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E180208

Vertical Machining Center

■ Value & Performance / Designed for Precision





Year built: 1987
 Facility size:
 25000sqm (Nantou Plant)
 6600sqm (Taiping Plant)
 2450sqm (Head office)



Serious Quality Inspection



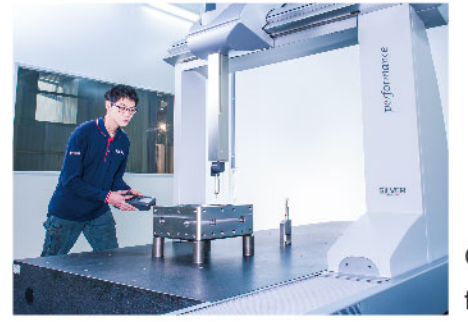
BALLBAR TEST
 Every machine is inspected by a Ballbar test to ensure machining accuracy.



SPINDLE NOISE & VIBRATION CHECK



LASER INSPECTION SYSTEM
 All 3 axes are checked by a Laser test to ensure positioning and repeating accuracy.

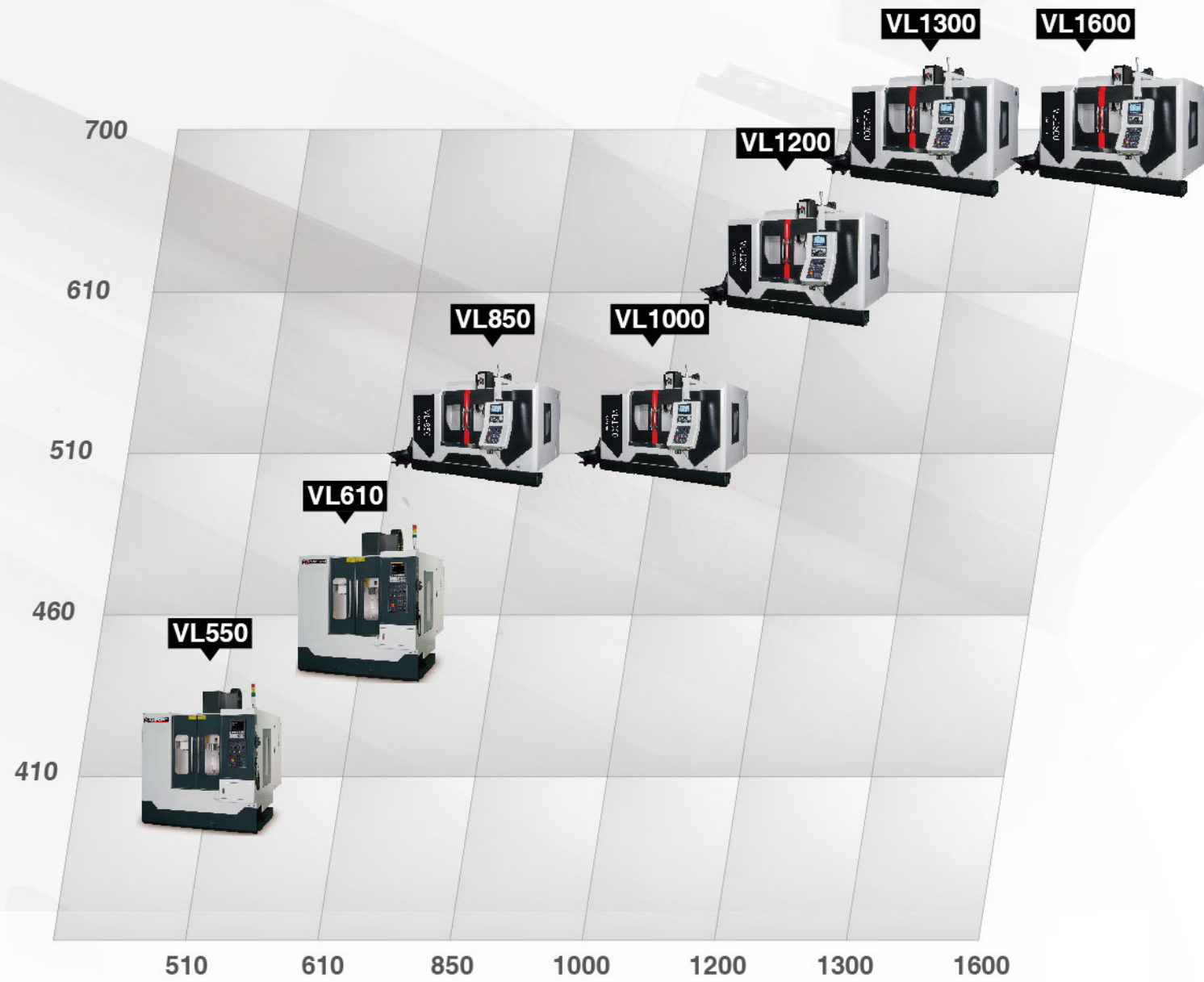


CMM measurement for materials

Positioning accuracy: $\pm 0.005 / 300$ mm
Repeating accuracy: $\pm 0.003 / 300$ mm

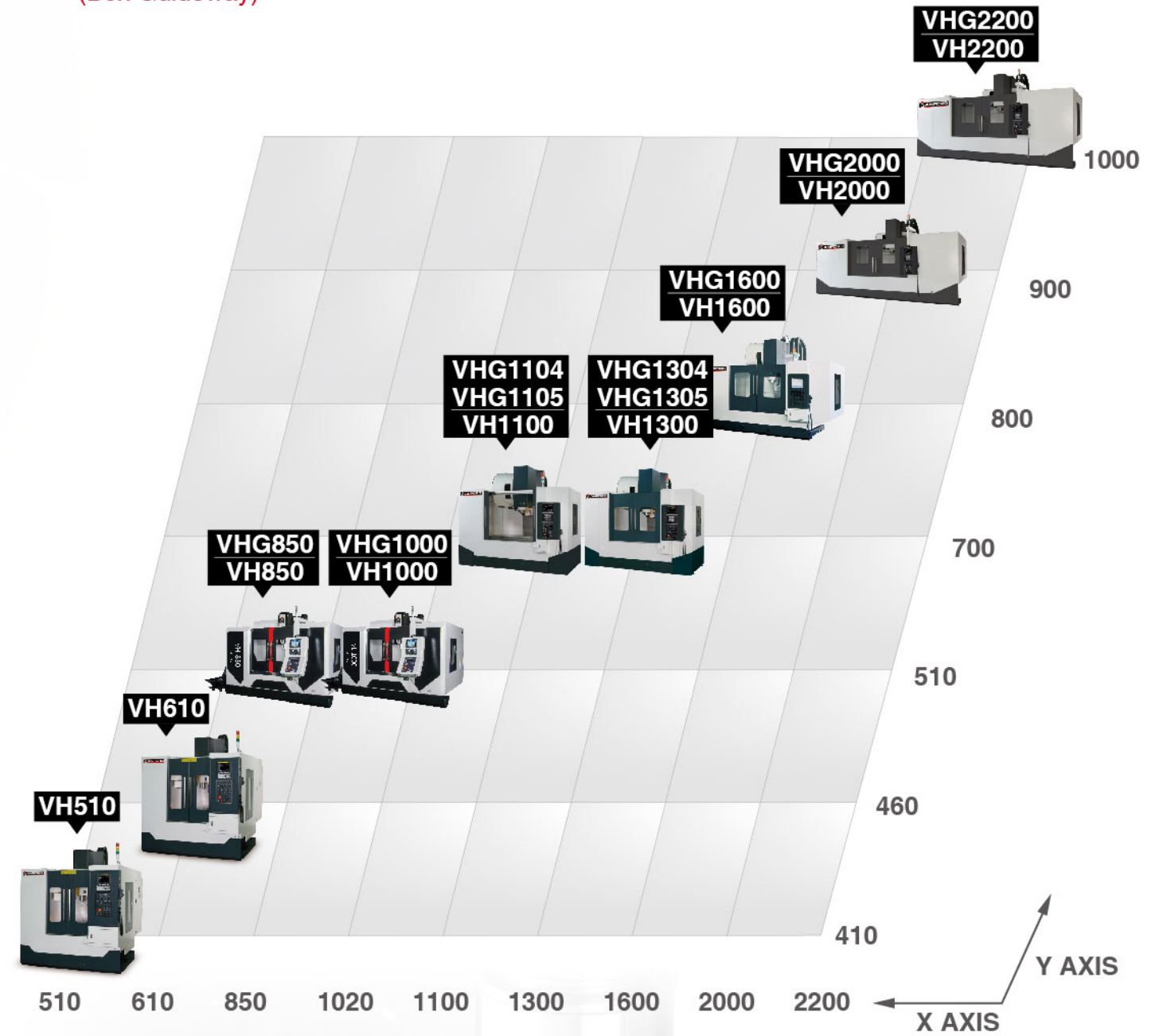
VL SERIES

(Linear Guideway)



VH / VH G SERIES

(Box Guideway)



VL550 / VH510

XYZ travel: 510 / 410 / 460 mm

#40 Belt Drive Spindle 8,000 rpm

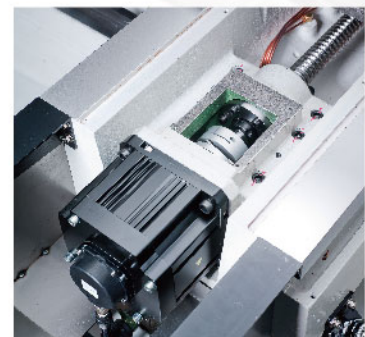
#40 Direct Drive Spindle

10,000 – 15,000 rpm (Optional)

