SOLUTION OF WORLDWIDE SALES NETWORK



Company Profile







1976 Metal processing department established on Mar. 1st.
1989 Produce over 1800 sets of knee-type milling machine monthly.
1992 Machining center R&D department established.
1994 Launch first vertical machining center MCV-610 to Asia and Europe market.
2005 Shanghai branch factory offcially established.
2007 Started constructing China manufacture & production headquarters.
Launch FG series double column machining center and start the production.
2008 Cooperate with Japan YASUNAGA corporation to develop and release the first horizontal machining center HT series to market.
2009 Invest in the technical cooperation with Italian 5ax maker on moving column and gantry type 5ax machining centers.
2010 Cooperate with Japan well-known machining center maker SNK.
2012 Produce 250 sets of Vertical tapping center monthly.
2016 Develop 5ax Moving column machining center HORNET series to market.
2018 Launch the first moving gantry type 5ax machining center TWISTER series to the market.

Twinhorn

CHI-FA MACHINERY MANUFACTURER CO., LTD.
No. 44-8, MING-CHUNG RD., SHENG-KANG DIST.,
TAICHUNG CITY, TAIWAN 42948
Tel:+886-4-2562-8747(Rep.) Fax:+886-4-2561-4199
E-mail:inquiry@twinhorn.com.tw
www.twinhorn.com.tw

SOGITECH machine tools

Via J.F. Kennedy n.9 RODANO 20090 (MI)
Tel. 02.95.35.14.39
e mail: commerciale@sogitechsrl.com

