

# 3-axis ultimate

**Dynamic with  
an eye for Detail**

H-Series CNC Machining Centers



# Traditional japanese craftsmanship meets intelligent machine power.

## **Attention to detail and driven by precision**

With an eye for detail and a deep understanding of our customers' needs, we develop unparalleled solutions that unite the values of two continents. TAKUMI is the epitome of reliable service and the custom quality craftsmanship for which Japan is renowned.

**German  
precision**

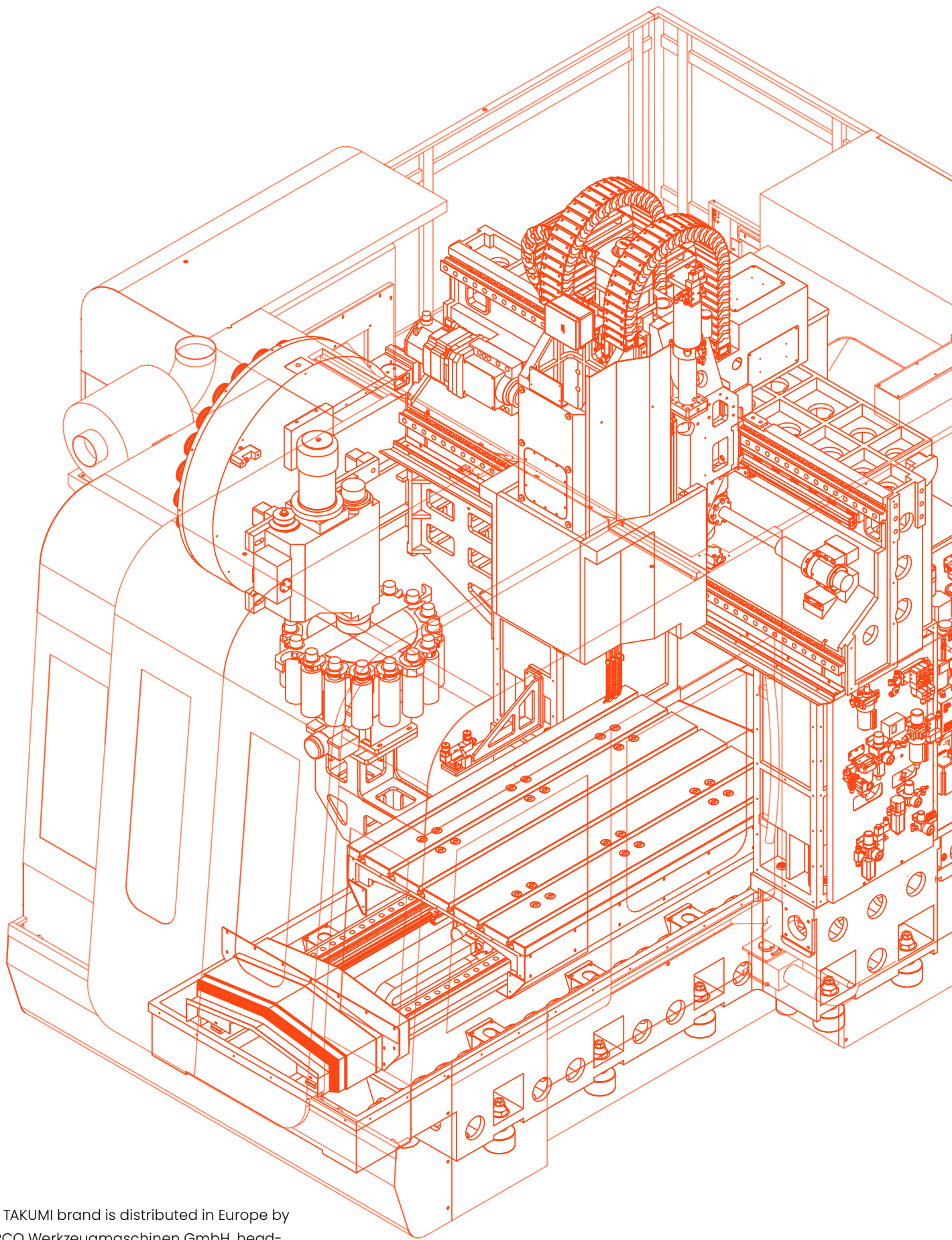
ドイツの精密さ

ASSEMBLED  
WITH

日本の匠の技

**Japanese  
craftsmanship**





The TAKUMI brand is distributed in Europe by HURCO Werkzeugmaschinen GmbH, headquartered in the Bavarian town of Pliening, Germany. Its US-based parent company with more than 50 years of history, pioneering spirit, and industry experience is behind the brand.





