

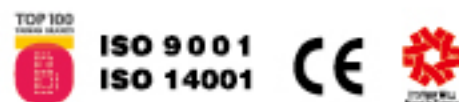
SPECIFICATIONS

	Unit	FVT-450	FVT-600(MC)	FVT-800	FVT-1000(MC)	FVT-1600
Capacity						
Max. swing	mm(in)	650	710	900	1100	2000
Swing over saddle	mm(in)	510	510(500)	650	780	/
Max. turning diameter	mm(in)	460	600(530)	800	1000	2000
Max. turning length	mm(in)	500	650(585)	760	850	1250
Work table diameter	mm(in)	/	/	/	/	1600
Max. workpiece weight	kg(lb)	/	/	/	/	8000
Travel						
X axis	mm(in)	250	305(270)	425	540	1160
Z axis	mm(in)	500	650	760	850	900
W axis	mm(in)	/	/	/	/	600
W-axis positioning step(pitch 200mm)	/	/	/	/	/	4
X Rapid traverse	mm(in)/min	24000	20000	20000	20000	12000
Z Rapid traverse	mm(in)/min	24000	24000	20000	20000	10000
X / Z Servo motor	kW	3/4	3/4	4/7	4/7	9/7
Spindle						
Type of Spindle Nose		A2-8	A2-11	A2-11	A2-15	/
Spindle speed range	rpm	2500	2000	2000	1500	2-250
Chuck size		305	381	450	810	/
Through spindle hole dia	mm(in)	57	57	70	90	/
Spindle bearing diameter	mm(in)	130	140	160	200	/
Spindle motor(table)	kW	αP40i 18.5/22	αP40i 18.5/22	αP50i 22/30	α40i+ZF 37/45	α40i+gear box 37/45
Ram cross section	mm(in)	/	/	/	/	220X220
Turret						
Type of ATC	mm	Turret	Turret(BMT65)	Turret	Turret(BMT65)	Carousel
Number of tool stations		8(12)	8(12)	12	12	12
Shank dimension for square tool	mm(in)	□32(25)	□32(25)	□32	□32	□32
Boring bar diameter	mm(in)	∅50	∅50	∅60	∅80	/
Max. rotary tool speed	rpm	/	4000(MC)	/	3000(MC)	/
Rotary tool drive motor	kW	/	α3i 3.7/5.5(MC)	/	α8i 7.5/11(MC)	/
Type of tool shank		/	/	/	/	7/24#BT50
Max. tool length	mm(in)	/	/	/	/	450
Max. tool weight	kg(lb)	/	/	/	/	50
Turret indexing time (adjacent tool)	sec	0.6	0.6	0.2	0.2	40
Turret indexing time (180 deg)	sec	1.85	1.85	1	1	40
Control						
Fanuc		0i-TD	0i-TD	0i-TD	0i-TD	0i-TD
Machine size						
Height	mm(in)	3300	3450	3750	3550	5810
Floor space(LXW)	mm(in)	3400X1600	3400X1800	4055X2210	4010X2450	5235X4280
Weight	kg(lb)	7000	9000	15000	18000	23500



