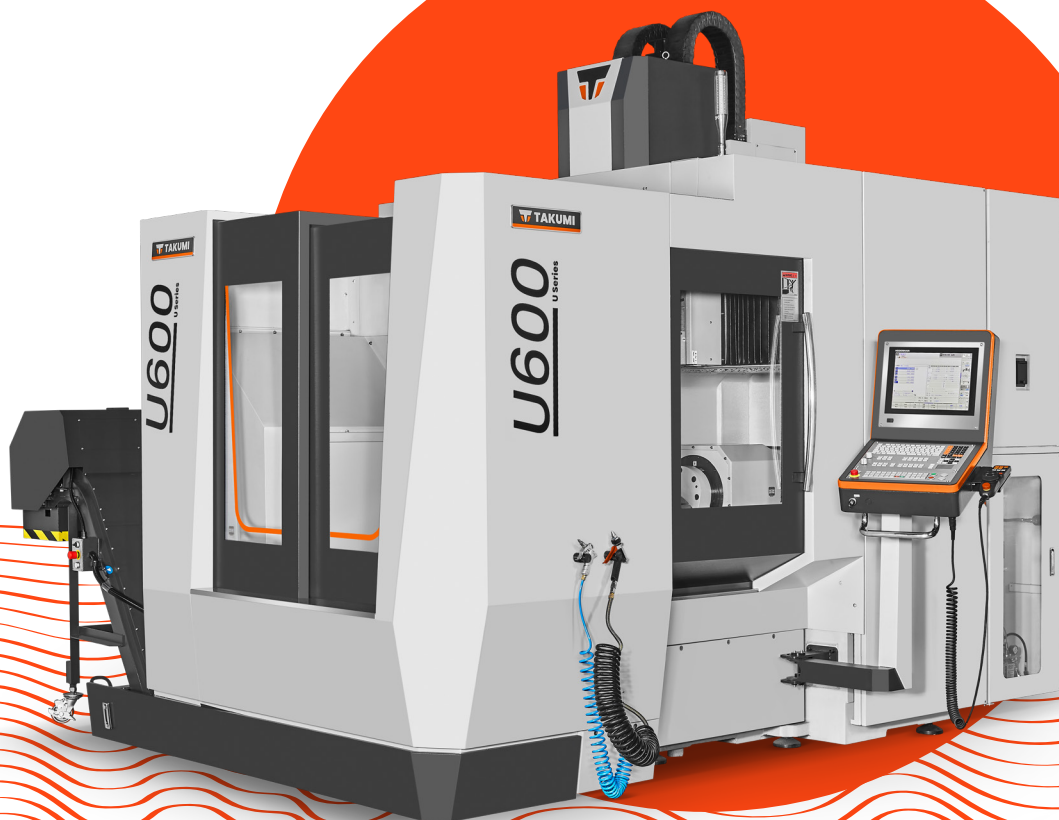


5-axis

Dynamic design, versatile use

U-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**

