



## Double Column Machining Centers



# Takumi



# Outstanding Surface Finish, Precision, and Throughput



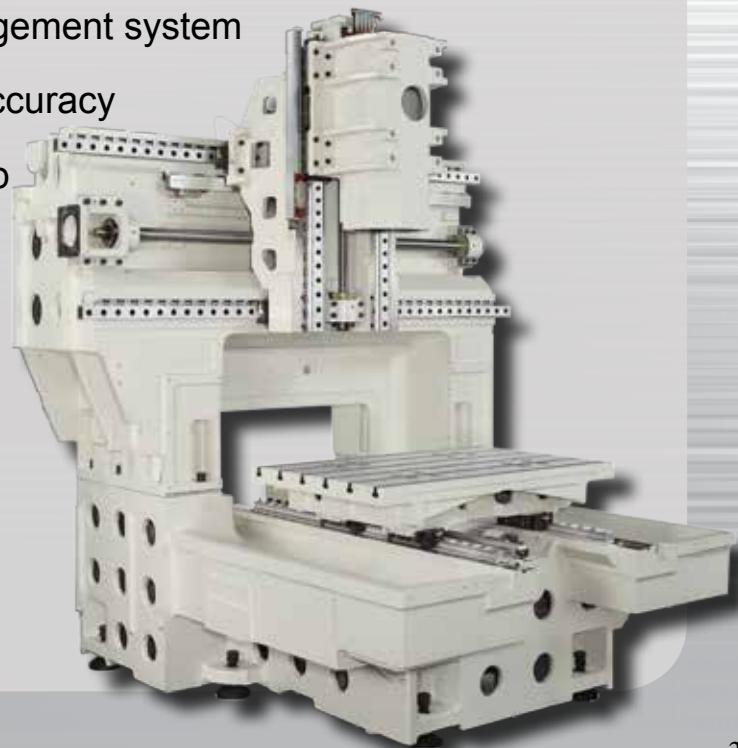
Machine shown with  
optional equipment

**Double-Column Machining Centers**  
**Outstanding Surface Finish, Precision, and Throughput**

# Takumi

## Unrivalled Performance + Accuracy

- World-class performance for die/mold, aerospace, and other high speed applications
- Extremely rigid and thermally stable double-column design
- Designed for parts that require outstanding speed and accuracy, and unparalleled surface finish
- Close proximity of spindle to bridge casting reduces overhang
- Ladder design of bridge provides greater support for the head casting
- Swivelling control panel optimizes floor space utilization
- Extra-wide door openings facilitate loading and unloading
- Large windows provide optimal visibility
- Robust, precision-machined castings
- Hand-scraped contact areas
- Linear scales ensure repeatability and accuracy
- Roller-type rails on all axes add rigidity
- Integrated wash down and chip management system
- Direct-coupled ball screws increase accuracy
- Absolute encoders ensure fast start-up
- Inline high-speed spindles
- BIG-PLUS<sup>®</sup> spindles increase rigidity and reduce tool deflection
- FANUC<sup>®</sup> 31i-MB Series Control
- Responsive, local service and support





### Exceptional Accuracy + Outstanding Surface Finishes

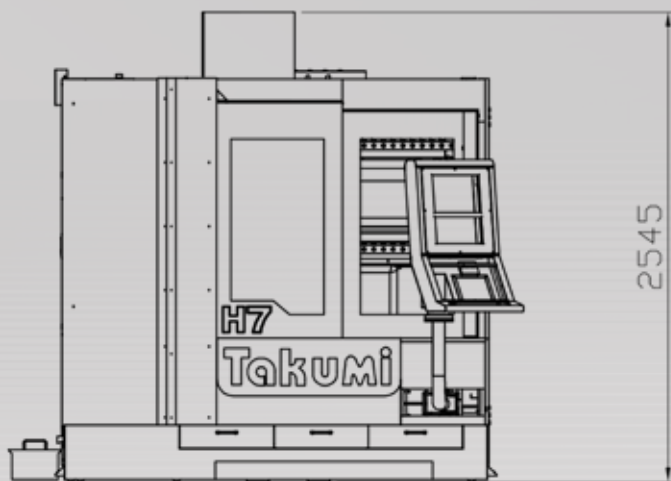
- 750 (X-Axis) x 600 (Y-Axis) x 500 (Z-Axis) mm travels
- 32 m/minute X, Y, and Z rapids
- 20 m/minute X, Y and Z feed rates
- 16-station swing-arm ATC
- 15,000 RPM inline direct-drive spindle
- 15/18.5 kW spindle
- 40 taper
- 810 x 620 mm table, 500 kg capacity
- Linear scales ensure repeatability and accuracy
- Weighs an impressive 7,000 kg

*Machine specifications can be found on page 24*

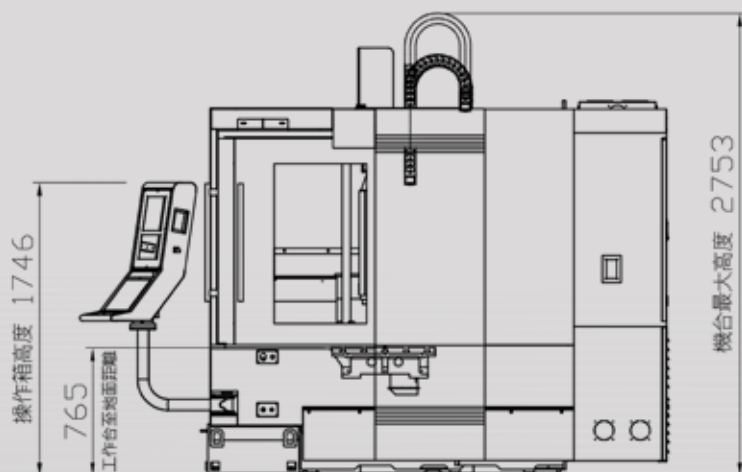
# Takumi

H7

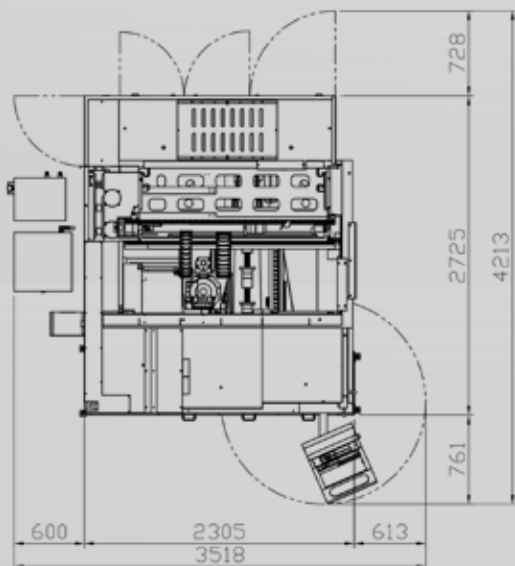
Front View



Side View



Top View





### Exceptional Accuracy + Outstanding Surface Finishes

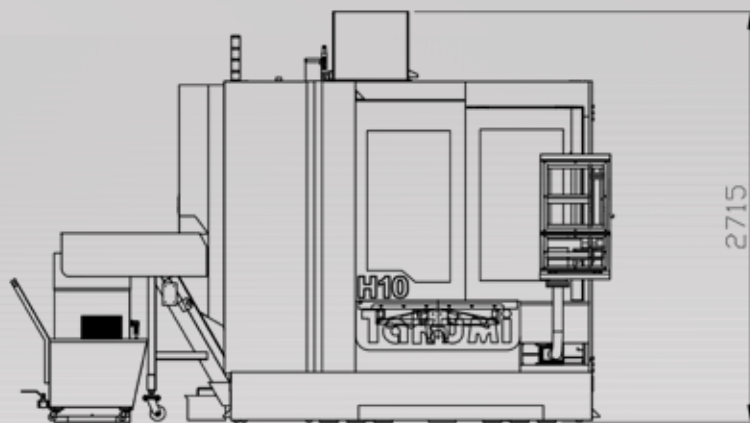
- 1,020 (X-Axis) x 700 (Y-Axis) x 500 (Z-Axis) mm travels
- 32 m/minute X, Y, and Z rapids
- 20 m/minute X, Y and Z feed rates
- 16-station swing-arm ATC
- 15,000 RPM inline direct-drive spindle
- 15/18.5 kW spindle
- 40 taper
- 1,050 x 700 mm table, 800 kg capacity
- 2,230 mm door opening. (front + right side)
- Linear scales ensure repeatability and accuracy
- Weighs an impressive 9,100 kg

