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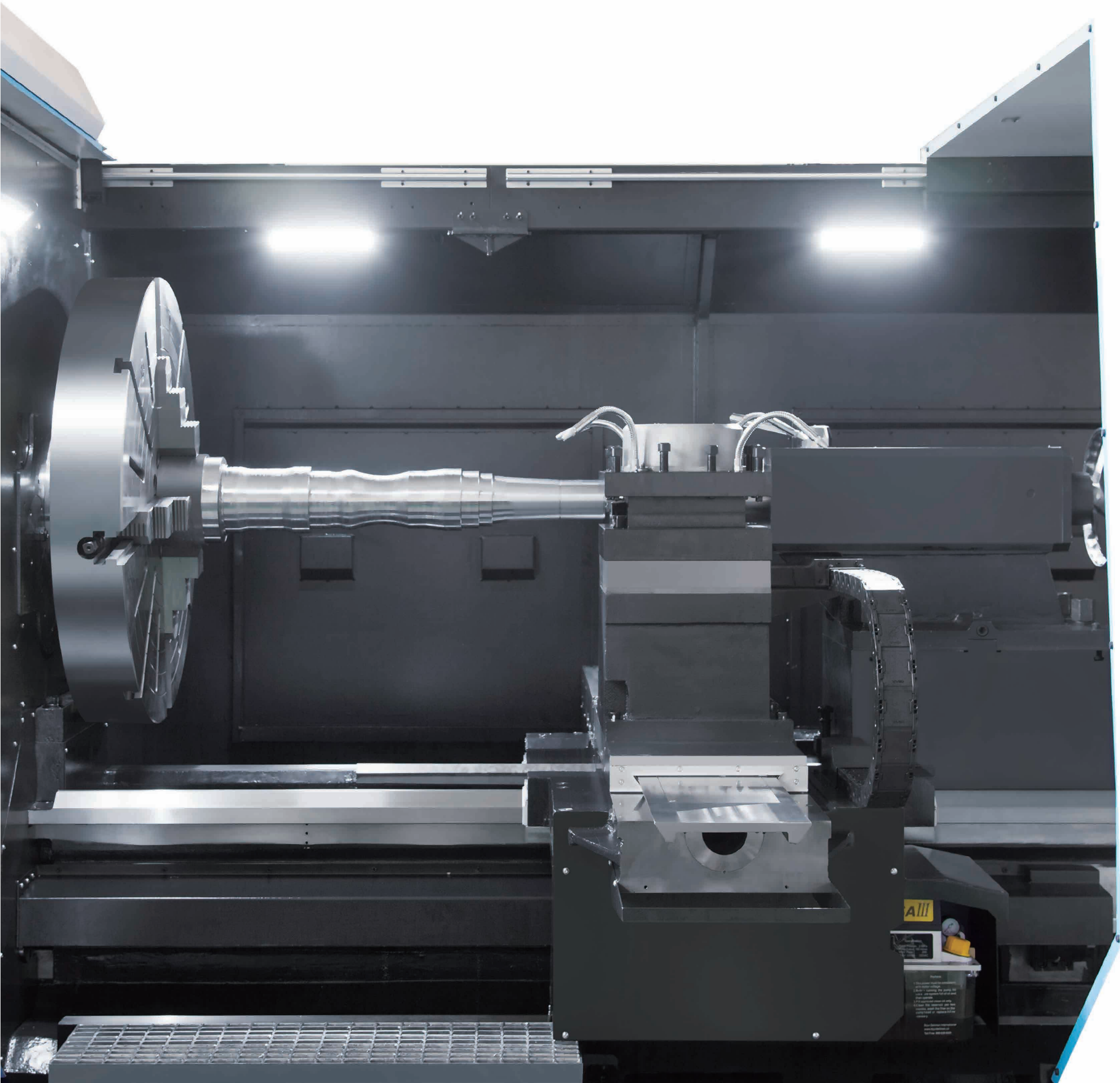
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Large Size/Heavy-Duty CNC Horizatal Lathe NL Series



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



Neway Large Size/Heavy-Duty CNC Horizatal 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 manycustomers worldwide.

NL lathes adopt internationally advanced technologies. Neway adopted and implement-ed many advanced design and quality control methods such as 3D modeling, dynamic simulation, static analysis, dynamic analysis, and modular applications. Each to improve continuously the end product to exceed customer satisfaction.

Neway is a World Class machine tool builder integrating electric, programmable automatic control, hydraulic control, and modern mechanical design, all integrated by multi-disciplinary and multi-category precision manufacturing into one machine from sand casting, to finished machine. Neway has developed independent and mature intellectual property rights on most of their machine designs and components.

Neway' s NL series of lathes provides functions for cutting an outer circle, inner hole, end face, taper surface, grooving, cutting and threading for the shaft and disc parts. The parts are generally made of cast iron, cast steel, forged steel, and non-ferrous metal.

