

# Takumi H7



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# Technical specifications

Work Area				
X-Axis Travel	750 mm			
Y-Axis Travel	600 mm			
Z-Axis Travel	500 mm			
Spindle nose to table distance	150 - 650 mm			
Distance between columns	850 mm			
Table dimensions	810 x 620 mm			
Table max. load (uniform distribution)	500 kg			
T-slots (Quantity x Width x Pitch)	5 x 18 mm x 125 mm			
Drive motors				
Spindle drive motor	BBT40 <sup>1</sup>	HSK63-A <sup>1</sup>	HSK63-A <sup>2</sup>	HSK63-A <sup>2</sup>
Type	direct	direct	direct	built-in
Power (cont. / 30 min rating)	15 / 18.5 kW	15 / 18.5 kW	*	*
Torque (cont. / 30 min rating)	95 / 118 Nm	95 / 118 Nm	*	*
Pull stud	MAS 1	-	-	-
Max. spindle speed	15,000 min. <sup>-1</sup>	15,000 min. <sup>-1</sup>	20,000 min. <sup>-1</sup>	24,000 min. <sup>-1</sup>
Axis drives				
Feed rate X/Y/Z	20,000 mm/min			
Rapid traverse in X/Y/Z	32 / 32 / 32 m/min			
Power X/Y/Z-Axis	4.5 / 4.5 / 4.5 kW			
Automatic tool changer				
Automatic tool changer		BBT40 / HSK63-A		
ATC Type	Rotary <sup>1</sup>			
Number of tools	24			
Tool diameter (full load)	80 mm			
Tool diameter (next pocket empty)	150 mm			
Max. tool weight	7 kg			
Max. tool length	250 mm			
Design characteristics				
Material of machine bed	Meehanite			
Guideway system	roller type			
Ball bearing linear guides	X, Y, Z			
Central lubrication system	1 pump (X, Y, Z)			
Positioning system				
Type of system	photoelectric			
Standard	linear			
Resolution				
Internally in the control	0.0001 mm			
Accuracy VDI/DGQ 3441				
Positioning accuracy	0.008 mm			
Repeatability	0.006 mm			
Coolant and washdown				
Content coolant tank Scraper type conveyor	420 l			
Dimensions and connections				
Maximum Floor Space (WxTxH)	3,530 x 4,220 x 2,760 mm			
Shipping weight approx.	7,000 kg			
Electrical connection	50 kVA / 72 A / 400 V			
Air supply <sup>3</sup>	6 bar / 0.15 cbm/min			

<sup>1</sup> eligible standard equipment

<sup>2</sup> optional equipment

\* performance data on request

# Accessories

## Standard

- Heidenhain Control iTNC 530
- Linear Scales
- Spindle thermal compensation system
- Coolant wash-down system
- Spindle chiller
- Full enclosure
- Coolant through spindle (CTS 20 bar)
- Oil Skimmer
- Wash-down gun and air gun
- Chip conveyor and cart
- Ethernet interface

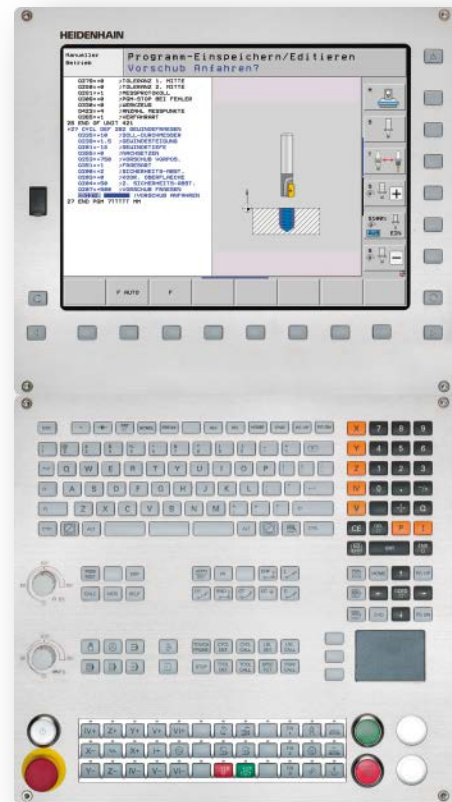
## Optional

- Rotary table (4<sup>th</sup> / 5<sup>th</sup> axis)
- Ballscrew cooling system (ex factory only, not upgradable)
- Part probe measurement system
- Tool probe measurement system
- Manual pulse generator (MPG)
- Programmable airblow machining
- Programmable airblow through spindle machining
- Oil mist device
- Oil mist collector
- Scraper type conveyor instead of chain type conveyor
- Production package Knoll
- Bypass Filter
- Rotoclear

