



# Takumi

MACHINING CENTERS  
TECHNICAL CATALOG

[TakumiUSA.com](http://TakumiUSA.com)

# Takumi

## PRODUCT LINE-UP

The Art of Productivity

### VERTICAL MACHINING CENTERS *HEAVY DUTY GENERAL PURPOSE MACHINES*



VC0852



VC1052



V10



V11



V15

### BOX WAY MACHINING CENTERS

### DOUBLE-COLUMN MACHINING CENTERS – *HIGH SPEED MACHINING AND OUTSTANDING SURFACE FINISH*



H10



H12



H16

### 5-AXIS MACHINING CENTERS – *HIGH PERFORMANCE AND HIGH RIGIDITY*



U600



U800

### TURNING CENTERS – *DESIGNED FOR HEAVY AND INTERRUPTED CUTTING WITH SUPERIOR PART FINISHES*



SL200



SL250 / SL300

Machines shown with optional equipment

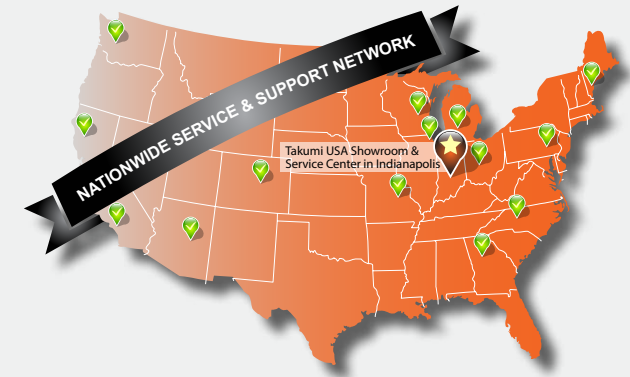
# EXCEEDING EXPECTATIONS

## Experience

Founded in 1988, Takumi has been exceeding customers' expectations in Europe and Asia for 30 years. When Takumi was acquired by Hurco Companies in 2015, a new Takumi Technology Center and Showroom was built in Indianapolis to serve the U.S. market and a comprehensive service and support network was established. Check out our product line of machining centers and visit us at [TakumiUSA.com](http://TakumiUSA.com).

## Machine Design

At Takumi, we have adapted the world's leading control to our rugged, durable machines to achieve higher productivity through speed, accuracy, and reliability, resulting in double-column and C-frame machining centers that provide world-class performance for die/mold, aerospace, and other high speed applications.



Takumi machines are known for their quality and durability. If a repair does become necessary, we have a nationwide network of experienced service and support team members to react. With our full service distributors offering a local solution, backed up by Takumi USA's regional support specialists, and an extensive repair and maintenance parts inventory at our headquarters, we provide a quick response to reduce downtime.



# VC0852 VERTICAL MACHINING CENTER



## HEAVY DUTY GENERAL PURPOSE MACHINE

- › 33.9 x 20.47 x 24 in (1060 x 520 x 610 mm) travels
- › 39.37 x 20.5 in (1,160 x 520 mm) table working surface with 1,102 lbs (650 kg) maximum table capacity
- › Fast 1,417 x 1,417 x 944 in/min (36 x 36 x 24 m/min) rapids
- › 472.4 in/min (12 m/min) cutting feed rate
- › 12,000 rpm, CAT 40 spindle
- › Rigorous testing to ensure thermal stability
- › 24-station swing-arm ATC, random access
- › 1.31 second tool-to-tool ATC time
- › Wide, robust machine base
- › Rugged axis power transmission
- › Roller-type linear guides on all three axes
- › Large diameter, preloaded and pretensioned ballscrews with fine pitch for accurate motion control
- › 35 components on the machine are hand-scraped for fit
- › Wide front door openings and side door access
- › Takumi FANUC® H Control
- › AICC II for high feed rates with optimal cutting precision
- › 400 block look ahead for fast contour milling
- › 56 work offsets for increased flexibility in job set up
- › 400 tool offset library with length and radius wear
- › Set Up Guidance function to decrease set up time
- › Programmable mirror image
- › Compact flash memory card slot and USB port
- › Rigid Tapping (M29)
- › 2 year machine parts warranty
- › 2 year control parts and labor warranty
- › Factory trained local service and 24/7 tech support

## ACCESSORIES

### STANDARD

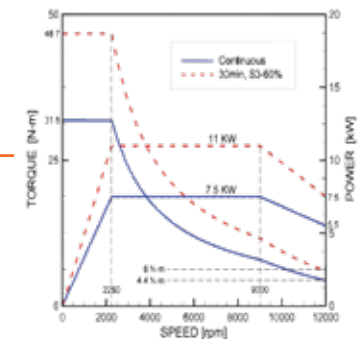
- › Operator safety door switches
- › Spindle chiller
- › Programmable cutting air blow
- › 100 gallon coolant tank
- › Programmable coolant wash down
- › Programmable chip auger with lift-up exhaust tube and chip cart
- › Wash down gun and air gun
- › Centralized automatic lubrication system
- › Manual pulse generator (MPG)
- › Ethernet and RS-232C interface
- › 4th axis interface cables and connectors
- › Electrical cabinet heat exchanger
- › Toolbox
- › Leveling bolts and pads
- › Operator manuals
- › Full enclosure

- › Work light
- › 3-light indicator lamp

### OPTIONAL

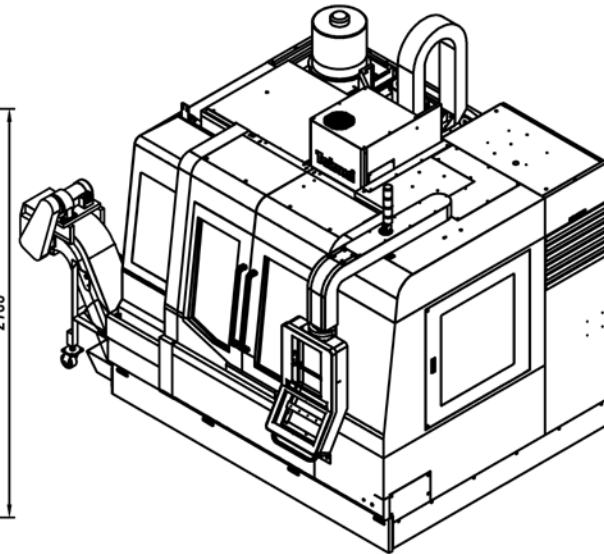
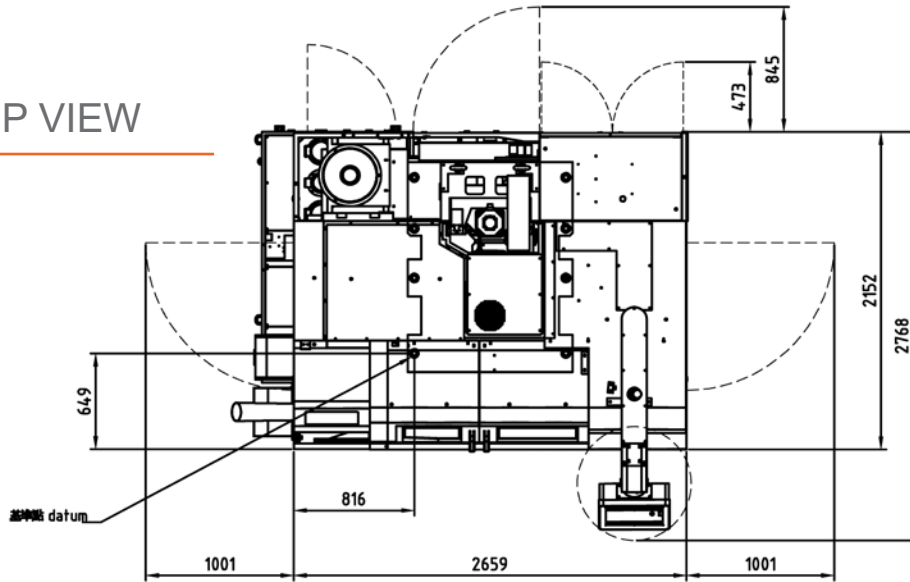
- › Coolant through spindle (CTS)
- › Oil skimmer
- › Oil mist device
- › Oil mist collector
- › Coolant filtration
- › 1 Gigabyte Data Server
- › Memory Card editing
- › Part probe measurement system
- › Tool probe measurement system
- › 4th axis rotary table
- › Lift up chip conveyor with cart
- › BT 40 tool holder conversion

## POWER AND TORQUE

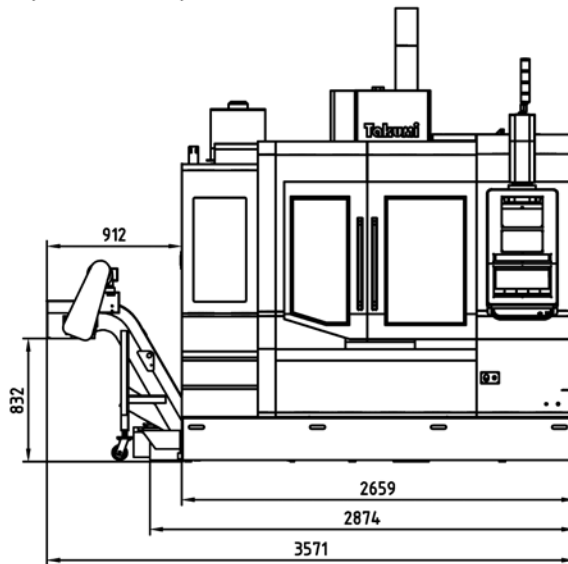


# LAYOUT

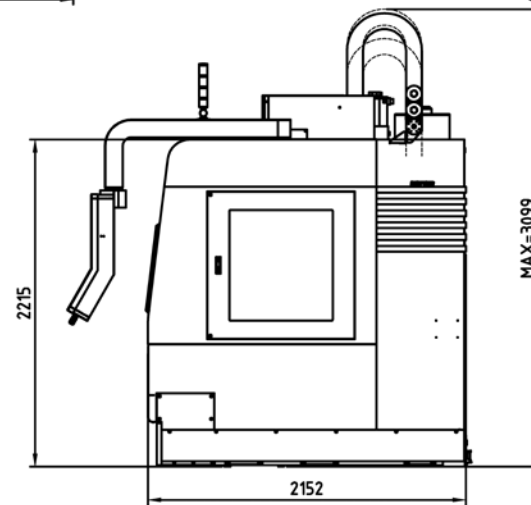
TOP VIEW



FRONT VIEW



SIDE VIEWS



Machine specifications can be found on pages 24-27

# VC1052 VERTICAL MACHINING CENTER



## HEAVY DUTY GENERAL PURPOSE MACHINE

- › 41.7 x 20.47 x 24 in (1060 x 520 x 610 mm) travels
- › 45.7 x 20.5 in (1,160 x 520 mm) table working surface with 1,433 lbs (650 kg) maximum table capacity
- › Fast 1,417 x 1,417 x 944 in/min (36 x 36 x 24 m/min) rapids
- › 472.4in/min (12 m/min) cutting feed rate
- › 12,000 rpm, CAT 40 spindle
- › Rigorous testing and spindle chiller to ensure thermal stability
- › 24-station swing-arm ATC, random access
- › 1.31 second tool-to-tool ATC time
- › Wide, robust machine base
- › Rugged axis power transmission
- › Roller-type linear guides on all three axes
- › Large diameter, preloaded and pretensioned ballscrews with fine pitch for accurate motion control
- › 35 components on the machine are hand-scraped for fit
- › Wide front door openings and side door access
- › Takumi FANUC® H Control
- › AICC II for high feed rates with optimal cutting precision
- › 400 block look ahead for fast contour milling
- › 56 work offsets for increased flexibility in job set up
- › 400 tool offset library with length and radius wear
- › Set Up Guidance function to decrease set up time
- › Programmable mirror image
- › Compact flash memory card slot and USB port
- › Rigid Tapping (M29)
- › 2 year machine parts warranty
- › 2 year control parts and labor warranty
- › Factory trained local service and 24/7 tech support

