



HÜLLER HILLE

PREMIUM MACHINES

**Solid. Precise.
Customised.**

NBH

**Horizontal
machining centres**

4-axis | 5-axis





Quality
will
always
prevail

The Hüller Hille premium promise

We know what we can do and where we want to go. And we're good at what we do. We live for mechanical engineering. Our Hüller Hille 4 and 5-axis machining centres are renowned for their robustness and reliable performance. They meet the most demanding manufacturing criteria. Giving you the optimum setup for your specific discipline. And there's more to us than just milling machines - we offer solutions along the process chain. We deliver quality with added value, 24|7, throughout the entire life cycle of your machine. Trust pays off.

Hüller Hille

Horizontal machining centres

Solid. Precise. Customised.

This is what Hüller Hille stands for. Our premium machining centres are developed and built in Germany. For the international market and heavy-duty machining of a broad workpiece range. They are made by skilled workers who really know their way around a machine. High-precision mechanics and a synthesis of the best components are brought together to create a customised powerhouse. Individually configured to suit your manufacturing needs.





**Z is for
zenith,
zero
and zeal**



Reliability

Typical Hüller Hille

A high level of dynamics and precision. For reliable machining of the most demanding applications.

We are at the zenith of our industry

We have zeroed in on nothing else since 1947, with our zeal for producing machine tools at top international level.

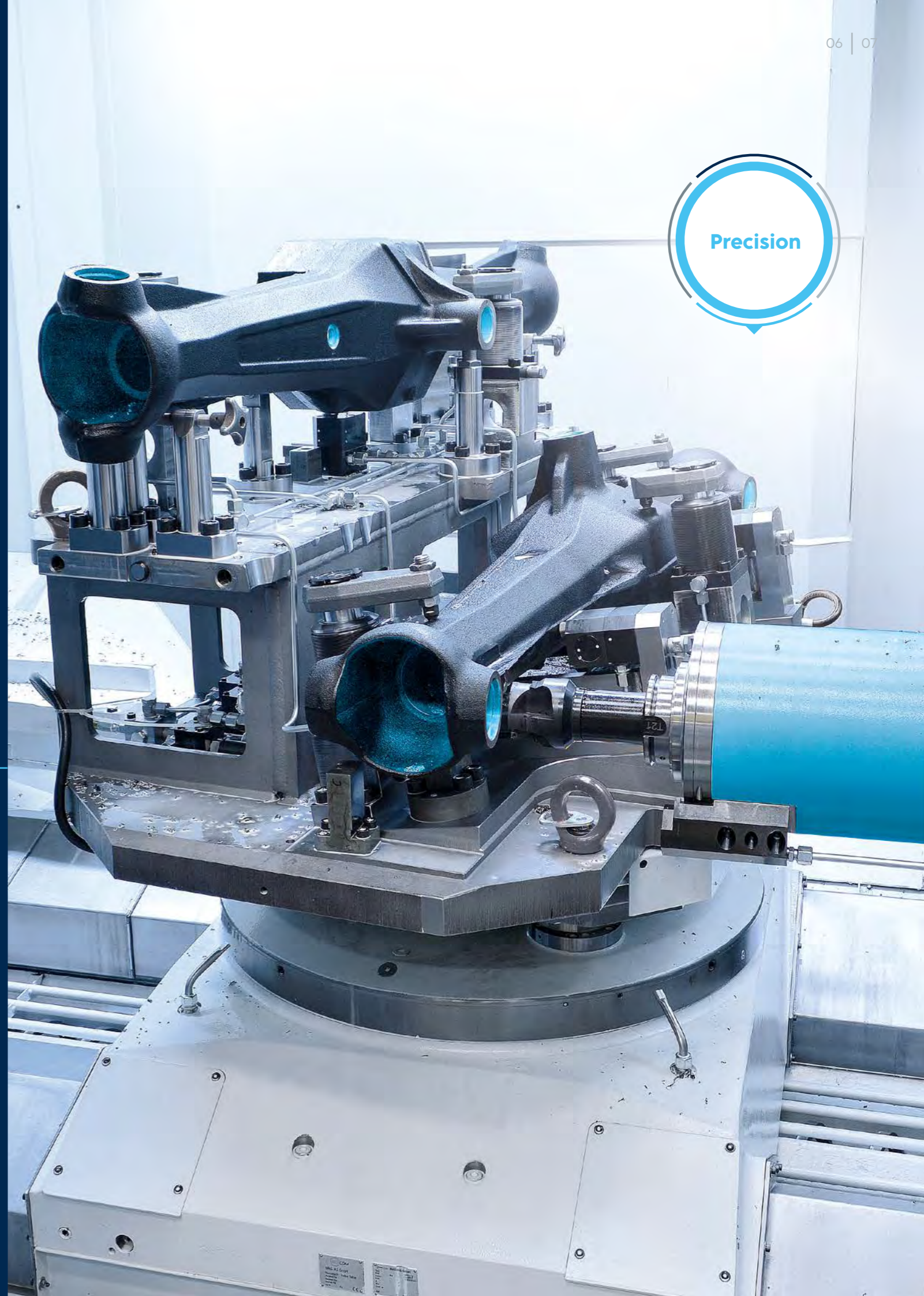
Our past has taught us what we can do and what we're good at. Mechanical engineering par excellence is our focus. Every machine in our NBH series incorporates our many years of experience in economical application technology. Our employees are experts in their field; they know how precision works. We continually ensure that we are ready for the future. Sustainability and ecology are not new concepts for us. We want to keep making our machines more efficient and transparent. That's what we're working on. For you and your production process.

