



Takumi

The *Art* of Productivity

TECHNICAL CATALOG

TakumiUSA.com

Takumi

PRODUCT LINE-UP

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

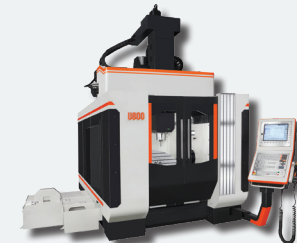


H16

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



U600



U800

The Art of Productivity

Machines shown with optional equipment

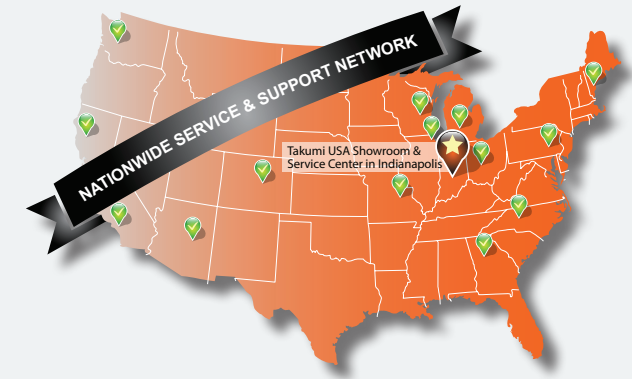
EXCEEDING EXPECTATIONS

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.

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

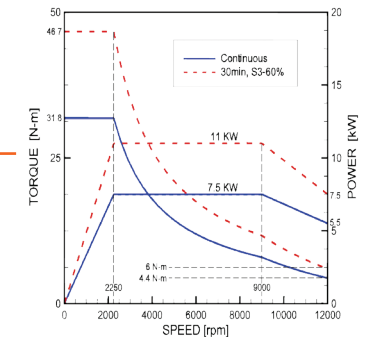
- › Operator safety door switches
- › Spindle chiller
- › Programmable cutting air blow
- › 100 gallon coolant tank
- › Programmable coolant wash down
- › Programmable chip auger with lift-up exhaust tube and chip cart
- › Wash down gun and air gun
- › Centralized automatic lubrication system
- › Manual 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

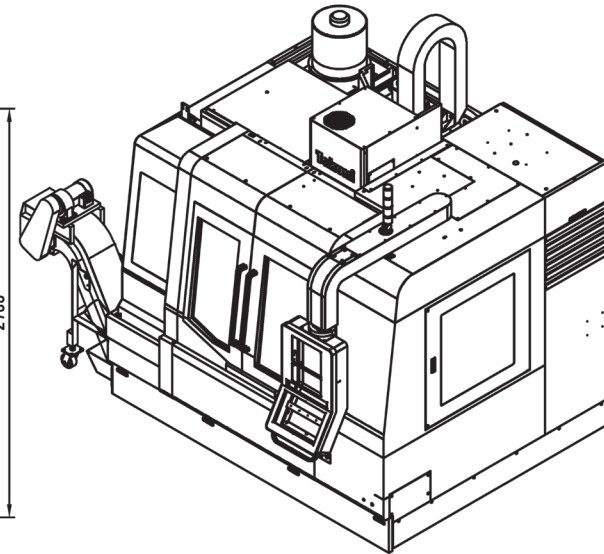
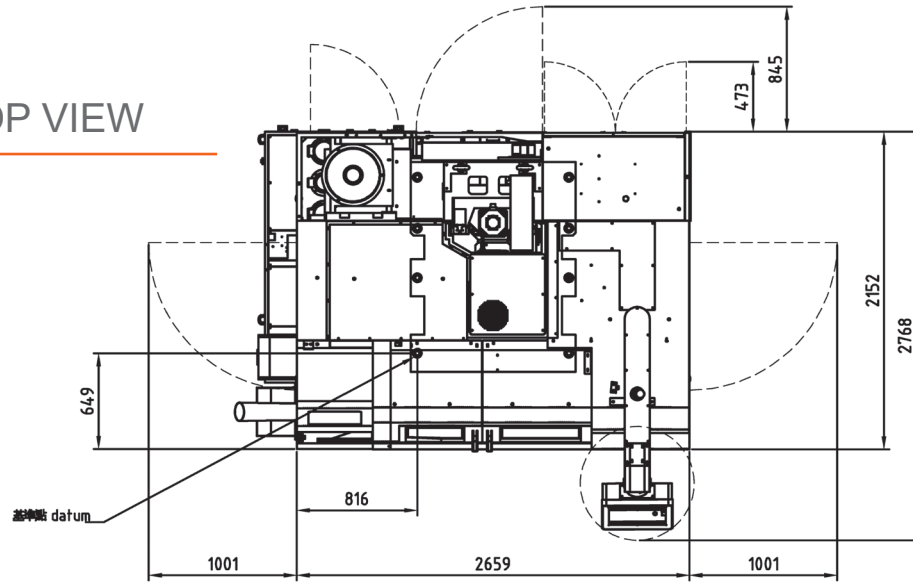
- › Coolant through spindle (CTS)
- › Oil skimmer
- › Oil mist device
- › Oil mist collector
- › Coolant filtration
- › 1 Gigabyte Data Server
- › Memory Card editing
- › Part probe measurement system
- › Tool probe measurement system
- › 4th axis rotary table
- › Lift up chip conveyor with cart
- ›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

POWER AND TORQUE

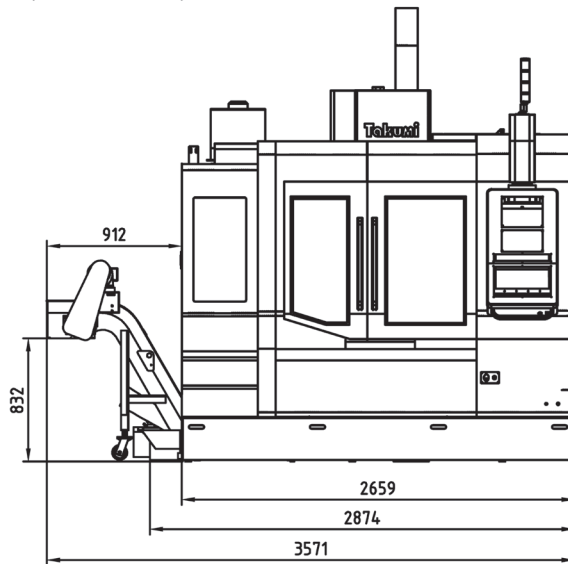


LAYOUT

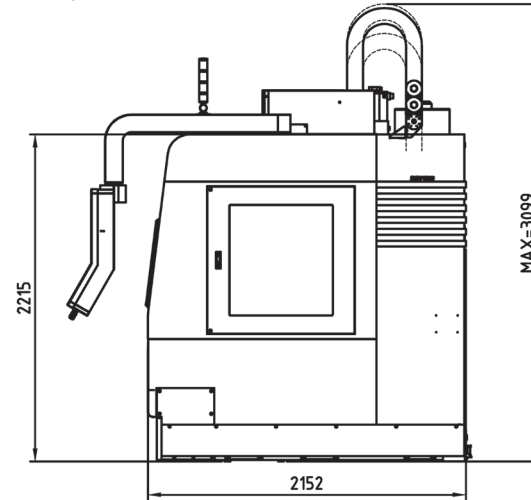
TOP VIEW



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

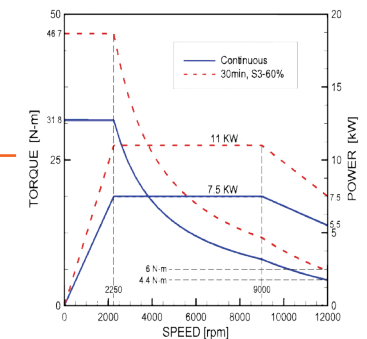
- › Operator safety door switches
- › Spindle chiller
- › Programmable cutting air blow
- › 100 gallon coolant tank
- › Programmable coolant wash down
- › Programmable chip auger with lift-up exhaust tube and chip cart
- › Wash down gun and air gun
- › Centralized automatic lubrication system
- › Manual 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