## ACCESSORIES

### STANDARD

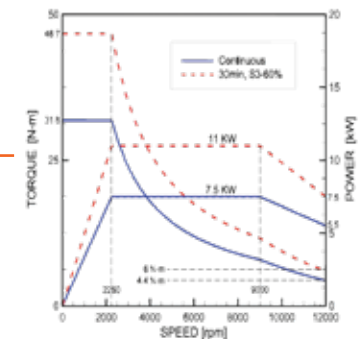
- › Operator safety door switches
- › Spindle chiller
- › Programmable cutting air blow
- › 100 gallon coolant tank
- › Programmable coolant wash down
- › Programmable chip auger with lift-up exhaust tube and chip cart
- › Wash down gun and air gun
- › Centralized automatic lubrication system
- › Manual pulse generator (MPG)
- › Ethernet and RS-232C interface
- › 4th axis interface cables and connectors
- › Electrical cabinet heat exchanger
- › Toolbox
- › Leveling bolts and pads
- › Operator manuals
- › Full enclosure

- › Work light
- › 3-light indicator lamp

### OPTIONAL

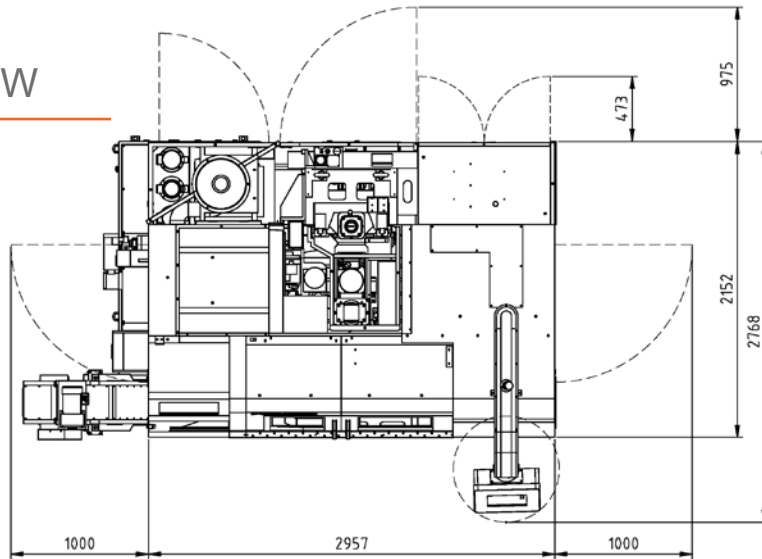
- › Coolant through spindle (CTS)
- › Oil skimmer
- › Oil mist device
- › Oil mist collector
- › Coolant filtration
- › 1 Gigabyte Data Server
- › Memory Card editing
- › Part probe measurement system
- › Tool probe measurement system
- › 4th axis rotary table
- › Lift up chip conveyor with cart
- › BT 40 tool holder conversion

## POWER AND TORQUE

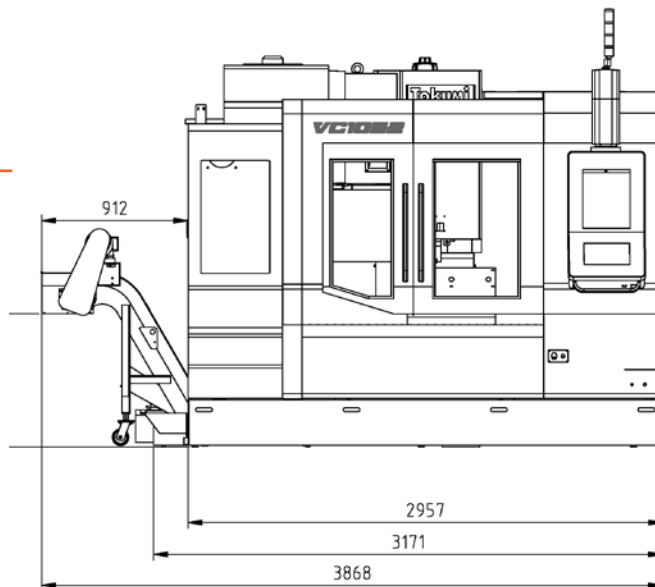


# LAYOUT

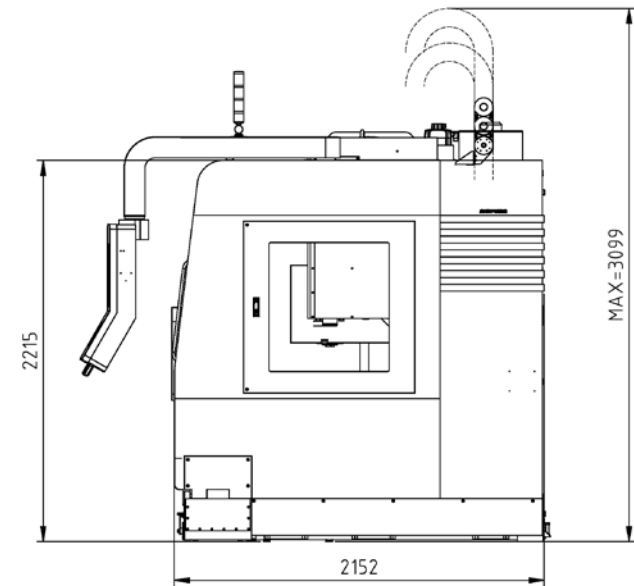
TOP VIEW



FRONT VIEW



SIDE VIEW



*Machine specifications can be found on pages 24-27*

# V10 VERTICAL MACHINING CENTER



## ACCESSORIES

### STANDARD

- › 435 psi coolant through the spindle
- › Operator safety door switches
- › Spindle chiller
- › Programmable cutting air blow
- › 79 gallon coolant tank
- › Programmable coolant wash down
- › Programmable belt style lift up chip conveyor and cart
- › Wash down gun and air gun
- › Centralized automatic lubrication system
- › Manual pulse generator (MPG)
- › Ethernet and RS-232C interface
- › 4th axis interface cables and connectors
- › Electrical cabinet heat exchanger
- › Toolbox
- › Leveling bolts and pads

- › Operator manuals
- › Full enclosure
- › Work light
- › 3-light indicator lamp

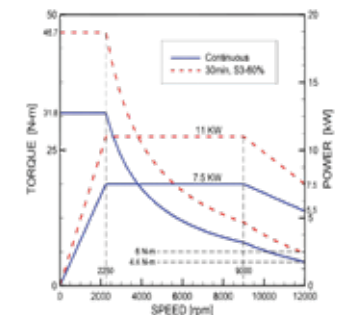
### OPTIONAL

- › Oil skimmer
- › Oil mist device
- › Oil mist collector
- › Coolant filtration
- › 1 Gigabyte Data Server
- › Memory Card editing
- › Part probe measurement system
- › Tool probe measurement system
- › 4th axis rotary table
- › BT 40 tool holder conversion

## BOX WAY GENERAL PURPOSE MACHINE

- › 39.5 x 26 x 24 in (1,000 x 660 x 610 mm) travels
- › 41.7 x 25.6 in (1,050 x 650 mm) table working surface with 2,204 lbs (1,000 kg) maximum table capacity
- › Fast 945 x 945 x 787 in/min (24 x 24 x 20 m/min) rapids
- › 315 in/min (8 m/min) cutting feed rate
- › 12,000 rpm, CAT 40 spindle
- › Rigorous testing to ensure thermal stability
- › 24-station swing-arm ATC, random access
- › Wide, robust machine base
- › 4 box ways under the Y axis for maximum support
- › Rugged axis power transmission
- › Extended Y axis travel and work area
- › Large diameter, preloaded and pretensioned ballscrews with fine pitch for accurate motion control
- › 41 components on the machine are hand-scraped for fit
- › Wide front door openings and side door access
- › Takumi FANUC® H Control
- › AICC II for high feed rates with optimal cutting precision
- › 400 block look ahead for fast contour milling
- › 56 work offsets for increased flexibility in job set up
- › 400 tool offset library with length and radius wear
- › Set Up Guidance function to decrease set up time
- › Programmable mirror image
- › Compact flash memory card slot and USB port
- › Rigid Tapping (M29)
- › 2 year machine parts warranty
- › 2 year control parts and labor warranty
- › Factory trained local service and 24/7 tech support

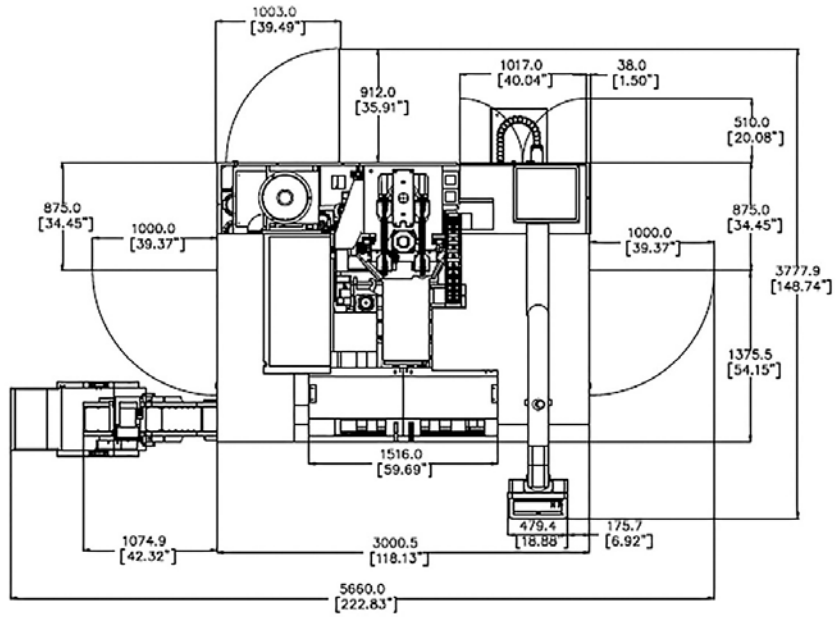
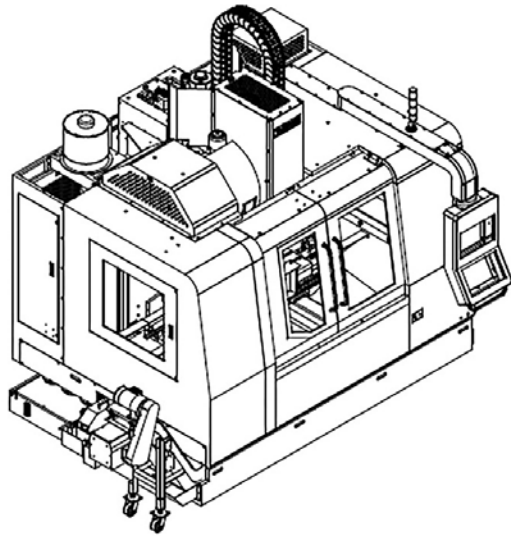
## POWER AND TORQUE





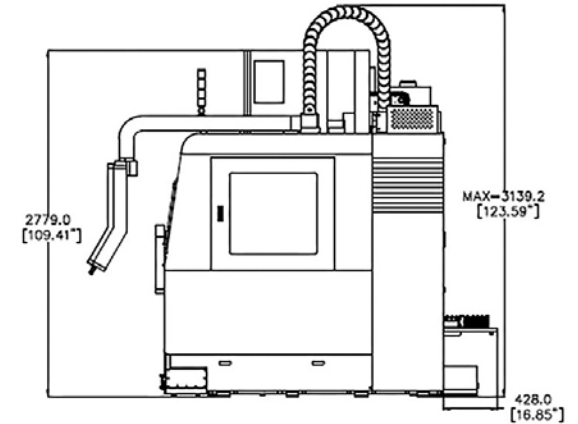
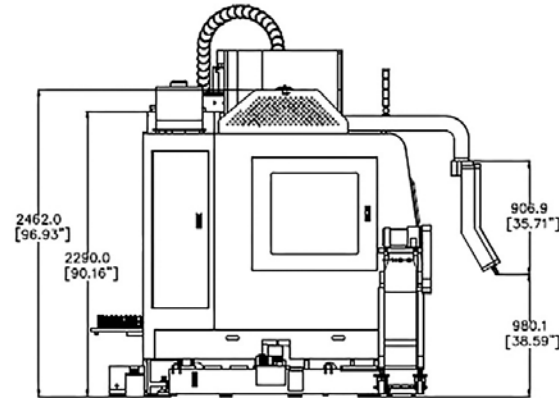
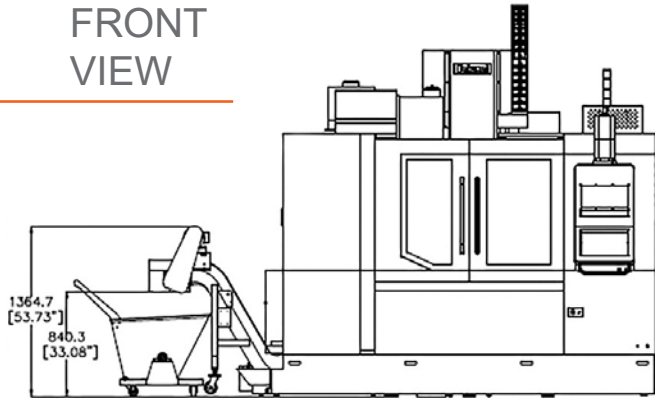
# LAYOUT