# Heidenhain iTNC 530

## Standard

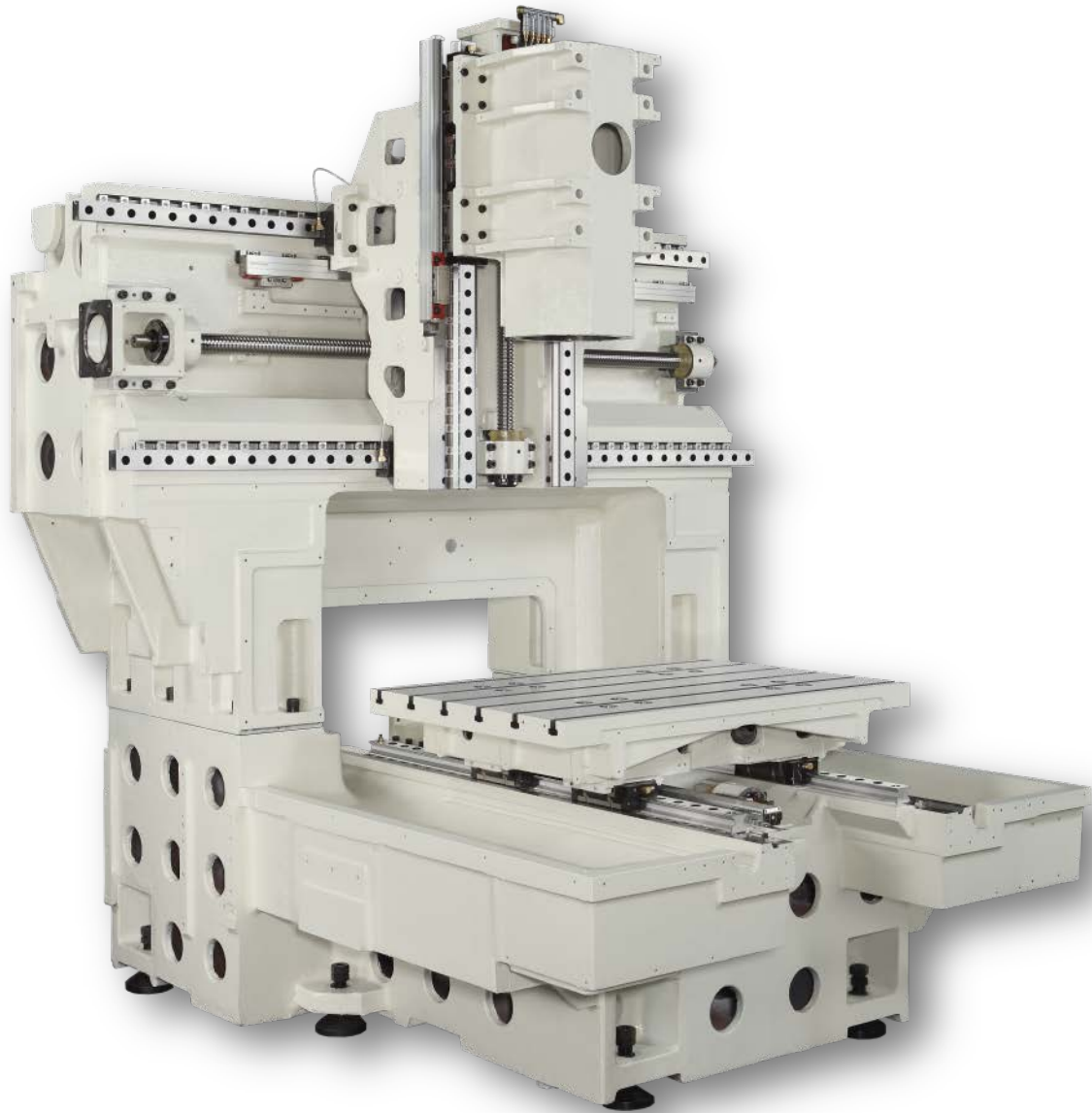
- Conversational programming
- ISO-NC programming
- FK free contour programming
- Extended milling and drilling cycles
- Touch probe cycles
- Parallel operation
- Integrated help system
- Program verification graphics
- 1,024 Block Look Ahead
- 0.5 ms Block Processing Time
- ≥21 Gigabyte Data Storage
- ≥2 GB RAM
- 15.1" LCD Display
- Least Input Increment 0.1µm, 0.0001°
- 2x Gigabit Ethernet adapter
- 4x USB port
- RS-232-C & RS-422 port
- Extended data interface for remote control
- Lift-Off function



