CREATION FOREVER

NEWAY

Horizontal Machining Center
HM/HE Series

Cat.NO.: E-HM-2019-01

Neway Horizontal Machining Centers Meet And Exceed Customer Expectations

Neway's Diverse New model line-up is designed and engineered to meet the World Class machining needs of several unique and different industries. The Quality and Repeatability of many of their zero-defect resulting manufacturing processes have won the trust and praise of many repeat customers worldwide.

Wide Variety of Field Tested Standard Models can be Upgraded or Customized

HM/HE series horizontal machining centers offer a wide variety of field-proven specifications. We can match machine models according to the customer's specific requirements of the parts size, spindle speed requirements and even add automation to meet the high-speed processing needs for different industries.

Computer Optimized Designed Structure Utilizing FEA

All Neway products are designed using computer finite element analysis(FEA) in the development process. They address strengthening design areas, including static rigidity, dynamic rigidity, and thermal deformation analysis, etc. Neway analyzes and verifies the structure in the casting prototype before trial production and strives to continuously continue to improve product performance.

High Rigidity, World Class Base, Absorbs Vibration and Maintains Rigidity

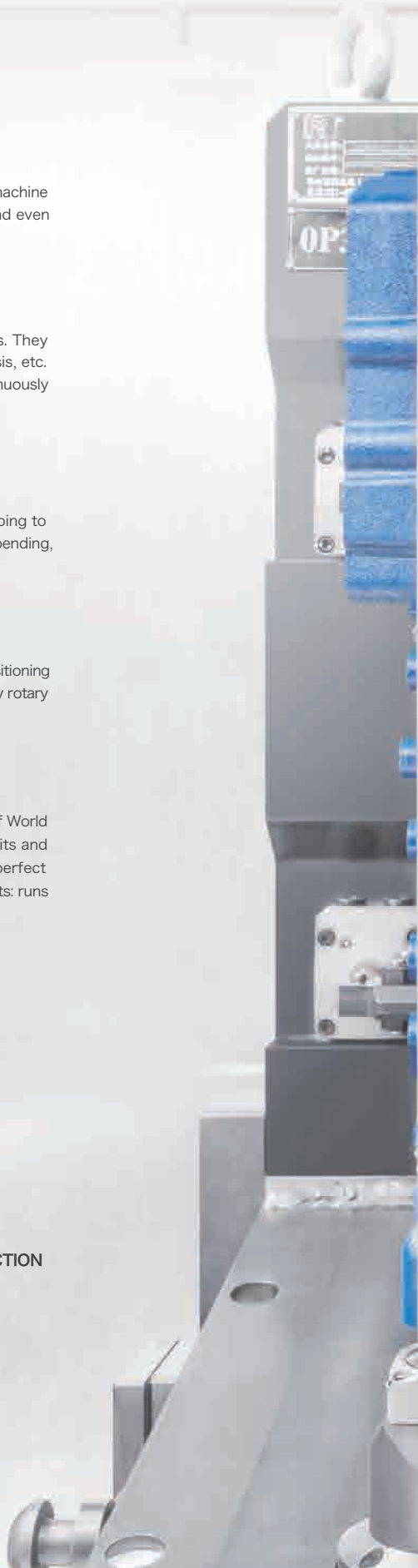
Neway's one-piece machine bed with T type layout provides a very solid foundation and utilizes thick wall ribbing to stiffen the inside of the frame, and double-column box over box frame column is designed with excellent anti-bending, anti-deflection and improved torsion resistance.

Neway Offers Excellent Machine Accuracies

Neway utilizes high precision linear guide rollerways, with pre-tensioned sealed roller packs offering repeated positioning precision to less than 6 microns. Neway's B axis is designed with a heavy duty high precision curvic coupling. Neway rotary repeat positioning precision is less than 2 arc seconds.

Stability Built-In for Heavy Duty Machining

Neway HM/HE Machining centers are designed to provide extremely stable cutting conditions through the use of World Class base castings. Castings are aged perfectly and Stress relieved. Neway uses proven motion control units and servo drive units, Like FANUC, SIEMENS and HEIDENHAIN to insure speed and repeatability. Neway utilizes perfect assembling processes matched with rigorous Quality Control. A representative customer manufacturing auto parts: runs 7 days a week × 24 hours.



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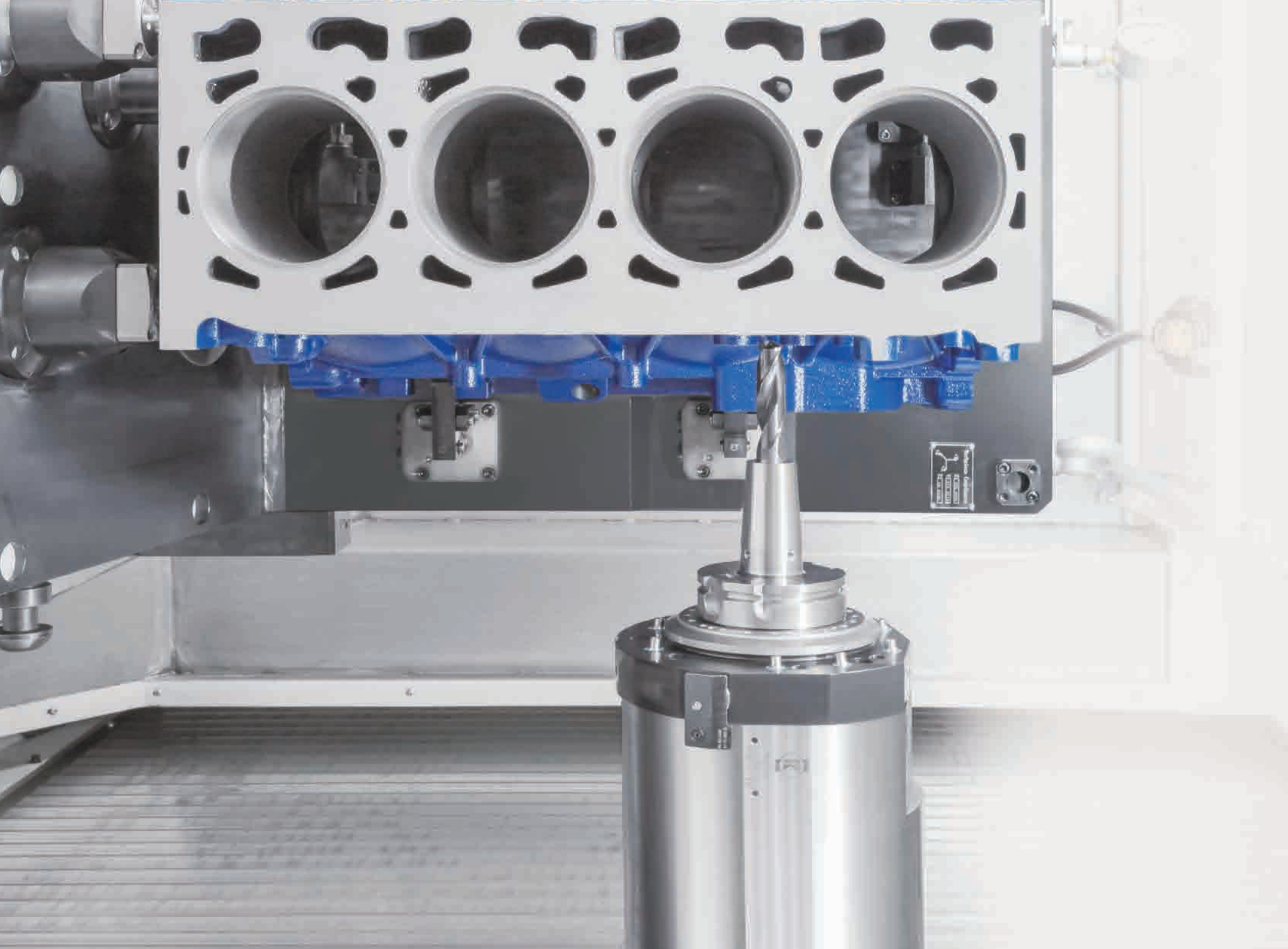


01 World Class Stability Built in to Each Neway

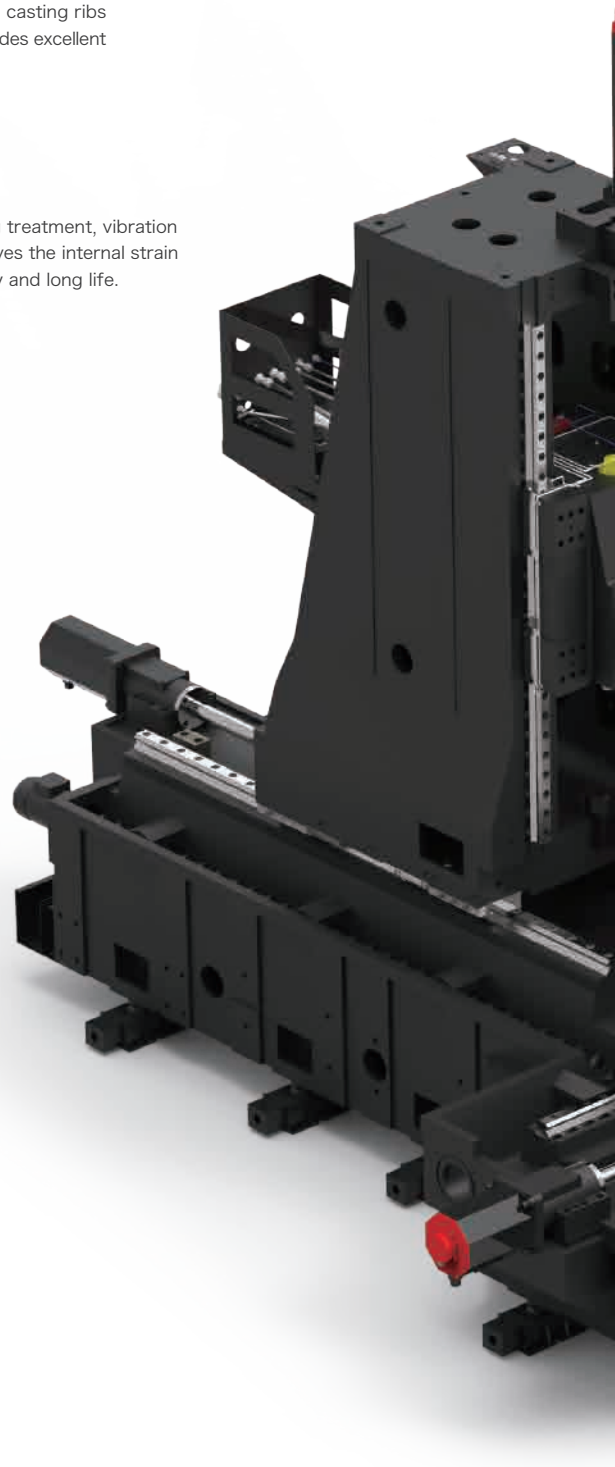
One-piece machine bed castings with high rigidity. FEA structure analysis allows the correct layout of casting. By increasing the rigidity and vibration absorption through the addition of material at critical stress points identified by FEA analysis reporting optimum cutting conditions are insured.

1 World Class Machine Casting

Neway one-piece machine bed casting with meehanite hardening and strategically placed casting ribs increases the rigidity. The Frame Type Double Column design decreases deflection and provides excellent bending and torsional resistance.

2 No Hurry No Worry Multi-Stage Aging Process

Neway applies multiple aging processes, including thermal aging treatment, natural aging treatment, vibration aging treatment and even chemical aging in some cases. Aging properly completely removes the internal strain and stress residual in the casting process. This is meant to ensure the machine's stability and long life.

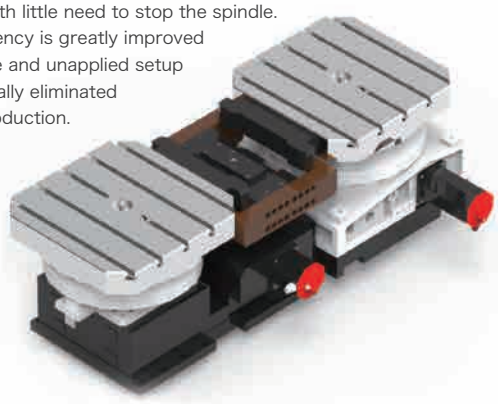


3 Automatic Tool Changing System

- CAM type ATC provides bi-direction and random tool selection designed for quick and reliable operation.
- The tool length and diameter measurement system, insert geometry detection, tool wear, tool breakage detection, and even spindle power monitoring are all available as options upon request.

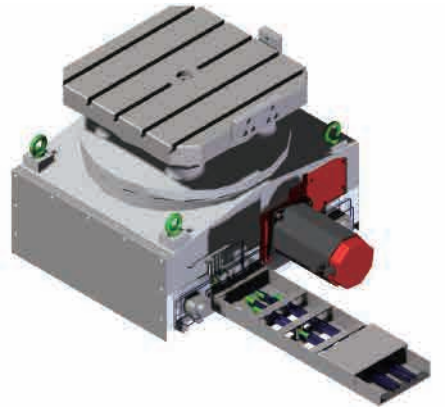
4 Automatic Exchange Pallet

- Advanced Rotary exchange worktable provides reliable high-speed project delivery.
- Featuring quick changeover from one pallet or project to the next with little need to stop the spindle. Spindle efficiency is greatly improved and downtime and unapplied setup time are virtually eliminated improving production.



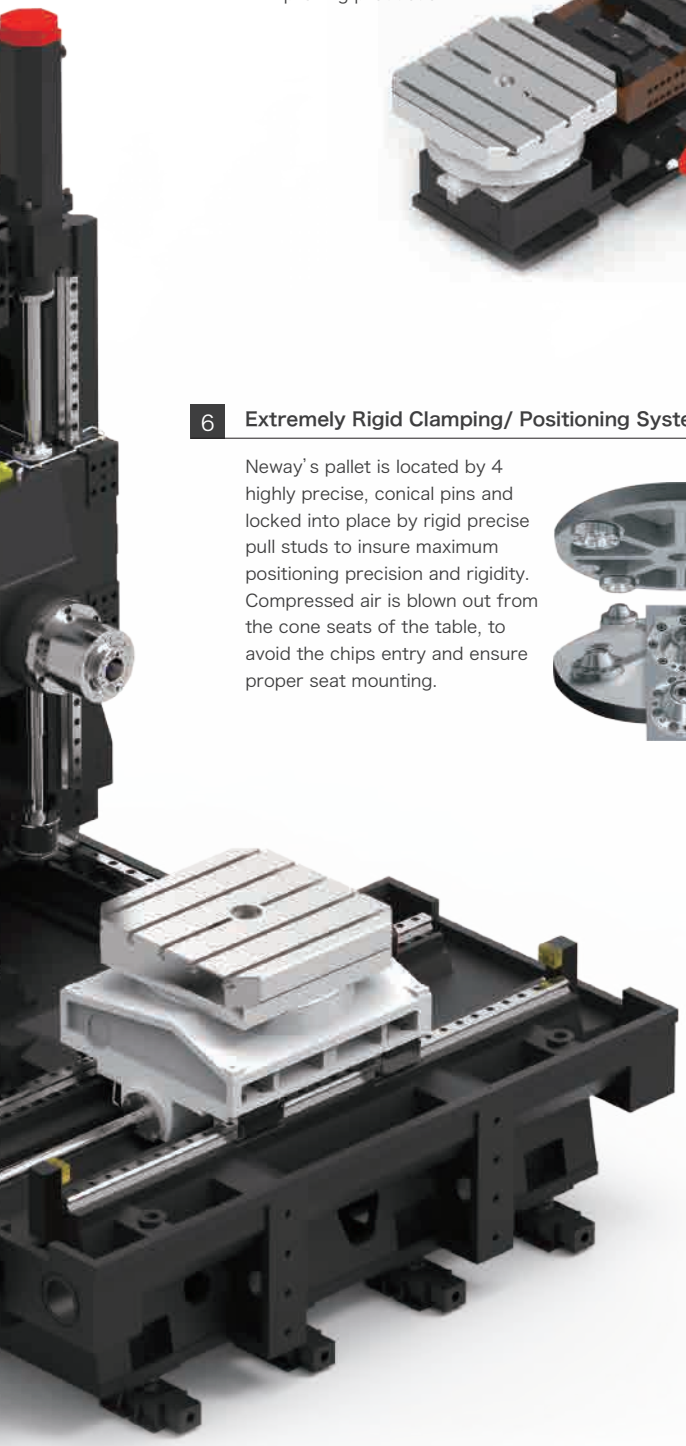
5 High Precision Rotary Table

The rotary table mandrel adopts a large embedded double radial preload bearing to enhance the cutting resistance in the vertical and horizontal directions to ensure the disc surface rotation accuracy. The two-section worm is used, and the worm and the worm wheel are in circular arc contact, which is five times higher than the traditional "double-lead" contact area, and the precision and durability are superior.



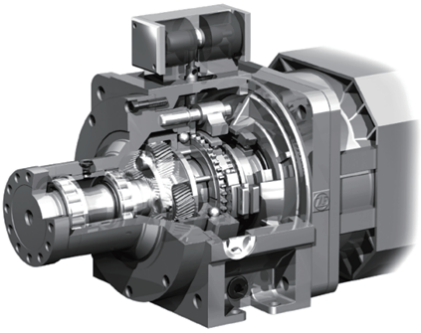
6 Extremely Rigid Clamping/ Positioning System

Neway's pallet is located by 4 highly precise, conical pins and locked into place by rigid precise pull studs to insure maximum positioning precision and rigidity. Compressed air is blown out from the cone seats of the table, to avoid the chips entry and ensure proper seat mounting.



7 The Gear Box Provides 4 to 1 Ratio and Mountains of Torque

Standard with German ZF gear box, Neway utilizes a two-speed stepless gear change. This Gear box allows for Rock Crushing low-speed torque but also high-speed cutting, for a seamless finish pass. NEWAY's Improved cutting is achieved with a whisper quiet transmission providing efficiency, reliability, and predictability far better than traditional structures and competitive makes.