## TOP VIEWS



## SIDE VIEWS

## FRONT VIEW



Machine specifications can be found on pages 24-27

# V11 VERTICAL MACHINING CENTER



## ACCESSORIES

### STANDARD

- › 435 psi coolant through the spindle
- › Operator safety door switches
- › Spindle chiller
- › Programmable cutting air blow
- › 84.4 gallon coolant tank
- › Programmable coolant wash down
- › Programmable belt style lift up chip conveyor and cart
- › Wash down gun and air gun
- › Centralized automatic lubrication system
- › Manual pulse generator (MPG)
- › Ethernet and RS-232C interface
- › 4th axis interface cables and connectors
- › Electrical cabinet heat exchanger
- › Toolbox
- › Leveling bolts and pads

- › Operator manuals
- › Full enclosure
- › Work light
- › 3-light indicator lamp

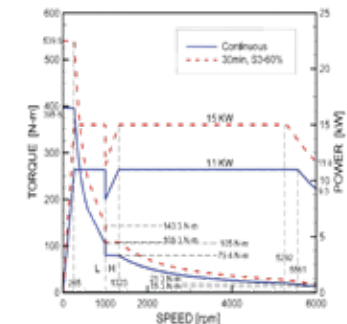
### OPTIONAL

- › Oil skimmer
- › Oil mist device
- › Oil mist collector
- › Coolant filtration
- › 1 Gigabyte Data Server
- › Memory Card editing
- › Part probe measurement system
- › Tool probe measurement system
- › 4th axis rotary table
- › BT 50 tool holder conversion

## HEAVY DUTY HIGH TORQUE MACHINE

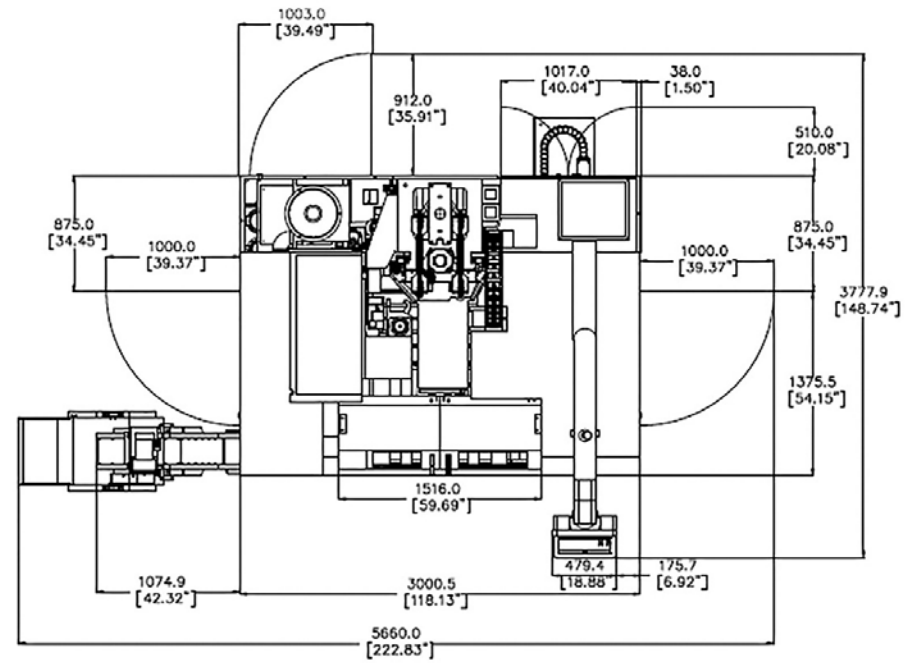
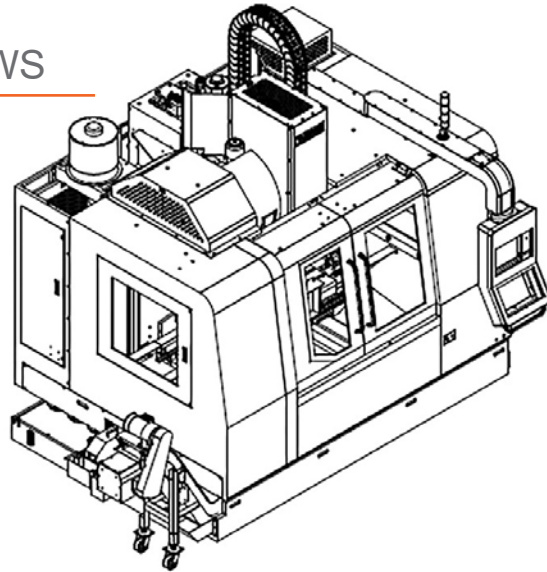
- › 43.3 x 26 x 24 in (1,099 x 660 x 610 mm) travels
- › 45.2 x 25.6 in (1,050 x 650 mm) table working surface with 2,420 lbs (1,100 kg) maximum table capacity
- › Fast 945 x 945 x 787 in/min (24 x 24 x 20 m/min) rapids
- › 315 in/min (8 m/min) cutting feed rate
- › 6,000 rpm gear driven spindle with 397 lb ft of torque
- › Rigorous testing to ensure thermal stability
- › 24-station swing-arm ATC, random access
- › Wide, robust machine base
- › 4 box ways under the Y axis for maximum support
- › Rugged axis power transmission
- › Extended Y axis travel and work area
- › Large diameter, preloaded and pretensioned ballscrews with fine pitch for accurate motion control
- › 41 components on the machine are hand-scraped for fit
- › Wide front door openings and side door access
- › Takumi FANUC® H Control
- › AICC II for high feed rates with optimal cutting precision
- › 400 block look ahead for fast contour milling
- › 56 work offsets for increased flexibility in job set up
- › 400 tool offset library with length and radius wear
- › Set Up Guidance function to decrease set up time
- › Programmable mirror image
- › Compact flash memory card slot and USB port
- › Rigid Tapping (M29)
- › 2 year machine parts warranty
- › 2 year control parts and labor warranty
- › Factory trained local service and 24/7 tech support

## POWER AND TORQUE



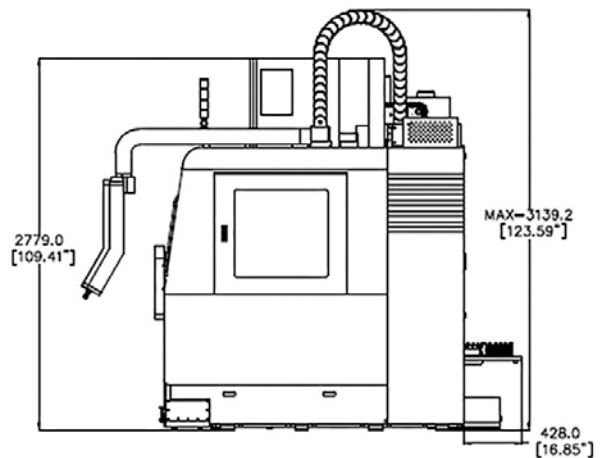
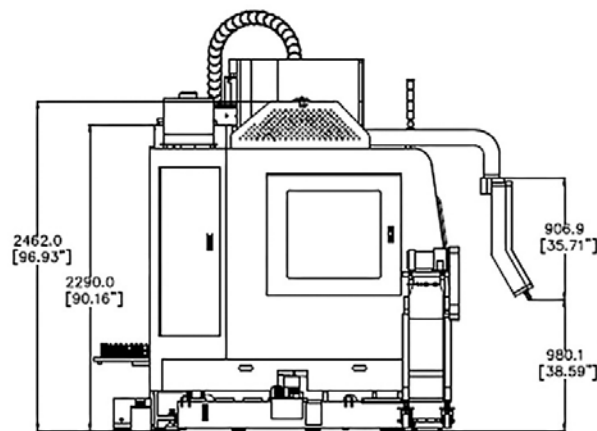
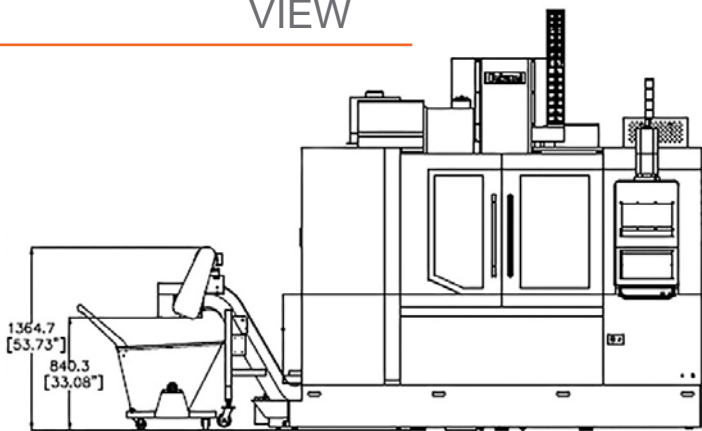
# LAYOUT

TOP VIEWS



SIDE VIEWS

FRONT VIEW



Machine specifications can be found on pages 24-27

# V15 VERTICAL MACHINING CENTER



## ACCESSORIES

### STANDARD

- › 435 psi coolant through the spindle
- › Operator safety door switches
- › Spindle chiller
- › Programmable cutting air blow
- › 137.7 gallon coolant tank
- › Programmable coolant wash down
- › Programmable belt style lift up chip conveyor and cart
- › Wash down gun and air gun
- › Centralized automatic lubrication system
- › Manual pulse generator (MPG)
- › Ethernet and RS-232C interface
- › 4th axis interface cables and connectors
- › Electrical cabinet heat exchanger
- › Toolbox
- › Leveling bolts and pads

- › Operator manuals
- › Full enclosure
- › Work light
- › 3-light indicator lamp

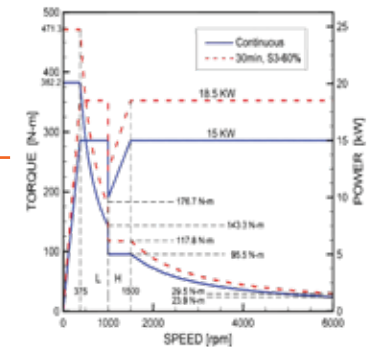
### OPTIONAL

- › Oil skimmer
- › Oil mist device
- › Oil mist collector
- › Coolant filtration
- › 1 Gigabyte Data Server
- › Memory Card editing
- › Part probe measurement system
- › Tool probe measurement system
- › 4th axis rotary table
- › BT 50 tool holder conversion