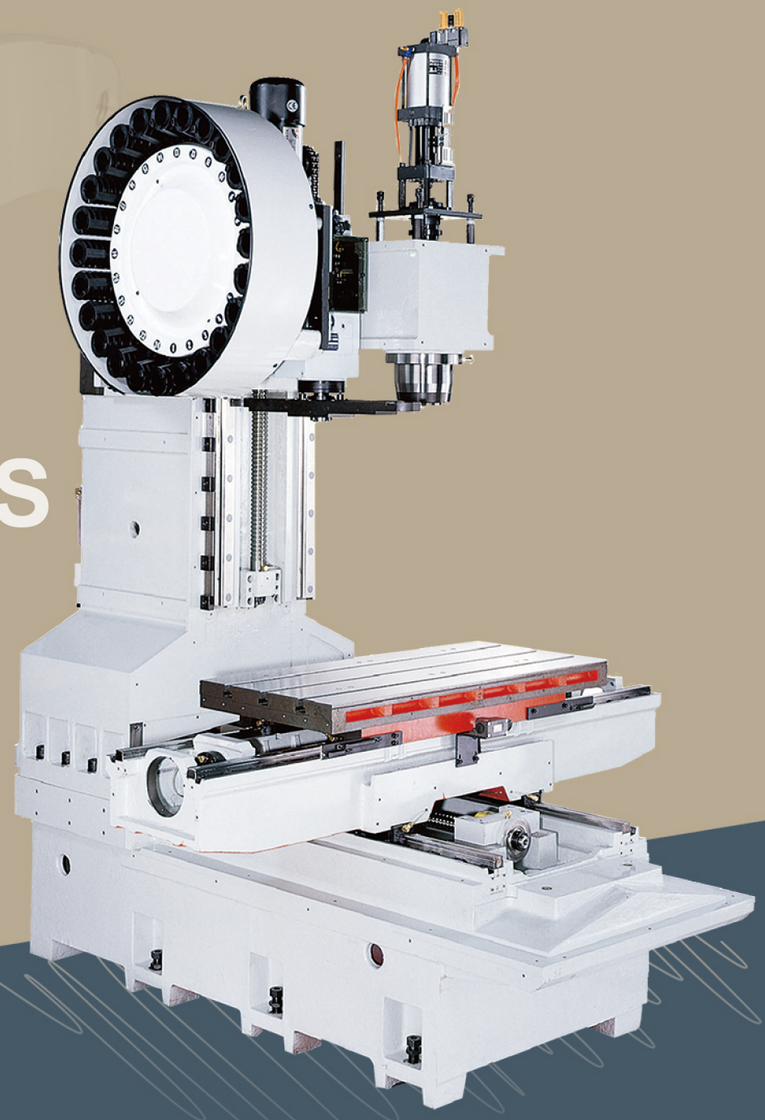
www.sogitechsrl.com

Design 201909.VH Series(E2)1000P

globalgroup ISO 9001
UKAS MANAGEMENT SYSTEMS 5965
CE

SOGITECH machine tools
www.sogitechsrl.com

VH SERIES



Vertical Machining Center

www.twinhorn.com.tw

Twinhorn

VH-850L3 SERIES

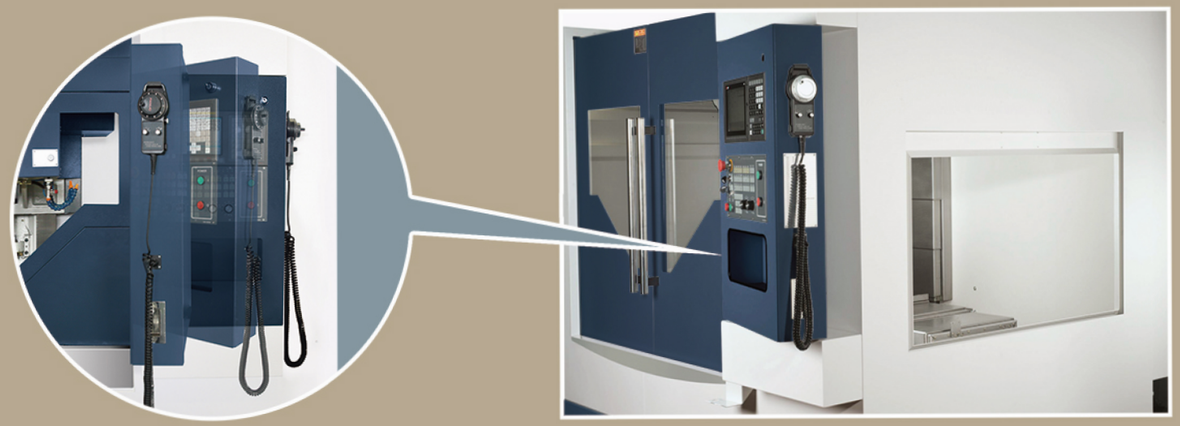
- X axis is supported by 6 pcs of sliding pads along the linear guide way.
- X / Y / Z axis linear guide way width 35 / 35 / 45 mm
- X / Y / Z axis driven by powerful servo motor and with rapid federate 30 / 30 / 24 M/min（VH-850L : 30 / 30 / 20 M/min）
- Rigid and reinforced one-piece iron casting base design with oil/water separation function.
- Quality checked by ISO-230 rule.

High Speed High Efficiency Machining Center

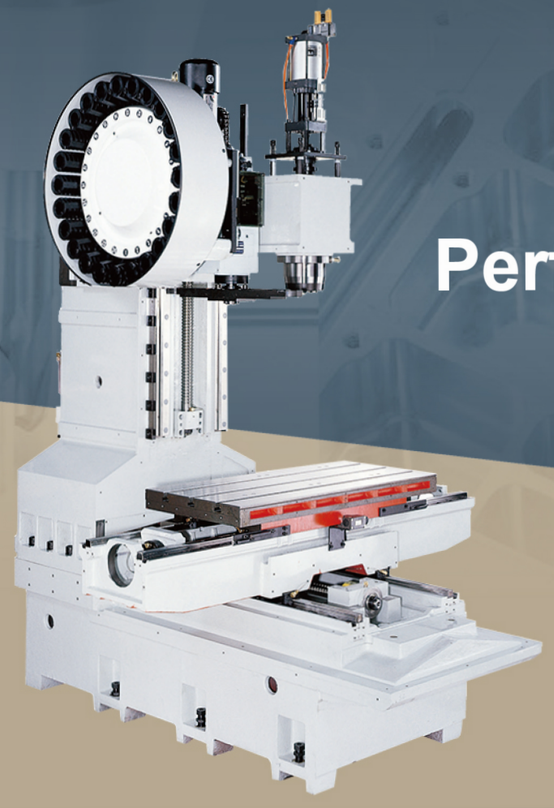


High-precision, large-span linear guide way design on the base creates superior performance on the fast movement, high rigidity and accurate positioning.

Cleaning and maintenance job will be done easily through the wide-open side windows.



Built-in type operational box with 120° adjustable rotary arm.