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FVT SERIES

Heavy Duty CNC Vertical Lathe

EXCELLENT RIGIDITY FOR HEAVY DUTY TURNING



Automotive



Aerospace



Energy



Railway

FVT-SERIES

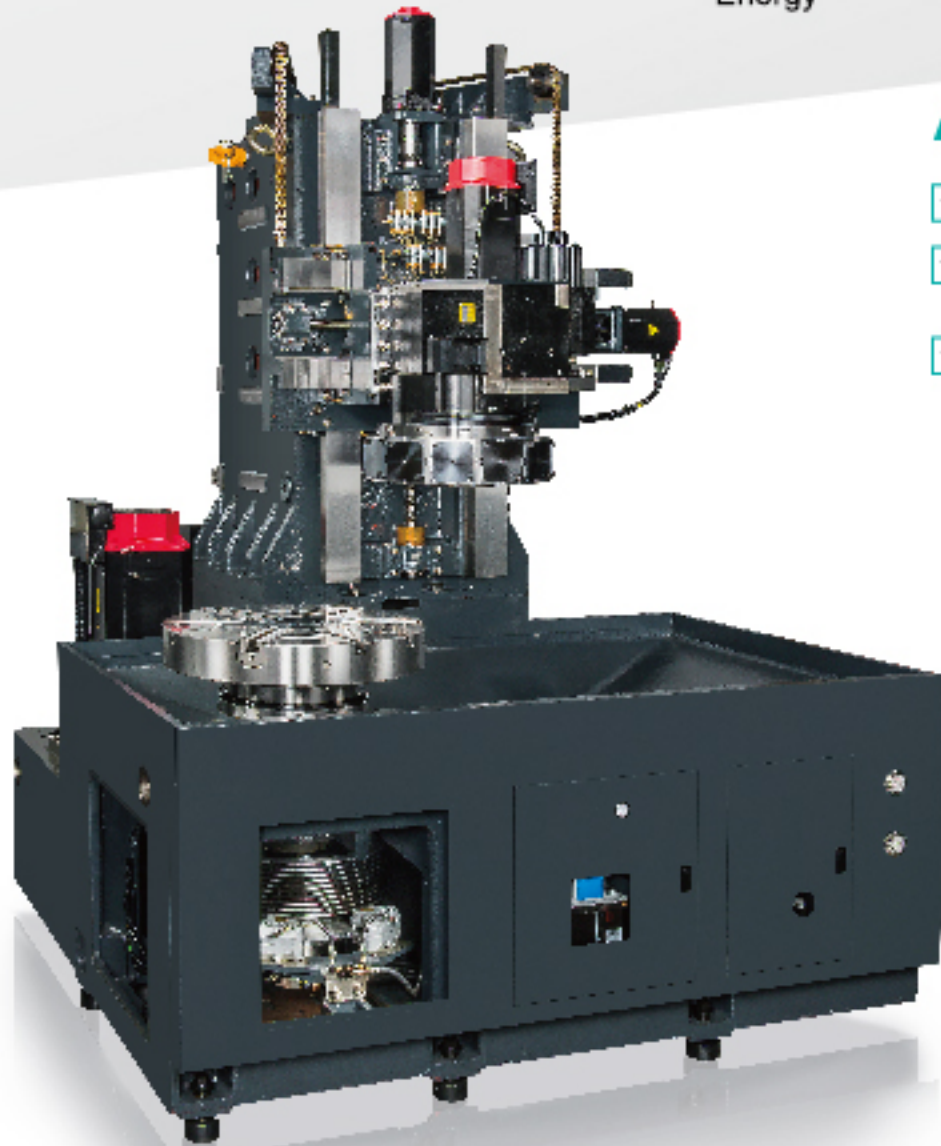
HEAVY DUTY CNC VERTICAL LATHE

Characteristic FVT-450 & FVT-600

- High rigidity, high loading linear guideway, to ensure high precision performance and meet heavy duty cutting requirement.
- High rigidity machine structure and square design base eliminate vibrations and thermal deformation.
- Chip conveyor of wide discharge channel for fast chip removing.
- Slant design chip guard improves chips removing.
- Rotary type control box for convenient operation.
- Dual-sided cutting tool. (Optional)
- Models of mirror-symmetric structure are available to choose, line up and build production lines easily. (Optional)

Applications:

- General machining
- Energy industry (moter, pump)
- Train Components (The base and wheel)



FVT-1000



FVT-450&600

FVT-450/600/800/1000

STANDARD ACCESSORIES	OPTIONAL ACCESSORIES
Each axis pre-tensioned ball screw	Chip conveyor(rear or right side)
Automatic lubrication system	High pressure coolant
Heat exchanger	parts air blower
RS-232 interface	Coolant gun
Working light	40" chuck
3-color signal light	Tool setter
BMT 85 tool holder set	Oil skimmer
Shower coolant for chip flushing	
Water-oil separator system	
Hydraulic system	

FVT-800&FVT-1000 Efficiency Enhancement

High rigid column

All box ways design for heavy duty cutting. Slideways surface are coated with Turcite-B. Z axis equips with counter-balance weight to reduce the loading of the servo motor and eliminates structural vibration which could affect accuracy.

Hydraulic turret

Full hydraulic turret, simple structure and easy maintenance. The BMT 85(BMT 75 for FVT-800) tool holder interface accommodates for a variety cutting applications. The servo turret and live tooling turret are also options.

High rigidity feed system

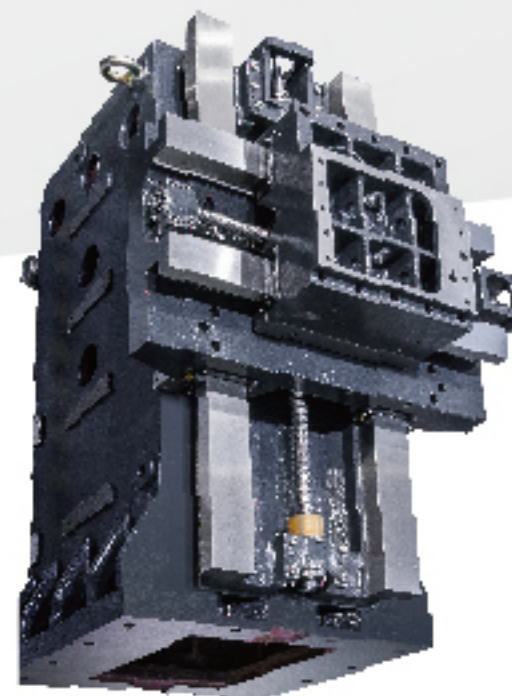
All box ways with big diameter ballscrews (X/Z:50/40mm). Spindle equips 2-step gear box, (not for FVT-800)Max. torque 4700 N.m/90 rpm,(1240N.m/230 rpm for FVT-800) ideal for massive workpiece.

Fully enclosed electrical cabinet

New fully enclosed chip exit design protects important electrical components from dust and oil mist invasion.

Easy maintenance design

All the common adjustments and maintaining items are placed in front of machine to facilitate day-to-day care & maintenance.



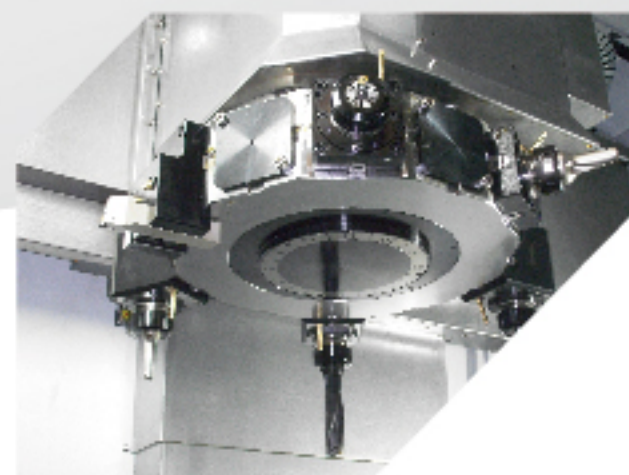
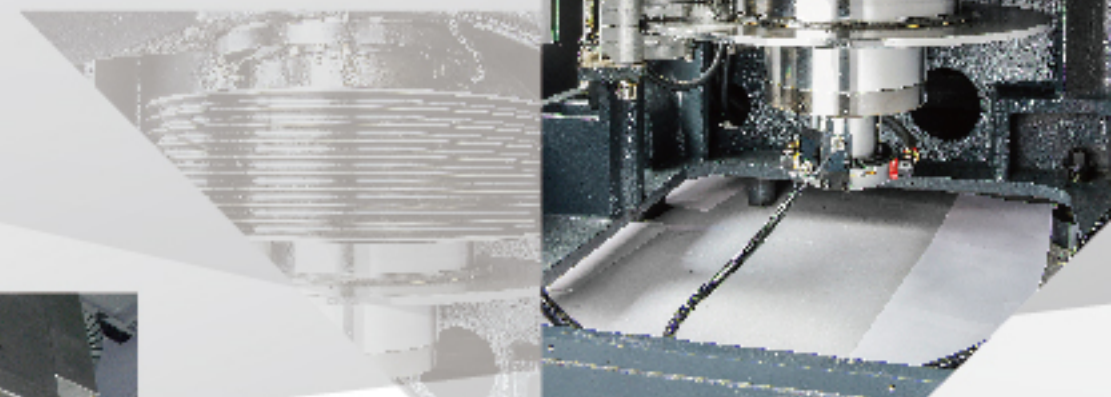
Highlighted Features

High Rigidity Feed system

Wide span box ways, big diameter ball screws (X/Z:50/40mm) eliminate the vibration of cutting. Slideways surface are coated with Turcite-B. Rapid traverse reaches 20m/min. Column equips with counter balance weight and servo motor with brake to avoid turret drop during the emergent stop and power failure.

