

TERA
40V

MICRO
DYNAMICS

CTS Ready

Ergonomics Design

FC300 Meehanite® Casting

High Speed ATC

Rear Operation Panel

MICRO
DYNAMICS
Precision Performance

sales@microdynamicsfa.com
www.microdynamicsfa.com



MD202603 Metric / SAE

MICRO
DYNAMICS
Precision Performance

VERTICAL MACHINING CENTER
Compact, Durable, Powerful,
Strong and Accurate



MEGA
TERA SERIES
FANUC Specifications

MEGA / TERA SERIES

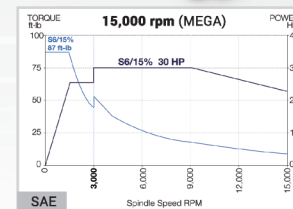
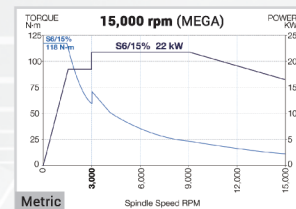
DIRECT-DRIVE SPINDLE - BBT / CAT / DIN / HSK-63A

MEGA SERIES

Power 22 kW (30 HP)

15,000 rpm Standard

Torque 118 Nm (87 ft-lb)

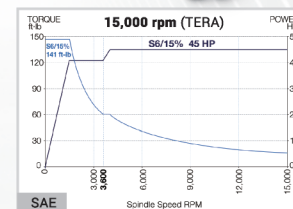
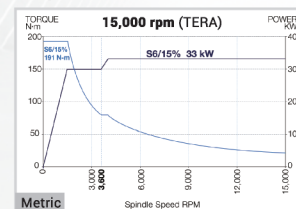


TERA SERIES

Power 33 kW (45 HP)

15,000 rpm Standard

Torque 191 Nm (141 ft-lb)



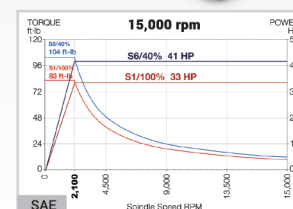
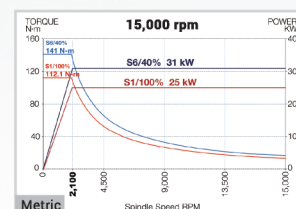
BUILT-IN SPINDLE - BBT / CAT / DIN / HSK-63A

MEGA SERIES / TERA SERIES

15,000 rpm Standard

Power 31 kW (41 HP)

Torque 141 Nm (104 ft-lb)

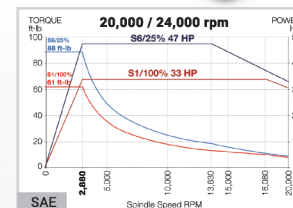
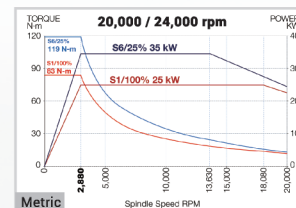


20,000 rpm Option

Power 35 kW (47 HP)

24,000 rpm Option

Torque 119 Nm (88 ft-lb)



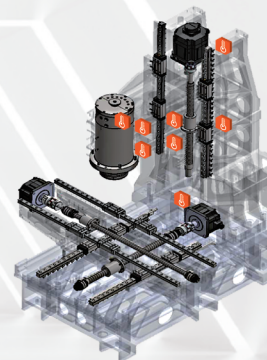
Coolant Through Spindle and
Air Through Spindle (opt)

- 20-Bar (290 psi)
- 40-Bar (580 psi)
- 70-Bar (1,000 psi)

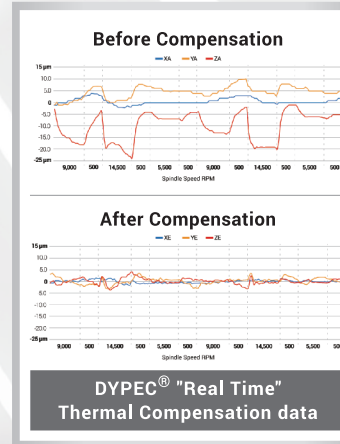
MICRO DYNAMICS VERTICAL MACHINING CENTER

DYPEC® Thermal Compensation

Dynamic Predictive
Error Compensation
(resolution 0.1µm)



THERMAL SENSORS



X/Y/Z axis static in micron error
before and after DYPEC®
compensation (48 hours test).