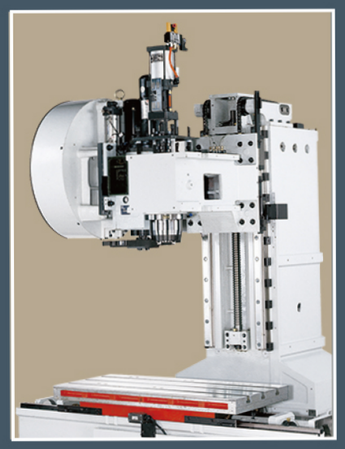


Perfect Configuration

The structure of the machine base features high-rigidity and uniform distribution of the mechanics. With horizontal heavy structure design, it forms a stable space to ensure the mechanical accuracy not to be affected by changing the level of the foundation and to carry out the excellent performance when the machine runs at high speed.

VH structure

- For VH linear guide way series, the Z axis designed without counterweight provides extremely smooth response during rapid traverse and cutting operation. Short distance between the head stock and column offsets the affect of gravity and gives less deformation.

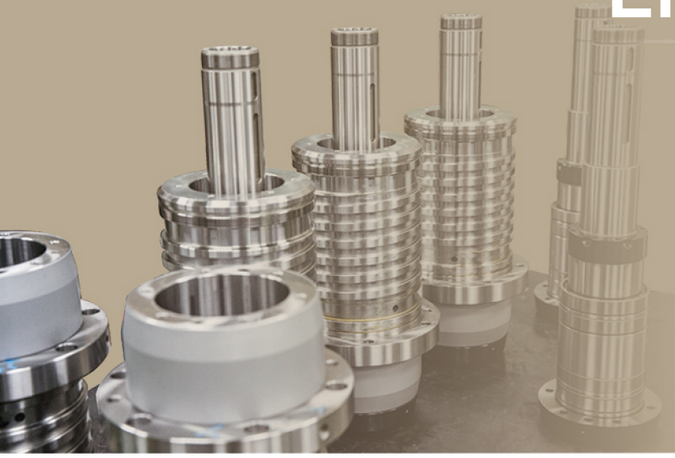


- Reversed “Y” –shaped column with extra large span gives super strong rigidity.
- Light and high-rigidity structure supports the spindle head standing upright with less deformation.

- High precision linear guide way provides high speed axis feed rate and cutting speed for light cutting materials.



Efficiency-Rigidity Spindle





Inspection



Spindle run-out check



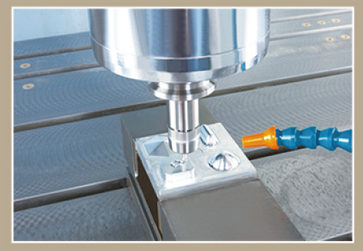
Vertical straightness of Y&Z axis



Laser test



Ball bar test



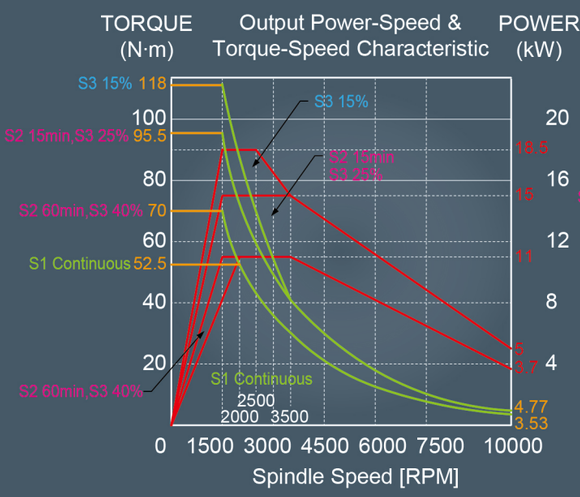
Cutting test

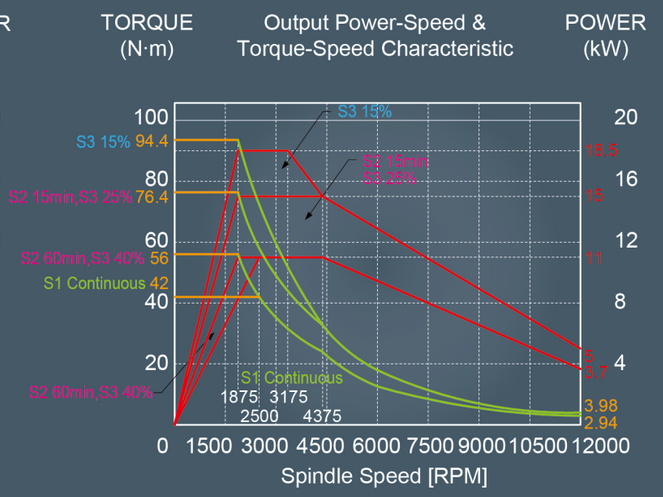
Belt type spindle

- Using 4 pcs of P4 class precision angular ball bearings to increase axial and radial loads in a large span arrangement.
- The special air curtain design gives good ability of dustproof and waterproof on the spindle.
- With the advanced floating cylinder device, when the tool is unclamped, the bearing is free from the gravity to ensure the long-term accuracy of the spindle bearing.
- Standard speed 8000 rpm transmitted by new type belt with less noise.
  (option 10000 / 12000 rpm)