Precision is blue

It's a fact: many great cars come from Württemberg. But the home of premium machine tools is Baden. And we intend to keep it that way.

**Tolerance with one another? Yes, always.
In manufacturing? Never.**

Tolerance is anchored in our corporate values. Our behaviour towards others is characterised by openness, tolerance and respect for each individual. After all, that's what the people of Hüller Hille are known for. But our tolerance definitely comes to an end where precision and efficiency in production are concerned. Then absolute peak performance is called for. For everyone, down to the micro-metre level.



Stable by design –
optimal
 in interaction

Manufacturing without compromise



Precision



Experts in accuracy

A high-precision workpiece is only as accurate as the machine on which it is made. We set the highest standards for ourselves, and are constantly improving our own performance and our machining centres. The tiniest μ can make all the difference at the end of the process chain. We know how it works.

High-precision mechanics

The unique NBH machine concept combines high-precision mechanics with individuality. No matter whether it involves 4 axes or 5. A stable underlying structure with perfect damping sets these machines apart. But it is the interaction of optimally matched components that truly enables reliable, heavy-duty machining.

Thermal stability

Our thermally stable machines achieve the highest dimensional accuracy of the workpiece. For consistent quality. Constant and efficient cooling of important assemblies minimises temperature influences to safeguard long-term accuracy and process reliability.

Perfect interaction

Greater mechanical accuracy, e.g. in the angularity and straightness of the axes, as well as robust guide systems, result in added precision. Measuring systems ensure uninterrupted monitoring of the assemblies. We deliver high long-term accuracy as standard – not as an extra. But it still takes people to make the technology work exactly as it should.

Steel with added value? Definitely!



Stability

NBH

Where others reach their limits, we're just getting interested.

Extreme power is nothing without perfect precision

Solid

Robust by tradition. The advanced, stable construction of our NBHs ensures they have a long service life. Powerful work spindles deliver an extraordinary cutting volume during roughing, whilst extreme holding forces in the rotary axes achieve a high surface quality during finishing.

Precise

The robust machine design and high long-term accuracy enable especially dimensionally conforming and contoured workpieces. The complete machining of precision parts with small shape and position tolerances can be carried out with fewer settings to deliver higher machining accuracy. Precision as standard.

