



JOHNFORD

Vertical Machining Centers



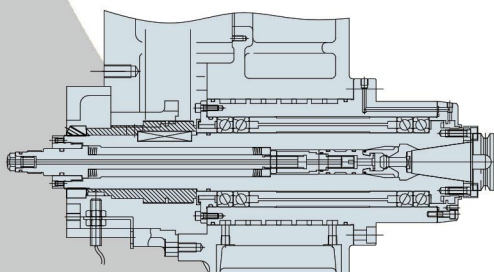
VMC-850 / 1050
JET-32 / 40

Vertical Machining Center



Rigid with Excellent Static
Rapid Traverse : X/Y/Z 30 /

VMC-850 / 1050



Cartridge Spindle

Spindle taper: BT / CAT 40 (Std.), BBT 40 (Opt.)

Spindle Speed: Std. 8000 rpm

Opt. 10000 rpm / 12000 rpm

Item	Model	VMC-850	VMC-1050
Table working surface (mm)		1000 x 500 (39.4" x 19.7")	1200 x 500 (47.2" x 19.7")
Longitudinal travel (X) (mm)		800 (31.5")	1050 (41.3")
Cross travel (Y) (mm)		500 (19.7")	
Vertical travel (Z) (mm)		610 (24")	
Spindle motor (kW)		7.5 / 5.5 P motor (Std.) 7.5 / 5.5 + Planetary gear box (Opt.)	
Table load capacity (kg)		400 (880 lb)	
Machine dimensions (LxWxH) (mm)		2350 x 2200 x 2698 (92.5"x 86.6"x 106.2")	2920 x 2200 x 2698 (115"x 86.6"x 106.2")
Machine weight (kg)		5500 (12100 lb)	6000 (13200 lb)



and Dynamic Accuracy
30/20 m/min Turcite-B on 3 Axes

➔ Advanced Features

- Zero table overhang
- Super wide base arrangement provides rigidity and accuracy of machining.

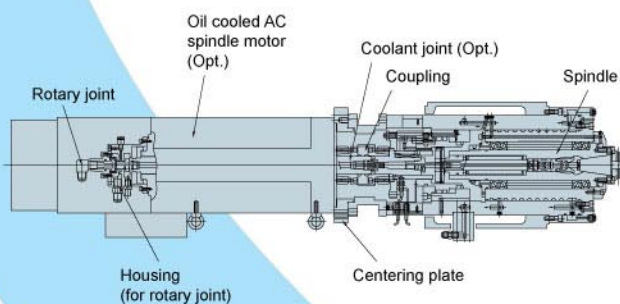


Vertical Machining Center



Linear Ways on X, Y Axes

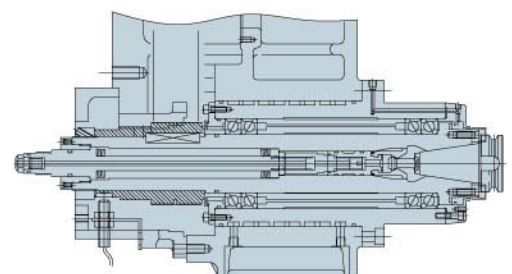
JET-32 / 40



Direct Driving Spindle

Spindle taper: BBT 40 (Opt.)

Spindle Speed: 12000 rpm / 15000 rpm (Opt.)



Cartridge Spindle

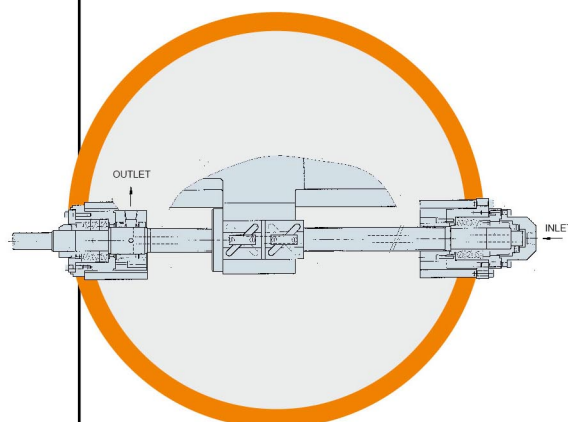
Spindle taper: BT / CAT 40 (Std.), BBT 40 (Opt.)

Spindle Speed: Std. 8000 rpm

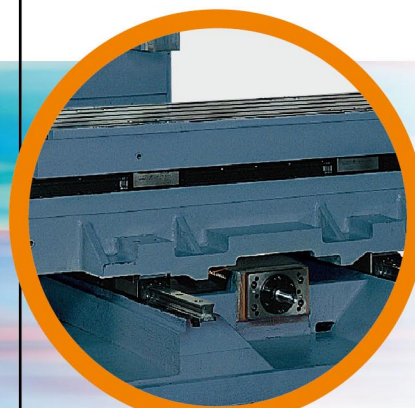
Opt. 10000 rpm / 12000 rpm



↑ The high-rigidity and high-precision linear guides are used on X and Y axes



↑ Internal Cooling Ballscrew (Opt.)