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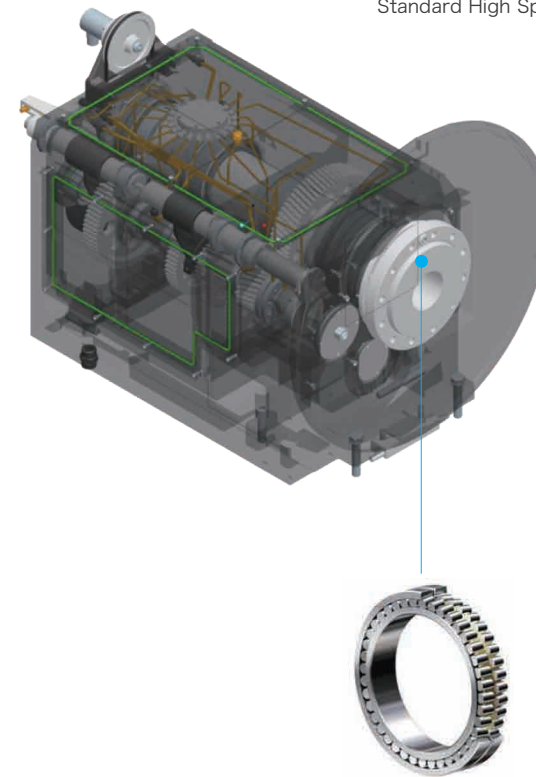
NL series

Medium-Duty Flat-Bed CNC Lathe(850-1250mm Swing)

Neway's NL Series adopts a Climate Controlled, Compact well laid out and Well Labeled and Documented Electromechanically integrated design. Initial Installation is easy and maintenance is convenient.

- The Spindle drive adopts hydraulically controlled auto shifting. A Quiet Stable Transmission provides low noise;
- The spindle adopts three supports and a high-precision spindle bearing combination to achieve High Precision Accuracy Load capacity and High Rigidity when under load.
- Neway's machine bed adopts a unique "Box- Ducktail-Box" three-rail design, which effectively improves the rigidity of the machine tool the vibration resistance of the cutting machine and ultimately improves part finishes.
- The machine tool is suitable for the processing of Key components of Large Equipment such as Ships, Valves, Wind Power equipment, Aerospace. Industries with Large food/beverage processing, Steam Turbine rotors, Large motor spindles, Wind turbine main shafts just to name a few applications

- High precise, these afford accuracy of both axes to at least 20% higher than the national standard.
- Neway's Large Scale Rapid traverse 10m/min, Z-axis travel is 150mm more than you expect.
- This Series makes it Easier for boring with large tool shanks. The high rigidity and torque, is very suitable for Heavy-Duty Cutting. But Neway didn't stop there, they also provide repeatability with Standard High Speed, High Accuracy Positioning.



Neway's Spindle Headstock Utilizes

- Hydraulically controlled Automatic shifting for quick and reliable shifting, smoother operation and low noise.
- Sub-wide gear speed control structure with an expansion sleeve transmission providing more balanced force.
- Three spindle supports, high precision spindle bearing combination provides high rigidity and high output torque for high feed low speed applications with Top Speed of 500 rpm and a Whopping 7530 NMof torque.

Spindle speed up to 500rpm
The output torque is up to 7530N.M

Neway Provides Rock Crushing Metal Peeling Power. Utilizing constant stepless speed regulation in the gear, the transmission ratio is up to 50 to 1, Super Strong Power, and Wide speed range make it suitable for rough machining of a wide variety of materials.

Chip Discharge

Internal slant-bed design helps chips discharge efficiently.

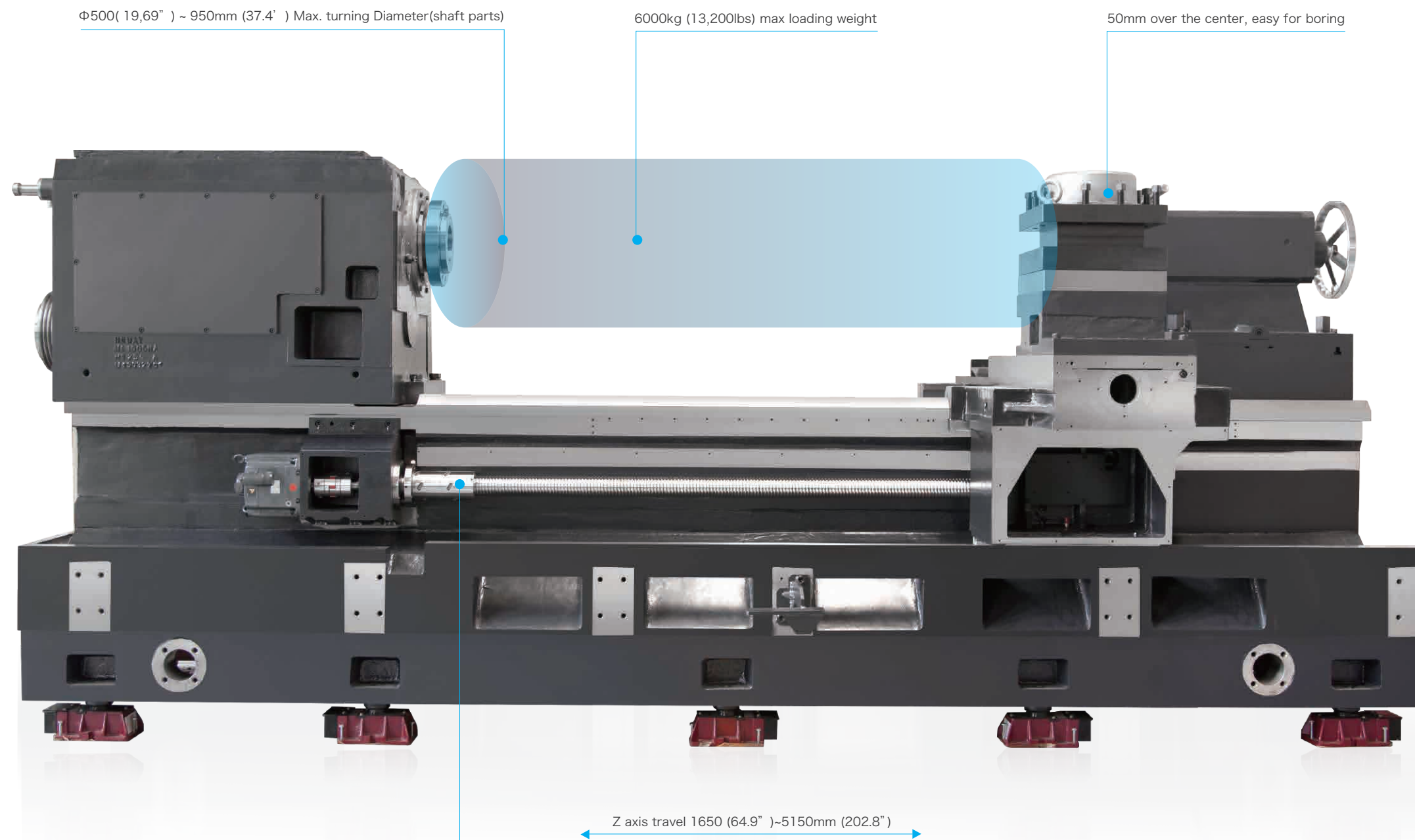
Standard:

Dual chip pan both in machine's front and back (manual)
Set on the floor, Easy for Maintenance and Cleaning.

Automatic-chip conveyor is optional,

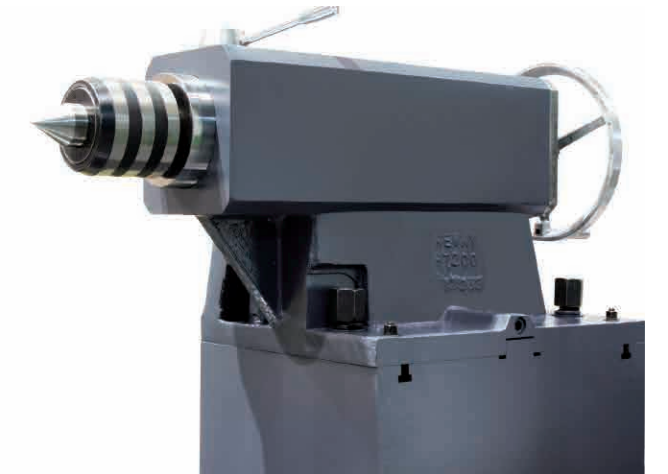
- Composite chain plate structure, specially designed for moving a large mass of chips
- Double chip conveyor both in machine's front and back, collect all of the coolant and chips.
- Set on the floor, easy to roll out for maintenance and cleaning.





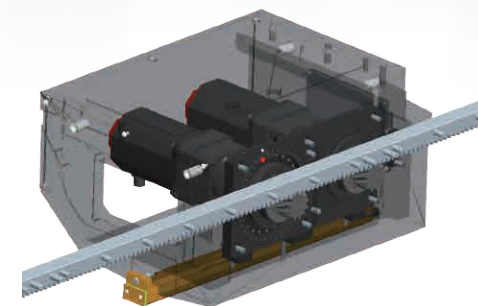
Neway Pre-Tensions all Ball screws to Eliminate Back Lash

Their pre-stretching process of the ball screw effectively reduces the influence of thermal growth from the screw heating. It improves on the transmission accuracy, improving the precision, and strengthening the rigidity and resistance to heat deformation. This provides Longer Life with Less wear and stress on major components.



Tailstock

- Strong Robust Tailstock Body, Heavy cutting is made possible with their Highly Stable Design;
- The Anti-Return locking device ensures that the workpiece is clamped reliably;
- The tailstock uses both "Ducktail-Box" guide ways to distribute the force evenly and effectively stabilize the weight of the parts over the largest surface.



Drive Transmission

- Adopt dual-motor drive rack and pinion transmission technology, electrical backlash compensation, linear scales for full-closed feedback to achieve excellent transmission performance and industry leading accuracy
- Excellent precision position retention, high reliability, flexible control, quick response and easy maintenance.



Precision Machining

- Standard automatic 4-station tool post
- Tool shank 50 x 50 mm (2 x 2")
- Machining precision IT6

“Box- Ducktail-Box” 3-way Structure

- National patent, the first design in this industry
- Stable movement, high precision, and effectively eliminate the cutting vibration.



Strong cutting, More than Enough

- Material: steel #45
- Width 13mm, thickness 1mm

Closed triangle + W-shaped rib design

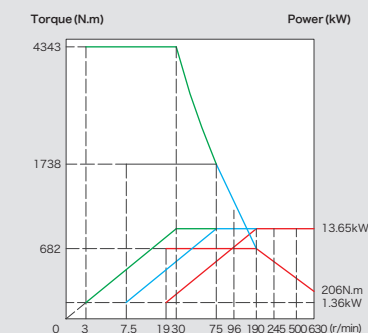
- High bending and torsion resistance
- Double 45° slant bed design discharge chips efficiently.