Customised

4 or 5 axes - 10,000 possibilities for all-round perfection. The machining centres can be configured to suit your requirements. We offer individual workpiece and system automation and suitable handling systems. You receive tailor-made machine concepts and turnkey solutions.

Hüller Hille

Our comprehensive expertise flows into every one of our machines. But we are about more than just technology. Optimal process designs for the best cost structure, energy efficient equipment, ergonomics, ease of maintenance and operation at the workplace, and transparency on the shop floor. Sustainability goes premium.

Solid. Precise. Customised. This is what Hüller Hille machines are all about. No matter whether they have 4 axes or 5. We can do both. Our NBH series will impress you with its proverbial Hüller Hille quality - with well-engineered machine concepts that are designed for simultaneous precision machining as well as for heavy-duty cutting. Premium machines for demanding production processes. Any component, no matter how complex, can be manufactured precisely and with the highest surface quality.



Horizontal 5-axis machining centres



Swivel rotary table B to A-axis

With its highly dynamic and powerful drive, the swivel rotary table enables simultaneous machining. Coupled with the high-torque gear spindle, which has proven its worth in the 4-axis range, optimum cutting results can be achieved. The swivel rotary table is versatile for use in individual or automation solutions.



Swivel head C-axis

A compact and flexible swivel head allows maximum utilisation of the available workspace. With the use of a dynamic motor spindle, the most precise simultaneous machining is made possible – as is turning, in combination with a Hirth coupling.



Tilt head A-axis

The combination of maximum torque on the tool and high workpiece weights allows a wide application area. This is complemented by the option of combined milling-turning machining.

Complex solutions

for complex workpieces in heavy-duty machining with maximum dimensional accuracy

Tool magazine

- + Cassette magazine
- Alternatively:
- + Disc magazine
- + Pick-up disc magazine
- + Chain magazine
- + With various capacities for optimal adaptation to your production process

Work spindle

- + Modular spindle variants for the optimal machining task

Tool changer

- + Fast, electromechanical tool changer with mechanical positive locking during swivelling

Machine column

- + Cast design, double wall, optimally ribbed, thermo-symmetrical construction

Service-friendly access

- + To the auxiliary units

Robust guide system

- + Thanks to backlash-free profile guide with absolute, direct displacement encoder in enclosed design

Safe chip disposal

- + Integrated in the machine bed

Extremely inherently rigid machine bed

- + Cast design
- + Heavily ribbed with high vibration damping characteristics

Swivel rotary table with gear drive

- + Backlash-free direct drive in the B-axis
- + High holding torque for simultaneous machining
- + High precision positioning
- + High dynamics

