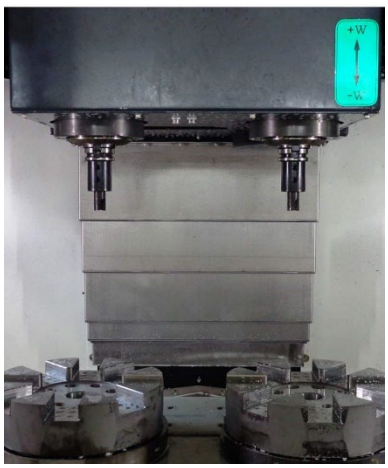
Gemini XL: Machine Overview

- Twin Spindle Vertical Machining Center Suitable for Mass Production
- Full Machine Enclosure with Standard Equipped Mist Collection Unit and 700 PSI (48 Bar) High Pressure CTS System
- FANUC 0iMF CNC Control - AICCII with 400 Block Look Ahead Fine Mold Control Package
- Heavy Duty Scraper Type Chip Conveyor with High Pressure CTS, Drum Filtration, Cyclonic Filtration, and Mist Collection
- Twenty Tool Pockets x 2 (20x2) Automatic Tool Changers with Auto Tool Loading Door for CAT40 Tooling
- Built in Automatic Door Package and Light Curtains for Production Ready Machining.

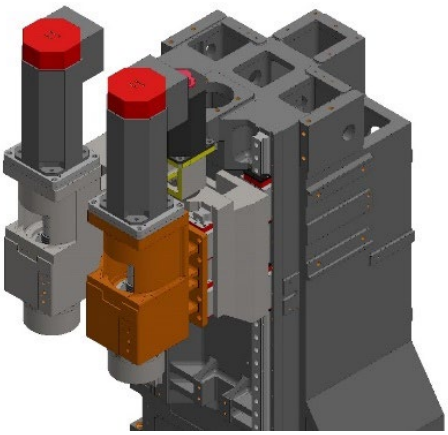
Photo includes optional equipment



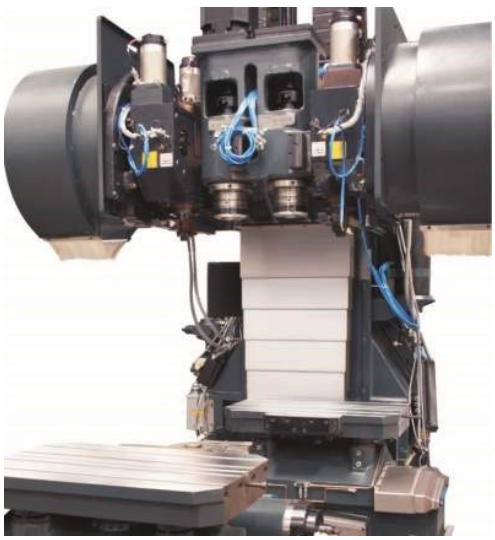
Gemini Series: Twin Spindle Vertical Machining Center

Designed and built by AMS in India, this machining center is sold and serviced exclusively by JTEKT Toyoda Americas Corp. and our exclusive representatives in the Americas and Europe.

The Gemini Series of Twin Spindle Vertical Machining Centers is designed to handle high production volumes in a variety of sizes.
Available with spindle centerline distances from 250mm up to 550mm and spindle taper configurations from 30 taper to 50 taper with the Gemini MAX series.
Large reductions in the cost per component can be realized due to fast in cycle times per component.
Two times the productivity within a footprint only slightly larger than many single spindle machines.
Comparatively lower power consumption also reduces overall machining costs.



Optional W-axis adds allows for programmable independent tool setting and compensation.



Equip your Gemini XL with a Factory Linear or Rotary Pallet Changer to further enhance productivity.