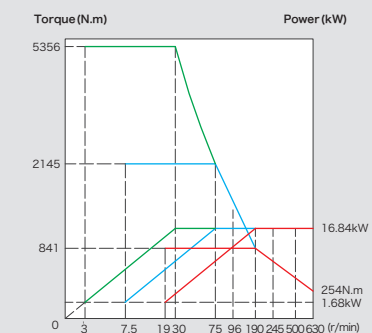
Spindle Power Torque Diagram

(Unit: mm)

NL85S Series

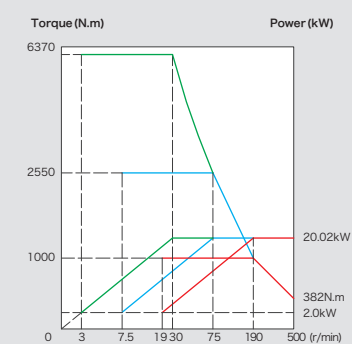


Power torque diagram for continuous rating

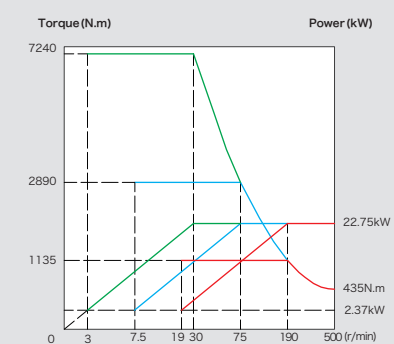


Power torque diagram for 30 minutes rating

NL100 Series

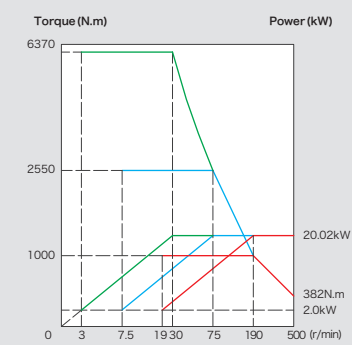


Power torque diagram for continuous rating

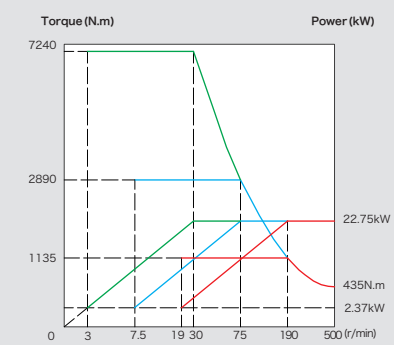


Power torque diagram for 30 minutes rating

NL125 Series



Power torque diagram for continuous rating

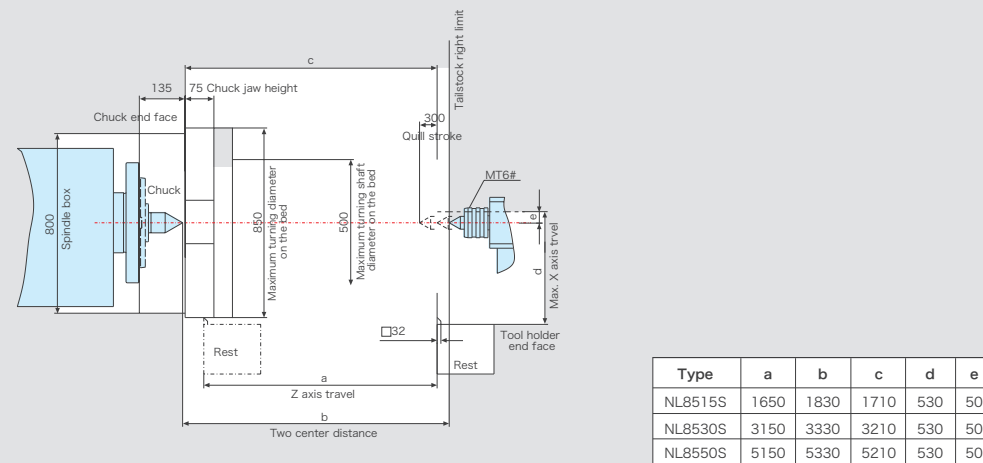


Power torque diagram for 30 minutes rating

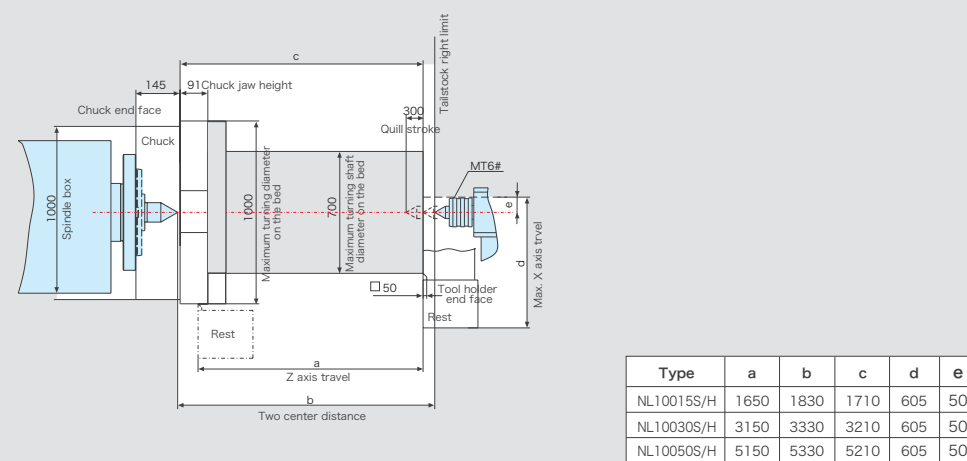
Work Area Diagram

(Unit: mm)