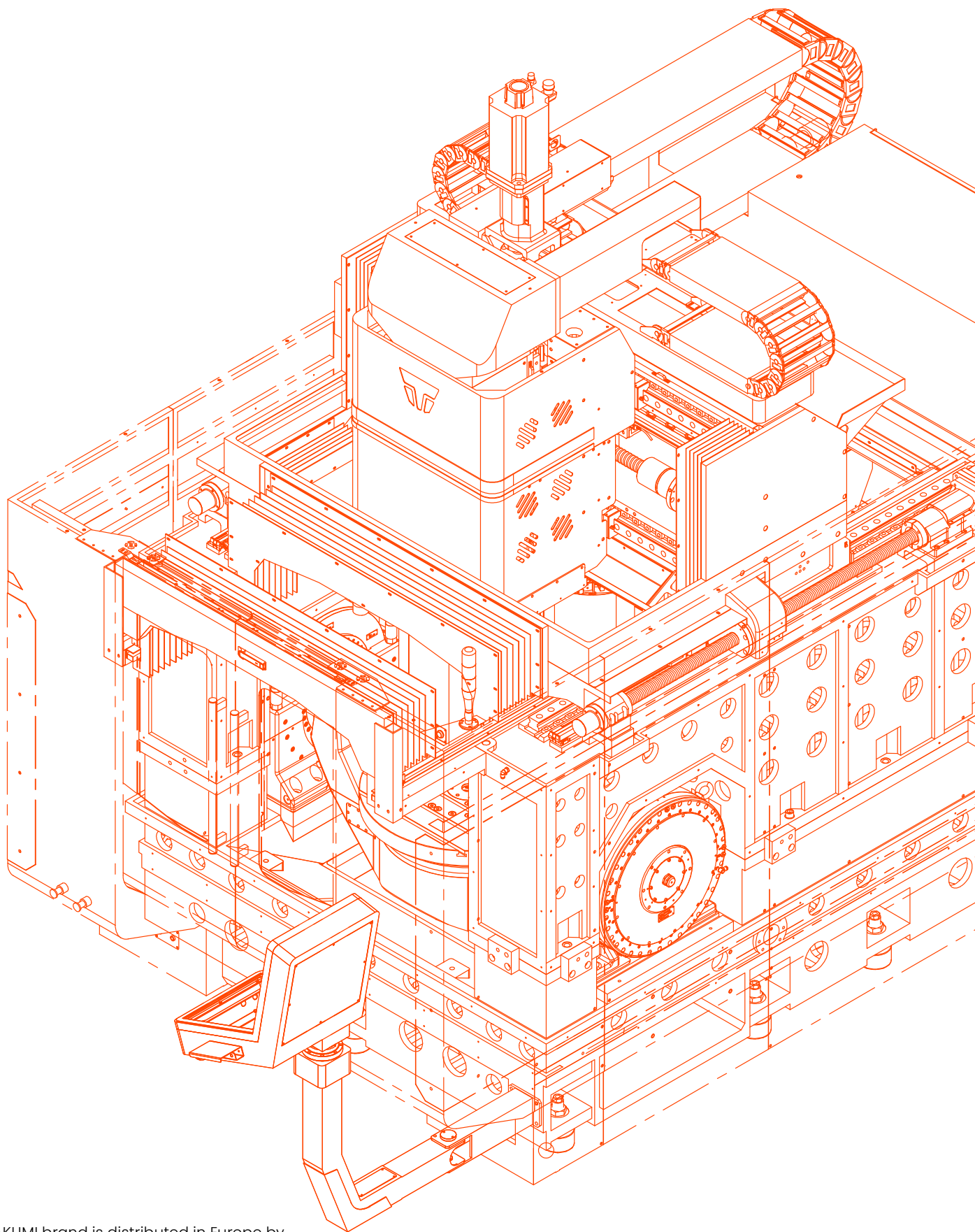
ドイツの精密さ

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**

6

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:

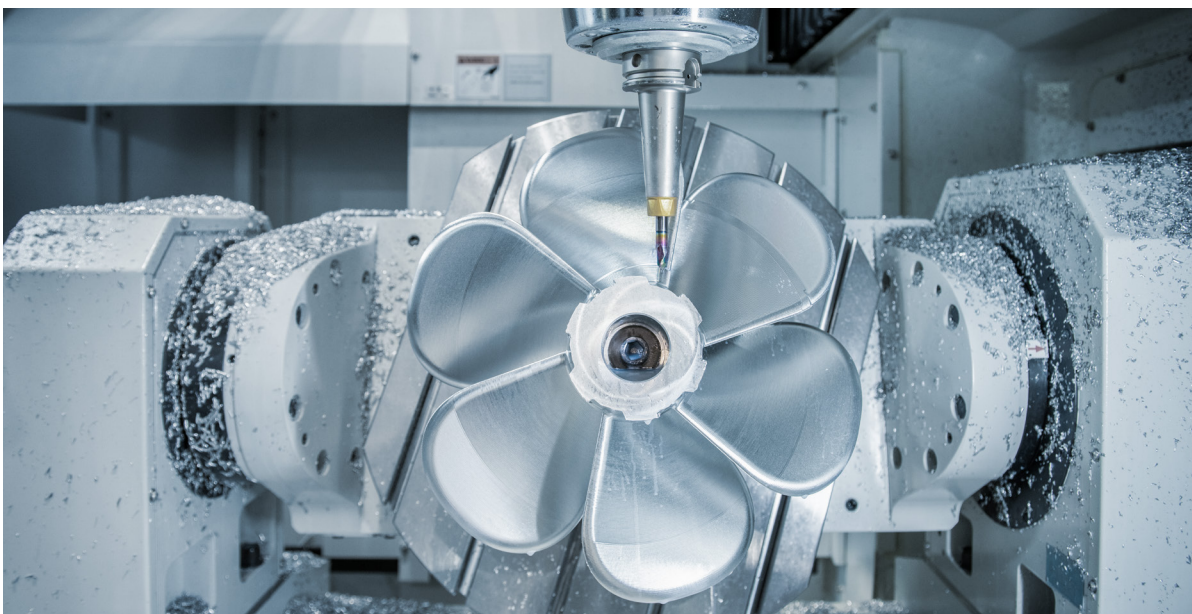
- » Massive cast Meehanite structure guarantees exceptional torsional rigidity
- » Supporting elements feature a rock-solid design for effective absorption of process vibrations and oscillations
- » Design incorporates reinforcement bracing for moving components, thus achieving weight reduction alongside maximum inherent rigidity
- » Pretensioned ballscrews with optional core cooling for exceptional thermal stability
- » Jacket cooling for the working spindle to improve dimensional accuracy and service life
- » Sensor systems for thermal compensation of spindle expansion
- » Direct linear scales for optimal repeatability and positional accuracy

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.



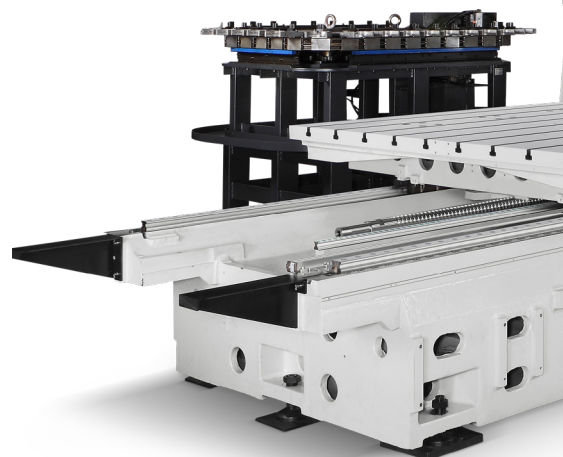
U-SER

Unshakable machines. Perfect for the ultra-precise comprehensive machining of complex workpieces.



The U-series 5-axis machining centers

The 5-axis machining centers from our U-series have been specially designed for simultaneous machining of 5-sided and 5-axis surfaces. Every machine in this series is purpose-built to offer optimal operation with particular part sizes and table-load specifications. Regardless of the individual requirements, all of our machines boast maximum precision and immense thermal stability accompanied by extreme rigidity to ensure the ultimate in precise results.



RIES



Advantages with standard models

- » Extremely rigid, high-precision machine structure
- » Thermal stability supports extended processing periods with consistent precision
- » User-friendly Heidenhain TNC 7 control system
- » Integrated Heidenhain DCM contributes dynamic collision monitoring
- » Support through fast service and high availability of spare parts

Optional extras for custom configuration

Our optional functions help you perfectly adapt your 5-axis machining center to your production operation's specific needs.

- » Touch probe system for tool/workpiece measurement
- » Automatic center-line compensation for quick and simple precision adjustment by the operator

Flexible multi- talents

U 400/U 600

The U-series machining centers represent a cost-optimized investment for producing small and medium-sized parts in mold and die manufacture. The gantry drive combines precision with efficiency and makes these machines perfect for meeting a diverse range of requirements. Extreme rigidity and stability are provided by a commitment to precision that is evident early in the assembly process.