Hydraulic disk brake

To provide solid clamping force with high pressure for spindle indexing. When doing C-axis contouring machining, the hydraulic disk brake is clamped by light pressure to reduce spindle vibration.



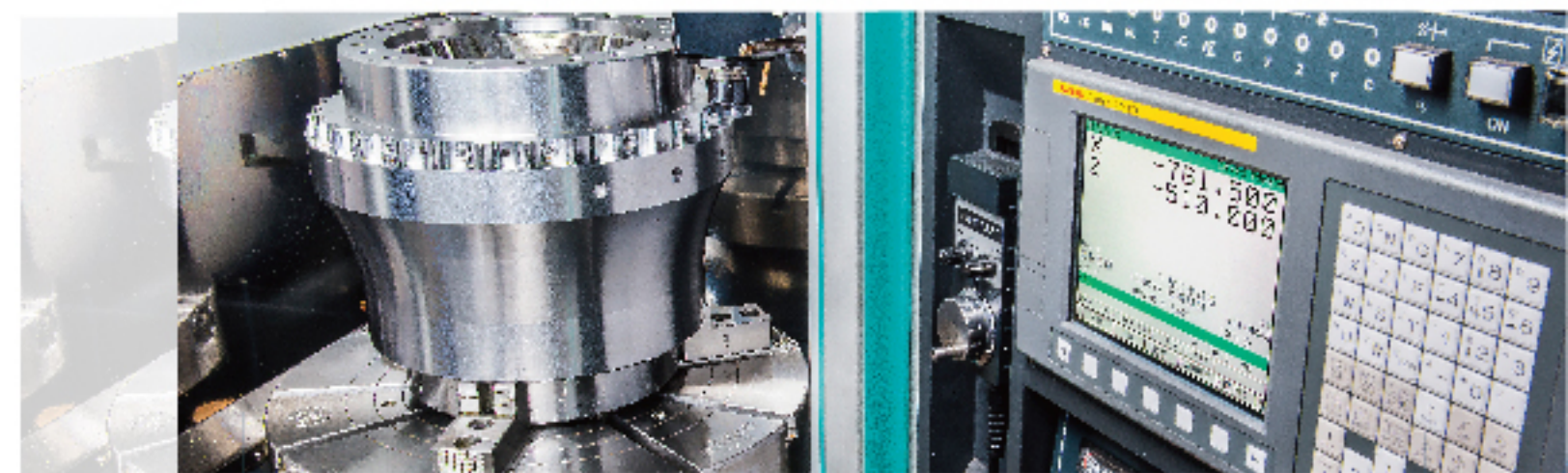
Servo Turret with Power Tooling

The turret employs a8 spindle servo motor, featuring fast and accurate tool changing. Power tool holder is available to be equipped for milling process, featuring high torque, low noise running.

FVT-1000MC

High rigidity base:

For heavy duty cutting and efficient chip evacuation, the base which is designed with Finite Element Analysis for high rigidity. The FVT-1000 heavy duty CNC vertical lathe requires small floor space and easy to be installed in production line.



MC models

Milling/Drilling/Tapping/Boring multi-functions are available to be carried out on MC models.

Swing type operation panel and left sub operation panel

The ergonomic design to reduce the distance between operator and workpiece.

FVT-1600 Features:



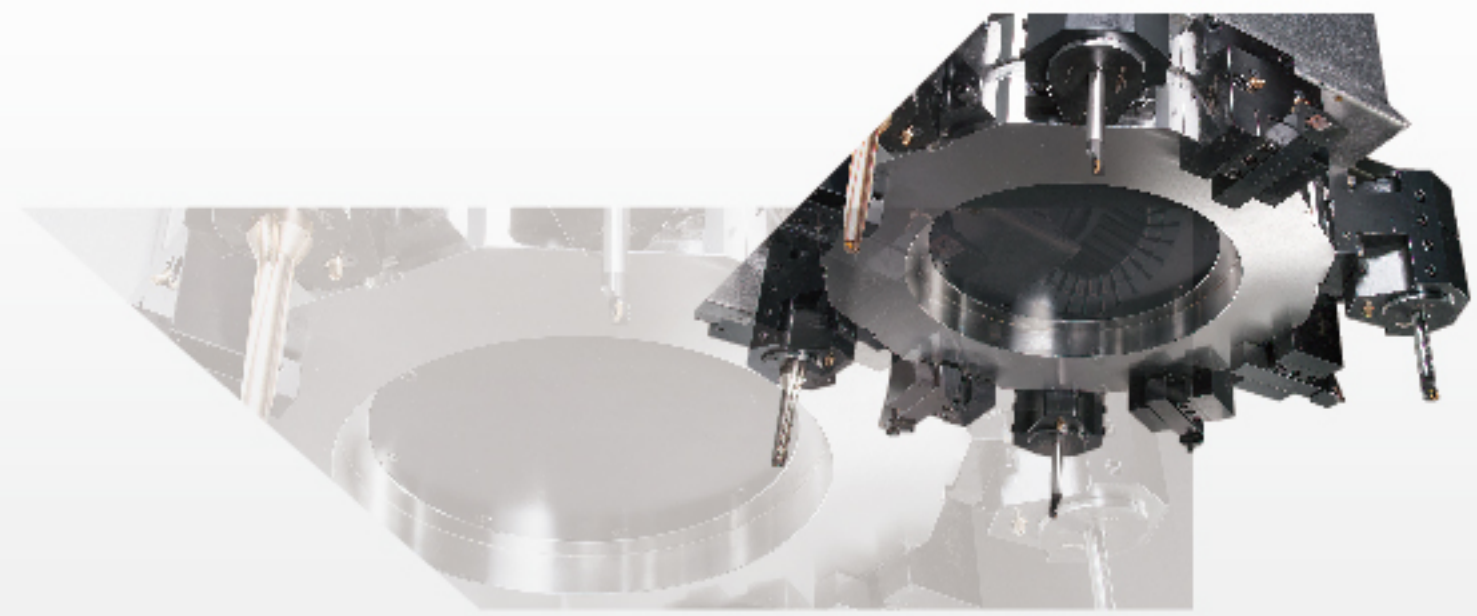
Chip removal evacuation exit

Discharge volume up to 6500cc/min, with large chip flushing system to averse chip accumulation. Special design for cutting waterway (red circle), prevents coolant leaking.