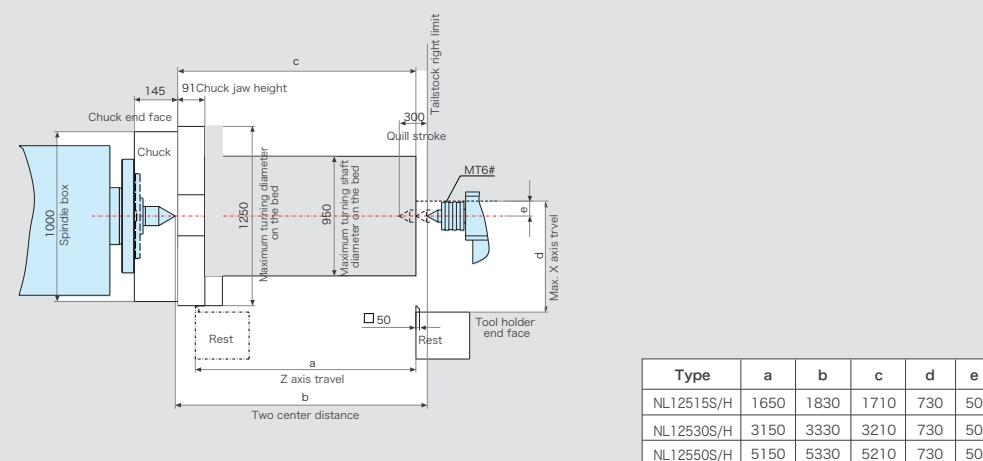
NL85 Series



NL100 Series



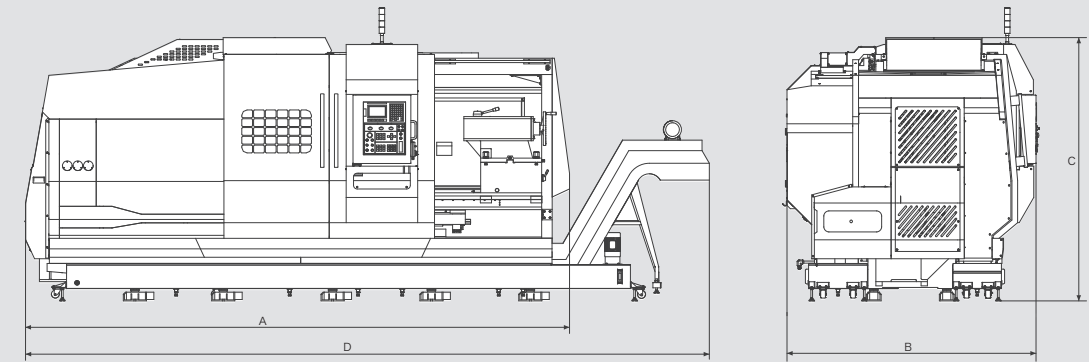
NL125 Series



External Dimensions

(Unit: mm)

NL85/100/125S Series



Type	A	B	C	D	Remark
NL8515S	5170	2400	2405	6500	Automatic chip removal
	5170	2400	2405	5515	Manual chip removal
NL8530S	6670	2400	2405	8000	Automatic chip removal
	6670	2400	2405	7015	Manual chip removal
NL8550S	8670	2400	2405	10000	Automatic chip removal
	8670	2400	2405	9015	Manual chip removal
NL10015S/H	5170	2480	2505	6500	Automatic chip removal
	5170	2480	2505	5515	Manual chip removal
NL10030S/H	6670	2480	2505	8000	Automatic chip removal
	6670	2480	2505	7015	Manual chip removal
NL10050S/H	8670	2480	2505	10000	Automatic chip removal
	8670	2480	2505	9015	Manual chip removal
NL12515S/H	5170	2605	2630	6500	Automatic chip removal
	5170	2605	2630	5515	Manual chip removal
NL12530S/H	6670	2605	2630	8000	Automatic chip removal
	6670	2605	2630	7015	Manual chip removal
NL12550S/H	8670	2605	2630	10000	Automatic chip removal
	8670	2605	2630	9015	Manual chip removal

