



**GANESH
MACHINERY**
The Edge in Cutting.

20869 Plummer St. Chatsworth, CA 91311

Toll Free: 888-542-6374 (US only)

Phone: 818-349-9166 | Fax: 818-349-7286

www.ganeshmachinery.com

GANESH VFM-2416 EXPRESS HIGH-SPEED CNC MACHINING CENTER

COMBINING STRENGTH WITH SPEED FOR OPTIMUM PRODUCTIVITY!



Featuring:

- 12,000 RPM ***Inline Direct-Drive Beltless Spindle***
- ***Big-Plus*** dual contact High-Performance precision ground spindle
- 1,417 IPM rapid rates in X & Y axis for fast production
- 24-Tool High-Speed Twin-Arm Tool Changer - CAT or BT #40 Tooling
- 300 PSI "Through-the-Spindle" coolant system with rotary coupling
- 4th and 5th axis wiring included with the machine

GANESH VFM-2416 EXPRESS



The VFM-2416 combines strength and speed for high productivity

The rigidity of the massive Meehanite processed cast iron frame provides a high-strength cutting platform with superior vibration dampening for improved surface finish & extended tool life so the VFM-2416 can handle all your tough materials like stainless steel and titanium. The rigidity and strength of the cross-roller linear guideways used in all three axes provides both a high table load capacity and high-speed rapid movements. This combination of strength and speed allows flexibility in the efficient processing your work. The speed makes the machine ideal for materials like aluminum and steel, and the strength of the cross-roller ways and the powerful spindle motor allows for efficient machining of Inconel and stainless. The large worktable allows the placement of a 4th axis indexer and two vises on the table simultaneously, allowing for both processing flexibility and faster setup over a wide mix of work. Oversized double anchored and pre-tensioned ballscrews with 3-NSK bearings at each end on all 3-axes are utilized for superior metal removal rates and superb size control.

“Big-Plus” Dual-Contact High-Performance Precision Ground Spindle



Both the flange and flange face are in contact for:

- Increased Tool Rigidity
- Reduced Tool Runout
- Increased Tool Life
- Increased Cutting Capability
- Superior Tool Length Repeatability

Use standard tools for general work, and Big-Plus tools for superior results in demanding applications.

STANDARD GANESH VFM-2416 EXPRESS FEATURES:

24-Tool High-Speed Twin-Arm Tool-Changer –

Having 24 tools allows you to have more jobs setup on the machine, or to run more complex work that requires more tools. Having redundant tools allows you to make use of the tool-life management system.

Beltless Direct Drive Spindle –

The quiet beltless 12,000 rpm direct-drive spindle provides fast acceleration and greater spindle control in high-speed tapping applications for increased productivity with the benefit of low heat rise and reduced maintenance.

Through-The-Spindle Coolant –

The standard 300-PSI through-the-spindle coolant system provides improved tool life and superior chip control, increasing overall machine productivity. A 1,000 PSI coolant system is optional.

Chip Wash-Down & Chip Conveyor –

The machine includes a separate coolant pump for chip wash down on all sides, to flush the chips to the front of the sheet metal enclosure where they are collected, so the chip conveyor can efficiently discharge them from the left side of the machine to simplify maintenance. (The chip discharge height is 38”).

Oil-Separator Unit –

The included oil-separator unit collects the tramp oil and drains it into a separate receptacle to reduce maintenance and extend coolant life. Reduced maintenance interruptions help increase machine productivity.

4th & 5th Axis Prewired –

The wiring to upgrade the machine for use in 4th and 5th axis applications is included with waterproof quick-disconnect connectors already mounted in the work enclosure. This speeds up the transition to upgraded productivity when needed, allowing a greater amount of work to be completed in one operation.

Auto Power Shut Off –

The control's auto shut off feature automatically shuts down the machine once a long program is finished. This capability enhances your ability to let the machine run lights-out for extended production capability.

Air Counter Balance (in case of power failure) –

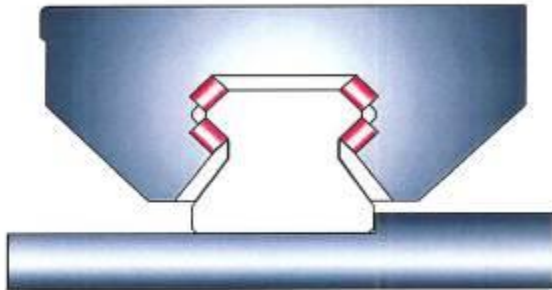
The machine features an air counter balance on the vertical column to prevent the “Z” axis from dropping down in case of a sudden power failure, saving expensive fixtures and tools. The Z-axis motor is equipped with a brake to lock the Z-axis position in case of power failure.