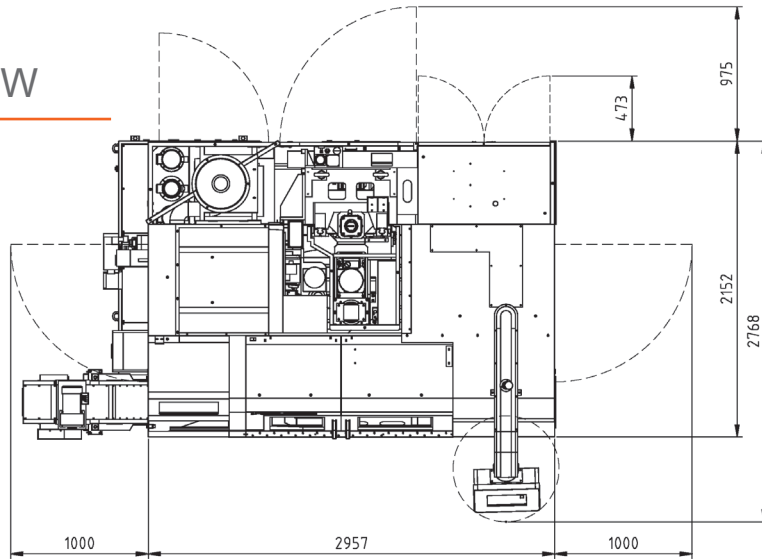
- › Coolant through spindle (CTS)
- › Oil skimmer
- › Oil mist device
- › Oil mist collector
- › Coolant filtration
- › 1 Gigabyte Data Server
- › Memory Card editing
- › Part probe measurement system
- › Tool probe measurement system
- › 4th axis rotary table
- › Lift up chip conveyor with cart
- ›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