*Machine specifications can be found on page 24*

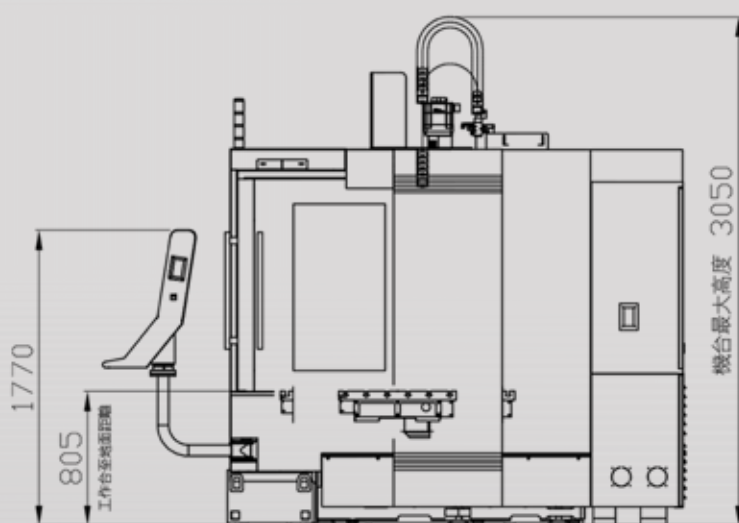
# Takumi

H10

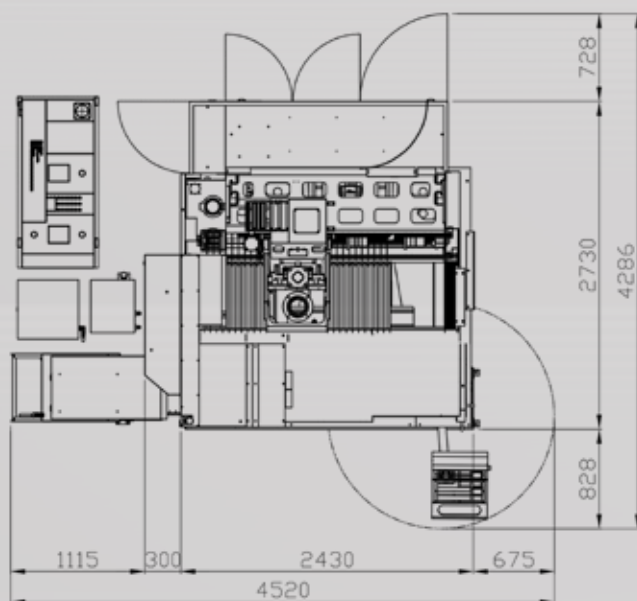
Front View



Side View



Top View





Machine shown with optional equipment

## Quality Components + Expert Design

- 1,350 (X-Axis) x 950 (Y-Axis) x 600 (Z-Axis) mm travels
- 30 m/minute X, Y, and Z rapids
- 20 m/minute X, Y, and Z feed rates
- 16-station swing-arm ATC
- 15,000 RPM inline direct-drive spindle
- 15/18.5 kW spindle
- 40 taper
- 1,500 x 960 mm table, 2,500 kg capacity
- 1,100 mm door opening
- Linear scales ensure repeatability and accuracy
- Weighs an massive 13,000 kg

Machine shown with optional equipment

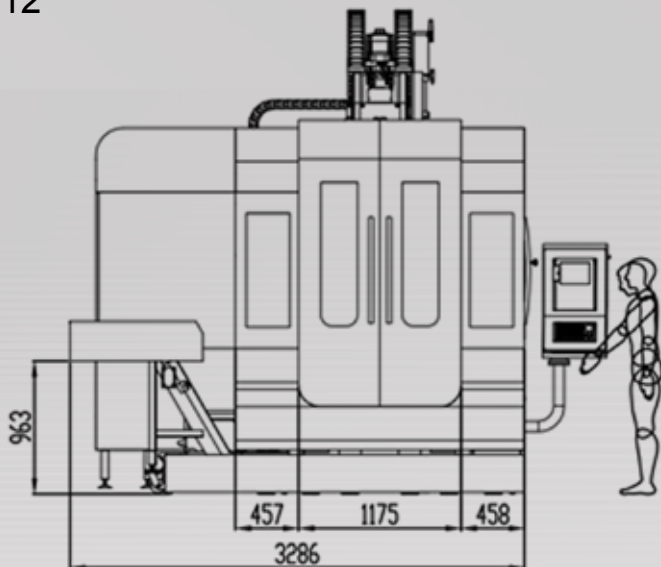
Machine specifications can be found on page 24



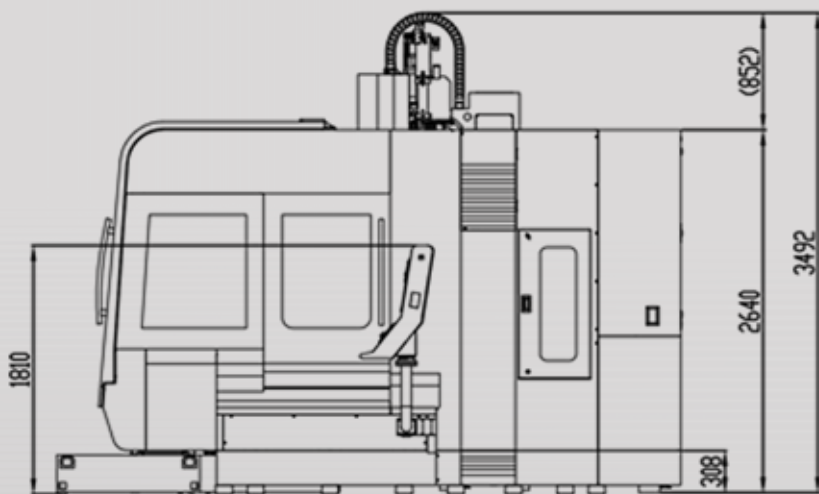
# Takumi

H12

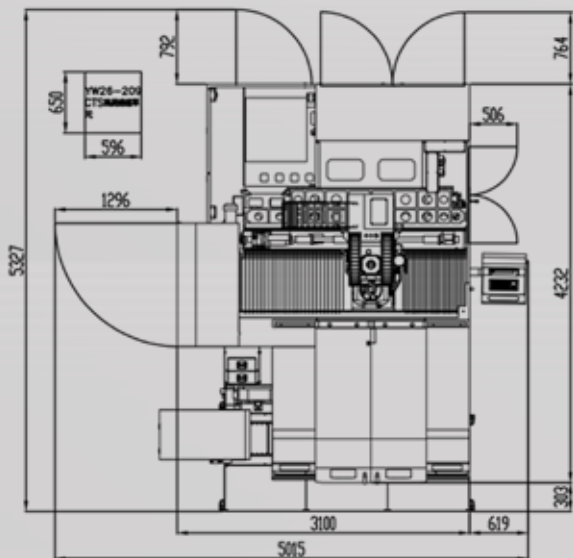
Front View



Side View



Top View





Machine shown with optional equipment

### Quality Components + Expert Design

- 900 (X-Axis) x 1,300 (Y-Axis) x 700 (Z-Axis) mm travels
- 30 m/minute X, Y, and Z rapids
- 20 m/minute X, Y, and Z feed rates
- 20-station swing-arm ATC
- 15,000 RPM inline direct-drive spindle
- 15/18.5 kW spindle
- 40 taper
- Chain-type conveyor standard
- 900 x 1,400 mm table, 3,500 kg capacity
- 1,320 mm door opening
- Linear scales ensure repeatability and accuracy
- Weighs an massive 18,000 kg