➔ Rapid Traverse:

■ 40/ 40/ 20 m/min

Item	Model	JET-32	JET-40
Table working surface (mm)		1000 x 500 (39.4" x 19.7")	1200 x 500 (47.2" x 19.7")
Longitudinal travel (X) (mm)		820 (32.3")	1050 (41.3")
Cross travel (Y) (mm)		500 (19.7")	500 (19.7")
Vertical travel (Z) (mm)		610 (24")	610 (24")
Spindle motor (kW)		7.5 / 5.5 P motor (Std.) 7.5 / 5.5 Hi-Lo Gear (Opt.)	7.5 / 5.5 P motor (Std.) 7.5 / 5.5 Hi-Lo Gear (Opt.)
Table load capacity (kg)		400 (880 lb)	400 (880 lb)
Machine dimensions (LxWxH) (mm)		2740 x 2290 x 3060 (107.9" x 90.2" x 120.5")	3200 x 2250 x 3110 (126" x 88.6" x 122.4")
Machine weight (kg)		5000 (11000 lb)	6000 (13200 lb)

Spindle Power & Torque Chart

High Speed Spindle (Opt.)(Built-in Motor)

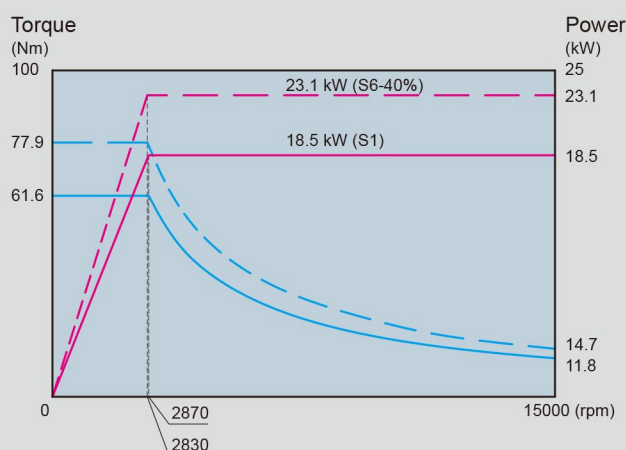
Technical Data

Drive Layout

Tool system	BBT-40 / HSK A63
Power	18.5 / 23.1 kW (S6-40%)
Nominal speed	2870 rpm
Max. Torque	77.9 Nm
Max. Speed	15000 / 18000 rpm (Opt.)
Control	Fanuc / Siemens / Heidenhain
Voltage	220V / 380V
Max. Current	76 A / 44 A
Clamping system	Spring-mechanical + Power-mechanical
Clamping Force	800~1000 kg
Tool cleaning	Central+Surrounding
Spindle bearings	2 x Ø70 hybrid
Bearing rigidity	586.8 N/μm
Bearing lubrication	Grease
Spindle cooling	Water glycol
Cooling performance	> 8 kW
Cooling temperature	Adjust coolant temperature (+2°C)
Cooling volume approx	12 l/min

Tool Cooling

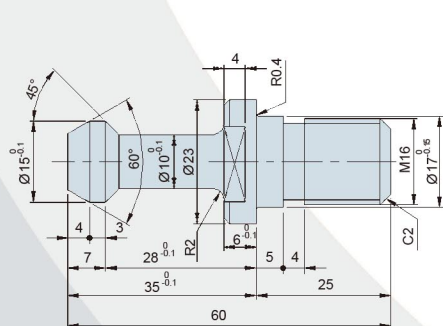
Internal coolant flow	Optional
Max. Pressure	70 bar (air: < 5 bar)
Suitable for dry operation	Yes
Air	Possible
Min. quantities of cooling lubricant	Optional



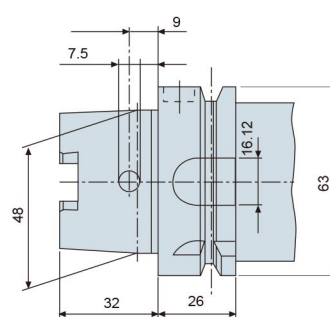
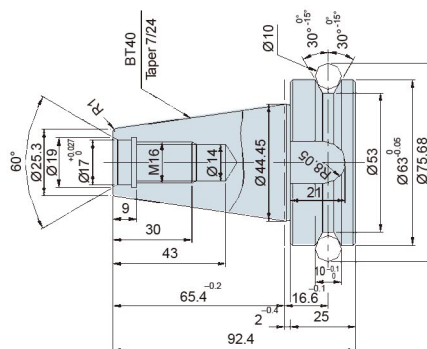
BBT-40 / HSK A63 15,000 rpm