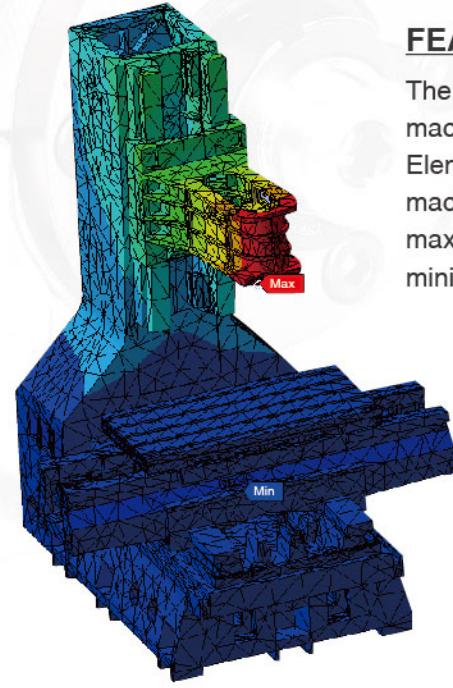


VH510

Hardened
Slideways

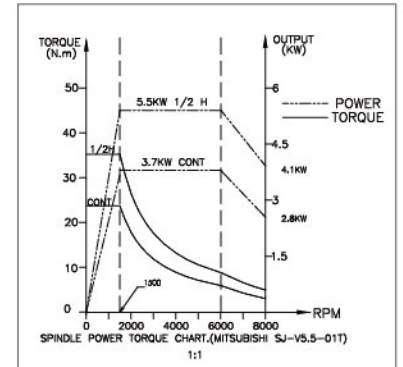


Axis motors are direct coupled with ball screws, featuring highly efficient motion control, high response and low noise.

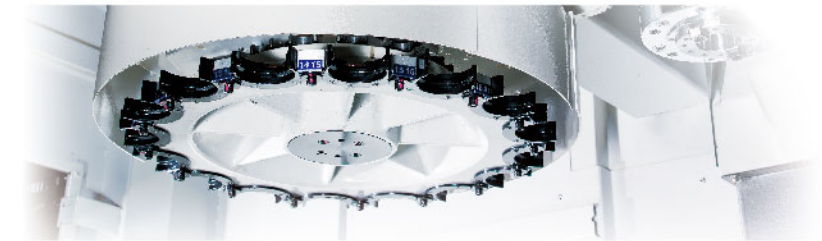


FEA

The Manford VH Box Way Series machining centers are all Finite Element Analysis (FEA) designed. The machine structure is optimized for maximum mechanical rigidity but with minimum cast iron material used.



3.7 / 5.5 KW for VL 510 / VH 510



Reliable Armless Type ATC

Standard with 12 tools Armless type Arm type 16T is optional.

VL610 / VH610

XYZ travel: 610 / 460 / 510 mm

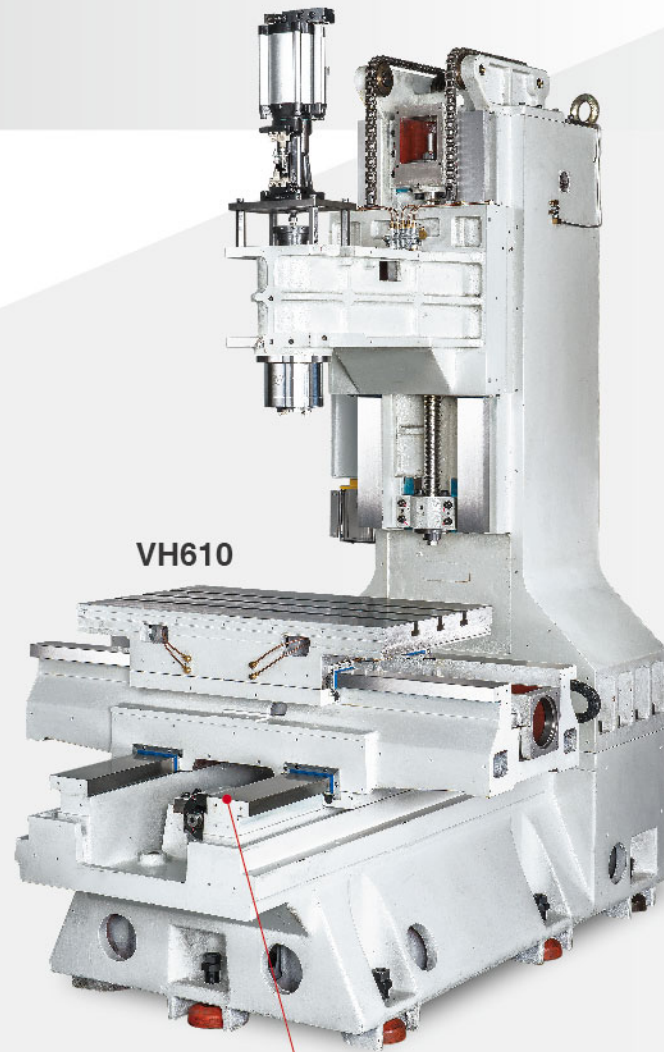
#40 Belt Drive Spindle 8,000 rpm

#40 Direct Drive Spindle

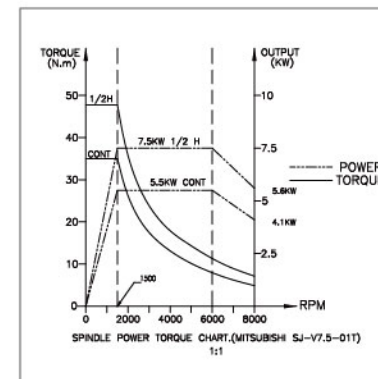
10,000 – 15,000 rpm (Optional)

#40 Built-in Spindle

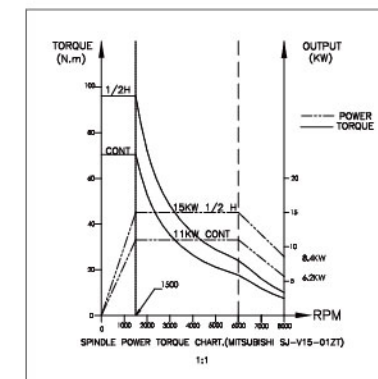
24,000 rpm (Optional)



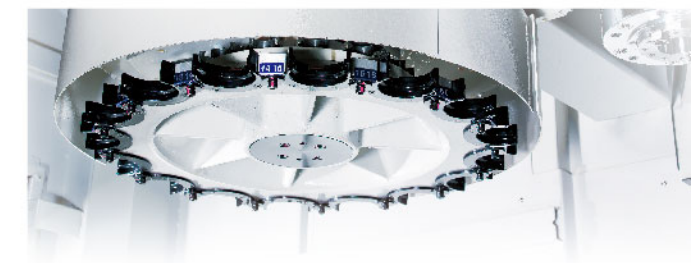
**Hardened
Slideways**



5.5 / 7.5 KW for VL 610 / VH 610



7.5 / 11 KW for VH610 (optional)



Reliable Armless Type ATC

Standard with 16 tools Armless type
Arm type 24T is optional.

VL850 / VL1000 VH850 / VH1000

VL850/VH850 XYZ travel: 850 / 510 / 560 mm

VL1000/VH1000 XYZ travel: 1020 / 510 / 560 mm

#40 Belt Drive Spindle 8,000 rpm

#40 Direct Drive Spindle

10,000 – 15,000 rpm (Optional)



Hardened
Slideways



The "A" shaped machine column features extra large conjunction area with this machine base so that the center gravity is lowered. This enhances the cutting stability and damping coefficient as well as achieving a high surface finish of workpieces.



Cutting Air Blast

Coolant shower efficiently removes the cutting chips and the cutting heat.



The front loading / unloading coolant tank with chip auger features space saving, easy chip collection and machine cleaning.

VHG850 / VHG1000

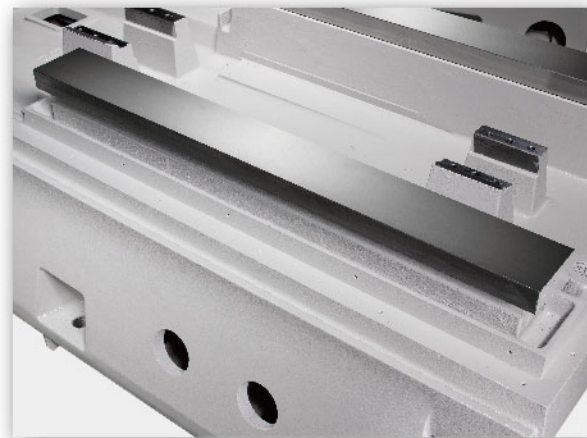
VHG850 XYZ travel: 850/510/560mm

VHG1000 XYZ travel: 1020/510/560mm

#40 Gear Drive Spindle 8,000 rpm



Large flow chip flushing function prevents cutting chips from accumulating inside the chip enclosure, bringing heat out of working area.



Designed for oil-coolant separation.



Hardened
Slideways



Precision Hand Scraping

Every contact sliding surface is applied with Turcite B that maximizes the durability of slideways and features optimum damping coefficient. The mating surface is precision hand scraped to increase the flatness and improve geometric accuracy of the whole assembly.

