



**WITH YOU
SUCCESS TOGETHER**



VMX SERIES
Vertical Machining Center



HEADQUARTERS
No. 186, Yong Chi Road, Taipei, Taiwan.
Tel: +886-2-2763-9696
Fax: +886-2-2768-0636/37/39
www.ffg-tw.com
E-mail: chairom@fairfriend.com.tw



FEELER MACHINE TOOLS DIVISION
No. 12, Jingke Rd., Nantun Dist., Taichung City, Taiwan
Tel: +886-4-2359-4075
Fax: +886-4-2359-4873
www.feeler.com
E-mail: sales@feeler.com



Website



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ISO 9001
ISO 14001



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Vertical Machining Center Provides State-of-the-art Efficiency For Increased Profitability

Whether you require in high precision parts machining or general mold making, FEELER's new VMX Series Vertical Machining Centers offers unbeatable dependability.

The VMX Series is a well-engineered high precision unit, ideal for various precision industrial requirements.



VMX-820/1020

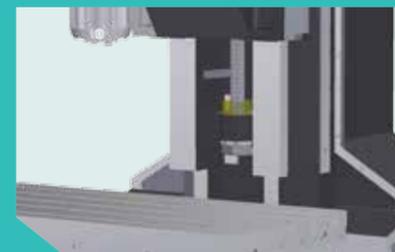
- Ideal machine model for high speed cutting market.
- Machine is equipped with direct drive spindle, which performs good rigidity.
- X/Y/Z axis can be equipped with linear guide or Z axis with box way to meet different processing purposes.
- Human friendly design, sleek front door and big side windows (door width: 1100mm) for convenient cleaning and easy maintenance.

Perfected Structure Design Brings You Lifetime Accuracy, Rigidity And Stability !

The machine structure and major parts are manufactured from Meehanite cast iron for outstanding material stability and guaranteed long-term deformation-free performance.

Spindle head stock is with one-piece design to increase 5% rigidity.

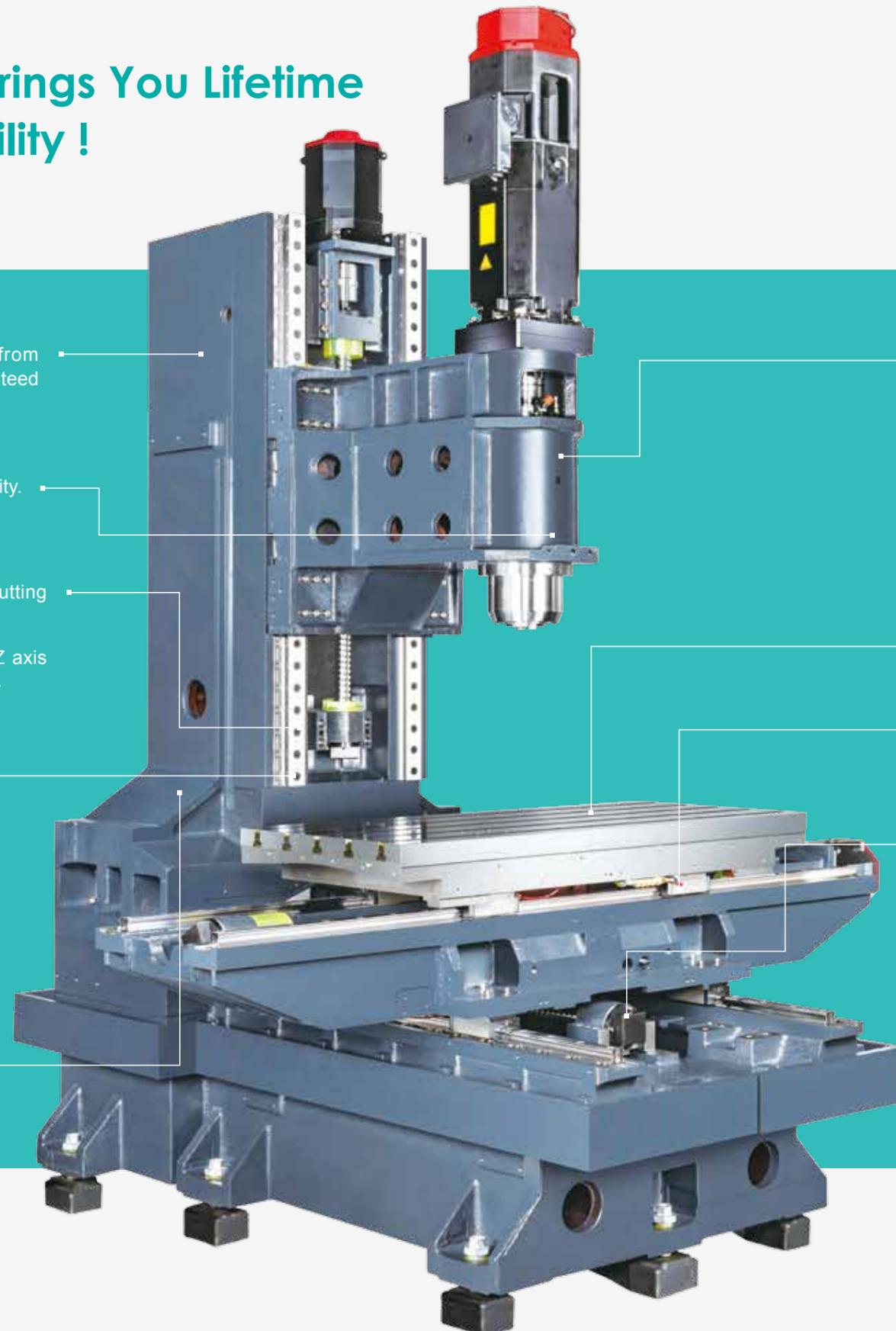
- Z axis is equipped with roller type line guides to enhance cutting rigidity.
- 634mm span of guideways on Y axis and 370mm span on Z axis guarantee superior stability for saddle and spindle head travel.