02 High-Speed Cutting with Rigidity and Technology

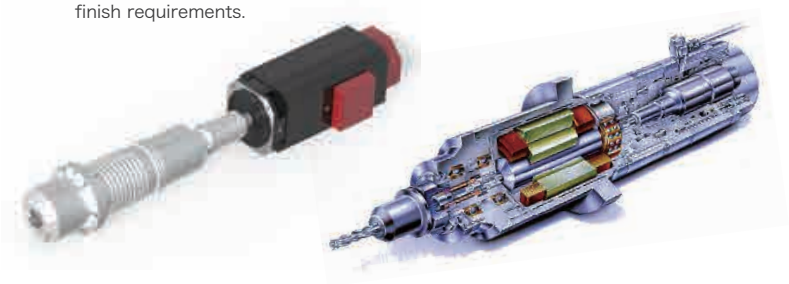
Neway offers High-speed cutting easily and superior workpiece surface quality, with a high-speed feed system and super rigid platform. Because Neway takes time in every step of manufacturing our clients can realize higher workpiece processing efficiency.

1 High-Speed Rapid Traverse

Some high-speed Neway models offer a triaxial rapid traverse system and can reach 60m/min (2634 ipm), and 0-60m can accelerate 0.2s, greatly improving acceleration and deceleration, effectively shortening the non-cutting time and improving the overall machining efficiency and “keeping the machine in the cut”.

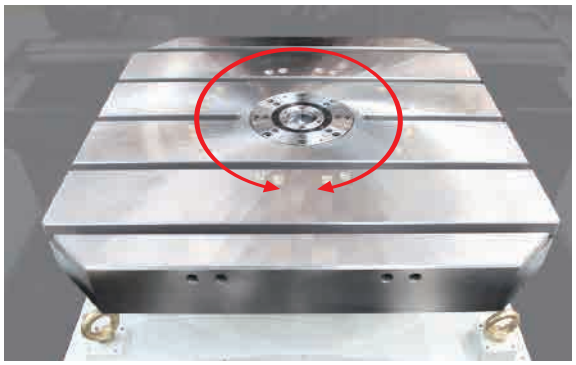
2 High-Speed Spindle

Neway provides Super Fast direct drive spindles with 10,000rpm, and even 18,000rpm spindles are available, to meet the high-speed machining demand and individual client finish requirements.



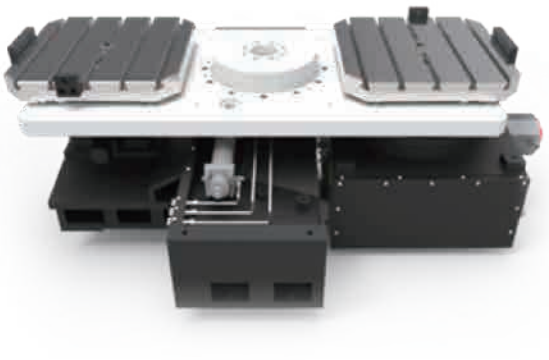
3 High-Speed Rotary Table

Neway provides rotary table rorate 180° with indexing time 3.5s and improved load capacities Greatly improving the processing efficiency of large and small parts machined on multiple sides.



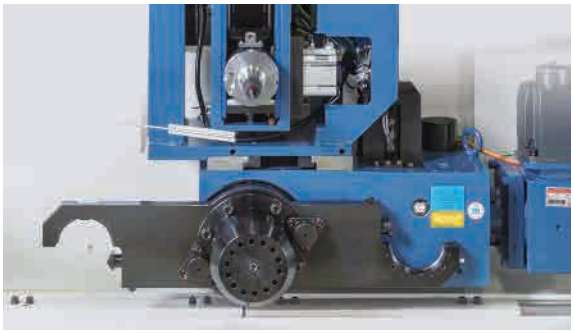
4 High-Speed APC

Neway offers Advanced Rotary Pallet shuttle type worktables with reliable exchanging at high speed allowing for continued uninterrupted cutting.



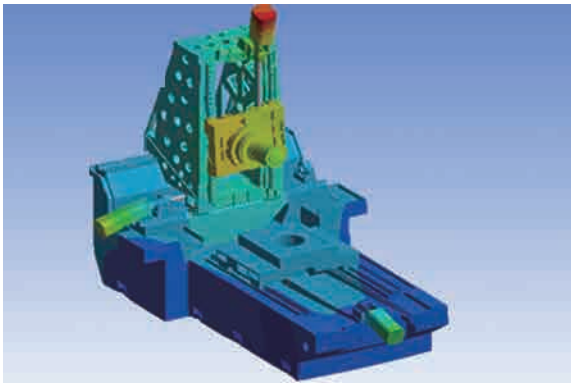
5 High-Speed ATC

Neway CAM type ATC insures easy reliable operation. By changing the tool at high speed, it shortens the non-cutting time and increases spindle efficiency. The modular tool change system allows the tool magazine capacity can be expanded to 60, 80, 120, according to user requirements. The tool identification system, tool wear detection, and spindle load monitoring are all available options.



6 Dynamic Speed Improvements

Neway utilizes reduced weight dynamic moving parts in their design to improve ACC and DECC providing better machine dynamic response whenever accelerating or decelerating, most suitable for high-speed machining.

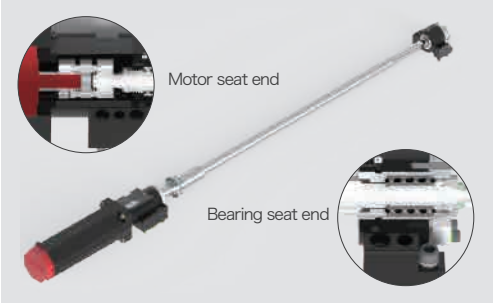


03 High Precision Patented Design

Neway utilizes a Patented drive structure design, selecting field tested and proven high-precision functional components; each process is carefully crafted and tested to ensure the accuracy of the machine.

1 Patent Drive System

Neway patented The three-axis design adopting imported high-speed silent ball screw, and the support bearings at both ends are imported ball screw special bearings. The installation method adopts Neway's unique invention patent: a fully fixed screw pre-tensioning mechanism, which effectively offsets the high-speed movement of the machine tool and ensures the ball screw controls thermal growth. The thermal elongation produced by heat in a sagging lead screw is reduced thereby providing excellent repeatability with minimum thermal elongation.

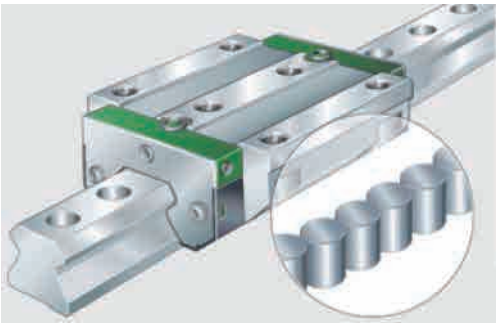


2 High Precision APC

Neway horizontal machines feature a standard rotary table equipped for positioning the ratchet (1˚x360). The positioning accuracy of the rotary table is ⩽6", and the repeat positioning accuracy is ⩽2arc seconds. The CNC table offers an option with continuous indexing (0.001˚) and can be selected if needed. This option allows for four-axis simultaneous machining and contouring.

3 Precision Linear Guideway

All Neway axes utilize High-Precision Linear Guideways Like THK and HIWIN with pre-tensioned and pre-sealing slides and roller packs for excellent precision position retention.



4 Chilled Ball Screws Available

Neway offers optional three-axis hollow chilled ball screw, utilizes a hollow screw design, providing chilled cooling oil in the middle, and can effectively control the temperature rise, reduce the accuracy change of the machine tool caused by ambient temperature conditions or other factors that coause the temp to rise when the screw and bearing are running at high speed or long time continuously.

5 Spindle Systems

Neway offers High-precision spindle systems with spindle end anti-vibration ⩽3μm. These systems equipped with high-precision constant temperature cooling systems, effectively suppressing spindle temperature rise and ensuring machining accuracy by minimizing thermal growth.

6 Hand Scraping of all Contact Surfaces Ensures Matched Precision

Important surfaces are carefully hand scraped to achieve maximum assembly accuracy, machine rigidity, lubrication as needed and balanced load.

04 Extensive Research and Design Teams keep Neway Continuously Improving

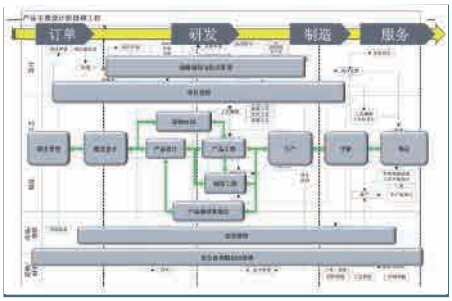
Neway has 7 R&D departments, 150+ R&D personnel, with an annual design capability of 20+ new products per year. Neway's basic field R&D projects 10+, utilize PLM full lifecycle management system to improve R&D efficiency.

Neway continuous improvement field R&D projects include a focus on:

- Machine tool static rigidity
- Machine Vibration and Dynamic rigidity
- Machine tool spectrum analysis
- FEA of the whole machine and components
- Thermal deformation control of the whole machine and components
- Compensation Method for Spindle Temperature Rise Thermal Deformation
- High-Speed Chilled Ball Screw Cooling System
- Intelligent Development and Application of CNC Machine Tools
- High-pressure chip breaking test and application research of protective seal

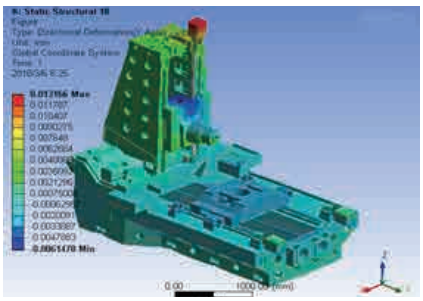
1 PLM Full Life Cycle management system

Neway Improved R&D efficiency with PLM's full lifecycle management system.



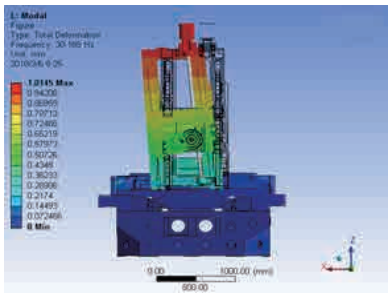
2 Finite Element Analysis

All basic parts are subjected to finite element analysis, optimized structural layout, cast with high quality cast iron material, high stability, and good vibration absorption.



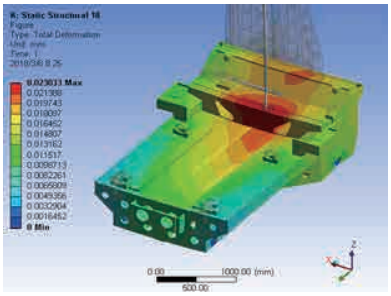
3 Dynamic Machine Modal Analysis

Improve the natural frequency and vibration resistance of the machine through dynamic performance analysis.



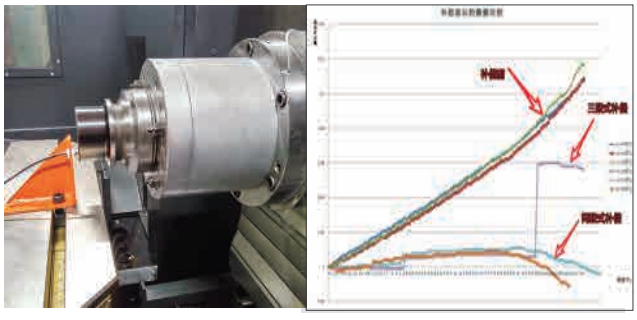
4 Structural Thermal Analysis of All Componentry

Through the thermal analysis of important components, specific measures are taken to reduce the thermal deformation of the whole machine.



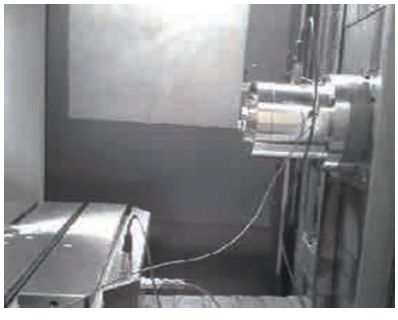
5 Temperature Rise Research

Through the temperature rise research, the machining accuracy of the machine tool and the service life of the machine tool can be effectively improved, and the precision error caused by the temperature growth can be significantly reduced.



6 Vibration Research

Vibration analysis and Harmonic analysis of the main drive system can provide effective structural improvements and process improvement references, reducing the impact of vibration on machine life while improving machining accuracies.



05 Operator/User-Friendly Design Improvements

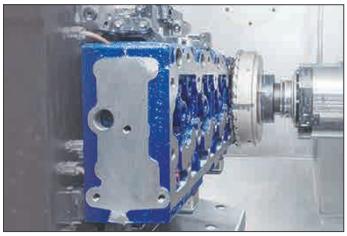
Neway machines are based on user-friendly ergonomics. Each one carefully designed and continuously optimized, to be user-friendly and easy to operate, easy to adjust and maintain. Here are just a few:

- Easy slide front door facilitates easy manual tool change and tool measurement.
- Standard External Pedal is easy to operate, safe and reliable.
- Top Interface Reserved a workpiece measurement system, oil mist collection flush interface, are all to afford convenient function additions which improve the setup.
- Rear maintenance is easy with a large size maintenance access door at the back of the machine for easy maintenance.
- The centralized arrangement of pneumatic lubrication: centralized way lubrication is effective and easy to check and fill for long life and easy maintenance.
- Open cooling system layout for easy maintenance.
- Separate tool magazine protection: separate tool magazine protection, safe and reliable, easy to maintain.

06 Industry Application

Cylinder Block

Industry	Engine	Processing time	7min
Material	HT250	Processing site	Face milling, Hole boring, Hole drilling, Tapping
Feature	High-speed/High-precision /High-rigidity	Processing machine	HE63S/HM63VS



Engine

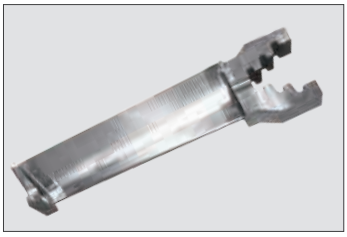
Industry	Cylinder top	Processing time	7min
Material	HT250	Processing site	Face milling, Hole boring, Hole drilling, Tapping
Feature	High-speed/High-precision /High-rigidity	Processing machine	HE63S/HM63VS

Flywheel Housing

Industry	Engine	Processing time	16min
Material	HT200	Processing site	Face milling, Hole boring, Hole drilling, Tapping, Reaming
Feature	High-precision	Processing machine	HM50TS/HT63TS

Hydraulic Cylinder

Industry	Medical Instruments	Processing time	12min
Material	Aluminum	Processing site	Face milling, Hole boring, Hole drilling, Tapping, Reaming
Feature	High-speed/High-precision	Processing machine	HM50VD



Rabbet

Industry	Steam turbine	Processing time	15min
Material	Forged steel	Processing site	Face milling, Hole boring, Hole drilling, Tapping, Reaming
Feature	High-rigidity	Processing machine	HM80TS

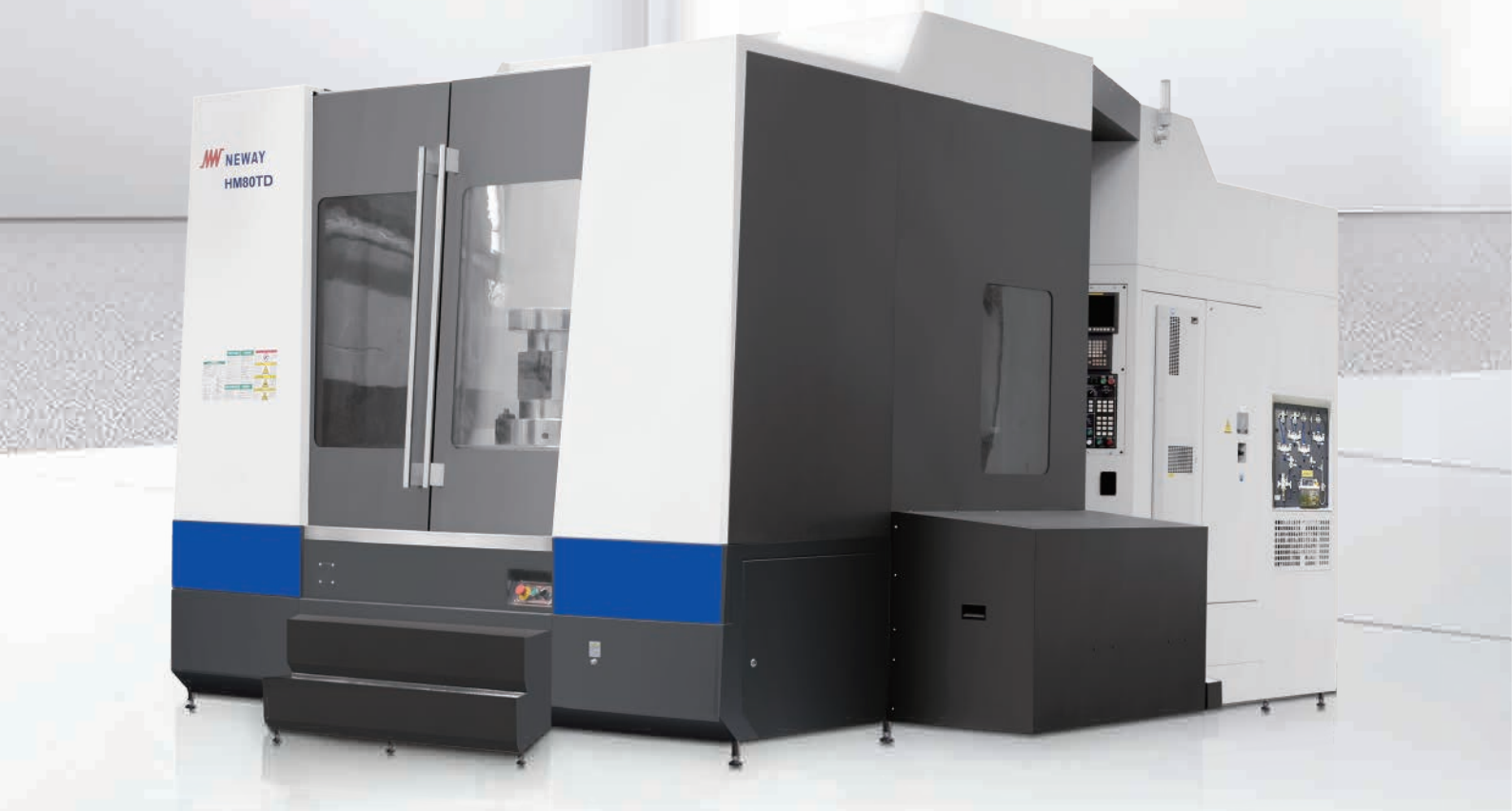
Valve Body

Industry	Valve	Processing time	15min
Material	Forged steel	Processing site	Face milling, Hole boring, Hole drilling, Tapping, Reaming
Feature	High-rigidity	Processing machine	HM63TS

Attention: The above data are all from actual use cases. When the cutting conditions and environmentalconditions are different, the above-listed data may not be achieved. Care must be taken to match feeds and speeds to optimize results.