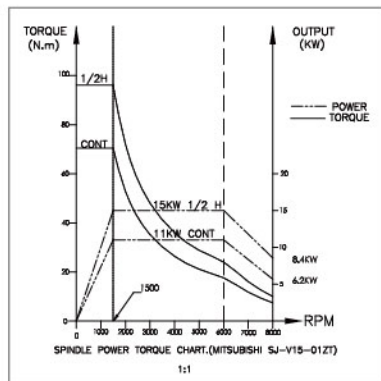


VL1200

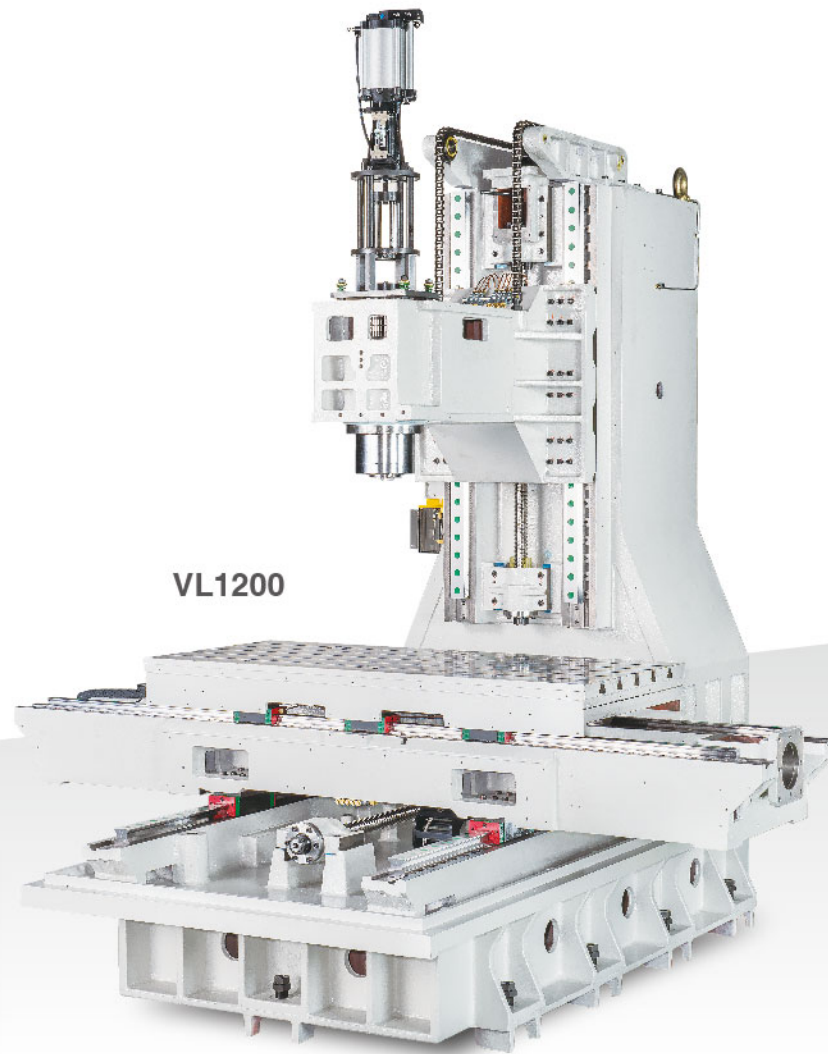
#40 Belt Drive Spindle 8,000 rpm

#40 Direct Drive Spindle

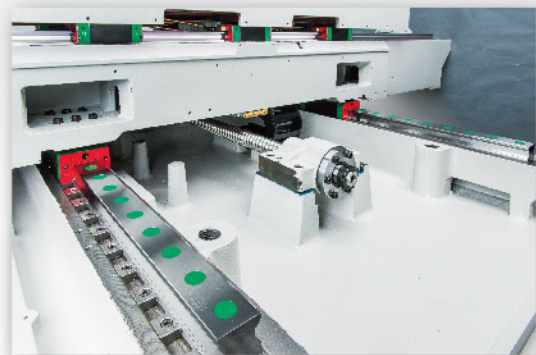
10,000 – 15,000 rpm (Optional)



7.5 / 11 KW for VL1200

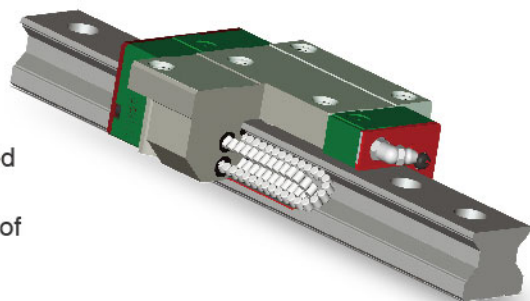


VL1200



Roller type linear guide ways

The Linear Motion Guideways feature low friction and free from stick-and-slip problems. Such the characteristics are especially suitable for high speed 3D cutting and finishing. The quality of workpiece surface is increased; the need of manual polishing of workpiece surfaces is reduced.



Value is Originated from Efficiency



Topic: M1.0 tapping on square array
 Tool: Tapper M1.0 P 0.25mm
 Tapping speed (max): 6,000rpm / 1,250mm/rpm
 No. of holes: 1024 (32 X 32)
 Machining: Rigid tapping
 Time: 26'57"/1024 (1.68sec/hole)

For mold and die makers, an ultra high speed machine to handle deep cavities or to clear small radius corners is the key to avoid expensive EDM processes.

VH1100 / VH1300

VH1100 XYZ travel: 1100 / 700 / 610 mm

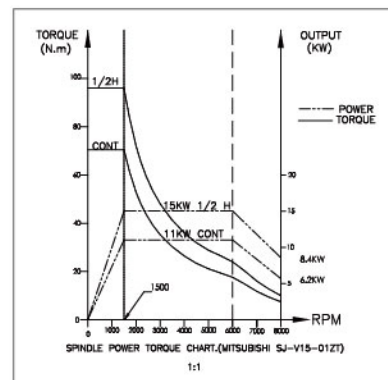
VH1300 XYZ travel: 1300 / 700 / 710 mm

#40 Belt Drive Spindle 8,000 rpm

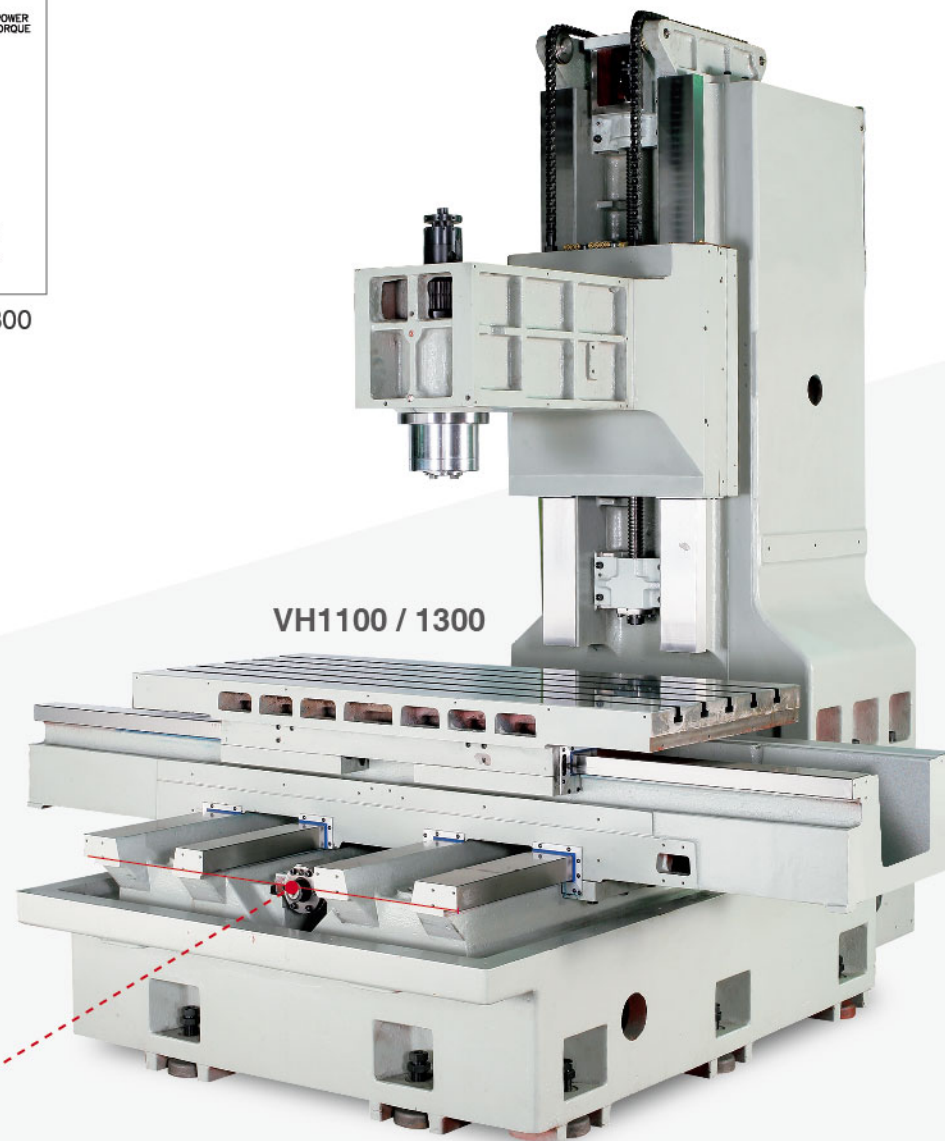
#50 Belt Drive Spindle 6,000 rpm

#40 Direct Drive Spindle

10,000 – 15,000 rpm (Optional)