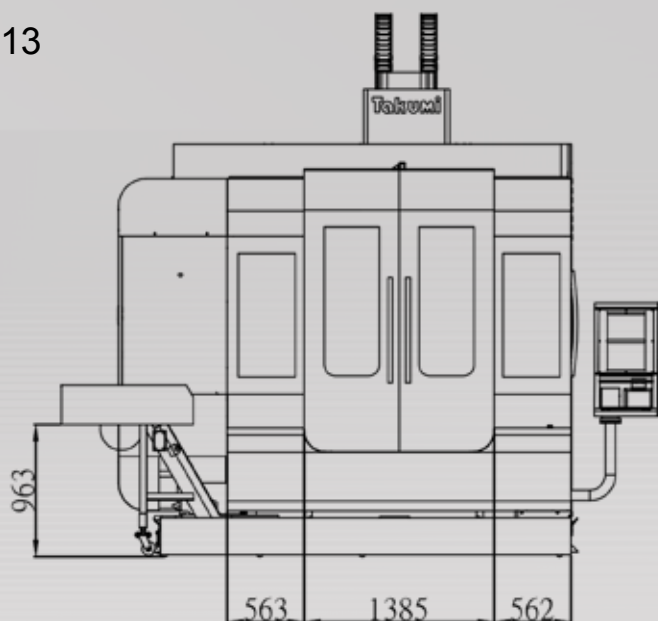
Machine shown with optional equipment

Machine specifications can be found on page 24

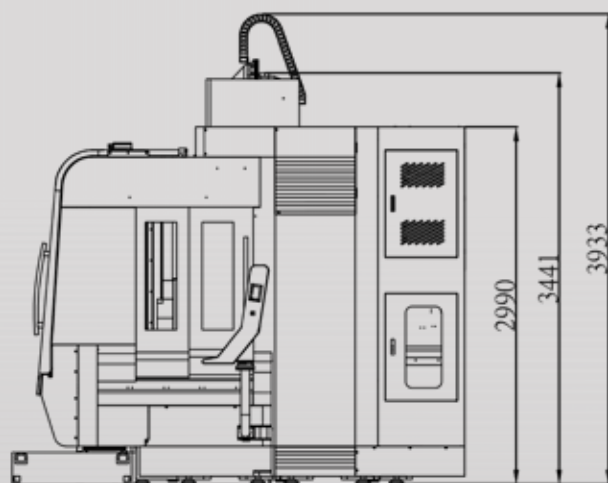
# Takumi

H13

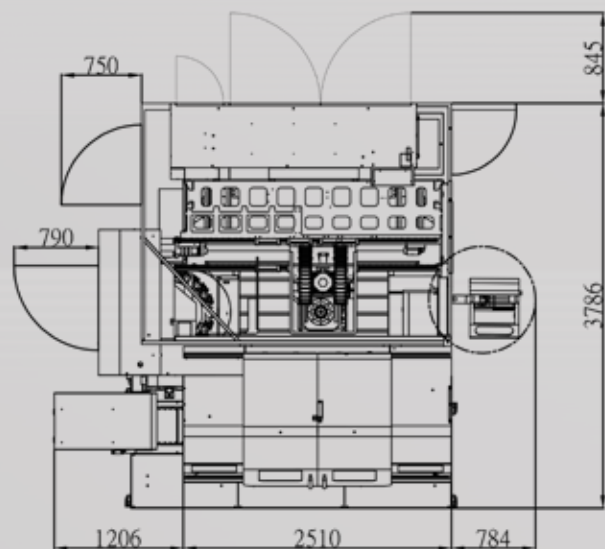
Front View



Side View



Top View





Machine shown with optional equipment

### Outstanding Surface Finish, Precision, and Throughput

- 1,600 (X-Axis) x 1,300 (Y-Axis) x 700 (Z-Axis) mm travels
- 30 m/minute X, Y, and Z rapids
- 20 m/minute X, Y, and Z feed rates
- 20-station swing-arm ATC
- 15,000 RPM inline direct-drive spindle
- 15/18.5 kW spindle
- 40 taper
- Chain-type conveyor standard
- 1,900 x 1,300 mm table, 6,000 kg capacity
- 1,320 mm door opening
- Linear Scales ensure repeatability and accuracy
- Weighs an colossal 22,000 kg