Z axis is also available with boxway(OPT.)

Z axis travel is extended to 560mm.(OPT : 635mm)

The column bottom is specially designed with A-shaped structure.



Equipped with 12,000 DDS spindle.



Max. table loading is 800kg.

Outstanding machine structure, combined with high speed servo system, allows rapid traverse up to 40 m/min.

Ballscrews are driven by DDS motor ensure accuracy and eliminate positioning errors.



Machine Features

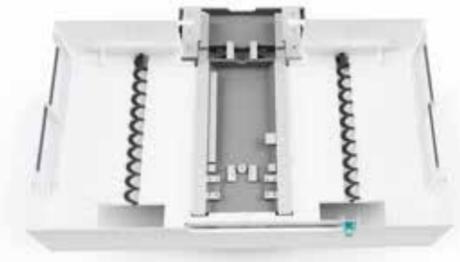


Dependable, Efficient ATC

- FEELER's ATC designs are all subjected to 1 million cycles of continuous tests for durability and stability to assure maximum dependability of operational performance.
- It's available with 30T magazine(opt.) and is able to load into HQ container.



Powerful Flushing System



Two Sides Chip Screws on Y Axis (OPT.)

It can quickly and efficiently remove metal chips.



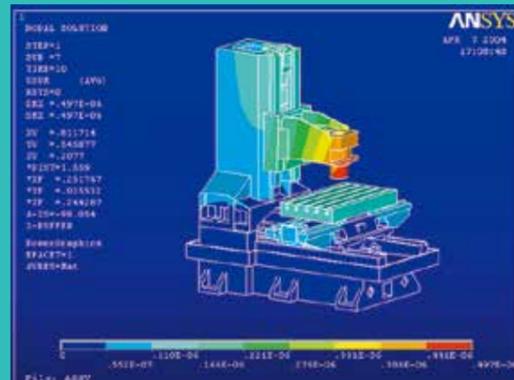
Screw Type Chip Conveyor (OPT.)



Chip Conveyor (OPT.)
water tank and chip tank are separated for easy cleaning.



Z axis with 45mm roller type linear guide.