Machine Envelope and Travels	
Table Cross Travel (X Axis)	23.6” (600 mm)
Spindle Head Vertical Travel (Y Axis)	17.7” (450 mm)
Work Table Travel (Z Axis)	23.6” (600 mm)
Spindle Nose to Top of Pallet	5.7" (145 mm)
Rapid Traverses (X, Y and Z Axes)	1968/1968/1575 ipm (50/50/40 M/min)
Machine Pallet	
Table Size	47.2" x 18.9" (1200 x 480 mm)
Maximum Load on the Pallet	1100 lbs. (500 kg)
Pallet Height from Floor	38.7" (985 mm)
Pallet Change Time when RPC Equipped	12 sec.
Spindle Specifications	
Spindle Speed	50 ~ 10,000 RPM
Spindle Ceramic Bearing Inside Diameter	70mm
Spindle Drive Motor	15 / 30 HP (11 / 22 Kw)
Tooling and Magazine	
Spindle Nose Taper	CAT 40
Type of Stored Tool	CAT #40 V-Flange / Pullstud: MAS Type I P40T
Standard Tool Storage Capacity	Twenty X 2 (20)
Maximum Tool Size (Diameter x Length)	(Diameter x Length) ø3.15" x 9.84" (ø80 x 250 mm)
Maximum Tool Weight	17.6 lbs. (8 kg)
Chip to Chip Change Cycle Time	4.1 sec
Tool Selection	Random
Machine Dimensions and Requirements	
Power Capacity (208V)	40 kVA
Standard Floor Space	Refer to Layout
Standard Net Weight	14,770 lbs. (6,700 kg)

Machine Standard Package

Dual 10,000 RPM Direct Drive Spindles	STD
20HP Spindle Upgrade	STD
Big Plus Spindle Modification	STD
FANUC 0iMF Control w/ 10.4” Color Display	STD
Front Auto Door with Omron Light Curtains	STD
Dual 20 Tool Magazine w/ Side Access Loading Doors	STD
Full Machine Enclosure with Losma Mist Collection	STD
Rear Discharge 700PSI High Pressure CTS Coolant Tank	STD
AICCII with 400 Block Look Ahead – FANUC Fine Mold Package	STD
Drum Filtration and Cyclonic Filtration Upgrade for Coolant System	STD
CE Specification	STD
4th Axis Preparation Kit	STD

Specifications subject to change without prior notice

Gemini XL

Spindle

10,000 RPM, 15 / 30 HP (11/ 22 Kw)	STD

Coolant and Conveyor

725PSI High Pressure CTS with Cyclonic Filtration and Mist Collector	STD
Heavy Duty Scraper Conveyor with Drum Filter	STD

Control

FANUC Fine Die & Mold Package	STD
AICCII with 400 Block Look Ahead	STD
Tool Life Management	STD
512KB Program Memory	STD

Productivity Enhancements

4th Axis Machine Prep Kit	STD

Options

Machine APC Options

Rotary Style Automatic Pallet Changer

Coolant and Conveyor Options

Heavy Duty Dual Belt Conveyor with Drum Filter

Control Options

2MB Program Memory Upgrade

Machine Accessibility Options

Increase Z-Axis Dead band by 125mm

Additional Options

20mm W-Axis Stroke for Spindle Positioning

Specifications subject to change without prior notice

Machine Factory Package

Photos from the Factory :

