

H-SERIES

READY FOR ANY CHALLENGE

High-speed triple-axis
portal machining centers

WE ARE TAKUMI AND ARE HERE TO HELP

Takumi is a technology leader in the development, production and technical application of high-speed machining centers. Customers and partners in Europe, America, Taiwan and China have been putting their trust in us for over 30 years.

The company

Takumi develops and produces high-speed CNC portal machining centers marked by a consistent focus on tool-making and mold-making. Our customers' needs define the consistent focus of what we do: Many years of close collaboration with users have furnished us with detailed insights into customer requirements, while extensive market analysis furnishes the foundation for every one of our product development projects. As our consistent objective is to offer customers a comprehensive product range providing the perfect reflection of their variegated requirements.

We produce high-quality, highly efficient machines. Our production processes rely exclusively on components from original equipment manufacturers and specialist suppliers providing premium products, frequently furnished by firms with whom we can look back on many years of close mutual cooperation. Our production practices conform to demanding quality specifications and our quality management is certified in accordance with ISO 900: 2008.

Takumi has been part of HURCO since July 2015. HURCO is a globally successful standard-bearer in CNC control system and machine technology. The US-based parent company with its headquarter in Indianapolis, Indiana relies on its production facilities in Taiwan, Italy and China to serve customers throughout Europe, Asia and North America.

The industrial areas

- Astronautics
- Aviation
- Automotive
- Energy
- Machines and systems
- Tool-making and mold-making
- Medical technology
- Optics
- Science and research

The expert contact person for your questions and requests:

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THE H-SERIES

UNPARALLELED LEVELS OF PERFORMANCE AND PRECISION

- Premium performance destined for high-speed applications in mold and die manufacture as well as in the aeronautics and space sectors
- Stable and rigid portal design featuring reliable resistance to high temperatures
- Conceived for workpieces with stringent demands for speed, accuracy and surface quality
- Minimal distance between spindle and portal structure reduces projection dimensions
- Portal frame featuring a ladder-type design improves the load distribution of the spindle head
- Swiveling control unit for optimal space utilization
- Doors open extra-wide for easier loading and unloading
- Generously dimensioned compartment windows for optimal view
- Rugged precision-machined cast components
- Roller guides on all axes for additional rigidity
- Integrated chip flushing and chip management system
- Absolute direct measuring systems for fast machine startup
- Motorized and inline high-speed spindles

H-SERIES

H AS IN HIGH-END

Compact and versatile high-speed portal machining centers provide dynamic performance to take on demanding assignments.

H 6 / H 7 / H 10 / H 12 / H 13 / H 16

- Stable and rigid portal design featuring reliable resistance to high temperatures
- Absolute direct measuring systems
- Thermal-expansion compensation system for spindle
- Cooling system for the recirculating ball-screw assembly
- Internal coolant feed through the spindle (ICF 30 bar)
- Spindle cooler



H 6

X / Y / Z-axis travel paths (mm)	550 x 600 x 350
X / Y / Z-axis high-speed mode (m/min)	30 / 30 / 30
Max. table load (kg)	500



H 7

X / Y / Z-axis travel paths (mm)	750 x 600 x 500
X / Y / Z-axis high-speed mode (m/min)	32 / 32 / 32
Max. table load (kg)	500



H 10

X / Y / Z-axis travel paths (mm)	1,020 x 700 x 500
Rotary table (mm)	32 / 32 / 32
Max. table load (kg)	800



H 12

X / Y / Z-axis travel paths (mm)	1,350 x 950 x 600
X / Y / Z-axis high-speed mode (m/min)	30 / 30 / 30
Max. table load (kg)	1,800



H 13

X / Y / Z-axis travel paths (mm)	900 x 1,300 x 700
X / Y / Z-axis high-speed mode (m/min)	30 / 30 / 30
Max. table load (kg)	3,500



H 16

X / Y / Z-axis travel paths (mm)	1,600 x 1,300 x 700
X / Y / Z-axis high-speed mode (m/min)	30 / 30 / 30
Max. table load (kg)	6,000

H-SERIES

H AS IN HIGH-END

Compact and versatile high-speed portal machining centers provide dynamic performance to take on demanding assignments.