HM series-
Heavy Cutting Horizontal Machining Center

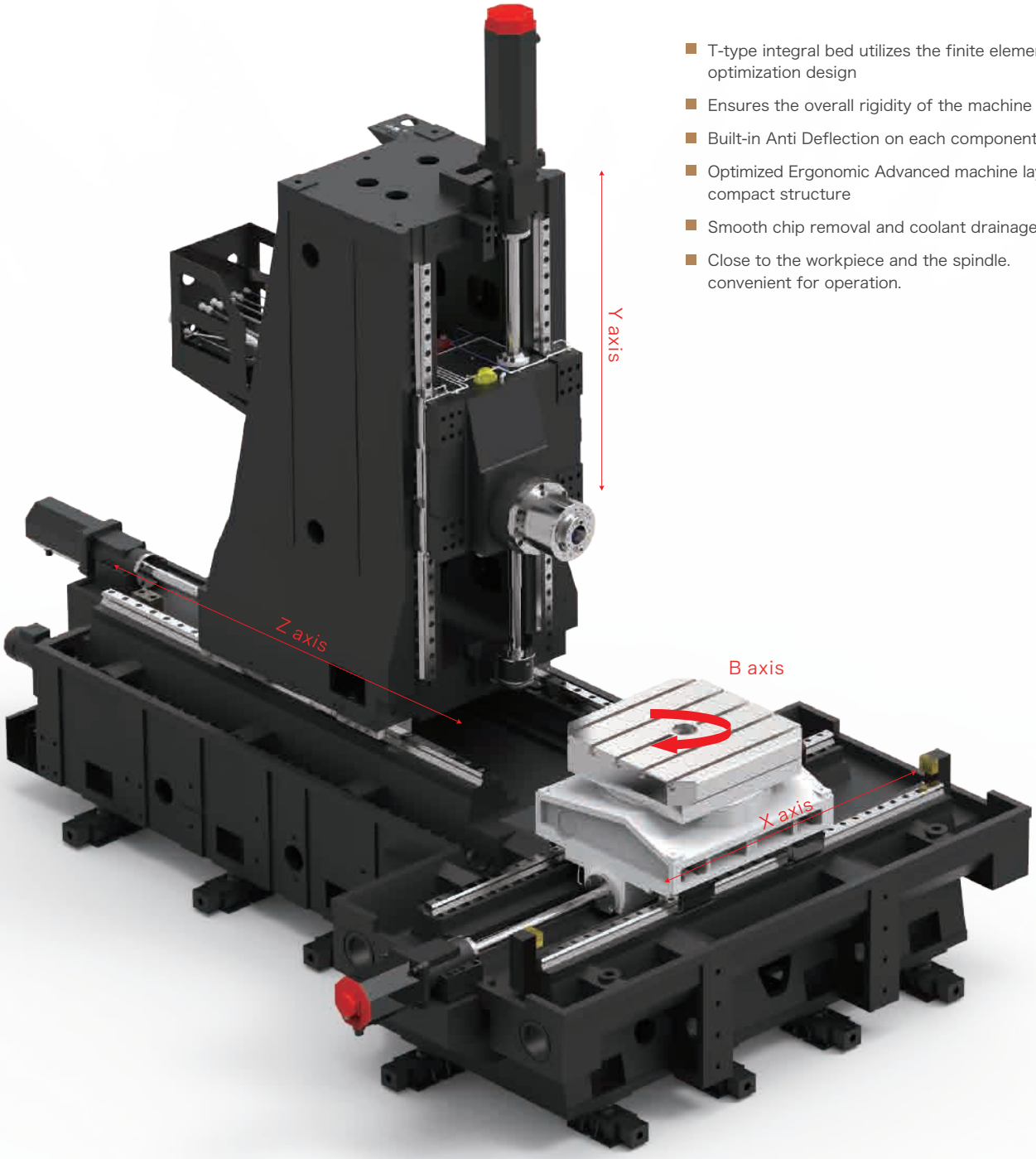
- Neway's T Series main structure and base casting of this series is a T-shaped, full-moving column structure similar to much more expensive High-end Japanese models. It Features a large span design with high rigidity, and high strength built right into the casting.
- FEA optimized casting with an M-shaped annular ribbed layout greatly increases the overall strength, rigidity, torsion and bending resistance of the machine tool. This casting is very suitable for heavy cutting absorbing vibration and keeping its shape.
- With automatic pallet changer and auto tool changes during machining, Neway machines can perform four-face machining in one setup to complete various processes such as milling, drilling, reaming, boring, reaming, tapping, etc.
- Neway's integrated machine layout insures components are optimized to handle stress, insure for smooth chip removal and drainage and Easy to maintain. The operator has easy access to the workpiece and the spindle when touching off or for in-process inspection.
- Neway's machine tool and control concept features compact structure design, to ensure high efficiency and high precision of single or small batch products processing requirements.
- Neway horizontal machining centers are suitable for complex processing of automotive engine, gear box, engineering machinery parts, steam turbines, and other industrial parts.



HM50T/HM63T/HM80T/HM100T/HM125T Series

Classic T Series Models Traveling Column Models

The work table moves left and right to realize the X axis
The spindle box moves up and down to realize the Y axis
The column moves front and back to realize the Z axis



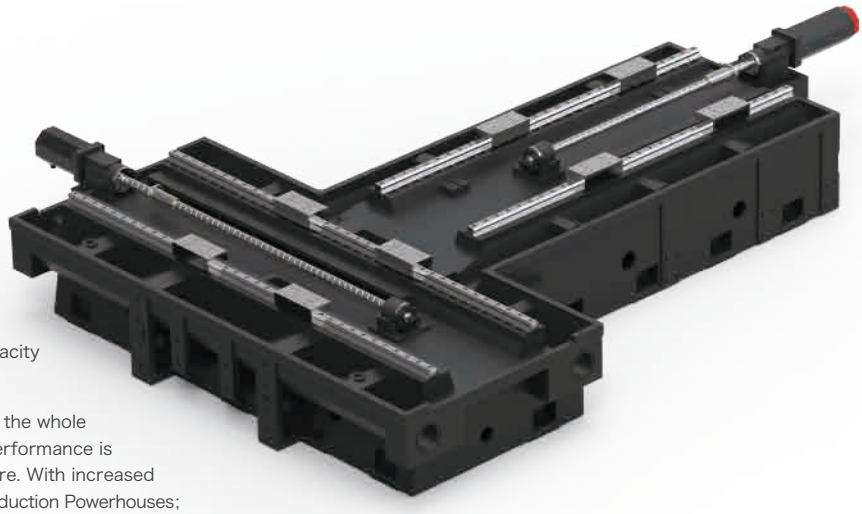
- T-type integral bed utilizes the finite element optimization design
- Ensures the overall rigidity of the machine tool
- Built-in Anti Deflection on each component
- Optimized Ergonomic Advanced machine layout, compact structure
- Smooth chip removal and coolant drainage
- Close to the workpiece and the spindle. convenient for operation.

Column

Double-Column Box Frame Column Design

- The column adopts double-column frame structure design, which greatly enhances the torsion and bending resistance of the column.
- Built-in longitudinal and transverse ring ribs, afford uniform thermal deformation, heat dissipation and increases overall machine tool rigidity and long machine life
- All structural components of the machine tool are tested and analyzed for static and dynamic characteristics and then optimized using finite element analysis (FEA) to ensure the best performance of the machine under dynamic and static conditions.

HM50V series the width of the column wall slab 200mm
HM63V series the width of the column wall slab 250mm
HM80V series the width of the column wall slab 250mm



Machine Bed

T-Type Large Span Machine Bed

- Neway's T-type structure has a large-span machine bed design, and the base has large load bearing capacity and good rigidity for Large Heavy Parts Processing.
- Neway's base adopts M-shaped mesh structure, and the whole casting is processed simultaneously, The resulting performance is not only predictable but it's very stable under pressure. With increased rigidity and vibration resistance these machines are Production Powerhouses;
- Utilizes Static and Dynamic characteristics defined by the use of Finite Element Analysis, uniform and reliable force, strong rigidity, and good vibration resistance.
- Many Neway models offer X-axis guide rails and adopt the 6-slide block, which has larger load carrying capacities and remains true to form without the need for adjustment.
- Neway's machine bed is designed with a four-threaded structure to eliminate chips in a timely, rapid and effective manner.
- Neway's oil galley return bed is cast with a tilt to ensure the smoothest return of cutting fluid.

Spindle Transmission System

High-speed and High-Rigidity Spindle Chiller system insures minimized temperature rise and controlled thermal deformation

- Easy to maintain, modular spindle unit;
- Standard high torque spindle to meet all kinds of roughing or fnishing;
- Optional high-speed spindles, facing Head,coolant through spindle。

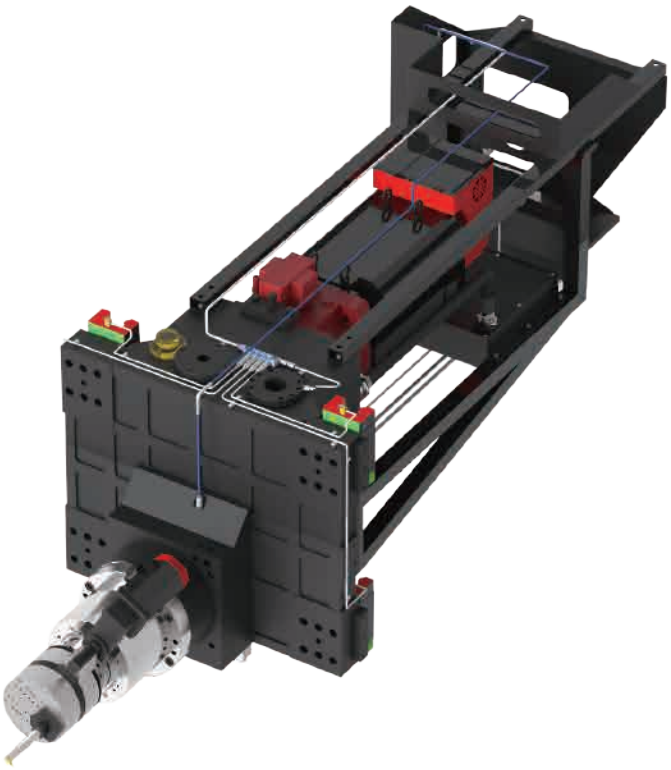
Spindle with ZF gear box: 4500rpm/22kW/770Nm
Spindle with ZF gear box: 4500rpm/18.5kW/647Nm
Belt drive Spindle: 6000rpm/18.5kW/307Nm
Belt drive spindle: 10000rpm/15kW/95.4 Nm

Standard with ZF gear box

Opt.: belt drive
Transmission ratio 1:1

Opt.: direct drive

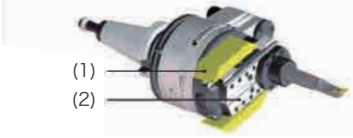
Opt.: electric spindle



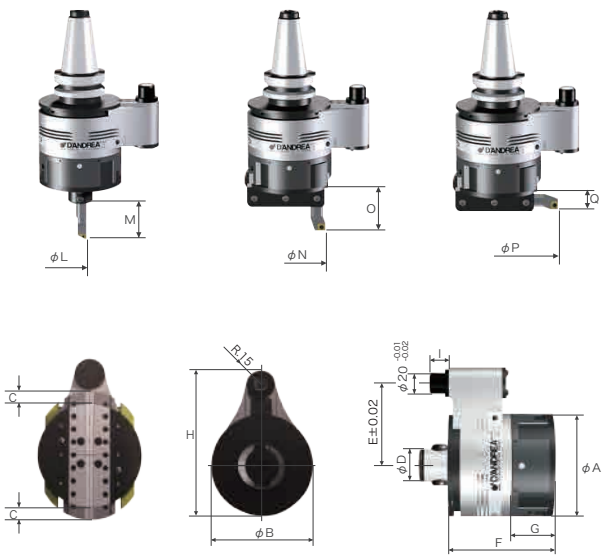
CNC Face Plate

TA-CENTER can hold Standard or Non-Standard Tools for single and composite machining. Such as Internal and External Turning, Taper and Step Hole Boring, Concave and Convex Corner Machining, Groove Machining, Cylindrical and Tapered Pipe Threading, Rotary plane, Complex Processing, etc. This advanced head not only reduces the number of clampings required but it shortens cycle times while optimizing machining accuracy.

The coolant is ejected from the two adjustable nozzles on the side of the face plate through the taper shank and the facing head rotating body. This significant advantage extends tool life, increases cutting speed and guarantees surface finish quality.



Face plate is equipped with two counter weights, which are automatically balanced by an opposite movement of the slide, thus enabling supported high-speed machining without significant vibration.



Item	Unit	TA-C 80	TA-C 100	TA-C 125	TA-C 160	TA-C 200
ϕA	mm	80	100	125	160	200
ϕB	mm	80.5	100.5		160.5	
C radial trip	mm	±10	±12	±17	±25	±32.5
ϕD	mm	(MHD'40)25 $^{-0.004}_{-0.006}$	(MHD'50)32 $^{-0.005}_{-0.008}$		(MHD'80)42 $^{-0.005}_{-0.008}$	
E	mm	65/80	80/110		110	
F	mm	80	100	104	136	
G	mm	32.5	40.5	44.5	56	
H	mm	120/135	145/175		205	
I	mm	17	19		19	
ϕL	mm	8-62	10-72	10-81	20-109	20-124
M	mm	60	75		125	
ϕN	mm	62-102	72-122	63-131	103-203	88-218
O	mm	80	100		160	
ϕP	mm	112-160	122-200	131-250	203-320	218-400
Q	mm	20.5	25.5		38.5	
Max.mm/min max feeding speed	mm/min	1÷500	1÷500		1÷500	
Max.ↀ/min max speed	rpm	2200	2000	1800	1600	1400
Weight (without taper shank)	kg	2.9	4.8	6.5	16.8	21.4
Radial force	daN	100	150		250	
Torque	N.m	200	400		800	
Boring precision		H7	H7		H7	
Max cutting force(C40 steel)	mm^2	0,5	0,75	0,85	1	
Roughness	Ra	0,8-1.2	0,8-1.2		0,8-1.2	

Tool Magazine Selection

Neway's tool magazines and tool arm are provided by World Class supplier; Well recognized imported suppliers' of products with reputation and testing. Companies with proven reliable quality and stable performance. The magazine capacity can be extended to the user's processing needs 40, 60, 90, 120.....should they need more capacity. Tool changer run-ins average 24 - 48 hours before they are shipped to the customer to insure problem free service on arrival.

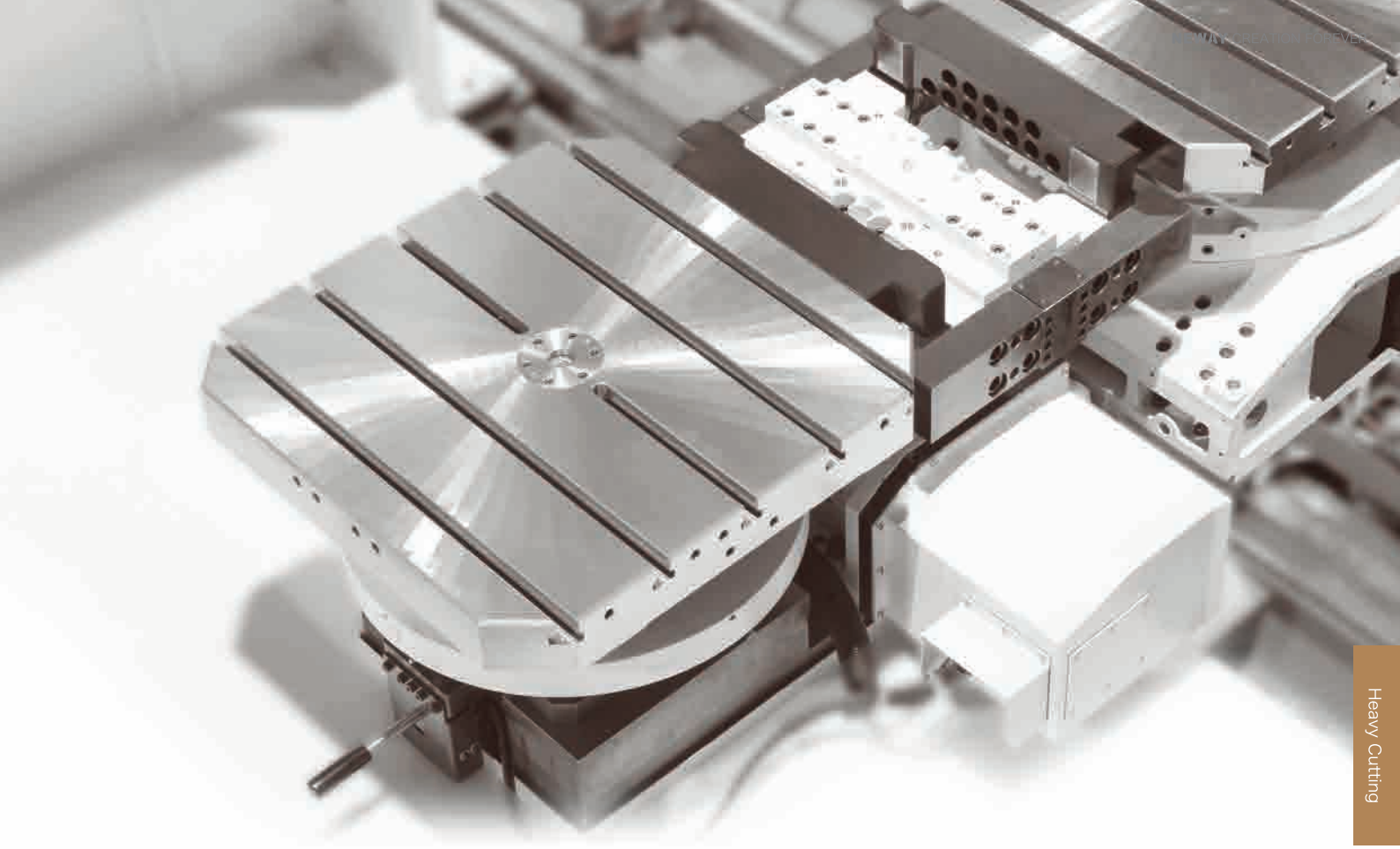
Item	CAM	
	HM50TS/TD	HM63TS/TD
Tools number	24 (standard)	40(standard)
	40/60/90(option)	40/60/90(option)
Max. tool diameter	ϕ110mm(continuous)	ϕ125mm(continuous)
	ϕ250mm (Adjacent)	ϕ250mm (Adjacent)
Max.tool length	350mm	400mm
Max.tool weight	20kg	25kg
Tool change time T-T	3.8s	4.75s

Item	CAM	Hydraulic
	HM80TS/TD HM100TS/TL	HM125TS/TD/TBS
Tools number	40(standard)	60(standard)
	60/90(option)	90/120(option)
Max. tool diameter	ϕ125mm(continuous)	ϕ125mm(continuous)
	ϕ250mm (Adjacent)	ϕ250mm (Adjacent)
Max.tool length	400mm	600mm
Max.tool weight	25kg	35kg
Tool change time T-T	4.75s	7.5s

HSK

ISO

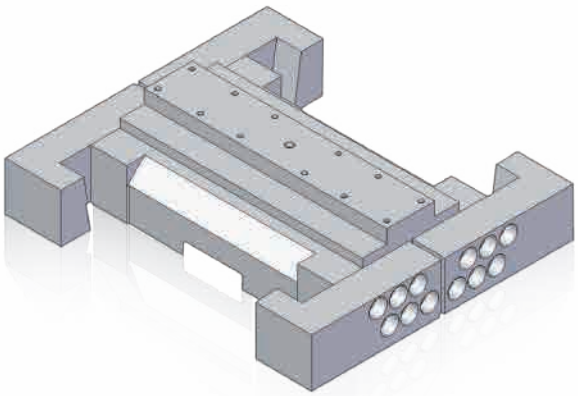
BT



Pallet Rotary exchange worktable

Neway's pallet work table surface is stable and reliable and has a fast exchange speed. Hydraulic clamping interface is readily available as an option for better and faster fixturing and clamping. Continuous pressure up to 10Mpa is maintained with an independent hydraulic system to ensure the constant pressure of the clamping system.