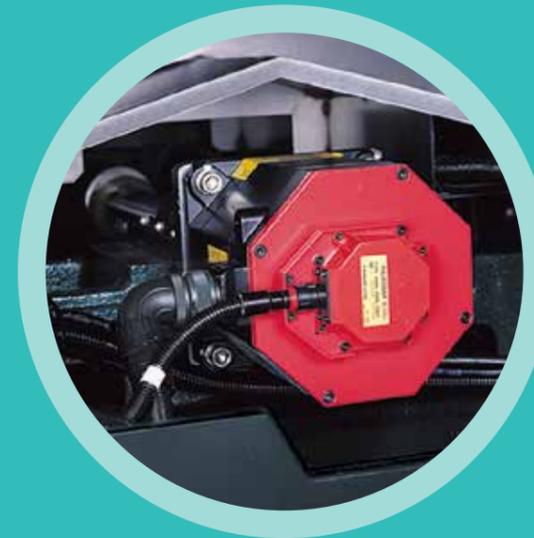


FEM ANALYSIS

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



Rubber seals are mounted at the EC cabinet door for optimal enclosure.



Rear installation of the Y axis servo motor provides a convenient maintenance space.



Air-gun and coolant-gun fittings for your convenience.(OPT.)

A Good Partner of Production

FEELER INTELLIGENCE MONITORING APP(OPT.)

Thermal Compensation

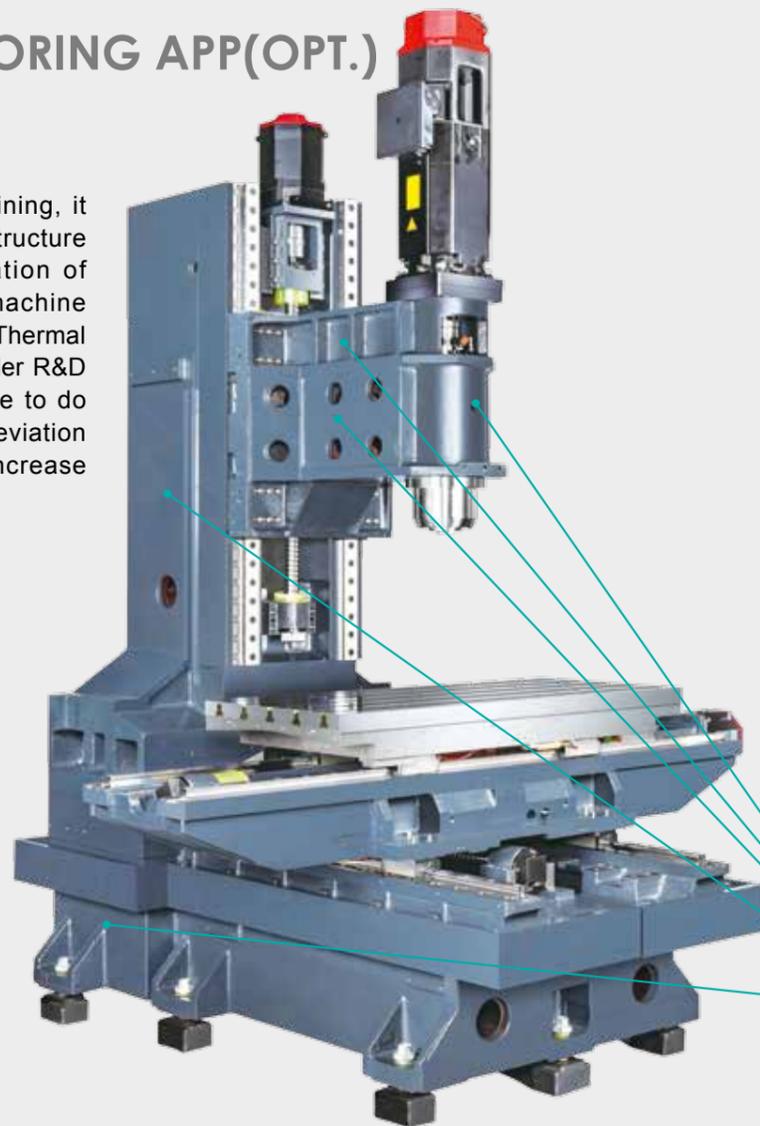
After long term operation and workpiece machining, it would cause thermal deformation of machine structure to affect accuracy. According to the information of temperature changing, which are located in machine structure (around 4~8 locations) and 8 channels Thermal compensation system, which is developed by Feeler R&D team to calculate the differences of temperature to do thermal compensation. Hence, the machining deviation accuracy will be restrained under 0.02mm to increase machining quality.