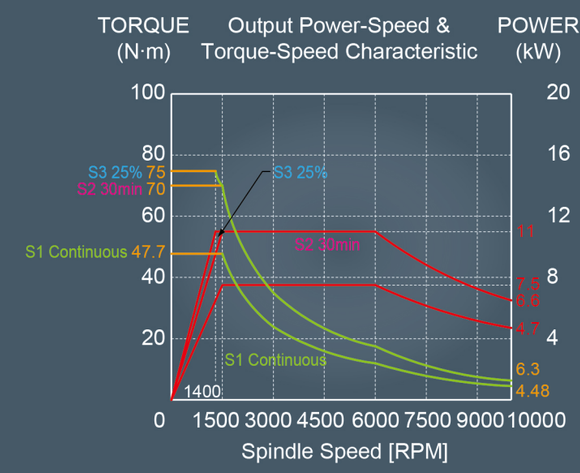
Spindle motor chart

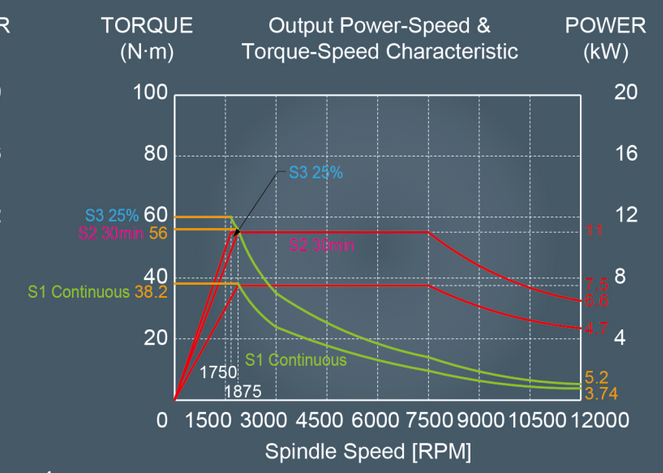
Fanuc βiI 12/10000





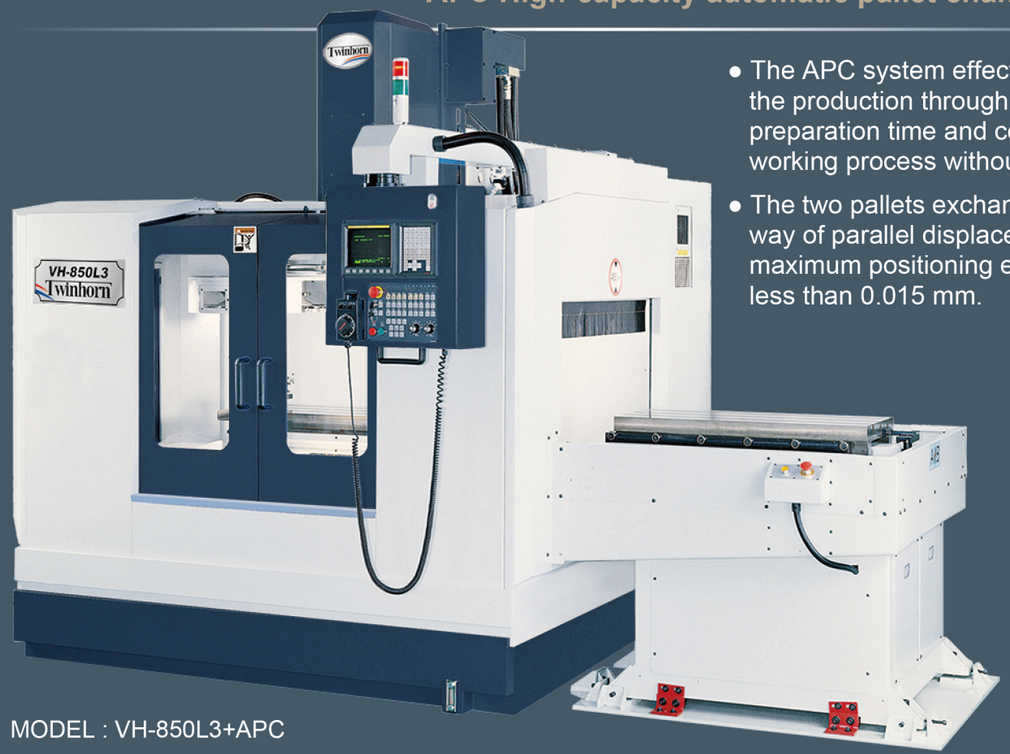
Mitsubishi SJ-DG11/100





Perfect Configuration

APC High-capacity automatic pallet changer system



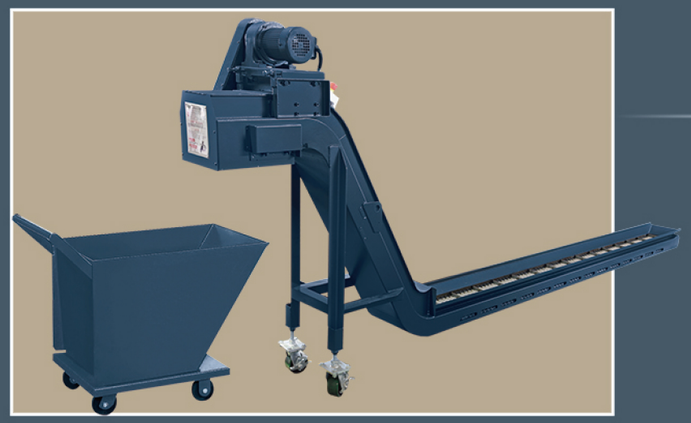
- The APC system effectively improves the production through saving the preparation time and continuing the working process without interuption.