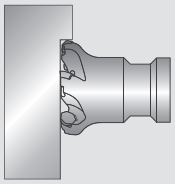
The pallet positioning adopts four-point cone positioning, which is excellent in rigidity, ensuring accurate positioning during work. When the table is exchanged, the four cones on the table blow out compressed air to prevent chips from entering.



Neway's exchange arm offers fast exchange speed with a stable and reliable exchange process.

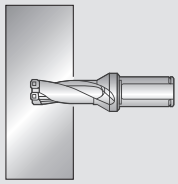
Capacity Table

HM63T (material 45#)



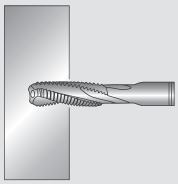
Face milling cutter

Item	cutter diameter D(mm)	cutter teeth	cutting depth Dp(mm)	cutting width Ae(mm)	linear velocity (m/min)	feed per tooth Fz(mm/z)	spindle speed S(RPM)	cutting feed F(mm/min)	metal removal rate cm^3/min
Milling surface	100	8	5	80	160	0.2	500	800	325
	160	12	4	120	140	0.2	280	670	310



U drill

Item	cutter diameter D(mm)	cutter teeth	cutting depth Dp(mm)	cutting width Ae(mm)	linear velocity (m/min)	feed per tooth Fz(mm/z)	spindle speed S(RPM)	cutting feed F(mm/min)
Drilling	60	1	100	/	150	0.1	800	80



Tapping

Item	cutter diameter D(mm)	cutter teeth	cutting depth Dp(mm)	cutting width Ae(mm)	linear velocity (m/min)	feed per tooth Fz(mm/z)	spindle speed S(RPM)	cutting feed F(mm/min)
tapping	M48	1	50	/	10	5	70	350

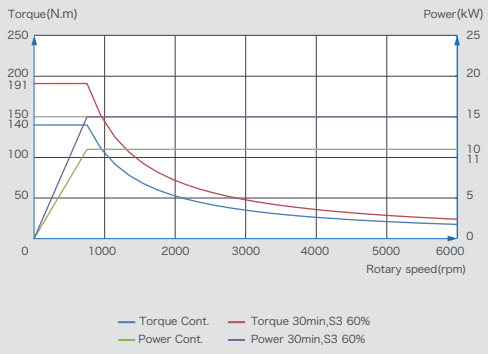
Attention: The above data are all from actual use cases. When the cutting conditions and environmental conditions are different, the above-listed data may not be achieved. Care must be taken to match feeds and speeds to optimize results.

Spindle Power Torque Diagram

(Unit: mm)

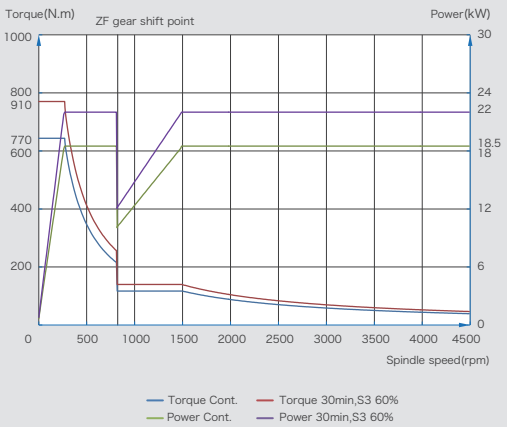
HM50TS / HM50TD

High torque spindle T-n, P-n diagram



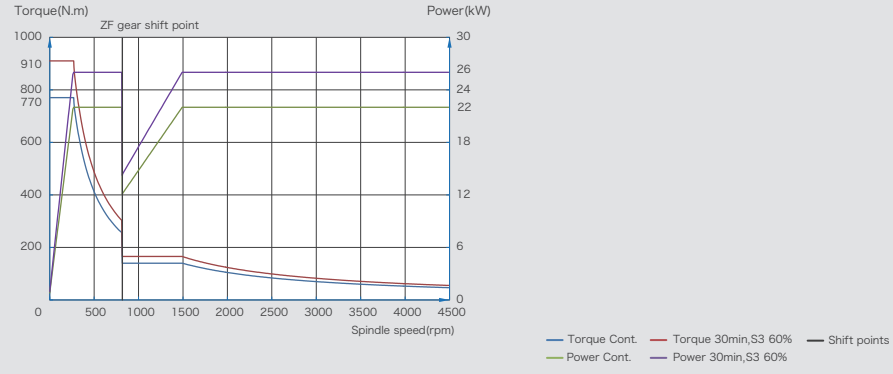
HM63TS / HM63TD

High torque spindle T-n, P-n diagram



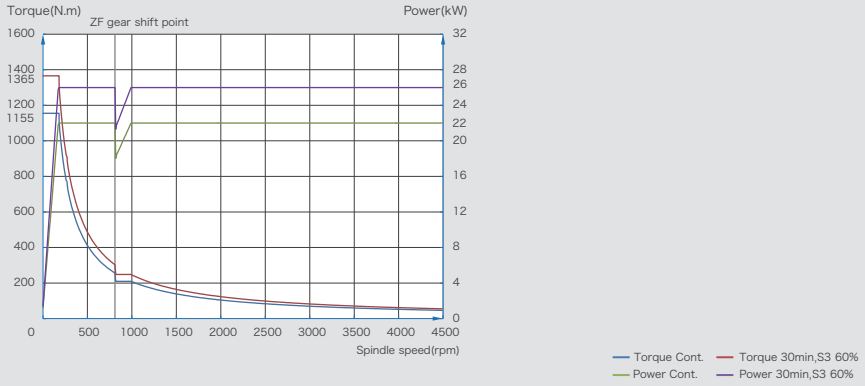
HM80TS / HM80TD / HM100TS / HM100TD

High torque spindle T-n, P-n diagram



HM125TS / HM125TD / HM125TBS / HM125TBD / HM100TL

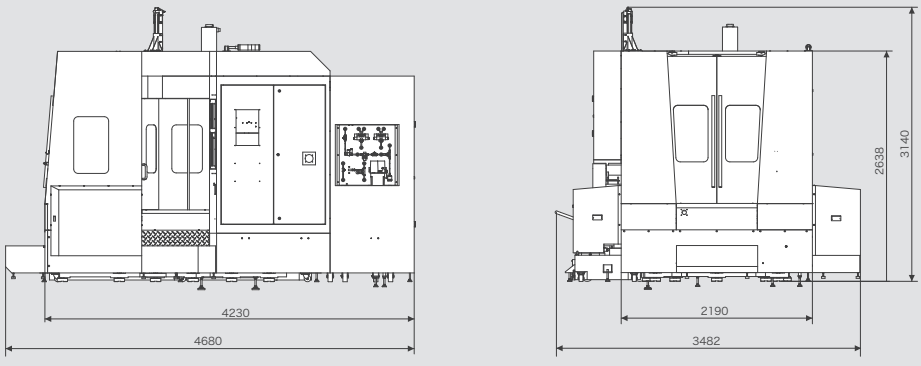
High torque spindle T-n, P-n diagram



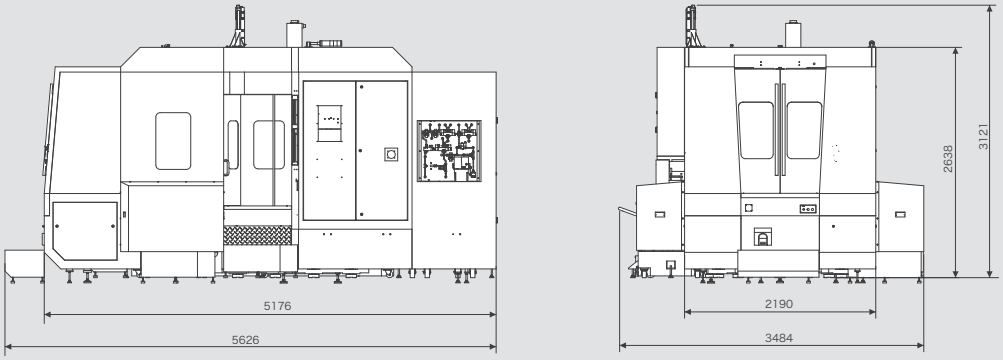
External Dimensions

(Unit: mm)

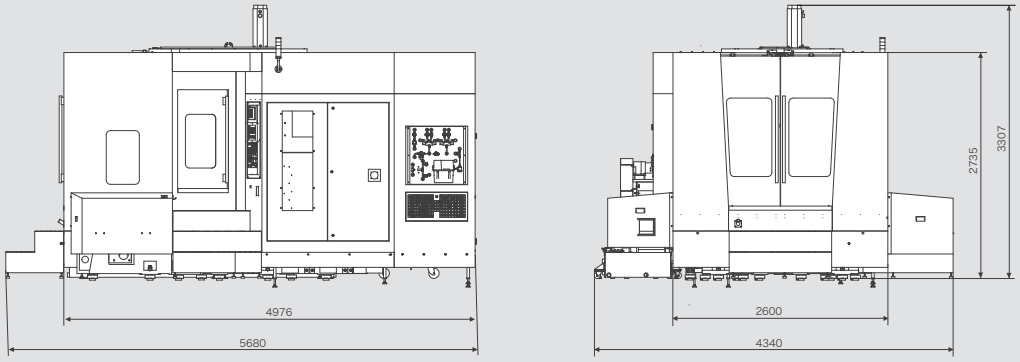
HM50TS



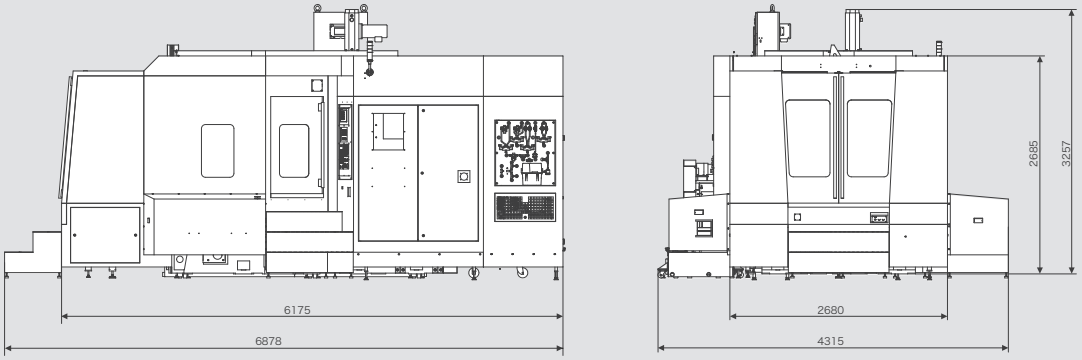
HM50TD



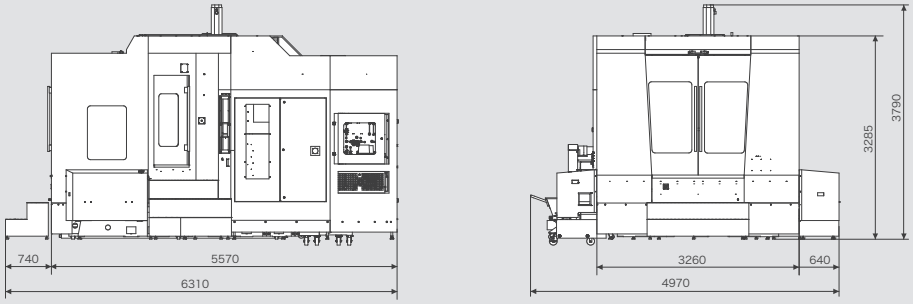
HM63TS



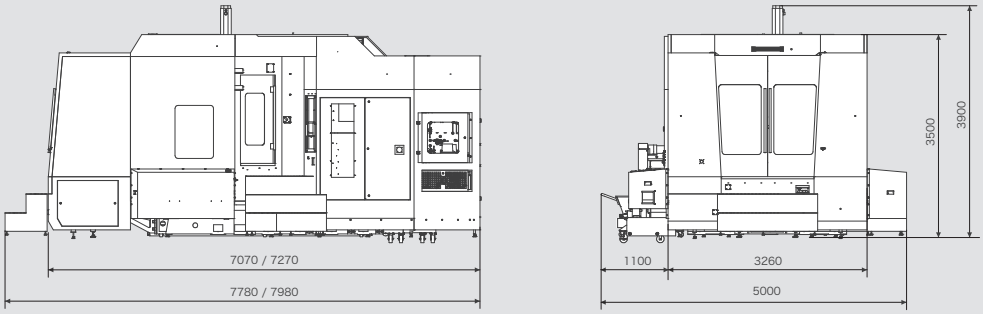
HM63TD



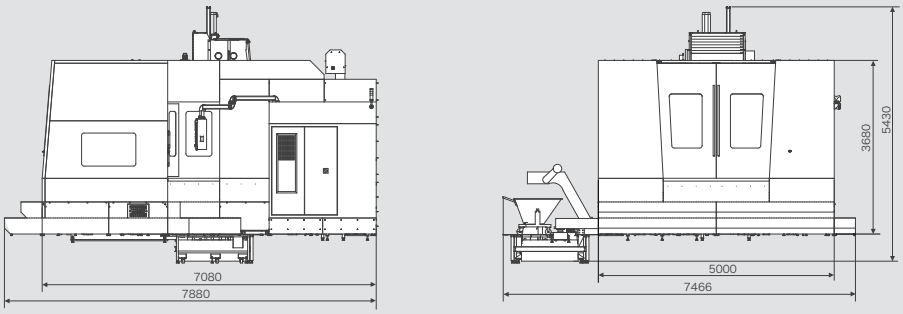
HM80TS / HM100TS



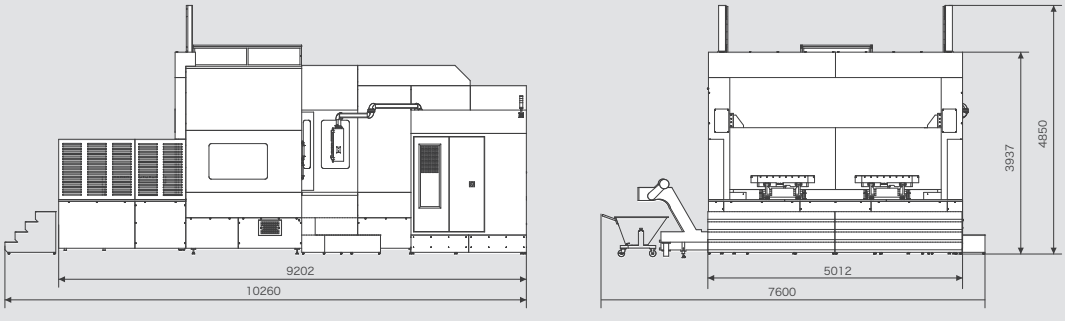
HM80TD / HM100TD



HM100TL / HM125TS / HM125TBS



HM125TD / HM125TBD



Item		Unit	HM50TS(BT40)	HM50TS(BT50)	HM50TD(BT40)	HM50TD(BT50)	HM63TS
Worktable	Worktable size	mm	500×500	500×500	2-500×500	2-500×500	630×630
	Max. worktable load	kg	600	600	500	500	1200
	Worktable indexing	-	1°×360[0.001°×360000]				
	Worktable exchanging time	s	/	/	12	12	/
	Worktable exchanging drive	-	/	/	hydraulic	hydraulic	/
	Worktable max. speed	r/min	10	10	10	10	10
Machining range	Max. part diameter / height	mm	630×700	630×700	630×700	630×700	1000×1000
Travel	Axis travel X/Y/Z	mm	750×650×650	750×650×650	750×600×650	750×600×650	1000×850×900
Spindle	Spindle nose to worktable	mm	150~800	50~700	150~800	50~700	200~1100
	Spindle center to worktable surface	mm	120~770	120~770	100~700	100~700	100~950
	Axis rapid travel X/Y/Z	m/min	30/24/30	30/24/30	30/24/30	30/24/30	30
	Spindle motor power	kW	11/15	11/15	11/15	11/15	18.5/22
	Max. spindle speed	rpm	8000	6000	8000	6000	4500
	Spindle torque	N.m	140/191	140/191	140/191	140/191	647/770
	Spindle taper	-	7:24taper NO.40	7:24taper NO.50	7:24taper NO.40	7:24taper NO.50	7:24taper NO.50
Tool magazine	Number of tools(disc type)	-	30(disc type)	24(disc type)	30(disc type)	24(disc type)	40(chain type)
	Tool shank	-	MAS403 BT40	MAS403 BT50	MAS403 BT40	MAS403 BT50	MAS403 BT50
	Max. tool dia./length/weight	mm/mm/kg	Φ80/350/8	Φ110/350/20	Φ80/350/8	Φ110/350/20	Φ125/400/25
	Max. tool size (emmpty neighbor)	mm	Φ150	Φ250	Φ150	Φ250	Φ250
	Tool change time T-T	s	2.33	3.8	2.33	3.8	4.75
	Drilling (normalized mild steel)	mm	Φ30	Φ35	Φ30	Φ35	Φ55
	Tapping (normalized mild steel)	mm	M20	M24	M20	M24	M45
	Milling (normalized mild steel)	cm^3/min	200	250	200	250	600
Machine accuracy	Positioning accuracy (X/Y/Z)	mm	0.010	0.010	0.010	0.010	0.010
	Repositioning accuracy X/Y/Z)	mm	0.006	0.006	0.006	0.006	0.006
	Positioning accuracy (B)	"	6	6	6	6	6
	Repositioning accuracy (B)	"	2	2	2	2	2
Other	CNC system	-	NEWAY FANUC [SIEMENS]				
	Machine dimension(L×W×H)	mm	4680×3482×3140	4680×3482×3140	5626×3484×3121	5626×3484×3121	5680x4340x3307
	Total power	KVA	55	55	55	55	55
	Coolant tank capacity	L	630	630	630	630	650
	Auto chip conveyor	-		Z axis double helix + sideway chain type chip conveyer			
	Machine Weight	kg	12000	12000	13000	13000	18000

HM50TS Standard Configuration:
Neway's HM50TS offers an Std One degree Indexing Rotary table, Automatic Chip Conveyor, Ring Spray Coolant, fully enclosed machine guarding, air gun.