Item		Unit	NL8515S	NL8530S	NL8550S	NL10015S/H	NL10030S/H	NL10050S/H	NL12515S/H	NL12530S/H	NL12550S/H
Capacity	Max. swing over bed	mm	Φ850 (bed)/Φ500 (saddle)			Φ1000 (bed)/Φ700 (saddle)			Φ1250 (bed)/Φ950 (saddle)		
	Max. swing over saddle	mm	Φ850 (bed)/Φ500 (saddle)			Φ1000 (bed)/Φ700 (saddle)			Φ1250 (bed)/Φ950 (saddle)		
	Max. turning length	mm	1500	3000	5000	1500	3000	5000	1500	3000	5000
	Max. workpiece weight	kg	6000			6000			6000		
Travel	X travel	mm	530			605			730		
	Z travel	-	1650	3150	5150	1650	3150	5150	1650	3150	5150
Spindle box	Spindle nose type	-	A2-11			A2-11/A2-15			A2-11/A2-15		
	Spindle center taper	-	14° 15′			14° 15′			14° 15′		
	Spindle bore taper	-	Metric 120			Metric 140			Metric 140		
	Spindle bore	mm	Φ100			Φ110/Φ130			Φ110/Φ130		
	Spindle speed change	-	Hydraulic auto gear shift (3 steps)			Hydraulic auto gear shift (3 steps)			Hydraulic auto gear shift (3 steps)		
	Spindle speed	r/min	3~630 (speed limit 400)			3~500 (speed limit 315)			3~500 (speed limit 315)		
	Spindle torque	N.m	4343			6370			6370		
Tailstock	Tailstock quill diameter	mm	Φ160			Φ160			Φ160		
	Tailstock quill travel	mm	300			300			300		
	Tailstock quill taper	-	Mose 6#			Mose 6#			Mose 6#		
Tool post	Type	-	Electrical, vertical 4 position			Electrical, vertical 4 position			Electrical, vertical 4 position		
	Tool size	mm	32X32			50X50			50X50		
Churk	Manual 4 jaw chuck	mm	Φ800			Φ1000			Φ1000		
Spindle motor	Model	-	Frequency conversion: SFC YPNC-50-15-B(B3)			Frequency conversion: SFC YPNC-50-22-B(B3)			Frequency conversion: SFC YPNC-50-22-B(B3)		
	Power	kW	Frequency conversion: 15/18.5			Frequency conversion: 22/25			Frequency conversion: 22/25		
Travel speed	Rapid travel speed (X/Z)	m/min	8 / 10			8 / 10			8 / 10		
	Cutting feedrate	mm/min	1~8000			1~8000			1~8000		
Accuracy	Minimum setting unit		mm	0.001 / 0.001			0.001 / 0.001			0.001 / 0.001	
	Positioning accuracy	X axis	mm	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012
		Z axis	mm	0.020	0.035	0.050	0.020	0.035	0.050	0.020	0.050
	Repeatability accuracy	X axis	mm	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007
		Z axis	mm	0.013	0.020	0.020	0.013	0.020	0.020	0.013	0.020
Other	CNC system		-	SIEMENS 828D Basic			SIEMENS 828D Basic			SIEMENS 828D Basic	
	Auto chip conveyer		-	Double chip collection plate			Double chip collection plate			Double chip collection plate	
	General power capacity		KVA	40	40	40	45	45	45	45	45
	Coolant tank		L	400	800	1200	400	800	1200	400	800
	Dimension (L×W×H)		mm	5170x2400x2405	6670x2400x2405	8670x2605x2630	5170x2480x2505	6670x2480x2505	8670x2480x2505	5170x2605x2630	6670x2605x2630
	Machine weight		kg	11000	13000	16000	12500	14500	17500	14500	19500

Standard configurations:

double chip collection plate, lighting device, auto coolant system, auto lubrication system, air conditioner, indication light

Optional accessories:

FANUC 0i-TF(5)/FANUC 0i-TF(1) CNC system、 8 position turret, closed steady rest , double auto chip conveyer

NL series- Heavy-Duty Flat-Bed CNC Lathe(1600-2200mm Swing)

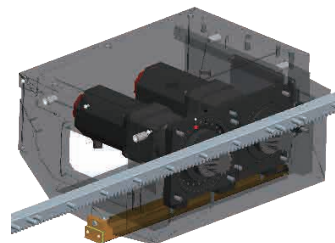
Neway's spindle box adopts FEA design to create a thermal symmetrical structure, thereby overcoming the influence of temperature rise on machining accuracy. The extremely rigid design insures high positioning accuracy and repeatability for years and years to come.

- Neway adopts integral mounting boxway with good wear resistance and auxiliary guide rails to improve the anti-subversion ability of the machine when cutting;
- The tailstock consists of upper and lower bodies, and is equipped with a digital center-pressure display and a workpiece thermal deformation compensation device;
- Standard Four-station Turret, Optional Horizontal 8-station, Fixed tool holder, etc.
- The machine tool is suitable for the processing of key components of large equipment such as ships, valves, wind power equipment, aerospace and other industries, such as turbine rotors, large food processing. Large motor spindles, wind turbine spindles, etc.



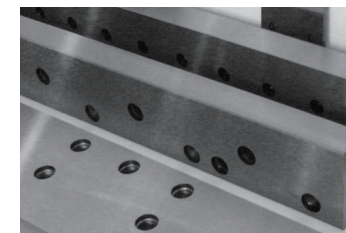
Maximum Weight Support up to 20 Tons

Z-axis: rack and pinion design is driven by double servomotors minimize the backlash (4m or more)



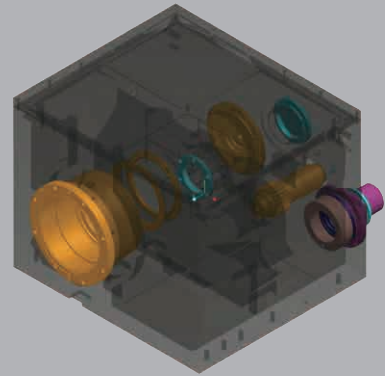
Auxiliary Steel Guideway

Neway guarantees this to be a highly rigid, low-vibration, bed mould design in any length combination when cutting large diameter workpieces.



Four-Way Steel Structure Bed Design

This bed is equipped with four pairs of steel guide ways and other technologies. These include strategic design of the bed section and rib structure through finite element analysis and computer optimization of the structure. Through implementation of standardized design Neway fundamentally solved traditional CNC heavy duty horizontal lathe bed problems such as lack of rigidity and vibration dampening. This greatly improved the workpiece processing accuracy and ease of processing. Additionally with high load bearings and reduced operator labor requirements, They improved production efficiency and extend the life of their machines.



Spindle Headstock

(2-speed transmission, maximum speed 450 rpm)

- The gears are made on a precision gear grinding machine with low noise and reliable performance;
- The cooling system in the spindle box has a powerful lubrication system with an oil chiller to control the oil temperature. It keeps that the oil temperature always within the set range, and reducing the thermal deformation caused by heat and maintaining accuracy.