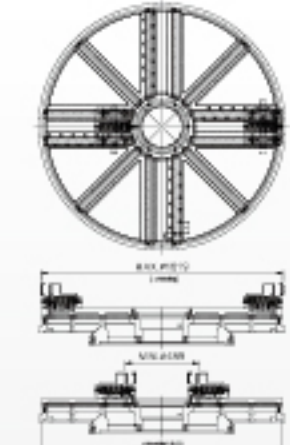
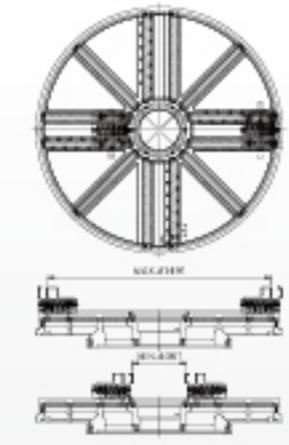
FVT-1600

- Extremely rigid machine base.
- In-house-made gear box , gears replaceable for different torque requirements; neutral shift available for easy installation and workpiece inspection.
- Ergonomically convenient for operating.



12-turret station BMT85 hydraulic turret

Choose any boring tool holders, face cutting holders and turning tool holder. Turret can select nearest tool and operate in coordination with proximity switch and PLC without any wrong tool position. High locking force satisfies heavy duty cutting.

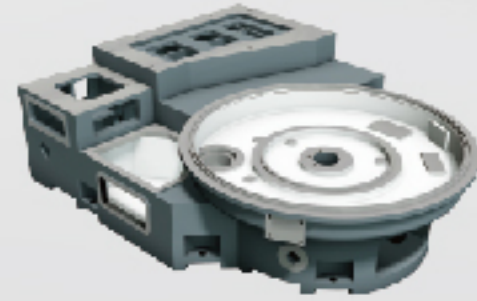


- The maximum turning diameter is ϕ 2,000mm.
- High rigidity worktable with 4-jaws independent manual chuck, suitable for clamping irregular work-piece.

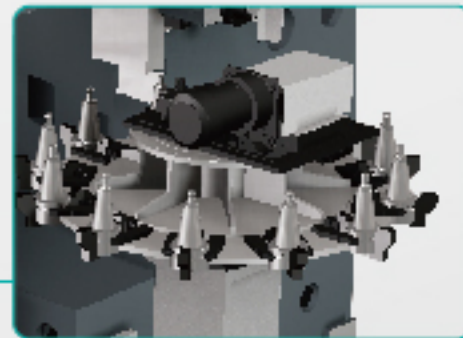
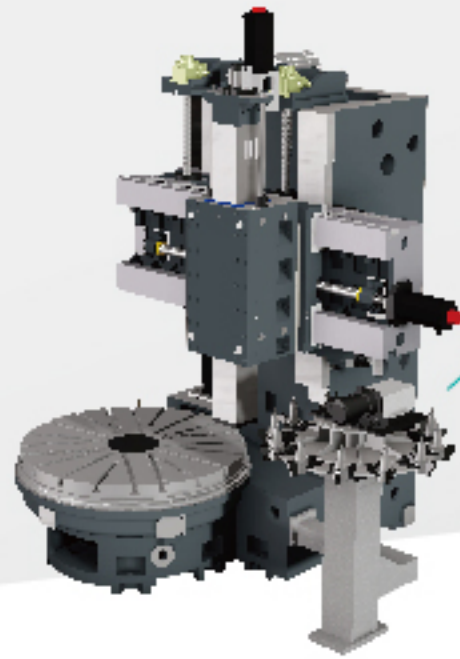
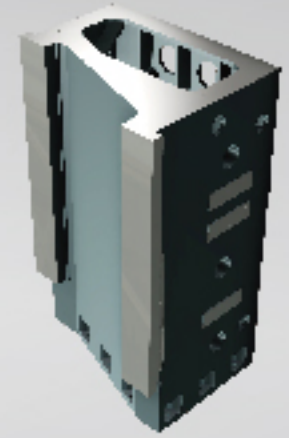


- Work table loading 10,000kg.
- Dual spindle bearings design. Heavy duty thrust bearing plus rigid taper roller bearing to keep massive loading and high accuracy together.
- In case of machine crash, the top bearing damages but main bearing is protected.

- The base is of box structure design, ideal for large diameter, heavy and asymmetry workpiece which can't be machined by horizontal machines.



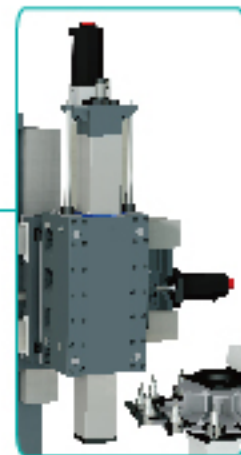
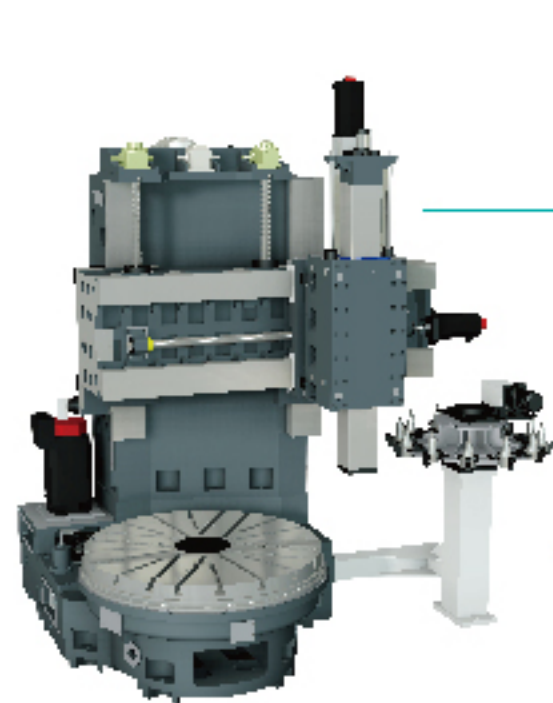
- 2 options of columns for maximum workpiece height 1,600mm and 1,250mm.
- Step type high/low rail design for the column. Wide span along with wide rail width up to 240mm. Solid supports for crossbeam, enhanced rigidity and minimum structure deformation.