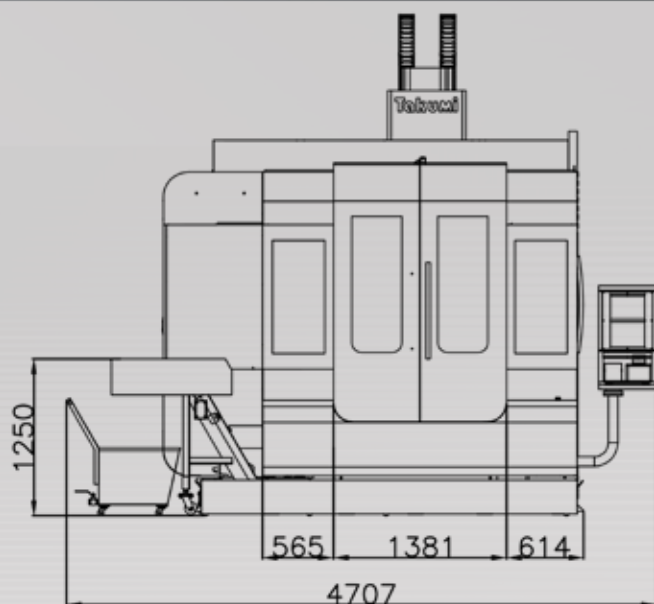
Machine shown with optional equipment

Machine specifications can be found on page 24

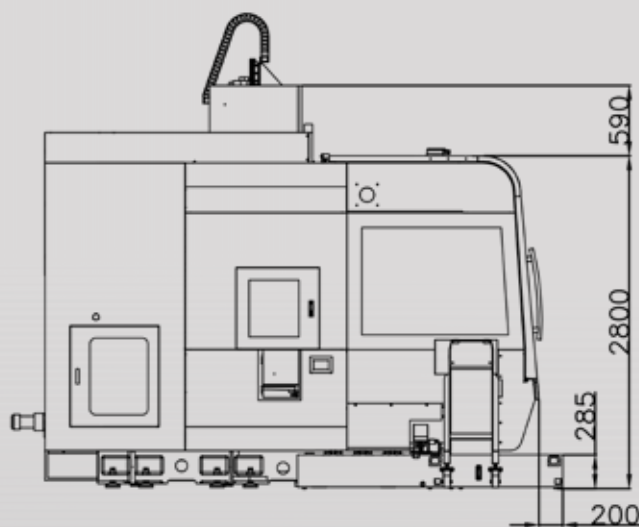
# Takumi

H16

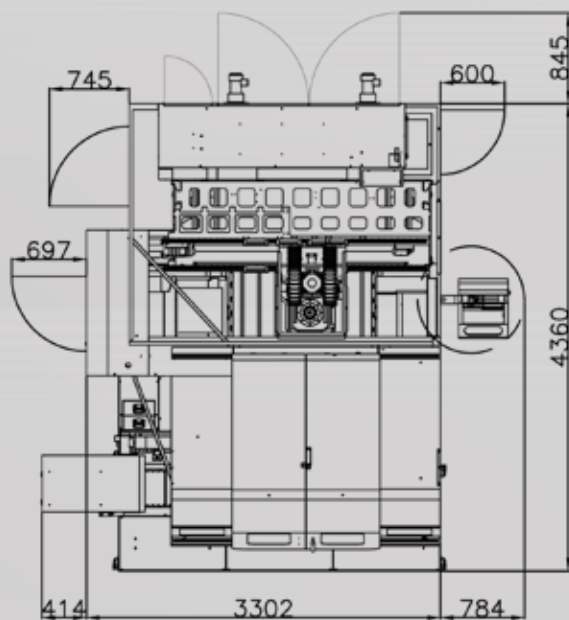
Front View



Side View



Top View





Machine shown with optional equipment

## Outstanding Surface Finish, Precision, and Throughput

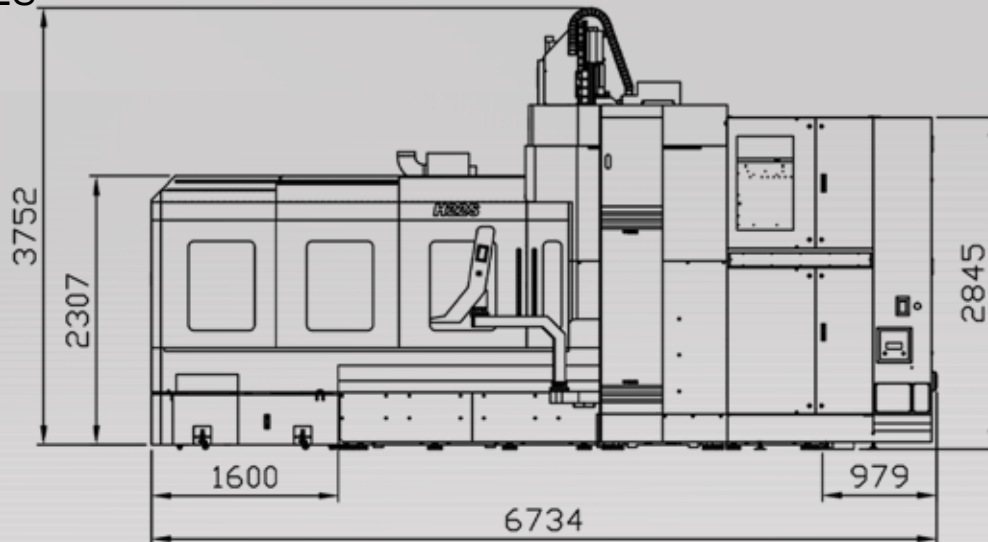
- H22S
  - 2200 (X-Axis) x 1600 (Y-Axis) x 800 (Z-Axis) mm travels
  - 20 x 20 x 20 (m/minute) X, Y, and Z rapids
  - 12 m/minute X, Y, and Z feed rates
  - 20-station swing-arm ATC
  - 10,000 RPM inline direct-drive spindle
  - 22/26 kW spindle
  - 50 taper
  - H22S has 2,400 x 1,600 mm table, 8,000 kg capacity
  - Linear Scales ensure repeatability and accuracy
  - Weighs a colossal 27,000 kg
- H22T
  - 2200 (X-Axis) x 2200 (Y-Axis) x 800 (Z-Axis) mm travels
  - 20 x 16 x 20 (m/minute) X, Y, and Z rapids
  - 12 m/minute X, Y, and Z feed rates
  - 20-station swing-arm ATC
  - 10,000 RPM inline direct-drive spindle
  - 22/26 kW spindle
  - 50 taper
  - H22T has 2,400 x 2,100 mm table, 8,000 kg capacity
  - Linear Scales ensure repeatability and accuracy
  - Weighs an colossal 3,1000 kg