Pallet changer

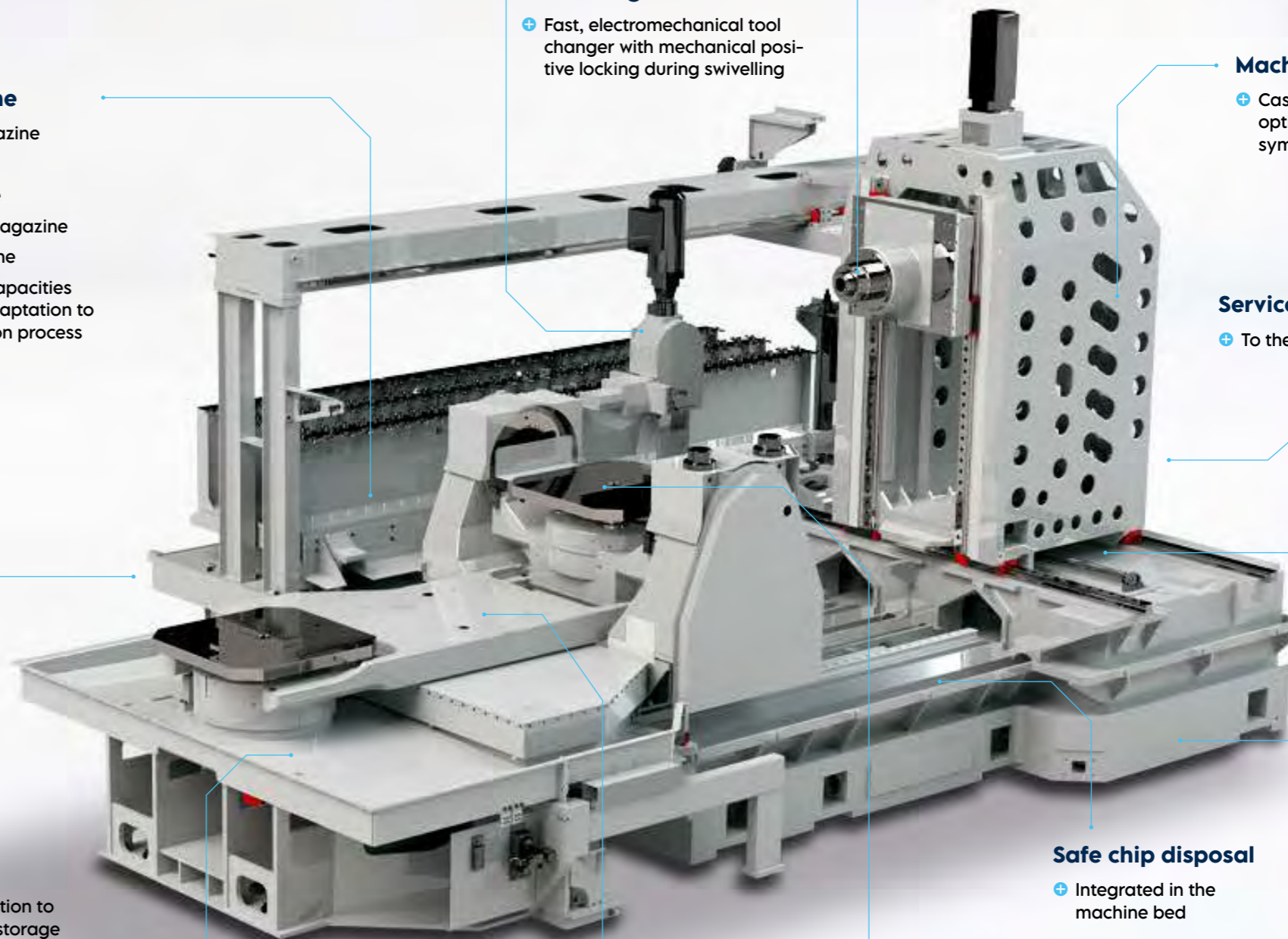
- + Fast 180° swivel changer
- + Rotatable setup station
- + Main time parallel setup

Workspace

- + Optimum accessibility to the XXL workspace for ergonomic working

Automation

- + Simple connection to flexible pallet storage systems



Nothing run-of-the-mill about us



Complex efficiency in combination

For an even wider range of workpieces, our NBHs are capable of multitasking. The combination of two technologies - milling and turning on one machine - enables complete, powerful machining under one setting. Full flexibility for more efficient production.



Mill Turn

To enable not only milling but also turning in one setting on a machining centre, the table can be equipped with a fast-turning B-axis. This allows complex workpiece geometries to be achieved on one workpiece, combining 5-axis milling with most turning operations. Synchronisation of the rotary table with the swivel head enables skiving of cylindrical spur gears.