POWER AND TORQUE

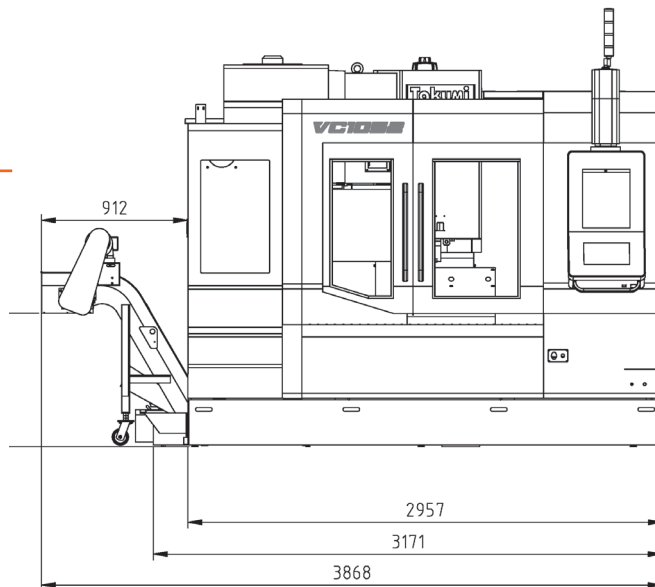


LAYOUT

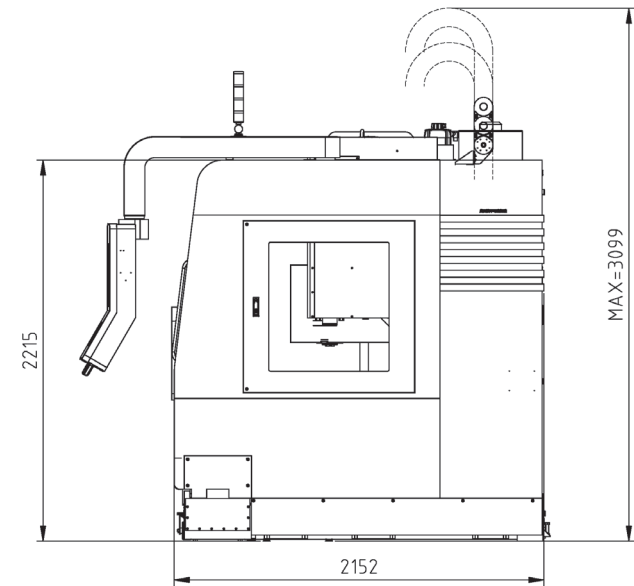
TOP VIEW



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

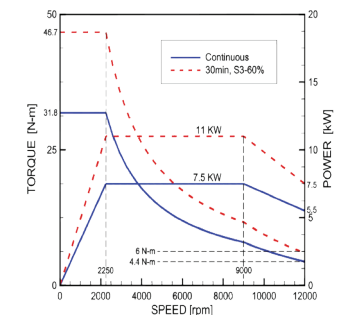
OPTIONAL

- › 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

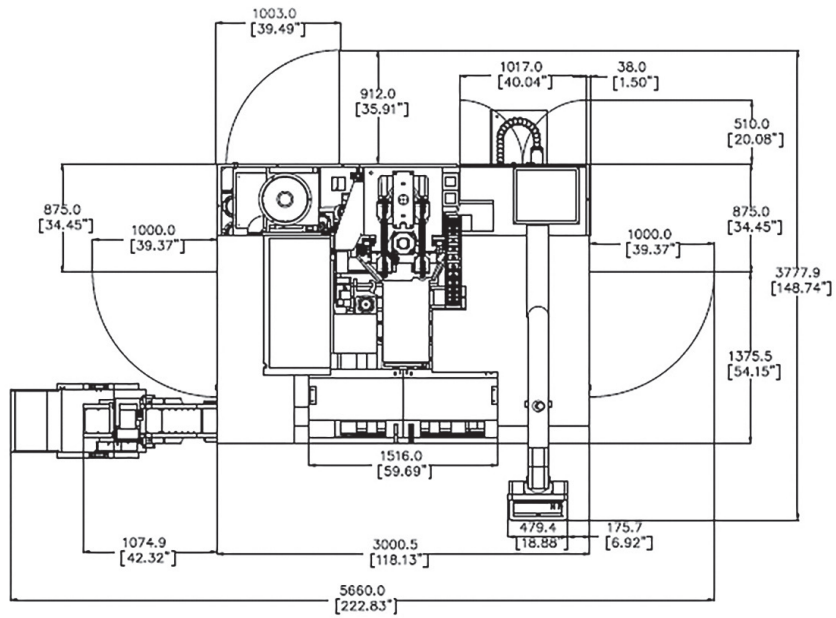
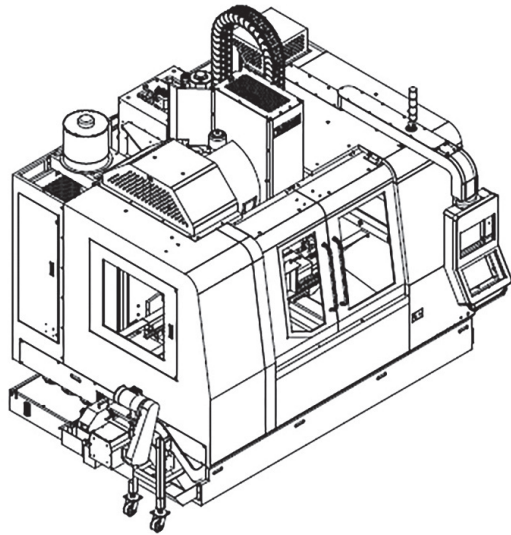
- › 39.5 x 26 x 24 in (1,000 x 660 x 610 mm) travels
- › 41.7 x 25.6 in (1,050 x 650 mm) table working surface with 2,204 lbs (1,000 kg) maximum table capacity
- › Fast 945 x 945 x 787 in/min (24 x 24 x 20 m/min) rapids
- › 315 in/min (8 m/min) cutting feed rate
- › 12,000 rpm, CAT 40 spindle
- › Rigorous 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



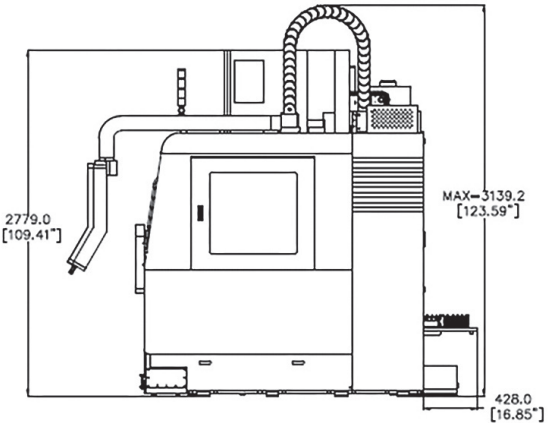
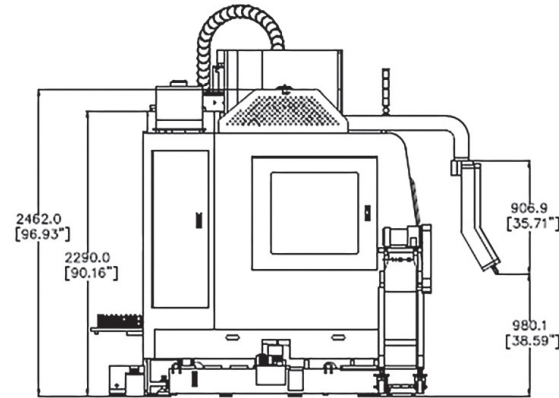
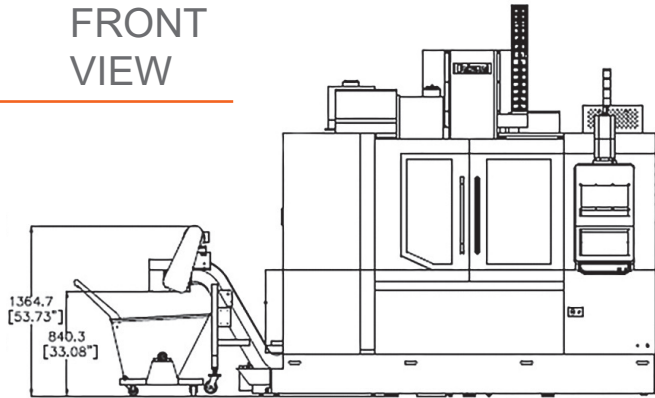
LAYOUT

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

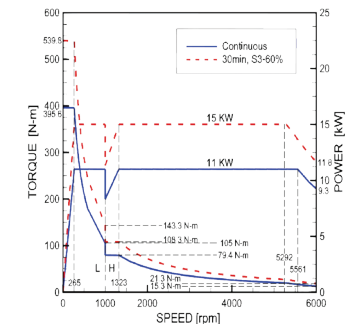
OPTIONAL

- › 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

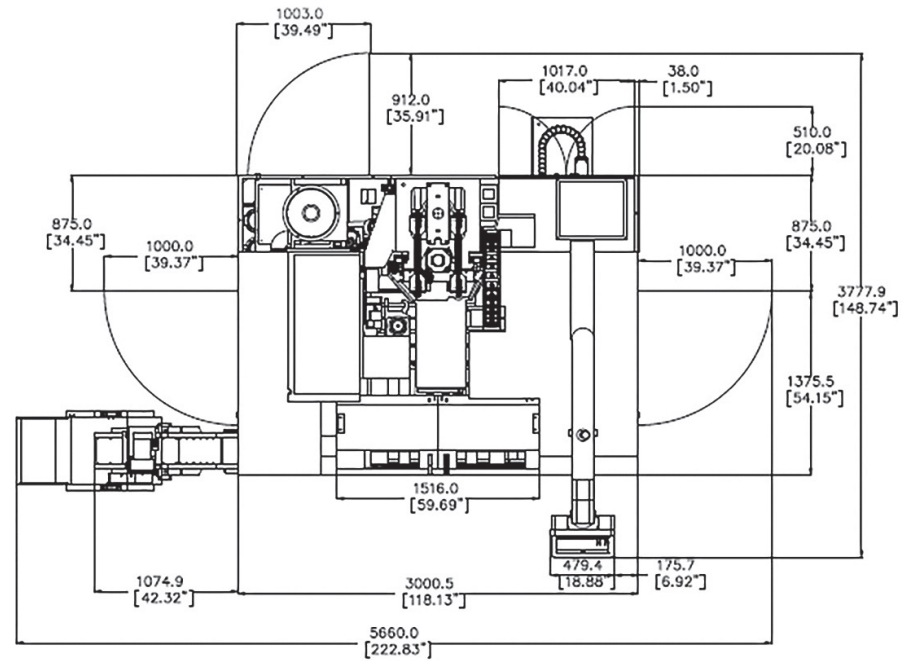
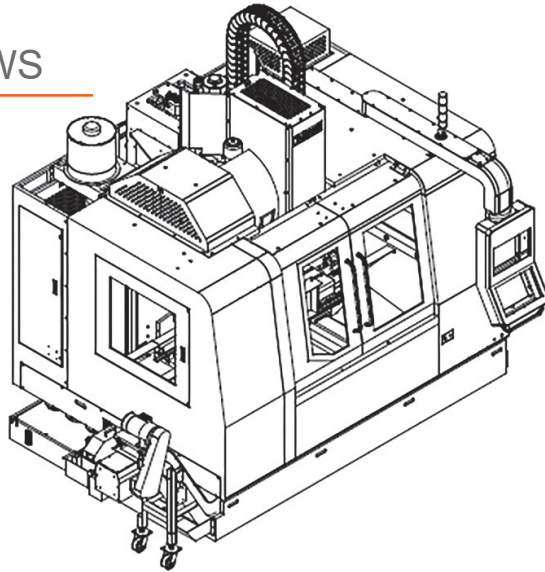
- › 43.3 x 26 x 24 in (1,099 x 660 x 610 mm) travels
- › 45.2 x 25.6 in (1,050 x 650 mm) table working surface with 2,420 lbs (1,100 kg) maximum table capacity
- › Fast 945 x 945 x 787 in/min (24 x 24 x 20 m/min) rapids
- › 315 in/min (8 m/min) cutting feed rate
- › 6,000 rpm gear driven spindle with 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