**Our quest for  
perfection and  
minimal-waste  
philosophy have  
characterized us  
for over 30 years.**

**We strive to make machining  
even more accessible every  
day – because your success is  
our drive.**

# TAKUMI stands for an unmatched level of quality consciousness and manually checked precision.

**Designed for exceptional torsional  
rigidity and thermal stability**

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Typical TAKUMI: With their robust designs, manually checked production, and excellent thermal stability, our machines maintain maximum precision, even under fluctuations in temperature.

**These characteristics are how TAKUMI yields unmatched precision:**

- » Massive cast Meehanite structure guarantees exceptional torsional rigidity
- » Supporting elements feature a rock-solid design for effective absorption of process vibrations and oscillations
- » Design incorporates reinforcement bracing for moving components, thus achieving weight reduction alongside maximum inherent rigidity
- » Rigidity and high degree of dynamic response thanks to stepped design for reduction in mass and spindle overhang
- » Pretensioned core-cooled ballscrews available as an option for certain models and cooled spindle for thermal stability
- » Sensor systems for thermal compensation of spindle expansion
- » Linear scales for optimal repeatability and positional accuracy
- » Highly dependable oil separator to prevent a decline in emulsion quality

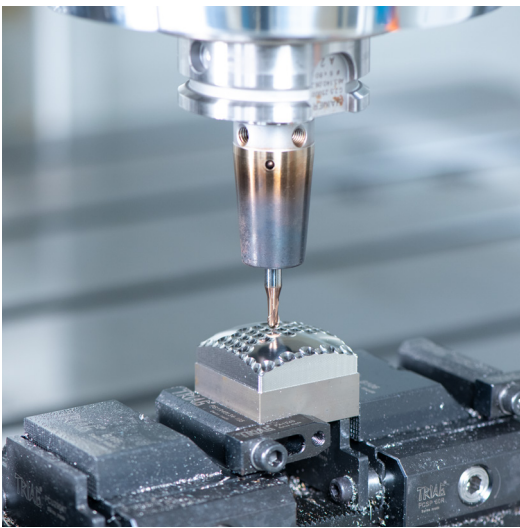
The Japanese name "TAKUMI" stands for craftsmanship and a tradition of quality. These original values have served as our guidelines for building our CNC machining centers for operators across a broad range of industries since day one. Providing our customers with first-class quality machines is part of the TAKUMI DNA. This is why for making our machines, we rely on top components from the name-brand manufacturers and specialist suppliers with whom we have long-standing partnerships. Each TAKUMI machine is manufactured in accordance with the quality management standard ISO 9001:2015 – for verifiable top quality.