Power:	18.5 / 23.1 kW (S6-40%)
Torque:	77.9 Nm (S6-40%)
Nominal Speed:	2870 rpm
Lubrication:	Grease

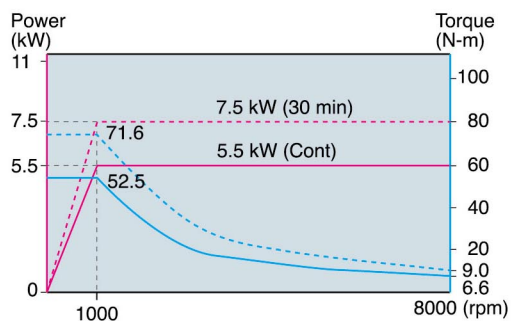
Tool System



BT-40

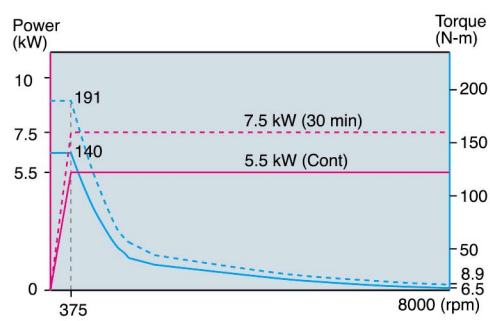


HSK A63



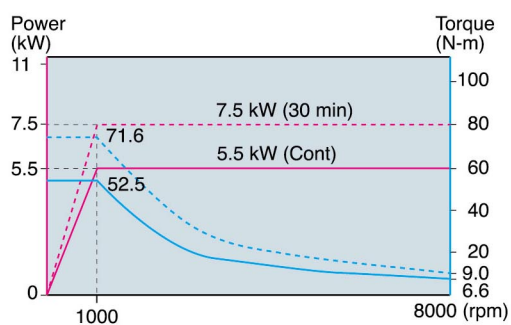
VMC-850 / 1050

■ 8000 rpm cartridge spindle (Std.)



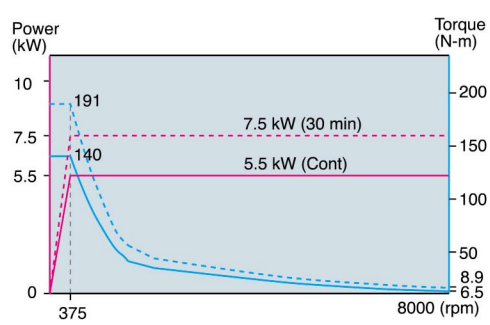
VMC-850 / 1050

■ 8000 rpm planetary 2-step gear box (Opt.)



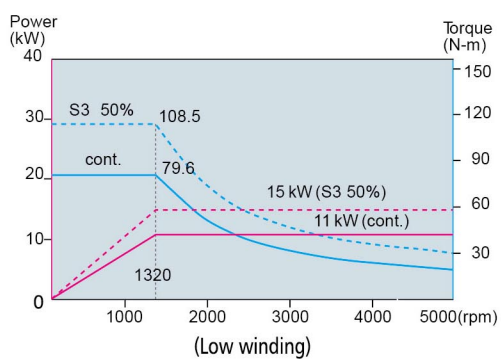
JET-32 / JET-40

■ 8000 rpm cartridge spindle (Std.)



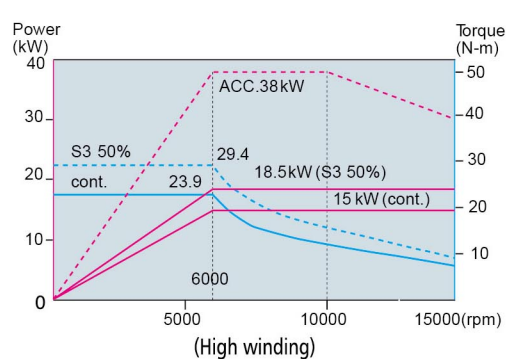
JET-32 / JET-40

■ 8000 rpm planetary 2-step gear box (Opt.)



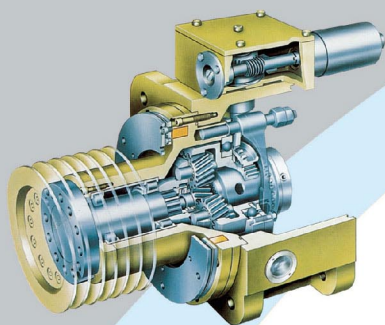
JET-32 / JET-40

■ 15000 rpm direct driving spindle (Opt.)