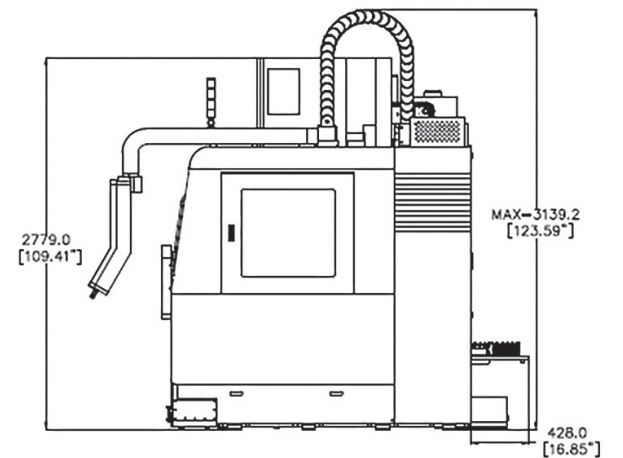
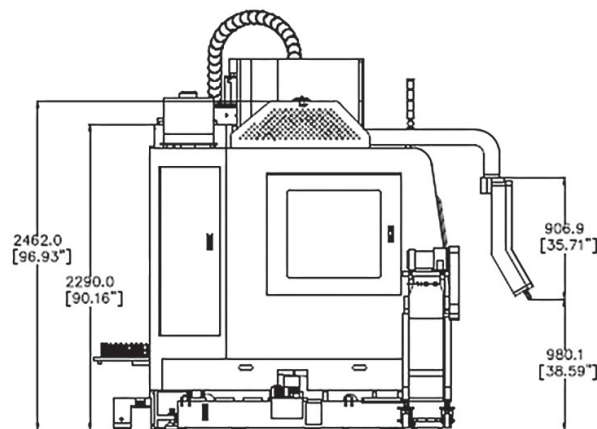
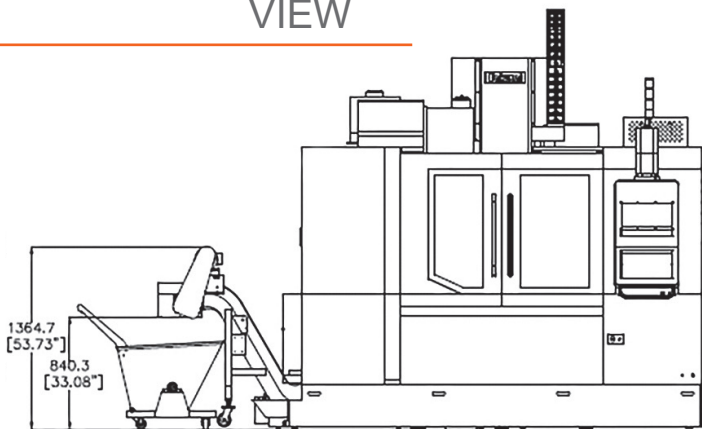
LAYOUT

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

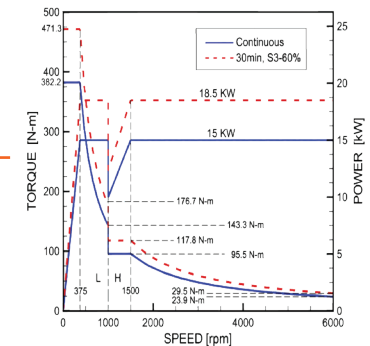
OPTIONAL

- › 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

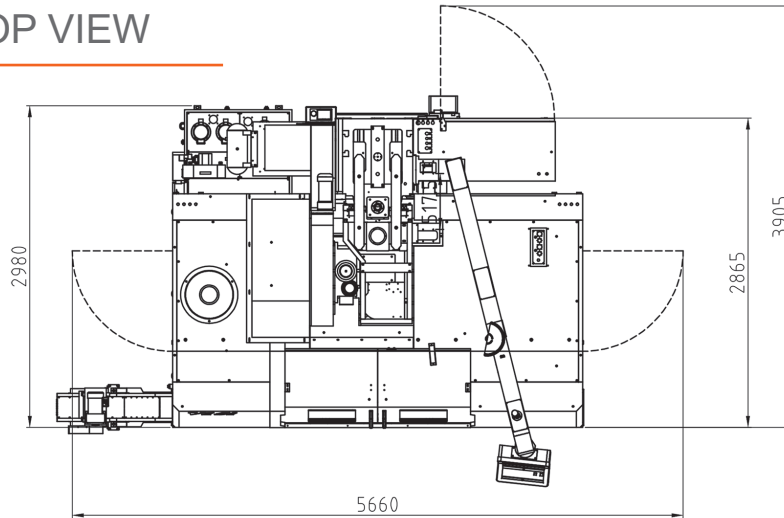
- › 60 x 30 x 28.3 in (1,524 x 762 x 718.8 mm) travels
- › 63 x 30 in (1,600 x 762 mm) table working surface with 3,300 lbs (1,500 kg) maximum table capacity
- › Fast 708 x 708 x 623 in/min (18 x 18 x 16 m/min) rapids
- › 196 in/min (5 m/min) cutting feed rate
- › 6,000 rpm gear driven spindle with 437 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