Ball-Bar Testing –

The **geometric ball bar test** conducted on each machine checks for servo gain synchronization, backlash, lateral play, squareness, and straightness to ensure your machine will perform to our rigid accuracy and performance standards. **Laser inspection technology** is employed to measure linear and pitch error accuracy and repeatability to ensure high quality machine performance. The spindle is **dynamically balanced** to ensure long term production performance. Premium quality ball screws are double-anchored and pre-tensioned, and then 100% inspected for parallelism to the axis guideways. The rotational torque of each ballscrew is inspected over the entire length of travel to guarantee a true smooth non-binding alignment to ensure maximum service life and the highest possible machining accuracy.

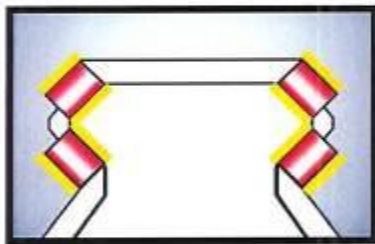
**The Ganesh VFM-2416 is manufactured in our
Certified ISO 9001 Production Facility in Taiwan.**

GANESH Cross-roller guided ways give our customers:



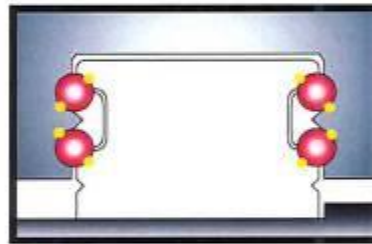
- Higher Accuracy
- Great Rigidity
- Superior load capacity in all directions
- Excellent crash safety
- Increased operating life

GANESH



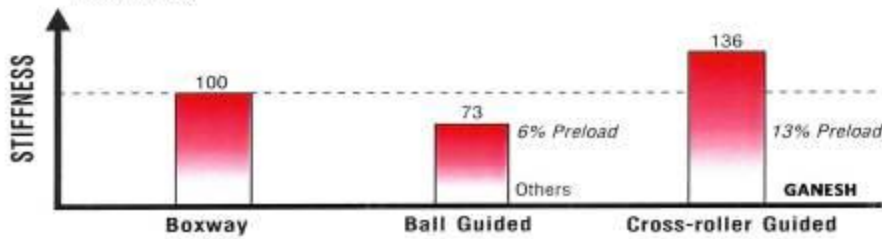
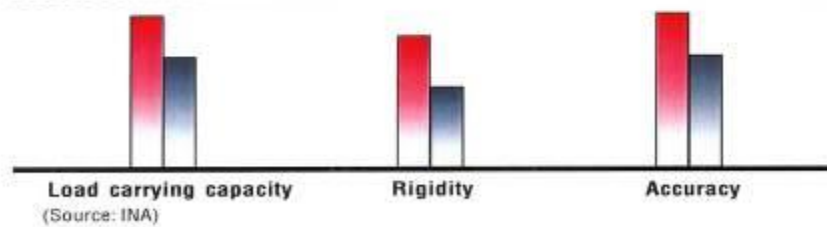
SURFACE CONTACT AREA BEARING/RACE TANGENCY

Others



SURFACE CONTACT AREA BEARING/RACE TANGENCY

■ Ganesh - Cross-roller Guided
 ■ Most Competition - Ball Guided



VFM-2416 TECHNICAL SPECIFICATIONS

AXIS TRAVEL

X-Travel	24.01"	610mm
Y-Travel	15.75"	400mm
Z-Travel	17.72"	450mm
Spindle Nose to Table Surface	5.11" – 22.83"	130 – 580mm
Spindle Center to Z-axis way covers	15.35"	390mm (throat dimension)

TABLE

	Hardened & ground table & T-slots	
Table Size (LxW)	25.59" x 15.75"	650mm X 400mm
T-slot width (3 T-slots total)	18 mm	on 100mm centers
Max. Table Load	882 lbs.	400 kgs load for full accuracy

SPINDLE

Spindle Motor – 5.5/7.5 kW	15-Horsepower Peak	10-HP 30-min duty rating
Spindle Speed – <i>Inline Direct-Drive</i>	12,000rpm	(6k, 8k, 10k, & 15,000rpm optional)
Tool Type	CAT #40 Taper	BT #40 optional
Spindle Taper Material / Hardness	SCM415 / HRC 58-62	
Spindle Runout	≤ 0.000040" T.I.R.	
Spindle Bearings - Front	110mm NSK 70BNR	P4 class-7 bearings x2
Spindle Bearings - Rear	110mm NSK 70BNR	P4 class-7 bearings x2
Retention System / Holding Capability	Bellville Spring Stack	1650-1760 lbs
Retention Knob Specification	#40 Japanese standard, JMTBA double 45° head angle Ø.590"	
- ANSI 5/8"-11 UNC, Ø.394" neck, 1.266 tool top – head top, .990" tool top – bottom of 45° angle		