FANUC Oi-MF Plus Functions

Standard for All Models

- 15" monitor touchscreen.
- Conversational programming - SmartGuide-i.
- 3D simulation.
- AI Contour control: 1,500 blocks ahead.
- Memory: 6 GB (opt: 32 GB).
- Operation of the program from USB.
- Smooth tolerance control.
- Jerk control.
- Machining condition selection function.
- Conversion from FANUC cycles to G-code.

Additional Standard Functions for VT Models
(MEGA 30VT / TERA 50VT)

- Tilted working plane indexing.
- SMOOTH TCP (tool center point control).
- 3-dimensional cutter compensation.
- 3-dimensional manual feed.

MICRO DYNAMICS HMI



PART SETUP

TOOL SETUP

MAGAZINE MONITOR

ATC RECOVERY



POWERFUL

Integrated Micro Dynamics built-In spindle.

THERMAL COMPENSATION

DYPEC® - Dynamic Predictive Error Compensation.

RELIABLE

Highest quality mechanical and electrical components.

COLLISION DETECTION

Machine stops if a collision is detected in all axis.

VERTICAL MACHINING CENTER

DYPEC®
THERMAL
COMPENSATION

MICRO DYNAMICS
HMI

FANUC
Oi-MF Plus

COMPACT

Design with small footprint.

STRONG

FC300 Meehanite® casting.

15" TOUCHSCREEN

Ergonomically friendly.

RIGID TAP

Up to 6,000 rpm.

INTERGRATED AUTOMATION

FANUC standard.

SMOOTH TOLERANCE+ CONTROL

FANUC standard.

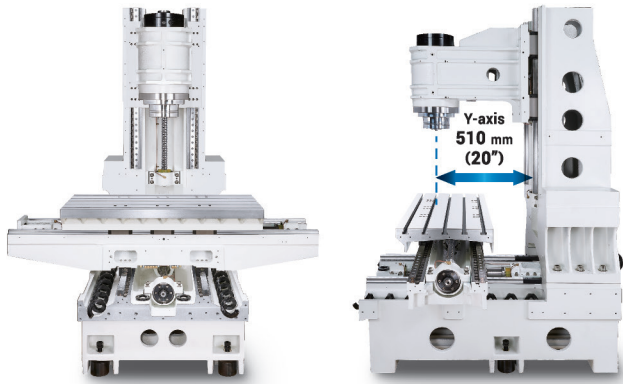
FANUC iHMI

FANUC standard.

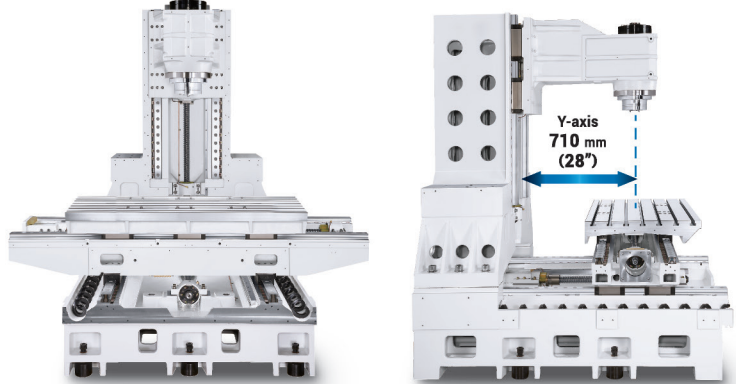
FANUC MANUAL GUIDE i

FANUC standard.

MEGA SERIES



TERA SERIES



The enhanced MEGA/TERA Series Vertical Machining Centers from Micro Dynamics continue to lead the industry in compact, durable, powerful, and highly accurate multipurpose machining. The most significant upgrade is the integration of advanced FANUC control systems, which bring superior precision, faster processing, improved user-friendliness, and greater overall efficiency. These qualities make the machines an excellent fit for high-demand sectors, including die and mold, aerospace, automotive, semiconductor production, job shops, and general machining - delivering unmatched performance and reliability to manufacturers.