7.5 / 11 KW for VH1100 / 1300



Extra Wide
1,000 mm



VHG1104 / VHG1304

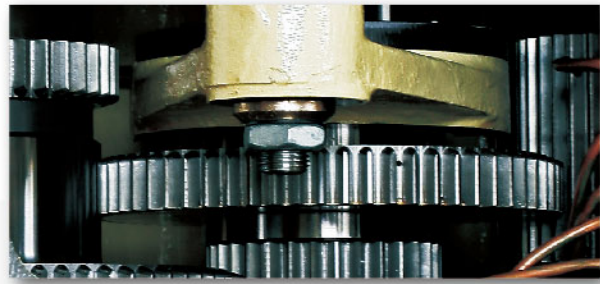
#40 Gear Drive Spindle 8,000 rpm

VHG1105 / VHG1305

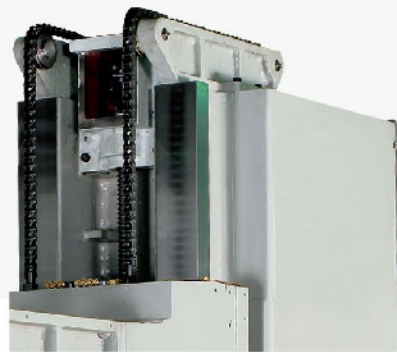
#50 Gear Drive Spindle 6,000 rpm

VH1104/1105 XYZ travel: 1100 / 700 / 710 mm

VH1304/1305 XYZ travel: 1300 / 700 / 710 mm



Japan Hamada gears "0" grade



COUNTER BALANCE
The maintenance-free counter balance block glides through a guiding bar. The smooth reciprocating motion increases workpiece surface finish especially during high speed cutting.



VHG1305



High pressure water chip removal

VL1300 / VL1600

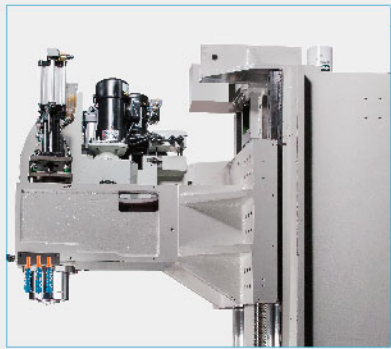
VL1300 XYZ travel: 1300 / 700 / 700 mm

VL1600 XYZ travel: 1600 / 700 / 700 mm

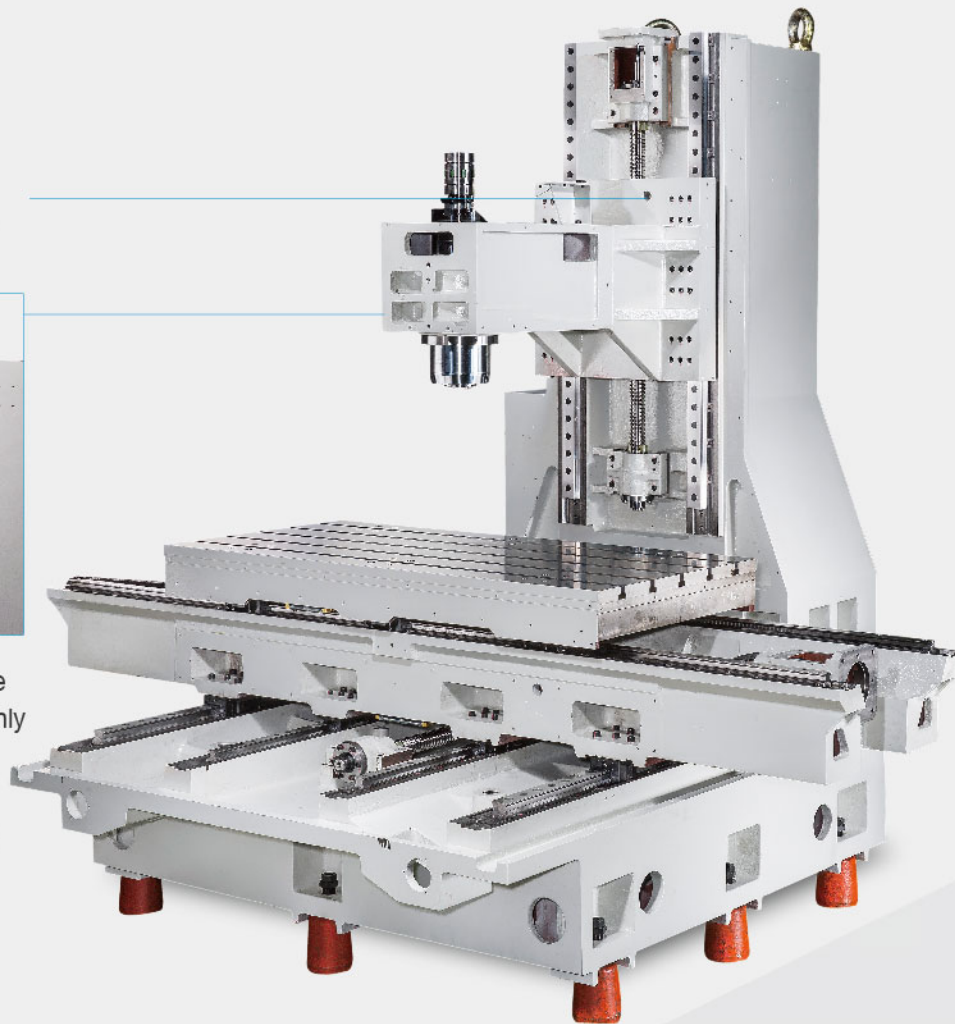
#40 Belt Drive Spindle 8,000 rpm

#50 Belt Drive Spindle 6,000 rpm

The without counter weight balance design provides better cutting performance on surface.

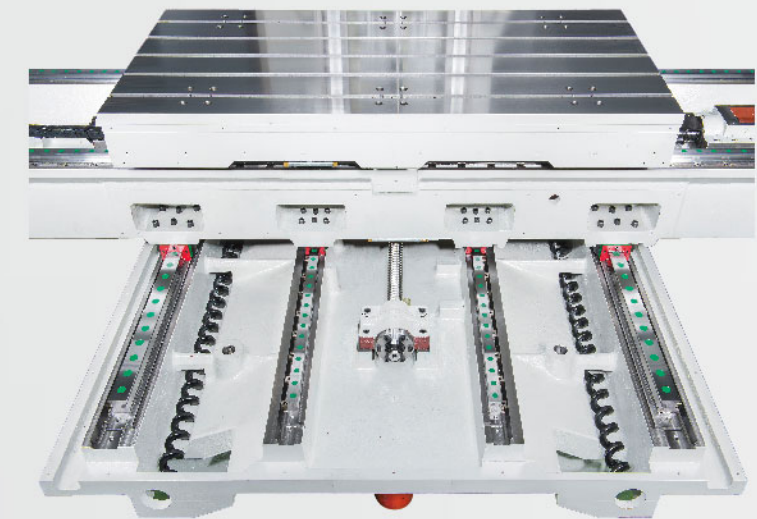


The sufficient depth from spindle center to machine column not only accommodates 700 mm Y-axis travel but also enables easy access for large diameter facing milling cutter.



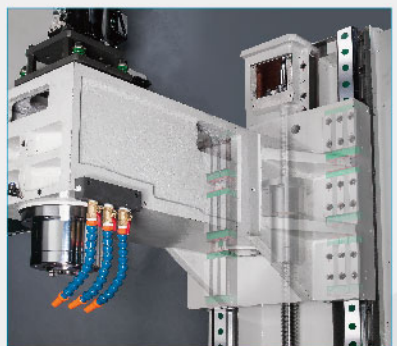
BT#50, 6000 R.P.M. Spindle (optional)

This type of spindle is ideal for heavy cutting application that results in higher material removal rate. In addition, the spindle also features high precision and low thermal growth.

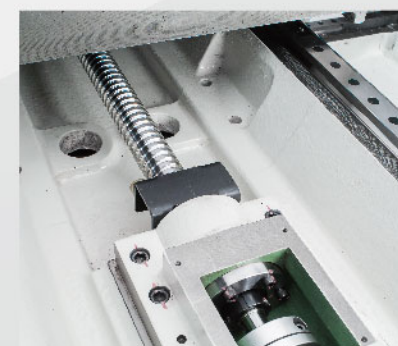
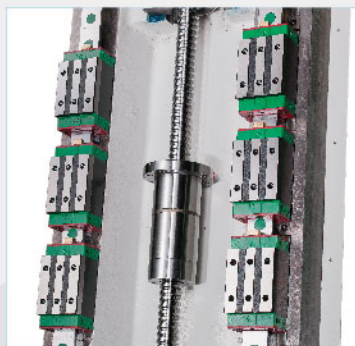


Double Chip Augers

The double chip augers deliver chips out of machine during cutting, that prevent chips from depositing in the machine. Another benefit is to save time in chip removing by the operator.

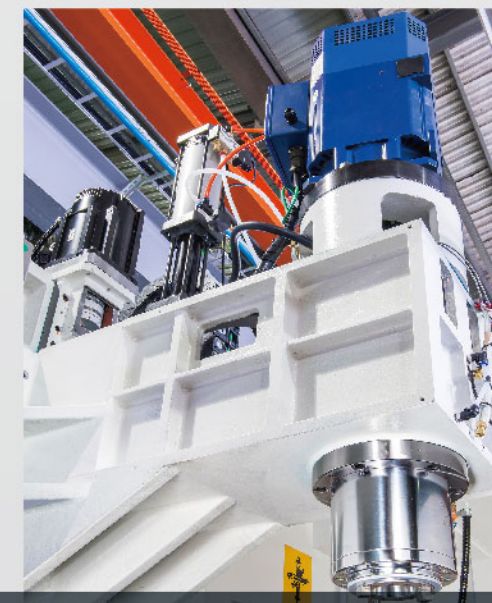


Six Roller Shoes are employed on the machine column that firmly supports the headstock to perform heavy duty cutting.