FEATURES

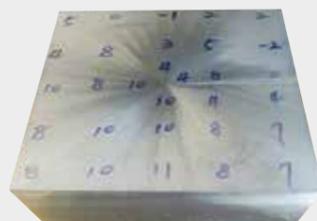
- Create thermal compensation technology.
- Developing thermal compensation module.
- Solve thermal displacement issue.

The Deviation Control of Processing Point

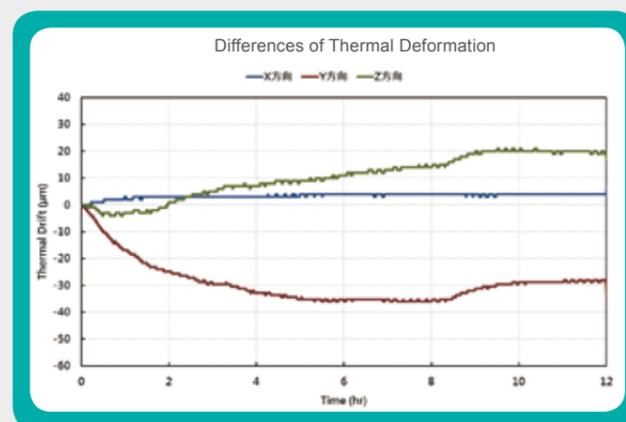
- Obtain thermal deformation differences by cutting test
- Thermal difference is restrained under 0.02mm



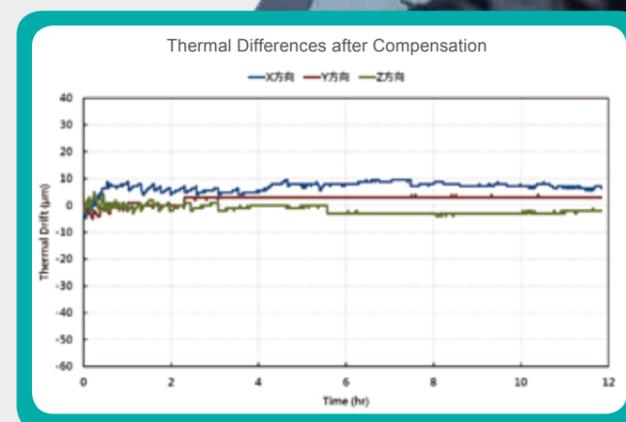
Temperature Sensor Place(sample)



8 Channel Thermal Temperature Compensation



Thermal Compensation



Engineering Analysis

FOCUS ON High Speed Cutting Market

- **Model Chosen**

Based on workpiece to choose high C/P value and good efficiency machine model to meet processing requirements.

- **Engineering Analysis**

Assisting to do cycle time, tooling and fixture evaluation.

- **Automation/Turn-key Project**

Assisting automation /Turn-key project evaluation and engineering application.

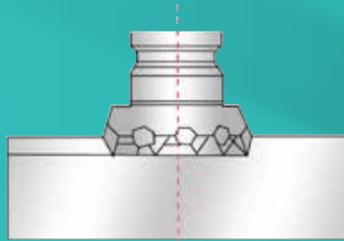
| **Using Tool** | D80 6 Edges Face Mill

| **Dry Cutting** | S45C

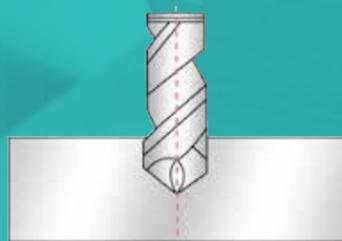
| **Face Milling** |

| **Drilling** |

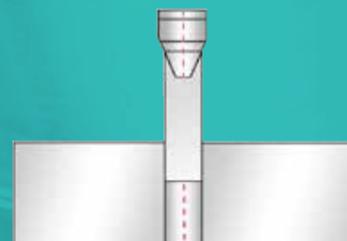
| **Tapping** |



Removing q'ty / min. 312(CC/min)