*Machine specifications can be found on page 25*

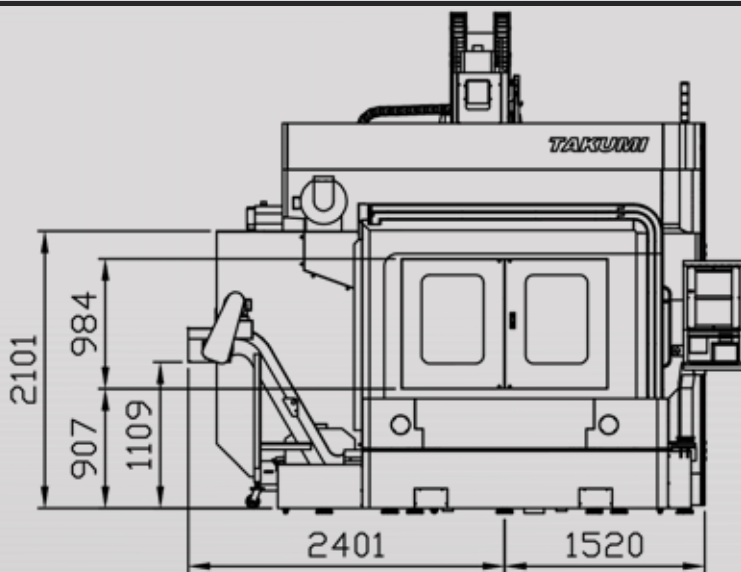
# Takumi

H22S

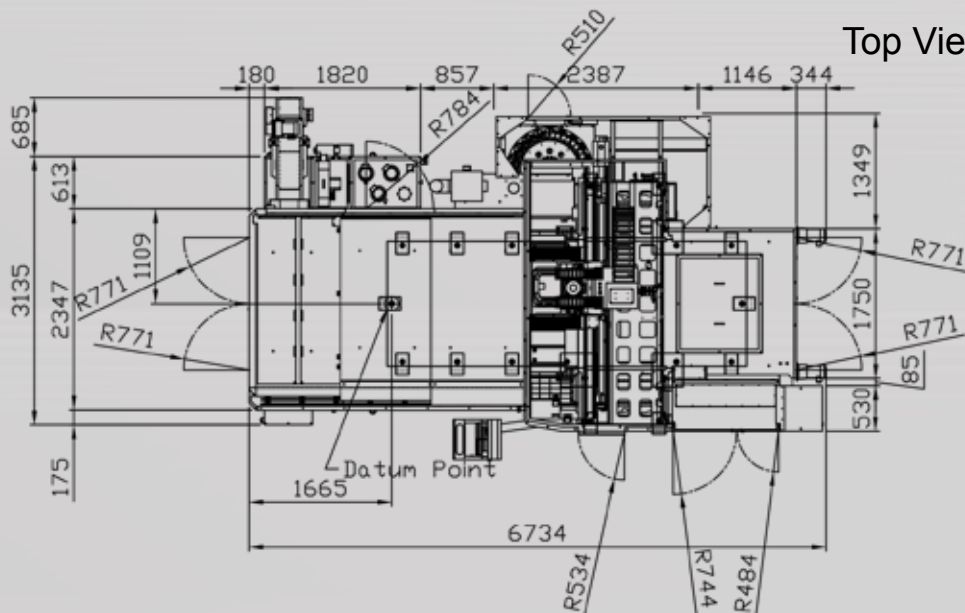
Front View



Side View

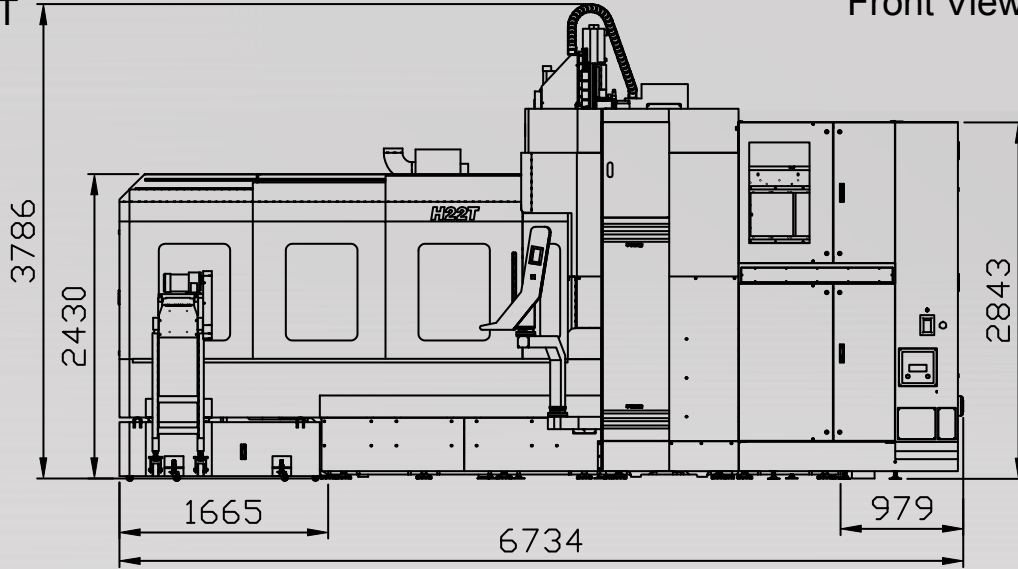


Top View

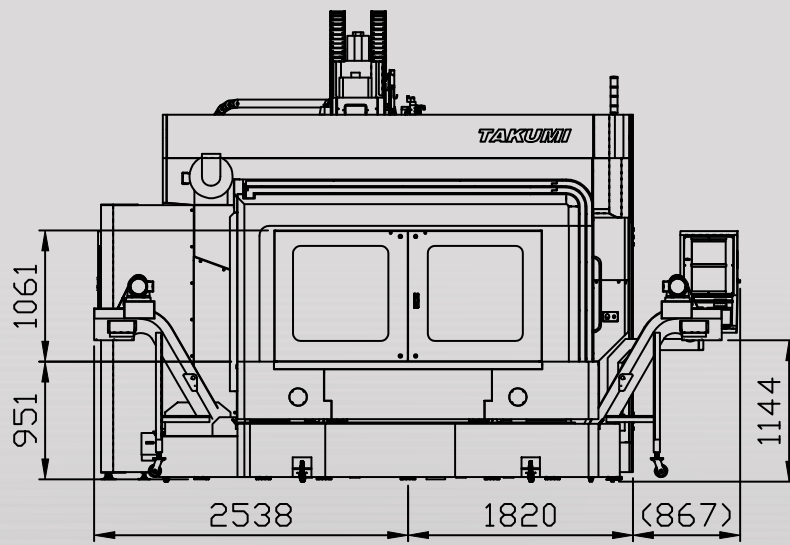


H22T

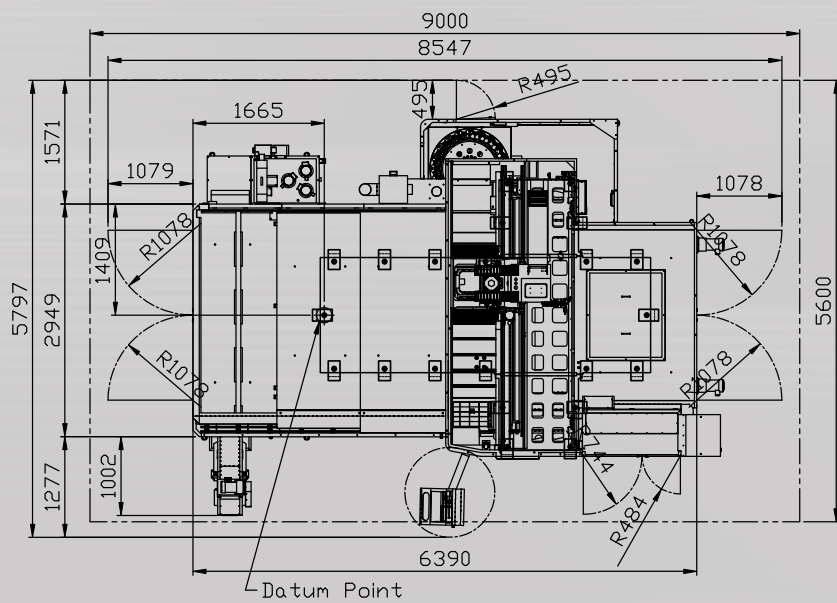
Front View



Side View



Top View







# H32S / H32T



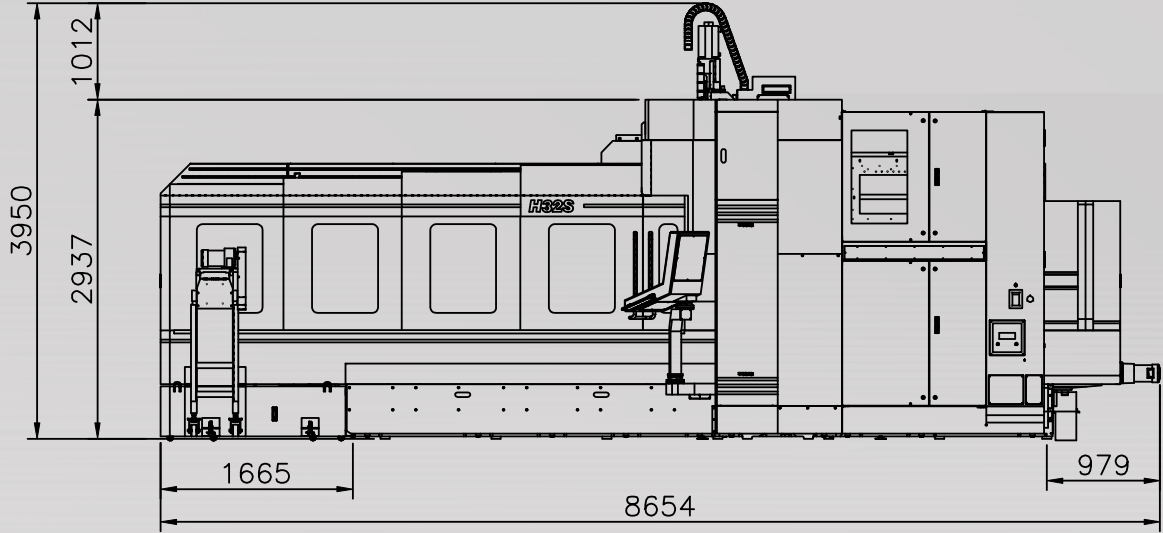
## Outstanding Surface Finish, Precision, and Throughput

- H32S
  - 3200 (X-Axis) x 1600 (Y-Axis) x 800 (Z-Axis) mm
  - 16 x 20 x 20 (m/minute) X, Y, and Z rapids
  - H32S has 3,320 x 1,600 mm table, 8,500 kg capacity
  - 12 m/minute X, Y, and Z feed rates
  - 20-station swing-arm ATC
  - 10,000 RPM inline direct-drive spindle
  - 22/26 kW spindle
  - 50 taper
  - Linear Scales ensure repeatability and accuracy
  - Weighs a colossal 33,000 kg
- H32T
  - 3200 (X-Axis) x 2200 (Y-Axis) x 800 (Z-Axis) mm travels
  - 16 x 16 x 20 (m/minute) X, Y, and Z rapids
  - H32T has 3,320 x 2,100 mm table, 8,500 kg capacity
  - 472.4 inches per minute (12 m/minute) X, Y, and Z feed rates
  - 20-station swing-arm ATC
  - 10,000 RPM inline direct-drive spindle
  - 22/26 kW spindle
  - 50 taper
  - Linear Scales ensure repeatability and accuracy
  - Weighs an colossal 37,000 kg

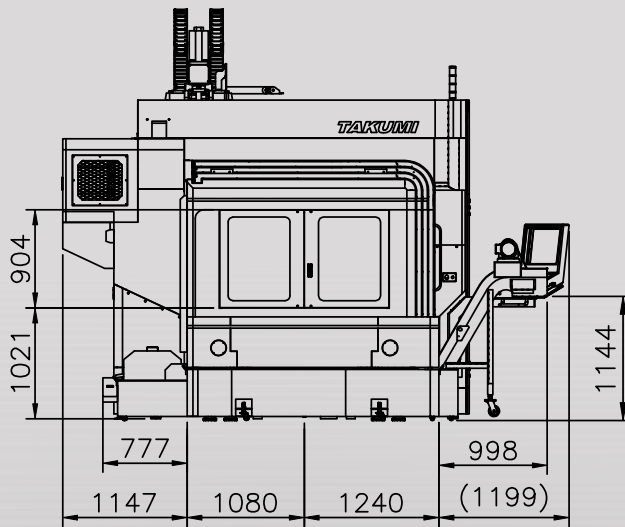
*Machine specifications can be found on page 25*