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- » Motor spindle rated for 24,000 rpm
- » Perfect for crane loading
- » Pretensioned ballscrew for all axes to prevent thermal expansion
- » Integrated spindle cooler
- » Stable and rigid bridge-type design concept featuring excellent resistance to high temperatures
- » User-friendly and ergonomic loading and unloading through wide-opening machine doors
- » Linear scales on all axes
- » High levels of rigidity and dynamic response ensure precise milling

Designation	U 400	U 600
Travel distances		
X-axis (mm)	580	890
Y-axis (mm)	950	1,050
Z-axis (mm)	500	580
A-axis (°)	+30 / -110	+30 / -110
C-axis (°)	360	360
Machine capacity		
Clamped table surface Ø (mm)	398	600
Table load (kg)	250	500

Products may vary from catalog illustrations





Steady performer

U 800

The U800 machining center saves costs, time, and space. It's the perfect solution for producing medium-sized and large parts. The gantry drive combines with table loads extending up to 1,000 kg and a pivot bridge for maximum accuracy and stability. The rigidity of the U800 ensures great surface quality even with large parts.

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- » In-line or motor spindles operate at up to 15,000 rpm or 24,000 rpm
- » Perfect for crane loading
- » Pretensioned ballscrews for all axes to prevent thermal expansion
- » Integrated spindle cooler
- » User-friendly and ergonomic loading and unloading through wide-opening machine doors
- » Linear scales on all axes
- » High levels of rigidity and dynamic response ensure precise milling
- » Stable gantry design for excellent resistance to high temperatures and for rigidity

Designation	U 800
Travel distances	
X-axis (mm)	800
Y-axis (mm)	950
Z-axis (mm)	750
A-axis (°)	+ / -120
C-axis (°)	360
Machine capacity	
Clamped table surface Ø (mm)	800
Table load (kg)	1,000

Products may vary from catalog illustrations





Compact powerhouses

UA 400

The UA 400 5-axis machining center is the compact solution for high-precision manufacturing in confined spaces. With a table load capacity of up to 200 kg and a swivel range of -120° to $+30^{\circ}$ on the A-axis, the machine enables complex workpieces to be machined in a single setup. The traveling column design and hand-scraped support surfaces guarantee maximum stability and dimensional accuracy, even during long running times and with demanding materials.

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- » Inline spindle with up to 15,000 rpm and HSK 63 A / SK 40 / BBT 40 interfaces
- » Compact working area with $\varnothing$ 400 mm clamping surface
- » Absolute direct measuring systems for fast start-up and precise working
- » Thermally stable spindle construction with integrated cooling
- » Tool magazine with 40 spaces, optionally expandable to 60
- » Ergonomic loading and unloading thanks to wide-opening doors
- » Traveling column design with robust cast components for high rigidity
- » Comprehensive options such as tool and workpiece measurement, internal coolant supply up to 70 bar, and adaptive feed control.

Designation	UA 400
Travel distances	
X-axis (mm)	630
Y-axis (mm)	620
Z-axis (mm)	510
A-axis ($^{\circ}$)	$-120 / +30$
C-axis ($^{\circ}$)	360
Machine capacity	
Clamped table surface $\varnothing$ (mm)	400
Table load (kg)	200

Products may vary from catalog illustrations





Powerful multi- tasker

UB 2222 / UB 3222

This bridge-type machining center for extremely large and heavy parts satisfies the most stringent demands for precision and stability. Even when confronted by table loads as high as 8,500 kg, the high-rigidity construction ensures optimal machining. Simultaneous machining on 5 axes reduces process times while also increasing resistance to wear for extended tool service lives.

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- » Motor spindle rated for 24,000 rpm
- » Ideal for crane loading
- » Pretensioned ballscrews for all axes to prevent thermal expansion
- » Spindle cooler
- » User-friendly and ergonomic loading and unloading through wide-opening machine doors
- » Linear scales on all axes
- » High levels of rigidity and dynamic response ensure precise milling
- » Stable and rigid bridge-type design concept featuring excellent resistance to high temperatures

Designation	UB 2222	UB 3222
Travel distances		
X-axis (mm)	2,220	3,200
Y-axis (mm)	2,250	2,250
Z-axis (mm)	1,200	1,200
B-axis (°)	+/-100	+/-100
C-axis (°)	+/-220	+/-220
Machine capacity		
Clamped table surface L x W (mm)	2,400 x 2,100	3,320 x 2,100
Table load (kg)	8,000	8,500

