

FAIR FRIEND • ENGINEERING • EXCELLENCE • LEADERSHIP • EXPERTISE • RELIABILITY



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VFP *SERIES*

Vertical Machining Center

FEELER VFP SERIES

New Generation Innovation Universal Machining Center

VFP series are designed for high performance machining challenge.

Automobile, Electronic, Aerospace and general purpose machining are suitable industries.

The high rigid structure design combine with outstanding quick tool change ATC system and excellent chip conveying system. It create the highest CP value to fit the requirement.

Hardened & ground ball screws are precisely pre-tensioned and supported by 6 pcs angular contact thrust bearings.

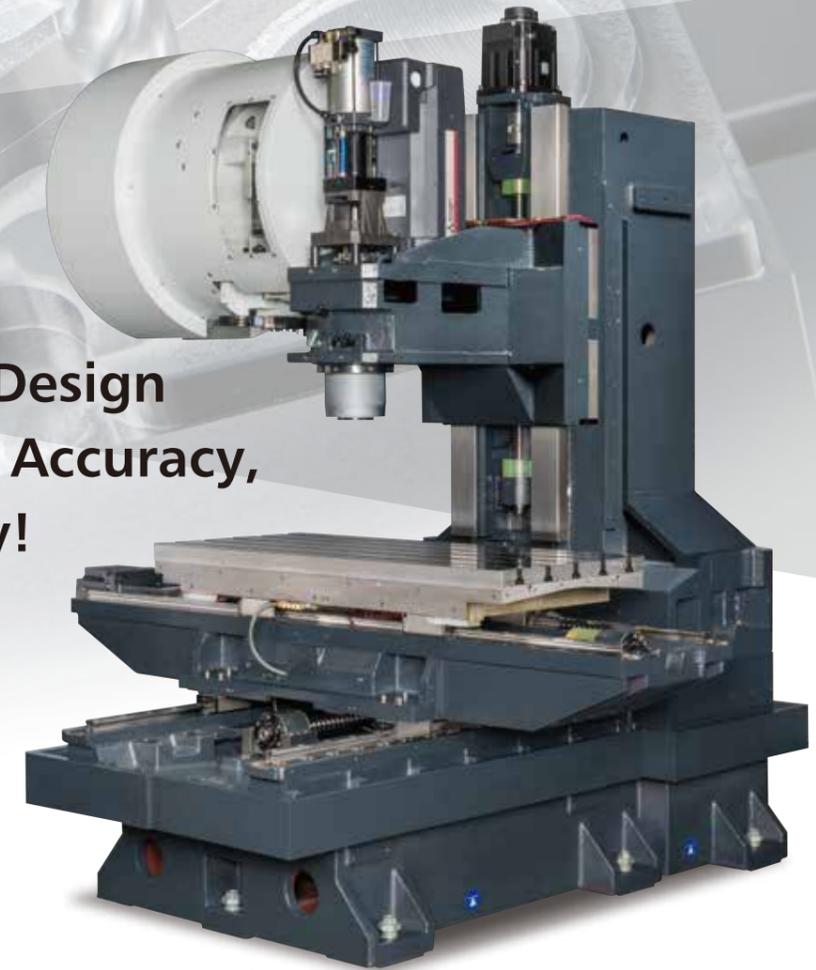
AC servo motor transmit power directly through coupling to ball screw without backlash to ensure best positioning accuracy.

X, Y, axes are installed on high precision THK linear guide way and Z-axis is box way. The hybrid design to handle fast cutting and heavy duty cutting perfectly.



■ VFP-1000

**Perfected Structure Design
Brings You Excellent Accuracy,
Rigidity and Stability!**



- All casting design have been through Finite Element Method (FEM) analysis, to ensure the best rigidity on every components.
- The massive & High rigid ribbed construction to provide stable cutting and enhance the finishing cutting performance
- Rib reinforced working table retracts vibration while increasing machining stability.
- The wide column, machine base and large saddle to get maximum cutting rigidity.
- The machine structure and major parts are manufactured from Meehanite cast iron for outstanding material stability and assures longterm deformation-free performance.
- Boxways for Z axis are coated with low friction Turcite B, providing increased cutting rigidity.