HM50TS options:
ZF gear box, Spindle and ZF box constant temperature cooling system, Linear scales on 3-axis, CNC rotary table, coolant through spindle, air cooling, top spray coolant system, water gun, tool detection, magazine with big capacity, oil through worktable, oil-water separator, oil mist collector.

HM63TD	HM80TS	HM80TD	HM100TS	HM100TD	HM100TL
2-630×630	800×800	2-800×800	1000×1000	2-1000×1000	1000×1000
1200	1600	1600	2000	2000	3500
1°×360[0.001°×360000]					
20	/	25	/	25	/
hydraulic	/	Servo motor	/	Servo motor	/
10	10	10	10	10	5.5
1000×1000	1200×1200	1200×1200	1300×1300	1300×1300	2000×2000
1000×850×900	1400×1050×1050	1400×1050×1050	1600×1100×1100	1600×1100×1100	2100×1300×1300
200～1100	250-1300	250-1300	250-1350	250-1350	300～1600
0～850	120-1170	0-1050	120-1220	0-1100	120～1420
30	24	24	24	24	20
18.5/22	22/26	22/26	22/26	22/26	22/26
4500	4500	4500	4500	4500	4500
647/770	770/910	770/910	770/910	770/910	1155/1365
7:24taper NO.50	7:24taper NO.50	7:24taper NO.50	7:24taper NO.50	7:24taper NO.50	7:24taper NO.50
40(chain type)	40(chain type)	40(chain type)	40(chain type)	40(chain type)	60(chain type)
MAS403 BT50	MAS403 BT50	MAS403 BT50	MAS403 BT50	MAS403 BT50	MAS403 BT50
Φ125/400/25	Φ125/400/25	Φ125/400/25	Φ125/400/25	Φ125/400/25	Φ125/600/35
Φ250	Φ250	Φ250	Φ250	Φ250	Φ250
4.75	4.75	4.75	4.75	4.75	7.5
Φ55	Φ55	Φ55	Φ60	Φ60	Φ70
M45	M45	M45	M48	M48	M50
600	600	600	900	900	1000
0.010	0.010	0.010	0.010	0.010	0.015
0.006	0.006	0.006	0.006	0.006	0.010
6	6	6	6	6	6
2	2	2	2	2	2
NEWAY FANUC [SIEMENS]					
6878x4315x3257	6311x4958x3786	7740x4710x4140	6511x4958x3786	7940x4710x4140	7880x7466x5430
55	55	55	55	55	80
650	750	750	750	750	1000
Z axis double spiral + X axis double chain type chip conveyer					
21000	20000	23000	21000	24000	34000

Standard configuration:
ZF gear box, Spindle and ZF box constant temperature cooling system, Indexing rotary table, automatic chip conveyor, external coolant, fully enclosed machine guard, air gun.

Options:
The direct drive spindle, linear scale on 3 axes, CNC 0.001° rotary table, Coolant through Spindle, Air cooling, Top spray shower coolant system, Water gun, Broken tool detection, Larger capacity tool magazine, Hydraulic clamping through worktable, oil-water separator, oil mist collector and more.

[ ]Options

Item		Unit	HM125TS	HM125TD	HM125TBS	HM125TBD
Worktable	Worktable size	mm	1250×1250	2-1250×1250	1250×1250	2-1250×1250
	Max. worktable load	kg	4000	4000	4000	4000
	Worktable indexing	-	1°×360[0.001°×360000]			
	Worktable exchanging time	s	/	90	/	90
	Worktable exchanging drive	-	/	hydraulic	/	hydraulic
	Worktable max. speed	r/min	5.5	5.5	5.5	5.5
Machining range	Max. part diameter / height	mm	2000×2000	2000×1800	2000×2000	2000×1800
	Axis travel X/Y/Z	mm	2200×1500×1500	2200×1500×1500	2200×1500×1500×500	2200×1500×1500×500
Spindle	Spindle nose to worktable	mm	300～1800	300～1800	300～1800	300～1800
	Spindle center to worktable surface	mm	120～1620	120～1620	120～1620	120～1620
	Axis rapid travel X/Y/Z	m/min	20	20	20/20/20/5	20/20/20/5
	Spindle motor power	kW	22/26	22/26	22/26	22/26
	Max. spindle speed	rpm	4500	4500	3500	3500
	Spindle torque	N.m	1155/1365	1155/1365	1155/1365	1155/1365
	Spindle taper	-	7:24taper NO.50	7:24taper NO.50	7:24taper NO.50	7:24taper NO.50
Tool magazine	Number of tools(disc type)	-	60(chain type)	60(chain type)	60(chain type)	60(chain type)
	Tool shank	-	MAS403 BT50	MAS403 BT50	MAS403 BT50	MAS403 BT50
	Max. tool dia./length/weight	mm/mm/kg	Φ125/600/35	Φ125/600/35	Φ125/600/35	Φ125/600/35
	Max. tool size (emmpty neighbor)	mm	Φ250	Φ250	Φ250	Φ250
	Tool change time T-T	s	7.5	7.5	7.5	7.5
	Drilling (normalized mild steel)	mm	Φ70	Φ70	Φ70	Φ70
	Tapping (normalized mild steel)	mm	M50	M50	M50	M50
	Milling (normalized mild steel)	cm^3/min	1000	1000	1000	1000
Machine accuracy	Positioning accuracy (X/Y/Z)	mm	0.015	0.015	0.015	0.015
	Repositioning accuracy X/Y/Z)	mm	0.010	0.010	0.010	0.010
	Positioning accuracy (B)	"	6	6	6	6
	Repositioning accuracy (B)	"	2	2	2	2
Other	CNC system	-	NEWAY FANUC [SIEMENS]			
	Machine dimension(L×W×H)	mm	7800×7600×4850	10260×7600×4850	7800×7600×4850	10260×7600×4850
	Total power	KVA	80	80	80	80
	Coolant tank capacity	L	1000	1000	1000	1000
	Auto chip conveyor	-	Z axis double helix + X axis double chain type chip conveyer (note: HM125TBS/TBD boring tool diameter Φ110)			
	Machine Weight	kg	35000	35000	35000	38000

Standard configuration:
ZF gear box, Spindle and ZF box constant temperature cooling system, Indexing rotary table, automatic chip conveyor, external coolant, fully guarded machine enclosure, air gun.

Options:
The direct drive spindle, linear scale on 3 axis, CNC 0.001° rotary table, Coolant through Spindle, Air cooling, Top spray coolant system, Water gun, Broken tool detection, Larger capacity tool magazine, Hydraulic clamping through worktable, oil-water separator, oil mist collector and more.

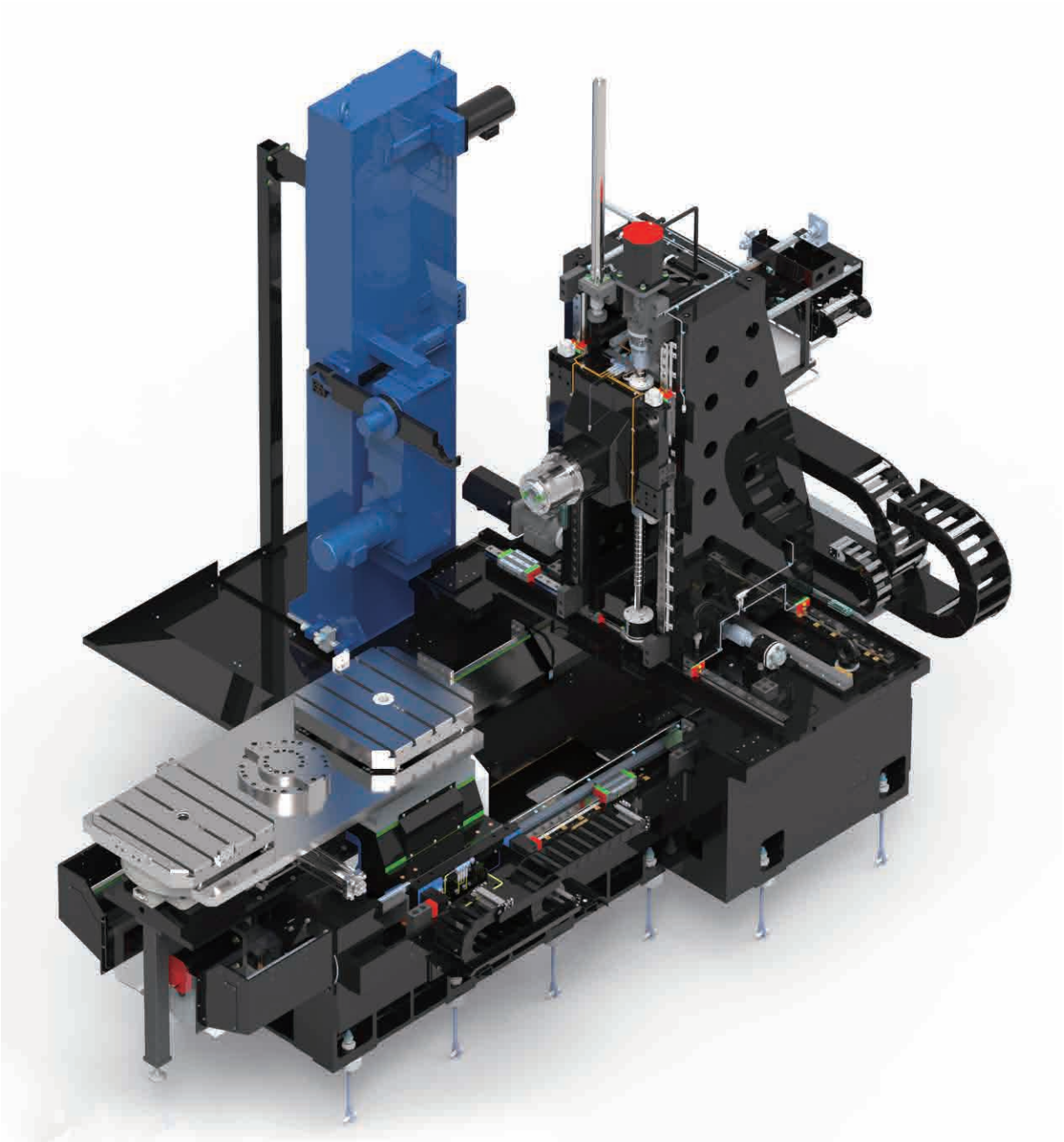
[ ]Options

HM series-
High-Speed Type Horizontal Machining Center

- Neway HM series of the machine structure is T type, column moving the structure, utilizing high speed, high precision roller packs and linear guideways;
- Neway automatically exchange worktables and tools shortens total cycle time. Neway's high precision rotary tables can perform four-face machining in one setup. With more tools and more axes, Neway machines can complete processes such as milling, drilling, bearing, boring, reaming, tapping, etc.
- Neway's machine tool design concept employs a compact structure. Neway provides high-efficiency and high-precision processing solutions for single or small batch products by eliminating spindle down time by allowing a buffer station for loading.
- Neway CNC currently produces great solutions for complex processing of complex parts in an automobile engine, agricultural machinery, gearbox housings, home appliance mold, etc. Wherever precision and production prowess is required.

World Class Dynamic Machining Capable

- Neway's **HM50V/HM63V/HE63D/HM80V/HM100V** Series models are available with high speed and accuracy as needed for modern dynamic tool paths.
- Neway's left and right movements of the column drives the X-axis motion, the upper and lower movements of the headstock drive the Y-axis motion, and the front and rear movement of the table drive the Z-axis motion.
- Neway utilizes the central chip removal method; the chip removal speed is faster, there is no dead angle or chip collection impediments, the chips and coolant fluids directly fall into the central chip removal device, which reduces the internal thermal deformation of the machine tool and results in improved the precision.
- Neway uses Large-span, high-rigidity guide ways to ensure large bearing capacity and rigidity for carrying heavier loads smoothly.
- Neway's symmetrical double-column design utilizes closed, and box frame-type column structure delivers consistent and uniform thermal deformation, stable precision, good anti-torsion and bending resistance, rigid foundation.
- Neway employs a spindle box gravity balancing cylinder to reduce the load of the motor and the screw, thereby suppressing heat generation, ensuring accuracy and smooth movement while prolonging the life of the motor and the ball screw.



Column

Double Column Frame Design

- Neway's spindle column adopts a double-column frame structure design with built-in longitudinal and lateral annular reinforcing ribs to greatly enhance the torsion and bending resistance of the column. This insures full travels without runout
- Neway added longitudinal and transverse ring ribs arranged inside the cavity. The arch design insures heat deformation is uniform, the precision is stable, and the rigidity is sufficient for all types of cutting conditions;
- Neway analyzes all structural components of the machine tool for static and dynamic characteristics using finite element analysis (FEA) to ensure the best performance of the machine under dynamic and static conditions.
- The HE63D series reduces the weight of the column and improves rapid speeds of the column while remaining rigid and stable.

Spindle Counter Balance System

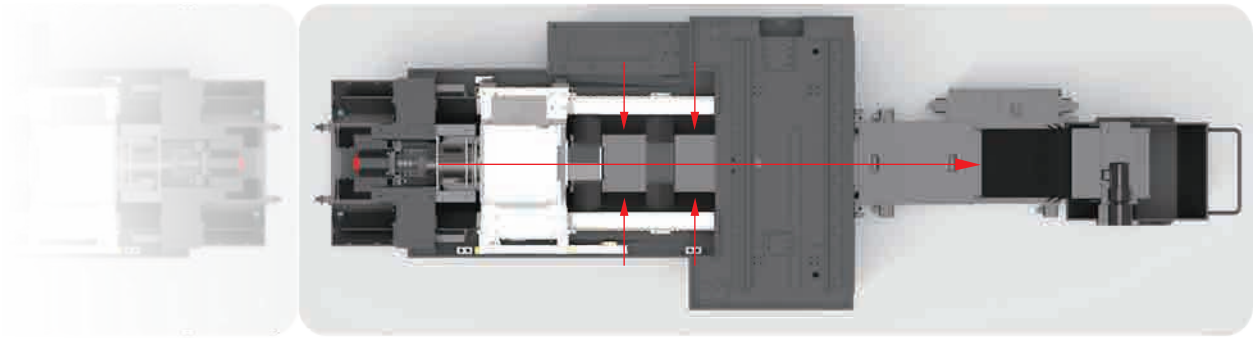
Nitrogen Automatic Balancing Cylinder - Balances the Spindle Head Gravity to Maintain High Precision while Reducing Heat at High Speeds

Neway's automatic counter balance system uses the accumulator principle to control the rise and fall of the balance cylinder with the main shaft using gas pushing oil, and balance the weight of the headstock to achieve high speed and high precision machining.

- Neway's system requires no external power; It's environmentally friendly, and provides energy savings
- By balancing the headstock load during high-speed motion, Neway suppresses heat generation, and extends motor and lead life
- Workpiece accuracy and surface finish are effectively improved while machining with this system.

Central Chip Removal System

Neway uses a central chip removal method, the chip removal speed is faster, and there are no dead spots on the angle. The chips and coolant fall directly into the central chip removal device, which reduces the internal machine temperature and minimizes thermal deformation of the machine tool and improves the precision.

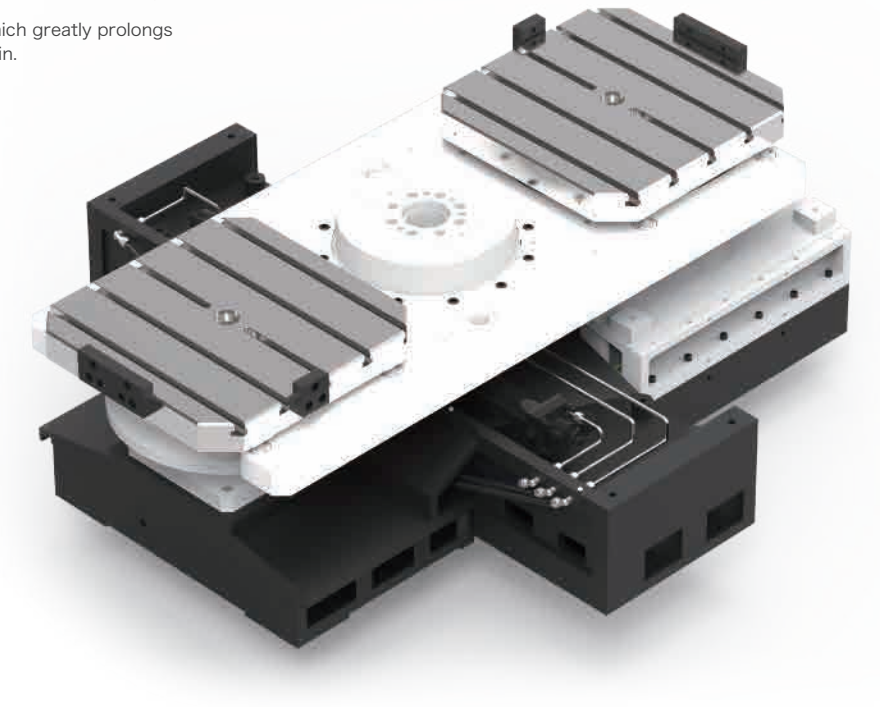


Exchange Worktable

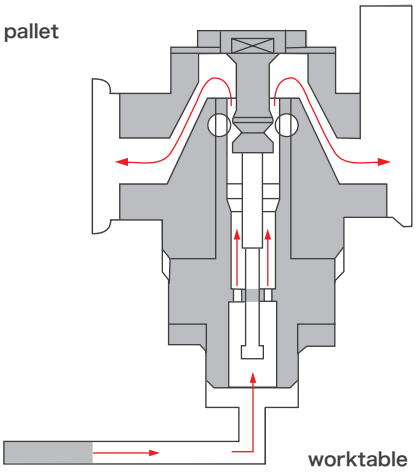
Pallet Rotary Exchange Worktable

- Rotary exchange worktable is stable and reliable, with fast exchange speed;
- Neway Provides an optional hydraulic clamp interface, pressure up to 10Mpa, with an independent hydraulic system to ensure the pressure of the clamping system;
- The table top can be selected from T-shaped slots or threaded holes;
- All the worktable lines are dragged and chained, which greatly prolongs the service life of the pipeline and is easy to maintain.