Products may vary from catalog illustrations





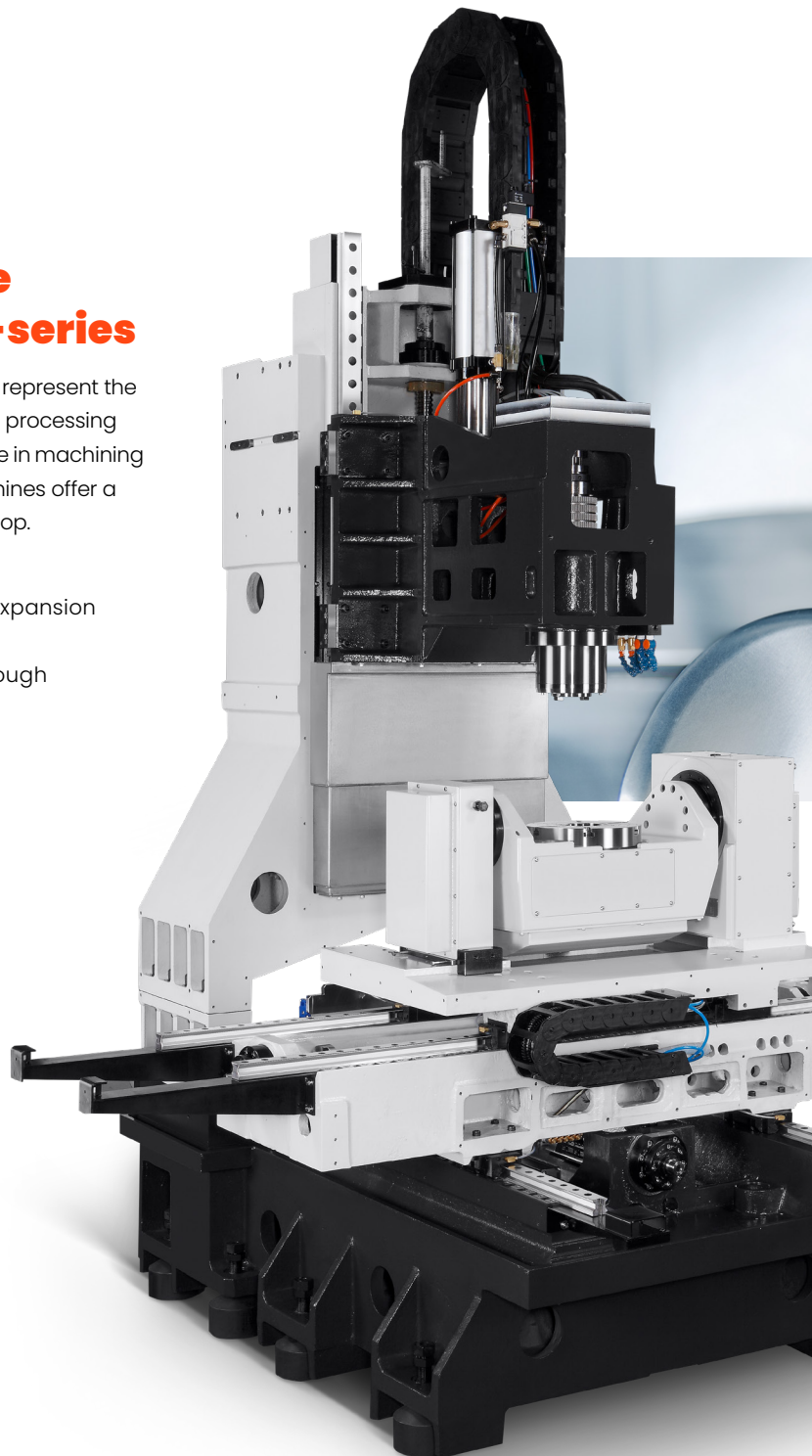
UC-S

Compact precision machines for efficient entry into versatile CNC production.

The space-saving cross table machining centers of the UC-series

The compact cross table machining centers of the UC-series represent the perfect modestly priced entry into the world of high-precision processing with 5-axis machining centers. They offer optimal performance in machining small components. Even with their small footprint, these machines offer a large working area with a wide range of possibilities for the shop.