## HEAVY DUTY HIGH TORQUE MACHINE

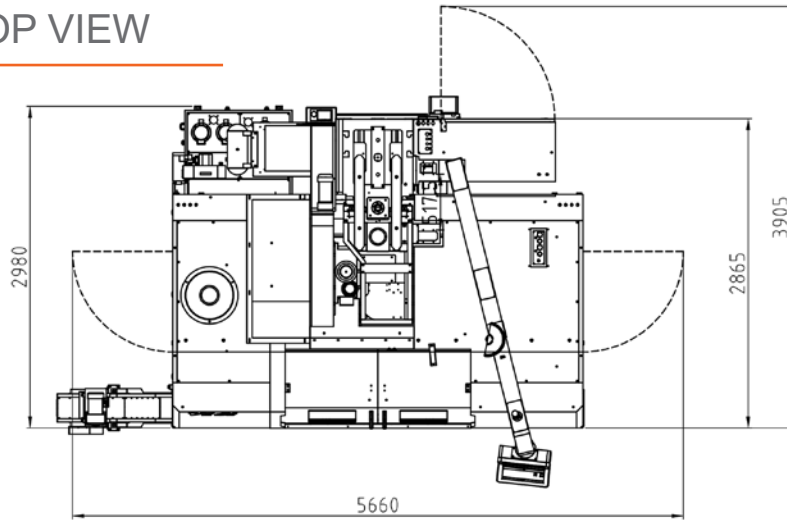
- › 60 x 30 x 28.3 in (1,524 x 762 x 718.8 mm) travels
- › 63 x 30 in (1,600 x 762 mm) table working surface with 3,300 lbs (1,500 kg) maximum table capacity
- › Fast 708 x 708 x 623 in/min (18 x 18 x 16 m/min) rapids
- › 196 in/min (5 m/min) cutting feed rate
- › 6,000 rpm gear driven spindle with 437 lb ft of torque
- › Rigorous testing to ensure thermal stability
- › 24-station swing-arm ATC, random access
- › Wide, robust machine base
- › 4 box ways under the Y axis for maximum support
- › Rugged axis power transmission
- › Extended Y axis travel and work area
- › Large diameter, preloaded and pretensioned ballscrews with fine pitch for accurate motion control
- › 41 components on the machine are hand-scraped for fit
- › Wide front door openings and side door access
- › Takumi FANUC® H Control
- › AICC II for high feed rates with optimal cutting precision
- › 400 block look ahead for fast contour milling
- › 56 work offsets for increased flexibility in job set up
- › 400 tool offset library with length and radius wear
- › Set Up Guidance function to decrease set up time
- › Programmable mirror image
- › Compact flash memory card slot and USB port
- › Rigid Tapping (M29)
- › 2 year machine parts warranty
- › 2 year control parts and labor warranty
- › Factory trained local service and 24/7 tech support

## POWER AND TORQUE

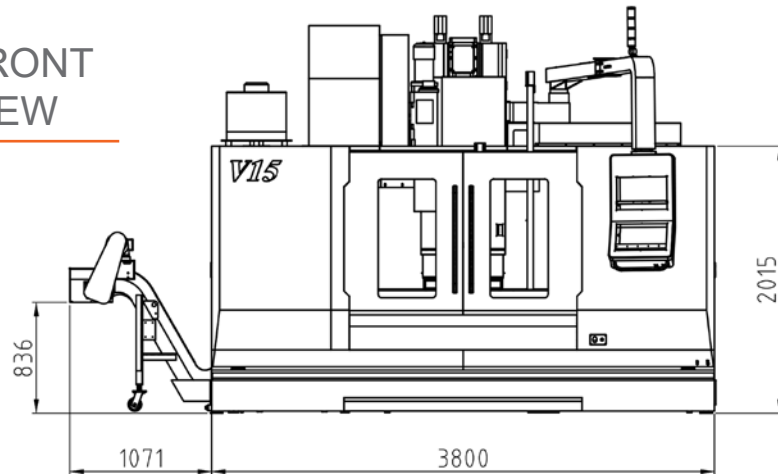


# LAYOUT

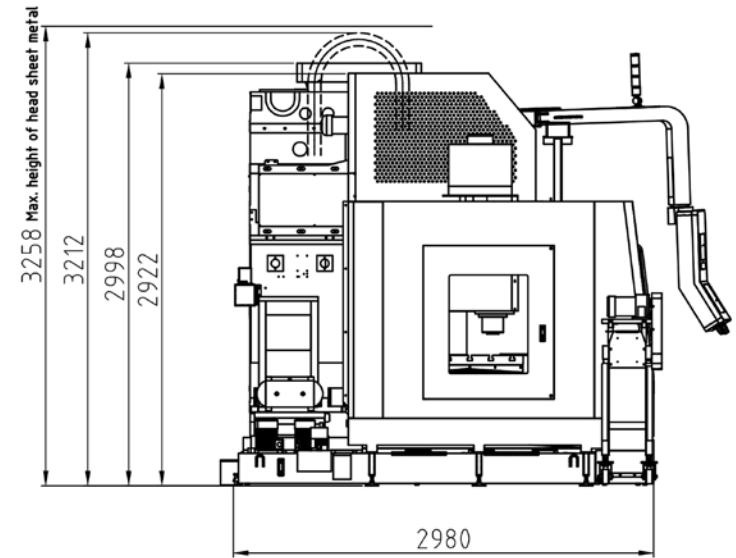
TOP VIEW



FRONT VIEW



SIDE VIEW



*Machine specifications can be found on pages 24-27*

# H10 DOUBLE-COLUMN MACHINING CENTER



## ACCESSORIES

### STANDARD

- › Linear Scales
- › 15,000 rpm, Big Plus® CAT 40, inline spindle
- › 435 psi coolant through the spindle
- › Operator safety door switches
- › Spindle chiller
- › Programmable cutting airblow
- › 110 gallon coolant tank
- › Programmable coolant wash down
- › Centralized automatic lubrication system
- › Oil Skimmer
- › Wash-down gun and air gun
- › 1GB Dataserver
- › Manual pulse generator (MPG)
- › Ethernet and RS-232C interface
- › Electrical cabinet air conditioner
- › Toolbox, leveling bolts and pads
- › Operator manuals
- › Full enclosure

- › Work-light
- › 3-light indicator lamp

### OPTIONAL

- › 20,000 rpm HSK A63 integral spindle
- › 24,000 rpm HSK A63 IBAG integral spindle
- › Oil mist device
- › Oil mist collector
- › Coolant filtration
- › Part probe measurement system
- › Tool probe measurement system
- › 4th axis preparation kit
- › 4th axis rotary table
- › Lift up chip conveyor with cart
- › 1,000 psi coolant through spindle
- › Cutting air through spindle
- › 48 additional work offsets
- › BBT 40 tool holder conversion

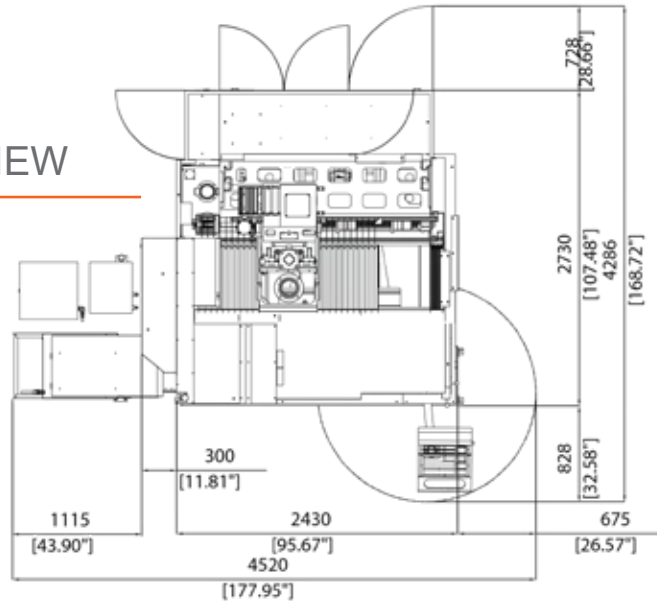
## HIGH SPEED MACHINING AND OUTSTANDING SURFACE FINISH

- › 40.16 x 27.56 x 19.69 in (1,020 x 700 x 500 mm) travels
- › 41.3 x 27.6 in (1,050 x 700 mm) table working surface with 1,760 lbs (800 kg) maximum capacity
- › 1,259 inches per minute (32 m/minute) rapids
- › 787 in/minute (20 m/minute) cutting feed rates
- › 30-station swing-arm ATC, random access
- › 15,000 rpm Big Plus® CAT 40 inline direct-drive spindle
- › World-class performance for die/mold, aerospace, and other high speed applications
- › One piece robust base absorbs the inertia of high cutting feeds
- › Extra-wide door openings, for easier loading and unloading
- › One piece double-column design increases rigidity enabling higher cutting feeds while maintaining part finish
- › 35% increase in Y axis work area over the standard vertical machine design
- › Specially designed head and included spindle chiller ensure thermal stability
- › 30 components on the machine are hand scraped for fit
- › Roller-type linear guides on all three axes
- › Large diameter, preloaded and pretensioned ballscrews with fine pitch for accurate motion control
- › Linear scales on all axes
- › FANUC® 31i-MB Series Control
- › AICC II for high feed rates with optimal cutting precision
- › High speed processor and 600 block look ahead for fast contour milling
- › 1 Gigabyte data server with high speed Ethernet connection
- › Programmable mirror image
- › Rigid Tapping (M29)
- › 2 year machine parts warranty
- › 2 year control parts and labor warranty
- › Factory trained local service and 24/7 tech support

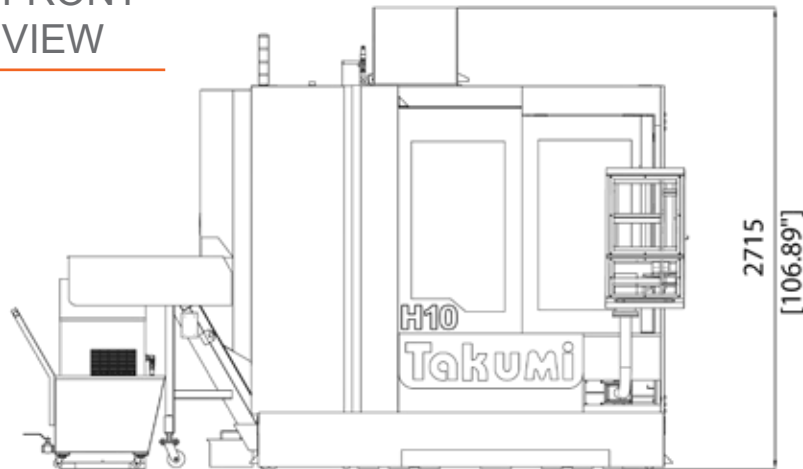
*Machine specifications can be found on pages 24-27*

# LAYOUT

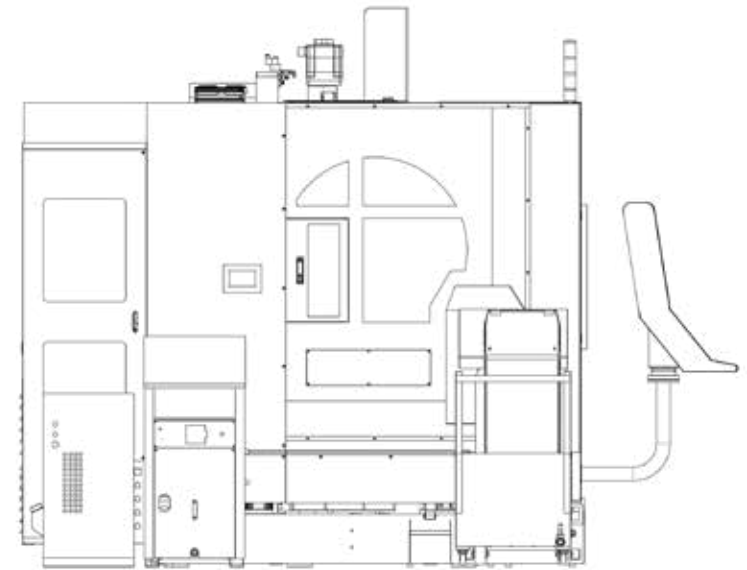
TOP VIEW



FRONT VIEW



SIDE VIEW



# H12 DOUBLE-COLUMN MACHINING CENTER



## ACCESSORIES

### STANDARD

- › Linear Scales
- › 15,000 rpm, Big Plus® CAT 40, inline spindle
- › 435 psi coolant through the spindle
- › Operator safety door switches
- › Spindle chiller
- › Programmable cutting airblow
- › 173 gallon coolant tank
- › Programmable coolant wash down
- › Centralized automatic lubrication system
- › Oil Skimmer
- › Wash-down gun and air gun
- › 1GB Dataserver
- › Manual pulse generator (MPG)
- › Ethernet and RS-232C interface
- › Electrical cabinet air conditioner
- › Dual internal chip augers and 1 exhaust chip auger
- › Toolbox, leveling bolts and pads
- › Operator manuals