Standard: 1°×360 indexing table
Optional: 0.001 °CNC worktable



Pallet Positioning Mechanism



- Neway's pallet positioning adopts a four-point cone positioning system which is excellent in rigidity, ensuring accurate positioning during work.
- When the table is exchanged, the four cones on the table blow out compressed air to prevent chips from entering.

- Worktable top threaded hole

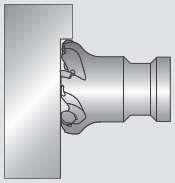
- Worktable top T slot

The Worktable Drive

- Neway's two-section worm gear structure with easy to adjust the backlash maintains a backlash of only 5-8μm.
- Neway's curvic coupling has a large surface contact area for long-lasting precision;
- The worm gear is made of PBC-3 phosphor bronze, which is more resistant to impact and improves long-term machine tool wear.

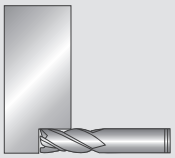
Capacity Table

HM50V's surface milling test (Processing material Aluminum 6061)



Face milling cutter

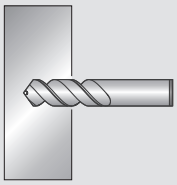
Item	tolol type	cutter diameter D(mm)	cutter teeth	cutting depth Dp(mm)	cutting width Ae(mm)	linear velocity (m/min)	feed per tooth Fz(mm/z)	spindle speed S(RPM)	cutting feed F(mm/min)	metal removal rate cm^3/min
milling surface	Face milling cutter	80	6	1	60	900	0.4	3600	8640	530



Vertical milling cutter

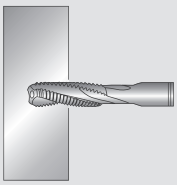
Item	cutter diameter D(mm)	cutter teeth	cutting depth Dp(mm)	cutting width Ae(mm)	linear velocity (m/min)	feed per tooth Fz(mm/z)	spindle speed S(RPM)	cutting feed F(mm/min)	metal removal rate cm^3/min
milling side	20	3	40	0.5	300	0.4	4800	5760	115
milling side	20	3	30	12	200	0.1	3200	960	345

HM50V's drilling and tapping test (Processing material Aluminum 6061)



Alloy drill

Item	cutter diameter D(mm)	cutter teeth	cutting depth Dp(mm)	linear velocity	feed per tooth Fz(mm/z)	spindle speed S(RPM)	cutting feed F(mm/min)	number of machining	single part machining time(s)
drilling	5	1	20	110	0.3	7600	2500	50	1.8
drilling	8	1	25	175	0.4	7500	3000	50	1.8



Tapping

Item	tolol type	cutter diameter D(mm)	cutter teeth	cutting depth Dp(mm)	linear velocity (m/min)	feed per tooth Fz(mm/z)	spindle speed S(RPM)	cutting feed F(mm/min)	number of machining	single part machining time(s)
tapping	extrusion tap	5	1	15	60	0.8	3800	3040	50	3.5
tapping	extrusion tap	8	1	20	75	1.25	300	3750	50	3.2

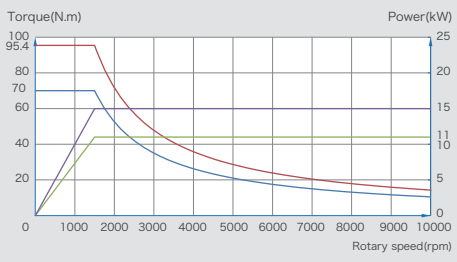
Attention: The above data are all from actual use cases. When the cutting conditions and environmental conditions are different, the above-listed data may not be achieved. Care must be taken to match feeds and speeds to optimize results.

Spindle Power Torque Diagram

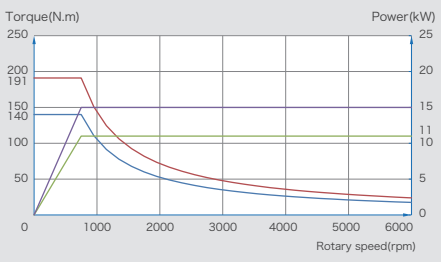
(Unit: mm)

HM50VS / HM50VD

BT40 High-speed spindle T-n, P-n diagram

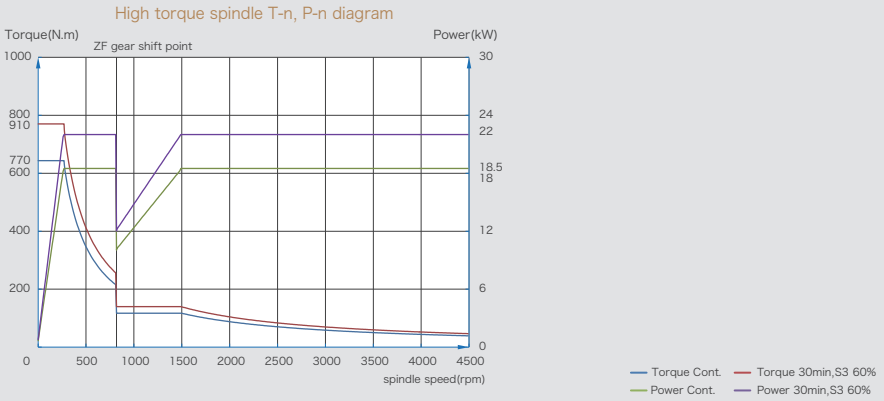


BT50 High-speed spindle T-n, P-n diagram

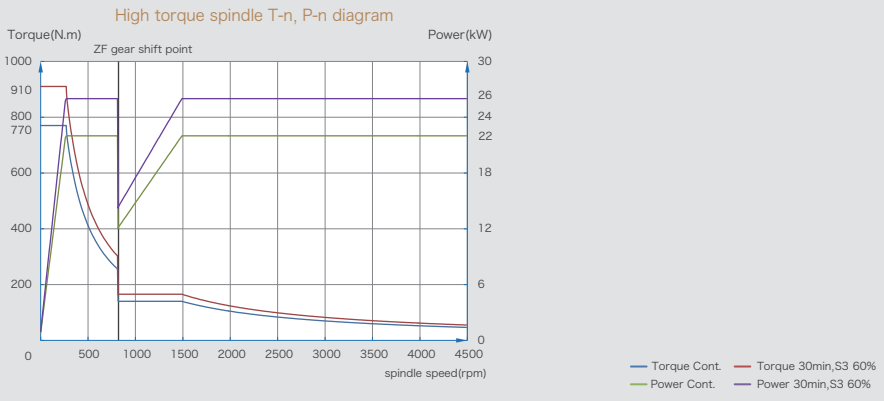


Torque Cont. Torque 30min,S3 60%
Power Cont. Power 30min,S3 60%

HM63VS / HM63VD / HM80VE



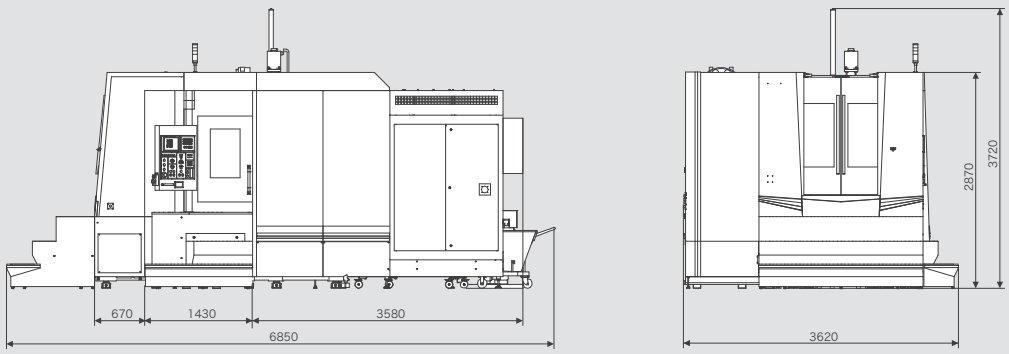
HM80VD / HM100VS / HM100VD



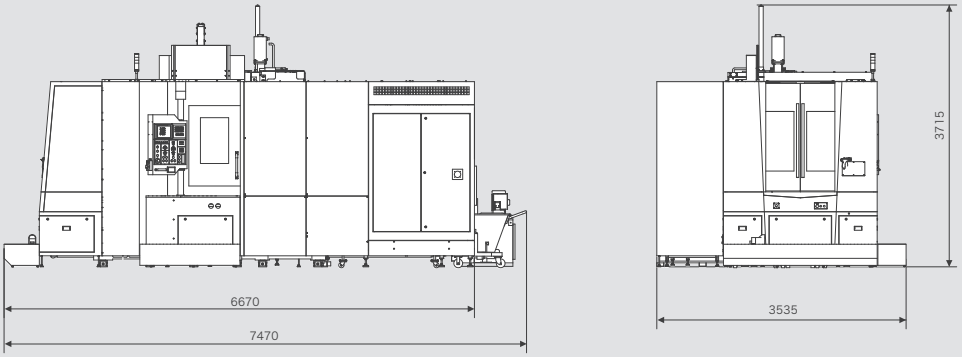
External Dimensions

(Unit: mm)

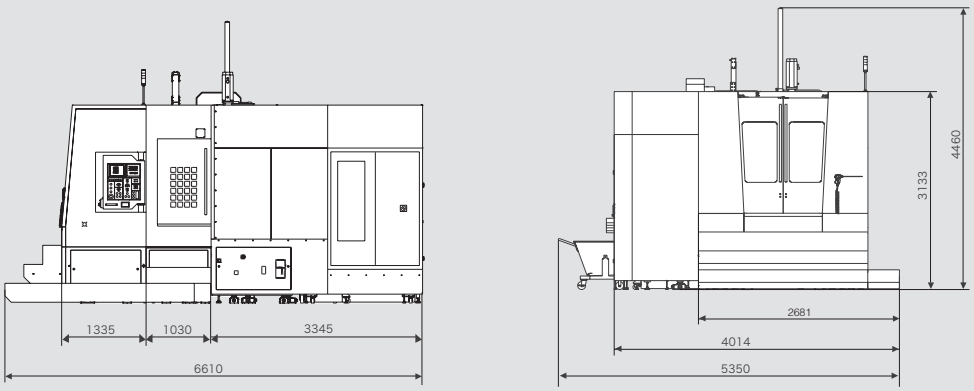
HM50VS



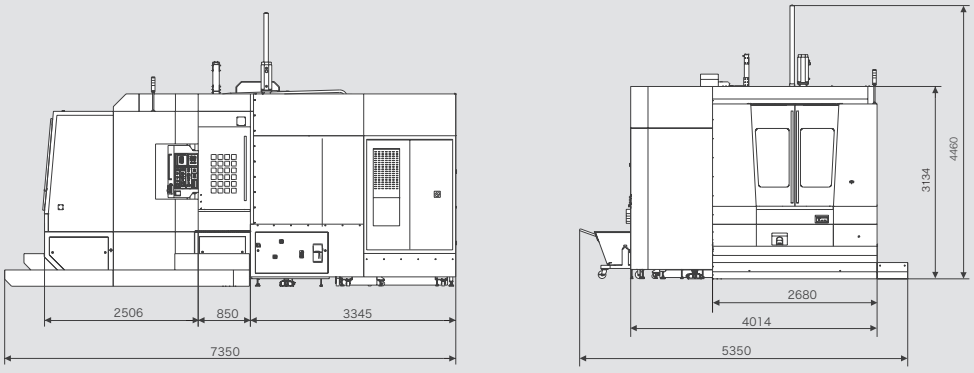
HM50VD



HM63VS / HM80VE



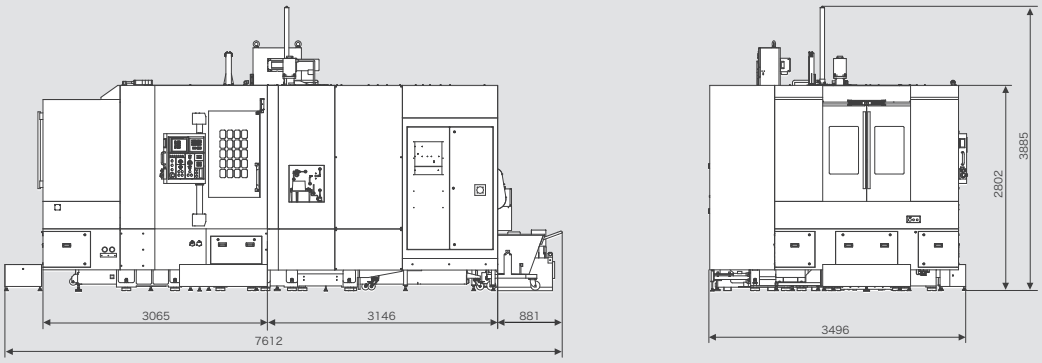
HM63VD



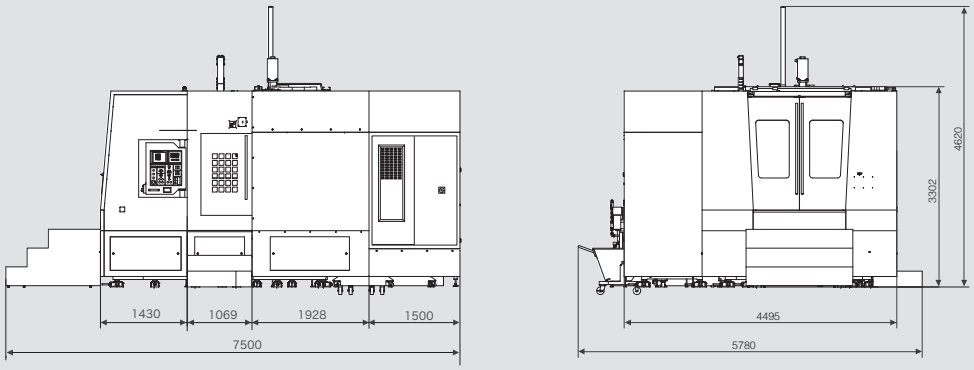
External Dimensions

(Unit: mm)

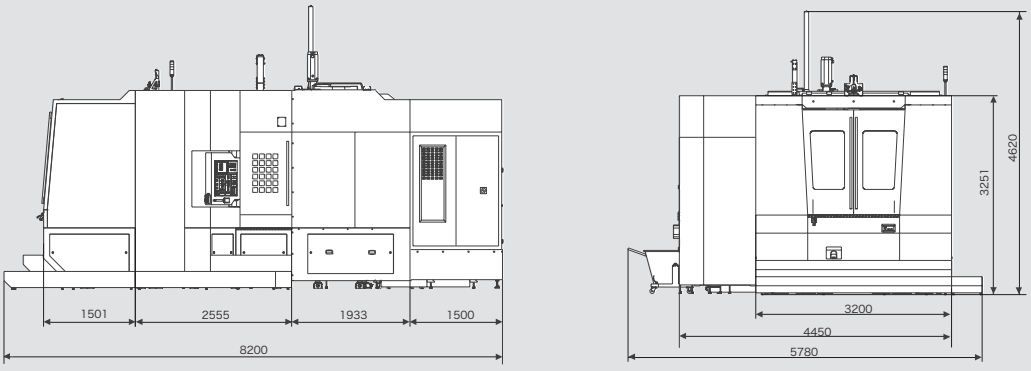
HE63D



HM100VS



HM80VD / HM100VD



Item		Unit	HM50VS(BT40)	HM50VS(BT50)	HM50VD(BT40)	HM50VD(BT50)
Worktable	Worktable size	mm	500×500	500×500	2-500×500	2-500×500
	Max. worktable load	kg	600	600	500	500
	Worktable indexing	-	1°×360[0.001°×360000]			
	Worktable exchanging time	s	/	/	10	10
	Worktable exchanging drive	-	/	/	hydraulic	hydraulic
	Worktable max. speed	r/min	10	10	10	10
Machining range	Max. part diameter / height	mm	Φ800×800	Φ800×800	Φ800×800	Φ800×800
	Axis travel X/Y/Z	mm	900×750×800	900×750×800	900×750×800	900×750×800
Spindle	Spindle nose to worktable	mm	140~940	100-900	140~940	100-900
	Spindle center to worktable surface	mm	50~800	50~800	50~800	50~800
	Axis rapid travel X/Y/Z	m/min	50	50	50	50
	Spindle motor power	kW	11/15	11/15	11/15	11/15
	Max. spindle speed	rpm	10000	6000	10000	6000
	Spindle torque	N.m	70/95.4	140/191	70/95.4	140/191
	Spindle taper	-	7:24taper NO.40	7:24taper NO.50	7:24taper NO.40	7:24taper NO.50
Tool magazine	Number of tools(disc type)	-	32	40	32	40
	Tool shank	-	MAS403 BT40	MAS403 BT50	MAS403 BT40	MAS403 BT50
	Max. tool dia./length/weight	mm/mm/kg	Φ80/350/8	Φ125/450/25	Φ80/350/8	Φ125/450/25
	Max. tool size (emmpty neighbor)	mm	Φ120	Φ250	Φ120	Φ250
	Tool change time T-T	s	2.31	3.45	2.31	3.45
	Drilling (normalized mild steel)	mm	Φ30	Φ35	Φ30	Φ35
	Tapping (normalized mild steel)	mm	M20	M24	M20	M24
	Milling (normalized mild steel)	cm^3/min	200	250	200	250
Machine accuracy	Positioning accuracy (X/Y/Z)	mm	0.010	0.01	0.010	0.01
	Repositioning accuracy X/Y/Z)	mm	0.006	0.006	0.006	0.006
	Positioning accuracy (B)	"	6	6	6	6
	Repositioning accuracy (B)	"	2	2	2	2
Other	CNC system	-	NEWAY FANUC [SIEMENS]			
	Machine dimension(L×W×H)	mm	6850×3620×3720	6850×3620×3720	7470×3535×3715	7470×3535×3715
	Total power	KVA	35	35	35	35
	Coolant tank capacity	L	600	600	600	600
	Auto chip conveyor	-	center chain			
	Machine weight	kg	16000	16000	18000	18000

HM50VS Standard Configuration:
Neway offers a constant spindle temperature cooling system, headstock gravity balance system, rotary indexing table, automatic chip conveyor, external coolant, machine tool protection, air gun.