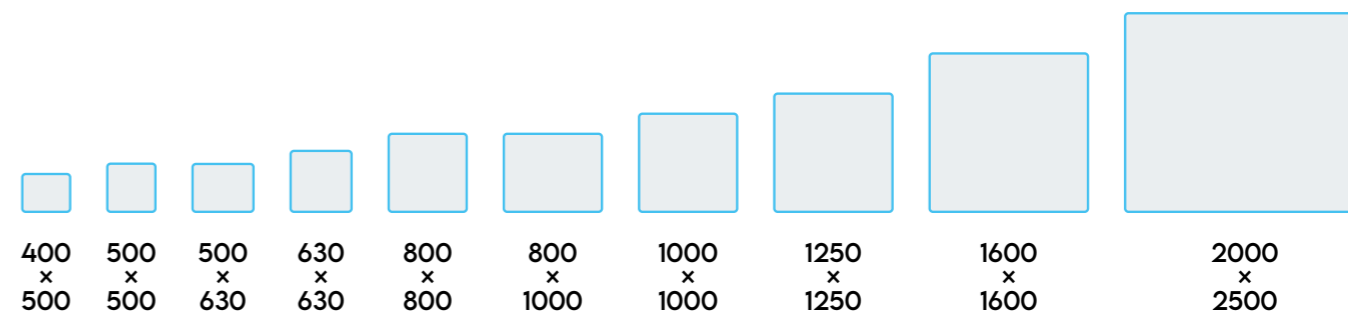
Horizontal 4-axis machining centres

When less is more

The complexity and demands of your workpiece indicate whether you need a 4 or 5-axis machine. The NBH's unique cutting performance is yours in either case. As is the variety of different pallet sizes. For precise work on complex components.

All pallet sizes

The right pallet size from 400 mm to 2000 mm for you.



Special dimensions on request

You have the choice. We have the machines.

Machine portfolio: Horizontal machining centres



4-axis



5-axis



Pallet size in mm	Motor spindle	Gear spindle	Swivel rotary table B to A-axis → More info on page 12	Swivel head C-axis → More info on page 12	Tilt head A-axis → More info on page 12	Combined milling-turning → More info on page 14
400 × 500	NBH 40					
500 × 500	NBH 50	NBH 500				
500 × 630	NBH 60	NBH 600				
630 × 630	NBH 63	NBH 630	NBH 630 ^{BA}	NBH 630 ^C		NBH 630 ^{BA} MT NBH 630 ^C MT
800 × 800	NBH 80	NBH 800	NBH 800 ^{BA}	NBH 800 ^C		NBH 800 ^C MT
1000 × 1000	NBH 100	NBH 1000	NBH 1000 ^{BA}		NBH 1000 ^A	NBH 1000 ^A MT
800 × 1000		NBH 1100			NBH 1100 ^A	
1250 × 1250		NBH 1250			NBH 1250 ^A	
1600 × 1600		NBH 1600			NBH 1600 ^A	
2000 × 2000		NBH 2000			NBH 2000 ^A	

General information
www.hueller-hille.com



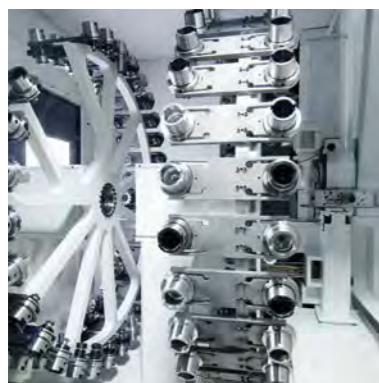
Technical data
→ on page 30

Are you all tooled up?

Disc magazine

60 | 120 tool locations

The universal magazine as a standalone unit with tool handling device and integrated tool changer. Reliable and low-maintenance.



Pick-up disc magazine

40 tool locations

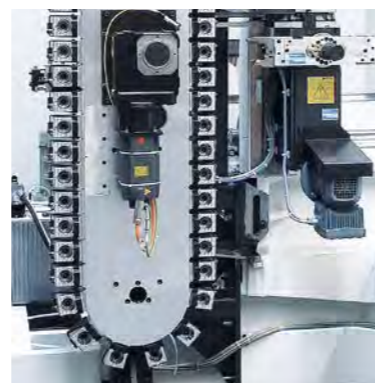
Simple, robust and proven many times over. Quick pick-up tool change directly into the spindle. Mechanical tool taper cleaning as standard.