- › Full enclosure
- › Work-light
- › 3-light indicator lamp

### OPTIONAL

- › 10,000 rpm Big Plus® CAT50 spindle
- › 24,000 rpm HSK A63 IBAG integral spindle
- › Oil mist device
- › Oil mist collector
- › Coolant filtration
- › Part probe measurement system
- › Tool probe measurement system
- › 4th axis preparation kit
- › 4th axis rotary table
- › Lift up chip conveyor with cart
- › 1000 psi coolant through spindle
- › Cutting air through spindle
- › 48 additional work offsets
- › BBT 40 tool holder conversion

## HIGH SPEED MACHINING AND OUTSTANDING SURFACE FINISH

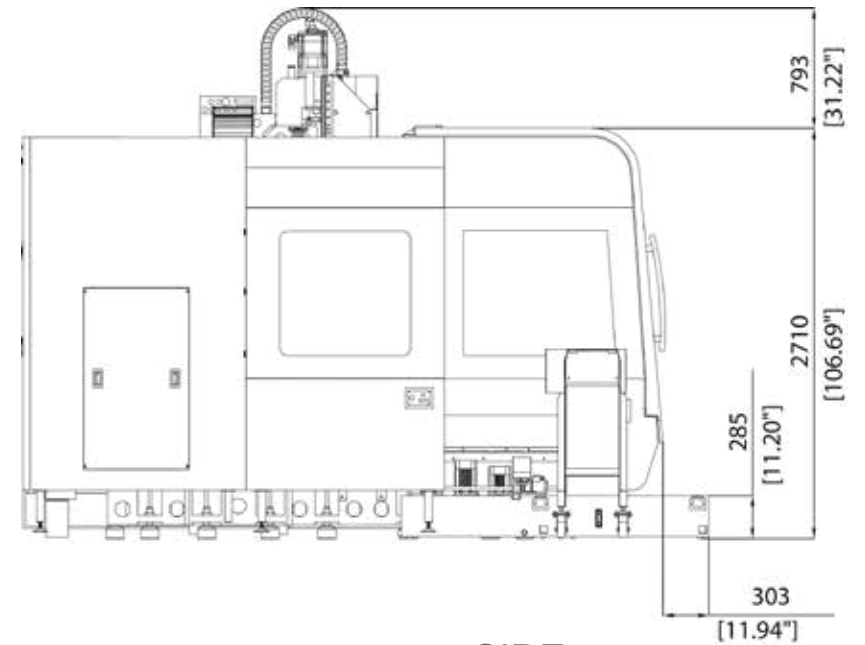
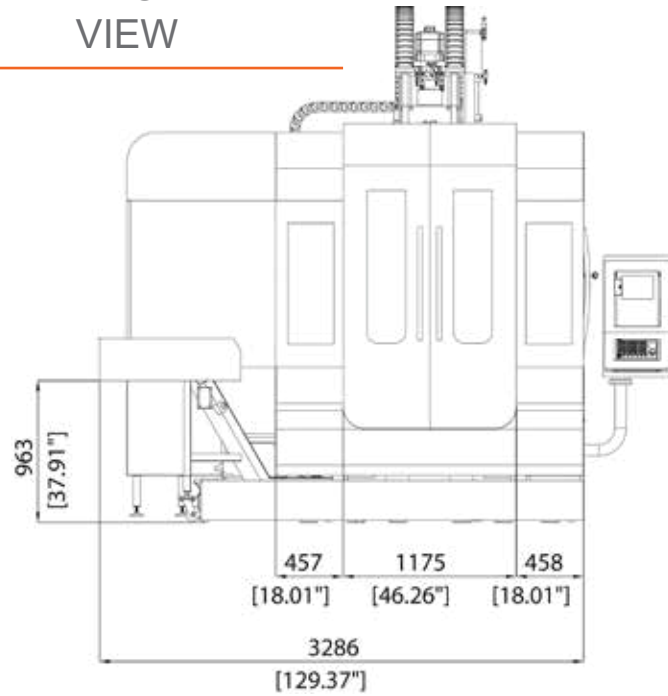
- › 53.2 x 37.4 x 23.6 in (1,350 x 950 x 600 mm) travels
- › 59.1 x 37.8 in (1,050 x 700 mm) table working surface with 5,512 lbs (2,500 kg) maximum capacity
- › 1,181 inches per minute (30 m/minute) rapids
- › 787 in/minute (20 m/minute) cutting feed rates
- › 30-station swing-arm ATC, random access
- › 15,000 rpm Big Plus® CAT 40 inline direct-drive spindle
- › World-class performance for die/mold, aerospace, and other high speed applications
- › One piece robust base absorbs the inertia of high cutting feeds
- › Extra-wide door openings, for easier loading and unloading
- › One piece double-column design increases rigidity enabling higher cutting feeds while maintaining part finish
- › 45% increase in Y axis work area over the standard vertical machine design
- › Specially designed head and included spindle chiller ensure thermal stability
- › 30 components on the machine are hand scraped for fit
- › Roller-type linear guides on all three axes
- › Large diameter, preloaded and pretensioned ballscrews with fine pitch for accurate motion control
- › Linear scales on all axes
- › FANUC® 31i-MB Series Control
- › AICC II for high feed rates with optimal cutting precision
- › High speed processor and 600 block look ahead for fast contour milling
- › 1 Gigabyte data server with high speed Ethernet connection
- › Programmable mirror image
- › Rigid Tapping (M29)
- › 2 year machine parts warranty
- › 2 year control parts and labor warranty
- › Factory trained local service and 24/7 tech support

*Machine specifications can be found on pages 24-27*



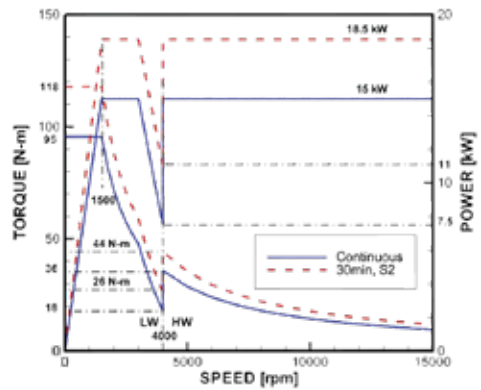
# LAYOUT

FRONT VIEW



SIDE VIEW

POWER AND TORQUE



# H16 DOUBLE-COLUMN MACHINING CENTER



## ACCESSORIES

### STANDARD

- › Linear Scales
- › 15,000 rpm, Big Plus® CAT 40, inline spindle
- › 435 psi coolant through the spindle
- › Operator safety door switches
- › Spindle chiller
- › Programmable cutting airblow
- › 197 gallon coolant tank
- › Programmable coolant wash down
- › Centralized automatic lubrication system
- › Oil Skimmer
- › Wash-down gun and air gun
- › 1GB Dataserver
- › Manual pulse generator (MPG)
- › Ethernet and RS-232C interface
- › Electrical cabinet air conditioner
- › Dual internal chip augers and lift up chip conveyor
- › Toolbox, leveling bolts and pads

- › Operator manuals
- › Full enclosure
- › Work-light
- › 3-light indicator lamp

### OPTIONAL

- › Oil mist device
- › Oil mist collector
- › Coolant filtration
- › Part probe measurement system
- › Tool probe measurement system
- › 4th axis preparation kit
- › 4th axis rotary table
- › 1,000 psi coolant through spindle
- › Cutting air through spindle
- › 48 additional work offsets
- › BBT 40 tool holder conversion

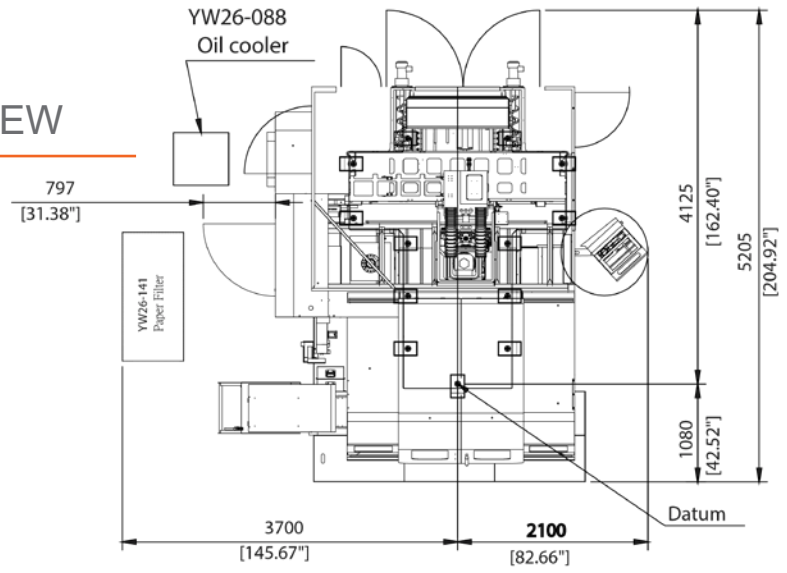
## HIGH SPEED MACHINING AND OUTSTANDING SURFACE FINISH

- › 62.9 x 51.1 x 27.5 in (1,600 x 1,300 x 700 mm) travels
- › 74.8 x 51.1 in (1,900 x 1,300 mm) table working surface with 13,200 lbs (6,000 kg) maximum capacity
- › 1,181 inches per minute (30 m/minute) rapids
- › 787 in/minute (20 m/minute) cutting feed rates
- › 30-station swing-arm ATC, random access
- › 15,000 rpm Big Plus® CAT 40 inline direct-drive spindle
- › World-class performance for die/mold, aerospace, and other high speed applications
- › One piece robust base absorbs the inertia of high cutting feeds
- › Extra-wide door openings, for easier loading and unloading
- › One piece double-column design increases rigidity enabling higher cutting feeds while maintaining part finish
- › 45% increase in Y axis work area over the standard vertical machine design
- › Specially designed head and included spindle chiller ensure thermal stability
- › 30 components on the machine are hand scraped for fit
- › Roller-type linear guides on all three axes
- › Large diameter, preloaded and pretensioned ballscrews with fine pitch for accurate motion control
- › Linear scales on all axes
- › FANUC® 31i-MB Series Control
- › AICC II for high feed rates with optimal cutting precision
- › High speed processor and 600 block look ahead for fast contour milling
- › 1 Gigabyte data server with high speed Ethernet connection
- › Programmable mirror image
- › Rigid Tapping (M29)
- › 2 year machine parts warranty
- › 2 year control parts and labor warranty
- › Factory trained local service and 24/7 tech support

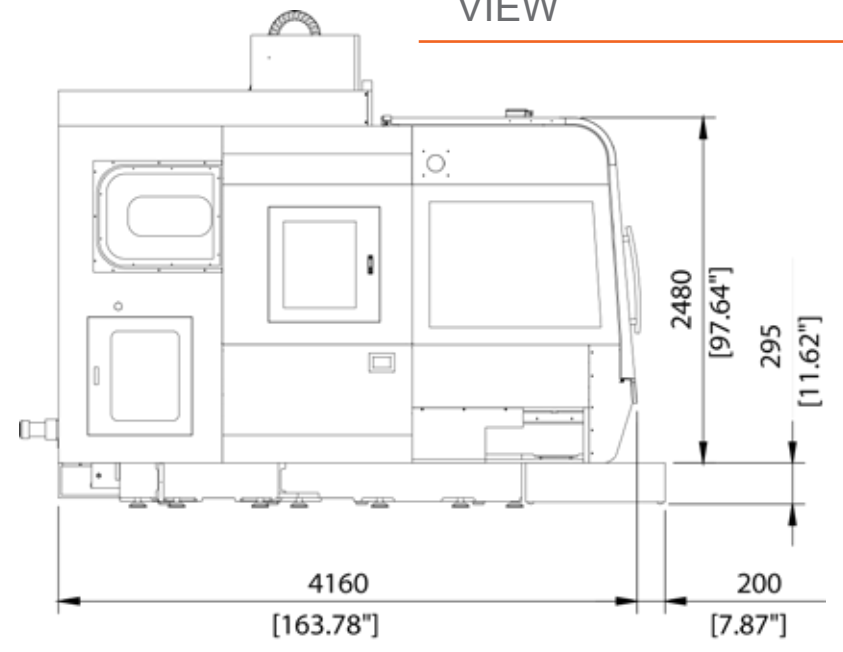
*Machine specifications can be found on pages 24-27*