H 22S / H 22T / H 32S / H 32T

- Optimized for large and heavy workpieces
- Simple loading of machine thanks to machine doors that open wide
- Stable and rigid portal design featuring reliable resistance to high temperatures
- Absolute direct measuring systems
- Thermal-expansion compensation system for spindle
- Cooling system for the recirculating ball-screw assembly
- Internal coolant feed through the spindle (ICF 30 bar)
- Spindle cooler



H 22S

X / Y / Z-axis travel paths (mm)	2,200 x 1,650 x 800
X / Y / Z-axis high-speed mode (m/min)	30 / 30 / 30
Max. table load (kg)	8,000

H 22T

X / Y / Z-axis travel paths (mm)	2,200 x 2,250 x 800
X / Y / Z-axis high-speed mode (m/min)	20 / 16 / 20
Max. table load (kg)	8,000

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H 32S

X / Y / Z-axis travel paths (mm)	3,200 x 1,650 x 800
X / Y / Z-axis high-speed mode (m/min)	16 / 20 / 20
Max. table load (kg)	8,500

H 32T

X / Y / Z-axis travel paths (mm)	3,200 x 2,250 x 800
X / Y / Z-axis high-speed mode (m/min)	16 / 16 / 20
Max. table load (kg)	8,500

TECHNICAL SPECIFICATIONS

DESIGNATION	H 6	H 7	H 10	H 12	H 13
TRAVEL PATHS					
X-axis (mm)	550	750	1,020	1,350	900
Y-axis (mm)	600	600	700	950	1,300
Z-axis (mm)	350	500	500	600	700
OPERATING RANGE					
Spindle nose table (mm)	120 - 470	150 - 650	180 - 680	200 - 800	150 - 850
Distance between columns (mm)	650	850	1,080	1,060	1,500
Table clamping surface L x W (mm)	600 x 600	810 x 620	1,050 x 700	1,500 x 960	900 x 1,400
Table load (uniform) (kg)	500	500	800	1,800	3,500
T-slots (DIN 650)	6 x 14 x 100	5 x 18 x 125	6 x 18 x 125	6 x 22 x 160	5 x 22 x 160
MAIN SPINDLE					
Spindle taper	HSK 40 E	BBT 40 / HSK 63 A / SK 40 ^{BigPlus}	BBT 40 / HSK 63 A / SK 40 ^{BigPlus}	BBT 40 / BBT 50 / HSK 63 A / SK 40 ^{BigPlus} / SK 50 ^{BigPlus}	BBT 40 / BBT 50 / HSK 63 A / SK 40 ^{BigPlus} / SK 50 ^{BigPlus}
Drive type	Motor	In-Line	In-Line	In-Line	In-Line
Max. spindle speed (U/min)	36,000	15,000	15,000	15,000	15,000
S1/S6 spindle power (kW)	12 / 15	10 / 14	10 / 14	10 / 14	10 / 14
S1/S6 spindle torque (Nm)	11 / 13.8	63.7 / 89.4	63.7 / 89.4	63.7 / 89.4	63.7 / 89.4
FEED					
X/Y/Z-axis high-speed mode (m/min)	30 / 30 / 30	32 / 32 / 32	32 / 32 / 32	30 / 30 / 30	30 / 30 / 30
X/Y/Z-axis machining feed (m/min)	12	20	20	20	20
TOOL CHANGER					
Type Tool changer	Pick-Up	Double gripper	Double gripper	Double gripper	Double gripper
Magazine capacity	20	24	30	30	30 / 48
Max. tool diameter (mm)	75	75	75	75	76
With unoccupied adjacent stations (mm)	100	120	120	120	120
Max. tool length (mm)	200	300	300	300	300
Max. tool weight (kg)	1.5	7	7	7	7
OTHER DATA					
Compressed-air supply (bar)	6	6	6	6	6
Electrical power supply (kVA/A)	30 / 50	50 / 72	50 / 72	60 / 87	75 / 160
Shipping weight (kg)	5,500	7,000	9,100	13,000	18,000
Required floor space (mm)	3,220 x 4,110 x 2,655	3,530 x 4,220 x 2,760	4,520 x 4,290 x 2,830	5,020 x 5,330 x 3,500	5,620 x 4,640 x 3,940
STANDARD					
	<ul style="list-style-type: none"> • Heidenhain control system: H 6: TNC 620, H 7/H 10: TNC 640 • H 6: 36,000^{rpm}, HSK 40 E, Motor spindle H 7/H 10: 15,000^{rpm}, SK 40^{BigPlus}, In-Line spindle • H 7/H 10: Coolant through spindle (CTS 30 bar) • Compensation of thermal spindle expansion 			<ul style="list-style-type: none"> • Heidenhain TNC 640 control system • 15,000^{rpm}, SK 40^{BigPlus}, In-Line spindle • Internal coolant feed through the spindle (ICF 30 bar) • Compensation of thermal spindle expansion 	
OPTIONAL					
	<ul style="list-style-type: none"> • Touch probe system for tool measurement • Touch probe system for workpiece measurement • Rotary table (4th/5th axis) • H 7/H 10: Cooling system for the recirculating ball screw 			<ul style="list-style-type: none"> • Touch probe system for tool measurement • Touch probe system for workpiece measurement • Rotary table (4th/5th axis) • Cooling system for the recirculating ball screw 	

FAST MACHINE AVAILABILITY!