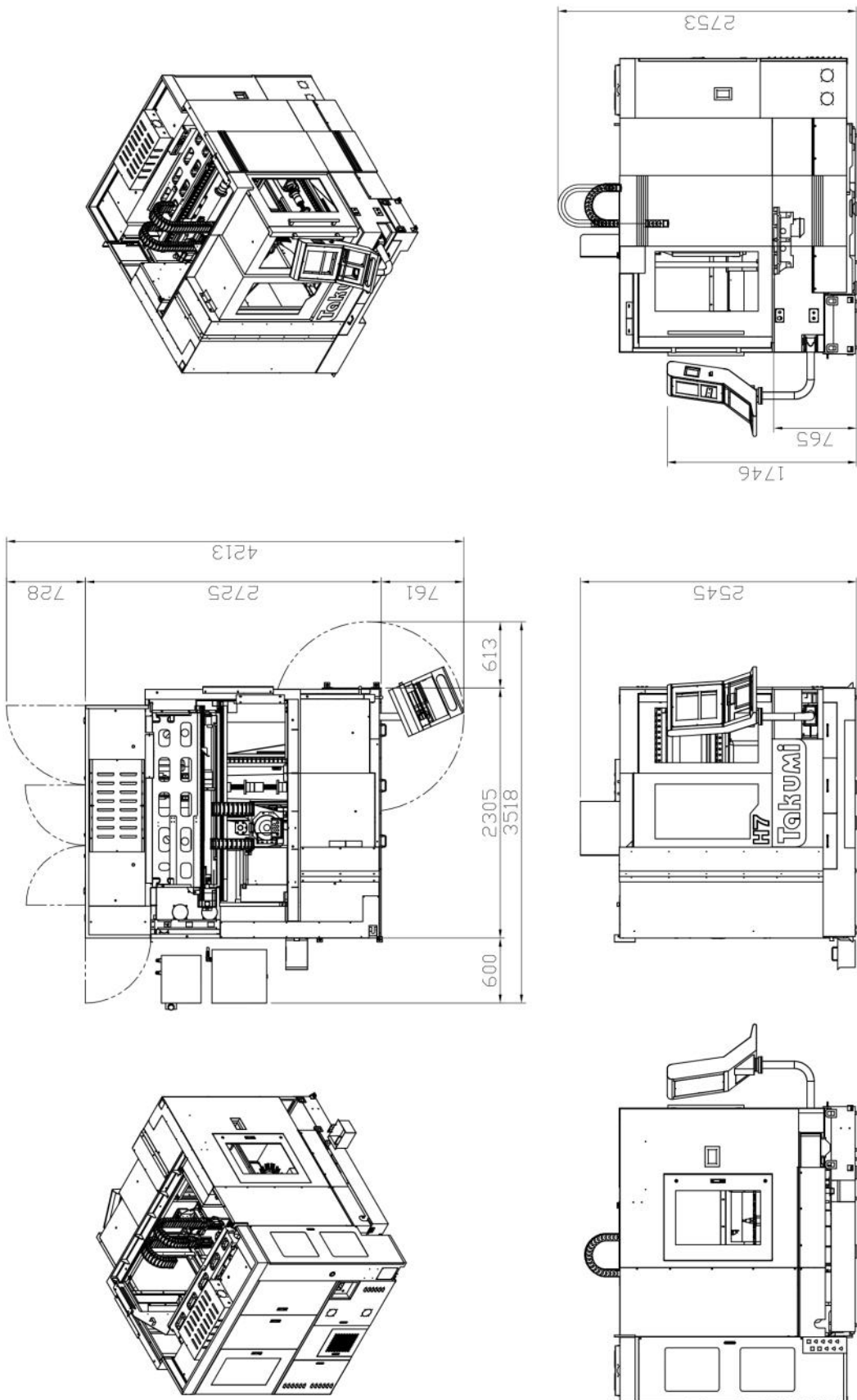
## Optional

- DXF converter
- CAD viewer
- Dynamic Collision Monitoring (DCM)
- 4<sup>th</sup> and 5<sup>th</sup> axis
- Heidenhain-DNC
- Remote Desktop Manager
- Extended Tool Management
- Dynamic Precision
  - Compensation of position errors through mechanical compliance (CTC)
  - Active vibration damping (AVD)
  - Position-dependent adaptation of control parameters (PAC)