Diameter of drill 40(mm)

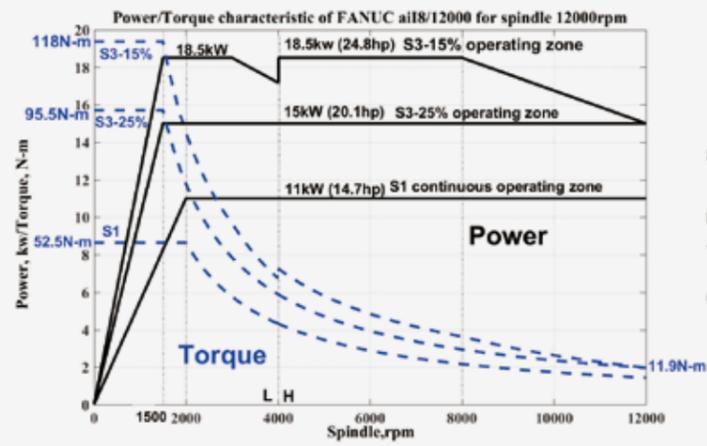


Specification of tapping M24*3CM

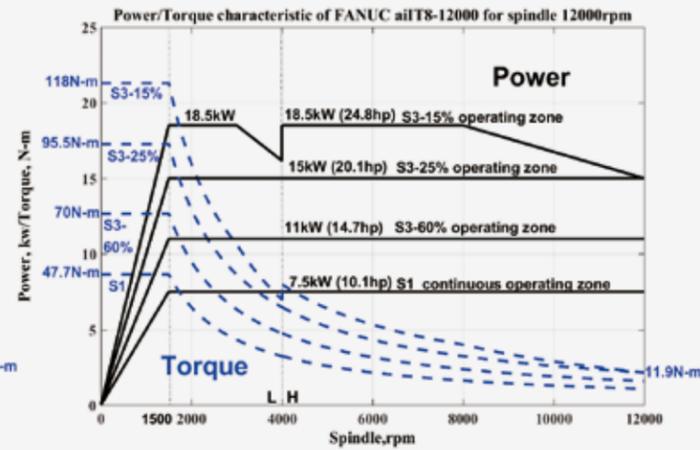
Spindle Torque/Motor Drawing

Machine Layout/Working Table Dimensions

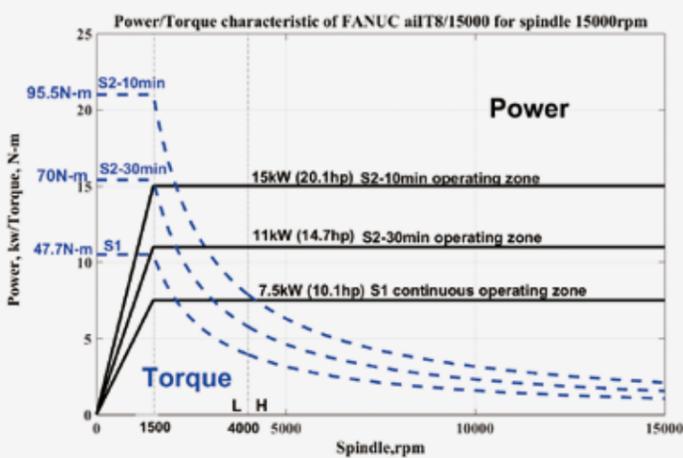