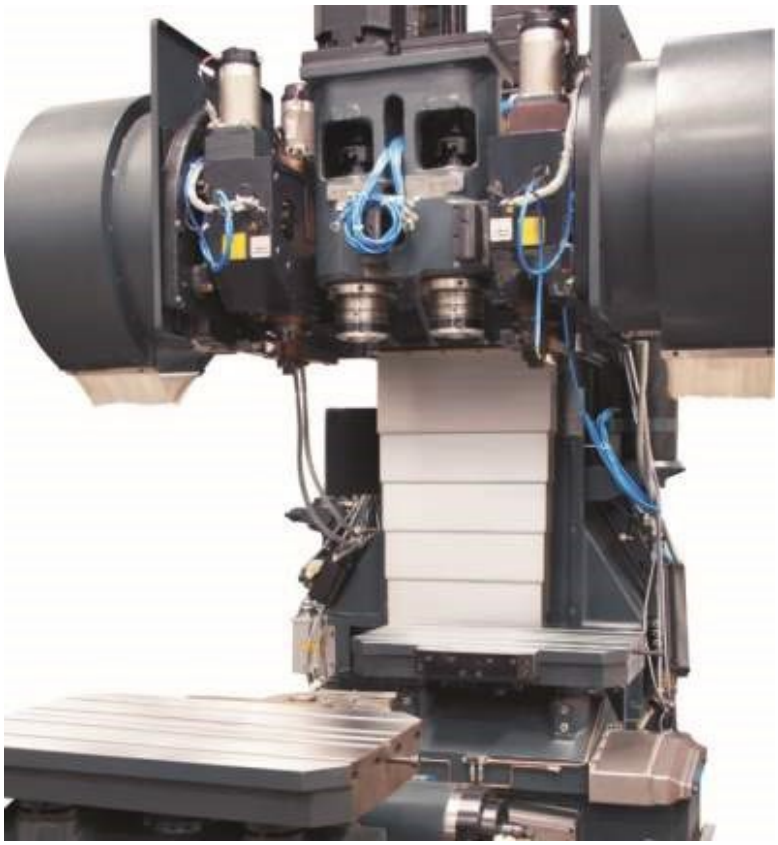
- Auto Door
- Light Curtains
- Rear Access Tool Loading Door
- Losma Mist Collection Unit
- Heavy Duty Scraper Type Conveyor
- High Pressure 725 PSI CTS System
- Cyclonic Filtration Upgrade
- Scraper Drum Filtration Upgrade

Turnkey Solution Options:

Complete Factory Solutions Available Upon Request. Equip your Gemini machine with automatic pallet changers, rotary tables, integrated hydraulic clamping to enhance your productivity.

Fanuc 0iMF Control Package
10.4" LCD
Absolute / Increment Command
Addition of Custom Macro Common Variables
Addition of Workpiece Coordinate System
AI Nano CC
Alarm Display
Alarm History Display
Automatic Corner Override
Automatic Power Off
Background Editing
Backlash Compensation
Canned Cycles
Canned Cycles for Drilling
Circular Interpolation
Conical / Spiral Interpolation
Controllable Axes
Coordinate System Rotation
Custom Macro B
Cutting Feedrate Command
Cutting Feedrate Override
Cylindrical Interpolation
Decimal Point Programming / Pocket Calc Type Decimal Point Programming
Dry Run
Dwell
Emergency Stop
Ethernet Interface (RJ45)
Exact Stop
Exact Stop Mode
Extend Program Edit
FANUC Semi-Operator Panel
Feedrate Speed Setting
G Code Program Mirror Function
Graphic Display
Handle Interruption
Handle Wheel Feedrate
Handle Wheel Override
Helical Interpolation
HRV3 Control
Interpolation
Interpolation Pitch Error Compensation
Least Programmable Increment
Limit Check Before Movement
Linear Acceleration/Deceleration after Cutting Feed
Linear Interpolation
Machine Lock
Manual Reference Position Return

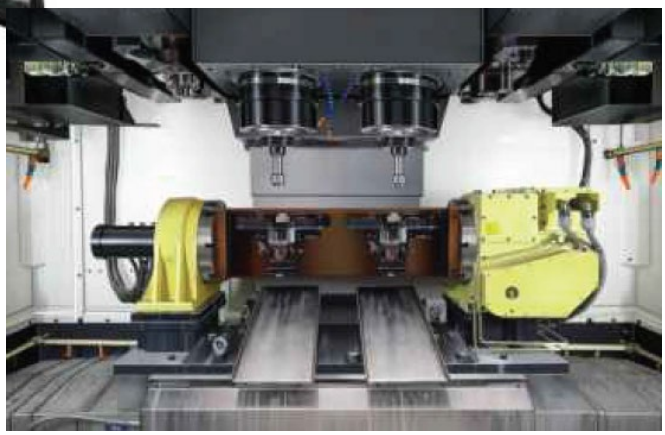
Metric / Inches Conversion
MST Function
Operation History Display
Operator Message History Display
Optional Chamfering / Corner R
Optional Single Block Skip
PC MCIA Memory Card Slot
Plane Selection
Playback
Polar Coordinate Command
Program Number Display
Program Restart
Program Single Block Number
Program Start / Movement Hold
Program Stop / Program End
Program Storage
Programmable Data Input
Rapid Movement Percentage
Rapid Positioning
Rapid Traverse Bell-Shaped Acceleration / Deceleration
Registered Program Number
Remote Diagnostic
Rigid Tapping
RS232 Interface
Run Hour and Parts Count Display
Scaling
Simultaneous Axes
Single Block
Single Direction Positioning
Soft Limit Setting
Spindle Positioning
Spindle Speed Override
Sub-Program Call
Tool Offset
Tool Offset Memory C
Tool Offset Value Counter Input
Tool Positioning Offset
Tool Radius Compensation C
Workpiece Coordinate System
Z Axis Lock