HM50VS Options:
Motorized spindle, main variable speed ZF gearbox, three-axis linear scale, CNC rotary table, spindle center water cooling, cutting air cooling, top spray coolant system, water gun, tool breakage detection, large capacity tool magazine, worktable center oil supply, oil mist collector.

[ ]Options

Item	Unit	HM63VS	HM63VD	HE63D	HM80VE	HM80VD	HM100VS	HM100VD
Worktable size	mm	630×630	2-630×630	630×630	800×800	2-800×800	1000×1000	2-1000×1000
Max. worktable load	kg	1200	1200	1000	1600	1600	2000	2000
Worktable indexing	-	1° ×360[0.001° ×360000]						
Worktable exchanging time	s	/	20	16	/	25	/	25
Worktable exchanging drive	-	/	hydraulic	hydraulic	/	servo motor	/	servo motor
Worktable max. speed	r/min	10	10	16	10	10	10	10
Max. part diameter / height	mm	Φ1000×1000	Φ1000×1000	1000×1000	Φ1300×1100	Φ1200×1200	Φ1300×1300	Φ1300×1300
Axis travel X/Y/Z	mm	1000×850×850	1000×850×850	1000×850×850	1050×900×900	1250×1000×1100	1400×1020×1050	1400×1020×1050
Spindle nose to worktable	mm	180-1030	180-1030	75～925	140-1040	200～1300	250～1300	250～1300
Spindle center to worktable surface	mm	120～970	120～970	0～850	100～1000	120～1120	120～1140	80～1100
Axis rapid travel X/Y/Z	m/min	36	36	50	36	30	30	30
Spindle motor power	kW	18.5/22	18.5/22	15/18.5	18.5/22	22/26	22/26	22/26
Max. spindle speed	rpm	4500	4500	6000	4500	4500	4500	4500
Spindle torque	N.m	647/770	647/770	381/471	647/770	770/910	770/910	770/910
Spindle taper	-	7:24taper NO.50	7:24taper NO.50	7:24taper NO.50	7:24taper NO.50	7:24taper NO.50	7:24taper NO.50	7:24taper NO.50
Number of tools(disc type)	-	40(chain type)	40(chain type)	40(chain type)	40(chain type)	40(chain type)	40(chain type)	40(chain type)
Tool shank	-	MAS403 BT50	MAS403 BT50	MAS403 BT50	MAS403 BT50	MAS403 BT50	MAS403 BT50	MAS403 BT50
Max. tool dia./length/weight	mm/mm/kg	Φ125/500/25	Φ125/500/25	Φ125/500/25	Φ125/500/25	Φ125/500/35	Φ125/500/35	Φ125/500/35
Max. tool size (emmpty neighbor)	mm	Φ250	Φ250	Φ250	Φ250	Φ250	Φ250	Φ250
Tool change time T-T	s	3.45	3.45	2.96	3.45	5.5	5.5	5.5
Drilling (normalized mild steel)	mm	Φ55	Φ55	Φ50	Φ55	Φ55	Φ60	Φ60
Tapping (normalized mild steel)	mm	M45	M45	M36	M45	M45	M48	M48
Milling (normalized mild steel)	cm^3/min	600	600	300	600	600	900	900
Positioning accuracy (X/Y/Z)	mm	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Repositioning accuracy X/Y/Z)	mm	0.006	0.006	0.006	0.006	0.006	0.006	0.006
Positioning accuracy (B)	"	6	6	6	6	6	6	6
Repositioning accuracy (B)	"	2	2	2	2	2	2	2
CNC system	-	NEWAY FANUC [SIEMENS]						
Machine dimension(L×W×H)	mm	6610×5350×4460	7350×5350×4460	7612×3496×3885	6610×5350×4460	8200×5780×4620	7500×5780×4620	8200×5780×4620
Total power	KVA	55	55	45	55	75	75	75
Coolant tank capacity	L	1000	1000	1700	1000	1000	1000	1000
Auto chip conveyor	-	Z axis with double helix + rear chain chip conveyer		center chain	Z axis with double helix + rear chain chip conveyer			
Machine weight	kg	18000	22000	19000	23000	26000	24000	27000

Standard Configuration:
Main variable speed ZF gearbox, spindle, and ZF gearbox constant temperature cooling system, headstock gravity balance system, one-degree indexing rotary table, an automatic chip removal device, external coolant, machine tool protection, air gun.

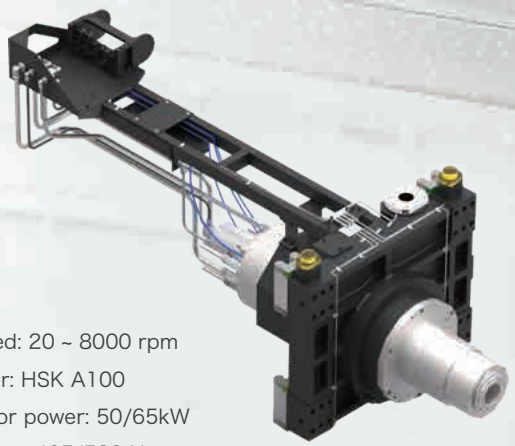
Options:
Motorized spindle, three-axis linear scale, CNC 0.001° rotary table, coolant through the spindle, cutting air coolant, top spray cooling system, water gun, tool is broken detection, large-capacity tool magazine, worktable center oil supply, oil mist collector.

HM series-
High-Efficiency Horizontal Machining Center

- This series features a High-Speed and High Power Direct Drive spindle design, spindle speed 8000rpm, motor power 50/65kW, torque 426/506N.m, 0~8000rpm acceleration 1.2s, effectively improving workpiece quality and processing efficiency;
- Rapid traverse speeds up to 60m/min (2363 inches a minute), 0~60m/min acceleration of 0.2s, overall efficiency increased by 30%;
- The full servo tool magazine is lightning fast with a 1.6s tool change and very reliable and even runout for 48hrs to provide even more quality control checkpoints.
- 180° indexing time of only 3.5s, improves processing efficiency. Choose from a variety of available pallet configurations (B-axis, A-axis, Five-axis Trunnion). Hydraulic clamping interface with accumulator. The independent hydraulic system ensures the clamping system remains constant and responds quickly to high-end customer needs;
- Large range machining, three-axis stroke X/Y/Z up to 1000/850/1000mm;
- Achieve off-machine inspection, machining, and testing at the same time, greatly reducing processing preparation time;
- Automatic identification of workpieces to avoid misuse of machine tools;
- Neway reduced the machine footprint by 20% saving space, and greatly facilitating the formation of production lines;
- Neway's intelligent control affords automatic replacement of multiple lines;
- Suitable for high-precision box-type parts processing, engine block, machine tool spindle box, medical equipment, aerospace, and other industries.

Spindle

Standard high-power electric spindle has a small temperature rise and small thermal deformation to improve processing quality and processing efficiency



Spindle speed: 20 ~ 8000 rpm
Spindle taper: HSK A100
Spindle motor power: 50/65kW
Spindle torque: 405/526 N.m

Cloumn

Double Column, Closed Structure, Frame Design

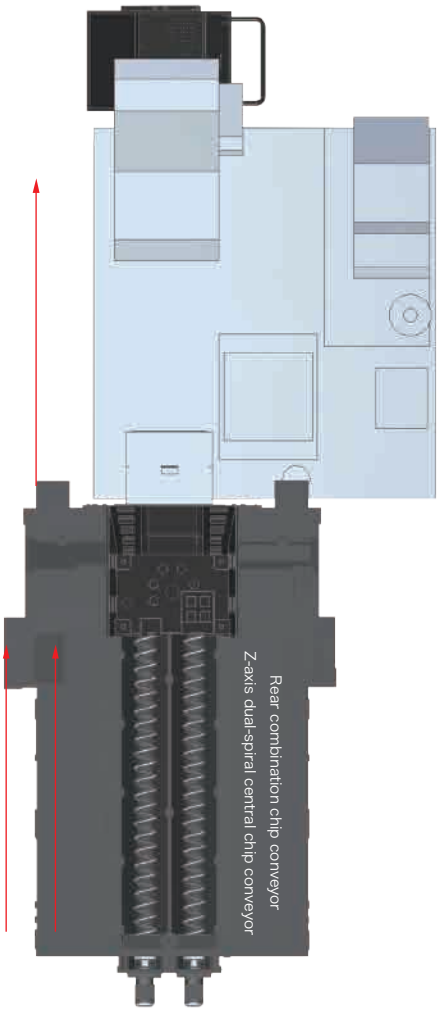
- Thermal symmetrical frame type and double column structure to minimize thermal deformation and ensure stable high-precision machining;
- The column adopts closed and frame structure, horizontal and vertical circular rib design, excellent bending and torsion resistance;
- There are thick-walled longitudinal and transverse ring ribs in the cavity, and the width of the column wall is up to 200mm providing great rigidity;
- Large-span inner cavity structure, which can be equipped with the high-torque electric spindle.

Chip Removal

Central Chip Removal Structure

- Adopting the central chip removal method, the chip and coolant fluid directly fall into the central chip removal device, which reduces the thermal deformation of the machine tool and is beneficial to improve the accuracy.

Iron scraps on both sides of the table are pushed directly into the rear sewage lifting system by a set of spiral chip eliminators. Achieve fast and efficient back chip remove. The front and rear screw row is arranged in an inclined manner, which can discharge chips more smoothly.



Worktable

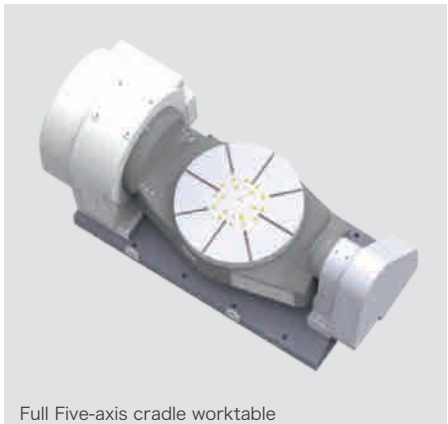
Configurable A-axis / B-axis / Five-axis cradle table

- A variety of worktable options are available (A-axis, B-axis, five-axis trunnion) to quickly respond to high-end customer needs;
- Neway provides a hydraulic clamping interface with an independent hydraulic system accumulator to ensure reliable continuous pressure of the clamping system;
- Neway's rotary table is configured to discharge oil from multiple channels to meet the World Class integration requirements when developing custom automatic fixtures.

Offering:

A-axis table motion

B-axis table motion



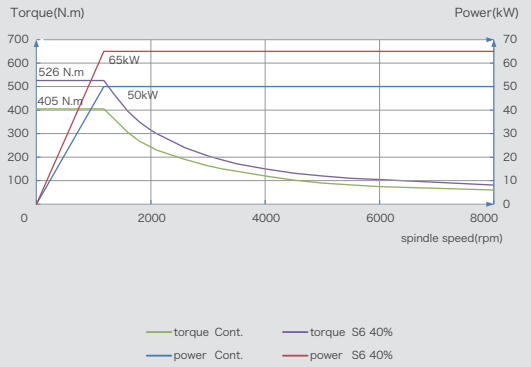
Full Five-axis cradle worktable

Spindle Power Torque Diagram

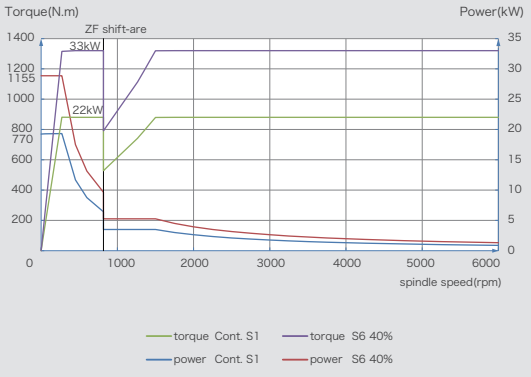
(Unit: mm)

HE63S / HE100A

High-speed spindle T-n, P-n diagram



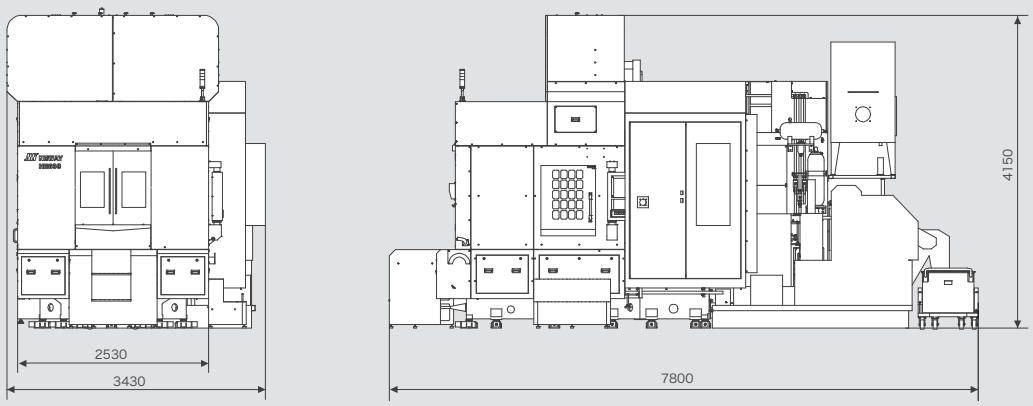
High torque spindle T-n, P-n diagram



External Dimensions

(Unit: mm)

HE63S / HE100A



	Item	Unit	HE63S	HE100A
Worktable	Worktable size	mm	630×630	1000×500
	Max. worktable load	kg	1200	1800
	Worktable indexing	-	1°×360[0.001°×360000]	
	Number of worktable	s	1	1
	Worktable exchanging time	-	/	/
	Worktable exchanging drive	r/min	/	/
	Worktable max. speed	mm	30	16
Machining range	Max. part diameter / height	mm	1000×1000	1000×550
Travel	Axis travel X/Y/Z	mm	1000×850×1000	1000×850×1000
Spindle	Spindle nose to worktable	mm	120～1120	120～1120
	Spindle center to worktable surface	m/min	140～990	- 425～+425 (spindle center to a-axis center)
	Axis rapid travel X/Y/Z	kW	60	60
	Spindle motor power	rpm	22/26 [50/65]	22/26 [50/65]
	Max. spindle speed	N.m	6000 [8000]	6000 [8000]
	Spindle torque	-	770/910 [405/526]	770/910 [405/526]
	Spindle taper	-	HSK-A100	HSK-A100
Tool Magazine	Number of tools(disc type)	-	40 (chain type)	40 (chain type)
	Tool shank	mm/mm/kg	HSK-A100	HSK-A100
	Max. tool dia./length/weight	mm	Φ125/450/25	Φ125/450/25
	Max. tool size (emmpty neighbor)	s	Φ250	Φ250
	Tool change time T-T	mm	2.25	2.25
	Drilling (normalized mild steel)	mm	Φ55	Φ55
	Tapping (normalized mild steel)	cm^3/min	M45	M45
	Milling (normalized mild steel)	mm	600	600
Machine accuracy	Positioning accuracy (X/Y/Z)	mm	0.010	0.010
	Repositioning accuracy X/Y/Z)	"	0.006	0.006
	Positioning accuracy (B)	"	6	6
	Repositioning accuracy (B)	"	2	2
Other	CNC system	mm	SIEMENS [NEWAY FANUC]	
	Machine dimension(L×W×H)	KVA	7800×3430×4150	7800×3430×4150
	Total power	L	120	120
	Coolant tank capacity	-	1200	1200
	Auto chip conveyor	kg	Central dual spiral chip conveyor	
	Machine weight		23000	23000

HM series-
Multi-pallet & FMS Pallet Line & Machining Automatic

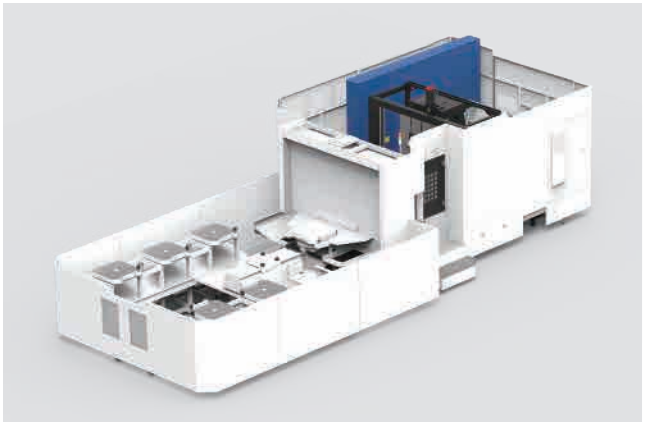
- **Increase Spindle Utilization and Overall Equipment Efficiency (OEE)**
  Neway improves OEE as the remaining pallets are able to be presetup with multiple and diverse machining tasks so that the spindle can run continuously. Compared with the typical machining center in which the spindle utilization rate is usually no more than 35%, Neway's multi-pallet horizontal machining center touts a spindle utilization rate exceeding 90% (according to 24h/week/6 days) for huge productivity gains.