H32S

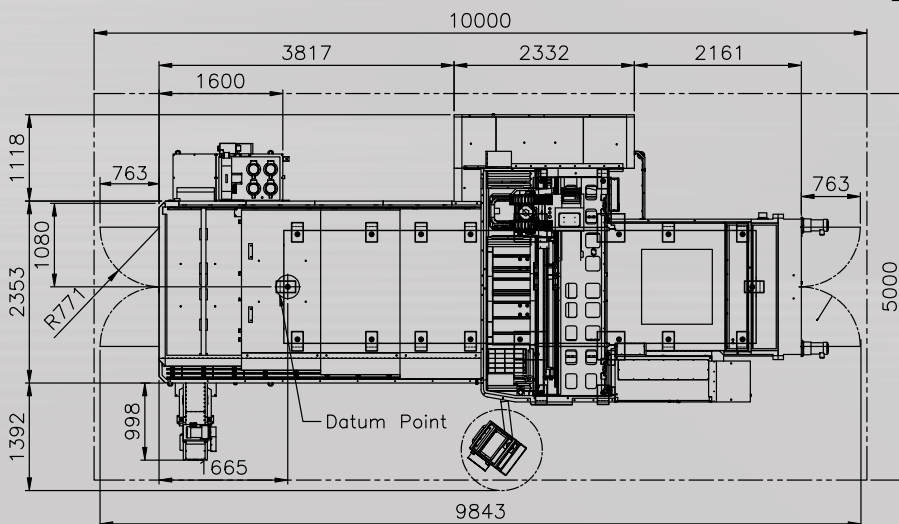
Front View



Side View



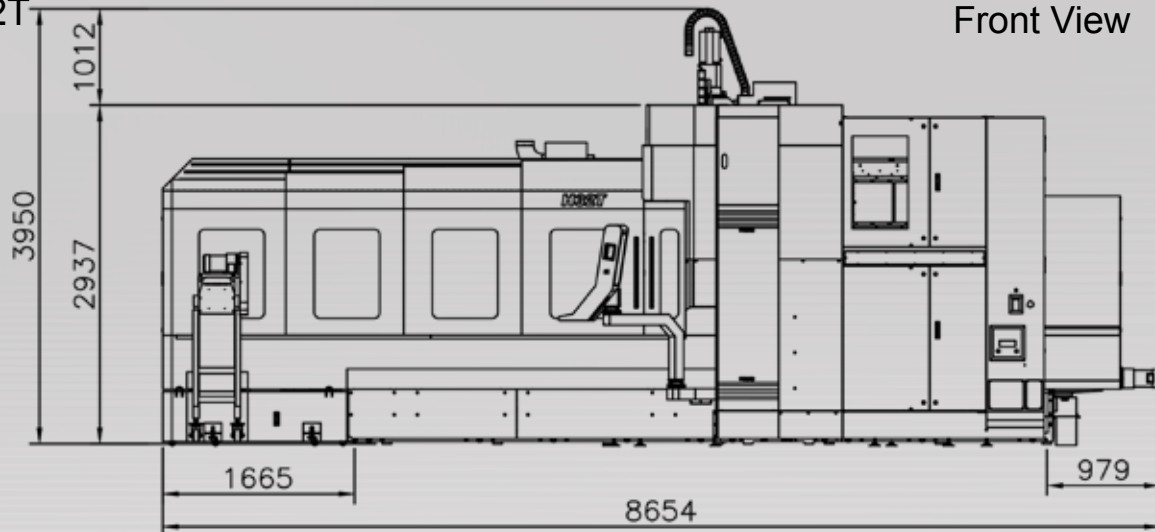
Top View



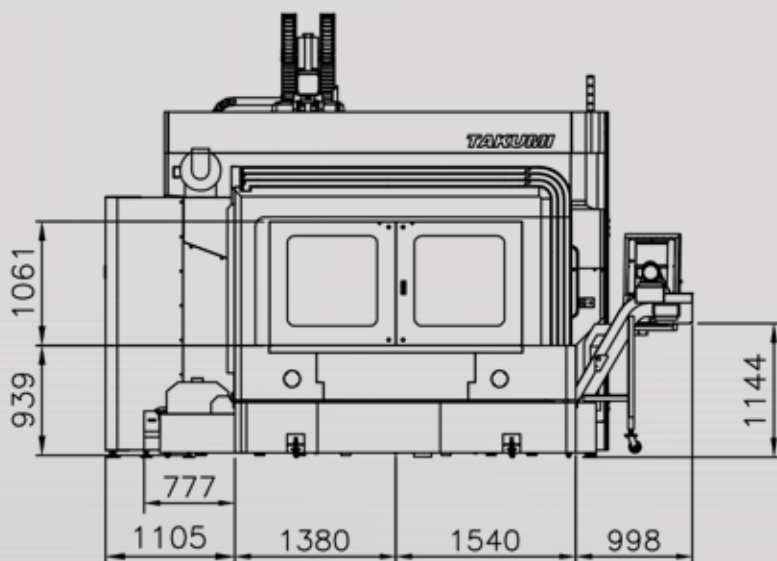
# Takumi

H32T

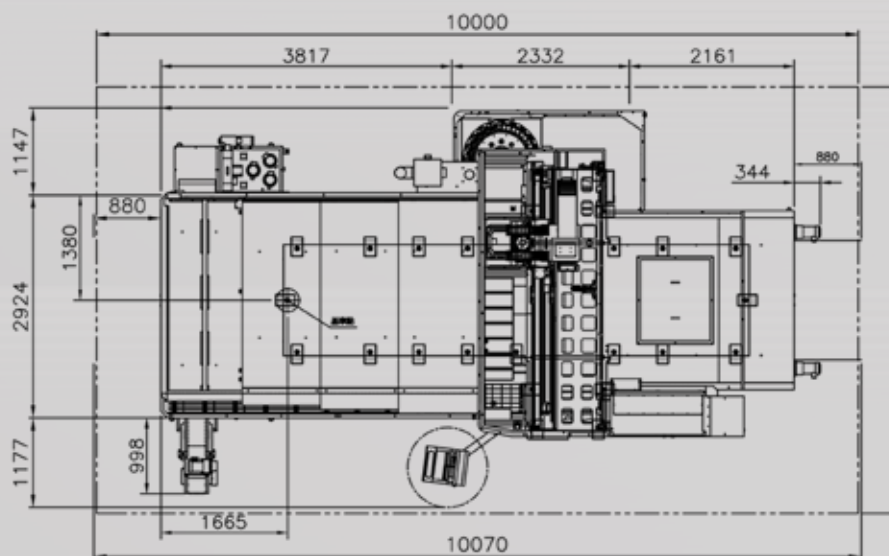
Front View



Side View



Top View



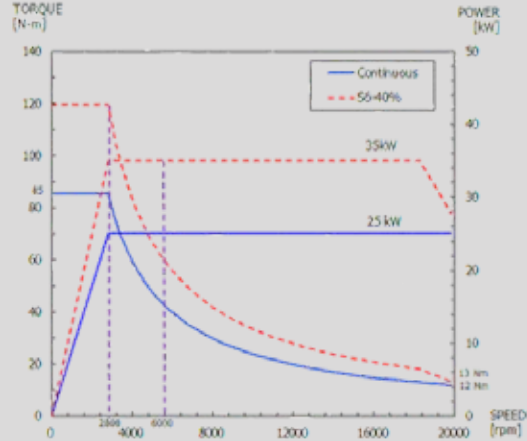


# Spindles

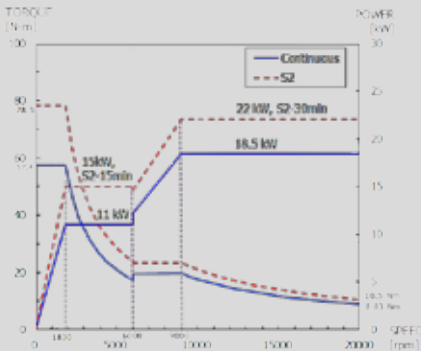
High Accuracy + High Performance Spindle | BIG-PLUS® Spindles  
Inline Direct-Drive