◆ FANUC aiI8/12000 for spindle 12000rpm



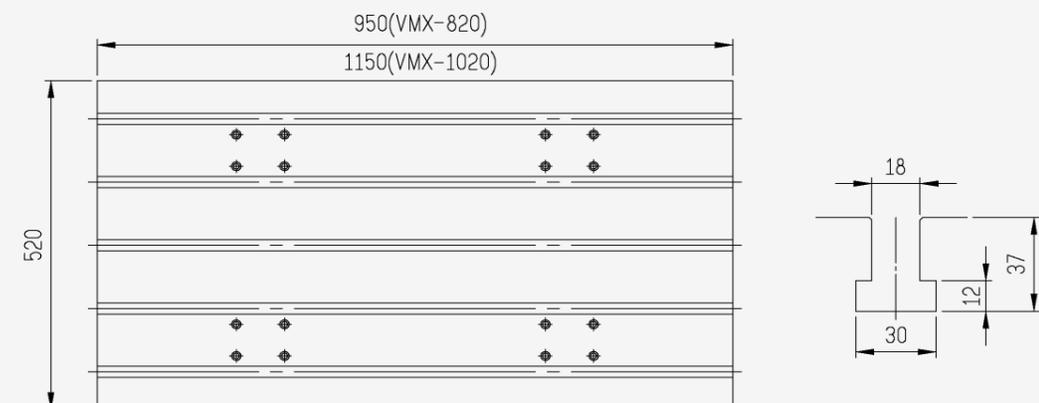
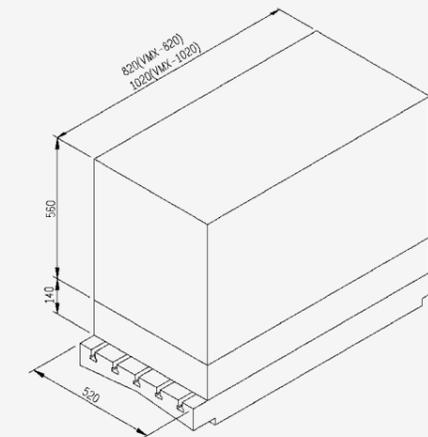
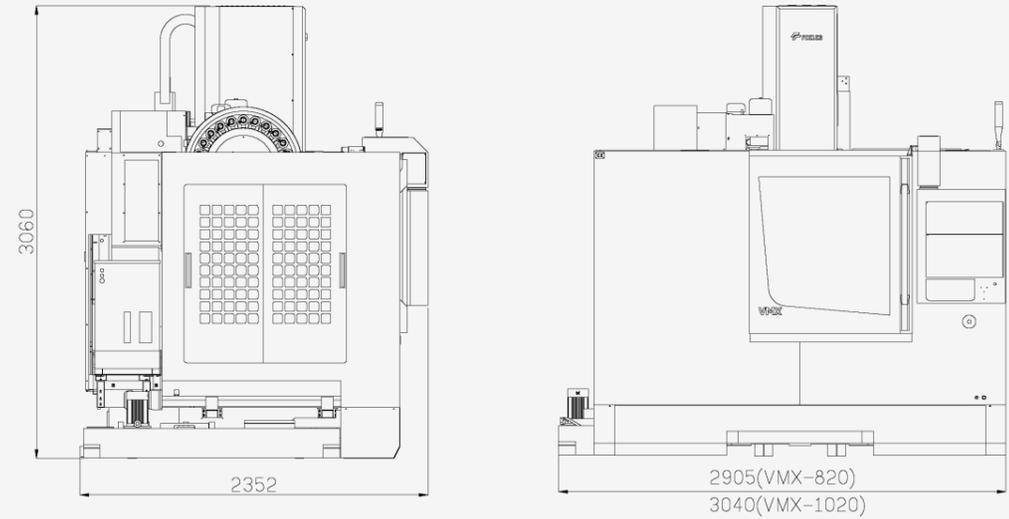
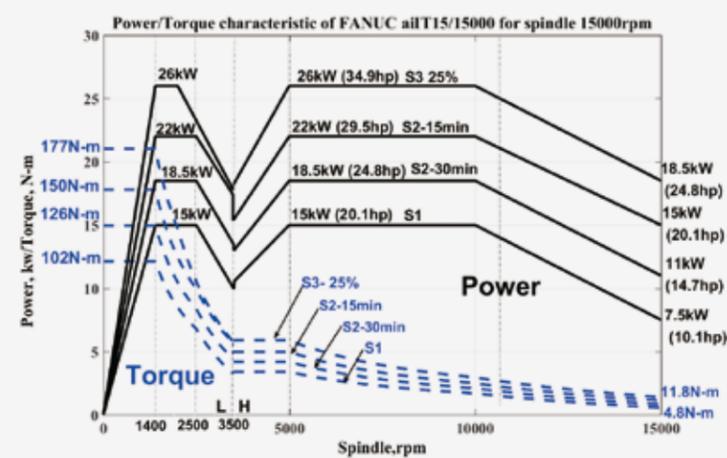
◆ FANUC aiI8/12000 for spindle 12000rpm