45 mm. Oversized Ball Screws

The VL1300/1600 employs high precision fine ground ball screws for optimum motion control accuracy.



VH1600 / VH2000

#40 Belt Drive Spindle 8,000 rpm

VHG1600 / VHG2000

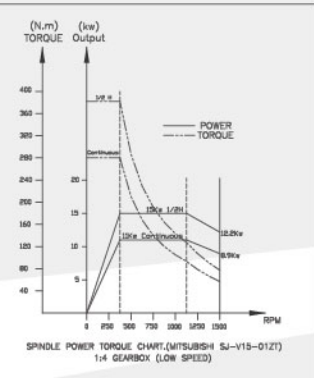
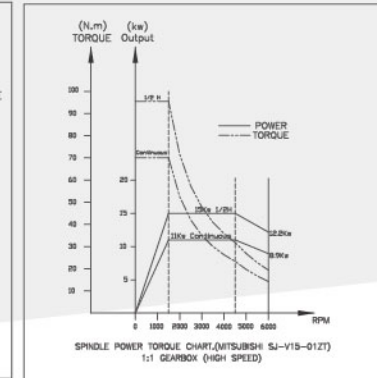
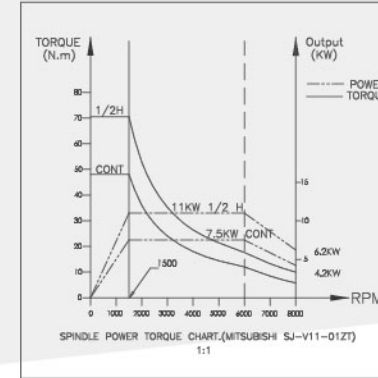
#50 Gear Drive Spindle 6,000 rpm

VH1600 / VHG1600

XYZ travel:
1600 / 800 / 800 mm

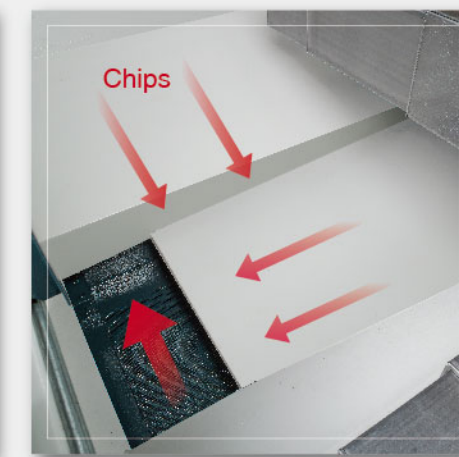
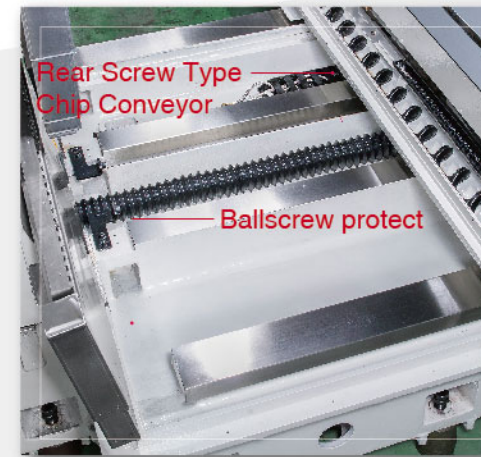
VH2000 / VHG2000

XYZ travel:
2000 / 900 / 800 mm



11 / 15 KW for VH1600 / 2000

11 / 15 KW for VHG1600 / 2000



Large flow chip flushing function prevents cutting chips from accumulating inside the chip enclosure, bringing heat out of working area.

4 SLIDEWAYS



Semi guarding (optional)

VH2200

#40 Belt Drive Spindle 8,000 rpm

VHG2200

#50 Gear Drive Spindle 6,000 rpm

VH2200 / VHG2200

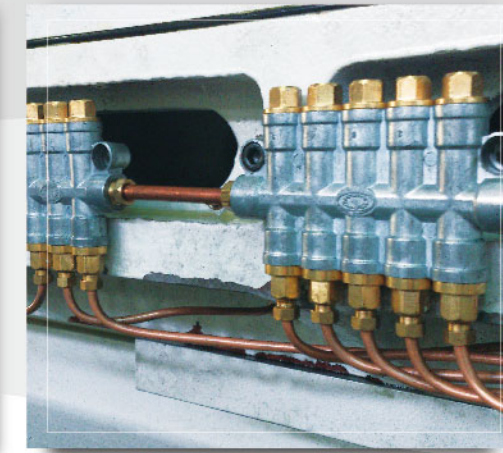
XYZ travel: 2200 / 1000 / 800 mm



High quality electrical components are adopted in the cabinet. The well organized wire arrangement is easy for maintenance and service.



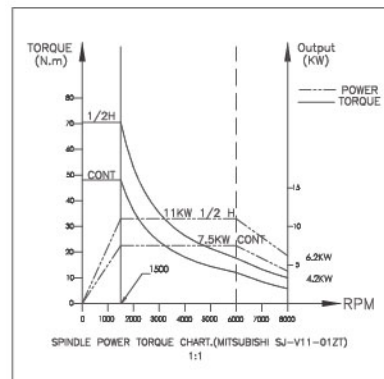
The swivel operation panel features easy operation; The ergonomic design facilitates easy workpiece set up.



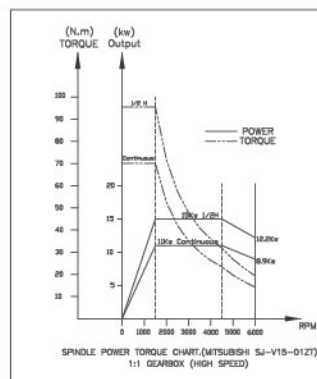
The lubrication oil pipe is made of copper instead of plastic or aluminum, featuring long term chemical stability that prevents the oil pipes being clogged resulting in severe damage caused by slideways' lubrication failure.



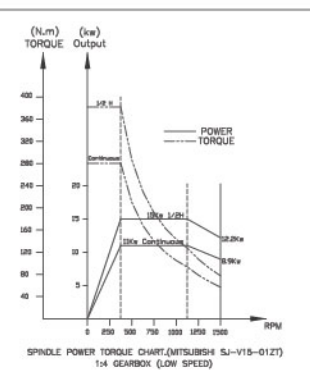
Refrigerated oil is circulated around the spindle to remove heat from the cartridge. It keeps the spindle unit in a stable and constant temperature range. Eventually the cutting accuracy and tool life time is improved.