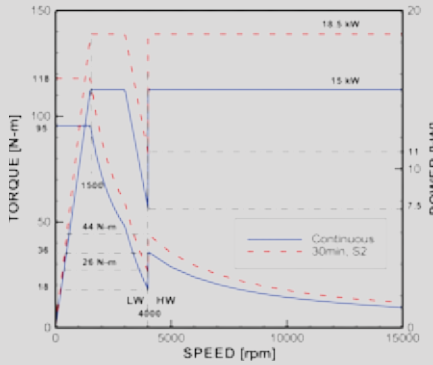
## Kessler V100-A20



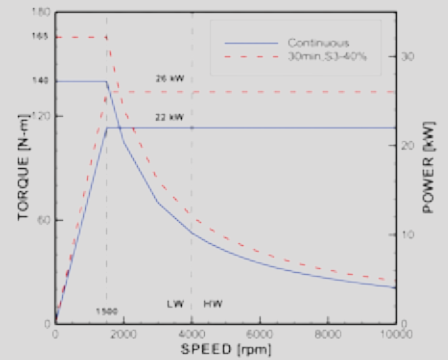
## FANUC® 31i-MB controller



Fanuc Bil112M 20000-iB-  
Built in -H Series

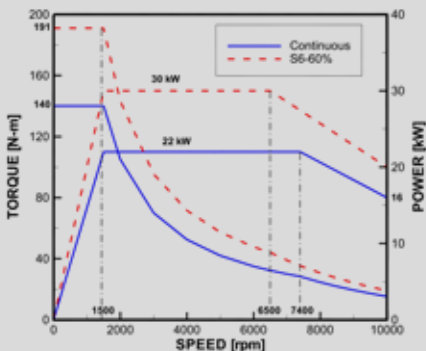


Fanuc aL8 15000i-DD  
-H Series

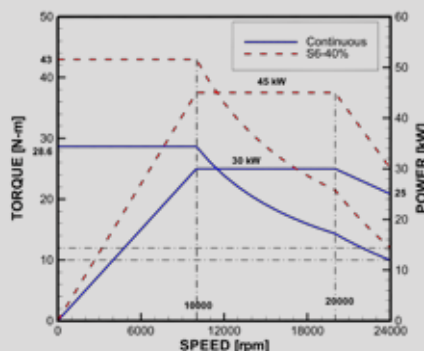


Fanuc aT22 10000i-DD  
-H Series

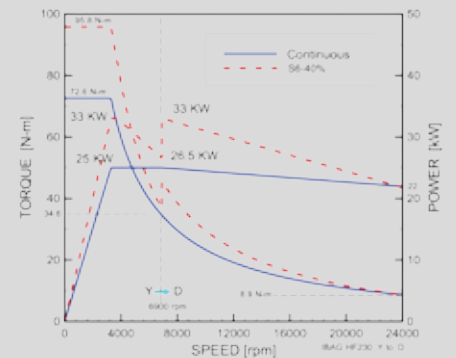
## HEIDENHAIN TNC620/TNC640 controller



Heidenhain QAN260UH  
(10000rpm)-H13/H16/H22/H32



IBAG HF180 (24000rpm)  
-H7/H10



IBAG HF230 (24000rpm)  
-H12-H32

# Accessories

## H7-H16

### Standard:

- FANUC® 31i-MB controller
- 15000 rpm, BBT40, direct-drive spindle (Oil-Air)
- 16T, BBT40, armless type ATC (H7/H10/H12)
- 20T, BBT40, armless type ATC (H13/H/16)
- Spindle air blast
- Cutting air blast
- Spindle cooler
- Cutting coolant system
- Centralized automatic lubrication system (oil)
- 3 axes absolute encoder motors
- Fully enclosed splash guard
- Working lamp
- Indication lamp
- Washing gun & air gun
- Oil skimmer
- Coolant tank & coolant flushing system (H7/H10/H12)
- Steel belt type chip conveyor (H13/H16)
- Manual pulse generator
- Ethernet card & RS-232C interface
- Air conditioner for electrical cabinet
- Tool kits
- Anchor bolts, levelling blocks and bolts
- Operation manuals, PLC, electrical circuit diagrams
- One-year machine warranty (Spindle warranty depends upon spindle manufacturer)
- Controller warranty (FANUC®24 months from shipping date)

### Optional:

- HEIDENHAIN TNC620/TNC640 controller
- MITSUBISHI M830 controller
- 10000rpm, BBT50, direct-drive spindle (H13/H16)
- 20000rpm, HSK63A, built-in spindle
- 24000rpm, HSK63A, built-in spindle (IBAG)
- 24T, BT40, arm type ATC (H7)
- 30T/48T, arm type ATC (H10/H12/H13/H16)
- 60T, BT40, arm type ATC (H13/H16)
- 24T, BBT50, arm type ATC (H12)
- 32T/60T, BT50, arm type ATC (H13/H16)
- Coolant through spindle
- Spindle thermal compensation system (For IBAG spindle only)
- Ball screw cooling system
- Grease type lubrication system (for machine equipped graphite cutting set)
- Oil mist device
- Oil mist collector
- Linear scales (3 axes)
- Workpiece measurement system
- Tool length measurement system
- Rotary table (The 4th/5th axis)
- Steel belt type chip conveyor (H7/H10/H12)
- Scraper type chip conveyor
- Transformer
- CE (CE area only)

## H22-H32

### Standard:

- FANUC® 31i-MB controller
- 10000 rpm, BBT50, direct-drive spindle (Oil-air)
- 20T, BBT50, armless type ATC
- Spindle air blast
- Cutting air blast
- Spindle cooler
- Cutting coolant system
- Centralized automatic lubrication system (oil)
- 3 axes absolute encoder motors
- Fully enclosed splash guard
- Working lamp
- Indication lamp
- Washing gun & air gun
- Oil skimmer
- Coolant tank & coolant flushing system
- Steel belt type chip conveyor
- Manual pulse generator
- Ethernet & RS-232C interface
- Air conditioner for electrical cabinet
- Tool kits
- Anchor bolts, levelling blocks and bolts
- Operation manuals, PLC, electrical circuit diagrams
- One-year machine warranty (Spindle warranty depends upon spindle manufacturer)
- Controller warranty (FANUC®24 months from shipping date)

### Optional:

- HEIDENHAIN TNC620/TNC640 controller
- 15000rpm, BBT40, direct-drive spindle
- 24000rpm, HSK63A, built-in spindle (IBAG)
- 30T/48T/60T, BBT40, arm type ATC
- 32T/60T/90T, BBT50, arm type ATC
- Coolant through spindle
- Spindle thermal compensation system (For IBAG spindle only)
- Ball screw cooling system
- Oil mist device
- Oil mist collector
- Linear scales (3 axes)
- Workpiece measurement system
- Tool length measurement system
- Rotary table (The 4th/5th axis)
- Scraper type chip conveyor
- Transformer
- CE (CE area only)



# Exceeding Expectations

At Takumi, we implement stringent processes to design and build rigid and reliable machining centers that will exceed our customers' expectations. From our meticulous manufacturing processes, such as hand scraping contact areas, to the use of premium components, we infuse quality into each of our products.

Takumi has been exceeding customers' expectations in Europe and Asia for 30 years. With our comprehensive global support and distribution network, we are ready to exceed your expectations.

Like us, you believe CNC machines that combine rigidity and reliability with proven control technology will provide the greatest benefits to your business; therefore, make Takumi your next CNC machining center investment.

Contact us today.