# H-SER

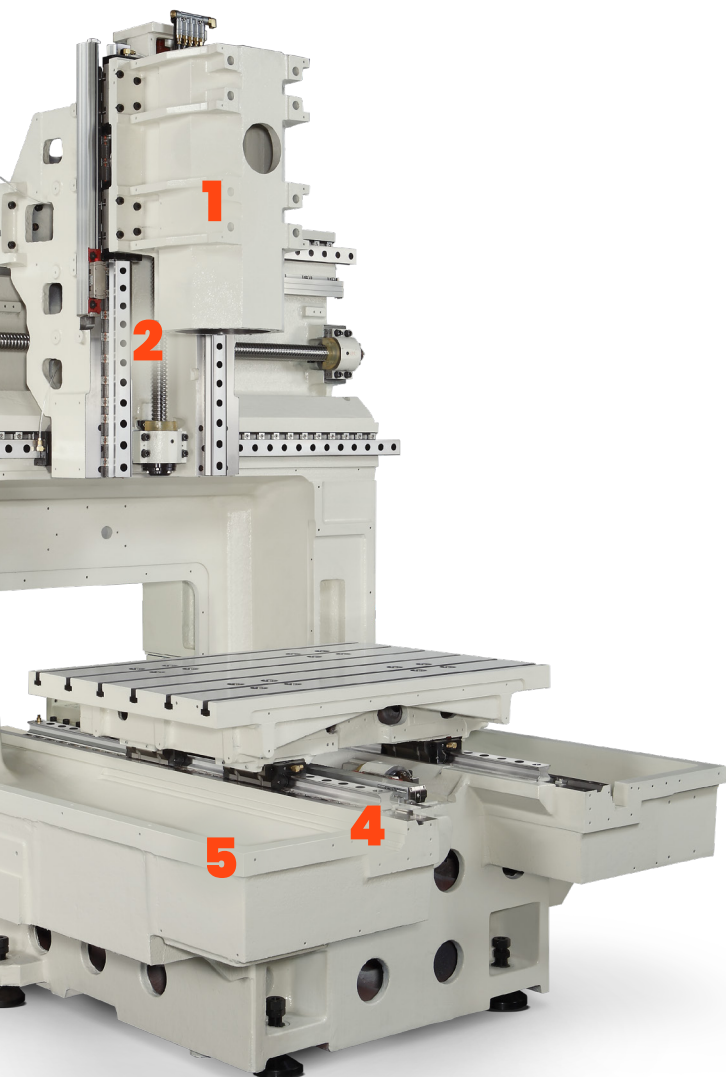
**Machines made with craftsmanship.  
For workpieces with maximum precision.**



## **H-Series 3-Axis Bridge-Type machining Center**

H-Series machining centers stand for first-class performance in highly dynamic mold and die applications, and for ultimate surface quality with consistent precision. These versatile CNC machines achieve optimal results regardless of component size, whether machining small parts like microparts or large and even particularly heavy parts. Outstanding mechanical precision, low-vibration machining, and thermal stability even during extended run times combine to produce surfaces that meet the most stringent demands for quality down to the finest detail – without any need for extensive post-machining finishing processes.

# RIES



- 1** » Low spindle overhang (distance between the spindle axis and the holder) enhances torsional rigidity and the dynamic performance of the spindle head
- 2** » Inline or motorized spindles with high speeds or torques, depending on your specific requirements  
» Thermal stability thanks to systematic spindle cooling and a smart sensor system to compensate for spindle expansion ensure the required precision during extending machining sessions
- 3** » Manually polished contact surfaces between castings, linear guides, and bearing surfaces  
» Inherent thermal stability thanks to the solid and rigid bridge-type design concept  
» Bridge-type frame featuring stepped design improves distribution of the force applied to the main bed while minimizing the potential for vibration  
» Rugged precision-machined cast components
- 4** » Generously dimensioned roller guides on all axes for additional rigidity  
» Absolute direct measuring systems for fast machine startup  
» Optional internal cooling of the ballscrews for maximum thermal stability during long and dynamic machining sessions
- 5** » Integrated chip flushing and chip management system  
  
» Designed for workpieces that require a high level of accuracy and surface quality  
» Swiveling control unit for optimal ergonomics  
» Doors open extra wide for easy loading and unloading  
» Generously dimensioned cabin windows for optimal viewing

# Overview of machines and sp

Designation	H 6	H10	H12E	H16	H22S
Travel distances					
X-axis (mm)	600	1,020	1,250	1,600	2,200
Y-axis (mm)	600	700	950	1,300	1,650
Z-axis (mm)	350	500	580	700	800
Machine capacity					
Spindle nose to table (mm)	120 – 470	180 – 680	200 – 780	150 – 850	150 – 950
Distance between columns (mm)	680	1,080	1,060	1,500	1,750
Clamped table surface L x W (mm)	600 x 600	1,050 x 700	1,360 x 960	1,900 x 1,300	2,400 x 1,600
Table load (kg)	500	800	2,000	6,000	8,000
Feed					
X- /Y- /Z-axis rapid traverse (m / min)	30 / 30 / 30	30 / 30 / 30	30 / 30 / 30	30 / 30 / 30	20 / 20 / 20
X- /Y- /Z-axis cutting feed (m / min)	12	20	20	20	12
Tool changer					
Tool changer design	Pick-up	Arm	Arm	Arm	Arm
Magazine capacity	20	30	30	30	30
Magazine capacity options	–	50	50 / 120	50 / 120 (SK / BBT 40; HSK 63) // 32 (SK / BBT 50; HSK 100)	50 / 120 (SK / BBT 40; HSK 63) // 32 (SK / BBT 50; HSK 100)
Max. tool diameter (mm)	75	75	75	75	75
Diameter with empty pockets (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					
Air supply (bar)	6	6	6	6	6
Electrical power supply (kV / A)	30 / 50	50 / 72	60 / 87	75 / 160	75 / 160
Shipping weight (kg)	5,500	9,100	9,810	20,000	27,000
Required floor space (mm)	4,120 x 3,220 x 2,660	4,520 x 4,290 x 2,830	4,730 x 4,288 x 3,150	4,844 x 5,110 x 3,940	4,844 x 5,110 x 3,940