- The two pallets exchanged by the way of parallel displacement. The maximum positioning error is less than 0.015 mm.

MODEL : VH-850L3+APC

Powerful chip flush nozzle (Opt.)

- Coolant nozzles arranged on both sides of the splash guard to achieve good chip removing during the processing and to ensure the working area is clean.





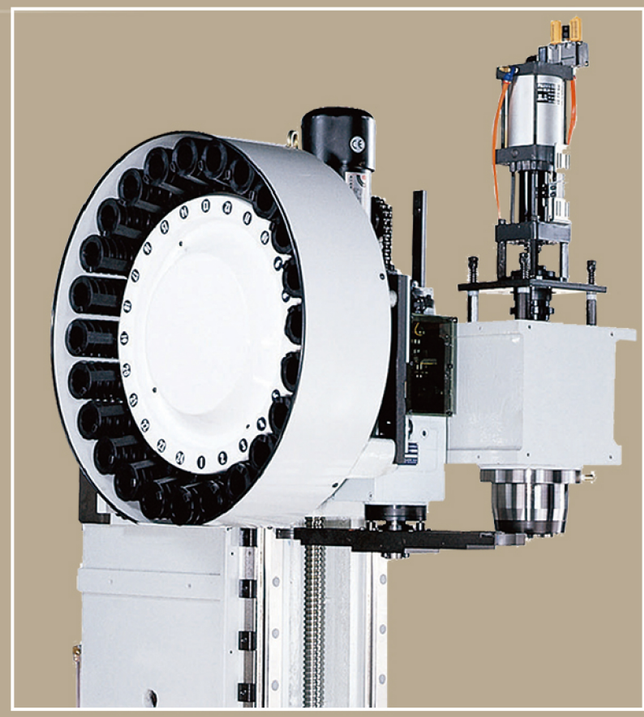
Chain type chip conveyor (Opt.)

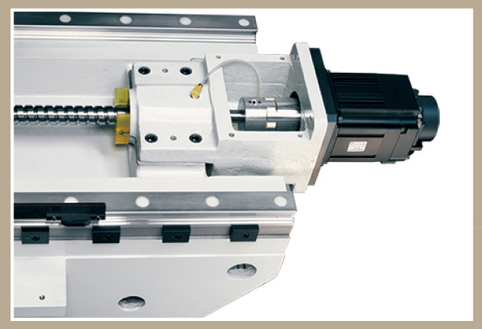
- Efficiently remove chips with less labor.
- Easy to transport, clean, and maintain.