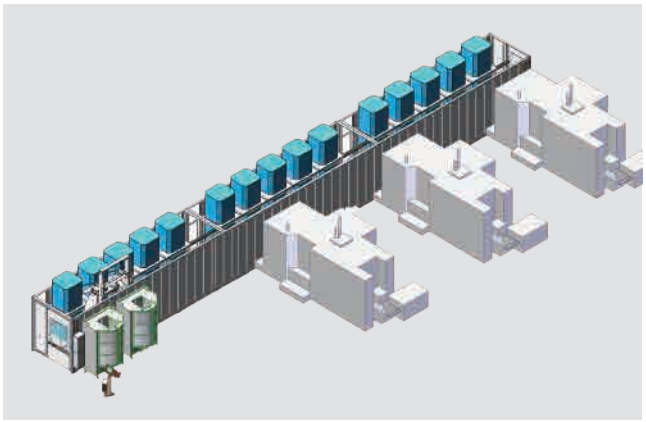
- **Lights-Out Operation + Unmanned Operation**
  Neway's multi-pallet option allows the operator to load the workpiece on the remaining pallets before the shift is over, and then remotely process the parts when unattended. This enables the machine to be turned on/off and the machine to be unattended overnight or throughout the weekend.

- **Tool Breakage Detection + Automatic Selection Pallet**
  Neway's multi-pallet and Macro program (loop logic) allows the operator to replace several parts with a few macro variables; Neway's tool breakage detection function can jump to the redundant tool or the next pallet when the tool breaks during the operation; The program and tool number are stored in the macro variables so that the technician can complete the inspection accurately and quickly.

- **Reduce your Operator Skill Requirements**
  The machining technician only needs to complete the commissioning of the first piece. The operator can operate some of the buttons on the machine tool as required. The clamping of the pallet clamp can be designed to allow relatively unskilled operators to load the workpiece.

H Series Machining Centers with Highly Productive Pallet Systems



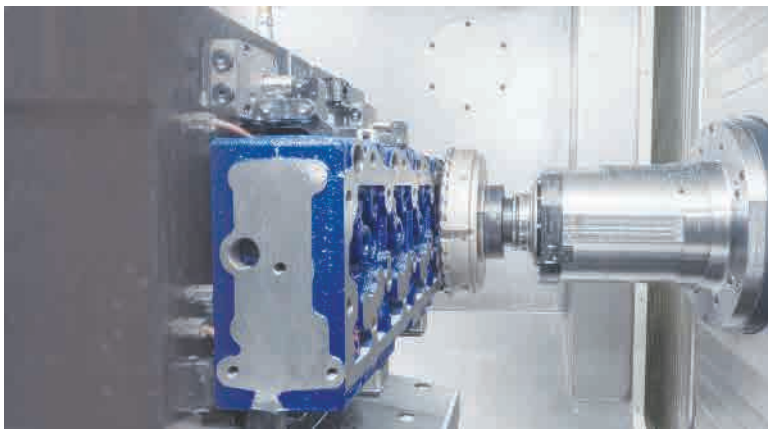


FMS Flexible Production Line

Neway's FMS consists of a horizontal machining center, a storage rack, a transport truck, an upper and lower material station, a worktable, and a control box.

Automobile Engine Cylinder Block & Top Production Line

Neway's project consisted of 45 horizontal machining centers, which are automatically loaded and unloaded with the truss manipulator. The machine tool works 300 days a year, three shifts of 21.3 hours per day, with an annual output of 200,000 engines. The production line beats ⩽96 seconds/piece (including the mechanical hand) The material processing time is 25 seconds, the probe replacement time and the detection time, etc., and the processing content of the parts is CmK⩾1.67.



Control System

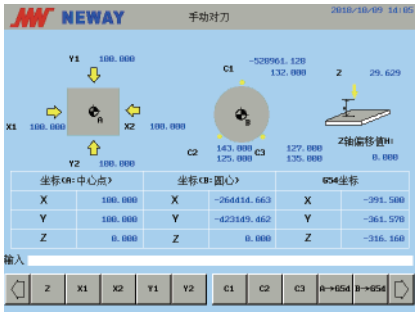
Neway's combination of powerful system functions and in-depth secondary development greatly enhances the ease of use of machine tools. Neway's development of the system greatly improves efficiency in terms of machine tool use, commissioning, safety alarm elimination, and maintenance.

1 Alarm Text Help

Neway's alarm information and processing method are generated by the system's PMC. Processing concise english alarm information, it is more convenient to find the root cause of the alarm and provides corresponding solutions.

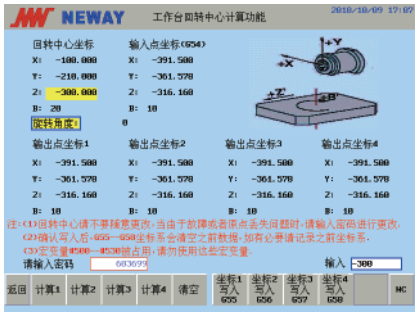
2 Tool Manual Setting

Neway uses the system's preset function to image human-machine dialogue making manual tool setting more intuitive and simple.



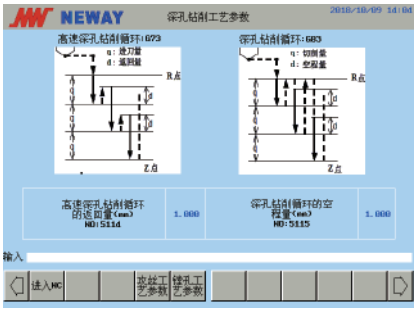
3 Worktable Rotary Center Setting

Neway's system's secondary development worktable rotary center calculation function makes the machine tool turning the hole more convenient.



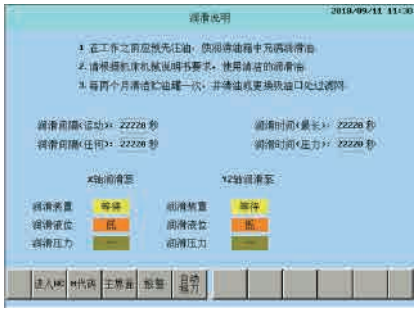
4 Deep Hole Drilling Process Parameters

Neway utilizes system preset functions to allow easy human-machine dialogue and has preset processing parameters and routines to simplify programming



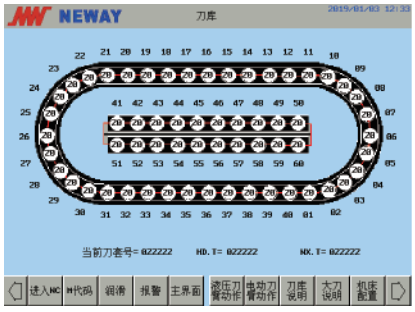
5 Lubrication System

Neway's centralized, programmable lubrication offers warnings and quickly and easily sets the lubrication pump oiling time while continuously checking the working status of the lubrication pump to insure long machine life.



6 Tool Magazine Management

Neway's tool magazine management HMI human-machine interface insures easy tooling and tool magazine management.



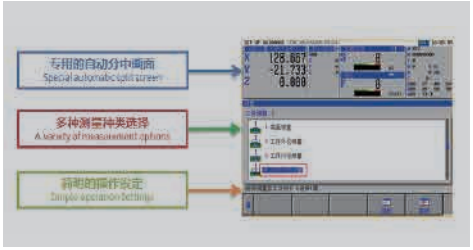
Some functions need to be implemented in conjunction with system functions:

1 High-speed USB and convenient PCMIA memory card solution

- The CNC program can be transferred from USB to CF card.
- It can transfer program to CF card via embedded Ethernet.

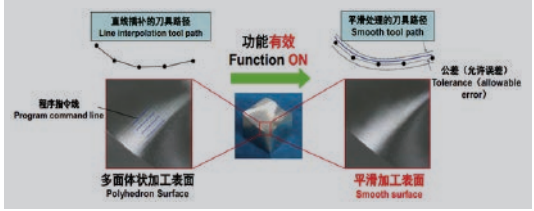
2 Preparation support before machining

- Saves the manual calculation steps, simplifying the operation.



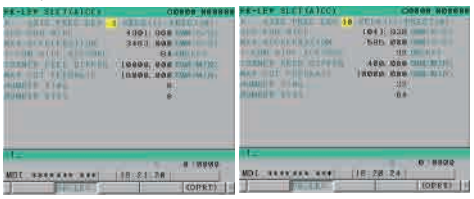
3 Smooth tolerance + control

- Process the tool travel consisting of tiny line segments to improve the quality of the machining surface.

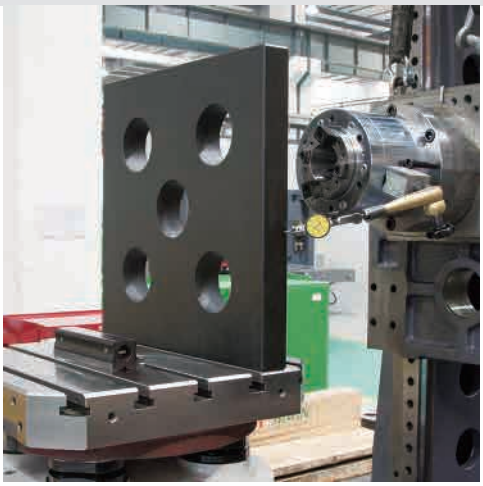


4 Processing conditions

- According to the processing requirements, choose different "precision grades" to meet the processing efficiency and accuracy requirements.



Manufacturing and testing



• Perpendicularity detection

• Laser interferometer precision detection

• Parallelism detection

• Three-coordinate detection

• Hand scraping

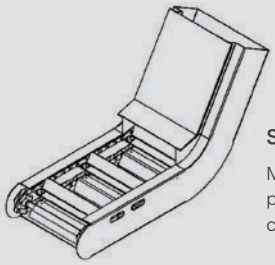
• Torque wrench crafts

Chip Conveyor Options

Neway currently offers several types of chip conveyors. Most commonly used are a chain type chip conveyor, scraper type chip conveyor, magnetic chip conveyor, or a spiral chip conveyor.

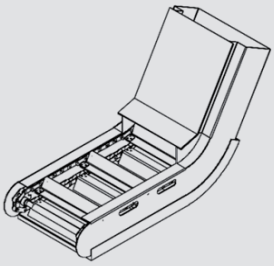
Chain Type Chip Conveyor

It is mainly used for the collection and transportation of various rolls, lumps, strips and block chips, But is not suitable for powdery chips.



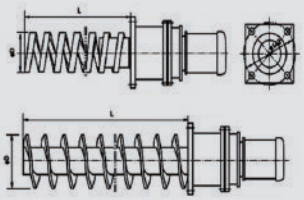
Scraper Type Chip Conveyor

Mainly used for the transport of powdered chips, not for rolling chips.



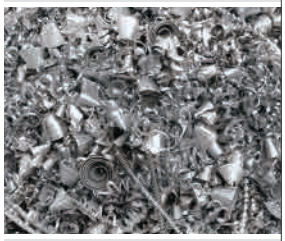
Magnetic Chip Conveyor

Ilt is mainly chosen when the transport of powder, granules and shorter iron filings (or other magnetically permeable chips) is needed. It can also separate the magnetically conductive debris from oil or cutting fluid. The magnetic chip conveyor is a quantitative chip that does not create an overload.



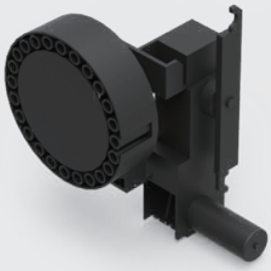
Spiral Chip Conveyor

It is mainly used for the transportation of powder, block, and short chips, especially in places with small space. Not suitable for rolling chips.

Workpiece material	rolled steel	cast iron	aluminum& nonferrous metals	hybrid (general)
Chip shape				
Advice	chain type	Chain type, scraper type, magnetic, spiral type	Chain type, scraper type, spiral type	Chain type, scraper type, spiral type

Tool Magazine Selections

Cam Quick Change Tool Magazine Type



Disk type

Neway's mechanical cam type tool change mechanism offers servo drive and allows a fast, reliable tool change for lower cycle times when several tools are required.

Tool change time: 3.45s
Maximum tool weight: 25 kg (55 lbs)
Maximum tool length: 400 mm (15.7")
Maximum tool outer diameter: ϕ125 mm(4.9") (full tools)
ϕ250 mm(9.8") (adjacent)
Capacity of tools: 24, 32, 40, 60, 80, 120...

Hydraulic Tool Magazine Type (Heavier tools)

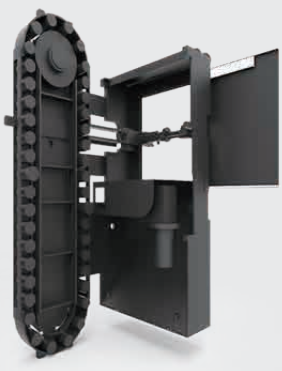
Translational tool change

Yaw type tool change

Neway utilizes a Heavy Duty translational tool change, yaw type tool change hydraulic tool magazine, the tool change mechanism is driven by oil pressure. The advantage is that it easily supports heavier tools. The tool change time is slightly longer, but it maintains the tool grip and is field and factory proven reliable.

Tool change time: 5.5s (vertical) 7.5s (horizontal)
Maximum tool weight: 35 kg (77 lbs)
Maximum tool length: 400 mm (15.7")
Maximum tool outer diameter: ϕ125 mm(4.9") (full tools)
ϕ250 mm(9.8") (adjacent)
Capacity of tools: 40, 60, 80, 120...

Synchronous Open Door Magazine Type



HSK

ISO

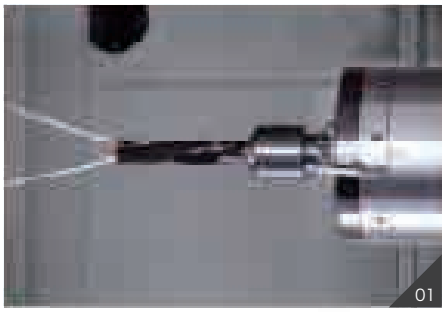
BT

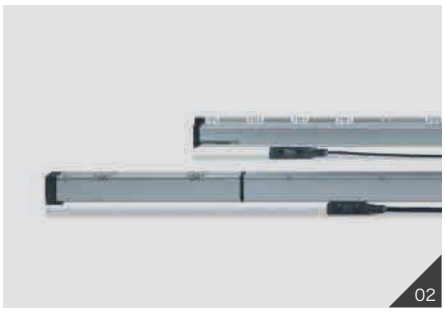
Neway's tool change action and door opening action are performed simultaneously. There is no waiting time for opening the door, and the tool change speed is extremely fast especially considering the weight of the tool.

Tool change time: 2.3s
Maximum tool weight: 20 kg (44lbs)
Maximum tool length: 500 mm (19.7")
The maximum outer diameter of the tool: ϕ115 mm(4.5") (full tools)
ϕ230 mm (9") (adjacent)
The number of tools: 40, 60, 80, 120...

Support multiple types of tool holders

Available Options


01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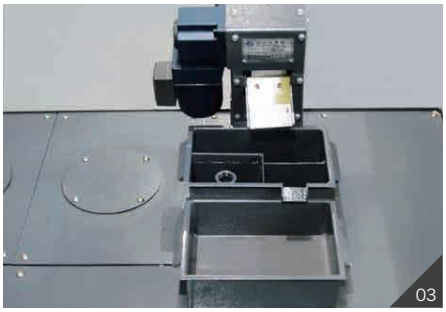
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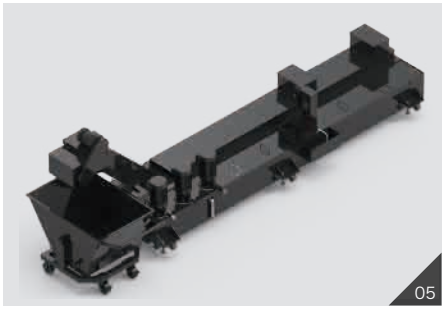
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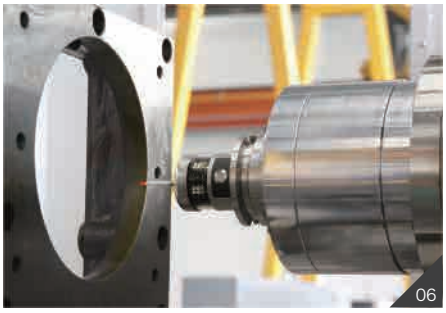
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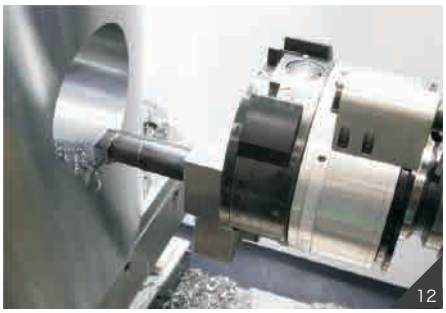
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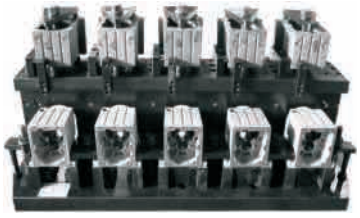
01 Coolant through spindle
02 Linear scale
03 Oil skimmer
04 Oil mist collector/separator
05 Special chip conveyor
06 Workpiece measurement
07 Tool breakage detection
08 Rotary window
09 Water gun
10 Multiple pallets
11 Worktable surface oil channel interface
12 CNC facing head plate
13 Chilled ball screw option

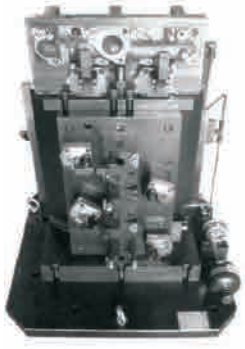
Fixtures



Valve body

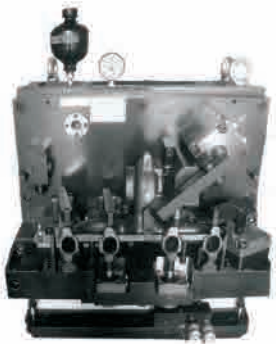
Housing

Valve body



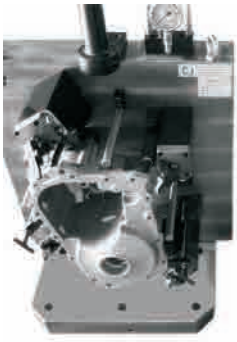
The exhaust pipe

Housing

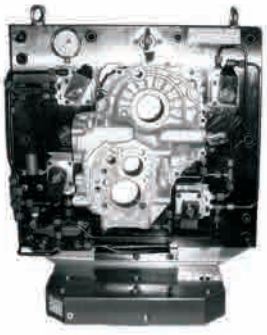


The exhaust pipe

Cylinder block



Housing



Housing

Knuckle

NEWAY

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