Different Accessories for Your Choice

Gear Box



- Delivers high torque.
- Planetary 2 speed automatic gear box,
- No noise generated,
- No heat transmitted,
- No gear vibration,
- High efficiency (over 95%)

Cooler



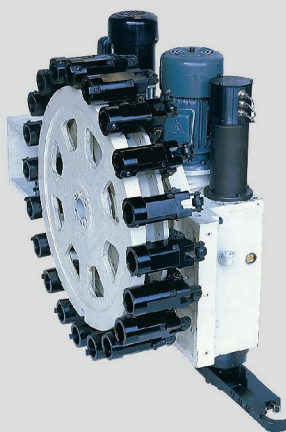
- High efficiency.
- Powerful cooling performance.

ATC Units



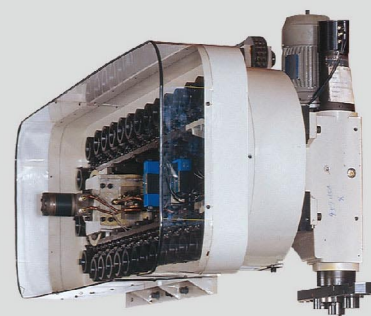
Armless Type

- 24 tools for BT/CAT-40



Arm Type

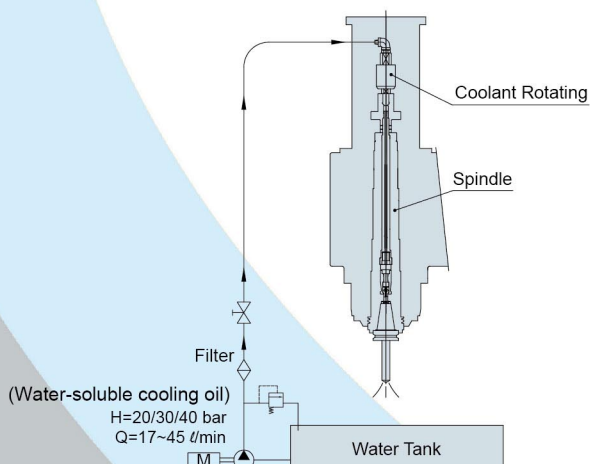
- 24 tools for BT/CAT-40, HSK A63



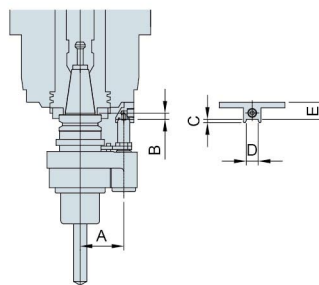
Arm Type

- 32 tools for BT/CAT-40, HSK A63

Coolant Thru Spindle



Coolant Thru Tool Tip



Model	Item	Taper No.	A	B	C	D	E
VMC-850 / 1050		No.40	65	8	5	18	18

Automatic Pallet Changer

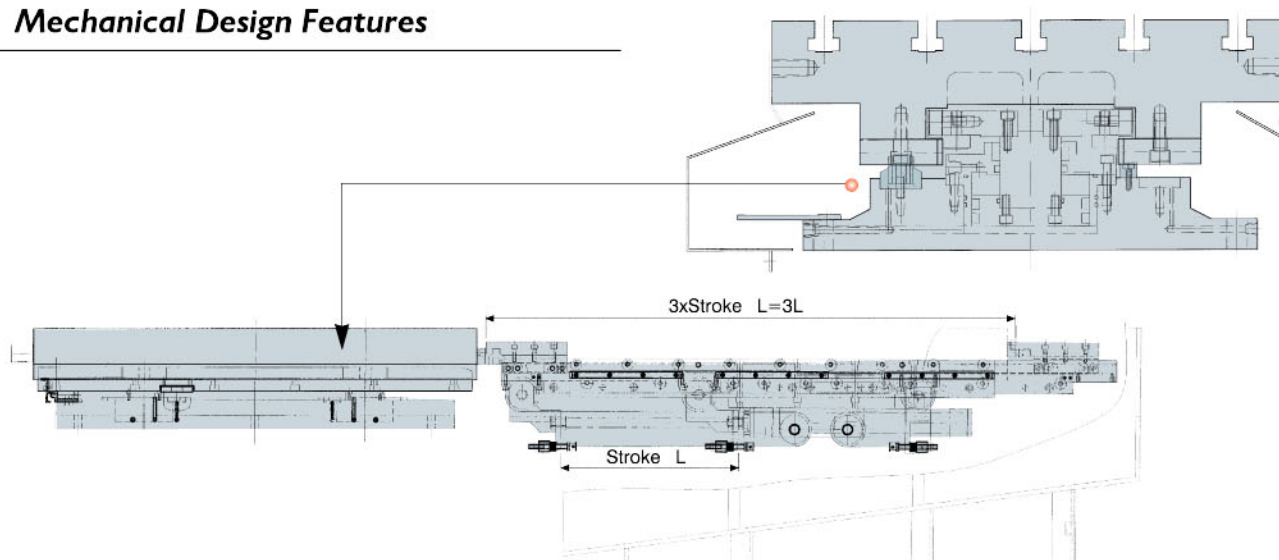
Chain Type (Patented)

- Simplified construction. Maximum dependability.
- Suitable for long pallet change for space saving.
- Rigid and accurate positioning mechanism.
- Safe and fast motions.