# LAYOUT

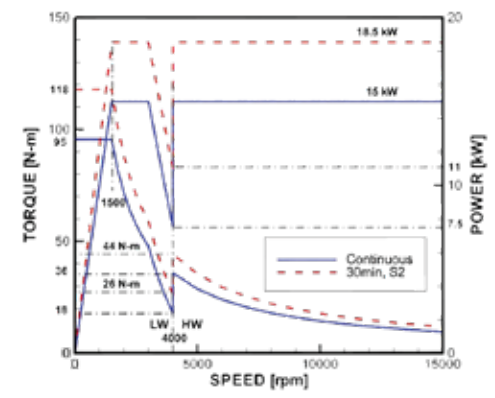
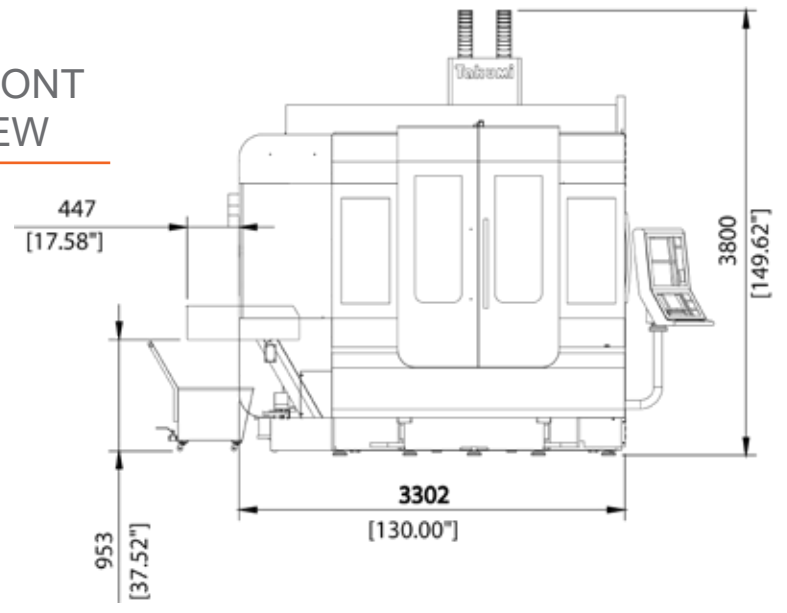
TOP VIEW



SIDE VIEW



FRONT VIEW



POWER AND TORQUE

# U600 5-AXIS DOUBLE-COLUMN MACHINING CENTER



## ACCESSORIES

### STANDARD

- › Roller-type linear guides on three axes
- › 15,000 rpm, 33.5 HP, Big Plus inline spindle
- › Hand-scraped contact areas
- › Fast 1,417 ipm rapid traverse rates
- › 787 ipm milling feed rate
- › 25 rpm 360° C-axis 800 mm table
- › 33 rpm +30/-110° A-axis trunnion
- › 40 tool swing arm ATC
- › Oil skimmer
- › Work lights
- › 3-light indicator lamp
- › Portable manual handwheel
- › Spindle thermal chiller
- › Coolant wash down system
- › Programmable cutting air-blow
- › Wash-down gun and air gun
- › Heidenhain TNC 640 control with 15.1" LCD display

- › 21 gigabyte SSDR for program storage
- › Steel belt, lift-up conveyor
- › Leveling bolts, pads
- › Operator manuals

### OPTIONAL

- › Linear scales X, Y and Z axes
- › 435 psi (30 bar), 8 gpm coolant-thru spindle
- › Heidenhain TS 460 automatic workpiece measurement system
- › Blum automatic tool length measurement system
- › Heidenhain TS 740 automatic workpiece measurement system
- › Oil mist cutting device
- › Mist collectors
- › Spindle thermal compensation system
- › Coolant filtration

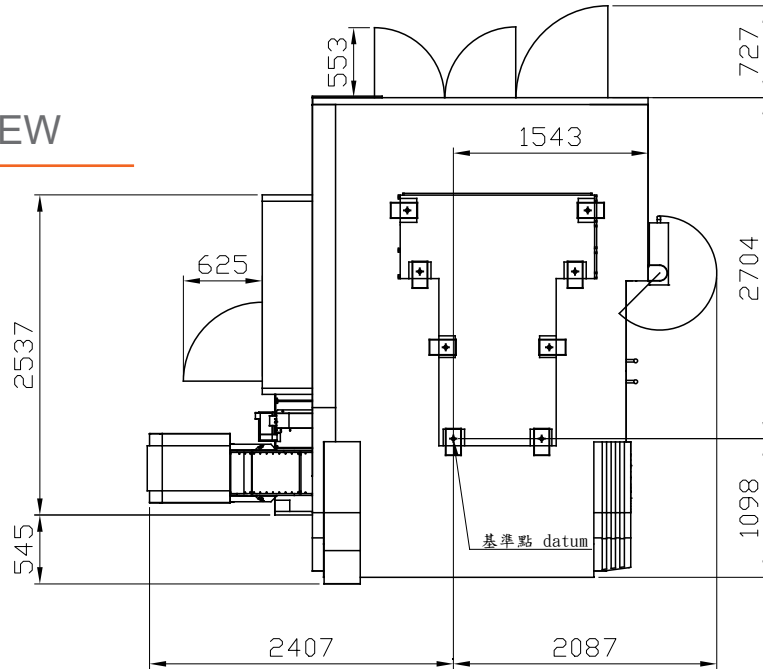
## HIGH SPEED MACHINING AND OUTSTANDING SURFACE FINISH

- › 25.98 x 40.16 x 19.69 in (660 x 1,020 x 500 mm) travels
- › 23.62 in diameter (600 mm diameter) table working surface with 1,102 lbs (500 kg) maximum capacity
- › 1,417 inches per minute (36 m/minute) rapids
- › 787 in/minute (20 m/minute) cutting feed rates
- › 40-station swing arm ATC
- › One-piece casting absorbs the thrust forces of high rapids and fast cutting feeds
- › One piece double-column design increases rigidity enabling higher cutting feeds while maintaining part finish
- › Ladder design of cross rails increases rigidity and eliminates head deflection
- › Over 35 components are hand scraped for fit
- › Roller type linear rails support faster feed rates, higher rigidity, and smoother linear motion due to larger contact area compared to ball-type linear rails
- › Large diameter, preloaded and pretensioned ballscrews with fine pitch for accurate motion control
- › 15,000 rpm Big Plus® CAT 40 inline spindle
- › Heidenhain TNC 640 Control (see page 27 for more information)
- › 2 year machine parts warranty
- › 1 year control parts and labor warranty
- › Factory direct service and 24/7 tech support

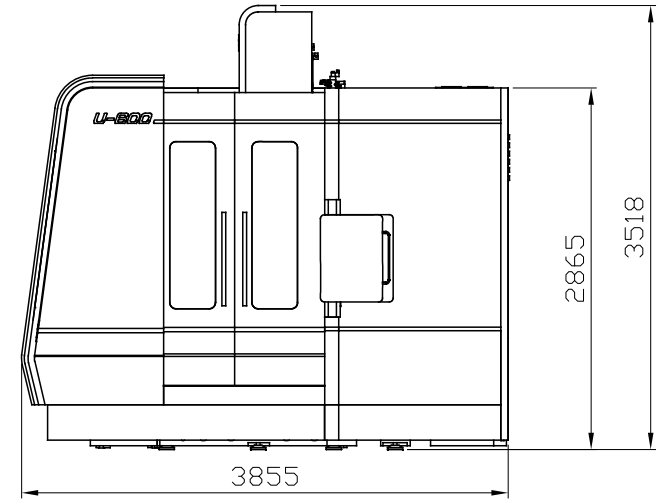
*Machine specifications can be found on pages 24-27*

# LAYOUT

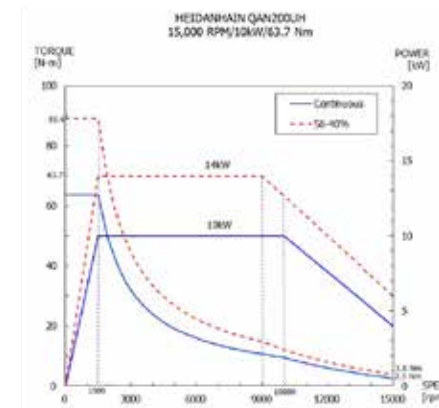
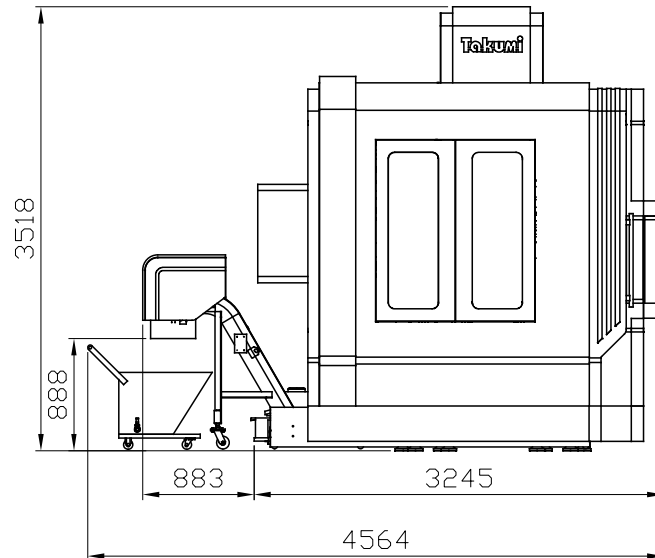
## TOP VIEW



## SIDE VIEW



## FRONT VIEW



## POWER AND TORQUE

# U800 5-AXIS GANTRY MACHINING CENTER



## ACCESSORIES

### STANDARD

- › Roller-type linear guides on three axes
- › 20,000 rpm, 33.5 HP, HSK63A built-in spindle
- › Hand-scraped contact areas
- › Fast 1,890 ipm rapid traverse rates
- › 945 ipm milling feed rate
- › 100 rpm 360° C-axis 800 mm table
- › 80 rpm +/-120° A-axis trunnion
- › Rotary table thermal cooling system
- › 32 tool ATC (HSK63A)
- › Oil skimmer
- › Work lights
- › 3-light indicator lamp
- › Portable manual handwheel
- › Spindle thermal chiller
- › Coolant wash down system
- › Programmable cutting air-blow
- › Wash-down gun and air gun
- › Heidenhain TNC 640 control with 15.1" LCD Display

- › 21 Gigabyte SSDR for program storage
- › Steel belt, lift-up conveyor
- › Leveling bolts, pads and J anchors
- › Operator manuals

### OPTIONAL

- › Linear scales X, Y, and Z axes
- › 64 station, double magazine ATC
- › 435 psi (30 BAR), 8 GPM coolant-thru spindle
- › Heidenhain TS 460 automatic workpiece measurement system
- › Blum automatic tool length measurement system
- › Oil mist cutting device
- › Mist collectors
- › Spindle thermal compensation system
- › Coolant filtration
- › Heidenhain TS 740 automatic workpiece measurement system

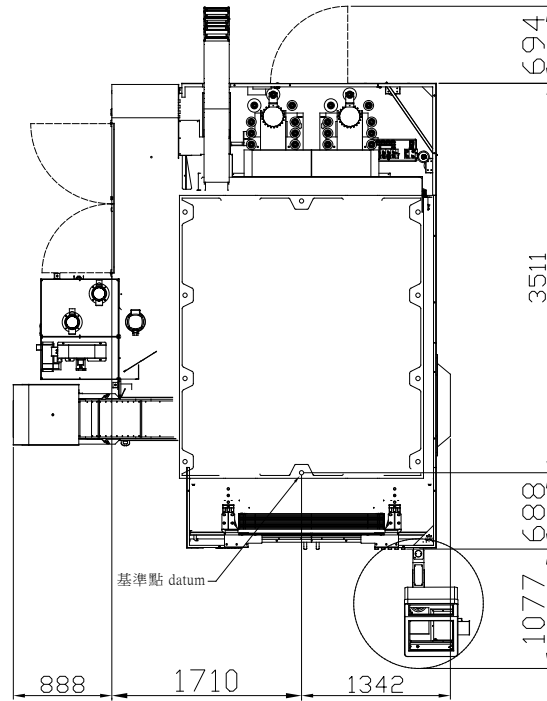
## HIGH SPEED MACHINING AND OUTSTANDING SURFACE FINISH