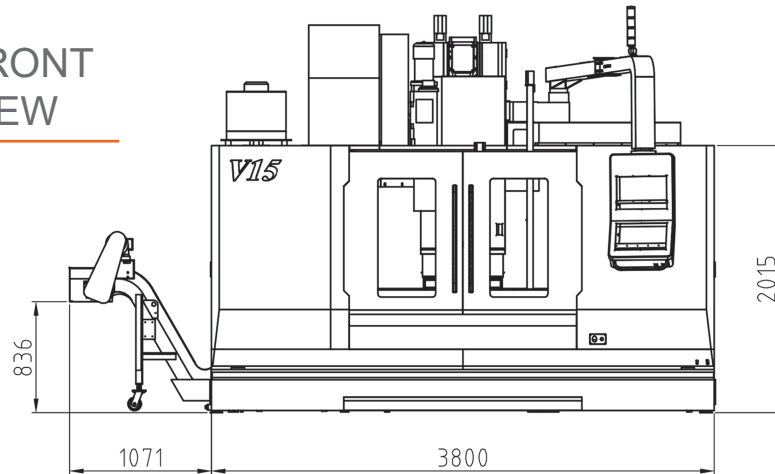


LAYOUT

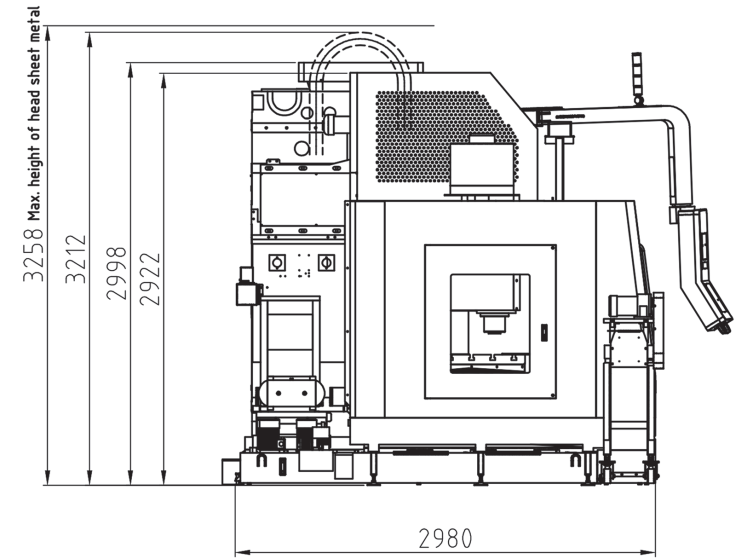
TOP VIEW



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 airflow
- › 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

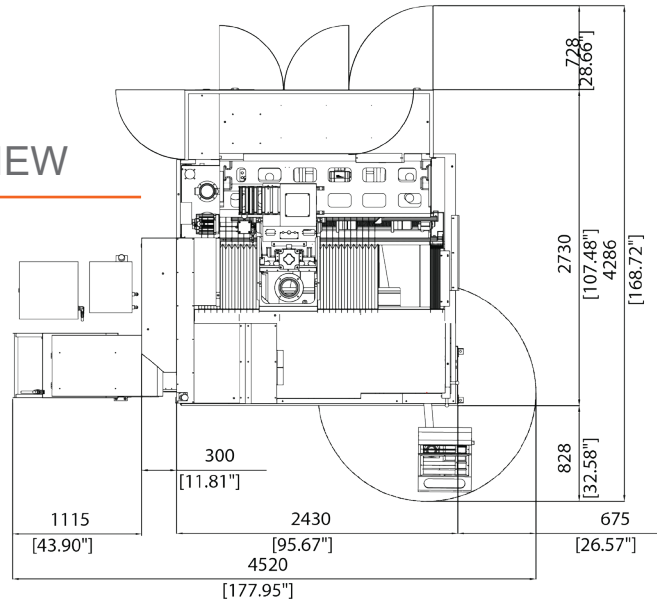
HIGH SPEED MACHINING AND OUTSTANDING SURFACE FINISH

- › 40.16 x 27.56 x 19.69 in (1,020 x 700 x 500mm) 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

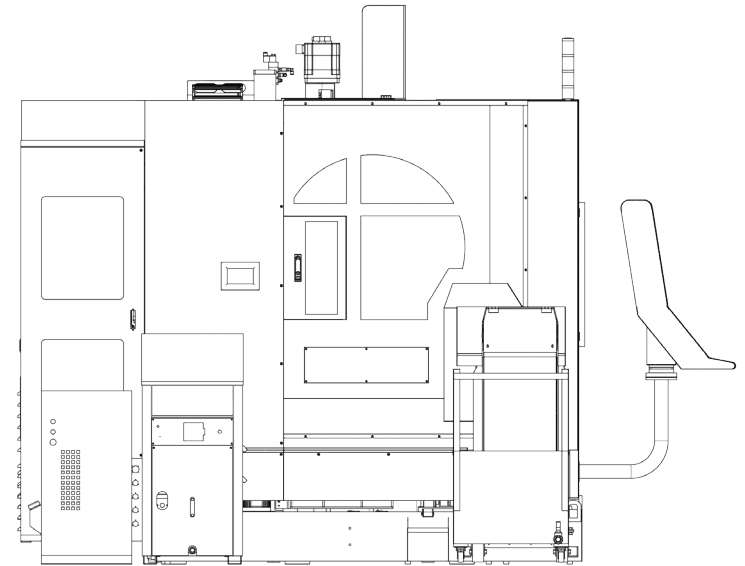
Machine specifications can be found on pages 24-27