Arm type ATC system 24T

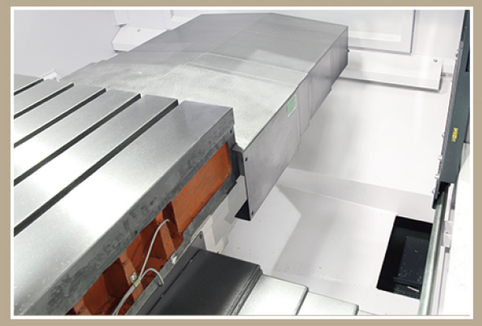
- Quick tool change mechanism improves processing efficiency .
- Prevent the dust and coolant from sticking on the tool holder.

Tool capacity	24 Tools
Type of magazine	Disc type
Max. tool diameter	80 mm / 125 mm
Max. tool weight	7 kg
Max. tool length	300 mm





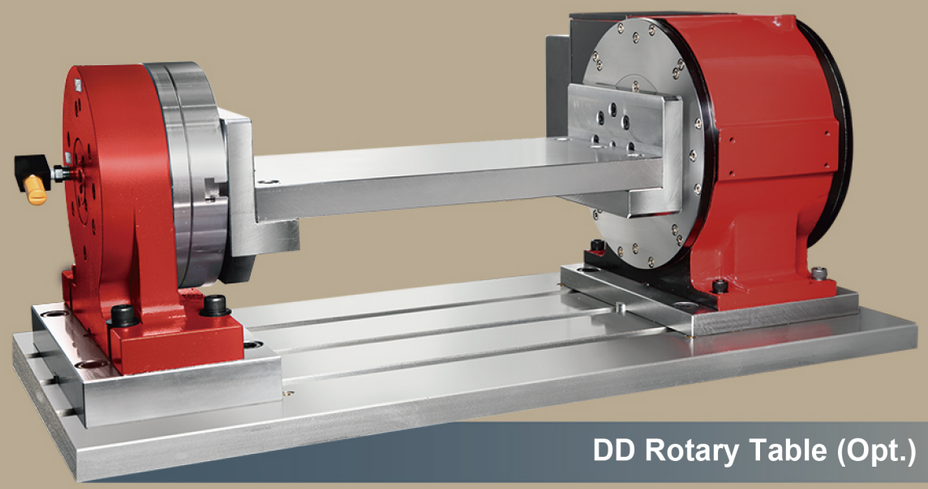
Axis servo motor



Enclosed telescopic cover on the rail

- Well-protection on the sliding rail stops the coolant and chips break-in and extend the machine life.

VH series solutions



DD Rotary Table (Opt.)

DDR260

- Machincal sturcture designed with wormless transmission system that has no-wear no-backlash charactaristics.
- The direct drive system has the advantang of reactng fast and swift, and being maintained easily.
- The best choice for the fourth axis rotary table, Fulfill the composite machining process which requests fast, precise and diverse productivity.

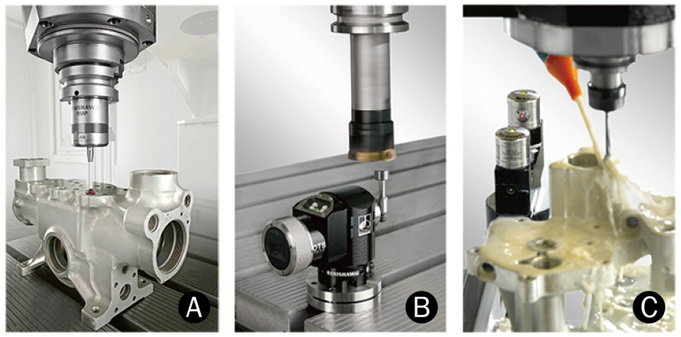
Specification

Max. rotary speed	200 rpm
0~180° rotation time	0.3 sec
Repeatability accuracy	±10 sec



Thrust loading F×L=600 Nm

Measuring System (Opt.)

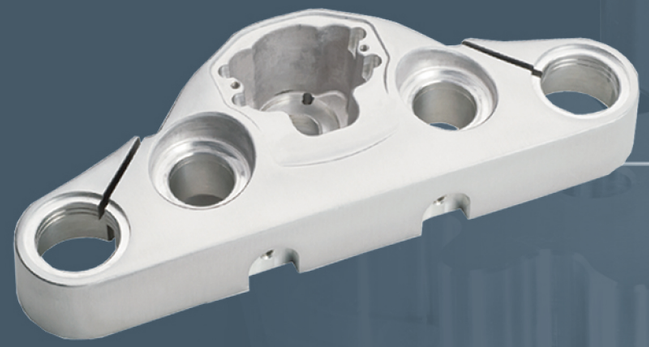


A In-time workpiece measurement in process: help to reduce the production defect rate and improve the production efficiency.