Spindel options	H 6				H10					H12E		
Max. speed (rpm)	36,000	42,000	24,000	30,000	15,000	15,000	15,000	20,000	24,000	15,000	15,000	15,000
SI / S6 power (kW)	12 / 15	11 / 13.5	10 / 12	12 / 15	10 / 14	10 / 14	20 / 34	25 / 35	30 / 45	10 / 14	10 / 14	20 / 34
SI / S6 torque (Nm)	11 / 13.8	5.6 / 6.9	8.1 / 9.7	11 / 13.8	63.7 / 89.4	63.7 / 89.4	82 / 139.6	83.2 / 116.5	29 / 43.5	63.7 / 89.4	63.7 / 89.4	82 / 139.6
Interface	HSK 40 E	HSK 40 E	HSK 50 E	HSK 40 E	SK 40 <sup>BigPlus</sup>	BBT 40 / HSK 63 A	SK 40 <sup>BigPlus</sup> / BBT 40 / HSK 63 A	HSK 63 A	HSK 63 A	SK 40 <sup>BigPlus</sup>	BBT 40 / HSK 63 A	SK 40 <sup>BigPlus</sup> / BBT 40 / HSK 63 A
Standard / optional	S	O	O	O	S	O	O	O	O	S	O	O

## Configuration options

### Standard

- » Heidenhain control system: H6: TNC 620, H10 – H32: TNC 640
- » H6: 36,000<sup>rpm</sup>, HSK 40 E, motor spindle | H10 – H52: 15,000<sup>rpm</sup>, SK 40<sup>BigPlus</sup>, in-line spindle
- » H10 – H52: Internal coolant supply through the spindle (30 bar ICF)
- » System to offset thermal spindle expansion
- » H22 – H52: Ballscrew cooling system

# Specifications

H 22T	H 32S	H 32T	H 42S	H 42T	H 52S	H 52T
2,200	3,200	3,200	4,200	4,200	5,200	5,200
2,250	1,650	1,650	1,600	2,200	1,600	2,200
800	800	800	800	800	800	800
150 - 950	150 - 950	150 - 950	150 - 950	150 - 950	150 - 950	150 - 950
2,350	1,750	2,350	1,750	2,350	1,750	2,350
2,400 x 2,100	3,320 x 1,600	3,320 x 2,100	4,240 x 1,600	4,240 x 2,100	5,160 x 1,600	5,160 x 2,100
8,000	8,500	8,500	9,000	9,000	9,500	9,500
20/16/20	16/20/20	16/16/20	20/20/20	20/16/20	16/20/20	16/16/20
12	12	12	12	12	12	12
Arm	Arm	Arm	Arm	Arm	Arm	Arm
30	30	30	30	30	30	30
50/120 (SK/BBT 40; HSK 63)// 32 (SK/BBT 50; HSK 100)	50/120 (SK/BBT 40; HSK 63)// 32 (SK/BBT 50; HSK 100)	50/120 (SK/BBT 40; HSK 63)// 32 (SK/BBT 50; HSK 100)	50/120 (SK/BBT 40; HSK 63)// 32 (SK/BBT 50; HSK 100)	50/120 (SK/BT 40; HSK 63)// 32 (SK/BT 50; HSK 100)	50/120 (SK/BBT 40; HSK 63)// 32 (SK/BBT 50; HSK 100)	50/120 (SK/BT 40; HSK 63)// 32 (SK/BBT 50; HSK 100)
75	75	75	75	75	75	75
120	120	120	120	120	120	120
300	300	300	300	300	300	300
7	7	7	7	7	7	7
6	6	6	6	6	6	6
75/160	75/160	75/160	75	75	75	75
31,000	33,000	33,000	40,000	44,000	45,000	49,000
5,800 x 6,740 x 3,790	4,870 x 9,850 x 3,950	5,250 x 10,070 x 3,950	5,000 x 11,750 x 3,950	5,600 x 11,990 x 3,950	5,000 x 13,675 x 3,950	5,600 x 13,910 x 3,950