◆ FANUC aiI8/15000 for spindle 15000rpm



◆ FANUC aiI15/15000 for spindle 15000rpm



MACHINE SPECIFICATIONS

	Unit	VMX-820 / VMX-1020
TRAVEL		
X AXIS TRAVEL	mm	820 / 1020
Y AXIS TRAVEL	mm	520
Z AXIS TRAVEL	mm	560
SPINDLE NOSE TO TABLE SURFACE	mm	140-700
TABLE SURFACE TO FLOOR	mm	920 / 940
TABLE		
TABLE DIMENSION	mm	950x520 / 1150x520
MAX.LOADING WETGHT	kgf	800
T-SLOTS (W×NO.×P)	mm	18x5x100
SPINDLE		
SPINDLE SPEED	rpm	12000
SPINDLE TAPER		7/24 taper NO.40
DIA. OF SPINDLE	mm	70
SPINDLE MOTOR	kw	7.5 (11)
FEEDRATE		
RAPID TRAVERSE X AXIS		40
RAPID TRAVERSE Y AXIS		40
RAPID TRAVERSE Z AXIS		30
AUTOMATIC TOOL CHANGER		
NO. OF TOOLS		24
PULL STUD		P-40T (45°)
MAX. TOOL WEIGHT	kg	8
MAX. TOOL LENGTH	mm	300
MAX. TOOL DIAMETER	mm	75
MAX. TOOL DIAMETER (NO ADJACENT TOOL)	mm	150
TOOL CHANGING TIME (TOOL TO TOOL)	sec	1.7
TOOL CHANGING TIME (CHIP TO CHIP)	sec	4
Others		
FLOOR SPACE	mm	2905×2352 / 3040×2352
MACHINE WEIGHT	kg	5400 / 5900
MAX. MACHINE HEIGHT	mm	3060
POWER CAPACITY	KVA	30
AIR SOURCE	bar	6~8

※Specifications are subject to change without prior notice.

MACHINE ACCESSORIES

	VMX-820	VMX-1020
3-Axis Pro-Tensioned Ball Screw	●	●
3-Color Signal Light	●	●
Automatic Lubrication System	●	●
Dust-Proof Electrical Cabinet	●	●
Ethernet Interface	●	●
Enclosed Splash Guard	●	●
Heat Exchanger	●	●
Outside Air Blast	●	●
Rigid Tapping	●	●
RS232	●	●
Spindle Air Blast	●	●
Spindle Air Sealing	●	●
DDS 12000 rpm(Ceramic bearing)	●	●
Work Light*1	●	●
No Counter Weight(Z axis servo motor with brake)	●	●
24T Nos. ATC	●	●
Spindle Coolant Nozzle	●	●
Air Gun Interface	●	●
Oil-Water Separator	●	●
X/Y/Z Axis with Linear Guide(Z axis-roller type)	●	●
Work Light*2	○	○
30T Nos. ATC	○	○
4/5 Axis Interface	○	○
40T Nos. ATC	○	○
4th Axis Interface	○	○
Air Condition	○	○
Auto Tool Length Measurement	○	○
Auto Workpiece Measurement	○	○
Automatic Door	○	○
Automatic Power Off	○	○
C.T.S. with Filiter System(top roof must included)	○	○
Chip Convey-Left/Right Side Discharge & Chip Bucket	○	○
Chip Flushing System	○	○
Coolant Gun	○	○
CTS Interface	○	○
Dual-Chip Augers(with Chip Conveyor)	○	○
High Pressure Pump	○	○
Linear Scale	○	○
Oil Skimmer	○	○
Screw type Chip Conveyor-Left/Right Side Discharge & Chip Bucket	○	○
Spindle Oil Cooler	○	○
DDS 15000 rpm(include temperature compensation)	○	○
Temperature Compensation	○	○
Top Roof	○	○

● Standard ○ Optional × N/A