LAYOUT

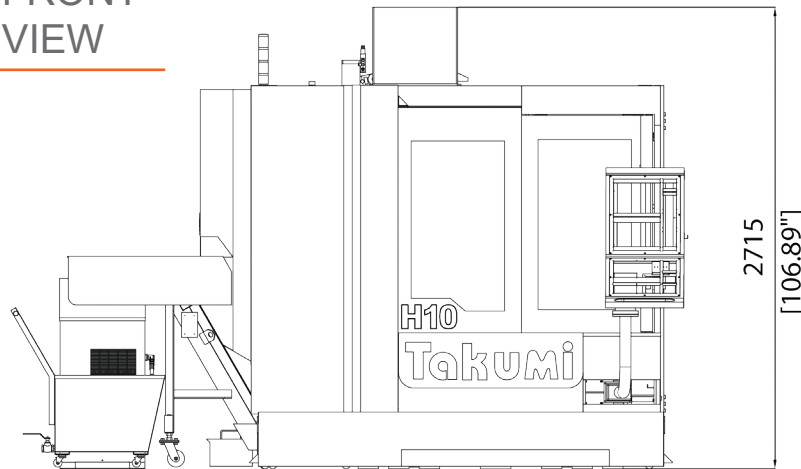
TOP VIEW



SIDE VIEW



FRONT 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

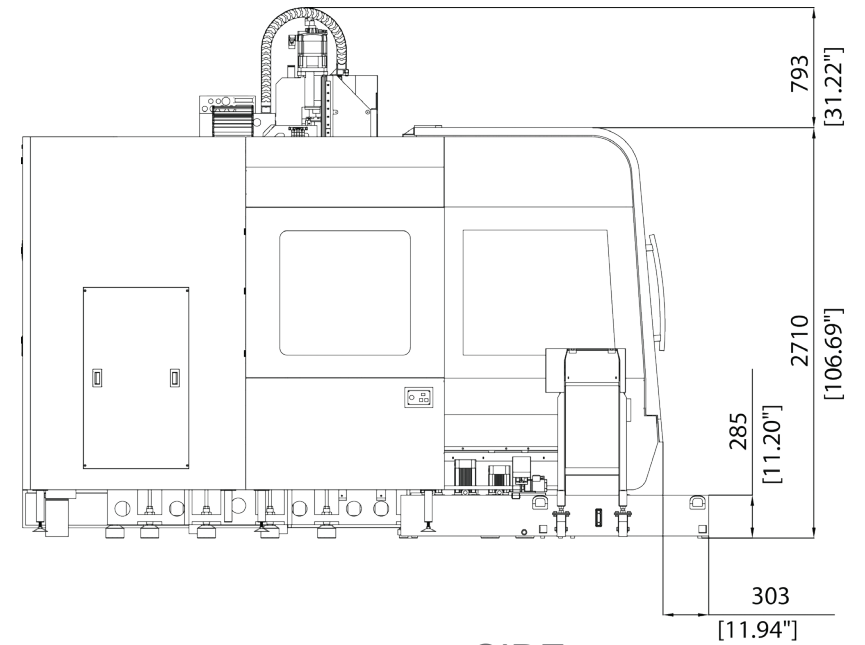
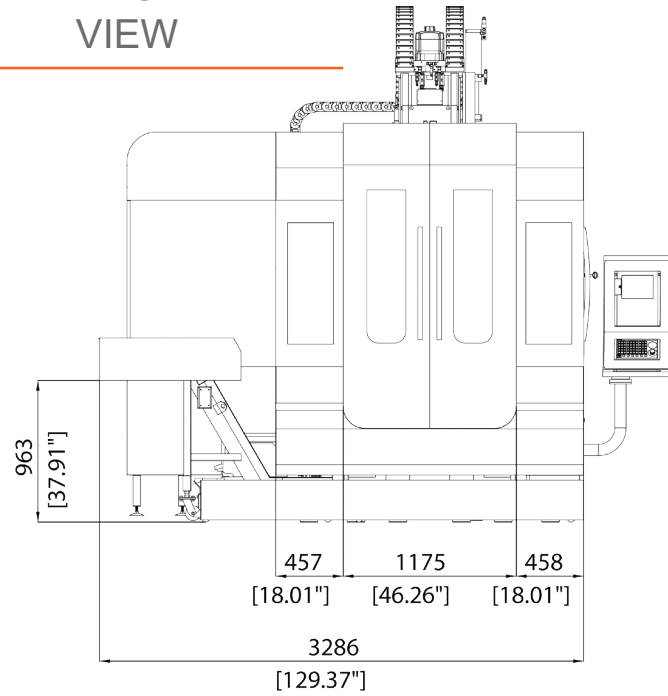
HIGH SPEED MACHINING AND OUTSTANDING SURFACE FINISH

- › 53.2 x 37.4 x 23.6 in (1,350 x 950 x 600mm) 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

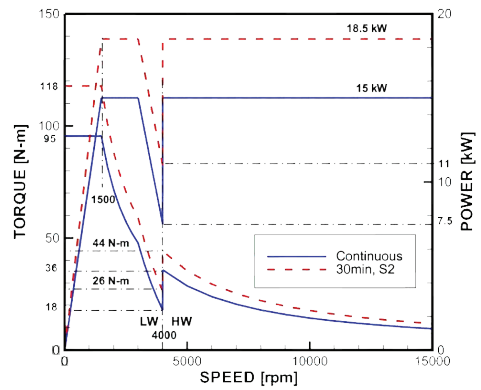
LAYOUT

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

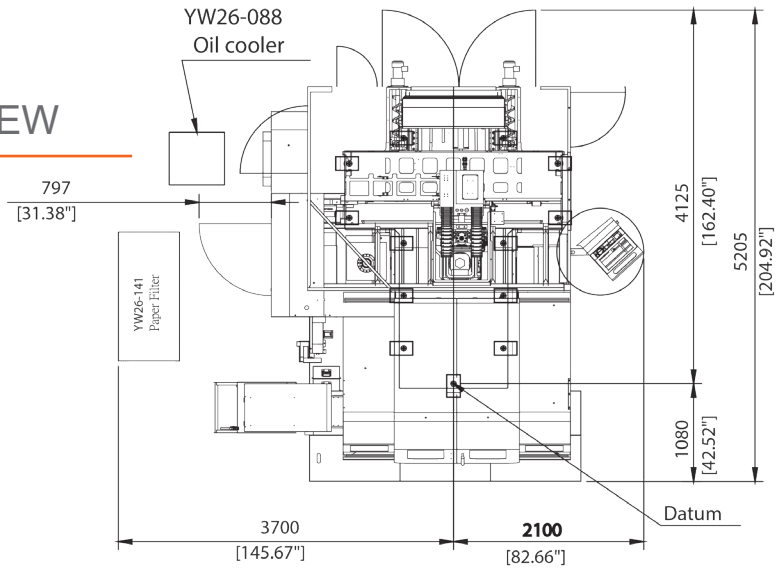
HIGH SPEED MACHINING AND OUTSTANDING SURFACE FINISH

- › 62.9 x 51.1 x 27.5 in (1,600 x 1,300 x 700mm) 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

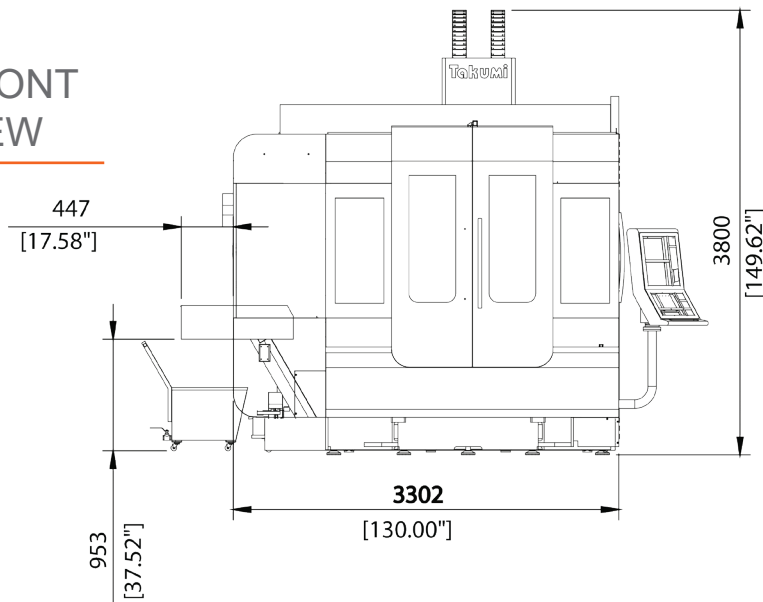
Machine specifications can be found on pages 24-27