H 16	H 22S	H 22T	H 32S	H 32T
1,600	2,200	2,200	3,200	3,200
1,300	1,650	2,250	1,650	2,250
700	800	800	800	800
150 - 850	150 - 950	150 - 950	150 - 950	150 - 950
1,500	1,750	2,350	1,750	2,350
1,900 x 1,300	2,400 x 1,600	2,400 x 2,100	3,320 x 1,600	3,320 x 2,100
6,000	8,000	8,000	8,500	8,500
8 x 22 x 160	8 x 22 x 200	10 x 22 x 200	8 x 22 x 200	10 x 22 x 200
BBT 40 / BBT 50 / HSK 63 A / SK 40 ^{BigPlus} / SK 50 ^{BigPlus}	BBT 40 / BBT 50 / HSK 63 A / SK 40 ^{BigPlus} / SK 50 ^{BigPlus}	BBT 40 / BBT 50 / HSK 63 A / SK 40 ^{BigPlus} / SK 50 ^{BigPlus}	BBT 40 / BBT 50 / HSK 63 A / SK 40 ^{BigPlus} / SK 50 ^{BigPlus}	BBT 40 / BBT 50 / HSK 63 A / SK 40 ^{BigPlus} / SK 50 ^{BigPlus}
In-Line	In-Line	In-Line	In-Line	In-Line
15,000	15,000	15,000	15,000	15,000
10 / 14	10 / 14	10 / 14	10 / 14 / 11 / 14	10 / 14
63.7 / 89.4	63.7 / 89.4	63.7 / 89.4	63.7 / 89.4	63.7 / 89.4
30 / 30 / 30	20 / 20 / 20	20 / 16 / 20	16 / 20 / 20	16 / 16 / 20
20	12	12	12	12
Double gripper	Double gripper	Double gripper	Double gripper	Double gripper
30 / 48	30 / 48	30 / 48	30 / 48	30 / 48
76	76	76	76	76
120	120	120	120	120
300	300	300	300	300
7	7	7	7	7
6	6	6	6	6
75 / 160	75 / 160	75 / 160	75 / 160	75 / 160
22,000	27,000	31,000	33,000	37,000
5,780 x 5,210 x 3,980	4,830 x 6,740 x 3,950	5,230 x 6,740 x 3,950	4,670 x 8,660 x 3,950	5,270 x 8,660 x 3,950

- Heidenhain TNC 640 control system

- Internal coolant feed through the spindle (ICF 30 bar)
- Compensation of thermal spindle expansion
- Cooling system for the recirculating ball screw

- Touch probe system for tool measurement
- Touch probe system for workpiece measurement
- Rotary table (4th/5th axis)

HEIDENHAIN- CONTROL SYSTEM

The latest control system for
state-of-the-art production tasks

Heidenhain TNC 640

STANDARD:

- Dialog programming
- ISO NC programming
- FK free contour programming
- Expanded milling and boring cycles
- Touch probe system cycles
- Programming in parallel mode
- Integrated help system
- Simulation graphics
- Block scan of up to 1,024 blocks
- Block processing time of 0.5 ms
- ≥ 21 GB data memory capacity
- ≥ 2 GB RAM
- 15.1 inch LCD-display
- Smallest input increment of $0.01 \mu\text{m}$ or 0.0001°
- 2 x gigabit Ethernet adapter
- 4 x USB ports
- RS-232-C and RJ-45 interfaces
- Expanded data interface for remote access
- Dynamic collision monitoring (DCM)

OPTIONAL:

- DXF converter
- CAD viewer
- Adaptive feed control (AFC)
- Heidenhain DNC
- Remote Desktop Manager
- Expanded tool management



Image source: HEIDENHAIN

EIGHT REASONS FOR YOUR SUCCESS WITH TAKUMI

Decades of success

The Takumi philosophy

- A successful industry partner and research associate for over 30 years
- Independent brand with independent product range since 2005
- Focus on mold and die manufacture
- Product development relies on close cooperation with the customers
- Surface quality: Designed to meet stringent requirements in high-precision production parts
- Precision: Stable and rigid portal design featuring reliable resistance to high temperatures
- Direct drives in X/Y/Z
- Inline or motorized spindles offering up to 36,000 rpm
- Sales and customer support thanks to a proven HURCO network since 2016

Takumi

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