AXIS FEEDS

Accuracy X, Y, & Z axis (JIS6338)	± 0.0002" / 12"	± 0.005mm over 300mm travel
Repeatability X, Y, & Z axis (JIS6338)	± 0.0001" / 12"	± 0.003mm over 300mm travel
Least Input Command Increment	0.0001" / 0.000040"	0.001mm / (40-millionths in metric)
Rapid Traverse X, Y / Z	1,417 / 1260 ipm	36m / 32m minute
Cutting Feedrate	0.02 - 393 ipm	10m / minute
Axis Drive Motor Power – X, Y	2.7-HP (2.0kw)	Mitsubishi HF 204S-3000
Axis Drive Motor Power - Z	3.35-Hp (2.5kw)	Mitsubishi HF 254SB w/brake
Ballscrews – X, Y, Z	32mm ballscrews	12mm pitch
Linear Ways – X / Y / Z	30 / 35 / 35 mm	Premium Cross-Roller
Thrust Force – Z (maximum / constant)	4408 lbs / 2204 lbs	2,000 kg / 1000kg

TOOL CHANGER

Tool Capacity (24+1)	24-Tool Twin-Arm	Hi-Speed Tool Changer
Tool Shank	CAT#40 Taper	BT#40 optional
Tool Change Time	1.7-sec. tool-to-tool	
Maximum Tool Diameter / w/adjacent tool	5.90" / 3.15"	150mm / 80mm
Maximum Tool Length (from gage line)	11.81"	300mm
Maximum Tool Weight	15 lbs.	7kg
Tool Selection / Tool Access	Random access	Bi-directional shortest path

SPECIFICATIONS

Air Service Requirements	85 psi @ 14-scfm	
Electrical Requirements - connected load	220vac ±5%, 60-Hz	50-Amp Service
Coolant Capacity / Pressure	68-gallons / 300 psi	256 liters / 20-bar
Floor space requirements (W x D x H)	87" x 73" x 113"	218x186x288cm (add 44" for conveyor)
Shipping dimensions (W x D x H)	97" x 91" x 101"	246x229x256cm
Machine Weight	9,923 pounds	4,500 kg
Warranty – 1-year machine warranty	3-year Mitsubishi control, motors, & drive warranty	

MITSUBISHI M830 HIGH-PERFORMANCE CNC CONTROL



The Mitsubishi M830 High-Performance CNC control provides the highest level of productivity, intuitive usability, and superior functionality. The advanced control algorithm uses a cutting edge Mitsubishi CNC-dedicated CPU running at 270,000 blocks per minute with 2000-block look-ahead under NANO control with Super Smooth Surface control for superior surface finishes. The CNC-dedicated CPU not only results in phenomenal processing speed, but also reduces the number of required components, leading to fewer possibilities of failure and increasing product quality. The ultra-high speed fiber-optic drive communication (3 times faster) and distributed architecture delegates routine motion control operations to intelligent servo and spindle amplifiers reducing cycle processing time and improving processing speed and productivity. Operators appreciate the ergonomics of the easy-to-use Human Machine Interface that can be easily customized. The Navi Conversational programming, workpiece pick-up tool measurement, background editing, modal program search to restart the program at the exact point of interruption all form a highly productive operator interface. A huge 10-GB program memory plus 32-GB SD memory and USB Card Slots for direct machine operation with full edit capability. Tool-life monitoring to facilitate lights-out operation is included.

- **Mitsubishi developed CNC-Dedicated 64-Bit CPU with highly efficient RISC architecture**
- **2,000 block buffered look-ahead and a blazing 270,000 block per minute processing speed**
The above features work in harmony to provide faster program throughput & greater productivity
- **32-GB SD & USB slots & 10-GB internal memory provides program memory for machine operation**
- **15” Touch Screen** that operates like a smart phone or tablet which includes 3D solid model graphics that can pinch-in to zoom, pinch-out, drag, edit, rotate, and scroll.
- Mid-program restart function for operator convenience after a program interruption
- Dampened backlash compensation eliminates spiking during the axis reversal moves for higher accuracy machining, superb surface finishes, and exacting feature definition.
- 1-nanometer interpolation with 2000-block look-ahead provide fine surface finishes and detailed arc and radius features precisely follow the program commands
- **Automatic power-fail tool retract.** Least input and command increment: 0.1µm
- 4-axis simultaneous contour control capability & high-speed synchronous rigid tapping
- Graphics –Tool path and 3-D part shape can be drawn to help detect errors at an early stage
- NC Monitor – monitoring of machine screens for observation on a remote PC
- Intuitive HMI for ease of operation with rapid setup & changeover and “on the fly” tool offsets
- Program copy, move, delete functions, and input guidance screens help create part programs
- Ethernet RJ-45, USB, RS-232, & 2-SD 32-GB Card ports provide a choice of communications.
- Mitsubishi high performance matched motors and drives yield exacting program feature definition.
- 3-year Mitsubishi control, motor, and servo drive warranty

“World’s Fastest and Most Powerful CNC Control!”

64-Bit CNC Dedicated CPU with highly efficient RISC processor

Blazing 270,000 Block-Per-Minute Processing Speed – 4,500 BPS

2,000 Block Look-Ahead – 64-GB Program Memory

Specifications, features, options, and colors are subject to change without notice. Machine shown with optional equipment.