  - Load-dependent adaption of control parameters (LAC)
  - Motion-dependent adaption of control parameters (MAC)
- Dynamic Efficiency
  - Adaptive feed control (AFC)
  - Active chatter control (ACC)
  - Trochoidal milling

## Frame and structure



# Operating dimensions



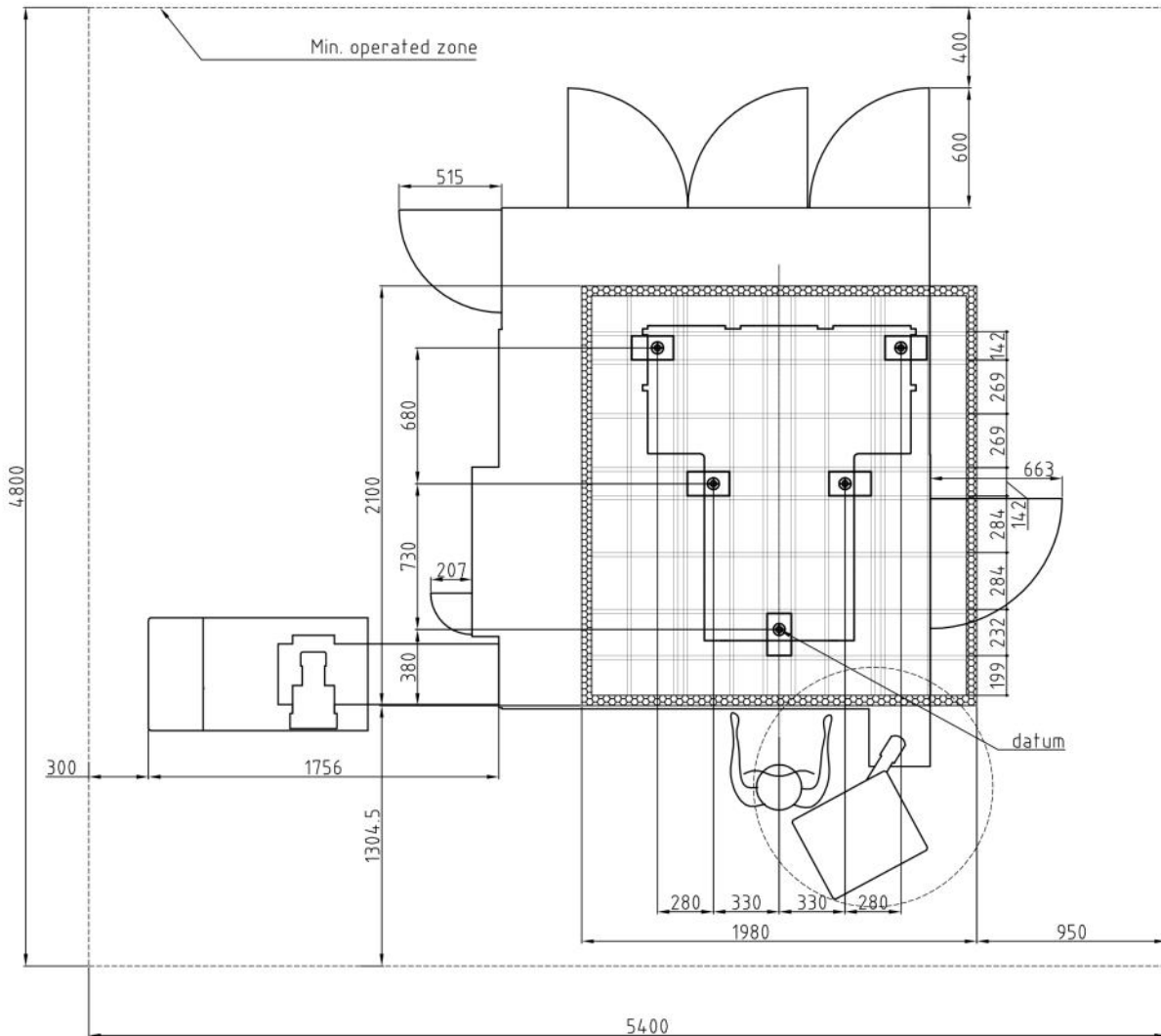
\*Dimensions may vary depending on equipment