- Standard BT50, 12-tool (opt. 16-tool) carousel type tool magazine, available for a variety of tool shafts including large-diameter, short-nose-cone tool shaft for hard-to-cut materials, such as front/rear airframe for Aerospace industry.



- The fully-enclosed slider, combined with tools and spindle, is tightly fixed by four high strength wedges for increased structure rigidity and high precision over models of semi-enclosed slider.

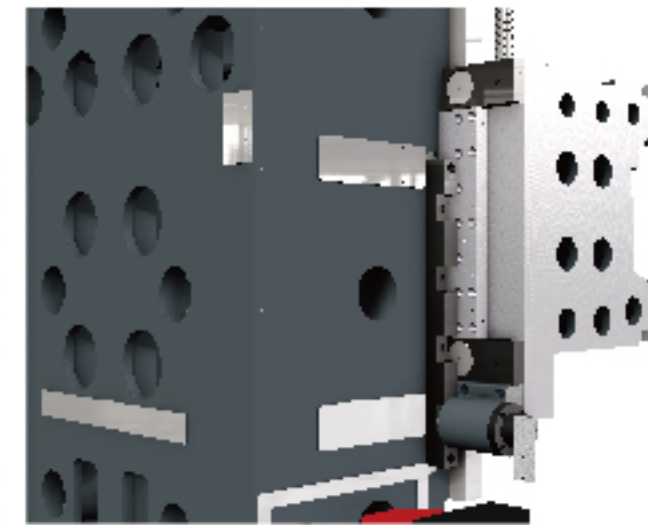


- Box structure, rigid crossbeam features stable machining results due to minimum thermal deformation.

FVT-1600

FVT-1600 STANDARD ACCESSORIES

ATC (12T)
Automatic lubrication system
AC Work Table and Servo Motor
Coolant System
Chain-type chip conveyor
Chip cover/door (manual)
Cross member positioning unit
Fanuc 0i-TF
Frame above armchair and ladder
Heat exchanger
Hydraulic power unit (Hydraulic tank)
Heavy Duty 4-jaw Independent Chuck
Leveling Adjustable block and seat pads
NC Auto Power Off
Splash Guard
Service Tool Box & Tool Kits
Standard cutting Tool Holder X 2
Table Lubrication Coolant oil
Working Light
X axis telescopic cover
3-color Signal light



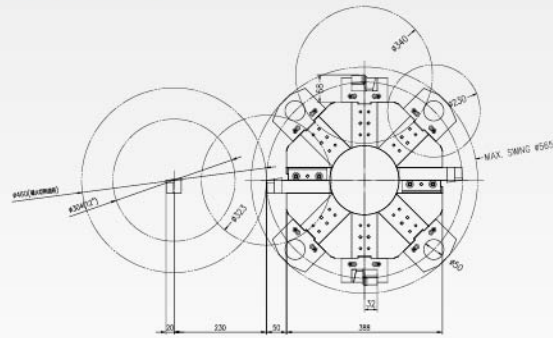
- 4 sets of powerful positioning/clamping devices for crossbeam ascending/descending.

OPTIONAL ACCESSORIES

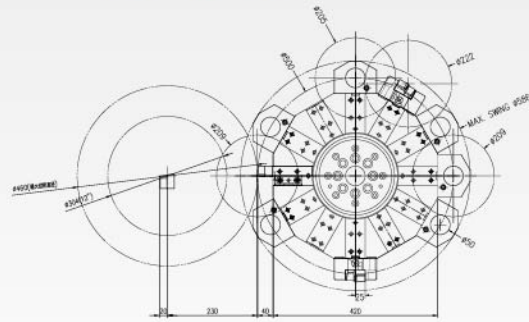
OPTIONAL ACCESSORIES	
APC	Linear Scale
Air conditioner for electrical cabinet	Lubrication coolant unit
Composite Chuck Table	Other ATC
Coolant thru tool holder	Oil Skimmer
Cross beam(W axis)feed servo drive	Other Control
Electric/ Hydraulic Spare Parts	Special Tool Holder
Grinding Accessories	Scraper type /roller type chip conveyer
Hydraulic 3-jaw Chuck Table	Tool Setter
High and low hydraulic chuck two-stage switch	Tool Holder
Transformer	Work piece measurement
45/55KW	