Chuck

Neway's chuck structure has obtained the patent (patent number: ZL201110123384.2)

- Standard:**
Manual four-jaw single-action heavy duty chuck modular design $\Phi 1250$, $\Phi 1400$, $\Phi 1600$
- Options:**
The built-in jaw mechanical booster screw chuck has a large clamping diameter and a heavy load capacity with; High clamping force, Reliable clamping, high efficiency and simple operation.



Tailstock

- Neway's box structure is driven by motor rack and pinion to drive the overall movement of the tailstock, which allows for automatic clamping and relaxation;
- Neway's tailstock is equipped with a digital center-pressure display. The operator can precisely adjust the center's pressure according to the displayed value.

Automatic 4-Way Post

- Highly-Rigid Dovetail cutter structure for heavy duty cutting, depth of cut 25 mm.



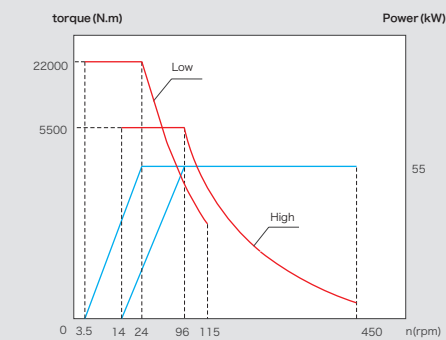
Spindle Power Torque Diagram

Work Area Diagram

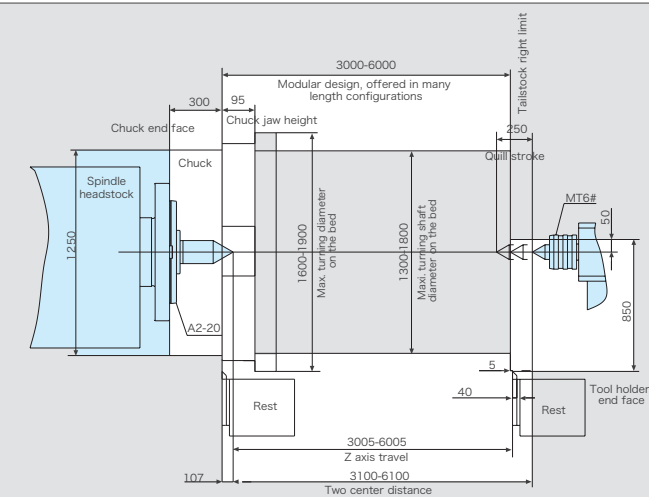
External Dimensions

(Unit: mm)

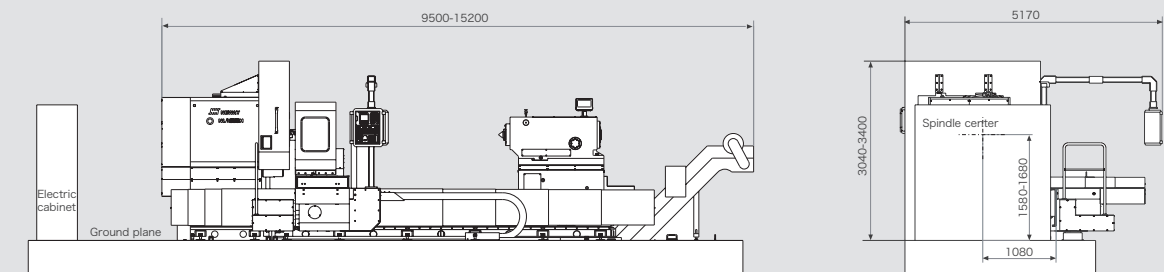
NL160 Series



NL160 Series



NL160 Series



Industry Application

Item			Unit	NL16030S	NL16060S	NL20050S	NL20060S
Capacity	Max. swing over bed		mm	1600	1600	2200	2200
	Max. swing over saddle		mm	1300	1300	1600	1600
	Max. turning length		mm	3000	6000	5000	6000
	Max. workpiece weight		kg	20000			
Travel	X travel		mm	850	850	930	930
	Z travel		-	3000	6000	5000	6000
Spindle box	Spindle nose type		-	A2-20			
	Spindle center taper		-	Metric 160			
	Spindle bore		mm	Φ130			
	Spindle speed change		-	Hydraulic automatic shift, stepless (two gears)			
	Spindle speed		r/min	450			
	Spindle torque		N.m	22000			
Tailstock	Tailstock quill diameter		mm	Φ320			
	Tailstock quill travel		mm	250			
Tool post	Type		-	电动			
	Tool size		mm	40×40			
Churk	Manual 4 jaw chuck		mm	1400		1800	
Spindle motor	Model		-	SIEMENS 1PH8			
	Power		kW	55			
Travel speed	Rapid travel speed (X/Z)		m/min	6 / 6			
Accuracy	Min. setting unit		mm	0.001 / 0.001			
	Positioning accuracy	X aixe	mm	0.050			
		Z aixe	mm	0.080			
	Repeatability accuracy	X aixe	mm	0.020			
		Z aixe	mm	0.035			
Other	CNC system		-	SIEMENS 828D Basic			
	Auto chip conveyer		-	Back row crumbs device			
	General power capacity		KVA	100			
	Dimension (L×W×H)		mm	12200x5170x3300	15200x5170x3300	14200x5170x3500	15200x5170x3500
	Machine weight		kg	35000	42000	45000	48000

Standard configurations: rear auto chip conveyer , electrical tool post, linear scale.
Optional accessories: steady rest, fixed tool post, boring shaft supporter.