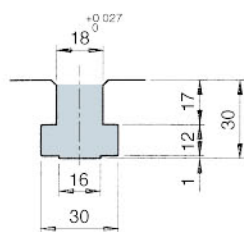
➔ VMC-850 / JET-32+APC

Mechanical Design Features

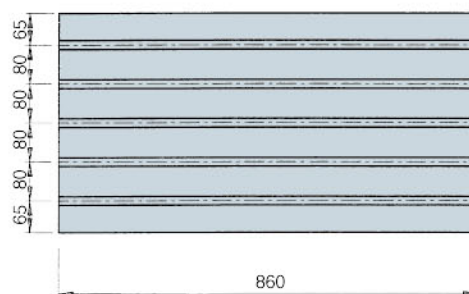


Dimensions

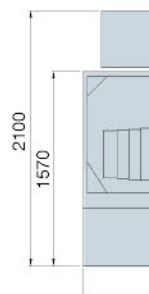
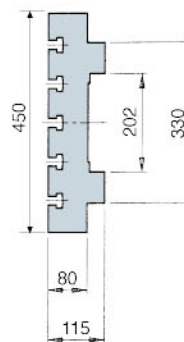
VMC-850 / JET-32+APC



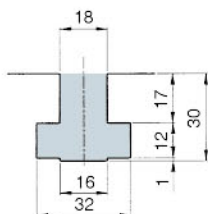
T-Slot



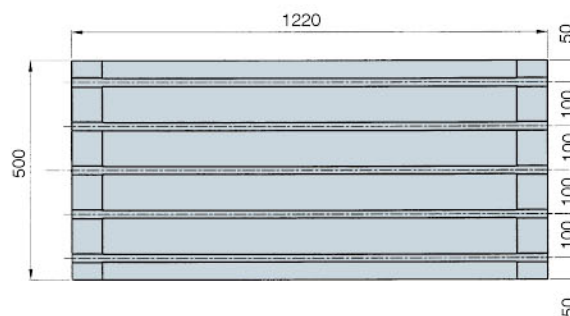
Table



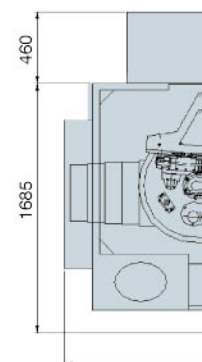
VMC-1050+APC

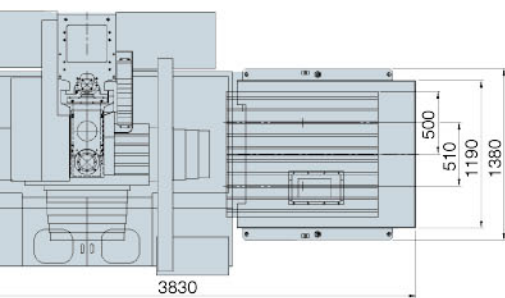


T-Slot

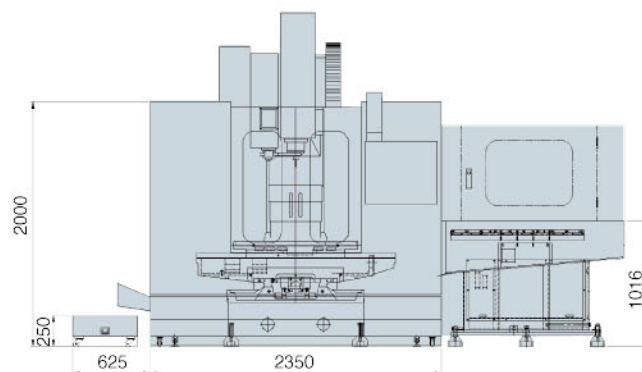


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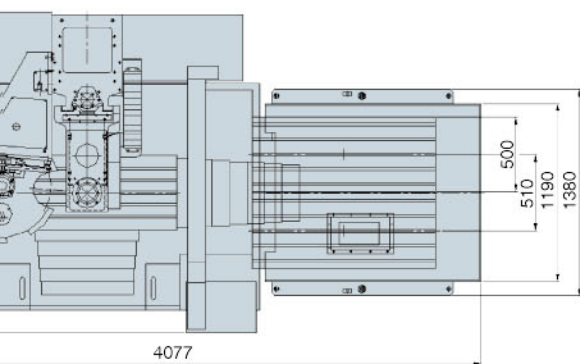