Tooling Interference

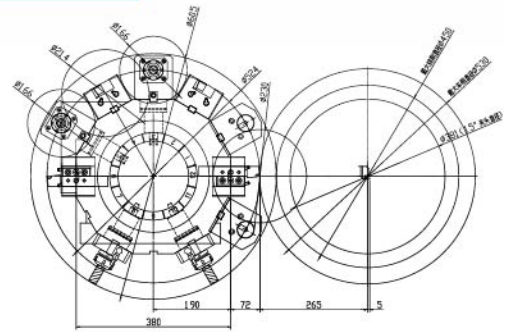
FVT-450 8T



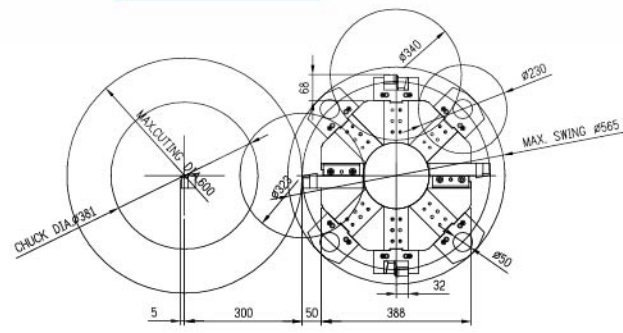
FVT-450 12T



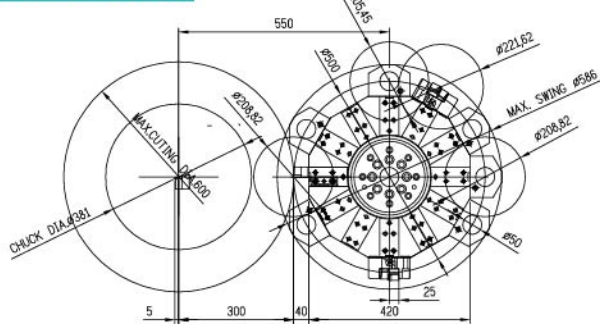
FVT-600MC



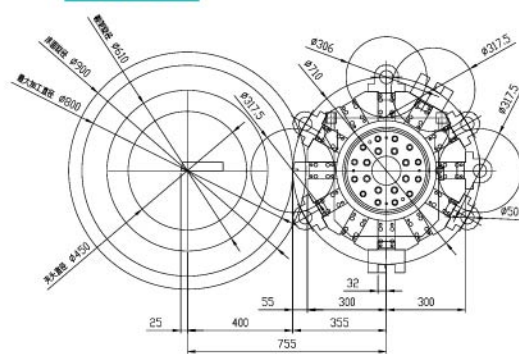
FVT-600 8T



