line Project: Auto parts
Machine Model: NL161E
Workpiece Name: Throttle valve
Workpiece Material: 40Cr



NL402HA

Automatic Line Project: Auto parts
Machine Model: NL402HA
Workpiece Name: Cylinder liner
Workpiece Material: HT250



NL201E

Automatic Line Project: Auto parts
Machine Model: NL201E
Workpiece Name: Claw pole
Workpiece Material: 42CrMo



NL502SC

Automatic Line Project:
Auto parts
Machine Model: NL502SC
Workpiece Name: Claw pole
Workpiece Material: 42CrMo



NL504SC

Automatic Line Project: Elevator shaft
Machine Model: NL504SC
Workpiece Name: Lifting shaft
Workpiece Material: 45#steel