H 16				H 22 - H 52									
20,000	24,000	15,000	15,000	15,000	20,000	24,000	12,000	15,000	15,000	15,000	20,000	24,000	12,000
25/35	30/45	10/14	10/14	22/30.8	25/35	25/39	22/35	10/14	10/14	22/30.8	25/35	25/39	22/35
83.2/116.5	29/43.5	63.7/89.4	63.7/89.4	134/187	83.2/116.5	67.8/105.8	140/222	63.7/89.4	63.7/89.4	134/187	83.2/116.5	67.8/105.8	140/222
HSK 63 A	HSK 63 A	SK 40 <sup>BigPlus</sup>	BBT 40/ HSK 63 A	SK 40 <sup>BigPlus</sup> / BBT 40/ HSK 63 A	HSK 63 A	HSK 63 A	SK 50 <sup>BigPlus</sup> / BBT 50	SK 40 <sup>BigPlus</sup>	BBT 40/ HSK 63 A	SK 40 <sup>BigPlus</sup> / BBT 40/ HSK 63 A	HSK 63 A	HSK 63 A	SK 50 <sup>BigPlus</sup> / BBT 50
O	O	S	O	O	O	O	O	S	O	O	O	O	O

## Optional

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

- » H16: Ballscrew cooling system
- » H10 - H52: Internal coolant supply through the spindle (70 bar ICF)

# High-end in the compact class

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## H 6/H10

The universal and dynamic high-speed bridge-type machining centers for small components satisfy maximum demands with a minimal footprint.

- » Motor spindles rated for up to 36,000 rpm
- » User-friendly, ergonomic access for loading
- » Stable and rigid bridge-type design concept featuring excellent resistance to high temperatures
- » Absolute direct measuring systems
- » System to offset thermal spindle expansion
- » Spindle cooling system
- » Internal coolant supply through the spindle (30 bar ICF, optionally 70 bar)

Designation	H 6	H10
<b>Travel distances</b>		
X-axis (mm)	600	1,020
Y-axis (mm)	600	700
Z-axis (mm)	350	500
<b>Machine capacity</b>		
Clamped table surface L x W (mm)	600 x 600	1,050 x 700
Table load (kg)	500	800

Products may vary from catalog illustrations







# The custom solution for your application

## H12E/H16

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These bridge-type machining centers for medium-sized parts feature exceptional versatility and precision. This produces perfect results with optimal efficiency in terms of both time and expenditure.

- » Ideal for crane loading
- » High rigidity and dynamic response for perfect milling results
- » User-friendly, ergonomic access for loading
- » Stable and rigid bridge-type design concept featuring excellent resistance to high temperatures
- » Absolute direct measuring systems
- » System to offset thermal spindle expansion
- » Spindle cooling system
- » Internal coolant supply through the spindle (30 bar ICF, optionally 70 bar)

Designation	H12E	H16
<b>Travel distances</b>		
X-axis (mm)	1,250	1,600
Y-axis (mm)	950	1,300
Z-axis (mm)	580	700
<b>Machine capacity</b>		
Clamped table surface L x W (mm)	1,360 x 960	1,900 x 1,300
Table load (kg)	2,000	6,000

Products may vary from catalog illustrations





# Impressively load-bearing all-rounder

## H 22S/H 22T/H 32S/H 32T/H 42S/H 42T

Your manufacturing needs determine our machine design. TAKUMI provides the right table size for any workpiece, regardless of the size or weight. To us, the quest for perfection means building the ideal machine for your component requirements.