Pallet Changer Options

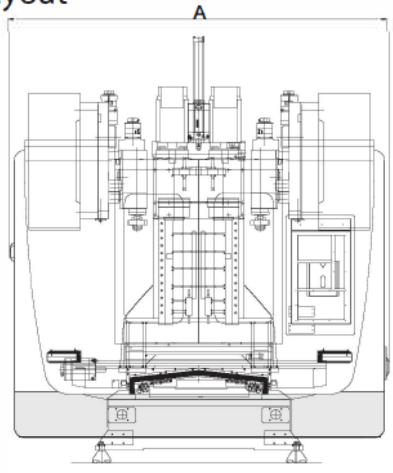
Rotary Pallet Changer	Gemini Mini S	Gemini Mini L	Gemini Jr./Jr. XL	Gemini XL	Gemini 460 XL
Pallet size (mm)	600 x 400	800 x 400	700 x 450	800 x 450	920 x 450
Max. load on pallet (Kgf.)	200	200	300	350	300
Pallet changing time (Sec.)	10	10	10	12	12
Machine (width x depth)	2500 x 4100	3000 x 4100	2500 x 3800	3200 x 4200	3200 x 4200

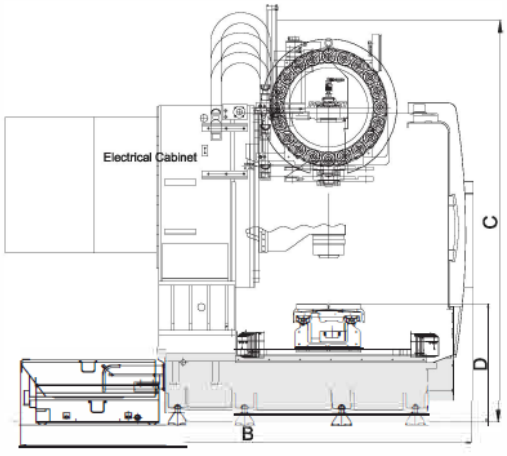
Productivity x2 Delivered



Available with factory integrated rotary table and hydraulic clamping solutions. Turnkey solutions are also available (upon request) for complete automation packages.

Machine Layout





	A (width)	B (depth)	C (height)	D
Gemini Jr XL	2000	3100	3450	975
Gemini XL	2300	3600	3450	985
Gemini 460 XL	2400	3600	3450	985
Gemini Max	3000	4200	3800	985

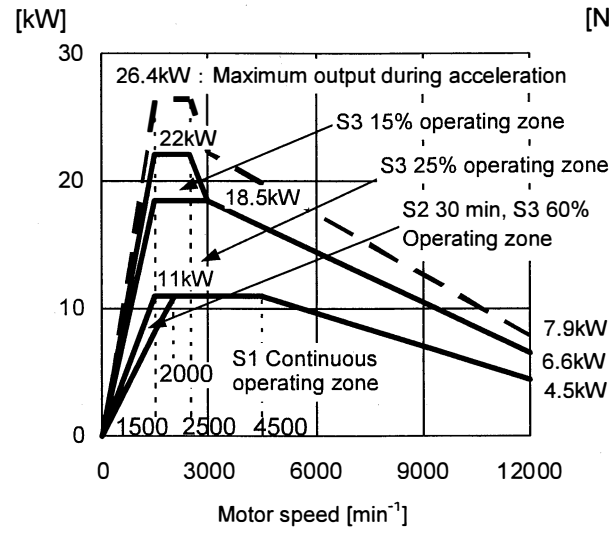
Dimensions in mm

OUTPUT/TORQUE CHARACTERISTICS(PLAN)