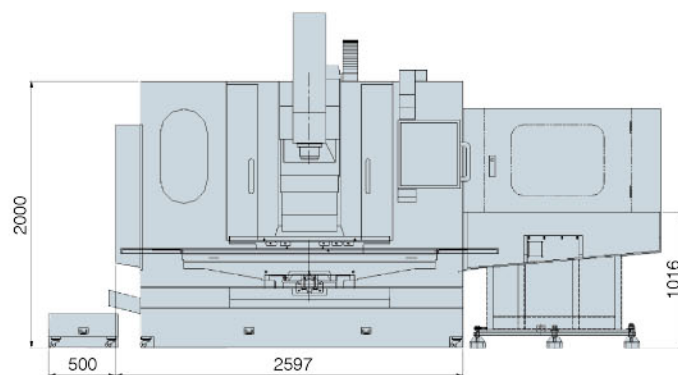
Top View (floor space required)



Front View



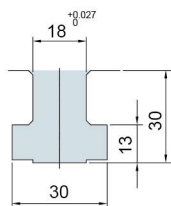
Top View (floor space required)



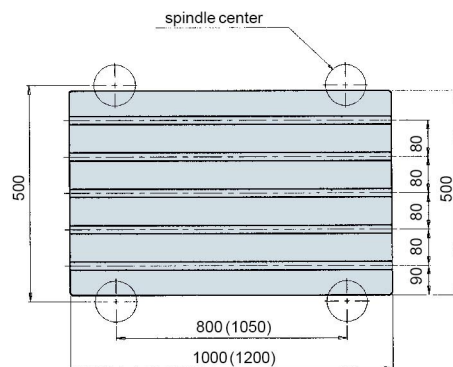
Front View

Dimensions

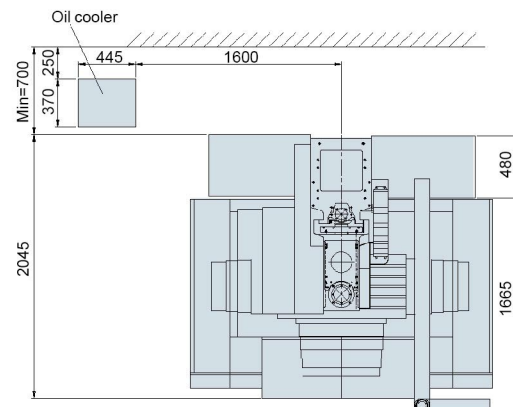
VMC-850 / 1050



T-Slot

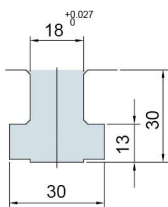


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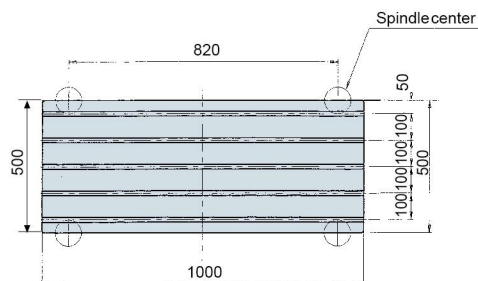


Top View (floor space required)

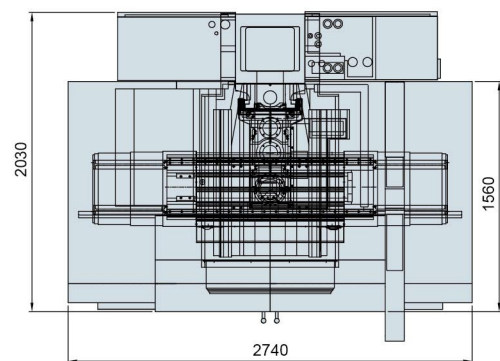
JET-32



T-Slot

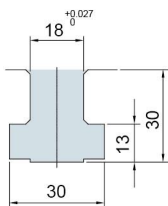


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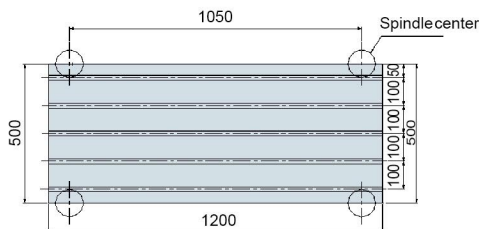


Top View (floor space required)