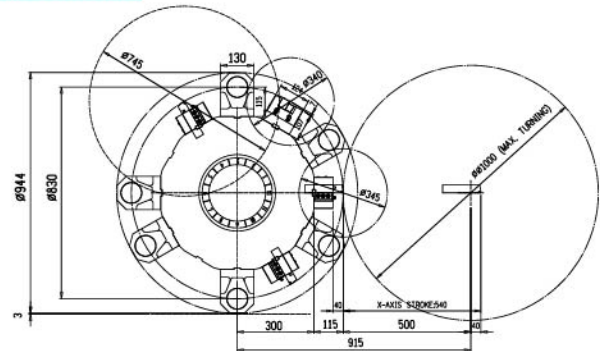
FVT-600 12T



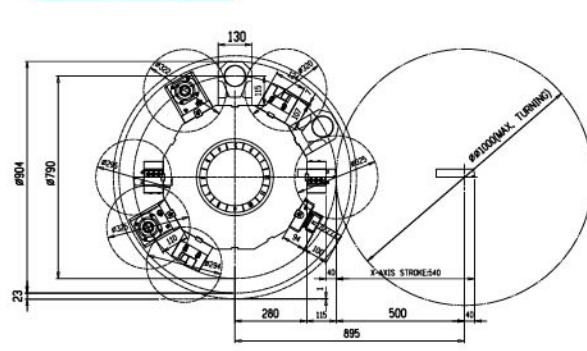
FVT-800



FVT-1000

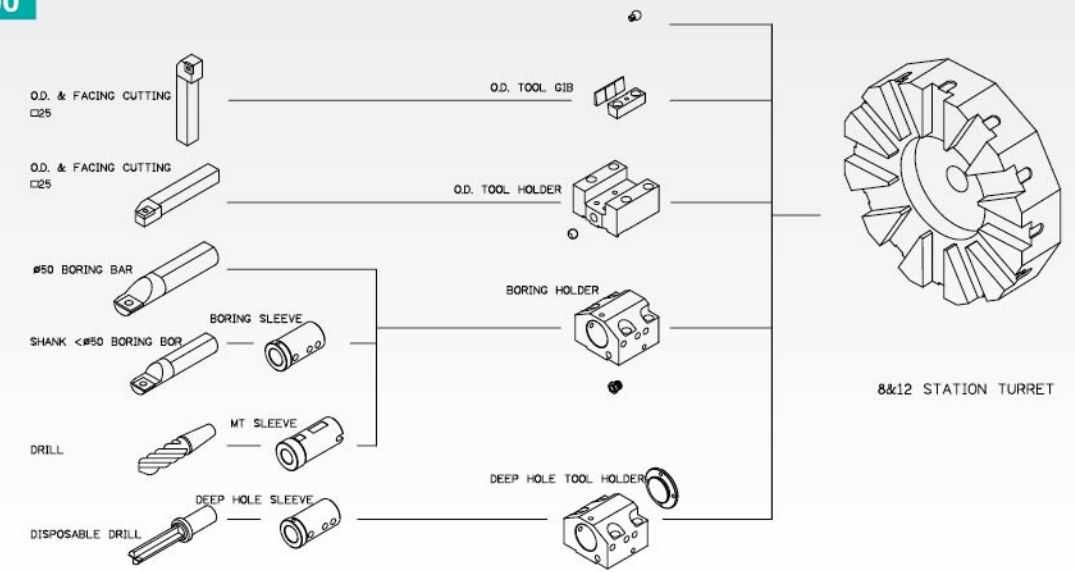


FVT-1000MC

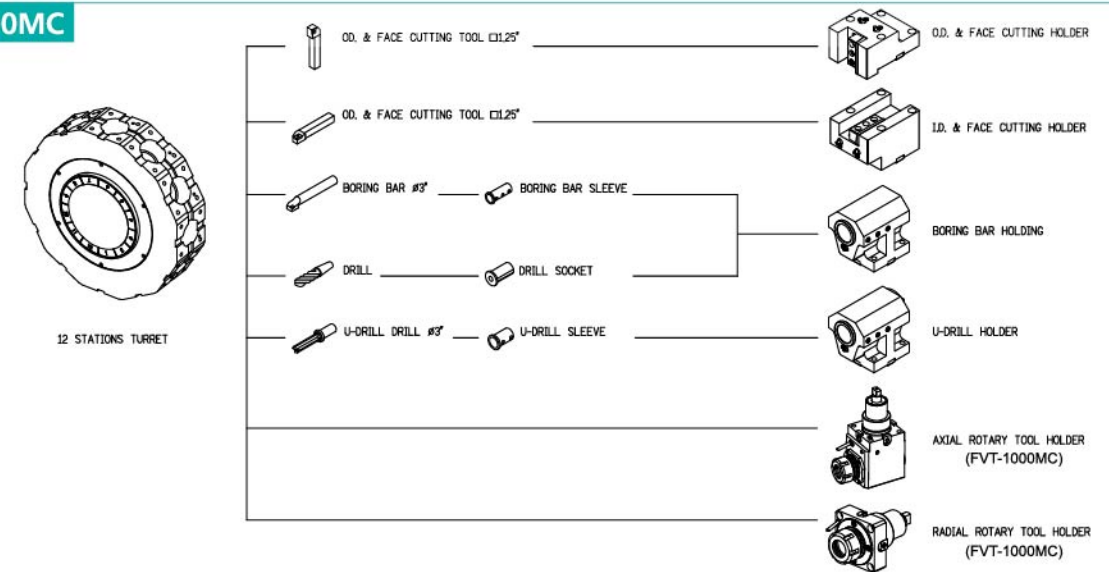


Tooling System

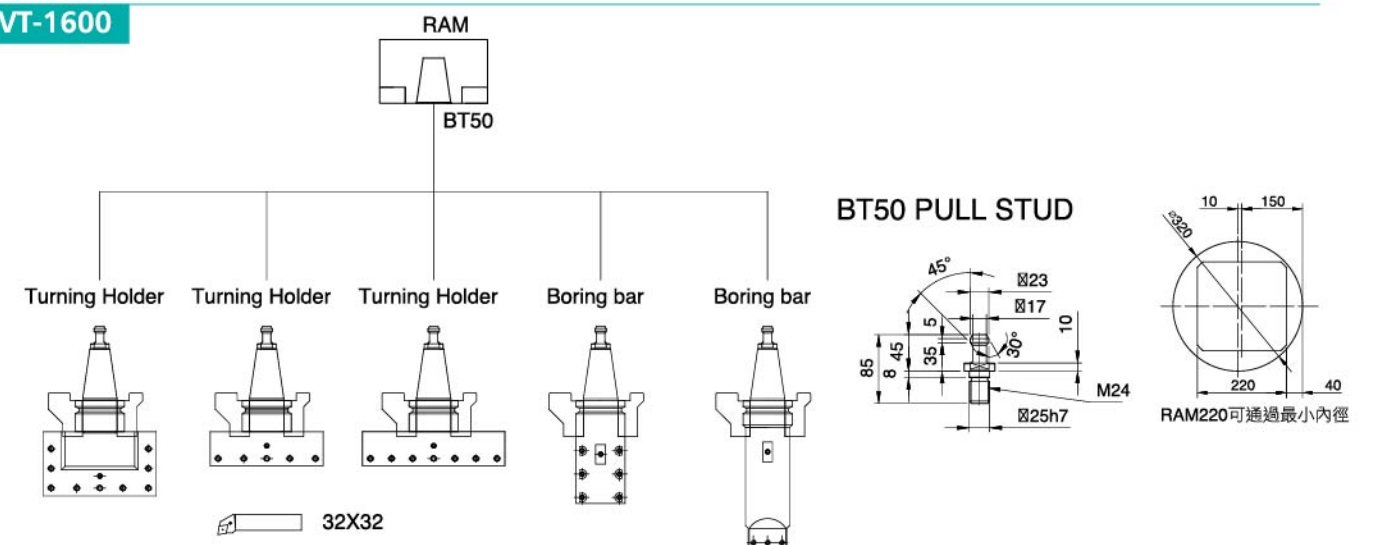