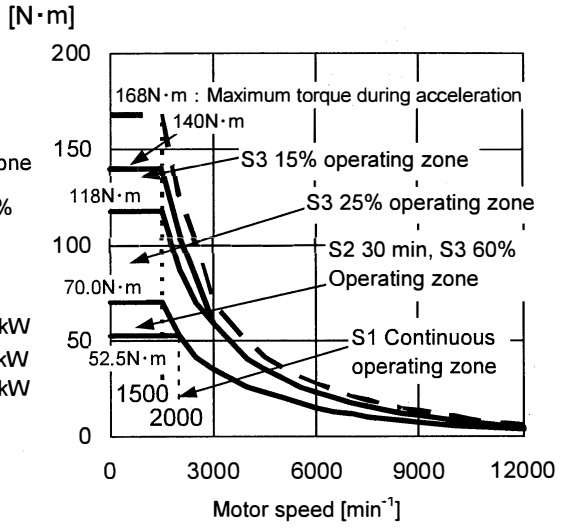
Spindle motor : MODEL αiI$_T$ 8/12000 (A06B-1467-B123#xxxx)

Applicable spindle amplifier : αiSP 22 , αiSP 22-B

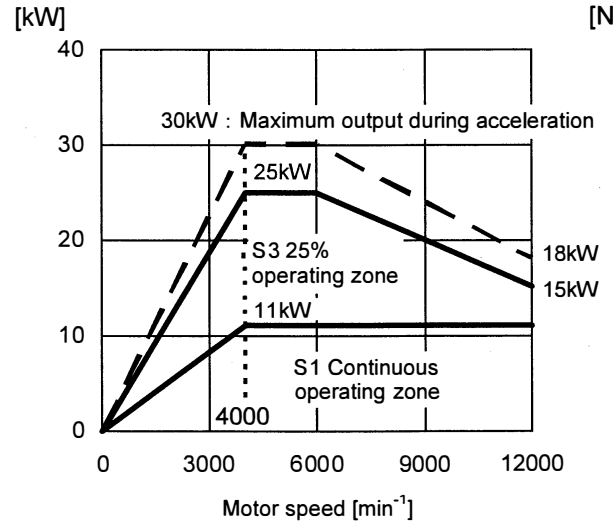
Low-speed winding output (Y connection)



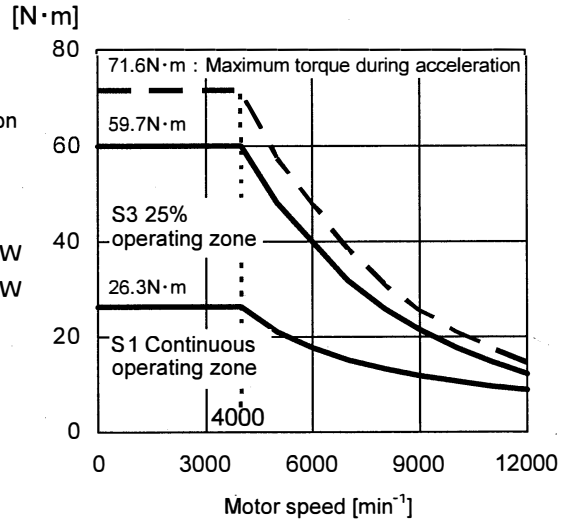
Low-speed winding torque (Y connection)



High-speed winding output (Δ connection)



High-speed winding torque (Δ connection)



Note)

1. Maximum output power during acceleration for selecting αiPS : 30kW
   (Not guaranteed value)
2. This is new output characteristics.
   If you adopt this motor, please let us know as soon as possible,
   because it takes a few months to develop the spindle parameter.

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