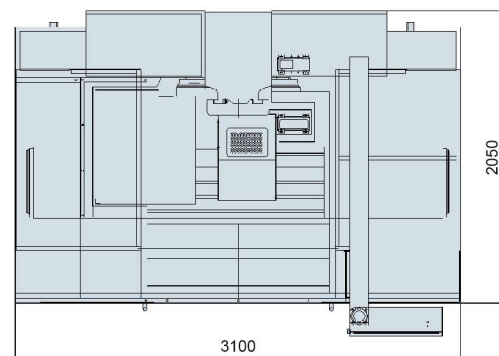
JET-40



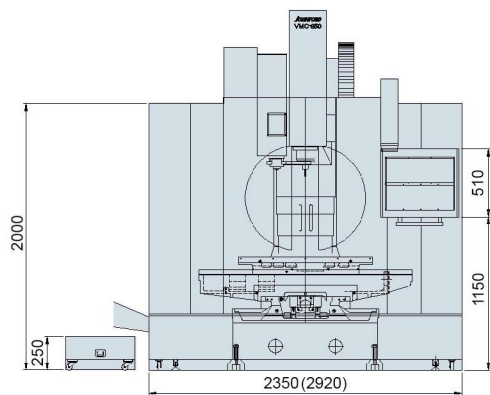
T-Slot



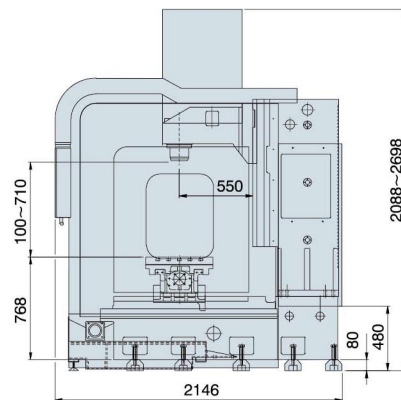
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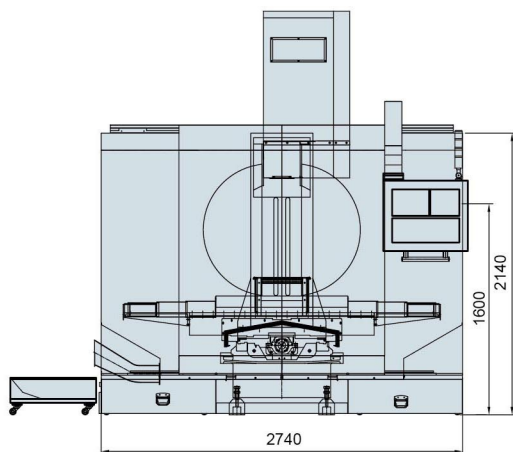
Top View (floor space required)