SERIES	MEGA series					TERA series			
ITEM / MODELS	MEGA 30V	MEGA 40V	MEGA 20VAPC	MEGA 20VT ^(*)	MEGA 30VT	TERA 40V	TERA 50V	TERA 60V	TERA 50VT
X Axis	760 mm (30")	1,020 mm (40")	600 mm (24")	760 mm (30")	780 mm (30")	1,020 mm (40")	1,270 mm (50")	1,524 mm (60")	970 mm (38")
Y Axis	510 mm (20")	510 mm (20")	510 mm (20")	510 mm (20")	510 mm (20")	710 mm (28")	710 mm (28")	710 mm (28")	710 mm (28") / 650 mm (25.4") at 90°
Z Axis	510 mm (20")	510 mm (20")	510 mm (20")	451 mm (17.8")	441 mm (17.4")	635 mm (25")	635 mm (25")	635 mm (25")	500 mm (19.7")
Table Size	860 x 500 mm (33.9" x 19.7")	1,120 x 500 mm (44.1" x 19.7")	560 x 400 mm (22" x 15.7")	ø200 mm (ø7.9")	ø220 / 500 x 300 mm (ø8.7" / 19.7" x 11.8")	1,120 x 700 mm (44.1" x 27.6")	1,420 x 700 mm (55.9" x 27.6")	1,724 x 700 mm (67.9" x 27.6")	ø320 / 720 x 400 mm (ø12.6" / 28.3" x 15.7")
A Axis (Tilting Axis)	N/A	N/A	N/A	40° ~ -120°	40° ~ -120°	N/A	N/A	N/A	40° ~ -120°
C Axis (Rotary Axis)	N/A	N/A	N/A	360°	360°	N/A	N/A	N/A	360°
Spindle Taper	40 Taper Dual Contact (BBT / CAT / DIN / HSK-63A)								
Spindle Speed	Direct-Drive: 15,000 rpm / Built-In: 15,000 rpm								
Spindle Motor Power	Direct-Drive: 22 kW (30 HP) / Built-In: 31 kW (41 HP)					Direct-Drive: 33 kW (45 HP) / Built-In: 31 kW (41 HP)			
Max. Cutting Torque	Direct-Drive: 118 Nm (87 ft-lb) / Built-In: 141 Nm (104 ft-lb)					Direct-Drive: 191 Nm (141 ft-lb) / Built-In: 141 Nm (104 ft-lb)			
Rapid Feedrate (X / Y / Z Axis)	48,000 / 48,000 / 48,000 mm/min (1,889 / 1,889 / 1,889 ipm)								
Tool Magazine Capacity	30T	40T	40T	40T	40T	40T	40T	40T	40T
Foot Print Size (W x D)	2,389 x 2,245 mm (94.1" x 88.4")	3,044 x 2,293 mm (119.8" x 90.3")	2,561 x 2,972 mm (100.8" x 117")	2,479 x 2,293 mm (97.6" x 90.3")	3,044 x 2,293 mm (119.8" x 90.3")	3,137 x 2,478 mm (123.5" x 97.6")	3,606 x 2,478 mm (142" x 97.6")	4,322 x 2,478 mm (170.2" x 97.6")	3,693 x 2,478 mm (145.4" x 97.6")
Machine Height	2,823 mm (111.1")	2,823 mm (111.1")	2,921 mm (115")	2,975 mm (117.1")	2,975 mm (117.1")	2,953 mm (116.3")	2,953 mm (116.3")	2,953 mm (116.3")	3,073 mm (121")
Machine Net Weight	4,890 kg (10,780 lb)	5,610 kg (12,368 lb)	6,400 kg (14,109 lb)	6,350 kg (13,999 lb)	6,350 kg (13,999 lb)	8,040 kg (17,725 lb)	8,600 kg (18,960 lb)	9,170 kg (20,216 lb)	9,560 kg (21,076 lb)

Note: Specifications subject to change without notice.

(*)Optional 30,000 rpm spindle (BBT30 / HSK-40A)