11 / 15 KW for VH2200

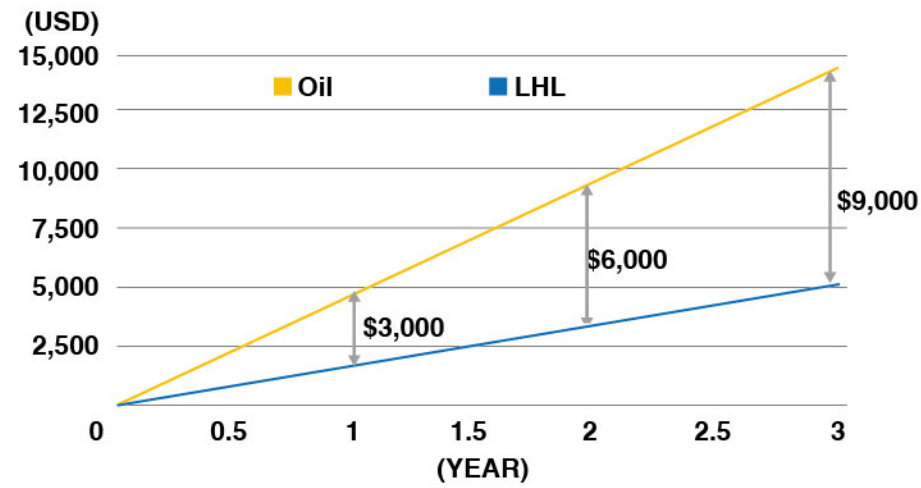


11 / 15 KW for VHG2200

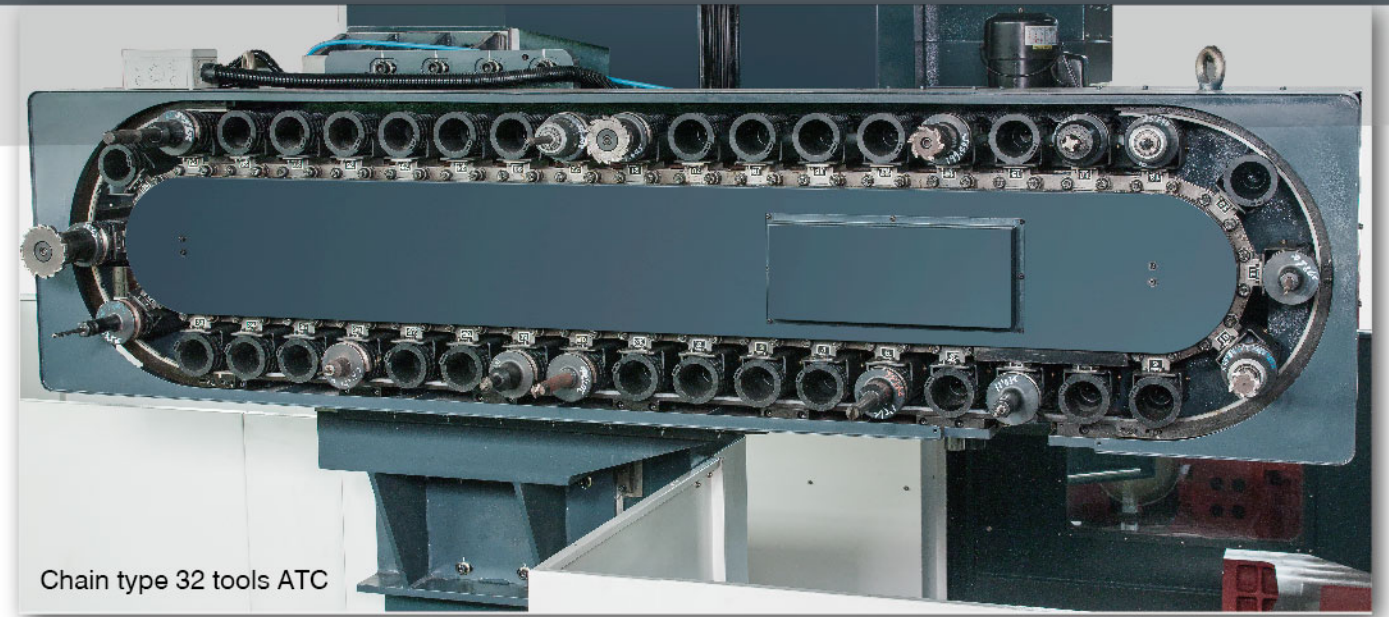


OPTIONAL

LHL Vs Oil cost comparison (Every Year)



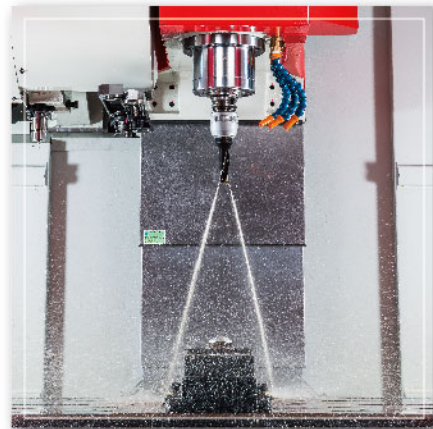
Compared to high velocity lubrication oil, the med-pressure grease system uses 90% less oil, and the pump motor consumes 80% less electricity.



Chain type 32 tools ATC



Spindle oil cooler



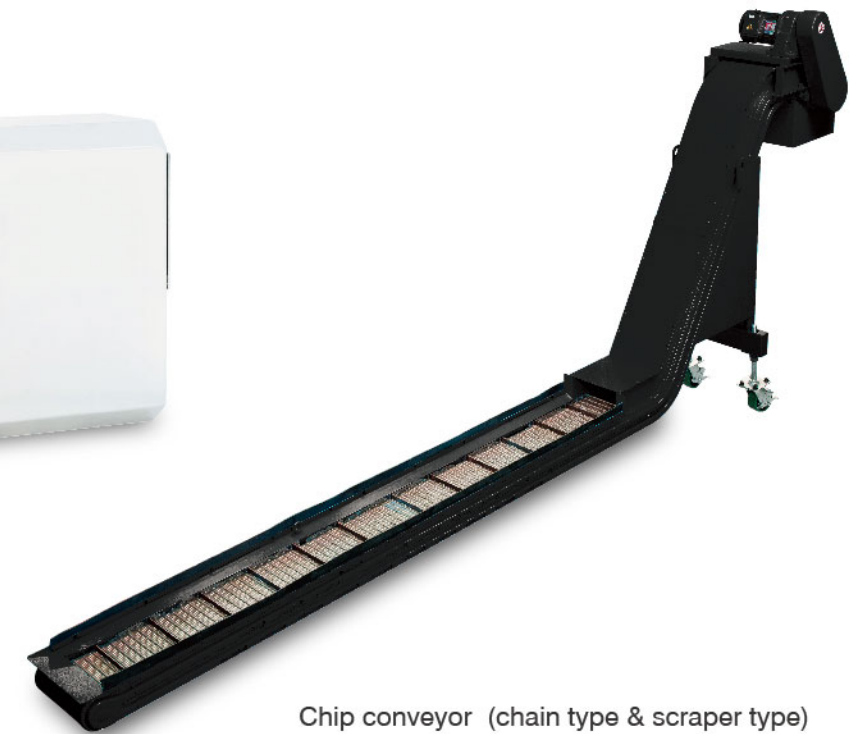
CTS system



CTS filter type 30 bar



NC rotary table



Chip conveyor (chain type & scraper type)



Spindle coolant system



Tool length measurement



Work piece measurement

STANDARD ACCESSORIES

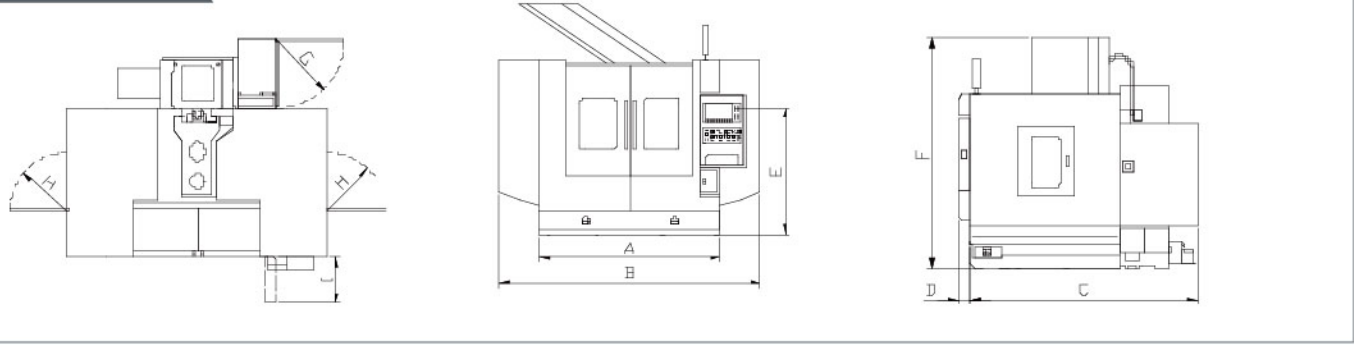
- Rigid tapping
- RS-232/RJ45 interface
- Auto power off
- Auto lubrication
- LED work light
- Program light
- Heat exchanger for electrical cabinet
- Full guarding
- Remote handwheel
- Leveling bolts & plate
- Tools & box
- Operation manual
- Spindle oil cooler (VHG Series)

OPTIONAL ACCESSORIES

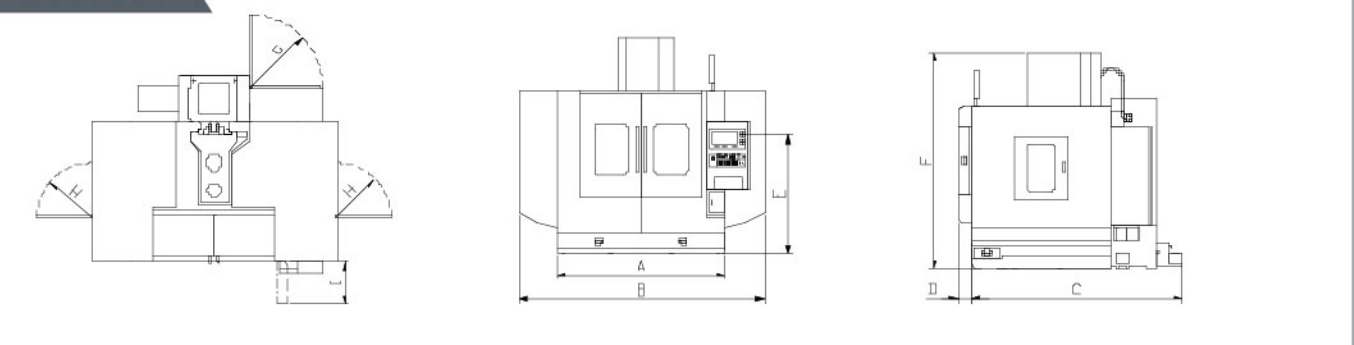
- Spindle oil cooler
- High pressure coolant flush
- Air conditioner for electrical cabinet
- Coolant through spindle center
- Oil skimmer
- Screw type chip conveyor
- Chain type chip conveyor
- Scraper type chip conveyor
- Oil through tool holder
- 4th axis
- CE electrical box
- DRO
- Transformer

Machine Dimensions

TYPE A



TYPE B



TYPE A Unit : mm

	VH510	VH610	VH1100 VHG1104 VHG1105	VH1300 VHG1304 VHG1305
A			2200	2200
B	2000	2160	3200	3200
C	2140	2270	2665	2665
D	165	165	160	160
E	1650	1650	1650	1650
F	2460	2550	3080	3080
G	R831	R831	R831	R830
H	R653	R653	R768	R768
I	570	570	570	570

TYPE B Unit : mm

	VH/VHG850 VH/VHG1000	VH1600 VHG1600	VH2000 VHG2000	VH2200 VHG2200
A		3300	3480	4470
B	2900	4400	5500	6130
C	2055	3170	3275	3732
D	160	160	160	461
E	1650	1650	1650	1700
F	2850	3300	3300	3661
G	R831	R981	R981	R981
H	R708	R913	R913	R938
I	570	570	570	673