LAYOUT

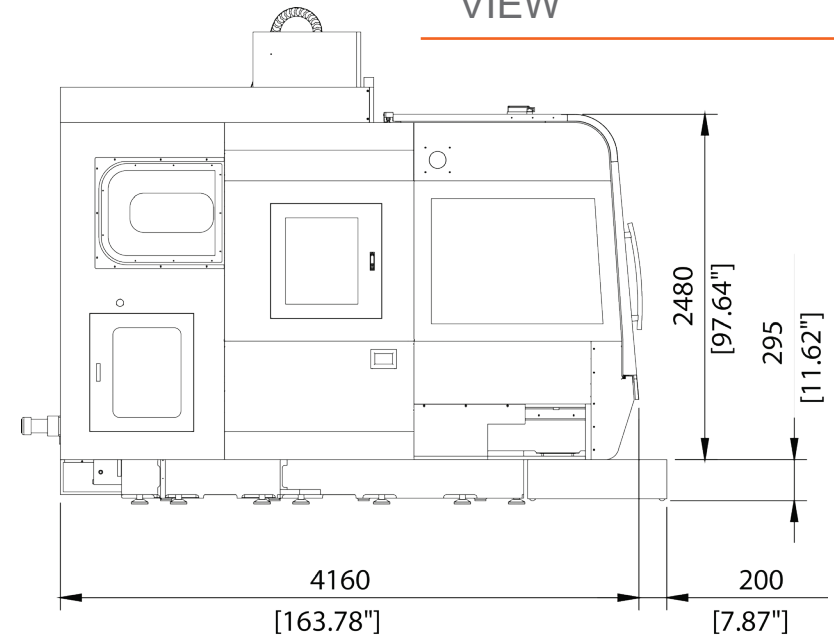
TOP VIEW



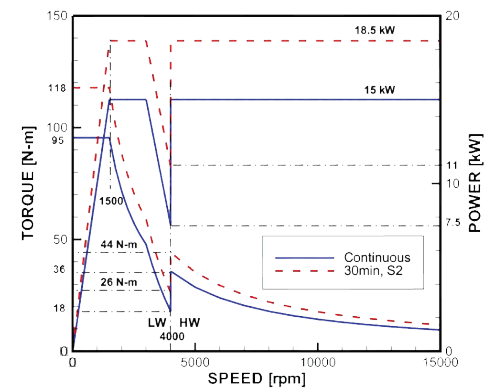
FRONT VIEW



SIDE 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

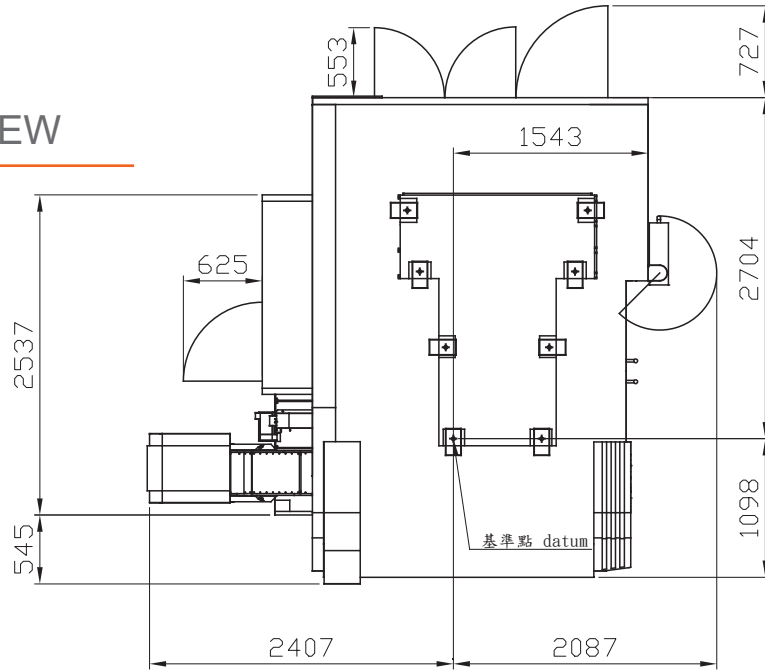
HIGH SPEED MACHINING AND OUTSTANDING SURFACE FINISH

- › 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

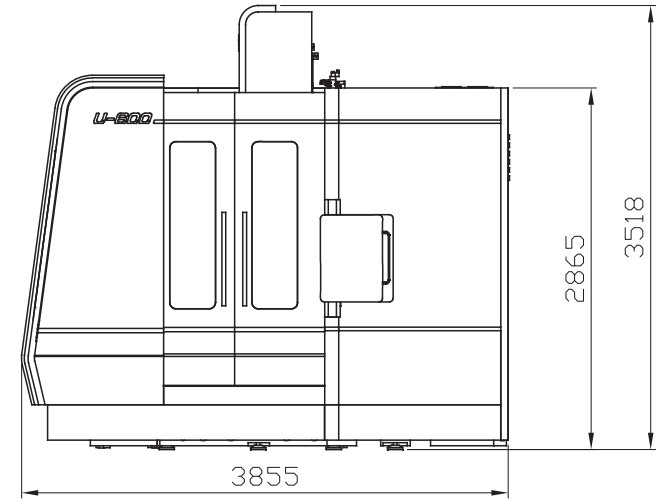
Machine specifications can be found on pages 24-27

LAYOUT

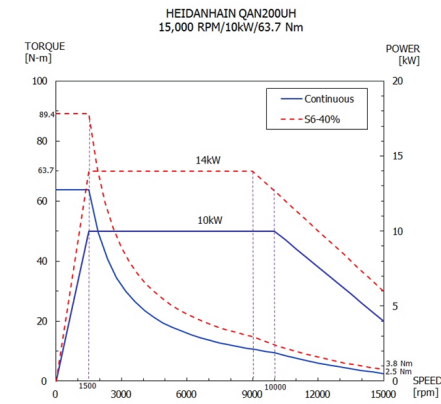
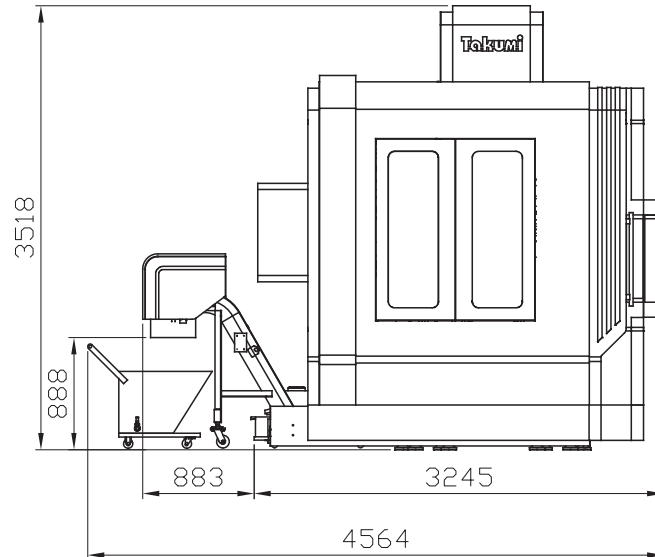
TOP VIEW