B Tool measurement in process: help to accurately feedback the tool damage data and correct the error then to upgrade the machining accuracy and processing quality.

C Available to work with contact or non-contact laser detection system to give a total solution with superior machining accuracy.

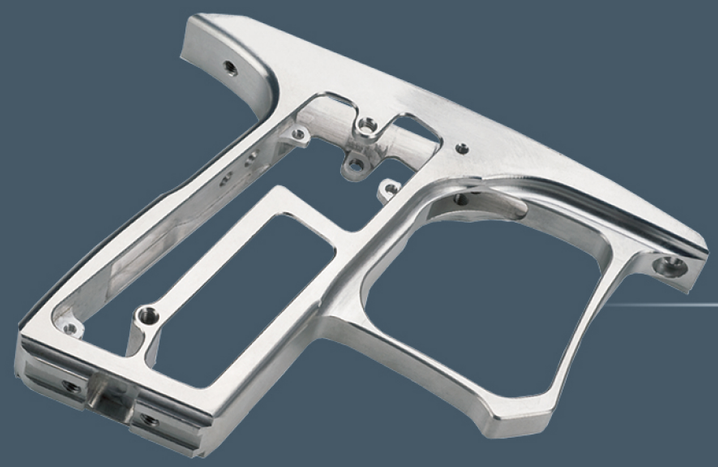
Machining Parts



Motor parts



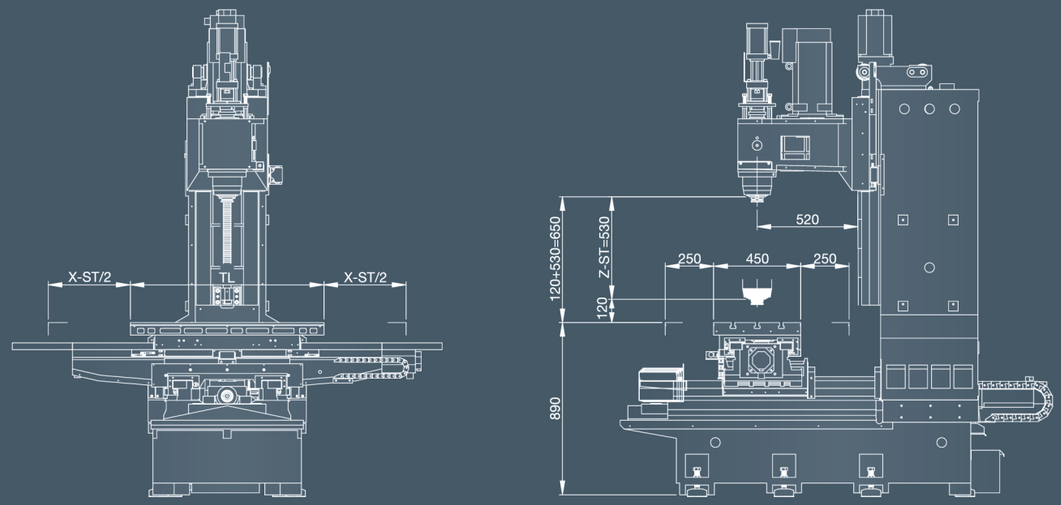
Aluminum Casting



Paintball gun handle

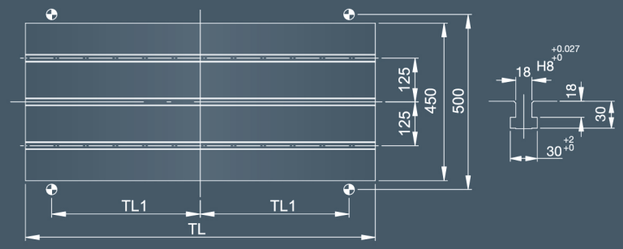


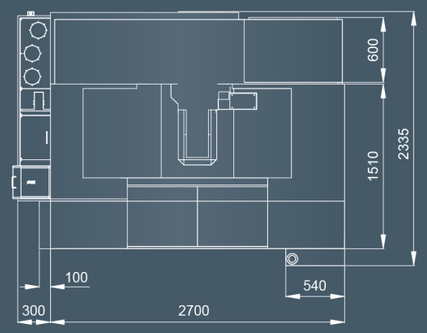
VH-650L3 / VH-850L3 Machine dimension



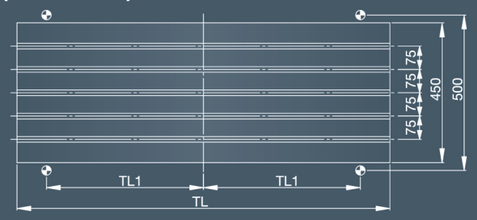
MODEL	OS-W	X-ST	TL	TL1
VH-650/VH-650L(L3)	2200	650	800	325
VH-850/VH-850L(L3)	2700	850	1000	425
VH-1010	2700	1010	1200	505
VH-850L3 + APC	2700+1475	850	1000	425