- › 31.49 x 45.28 x 29.52 in (799 x 1,150 x 749 mm) travels
- › 31.49 in diameter (799 mm diameter) table working surface with 2,205 lbs (1,000 kg) maximum capacity
- › 1,890 inches per minute (48 m/minute) rapids
- › 945 in/minute (24 m/minute) cutting feed rates
- › One-piece casting absorbs the thrust forces of high rapids and fast cutting feeds
- › Gantry design with U-shaped integral structure of the base and columns promotes rigidity and stability
- › Ladder design of cross rails increases rigidity and eliminates head deflection
- › Over 35 components are hand scraped for fit
- › Roller type linear rails support faster feed rates, higher rigidity, and smoother linear motion due to larger contact area compared to ball-type linear rails
- › Twin synchronized Y-axis motors increase speed and acceleration capability
- › Trunnion table with integral torque motors (instead of gear drives) provides quicker response, higher torque, better positioning accuracy and lower maintenance requirements
- › High performance 20,000 rpm motorized spindle to satisfy a multitude of machining requirements
- › 32-station carousel ATC
- › HSK63A tooling
- › Heidenhain TNC 640 Control (see page 27 for more information)
- › 2 year machine parts warranty
- › 1 year control parts and labor warranty
- › Factory direct service and 24/7 tech support

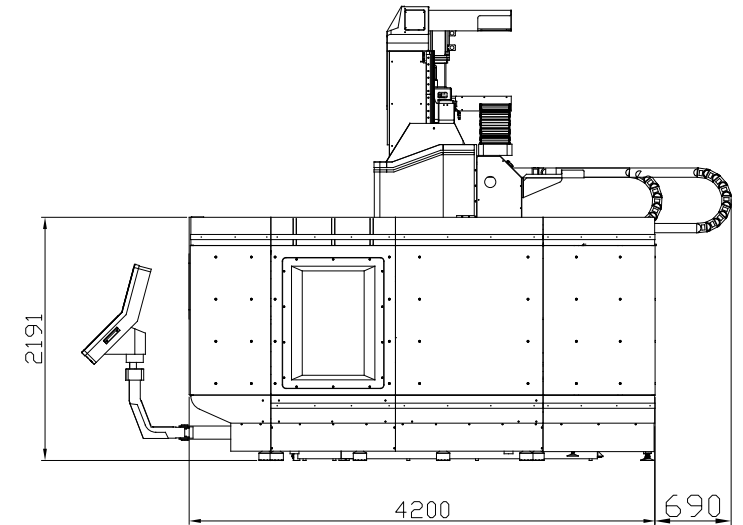
*Machine specifications can be found on pages 24-27*

# LAYOUT

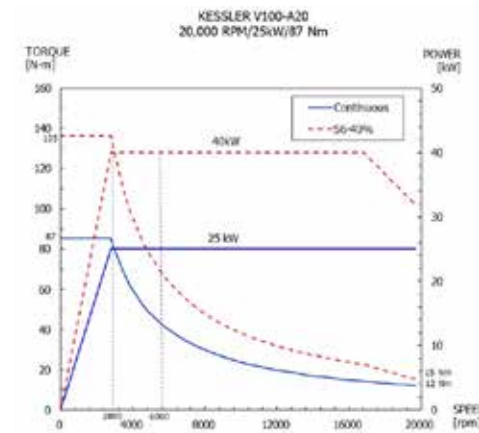
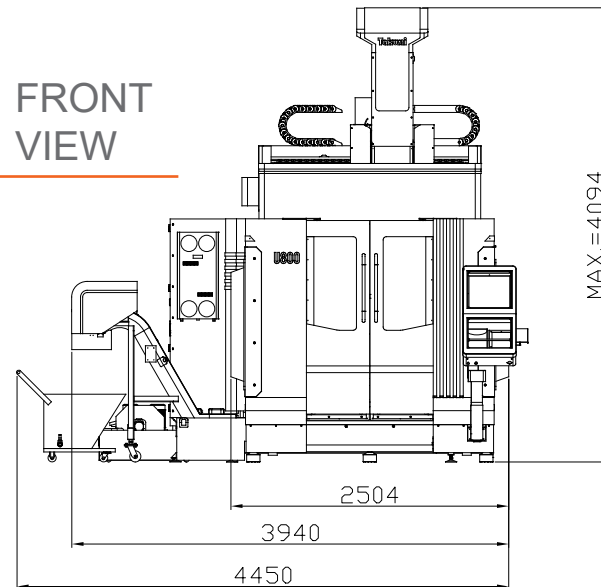
## TOP VIEW



## SIDE VIEW



## FRONT VIEW



## POWER AND TORQUE

## SPECIFICATIONS

SPECIFICATIONS		VC0852	VC1052
TRAVEL	X-Axis	33.86 in / 806 mm	41.73 in / 1,060 mm
	Y-Axis	20.47 in / 520 mm	20.47 in / 520 mm
	Z-Axis	24.02 in / 610 mm	24.02 in / 610 mm
	Distance from Spindle Nose to Table	4.53 ~ 28.54 in / 115 ~ 725 mm	4.53 ~ 28.54 in / 115 ~ 725 mm
	Distance from Spindle Nose to Z-Axis Guide Ways	22.64 in / 575 mm	22.64 in / 575 mm
TABLE	Dimensions	39.4 x 20.47 in / 1,000 x 520 mm	45.67 x 20.47 in / 1,160 x 520 mm
	Max. Load	1,102 lbs / 500 kg	1,433 lbs / 650 kg
	T-slot (number x width x pitch)	5 x .71" on 3.94" Centers/ 5 x 18mm on 100mm Centers	5 x .71" on 3.94" Centers/ 5 x 18mm on 100mm Centers
SPINDLE	Type	Belt	Belt
	Spindle Speed	12,000 rpm	12,000 rpm
	Motor Power (cont./30 min)	10.1/14.8 HP / 7.5/11 kW	10.1/14.8 HP / 7.5/11 kW
	Spindle Taper	CAT 40/BT 40	CAT 40/BT 40
FEED RATE	Rapid Traverse (X/Y/Z)	1,417 x 1,417 x 944 ipm / 36 x 36 x 24 m/min	1,417 x 1,417 x 944 ipm / 36 x 36 x 24 m/min
	Cutting Feed Rate	0.04 ~ 472.44 ipm / 1 ~ 12,000 mm/min	0.04 ~ 472.44 ipm / 1 ~ 12,000 mm/min
	Power (X/Y/Z)	2.4/4.0/3.3 hp / 1.8/3.0/2.5 kW	2.4/4.0/3.3 hp / 1.8/3.0/2.5 kW
ATC & MAGAZINE	ATC Type	Swing-Arm	Swing-Arm
	Magazine Capacity	24 tools	24 tools
	Maximum Tool Diameter (next pocket empty)	3.15/5.91 in / 80/150 mm	3.15/5.91 in / 80/150 mm
	Maximum Tool Length	11.8 in / 300 mm	11.8 in / 300 mm
	Maximum Tool Weight	15.4 lbs / 7 kg	15.4 lbs / 7 kg
	Tool Shank	CAT40 (BT 40 optional)	CAT40 (BT 40 optional)
SPACE & SYSTEM REQUIREMENTS	Pneumatic Pressure	5 CFM @ 85-115 psi / 0.14m <sup>3</sup> /min. @ 6-8 bar	5 CFM @ 85-115 psi / 0.14m <sup>3</sup> /min. @ 6-8 bar
	Electrical Power Consumption	30 KVA	30 KVA
	Machine Net Weight	12,566 lbs / 5,699 kg	13,007 lbs / 5,900 kg
	Machine Dimension	104.68 x 84.72 x 112.01 in / 2,659 x 2,152 x 3,099 mm	116.42 x 84.72 x 112.01 in / 2,957 x 2,152 x 3,099 mm
	Operating Dimensions (W x L x H)	195.15 x 147.36 x 122.01 in / 4,957 x 3,743 x 3,099 mm	195.15 x 147.36 x 122.01 in / 4,957 x 3,743 x 3,099 mm

Information may change without notice. Optimum machine performance is reliant upon installation conditions at the facility, such as power supply, air supply, and ambient air conditions.

## FANUC® H CONTROL



### STANDARD

- AICC 2 Package with Jerk Control, Smooth Tolerance Control, Machine Quality Level Adjustment Function/R386 and R660
- 400 Block Look Ahead
- 8.4" LCD display
- All Digital Servo Package
- Memory 512KB (1,280 meters)
- 4 Simultaneously Controlled Axis
- Sub-micron control: Least Input Increment .00001", .0001 Degree, .0001mm
- Fine Accel/Decel Control
- Inch/Metric Conversion
- DNC Operation
- DNC Operation from Memory Card
- Program Restart
- Rapid Traverse Override 0%, 25%, 50% and 100%
- Rapid Traverse Bell-Shaped Acceleration/Deceleration
- Incremental Feed MPG x1, x10, x100
- 1st and 2nd Reference Return
- Nano Interpolation
- Automatic Exponential G01 Feed Control
- Feedrate Override From 0-120%
- AI Advanced Preview Control
- Memory Card Memory Input/Output
- High Speed Skip Function
- Tangential Speed Constant Control
- Rapid Traverse Bell-Shaped Acceleration/Deceleration
- Work Piece Coordinate System 48 Pairs
- Custom Macros #0-#99
- Macro Common Variables #100-#199 and #500-#999
- Embedded Ethernet

### OPTIONAL

- Memory Card Editing/Operation
- Part Program Storage 2MB



# SPECIFICATIONS

		V10	V11	V15
TRAVEL	X-Axis	39.5 in / 1,000 mm	43.3 in / 1,100 mm	60 in / 1,524 mm
	Y-Axis	26 in / 660 mm	26 in / 660 mm	30 in / 762 mm
	Z-Axis	24 in / 610 mm	24.01 in / 610 mm	28.3 in / 720 mm
	Distance from Spindle Nose to Table	5.91 ~ 29.92 in / 150 ~ 760 mm	5.91 ~ 29.53 in / 150 ~ 750 mm	5.91 ~ 34.3 in / 150 ~ 870 mm
	Distance from Spindle Nose to Z-Axis Guide Ways	27.56 in / 700 mm	27.56 in / 700 mm	32.3 in / 820 mm
TABLE	Dimensions	41.73 x 25.59 in / 1,060 x 650 mm	45.2 x 25.6 in / 1,150 x 650 mm	63x 30 in / 1,600 x 760 mm
	Max. Load	2,204.62 lbs / 1,000 kg	2,425.01 lbs / 1,100 kg	3,300 lbs / 1,500 kg
	T-slot (number x width x pitch)	5 x .71" on 3.94" Centers / 5 x 18mm on 100mm Centers	5 x .71" on 3.94" Centers / 5 x 18mm on 100mm Centers	5 x .87" on 5.91" Centers / 5 x 22mm on 150mm Centers
SPINDLE	Type	Belt	Gear	Gear
	Spindle Speed	12,000 rpm	6,000 rpm	6,000 rpm
	Spindle Torque Peaks	70.8ft/lb / 96.01 nm	397 ft/lb / 539 nm	437.2 ft/lb / 592.76 nm
	Motor Power (cont./30 min)	10/14.8 HP / 7.5/11 kW	14.6/20 HP / 11/15 kW	20.1/24.8 HP / 15/18.5 kW
	Coolant Thru Spindle	30 bar / 435 psi	30 bar / 435 psi	30 bar / 435.11 psi
	Spindle Taper	CAT/BT 40	CAT/BT 50	CAT/BT 50
FEED RATE	Rapid Traverse (X/Y/Z)	945 x 945 x 787 ipm / 24 x 24 x 20 m/min	945 x 945 x 787 ipm / 24 x 24 x 20 m/min	708 x 708 x 630 ipm / 18 x 18 x 16 m/min
	Cutting Feed Rate	315 ipm / 8 m/min	315 ipm / 8 m/min	0.04 ~ 196.85 ipm / 1 ~ 5,000 mm/min
	Power (X/Y/Z)	4.0/4.0/4.0 hp / 3.0/3.0/3.0 kW	4.0/5.3/5.3 hp / 3.0/4.0/4.0 kW	5.3/9.4/5.3 hp / 4.0/7.0/4.0 kW
ATC & MAGAZINE	ATC Type	Swing-Arm	Swing-Arm	Swing-Arm
	Magazine Capacity	24 tools	24 tools	24 tools
	Maximum Tool Diameter (next pocket empty)	3.15/5.91 in / 80/150 mm	4.1/7.9 in / 105/200 mm	4.33/8.66 in / 110/220 mm
	Maximum Tool Length	11.8 in / 300 mm	9.8 in / 250 mm	11.81 in / 300 mm
	Maximum Tool Weight	15.4 lbs / 7 kg	33 lbs / 15 kg	33.07 lbs / 15 kg
	Tool Shank	CAT 40 (BT 40 optional)	CAT 50 (BT 50 optional)	CAT 50 (BT 50 Optional)
SPACE & SYSTEM REQUIREMENTS	Pneumatic Pressure	5 CFM @ 85-115 psi / 0.14m3 /min. @ 6-8 bar	5 CFM @ 85-115 psi / 0.14m3 /min. @ 6-8 bar	5 CFM @ 85-115 psi / 0.14m3 /min. @ 6-8 bar
	Electrical Power Consumption	35 KVA	35 KVA	35 KVA
	Machine Net Weight	14,770 lbs / 6,700 kg	14,960 lbs / 6,800 kg	30,865 lbs / 14,000 kg
	Operating Dimensions (W x L x H)	248.03 x 165.35 x 124.02 in / 6,300 x 4,200 x 3,150 mm	248.03 x 165.35 x 124.02 in / 6,300 x 4,200 x 3,150 mm	275.59 x 220.47 x 128.19 in / 7,000 x 5,600 x 3,256 mm