Pragmatic Operational Features

BELT DRIVE SPINDLE-STD

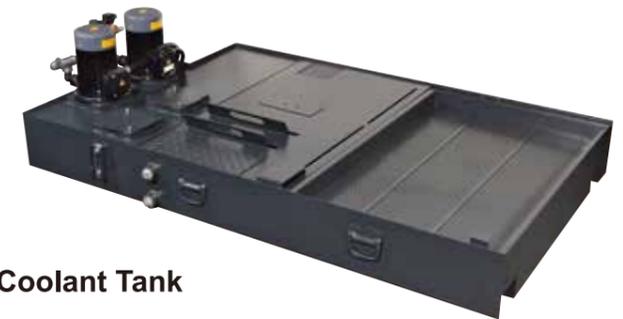
- The high torque belt type spindle provides 10,000 rpm spindle speed as standard and 12000 rpm for option.
- The spindle is equipped with FANUC α 8i motor to provides maximum output of 11 kW (15 HP).
- 6 bearings support to get excellent cutting finish, extend spindle life and lower maintenance cost.
- The spindle head and column contact surfaces is contact by Turcite B through precisely hand scraping to make sure the best accuracy and optimum machining performance.



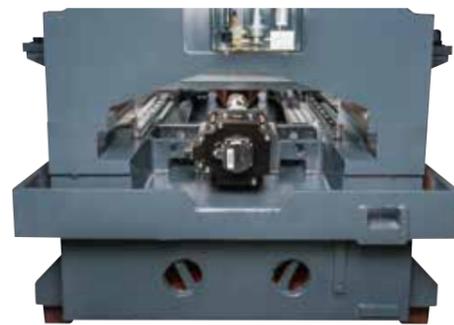
- Fast tool change ATC system T to T 1.7 Sec / 60Hz
- All series are standard with 24T or 36T arm type ATC system which can easily fulfill various types of processing needs.
- Rigid clamping force to make sure zero risk of tool drop.

DIREC DRIVE SPINDLE (DDS)-OPT

- 10000, 12000 rpm for option.
- Less vibration under high speed cutting.



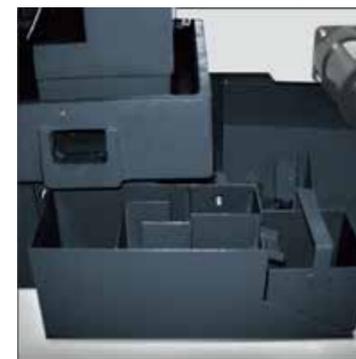
Coolant Tank



Rear mounted Y-axis servo motor for increased maintenance space.

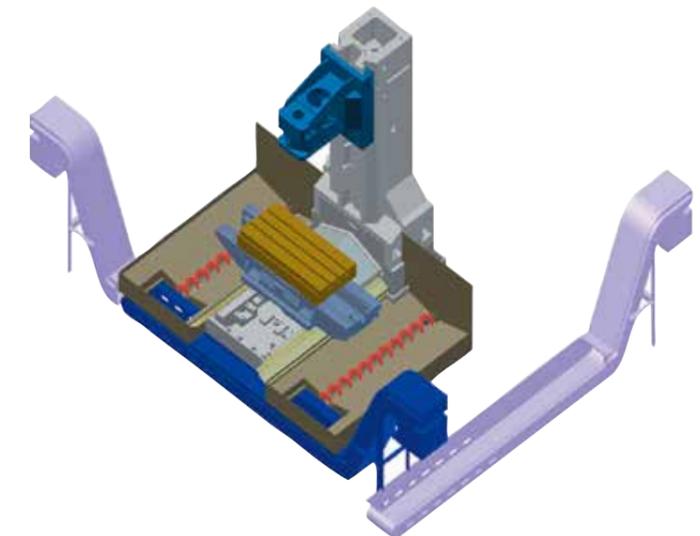


Transmission without backlash and power lost servo motor transmit power to ball screw through precision coupling.

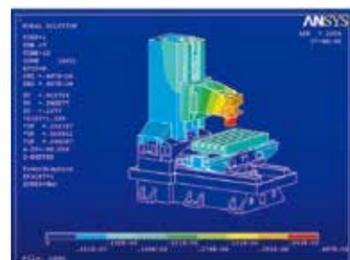


OIL / COOLANT SEPARATION DEVICE

Mounted at the side of the base, the oil / coolant separation device does not require additional leveling adjustment.



- All series are standard with screw type chip conveyor. Each model can be equipped with single screw or triple screw type chip conveyors based on different needs.
- Ideal coolant flow design to remove chip efficiently.
- The optional extra high pressure high volume chips flush coolant system is also available.



FEM ANALYSIS

FEELER'S machine structure is designed and analyzed using advanced Finite Element Analysis software for dynamic simulation and structural analysis. This design method assures optimum structural rigidity, machine accuracy and reliability.



PRECISION BALLSCREWS

Pretensioned ballscrews on X, Y, Z axes ensure accuracy and eliminate positioning errors.

Various Advanced CNC Controllers to Choose From

The hang type control panel and spacious operating area provide an ergonomic working environment.