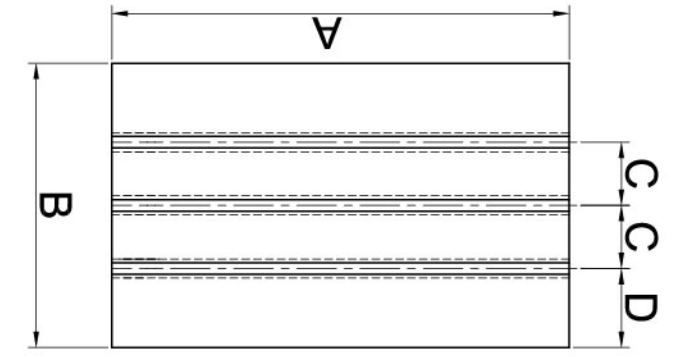
TYPE A Unit:mm

	VL510	VL610	VL1200
A			2200
B	2000	2160	3450
C	2140	2270	2645
D	165	165	160
E	1650	1650	1650
F	2460	2550	2950
G	R831	R831	R831
H	R653	R653	R708
I	570	570	600

TYPE B Unit:mm

	VL850/1000	VL1300	VL1600
A			
B	2900	3650	4370
C	2050	2490	2490
D	160	556	556
E	1650	1700	1700
F	2850	3050	3050
G	R831	R831	R831
H	R708	R873	R873
I	570	555	555

Table Sizes



MODEL	A	B	C	D	T-slot Q'ty
VL510	600	320	100	60	3
VL610	800	450	100	125	3
VL850	1000	500	100	50	5
VL1000	1200	500	100	50	5
VL1200	1300	600	100	100	5
VL1300	1450	700	125	100	5
VL1600	1750	700	125	100	5

MODEL	A	B	C	D	T-slot Q'ty
VH-510	600	370	100	85	3
VH-610	800	450	100	125	3
VH-850	1000	500	100	50	5
VH-1000	1200	500	100	50	5
VH-1100	1300	650	100	125	5
VH-1300	1500	650	100	125	5
VH-1600	1800	840	150	140	5
VH-2000	2200	850	150	150	5
VH-2200	2400	1000	150	50	7

Pull Stud

BT

MODEL	L	L1	L2	L3	L4	L5	D	D1	d1	d2	W	G	theta
BT40 45	60	35	5	28	3	6	15	23	10	17	19	M16	45

BT-CTS

MODEL	L	L1	L2	L3	L4	L5	D	D1	d1	d2	W	G	t	theta
BT40 45-COOLANT	60	35	5	28	3	6	15	23	10	17	19	M16	4	45

CAT

MODEL	L	L1	L2	D	d	d1	G	theta	L
CAT40 45-A	1.500	0.640	0.440	0.074	0.940	0.490	5/8"-11	45	1.500

DIN

MODEL	L	L1	L2	D	d	d1	d2	W	t
DIN69872A-M16	54	26	20	19	23	14	17	19	-

DIN-CTS

MODEL	L	L1	L2	D	d	d1	d2	W	t
DIN69872A-M16	54	26	20	19	23	14	17	19	7.5

Specifications

*Opt.

LINEAR WAYS	VL550	VL610	VL850	VL1000	VL1200	VL1300	VL1600
TRAVEL							
X/Y/Z travel	510 / 410 / 460 mm	610 / 460 / 510 mm	850/510/560mm	1,020 / 510 / 560 mm	1,200 / 610 / 610 mm	1,300 / 700 / 700mm	1,600 / 700 / 700 mm
XYZ ballscrews	C3 32 mm	C3 40 mm	C3 40mm	C3 40 mm	C3 40 mm	C3 45 mm	
Spindle nose to table surface	130~590 mm	125~635 mm	150~710mm	150~710 mm	150~760 mm	BT-40: 130~830mm	BT-50: 130~800mm
Spindle center to column surface (guide way surface)	430 mm	553 mm	608 mm	608 mm	717 mm	770 mm	
TABLE							
Table size	600 x 320 mm	800 x 450 mm	1,000 X 500mm	1,200 x 500 mm	1,300 x 600 mm	1,450 x 700 mm	1,750 x 700 mm
T-Slot (Size / Q'ty / Dist)	14 mm x 3 x 100 mm	18 mm x 3 x 100 mm	18mm X 5 X 100mm	18 mm x 5 x 100 mm	18 mm x 5 x 100 mm	18 x 5 x 125 mm	
Max. table load (Kgs)	300 Kgs	400 Kgs	500Kgs	500 Kgs	1,000 Kgs	1,000 kgs	2,200 kgs
SPINDLE							
Taper	BT40	BT40	BT40	BT40	BT40	BT40	BT50
Speed	8,000 RPM	8,000 RPM	8,000 RPM	8,000 RPM	8,000 RPM	8,000 RPM	8,000 RPM
Transmission	Belt	Belt	Belt	Belt	Belt	Belt	
FEED RATE							
Rapid feed rate of XYZ Axes	36/36/36 M/min	36/36/36 M/min	36/36/36 M/min	36/36/36 M/min	36/36/36 M/min	30 / 30 / 24 M/min	
Cutting feed rate	1~10 M / min	1~10 M / min	1~10 M / min	1~10 M / min	1~10 M / min	1~12 M/min	
AUTOMATIC TOOL CHANGER							
Tool storage capacity	Armless 12 (*Armless 20 / Arm 20)	Armless 16 (Armless 20 / Arm 20)	Arm 24 (*Chain 32)	Arm 24 (*Chain 32)	Arm 24 (*Chain 32)	Arm 24 (*Chain 32)	
Max. tool diameter	Full : 100 mm Next empty : 150 mm	Full: 90mm Next empty: 180mm	Full: 80mm Next empty: 150mm	Full: 80mm Next empty: 150mm	Full: 80mm Next empty: 150mm	BT40 Full: 80 mm Next empty :150 mm	BT50 Full :125 mm Next empty :200 mm
Max. tool length	200mm	200mm	300mm (*Chain: 350mm)	300mm (*Chain: 350mm)	300mm (*Chain: 350mm)	300mm (*Chain: 350mm)	300mm (*Chain: 400mm)
Max. tool weight	6Kgs	6Kgs	7Kgs	7Kgs	7Kgs	7Kgs	15Kgs
CNC CONTROL & MOTOR							
CNC control	MITSUBISHI (* FANUC / SIEMENS / HEIDENHAIN)						
Spindle motor	5.5 / 7.5 KW (10HP)	5.5 / 7.5 KW (10HP)	5.5 / 7.5 KW (10HP)	5.5 / 7.5 KW (10HP)	11 / 15 KW (20HP)	7.5 / 11 KW (15 HP)	
GENERAL SPECIFICATIONS							
Coolant tank capacity(L)	180	200	230	230	270	400	400
Air source	6 Kg/cm ²	6 Kg/cm ²	6 Kg/cm ²	6 Kg/cm ²	6 Kg/cm ²	6 Kg/cm ²	6 Kg/cm ²
Power supply	12 KVA	15 KVA	15 KVA	15 KVA	20 KVA	12 KVA	12 KVA
MACHINE SIZE							
Machine dimensions (LxWxH)	2,000 x 2,305 x 2,460 mm	2,160 x 2,435 x 2,550 mm	2,900 x 2,420 x 2,850 mm	2,900 x 2,420 x 2,850 mm	3,450 x 2,805 x 2,950 mm	3,650 x 2,915 x 3,050 mm	4,370 x 2,915 x 3,027 mm
Machine net weight (approx.)	2,800 KGS	3,800 KGS	5,000 KGS	5,200 KGS	6 800 KGS	7,000 KGS	10,000 KGS

The mentioned specifications & dimensions are subject to change without notice.

Specifications

*Opt.