Information may change without notice. Optimum machine performance is reliant upon installation conditions at the facility, such as power supply, air supply, and ambient air conditions.

# SPECIFICATIONS

		H10	H12	H16
TRAVEL	X-Axis	40.16 in / 1,020 mm	53.2 in / 1,350 mm	62.99 in / 1,600 mm
	Y-Axis	27.56 in / 700 mm	37.4 in / 950 mm	51.18 in / 1,300 mm
	Z-Axis	19.69 in / 500 mm	23.6 in / 600 mm	27.56 in / 700 mm
	Distance from Spindle Nose to Table	7.09 ~ 26.77 in / 180 ~ 680 mm	7.87 ~ 31.5 in / 200~800 mm	7.9 ~ 35.4 in / 200 ~ 900 mm
	Distance between Columns	42.5 in / 1,080 mm	41.7 in / 1,060 mm	59.0 in / 1,500 mm
TABLE	Dimensions	41.3 x 27.6 in / 1,050 x 700 mm	59.1 x 37.8 in / 1,500 x 960 mm	74.8 x 51.18 in / 1,900 x 1,300 mm
	Max. Load	1,760 lbs / 800 kg	5,512 lbs / 2,500 kg	13,200 lbs / 6,000 kg
	T-slot (number x width x pitch)	6 x .71" on 4.92" Centers / 6 x 18mm on 125mm Centers	6 x .9" on 6.3" Centers / 6 x 22mm on 160mm Centers	8 x .87" on 6.3" Centers / 8 x 22mm on 160mm Centers
SPINDLE	Type	Direct Drive	Direct Drive	Direct Drive
	Spindle Speed	15,000 rpm	15,000 rpm	15,000 rpm
	Spindle Torque Peak	105.5 ft/lb / 143.04 nm	105.5 ft/lb / 143.04 nm	105.5 ft/lb / 143.04 nm
	Motor Power (cont./30 min)	20.1/24.8 HP / 15/18.5 kW	20.1/24.8 HP / 15/18.5 kW	20.1/24.8 HP / 15/18.5 kW
	Coolant Thru Spindle	30 bar / 435.11 psi	30 bar / 435.11 psi	30 bar / 435.11 psi
	Spindle Taper	Big Plus® CAT 40	Big Plus® CAT 40	Big Plus® CAT 40
FEED RATE	Rapid Traverse (X/Y/Z)	1,259 x 1,259 x 1,259 ipm / 32 x 32 x 32 m/min	1,181 x 1,181 x 1,181 ipm / 30 x 30 x 30 m/min	1,181 x 1,181 x 1,181 ipm / 30 x 30 x 30 m/min
	Cutting Feed Rate	0.04 ~ 787 ipm / 1 ~ 20,000 mm/min	0.04~787 ipm / 1 ~ 20,000 mm/min	0.04~787 ipm / 1 ~ 20,000 mm/min
	Power (X/Y/Z)	4.5kw/4.5kw/4.5kW	7.0kw/4.5kw/7.0kW	14.0kw/5.5kw/5.5kW
ATC & MAGAZINE	ATC Type	Swing-Arm	Swing-Arm	Swing-Arm
	Magazine Capacity	30 tools	30 tools	30 tools
	Maximum Tool Diameter (next pocket empty)	2.95/5.85 in / 74.9/148 mm	2.95/5.85 in / 74.9/151.1 mm	2.95/5.85 in / 74.9/151.1 mm
	Maximum Tool Length	11.8 in / 300 mm	11.8 in / 300 mm	11.8 in / 300 mm
	Maximum Tool Weight	15.4 lbs / 7 kg	15.4 lbs / 7 kg	15.4 lbs / 7 kg
	Tool Shank	CAT 40 (BT 40 optional)	CAT 40 (BT 40 optional)	CAT 40 (BT 40 optional)
SPACE & SYSTEM REQUIREMENTS	Pneumatic Pressure	5 CFM @ 85-115 psi / 0.14m3 /min. @ 6-8 bar	5 CFM @ 85-115 psi / 0.14m3 /min. @ 6-8 bar	5 CFM @ 85-115 psi / 0.14m3 /min. @ 6-8 bar
	Electrical Power Consumption	50 KVA	50 KVA	75 KVA
	Machine Net Weight	20,020 lbs / 9,100 kg	28,600 lbs / 13,000 kg	40,000 lbs / 22,000 kg
	Operating Dimensions (W x L x H)	177.95 x 168.74 x 120.01 in / 4,520 x 4,286 x 3,050 mm	197.44 x 203.72 x 137.91 in / 5,015 x 5,327 x 3,503 mm	191.45 x 204.92 x 156.69 in / 4,863 x 5,205 x 3,980 mm

Information may change without notice. Optimum machine performance is reliant upon installation conditions at the facility, such as power supply, air supply, and ambient air conditions.

# FANUC® 31i SERIES CONTROL

## STANDARD

- AICC 2 with HI Speed Processing, Machining Condition Selection, Nano Smoothing
- 600 Block Look Ahead
- 1 Gigabyte Data Server with Editing
- 10.4" LCD Display
- All Digital Servo Package
- Memory 512 KB (1,280 meters)
- 3 Simultaneously Controlled Axis
- Least Input Increment .0001", .001 Degree, .001mm
- Fine Accel/Decel Control
- Inch/Metric Conversion
- DNC Operation
- DNC Operation With Memory Card
- Program Restart
- Incremental Feed MPG x1, x10, x100
- 1st and 2nd Reference Return
- Nano Interpolation
- Automatic Exponential G01 Feed Control
- Feedrate Override From 0-120%
- AI Advanced Preview Control
- Operator Message Alarm Display
- USB Memory For Input/Output
- High Speed Skip Function
- 2nd Reference Return
- Bell-shaped Acceleration/Deceleration In Multiple Modes
- Tool Offsets-99 Pairs
- Tool Length and Radius Compensation and Wear Compensation
- Work Piece Coordinate System G52-G59
- Manual Guide i
- Conversational Programming with Graphic Display
- Custom Macros #0-#99
- Macro Common Variables #100-#199 and #500-#999
- Background Editing

## OPTIONAL

- Tool Offset 400 pairs
- Additional Work Coord. 48 pairs



## SPECIFICATIONS

		U600	U800
TRAVEL	X-Axis	25.98 in / 660 mm	31.49 in / 799 mm
	Y-Axis	40.16 in / 1,020 mm	45.28 in / 1,150 mm
	Z-Axis	19.69 in / 500 mm	29.52 in / 749 mm
	Distance from Spindle Nose to Table	6.30 ~ 25.98 in / 160 ~ 660 mm	4.92 ~ 34.45 in / 125 ~ 875 mm
TABLE	Dimensions	23.62 in diameter / 600 mm diameter	31.49 in diameter / 800 mm diameter
	Max. Load	1,102 lbs / 500 kg	2,205 lbs / 1,000 kg
	T-slot (number x width x pitch)	.55 x 3.94 x .20 in / 14 x 100 x 5 mm	.55 x 3.94 x .28 in / 14 x 100 x 7 mm
SPINDLE	Type	Inline	Motorized
	Spindle Speed	15,000 rpm	20,000 rpm
	Spindle Torque Peak	65.9 ft lb / 89.4 Nm	99.5 ft lb / 135 Nm
	Motor Power (cont./30 min)	13.41/18.77 HP / 10/14 kW	33.53/53.64 HP / 25/40 kW
	Coolant Thru Spindle	30 bar / 435 psi	30 bar / 435 psi
	Spindle Taper	Big Plus® CAT 40	HSK-63A
FEED RATE	Rapid Traverse (X/Y/Z)	1,417 x 1,417 x 1,417 ipm / 36 x 36 x 36 m/min	1,890 x 1,890 x 1,890 ipm / 48 x 48 x 48 m/min
	Cutting Feed Rate	787 ipm / 20 m/min	945 ipm / 24 m/min
ATC & MAGAZINE	ATC Type	Swing Arm	Carousel
	Magazine Capacity	40 tools	32 tools
	Maximum Tool Diameter (next pocket empty)	2.95/5.91 in / 75/150 mm	3.54/4.92 in / 90/125 mm
	Maximum Tool Length	11.81 in / 300 mm	11.81 in / 300 mm
	Maximum Tool Weight	17.64 lbs / 8 kg	15.43 lbs / 7 kg
	Tool Shank	CAT 40 (BT 40 Optional)	HSK-63A
SPACE & SYSTEM REQUIREMENTS	Pneumatic Pressure	85.34 psi / 6 kgf/cm <sup>2</sup>	85.34 psi / 6 kgf/cm <sup>2</sup>
	Electrical Power Consumption	60 KVA	80 KVA
	Machine Net Weight	30,864.72 lbs / 14,000 kg	39,683.21 lbs / 18,000 kg
	Operating Dimensions (W x L x H)	128.15 x 151.77 x 138.58 in / 3,255 x 3,855 x 3,520 mm	165.35 x 120.28 x 162.20 in / 4,200 x 3,055 x 4,120 mm

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## HEIDENHAIN TNC 640 CONTROL

### STANDARD

- › 5-Axis Simultaneous Machining
- › 3D Tool Radius-Compensated Contour Precision
- › Cylindrical Surface Machining
- › Coordinate Transformation
- › Tilted Workplane Function
- › Adjustable Deviation Tolerance (CYCLE 32)
- › Heidenhain Klartext Plain Language Programming
- › ISO G-Code Compatible
- › 3D Program Verification Graphics in Test and Run Modes
- › Dynamic Collision Monitoring with Graphics
- › Program Test Mode with Run-Time Calculation
- › Touch Probe Cycles
- › Blum Laser Tool Probe Cycles
- › Radio Interface for Probes
- › Kenematics Opt for Easy Calibration of Rotary Axes
- › Safe Tool Retraction in the Tool Axis Direction in Manual
- › CAD viewer
- › FK Free Contour Programming
- › Comprehensive Fixed Cycles for Milling, Drilling and Boring
- › NC Program Memory > 21 GB
- › Block Processing Time 0.5 ms
- › 15" Full Color Flat Screen Display
- › Remote Handwheel
- › Multiple USB ports with 2.0 and 3.0 Compatibility
- › Ethernet Connectivity
- › Pallet Editor

### OPTIONAL

- › CAD Import
- › DXF Import
- › Remote Desktop Manager
- › Connected Machining
- › Fixture Wizard Software



# Takumi

The *Art* of Productivity

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