# Takumi





# Specifications

	H7	H10	H12	H13	H16
<b>Travel</b>					
X-Axis	750 mm	1,020 mm	1,350 mm	900 mm	1,600 mm
Y-Axis	600 mm	700 mm	950 mm	1,300 mm	1,300 mm
Z-Axis	500 mm	500 mm	600 mm	700 mm	700 mm
Distance from Spindle Nose to Table	150 ~ 650 mm	180 ~ 680 mm	200 ~ 800 mm	200 ~ 900 mm	200 ~ 900 mm
Distance between Columns	850 mm	1,080 mm	1,060 mm	1,500 mm	1,500 mm
<b>Table</b>					
Dimensions	810 x 620 mm	1,050 x 700 mm	1,500 x 960 mm	900 x 1,400 mm	1,900 x 1,300 mm
Max. Load	500 kg	800 kg	2,500 kg	3,500 mm	6,000 kg
T-slot (width x pitch x number)	18 x 125 x 5 mm	18 x 125 x 6 mm	22 x 160 x 6 mm	22 x 160 x 5 mm	22 x 160 x 8 mm
<b>Spindle</b>					
Type	Direct Drive	Direct Drive	Direct Drive	Direct Drive	Direct Drive
Spindle Speed	15,000 rpm	15,000 rpm	15,000 rpm	15,000 rpm	15,000 rpm
Motor Power (cont./30 min)	15/18.5 kW	15/18.5 kW	15/18.5 kW	15/18.5 kW	15/18.5 kW
Spindle Taper	BIG PLUS / BBT 40	BIG PLUS / BBT 40	BIG PLUS / BBT 40	BIG PLUS / BBT 40	BIG PLUS / BBT 40
<b>Feed Rate</b>					
Rapid Traverse (X/Y/Z)	32 / 32 / 32 mm	32 / 32 / 32 m/min	32 / 32 / 32 m/min	30 / 30 / 30 m/min	30 x 30 x 30 m/min
Cutting Feed Rate	1~12,000 mm/min	1~ 12,000 m/min	1 ~ 12,000 m/min	1 ~ 12,000 m/min	1 ~ 12,000 m/min
Power (X/Y/Z)	4.5 / 4.5 / 4.5 kW	4.5 / 4.5 / 4.5 kW	7.0 / 4.0 / 7.0 kW	5.5 / 5.5 / 5.5 kW	14.0 / 5.5 / 5.5 kW
<b>ATC &amp; Magazine</b>					
ATC Type	Armless	Armless	Armless	Armless	Armless
Magazine Capacity	16(#40) pcs	16(#40) pcs	16(#40) pcs	20(#40) pcs	20(#40) pcs
Maximum Tool Diameter /next pocket empty	105 / 120 mm	105 / 120 mm	105 / 110 mm	120 / 160 mm	120 / 160 mm
Maximum Tool Length	270 mm	270 mm	300 mm	300 mm	300 mm
Maximum Tool Weight	7 kg	7 kg	7 kg	7 kg	7 kg
Tool Shank	CAT/BBT 40	CAT/BBT 40	CAT/BBT 40	CAT/BBT 40	CAT/BBT 40
Pull Stud	MAS 1	MAS 1	MAS 1	MAS 1	MAS 1
<b>Space &amp; System Requirements</b>					
Pneumatic Pressure	6 kgf/cm2	6 kgf/cm2	6 kgf/cm2	6 kgf/cm2	6 kgf/cm2
Electrical Power Consumption	50 kVA	50 kVA	60 kVA	60 kVA	75 KVA
Machine Net Weight	7,000 mm	9,100 kg	13,000 kg	18,000 mm	20,000 kg
Operating Dimensions	3,300 x 4,300 x 2,750 mm	3,400 x 4,300 x 3,050 mm	4,540 x 3,890 x 3,510 mm	3,800 x 4,400 x 4,000 mm	4,650 x 4,400 x 4,000 mm



# Takumi

	H22S	H22T	H32S	H32T
<b>Travel</b>				
X-Axis	2,200 mm	2,200 mm	3,200 mm	3,200 mm
Y-Axis	1,600 mm	2,200 mm	1,600 mm	2,200 mm
Z-Axis	800 mm	800 mm	800 mm	800 mm
Distance from Spindle Nose to Table	150 ~ 950 mm	150 ~ 950 mm	150 ~ 950 mm	150 ~ 950 mm
Distance between Columns	1,750 mm	2,350 mm	1,750 mm	2,350 mm
<b>Table</b>				
Dimensions	2,400 x 1,600 mm	2,400 x 2,100 mm	3,320 x 1,600 mm	3,320 x 2,100 mm
Max. Load	8,000 kg	8,000 kg	8,500 kg	8,500 mm
T-slot (width x pitch x number)	22 x 200 x 8 mm	22 x 200 x 10 mm	22 x 200 x 8 mm	22 x 200 x 10 mm
<b>Spindle</b>				
Type	Direct Drive	Direct Drive	Direct Drive	Direct Drive
Spindle Speed	10,000 rpm	10,000 rpm	10,000 rpm	10,000 rpm
Motor Power (cont./30 min)	22/26 kW	22/26 kW	22/26 kW	22/26 kW
Spindle Taper	BIG PLUS / BBT 50	BIG PLUS / BBT 50	BIG PLUS / BBT 50	BIG PLUS / BBT 50
<b>Feed Rate</b>				
Rapid Traverse (X/Y/Z)	20 / 20 / 20 m/min	20 / 16 / 20 m/min	16 / 20 / 20 m/min	16 / 16 / 20 m/min
Cutting Feed Rate	1 ~ 12,000 m/min	1 ~ 12,000 m/min	1 ~ 12,000 m/min	1 ~ 12,000 m/min
Power (X/Y/Z)	14 / 9 / 5.5 kW	14 / 9 / 5.5 kW	14 / 9 / 5.5 kW	14 / 9 / 5.5 kW
<b>ATC &amp; Magazine</b>				
ATC Type	Armless	Armless	Armless	Armless
Magazine Capacity	20 tools	20 tools	20 tools	20 tools
Maximum Tool Diameter /next pocket empty	120 / 160 mm	120 / 160 mm	120 / 160 mm	120 / 160 mm
Maximum Tool Length	300 mm	300 mm	300 mm	300 mm
Maximum Tool Weight	15 kg	15 kg	15 kg	15 kg
Tool Shank	CAT/BBT 50	CAT/BBT 50	CAT/BBT 50	CAT/BBT 50
Pull Stud	MAS 1	MAS 1	MAS 1	MAS 1
<b>Space &amp; System Requirements</b>				
Pneumatic Pressure	6 kgf/cm <sup>2</sup>	6 kgf/cm <sup>2</sup>	6 kgf/cm <sup>2</sup>	6 kgf/cm <sup>2</sup>
Electrical Power Consumption	75 KVA	75 KVA	75 KVA	75 KVA
Machine Net Weight	27,000 kg	31,000 kg	33,000 kg	37,000 kg
Operating Dimensions	4,830 x 6,740 x 3,950 mm	5,230 x 6,740 x 3,950 mm	4,670 x 8,660 x 3,950 mm	5,270 x 8,660 x 3,950 mm

# Product Line-Up

## VC Series-Vertical Machining Centers | *High Efficiency, Fast Rapids*



VC0852



VC1052



VC1200



VC1500

## V Series-Vertical Machining Centers | *Heavy Duty Cutting*



V10



V11



V12



V15

## H Series-High Speed Double Column Machining Centers | *Unrivalled Performance and Accuracy*



H7



H10



H12



H13

## BC Series-Double Column Machining Centers | *High Rigidity and High Precision Structure*



BC2116



BC3116



BC3025



BC4025

## U Series- High Speed 5-axis Machining Centers | *Unrivalled Performance*



UC250



U400/U600



UC600



U800

# Takumi

## G Series-High Speed Double Column Machining Centers | Graphite Series



G5



G700



G1000



V18



V20



V22



V32



H16



H22S/H22T



H32S/H32T



BC4030



BC5025



BC5030



BC5035

## VT Series-Vertical Tapping Centers | Fast Tapping



UB3222



VT500

Machines shown with optional equipment

# The *Art* of Productivity

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