- » Optimized for large and heavy workpieces
- » Simple machine loading thanks to machine doors that open wide
- » Stable and rigid bridge-type design concept featuring excellent resistance to high temperatures
- » Absolute direct measuring systems
- » System to offset thermal spindle expansion
- » Spindle cooling system
- » Internal coolant supply through the spindle (30 bar ICF, optionally 70 bar)
- » Spindle cooler



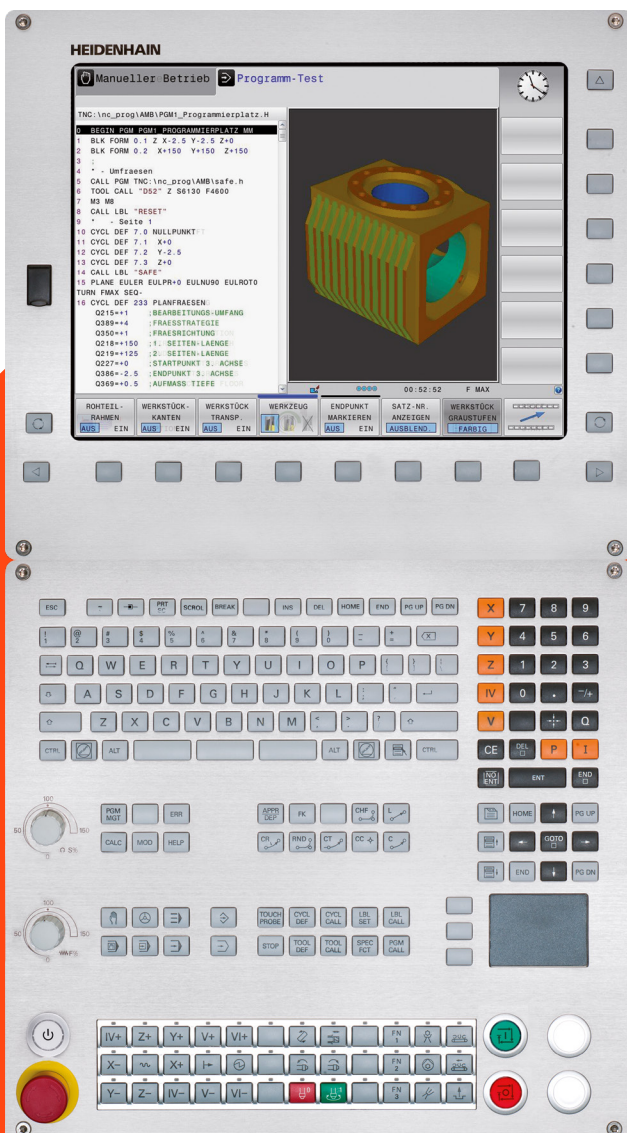
Designation	H 22S	H 22T	H 32S	H 32T	H 42S	H 42T	H 52S	H 52T
<b>Travel distances</b>								
X-axis (mm)	2,200	2,200	3,200	3,200	4,200	4,200	5,200	5,200
Y-axis (mm)	1,600	2,200	1,600	2,200	1,600	2,200	1,600	2,200
Z-axis (mm)	800	800	800	800	800	800	800	800
<b>Machine capacity</b>								
Clamped table surface L x W (mm)	2,400 x 1,600	2,400 x 2,100	3,320 x 1,600	3,320 x 2,100	4,420 x 1,600	4,240 x 2,100	5,160 x 1,600	5,160 x 2,100
Table load (kg)	8,000	8,000	8,500	8,500	9,000	9,000	9,500	9,500

Products may vary from catalog illustrations



# Performance meets precise programming

The latest version of the Heidenhain TNC 640 control system for perfectly precise manufacturing



The latest version of the Heidenhain TNC 640 control system is designed for the versatile, dynamic machining of complex free-form surfaces with large data sets – whether paired with a 5-axis machining center with swing table or a large machine with forked swivel head. With an easy-to-understand, user-friendly interface and intuitively programmable cycles, it's no surprise that this control system is the industry standard. The unique combination of simple operation, a modern interface, and a robust design ensures top machining speeds along with maximum precision.



## Perfection down to the last detail

The Heidenhain **TNC 640** control system has a comprehensive package of standard equipment and numerous optional supplementary functions to perfectly coordinate it with your manufacturing requirements.