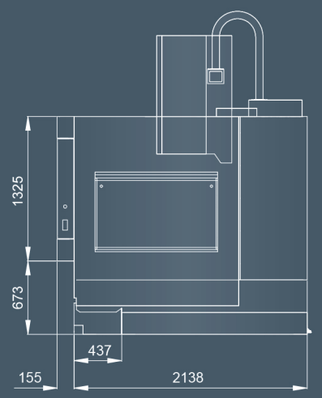
TABLE (VH-650 / 850)

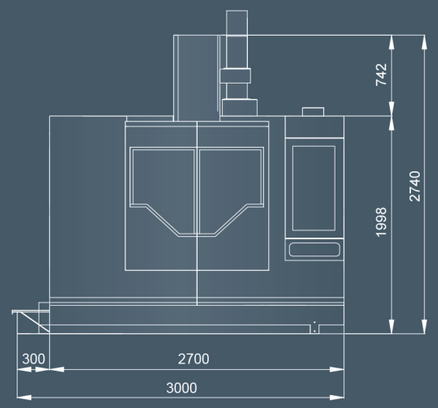




(VH-1010)







Specification

Item	Unit	VH-650	VH-850	VH-1010	VH-650L/L3	VH-850L/L3
Travel						
X axis	mm	650	850	1010	650	850
Y axis	mm	500				
Z axis	mm	520				
Spindle nose to table surface	mm	120-640				
Spindle center to column rail surface	mm	540				
Column rail surface to working table center	mm	290-790				
Feed rate						
X/Y axis rapid feed rate	mm/min	20000			30000	
Z axis rapid feed rate	mm/min	20000			20000/24000	
Max. cutting feed rate	mm/min	8000			10000	
Working Table						
Table dimension	mm	800×450	1000×450	1200×450	800×450	1000×450
Max. loading	kgs	450	500	600	450	500
T-slot number	pcs	3	3	5	3	3
T-slot pitch	mm	125	125	75	125	125
T-slot width	mm	18				
Spindle						
Spindle speed	rpm	8000				
Spindle motor	kw	(F):11/15kw(S1-cont./ S2-15min) (M):7.5/11kw(S1-cont./ S2-30min)				
Spindle tapper		BT-40 (Opt：CAT-40 / DIN69871)				
ISO-230 Accuracy ISO-230						
Positioning accuracy	mm	±0.005/300				
Repeatability accuracy	mm	±0.003				
Others						
Machine weight (approx.)	kgs	5000	5200	5400	5000	5200
Machine H	mm	2700				
Machine L x W	mm	3650×2900	4000×3500	4000×3500	3650×2900	4000×3500
Air pressure	kg/cm²	6				

※We have the right to modify & change the look and the specification of the machine without notification.
※L : X/Y axis linear guide way. L3: X/Y/ Z axis linear guide way.

Standard Accessory

1. Arm type tool changer system 24T
2. Coolant pump
3. Auto lubrication system
4. Working light
5. Tool box and tools
6. Floating tool clamping / unclamping system
7. Fully splash guard
8. Spindle air blast
9. Workpiece air blast
10. RS-232 interface
11. Rigid tapping
12. Auto power off system (M30)
13. Leveling bolts and pads
14. Heat exchanger for electrical cabinet

Optional accessaory

1. Spindle oil cooler
2. Built-in spindle
   12000 / 15000 rpm
3. Belt type spindle
   10000 / 12000 rpm
4. Coolant through spindle, CTS
5. Powerful chip flush nozzle
6. Coolant ring
7. X/Y/Z axis roller type linear guide way
8. 4th axis rotary table
9. Screw type chip conveyor
10. Chain type chip conveyor
11. Auto pallet changer, APC
12. Transformer

Controller

1. Fanuc OIMF
2. Mitsubish M80
3. Siemens 828D / 840D SL

Twinhorn