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

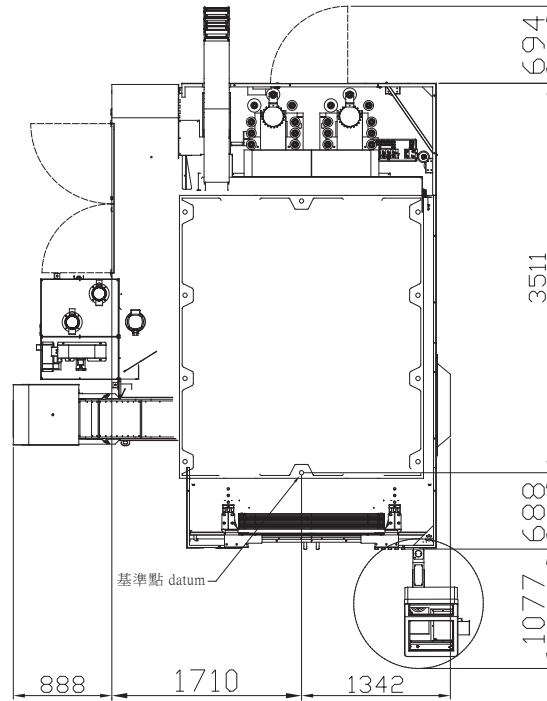
HIGH SPEED MACHINING AND OUTSTANDING SURFACE FINISH

- › 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

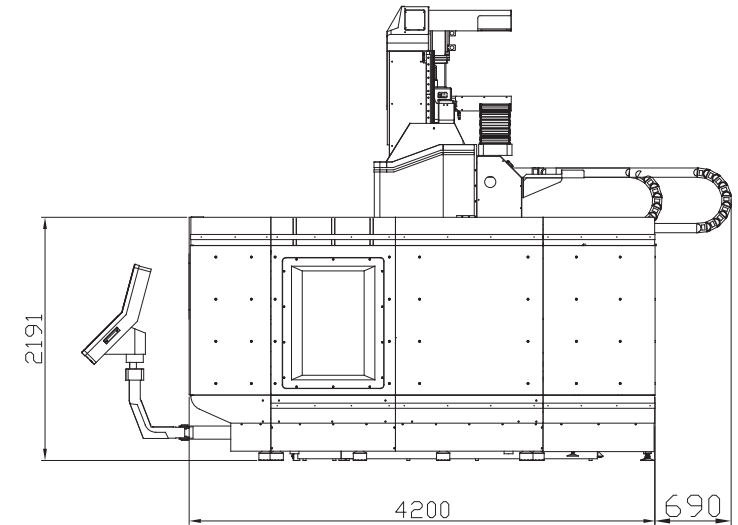
Machine specifications can be found on pages 24-27

LAYOUT

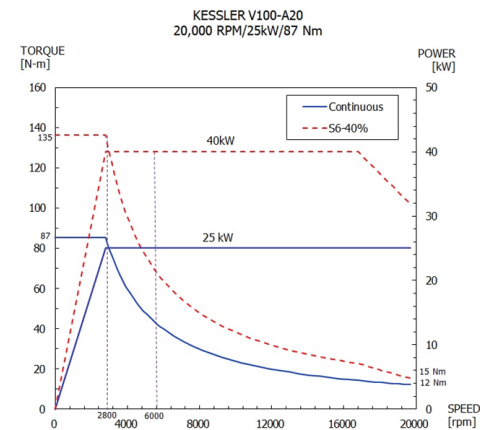
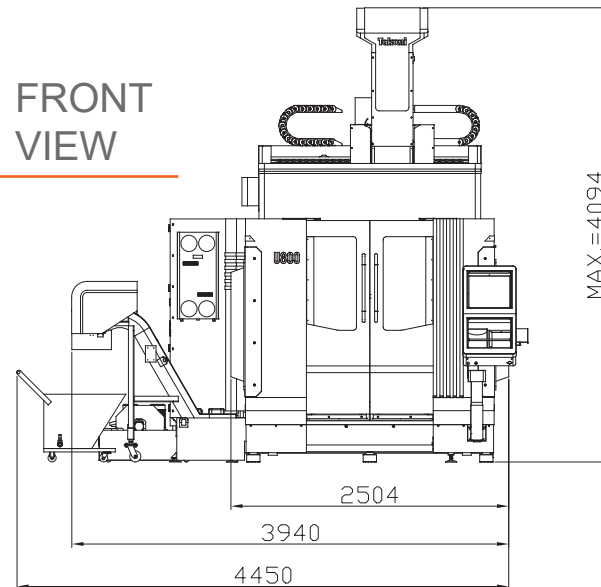
TOP VIEW



SIDE VIEW



FRONT VIEW



POWER AND TORQUE

SPECIFICATIONS

		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 ³ /min. @ 6-8 bar	5 CFM @ 85-115 psi / 0.14m ³ /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

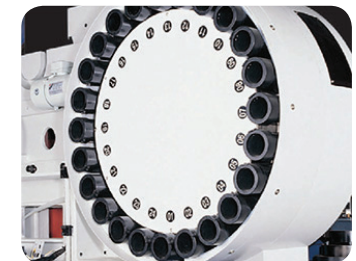
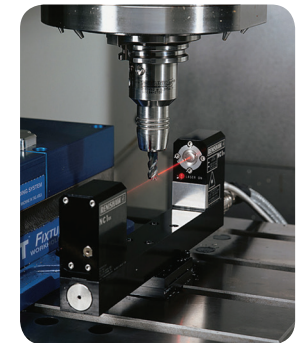
- AICC 2 Package with Jerk Control, Smooth Tolerance Control, Machine Quality Level Adjustment Function/R386 and R660
- 400 Block Look Ahead
- 8.4" LCD display
- All Digital Servo Package
- Memory 512KB (1,280 meters)
- 4 Simultaneously Controlled Axis
- Sub-micron control: Least Input Increment .00001", .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	63 x 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 ²	85.34 psi / 6 kgf/cm ²
	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

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.

HEIDENHAIN TNC 640 CONTROL



STANDARD

- › Simple Machining Centers (up to 5 control loops + spindle)
- › Machine Tools/Machining Centers (up to 24 control loops, max. 4 of which are spindles)
- › Heidenhain Klartext Conversational
- › According to ISO
- › CAD viewer
- › FK Free Contour Programming Option
- › Extended Milling and Drilling Cycles
- › NC Program Memory > 21 GB
- › Block Processing Time 0.5 ms
- › Input Resolution and Display Step (Standard/Option) 0.1 µm/0.01 µm
- › New Design of the Screen and Keyboard (15-inch screen)
- › Touch Probe Cycles
- › Pallet Editor
- › Parallel Axis Function

OPTIONAL

- › Extended Tool Management
- › Advanced Spindle Interpolation
- › Spindle Synchronism
- › Remote Desktop Manager
- › Synchronizing Functions
- › Visual Setup Control
- › Cross Talk Comp.
- › Pos. Adapt. Control
- › Load Adapt. Control
- › Motion Adapt. Control
- › Active Chatter Control
- › Active Vibration Damping
- › Batch Process Manager

Takumi

The Art of Productivity

Takumi USA

A Division of Hurco Companies, Inc.

7220 Winton Drive
Indianapolis, IN 46268
844.302.3792
info@takumiusa.com



TakumiUSA.com

© 2018 Hurco Companies, Inc. Printed in USA.
Information may change without notice.

Company and product names mentioned herein are trademarks of their respective companies.

T507|08.18|OP2k