- » In-line spindle rated for 15,000 rpm
- » Pretensioned ballscrews for all axes to prevent thermal expansion
- » Integrated spindle cooler
- » User-friendly and ergonomic loading and unloading through wide-opening machine doors
- » Linear scales on all axes
- » Simultaneous machining on 5 axes is possible
- » Optional: ICF up to 70 bar (standard: 30 bar)



ERIES



Optional extras for custom configuration

Our optional functions help you perfectly adapt your 5-axis machining center to your production operation's specific needs.

- » Touch probe system for tool / workpiece measurement
- » Automatic center-line compensation for quick and simple precision adjustment by the operator

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Your advantages at a glance

- » Very rigid and stable cross table design
- » Pretensioned ballscrews for all axes to prevent thermal deformation
- » Manually polished contact surfaces for increased precision
- » Simple loading and unloading through ergonomic and wide-opening machine doors
- » Precision roller linear motion guides for all axes for higher precision and efficiency
- » Precision high-performance spindles rated for 15,000 rpm for any scope of requirements
- » User-friendly Heidenhain TNC 7 control system
- » Fast response times from service team and high availability of spare parts

Stable multi- talents

UC 250 / UC 320

The UC 250 and UC 320 are the perfect 5-axis machining centers for your cost-efficient entry into the world of CNC machining of medium-sized parts. With their small footprint and large working area, these machines open up a whole spectrum of possibilities in 5-axis machining within a small space.

- » Powerful BigPlus spindle rated for up to 15,000 rpm
- » Pretensioned ballscrews for all axes to prevent thermal expansion
- » Internal coolant feed through the spindle (30 bar ICF)
- » SK 40^{BigPlus} tool holder
- » User-friendly and ergonomic loading and unloading through wide-opening machine doors
- » Linear scales on all axes
- » Optional: Simultaneous machining on 5 axes is possible

Designation	UC 250	UC 320
Travel distances		
X-axis (mm)	360	440
Y-axis (mm)	520	610
Z-axis (mm)	610	520
A-axis (°)	+30 / -120	+30 / -120
C-axis (°)	360	360
Machine capacity		
Clamped table surface Ø (mm)	Ø 250	Ø 320
Table load (kg)	100	200

Products may vary from catalog illustrations





Overview of machines and sp

Designation	U 400	U 600	U 800	UA 400	UB 2222	UB 3222
Travel distances						
X-axis (mm)	580	890	800	630	2,220	3,200
Y-axis (mm)	950	1,050	950	620	2,250	2,250
Z-axis (mm)	500	580	750	510	1,200	1,200
A-axis (°)	+30/-110	+30/-110	+/-120	-120	-	-
B-axis (°)	-	-	-	-	+/-100	+/-100
C-axis (°)	360	360	360	360	+/-220	+/-220
Machine capacity						
Spindle nose to table (mm)	90 - 590	120 - 700	150 - 900	100 - 610	HSK 100: 100 - 1,300 / HSK 63: 160 - 1,360	HSK 100: 100 - 1,300 / HSK 63: 160 - 1,360
T-slots	6 x 14 mm - 60°	5 x 14 mm x 100 mm	7 x 14 mm x 45°	8 x 12 mm x 45°	10 x 22 mm x 200 mm	10 x 22 mm x 200 mm
Clamped table surface L x W / Ø (mm)	Ø 398	Ø 600	Ø 800	Ø 400	2,400 x 2,100	3,320 x 2,100
Table load (kg)	250	500	1,000	200	8,000	8,500
Feed						
X- / Y- / Z-axis rapid traverse (m / min)	36	36	48	36	20 / 16 / 16	16 / 16 / 16
X- / Y- / Z-axis cutting feed (m / min)	20	20	24	12	12	12
A- / B- / C-axis rapid traverse (rpm)	25 / - / 25	25 / - / 33	50 / - / 100	22.2 / - / 22.2	- / 30 / 30	- / 30 / 30
A- / B- / C-axis cutting feed (rpm)	25 / - / 25	25 / - / 33	50 / - / 100	22.2 / - / 22.2	- / 30 / 30	- / 30 / 30
Tool changer						
Tool changer design	Arm	Arm	Pick-Up	Arm	Pick-Up	Pick-Up
Magazine capacity	30	30	32	40	40	40
Max. tool diameter (mm)	75	75	90	75	95	95
Diameter with empty pockets (mm)	150	150	125	125	125	125
Max. tool length (mm)	300	300	300	280	300	300
Max. tool weight (kg)	7	7	7	7	8	8
Other data						
Air supply (bar)	6	6	6	6	6	6
Electrical power supply (kVA / A)	60	80	80	60	125	125
Machine weight (kg)	9,500	14,000	18,000	9,500	38,000	38,500
Required floor space (mm)	3,000 x 2,560 x 3,170	4,781 x 4,388 x 3,300	4,120 x 4,830 x 4,000	4,418 x 2,966 x 3,184	8,580 x 5,778 x 6,000	9,580 x 5,778 x 6,000