Valve body



Wind power main drive shaft



Disc type parts



Crank shaft



Roller



Nuclear power rotor



Disc wheel



Motor rotor



Large valve body

Humanized Design



• Swing control pendant, Remote MPG, convenience for the operator.



• super door spacing for easy part loading/unloading.



• The rear chip removable cover design is convenient for iron chip cleaning!



• The electrical cabinet is arranged neatly and orderly, and the cable and wire serial numbers are marked, which is convenient for maintenance and fault finding and shortens the trouble shooting time.

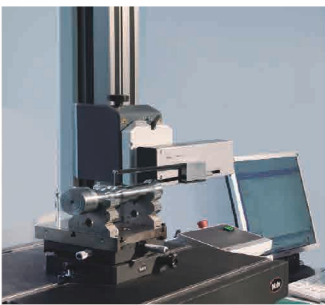
Manufacturing And Testing



• High-precision spindle grinding



• Precision bed grinding



• Optics test equipment



• Belt tension test



• Assembly inspection



• Boring bar concentricity inspection



• Hand scraping



• Headstock temperature & noise test



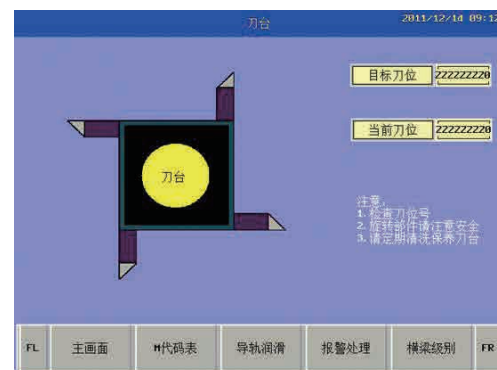
Control System

We use the PICTURE function to carry out some secondary development of man-machine friendly interface to the system.

Options

1 Tool post display

Showing actual tool position & target tool position and the tool post applying attention.



2 Machine M code interface

Introduce M code function



3 Alarm information interface

Showing machine alarm information and solutions.



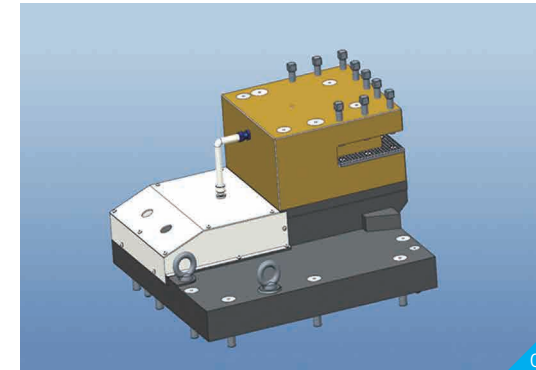
4 Daily maintenance interface

Showing the notice of the machine daily maintenance.

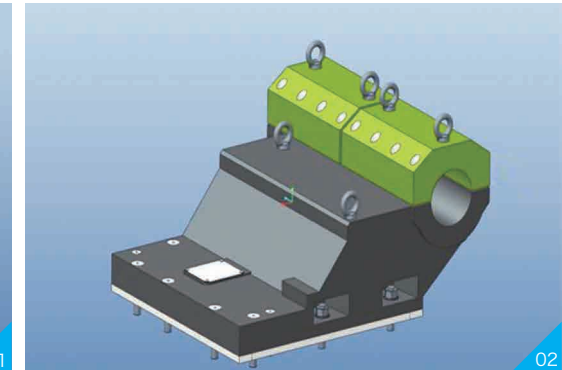


5 Lubrication setting interface

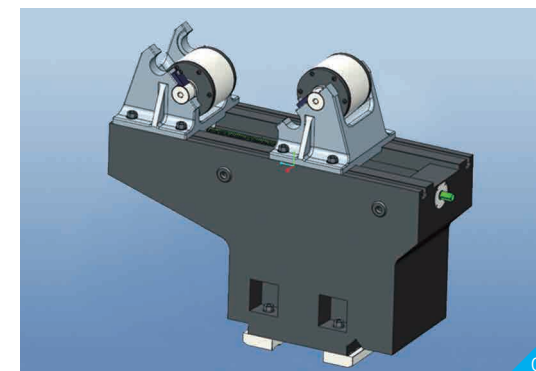
The lubrication volume and interval time can be adjusted according to customer's requirements.



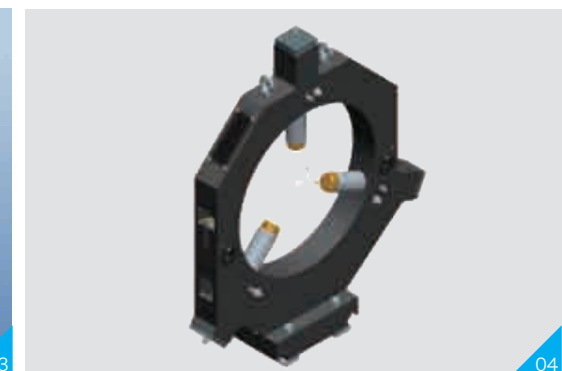
01



02



03



04



05



06

- 01 Fixed tool post
- 02 Boring bar seat
- 03 Open type steady rest
- 04 Close type steady rest
- 05 Linear scale
- 06 Chip conveyor