### Standard

- » Dialog programming
- » ISO NC programming
- » FK free contour programming
- » Expanded milling and drilling cycles
- » Touch probe system cycles
- » Heidenhain DNC 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 storage capacity
- » ≥ 2 GB RAM
- » 15.1-inch LCD display
- » Smallest input increment of 0.01 µm or 0.0001°
- » 2x gigabit Ethernet adapters
- » 4x USB ports
- » RS-232-C and RS-422 interfaces
- » Expanded data interface for remote access

### Optional

- » DXF converter
- » CAD import
- » Adaptive feed control (AFC)
- » Dynamic collision monitoring (DCM)
- » 4th and 5th axis
- » Heidenhain DNC
- » Remote Desktop Manager
- » Expanded tool management
- » Dynamic precision
- » Dynamic efficiency

All H-Series TAKUMI bridge-type machining centers are equipped with the latest version of the Heidenhain **TNC 640** control system.

### Diverse functionality for any set of needs

- » Versatile path control with as many as five controlled axes and regulated spindle
- » Programming supported by graphics and optimized for shop-floor use
- » Multiple cycles reflecting real-world conditions
- » User-friendly operating concept

Perfect coordination between our machining centers, Heidenhain drives, and the Heidenhain control system guarantees perfect synergy between user and machine. Plus, our specialists receive continuing education on the control system so they can be prepared to help you with any question you have about programming your TAKUMI machine or navigating its control system. That's how we make sure that you get the maximum performance out of our machines and you can count on TAKUMI to bring you long-term success in CNC machining.

# Service, just like you need it

## Perfectly precise support for your needs

Close to our customers in terms of our team, technology, and geographical location—or just a click away for remote support: That's TAKUMI. Our promise is to make sure you get every bit of productivity and quality you require out of our machining centers. Our expert CNC specialists participate in an ongoing training regimen for this reason, that includes training sessions conducted by our control system partner Heidenhain at regular intervals.

Your long-term success with TAKUMI is our motivation. This is why we keep your needs at the center of every consultation or service call, which drives the development of quick, flexible, and sustainable solutions for your specific requirements. After all, reliability and tangible quality are strong pillars of our corporate philosophy.





» **Personal contacts for your region**

Our regional contact persons are at your service to provide advice and assistance – from custom configuration to long-term support of your TAKUMI machine fleet.

Phone +49 89 905094 – 99 Email [info@takumicnc.de](mailto:info@takumicnc.de)  
Mon – Fri 7:30 a.m. – 4:00 p.m.

» **Spare parts warehouse & next-day delivery**

To keep your daily operations running smoothly and prevent long downtime periods, we guarantee constant availability and next-day delivery capability of nearly 40,000 spare parts for our machines – from the high-performance spindle to the tool changer.

Phone +49 89 905094 – 55 Email [ersatzteile@takumicnc.de](mailto:ersatzteile@takumicnc.de)  
Mon – Thu 8:00 a.m. – 5:00 p.m. Fri 8:00 a.m. – 4:00 p.m.

» **Application consulting & service**

Our experienced application engineers and service technicians provide both on-site and remote support – just let us know what works best for you.

**Application engineering**

Phone +49 89 905094 – 66 Email [awt@takumicnc.de](mailto:awt@takumicnc.de)  
Mon – Fri 8:00 a.m. – 4:00 p.m.

**Service**

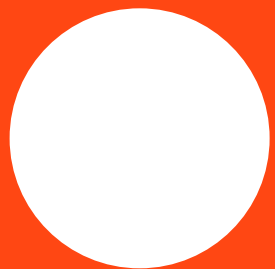
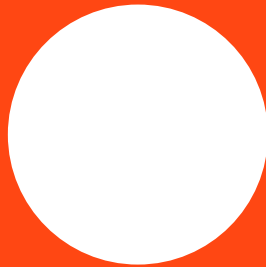
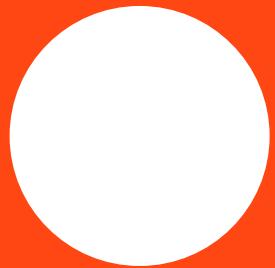
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Mon – Thu 7:00 a.m. – 5:00 p.m. Fri 7:00 a.m. – 4:00 p.m.

» **TAKUMIRefurbished**

We always have real bargains for you with demo and used machines – and under conditions you'll love, including a manufacturer's warranty.



**Driven, knowledgeable,  
and quality-conscious –  
that's TAKUMI service.**



**TAKUMI**

**When Precision Matters**

**TAKUMI is a brand of**  
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