Spindle options	U 400					U 600					U 800	
Max. speed (rpm)	15,000	15,000	15,000	20,000	24,000	15,000	15,000	15,000	20,000	24,000	15,000	15,000
SI / S6 power (kW)	10 / 14	10 / 14	20 / 34	25 / 35	30 / 45	10 / 14	10 / 14	20 / 34	25 / 35	30 / 45	10 / 14	10 / 14
SI / S6 torque (Nm)	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	83.2 / 116.5	29 / 43.5	63.7 / 89.4	63.7 / 89.4
Interface	HSK 63 A	SK 40 ^{BigPlus} / BBT 40	SK 40 ^{BigPlus} / BBT 40 / HSK 63 A	HSK 63 A	HSK 63 A	HSK 63 A	SK 40 ^{BigPlus} / BBT 40	SK 40 ^{BigPlus} / BBT 40 / HSK 63-A	HSK 63 A	HSK 63 A	HSK 63 A	SK 40 ^{BigPlus} / BBT 40
Standard / optional	S	O	O	O	O	S	O	O	O	O	S	O

Specifications

UC 250	UC 320
360	440
520	610
610	520
+30/-120	+30/-120
–	–
360	360
65 – 675	90 – 610
6 x 12 mm – 60°	4 x 12 mm – 90°
Ø 250	Ø 320
100	200
36/36/24	36/36/24
12	12
25/-/25	16.7/-/22.2
25/-/25	16.7/-/22.2
Arm	Arm
30	40
75	75
120	120
240	240
7	7
6	6
40	75
6,700	5,720
2,660 x 2,160 x 3,300	2,210 x 3,035 x 3,225

Configuration options

Standard

- » Heidenhain TNC 7 control system
- » U-series: 15,000 rpm, HSK 63 A, direct-drive spindle; UB-series: 12,000 rpm, HSK A100, motor spindle;
UC-series: 15,000 rpm, SK 40^{BigPlus}, direct-drive spindle
- » UB-series: 18,000 rpm, HSK 63 A, motor spindle
- » U400, U600: drum magazine for 30 tools; U800: chain magazine for 32 tools;
UB-series: chain magazine for 40 (HSK 63) tools; UC250, UC320: drum magazine for 40 tools
- » Central lubrication system
- » Air barrier through the spindle
- » Cooling system with coolant ring
- » Absolute linear scale measurement systems on all axes
- » UB-series: cooling system for the ballscrews on X, Y, and Z-axes
- » Thermal compensation system counteracts spindle expansion
- » Heidenhain DCM – Dynamic Collision Monitoring
- » Internal coolant feed through the spindle (30 bar ICF)
- » Chip flushing
- » Spindle cooler
- » Complete workspace enclosure
- » Oil skimmer
- » Climate-controlled control cabinet
- » Working area illumination
- » Signal lamp (3-color)
- » Rinsing and compressed air gun
- » U and UC Series: scraper-type chip conveyor and chip trolley;
UB-series: hinged-plate chip conveyor and chip trolley
- » Ethernet interface (RJ45 & RS232)
- » CE safety certificate
- » Leveling pads with screws
- » User handbook, wiring and circuit diagrams