FVT-450&600



FVT-1000MC



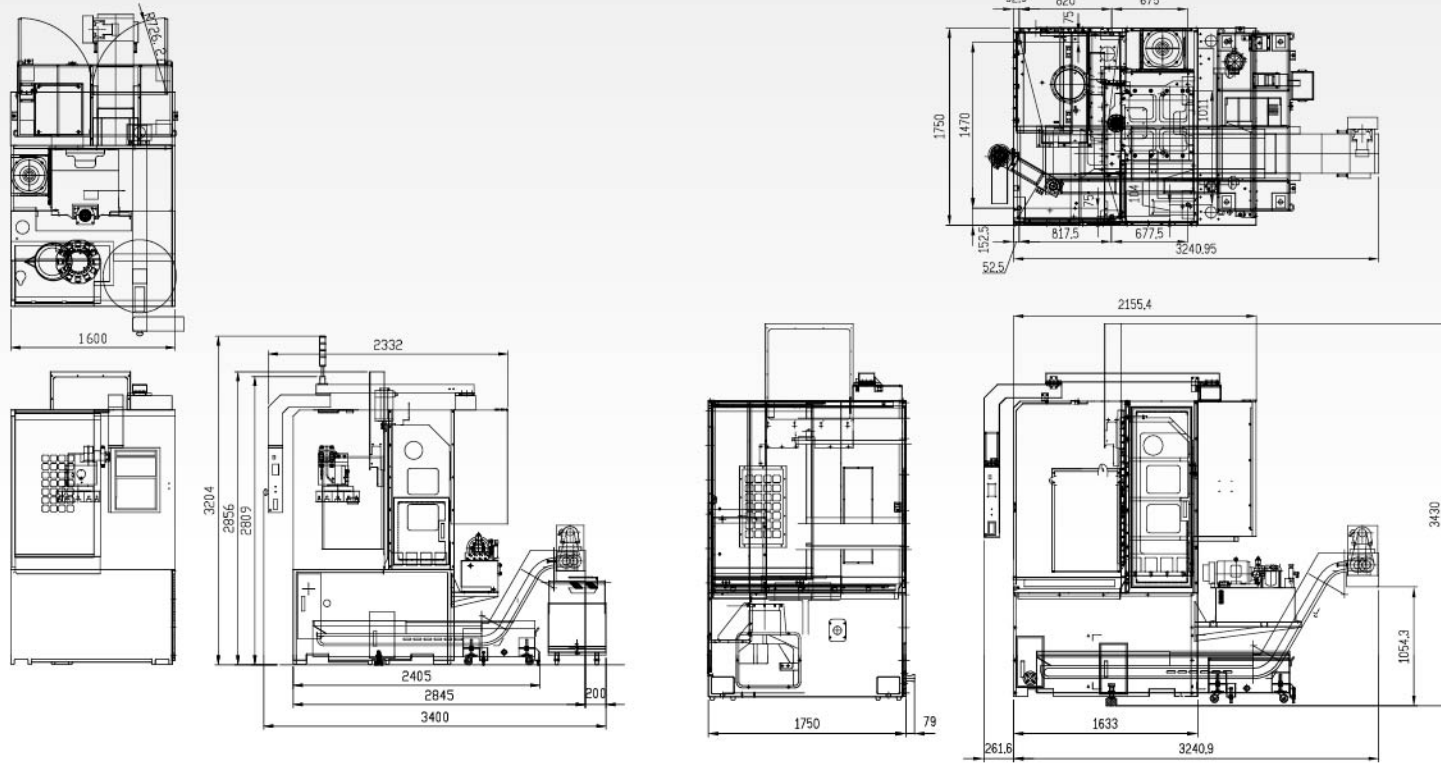
FVT-1600



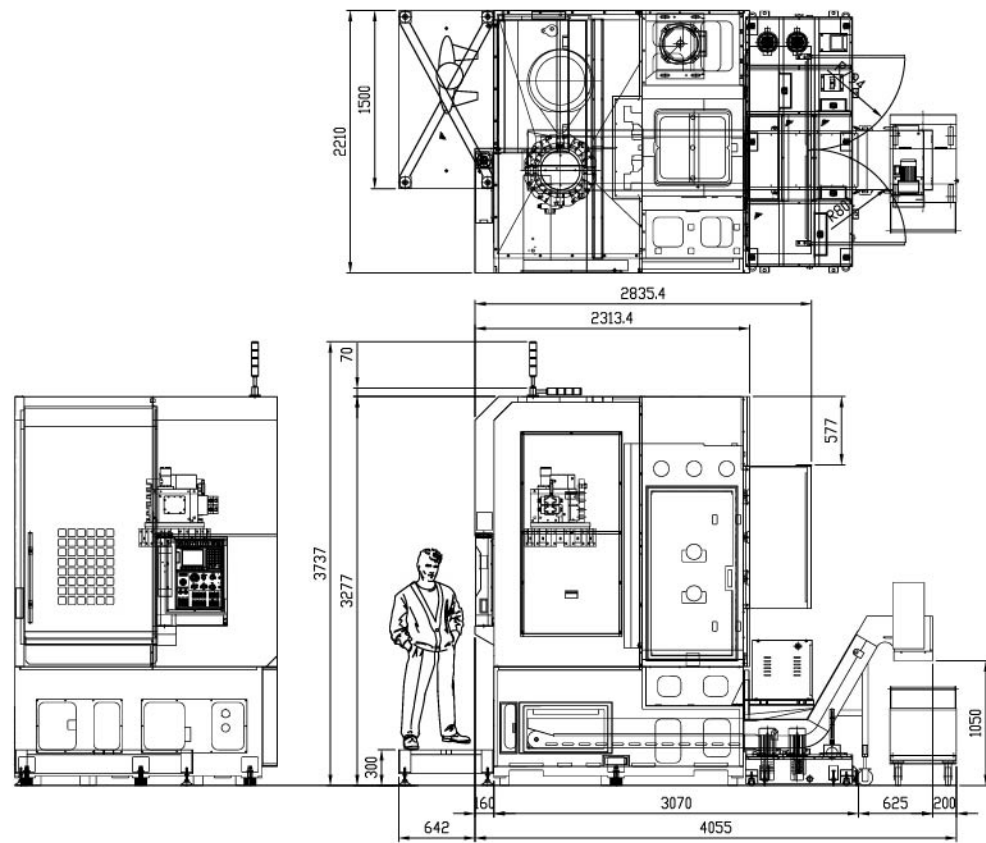
Floor Space

FVT-450

FVT-600



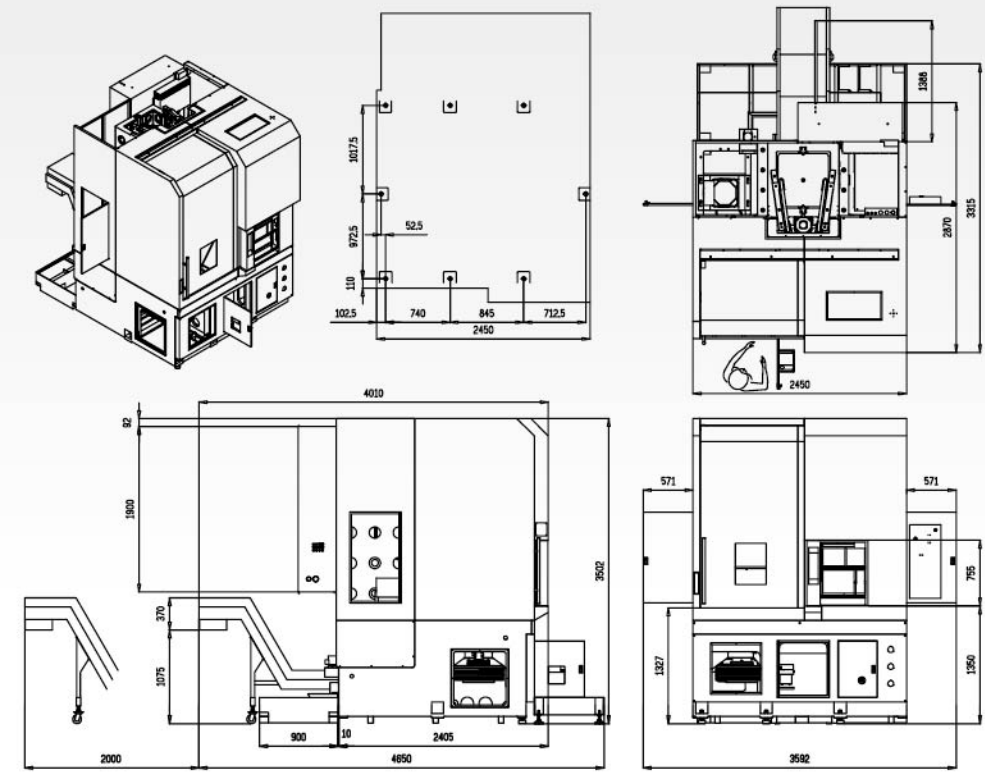
FVT-800



Floor Space

FVT-1000

* Unit : mm



FVT-1600