BOX WAYS	VH510	VH610	VH850	VH1000	VH1100	VH1300	VH 1600	VH2000	VH2200
TRAVEL									
XYZ travel	510 / 410 / 460 mm	610 / 460 / 510 mm	850 / 510 / 560mm	1,020 / 510 / 560 mm	1,100 / 700 / 710 mm	1,300 / 700 / 710 mm	1,600 / 800 / 800 mm	2,000 / 900 / 800 mm	2,200 / 1,000 / 800 mm
XYZ ballscrews	C3 32 mm	C3 40 mm	C3 40 mm	C3 40 mm	C3 40 mm	C3 40 mm	C3 50 mm	C3 50 mm	C3 50 mm
Spindle nose to table surface	130~590 mm	130~640 mm	130~690 mm	130~690 mm	130~840 mm	130~840 mm	200~1,000 mm	200~1,000 mm	250~1,050 mm
Spindle center to column surface (guide way surface)	470 mm	535 mm	575 mm	575 mm	730 mm	730 mm	870 mm	870 mm	1,050 mm
TABLE									
Table size	600 x 370 mm	800 x 450 mm	1,000 x 500 mm	1,200 x 500 mm	1,300 x 650 mm	1,500 x 650 mm	1,800 x 840 mm	2,200 x 850 mm	2,400 x 1,000 mm
T-Slot (Size / Q'ty / Dist)	14 mm x 3 x 100 mm	18 mm x 3 x 100 mm	18 mm x 5 x 100 mm	18 mm x 5 x 100 mm	18 mm x 5 x 100 mm	18 mm x 5 x 100 mm	22 mm x 5 x 150 mm	22 mm x 5 x 150 mm	22 mm x 7 x 150 mm
Max. table load (Kgs)	300 Kgs	400 Kgs	750 Kgs	750 Kgs	1,000 Kgs	1,000 Kgs	2,200 Kgs	2,500 Kgs	3,000 Kgs
SPINDLE									
Taper	BT40	BT40	BT40	BT40	BT40	BT40	BT40	BT40	BT50
Speed	8,000 RPM	8,000 RPM	8,000 RPM	8,000 RPM	8,000 RPM	8,000 RPM	8,000 RPM	8,000 RPM	8,000 RPM
Transmission	Belt	Belt	Belt	Belt	Belt	Belt	Belt	Belt	Gear Head
FEED RATE									
Rapid feed rate of XYZ Axes	24 / 24 / 16 M/min	24 / 24 / 16 M/min	24 / 24 / 16 M/min	24 / 24 / 16 M/min	24 / 24 / 15 M/min	24 / 24 / 15 M/min	15 / 15 / 12 M/min	15 / 15 / 12 M/min	15 / 15 / 12 M/min
Cutting feed rate	1~10 M/min	1~10 M/min	1~10 M/min	1~10 M/min	1~10 M/min	1~10 M/min	1~10 M/min	1~10 M/min	1~10 M/min
AUTOMATIC TOOL CHANGER									
Tool storage capacity	Armless 12 (*Armless 20 / Arm 20)	Armless 16 (*Armless 20 / Arm 20)	Arm 24 (*Chain 32)	Arm 24 (*Chain 32)	Arm 24 (*Chain 32)	Arm 24 (*Chain 32)	Arm 24 (*Chain 32)	Arm 24 (*Chain 32)	Arm 24 (*Chain 32)
Max. tool diameter	Full: 100mm Next empty: 150mm	Full: 90mm Next empty: 180mm	Full: 80mm Next empty: 150mm	Full: 80mm Next empty: 150mm	Full: 80mm Next empty: 150mm	Full: 80mm Next empty: 150mm	Full: 80mm Next empty: 150mm	Full: 80mm Next empty: 150mm	Full: 125mm Next empty: 200mm
Max. tool length	200mm	200mm	300mm (*Chain: 350mm)	300mm (*Chain: 350mm)	300mm (*Chain: 350mm)	300mm (*Chain: 350mm)	300mm (*Chain: 350mm)	300mm (*Chain: 350mm)	300mm (*Chain: 400mm)
Max. tool weight	6Kgs	6Kgs	7Kgs	7Kgs	7Kgs	7Kgs	7Kgs	7Kgs	15Kgs
CNC CONTROL & MOTOR									
CNC control	MITSUBISHI (* FANUC / SIEMENS / HEIDENHAIN)								
Spindle motor	5.5 / 7.5 KW (10HP)	5.5 / 7.5 KW (10HP)	5.5 / 7.5 KW (10HP)	5.5 / 7.5 KW (10HP)	7.5 / 11 KW (15HP)	7.5 / 11 KW (15HP)	11 / 15 KW (20HP)	11 / 15 KW (20HP)	12 / 15 KW (20HP)
GENERAL SPECIFICATIONS									
Coolant tank capacity(L)	180 L	200 L	230 L	230 L	270 L	270 L	300 L	300 L	590 L
Air source	6 Kg/cm ²	6 Kg/cm ²	6Kg / cm ²	6 Kg/cm ²	6 Kg/cm ²	6 Kg/cm ²	6 Kg/cm ²	6 Kg/cm ²	6 Kg/cm ²
Power supply	12 KVA	15 KVA	15 KVA	15 KVA	20 KVA	20 KVA	35 KVA	35 KVA	35 KVA
MACHINE SIZE									
Machine dimensions (LxWxH)	2,000 x 2,305 x 2,460 mm	2,160 x 2,435 x 2,550 mm	2,900 x 2,420 x 2,850 mm	2,900 x 2,420 x 2,850 mm	3,200 x 2,825 x 3,080 mm	3,200 x 2,825 x 3,080 mm	4,400 x 3,300 x 3,300 mm	5,500 x 3,435 x 3,310 mm	6,130 x 4,200 x 3,661 mm
Machine net weight (approx.)	2,800 KGS	3,800 KGS	5,000 KGS	5,200 KGS	9,000 KGS	9,200 KGS	14 500 KGS	16 000 KGS	14,500 KGS

The mentioned specifications & dimensions are subject to change without notice.

Specifications

Gear Head series

*Opt.

BOX WAYS	VHG850	VHG1000	VHG1104	VHG1105	VHG1304	VHG1305	VHG1600	VHG2000	VHG2200
TRAVEL									
X/Y/Z travel	850 / 510 / 560 mm	1,020 / 510 / 560 mm	1,100 / 700 / 710 mm		1,300 / 700 / 710 mm		1,600 / 800 / 800 mm	2,000 / 900 / 800 mm	2,200 / 1,000 / 800 mm
XYZ ballscrews	C3 40 mm	C3 40 mm	C3 40 mm		C3 40 mm		C3 50 mm	C3 50 mm	C3 63mm
Spindle nose to table surface	140~700 mm	140~700 mm	130~840 mm		130~840 mm		200~1,000 mm	200~1,000 mm	250~1,050 mm
Spindle center to column surface (guide way surface)	575 mm	575 mm	730 mm		730 mm		870 mm	975 mm	1050 mm
TABLE									
Table size	1,000 x 500 mm	1,200 x 500 mm	1,300 x 650 mm		1,500 x 650 mm		1,800 x 840 mm	2,200 x 850 mm	2,400 x 1,000 mm
T-Slot (Size / Q'ty / Dist)	18 mm x 5 x 100 mm	18 mm x 5 x 100 mm	18 mm x 5 x 100 mm		18 mm x 5 x 100 mm		22 mm x 5 x 150 mm	22 mm x 5 x 150 mm	22 mm x 7 x 150 mm
Max. table load (Kgs)	750Kgs	750Kgs	1,000 Kgs		1,000 Kgs		2,200 Kgs	2,500 Kgs	3,000 Kgs
SPINDLE									
Taper	BT40	BT40	BT40	BT50	BT40	BT50	BT50	BT50	BT50
Speed	8,000 RPM	8,000 RPM	8,000 RPM	6,000 RPM	6,000 RPM	6,000 RPM	6,000 RPM	6,000 RPM	8,000 RPM
Transmission	Gear Head	Gear Head	Gear Head		Gear Head		Gear Head	Gear Head	Gear Head
FEED RATE									
Rapid feed rate of XYZ Axes	24 / 24 / 16 M/min	24 / 24 / 16 M/min	24 / 24 / 15 M/min		24 / 24 / 15 M/min		15 / 15 / 12 M/min	15 / 15 / 12 M/min	15/15/12 M/min
Cutting feed rate	1 ~ 10 M/min	1 ~ 10 M/min	1 ~ 10 M/min		1 ~ 10 M/min		1 ~ 10 M/min	1 ~ 10 M/min	1 ~ 10 M/min
AUTOMATIC TOOL CHANGER									
Tool storage capacity	Arm 24 (*Chain 32)	Arm 24 (*Chain 32)	Arm 24 (*Chain 32)		Arm 24 (*Chain 32)		Arm 24 (*Chain 32)	Arm 24 (*Chain 32)	Arm 24 (*Chain 32)
Max. tool diameter	Full: 80mm Next empty: 150mm	Full: 80mm Next empty: 150mm	Full: 80mm Next empty: 150mm	Full: 125mm Next empty: 200mm	Full: 80mm Next empty: 150mm	Full: 125mm Next empty: 200mm	Full : 125mm Next empty : 200 mm	Full : 125 mm Next empty : 200 mm	Full : 125 mm Next empty : 200 mm
Max. tool length	300mm (*Chain: 350mm)	300mm (*Chain: 350mm)	300mm (*Chain: 350mm)	300mm (*Chain: 400mm)	300mm (*Chain: 350mm)	300mm (*Chain: 400mm)	300mm (*Chain: 400mm)	300mm (*Chain: 400mm)	300mm (*Chain: 400mm)
Max. tool weight	7Kgs	7Kgs	7Kgs	15Kgs	7Kgs	15Kgs	15Kgs	15Kgs	15Kgs
CNC CONTROL & MOTOR									
CNC control	MITSUBISHI (* FANUC / SIEMENS / HEIDENHAIN)								
Spindle motor	7.5 / 11 KW (15HP)	7.5 / 11 KW (15HP)	7.5 / 11 KW (15HP)	11 / 15 KW (20HP)	7.5 / 11 KW (15HP)	11 / 15 KW (20HP)	11 / 15 KW (20HP)	11 / 15 KW (20HP)	12 / 15 KW (20HP)
GENERAL SPECIFICATIONS									
Coolant tank capacity(L)	230 L	230 L	270 L		270 L		300 L	300 L	590 L
Air source	6 Kg/cm ²	6 Kg/cm ²	6 Kg/cm ²		6 Kg/cm ²		6 Kg/cm ²	6 Kg/cm ²	6 Kg/cm ²
Power supply	15 KVA	15 KVA	20 KVA		20 KVA		35 KVA	35 KVA	35 KVA
MACHINE SIZE									
Machine dimensions (LxWxH)	2,900 x 2,420 x 2,850 mm	2,900 x 2,420 x 2,850 mm	3,200 x 2,825 x 3,080 mm	3,200 x 2,825 x 3,080 mm	3,200 x 2,825 x 3,080 mm	3,200 x 2,825 x 3,080 mm	4,400 x 3,330 x 3,300 mm	5,500 x 3,435 x 3,310 mm	6,130 x 4,200 x 3,661 mm
Machine net weight (approx.)	5,300 KGS	5,500 KGS	9,400 KGS	9,500 KGS	9,600 KGS	9,700 KGS	15,000 KGS	16,500 KGS	24,500KGS

The mentioned specifications & dimensions are subject to change without notice.