FANUC Oi SERIES



MITSUBISHI M70



HEIDENHAIN iTNC 530



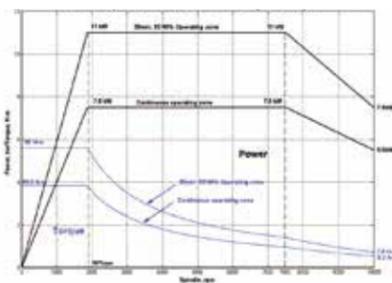
SIEMENS 828D

SERVO SYSTEM ADJUSTMENT AND OPTIMIZATION

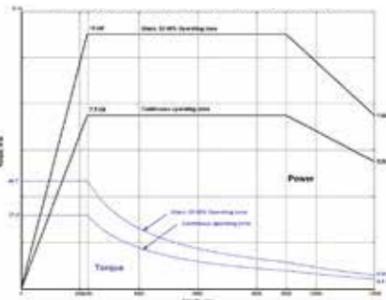
The servo system can be adjusted to an optimum condition according to the signals from each axis movement. This provides:

- Increased servo system rigidity.
- Reduced machine vibration.
- Reduced machining time.
- Optimization for acceleration/deceleration time before and after interpolation.

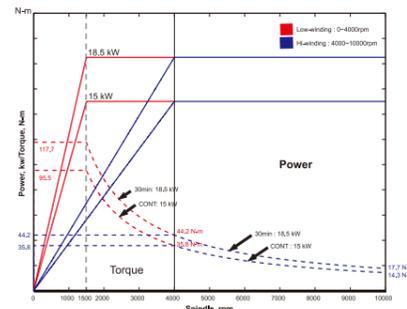
FANUC α8/8000i for belt type spindle 10000rpm(1:1 2,5)



FANUC α8/8000i for belt type spindle 12000rpm(OPT)



FANUC α15/10000i for belt type / DDS spindle 10000rpm(OPT)



VFP MACHINE SPECIFICATIONS

Model	VFP-800(A)	VFP-1000(A)
Travel		
X Axis Travel	820mm	1020mm
Y Axis Travel	520mm	520mm
Z Axis Travel	505mm	505mm
Spindle Nose To Table Surface	100-605mm	80-585mm
Spindle Center To Column Surface	560mm	560mm
Table Surface To Floor	920mm	920mm
Table Center To Column Surface	300-820mm	300-820mm
Table		
Table Dimension	950x520mm	1150x520mm
Max.loading Weight	800kg	800kg
T-slots (W×no.×p)	18x5x100mm	18x5x100mm
Spindle		
Spindle Speed	10000rpm	10000rpm
Spindle Taper	7/24 taper NO.40	7/24 taper NO.40
Dia. Of Spindle	Ø 70mm	Ø 70mm
Spindle Motor	7.5/11 kw	7.5/11 kw
Feedrate		
Rapid Traverse X Axis	36	36
Rapid Traverse Y Axis	36	36
Rapid Traverse Z Axis	30	30
Automatic Tool Changer		
No. Of Tools	24	24
Pull Stud	P-40T (45°)	P-40T (45°)
Max. Tool Weight	8kg	8kg
Max. Tool Length	300mm	300mm
Max. Tool Diameter	Ø 80mm	Ø 80mm
Max. Tool Diameter (No Adjacent Tool)	Ø 150mm	Ø 150mm
Tool Changing Time (Tool To Tool)	1.7 sec	1.7 sec
Tool Changing Time (Chip To Chip)	4 sec	4 sec
Floor Space	2905×2300mm	3040×2300mm
Machine Weight	5800kg	6300kg
Max. Machine Height	2800mm	2800mm
Power Capacity	25KVA	25KVA
Air Source	6~8bar	6~8bar

STANDARD ACCESSORIES

- Heat exchanger
- 3 axes pretensioned ballscrews
- Clamping / unclamping device
- Automatic lubrication system
- Fully enclosed splash guard
- Dust-proof electrical cabinet
- Spindle air sealing
- 3-color signal light
- Rigid tapping
- Leveling blocks and plates
- Spindle coolant nozzle
- Operation and maintenance manual

OPTIONAL ACCESSORIES

- 3 axes linear scales
- Coolant through spindle
- Workpiece measurement system
- Automatic tool length measurement and breakage detection
- Chip conveyor
- Chip screw
- Spindle oil cooler
- Flushing system + coolant gun
- Front flushing
- Top roof
- 4th axis preparation or rotary table
- High pressure pump
- Auto power off
- 12,000rpm Belt type spindle BT-40
- 10,000rpm DDS spindle
- 12,000/15,000rpm DDS spindle

Machine Dimensions, Table Dimensions and Working Capacity

VFP800 / 1000