# Shipping dimensions

	Width (mm)	Length (mm)	Height (mm)	Weight (kg)
Machine	3,730	2,280	2,550	7,170
Accessories	2,500	2,280	950	660

\*Values may vary depending on equipment

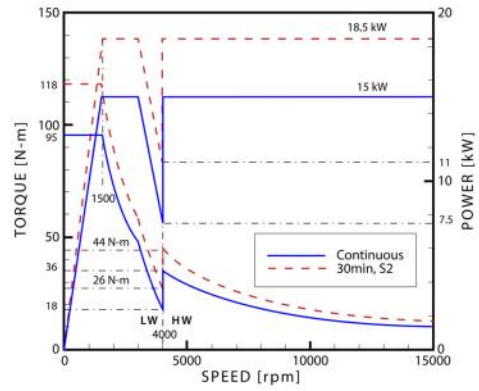
# Foundation drawing



\*Dimensions may vary depending on equipment

## Standard accessories in detail

### Spindle



### Other Standard Accessories



Linear Scales



Automatic switch-off function



CTS unit (20 bar)



Spindle chiller

## Options in detail

### Part probing

- Probing part zero:
  - Edge
  - Corner
  - Hole
  - Cylinder
  - Rectangular pocket
  - Rectangular Solid
- Probing skew angle
- Measuring of Workpiece



Source: Renishaw



Source: Blum

### Tool probing with touch probe

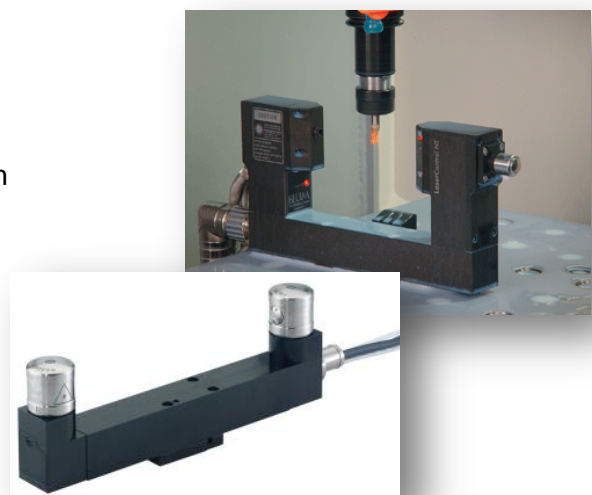
- Probing of tool length
- Probing of tool diameter
- Tool breakage detection over tool length with spare tools usage
- Tool wear detection and compensation for length and diameter



Source: Renishaw

### Tool probing with laser

- Probing of tool length
- Probing of tool diameter
- Tool breakage detection over tool length with spare tools usage
- Tool wear detection and compensation for length and diameter
- Single edge inspection



Source: Blum

Source: Renishaw

Other options



Bypass Filter



Production package



Ball screw cooling system



Oil mist collector



Rotoclear



Oil mist device



A member of HURCO companies