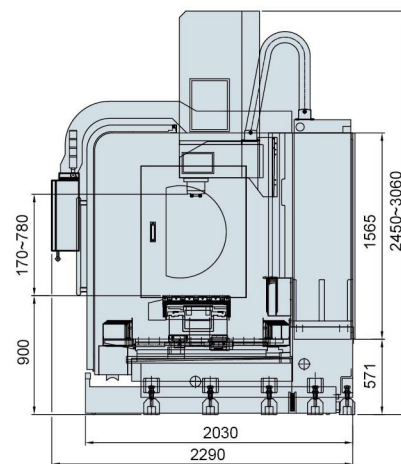
Front View



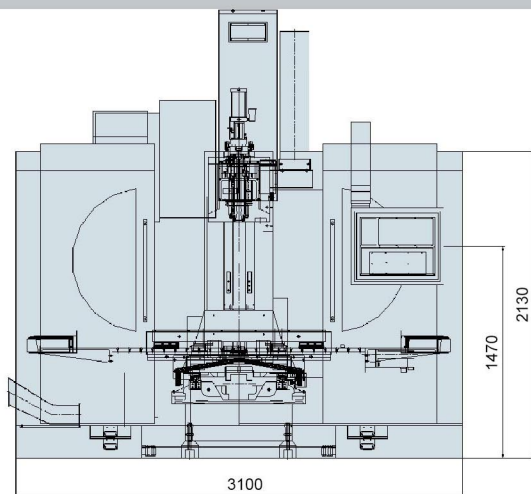
Side View



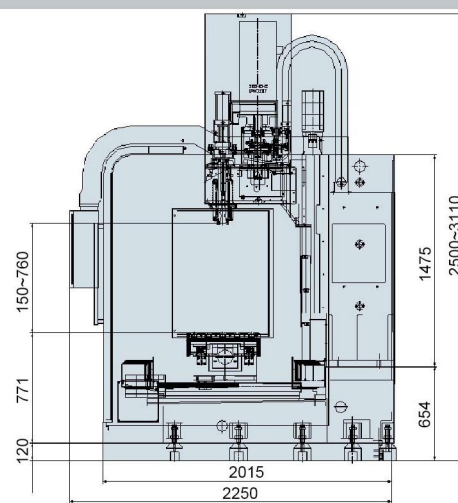
Front View



Side View



Front View



Side View

Specifications

Model		VMC-850	VMC-1050	JET-32	JET-40
Item					
Table working surface (mm)		1000 x 500 (39.4" x 19.7")	1200 x 500 (47.2" x 19.7")	1000 x 500 (39.4" x 19.7")	1200 x 500 (47.2" x 19.7")
Longitudinal travel (X) (mm)		800 (31.5")	1050 (41.3")	820 (32.3")	1050 (41.3")
Cross travel (Y) (mm)		500 (19.7")			
Vertical travel (Z) (mm)		610 (24")			
Spindle nose to table (mm)		100~710 (3.94"~28")		150~760 (5.9"~29.9")	
Spindle to column (mm)		550 (21.7")			
Spindle taper		BT-40, CAT-40 / BBT-40, HSK A63 (Opt.)			
Spindle speed (rpm)		60~8000			
Spindle motor (kW)		5.5 / 7.5 P motor (std.) 5.5 / 7.5 Hi-Lo Gear (Opt.)			
X-Y-Z Rapid traverse (m/min)		30 / 30 / 20		40 / 40 / 20	
Cutting feed (mm/min)		1~12000			
Tool selection		Bi-direction random type, Shortest path			
No.of tools		Armless 24 Arm type 24 / 32 (Opt.)			
Adjacent pockets Max. tool dia.		75 (ϕ 3")			
Max. tool diameter (mm)		100 (ϕ 4")			
Max. tool length (mm)		320 (12.6")			
Max. tool weight (kg)		10 (22 lb)			
Table load capacity (kg)		400 (880 lb)			
Machine weight (kg)		5500 (12100 lb)	6000 (13200 lb)	5000 (11000 lb)	6000 (13200 lb)
Machine dimensions (LxWxH) (mm)		2350 x 2200 x 2698 (92.5" x 86.6" x 106.2")	2920 x 2200 x 2698 (115" x 86.6" x 106.2")	2740x2290x3060 (107.9"x90.2"x120.5")	3200 x 2250 x 3110 (126" x 88.6" x 122.4")
X-Y-Z Ball screw dia.		ϕ 40, ϕ 40, ϕ 40			
Cutting capacity (S45C)	Milling	120 cc/min			
	Drilling	ϕ 30 mm			
	Tapping	M30 x P3.5			

■ All data subject to change without notice.

■ All the specifications are listed with the FANUC CNC system.

Standard Accessories:

1. Coolant system
2. Spindle air blast
3. Auto lubrication with alarm
4. Tools, tool box and various manuals
5. LED working lamp
6. Screw type chip conveyor
7. Chip flushing coolant
8. Full enclosure splash guard
9. FANUC Oi-MF controller

Optional Accessories:

1. Contact / Non-contact tool setting system
2. CNC Rotary table
3. Automatic pallet changer (A.P.C.)
4. High pressure coolant thru tool tip
5. High pressure coolant thru spindle (20 bar / 30 bar or more)
6. Arm type ATC 24/32 tools (No.40, HSK)
7. Chain type chip conveyor
8. Cartridge spindle (10000 / 12000 rpm for BT / CAT-40 spindle)
9. Direct driving spindle (12000/15000 rpm for BT / CAT-40 spindle)
10. High-speed built-in spindle (15000 rpm for BBT-40 spindle;
15000 / 18000 / 24000 rpm for HSK A63 spindle)
11. Internal cooling ballscrew
12. Manual guide i (OiMF)
13. Electronic compensation of thermal expansion
14. Spindle cooler

CNC Control Specs

■ CNC system type

O: Std. △: Opt. -: Nil

Type	Model	VMC-850 / 1050	JET-32 / 40
FANUC 0i/MF			○
FANUC 31i/MB			△
Heidenhain iTNC640 HSCI			△
Siemens 840D			△
Siemens 828D			△

■ Fanuc specifications

O: Std. △: Opt. -: Nil

	Item	Specifications	0iMF	31iMB
Display unit	8.4" color LCD		○	-
	10.4" color LCD		△	○
Function	Data Server with 2GB CF card		△	△
	AICC II		△	○
	High speed processing		-	△
	Conversational programming with graphic function	Manual guide 0i	○	-
		Manual guide i	△	○
	NC program memory	1280 meter (about 512 KB)	○	○

■ Siemens specifications

O: Std. △: Opt. -: Nil

	Item	Specifications	828D	840D
Operation Panel	10.4" color LCD		○	○
	15.1" color LCD		-	△
	Machine panel MCP483C		○	○
	TCU without hard disk	CF card	○	○
	PCU 50 with hard disk		-	△
	Ethernet		○	○
Function	ShopMill programming		○	△
	Automatic residual material detection		△	△
	Universal interpolator NURBS		○	○
	Spline interpolation for 3 - axes		△	△

■ Heidenhain specifications

O: Std. △: Opt. -: Nil

	Item	Specifications	TNC 640
Display unit	Visual display unit 15" TFT display		○
Function	Main computer	0.5 ms block processing time	○
	NC programming memory	21GB on SSDR	○
Option No. 8	•Machining with a rotary table •Coordinate transformation •Interpolation - circular in 3 axes with tilted working plane		△
Option No. 9	•Spline interpolation •5-axis simultaneous machining •Interpolation - linear in 5 axes		△



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