Optional

- » U-series: 20,000 rpm, HSK 63 A, motor spindle
- » U-series: 24,000 rpm, HSK 63 A, motor spindle
- » U400, U600: chain magazine for 50 or 90 tools; U800: 2 chain magazines for a total of 64 or 96 tools;
UB-series: chain magazine for 48 (HSK 100) or 60 (HSK 63) tools; UC320: chain magazine for 60 tools
- » Touch probe system for workpiece measurement
- » Tool and part probe
- » Programmable external cooling air
- » Programmable cooling air through the spindle
- » Programmable oil mist lubrication
- » Oil mist separator
- » Production package
- » Bypass filtration system
- » Rotoclear

			UA 400	UB 2222			UB 3222			UC 250		UC 320	
15,000	20,000	24,000	15,000	24,000	15,000	13,000	24,000	15,000	13,000	15,000	15,000	15,000	15,000
22/30,8	25/35	25/33	10/14	42/55	50/65	47/63.5	42/55	50/65	47/63.5	10/14	10/14	10/14	10/14
134/187	83.2/116.5	72.5/95.8	63.7/89.4	66.8/87.5	95.5/124	149.5/202	66.8/87.5	95.5/124	149.5/202	63.7/89.4	63.7/89.4	63.7/89.4	63.7/89.4
SK 40 ^{BigPlus} / BBT 40 / HSK 63 A	HSK 63 A	HSK 63 A	SK 40 ^{BigPlus}	HSK 63 A	HSK 100 A	HSK 100 A	HSK 63 A	HSK 100 A	HSK 100 A	SK 40 ^{BigPlus}	BBT 40 / HSK 63 A	SK 40 ^{BigPlus}	BBT 40 / HSK 63 A
O	O	O	S	O	O	O	O	O	O	S	O	S	O

Performance meets precise programming

The latest version of the Heidenhain TNC 7 control system for perfectly precise manufacturing



The new Heidenhain TNC 7 control sets new standards in the precise and dynamic machining of complex workpieces. With its modern architecture and innovative functions, the TNC 7 offers intuitive user guidance and maximum performance for demanding machining tasks. Whether for 5-axis machining centers or large machines, the TNC 7 ensures maximum precision and efficiency.

Perfection down to the last detail

The Heidenhain **TNC 7** 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
- » Intuitive contour programming
- » Expanded milling and drilling cycles
- » Intelligent test system cycles
- » Integrated online help system
- » Simulation graphics
- » Block scan of up to 1,024 blocks
- » Block processing time of 0.5 ms
- » ≥ 64 GB data storage capacity
- » ≥ 8 GB RAM
- » 24-Zoll-Touchscreen
- » Comprehensive network and USB connectivity

Optional

- » DXF and CAD import
- » Adaptive feed control (AFC)
- » Dynamic collision monitoring (DCM)
- » Remote Desktop Manager
- » Expanded tool management
- » Advanced remote access functions

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
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
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
Mon – Fri 8:00 a.m. – 4:00 p.m.

Service

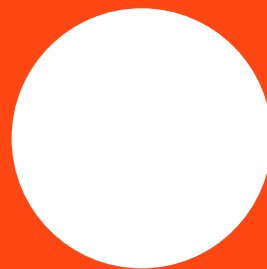
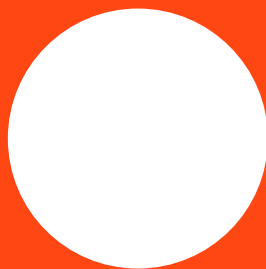
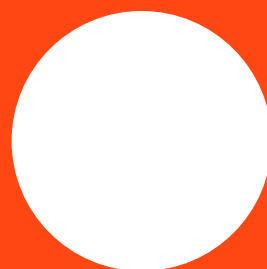
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» **TAKUMIRefurbished**

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
HURCO Werkzeugmaschinen GmbH

Gewerbestraße 5 a

85652 Pliening, Germany

Phone +49 (0)89 90 50 94 99

Fax +49 (0)89 90 50 94 90

info@takumicnc.de

www.takumicnc.de