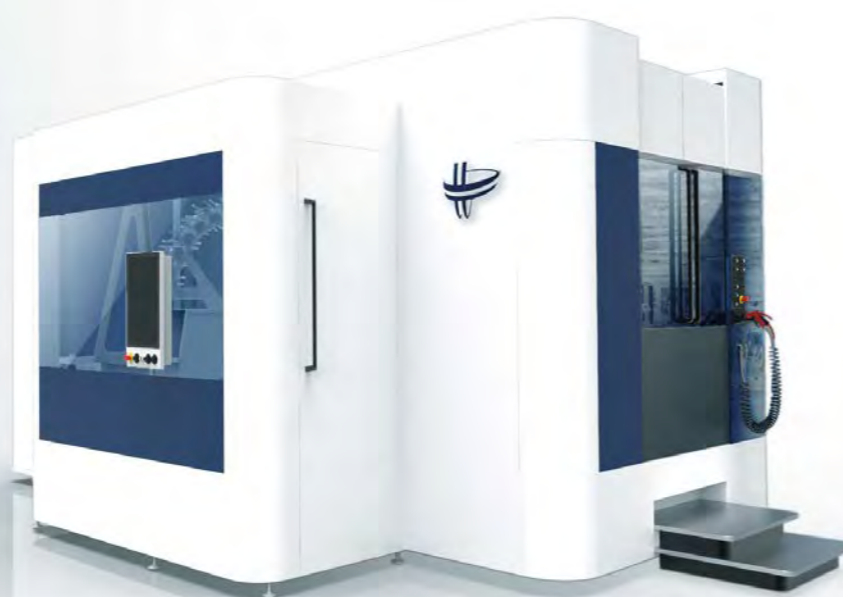
Chain magazine

32 | 60 | 90 tool locations

The space saving alternative. Good visual accessibility, flexibility and modular expansion for up to 90 tool locations.



Versatile: disc magazine with two independent magazine discs enables extremely fast provision of up to 120 tools.



Cassette magazine

Up to 400 tool locations

The unique Hüller Hille tool magazine with full flexibility, for large quantities or oversized tools. Main time parallel changeover of complete tool sets, tool location codes, electronically managed tools and patented, integrated taper cleaning in the handling device. Precise and fast insertion into the spindle.



400 tools

Unique: the Hüller Hille cassette magazine effortlessly changes 50 tools in just a few minutes.

Modular tool magazines: the key to seamless machining processes

Once the tool is in place, you're quids in. Keeping non-productive times short saves you hard cash. Optimise your cut-to-cut time with individual tool changes. This has to be done at lightning speed with precise positioning. Unique tool magazine technology from Hüller Hille offers you high tool capacity and maximum ease of setup. Invest in exactly the reliable manufacturing solution you really need. Ensure high flexibility with the right magazine for complete machining of complex components. We'll get you all tooled up and ready to go.

A cut above the rest

Valuable options for even more efficient processes

Tool management – from Hüller Hille

For even greater ease of use: comparison of existing and required tools in the magazine. Requirements calculation based on automatically determined tool runtimes.



Workpiece measurement

Measuring probe with infrared or radio signal transmission for measuring the workpieces or clamping devices in the workspace. The probe is automatically inserted into the spindle.



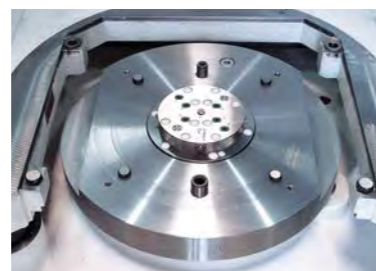
Tool monitoring

Tool monitoring can be expanded as required, up to and including a complete safety package especially for unmanned production.



Clamping hydraulics

2-way to 11-way clamping hydraulics with up to 240 bar for actuating clamping devices in the setup station as well as the workspace area.



Drilling and milling head support

The drilling and milling head support enables the use of angle drilling heads, multi-spindle heads or thread cutting apparatus to reduce unit costs.



4-way drilling and milling head clamping

For heavy drilling and milling heads (up to 50 kg) for transmitting high torques and cutting power.



Lean back and watch it happen

Intelligent automation makes your production an automatic success

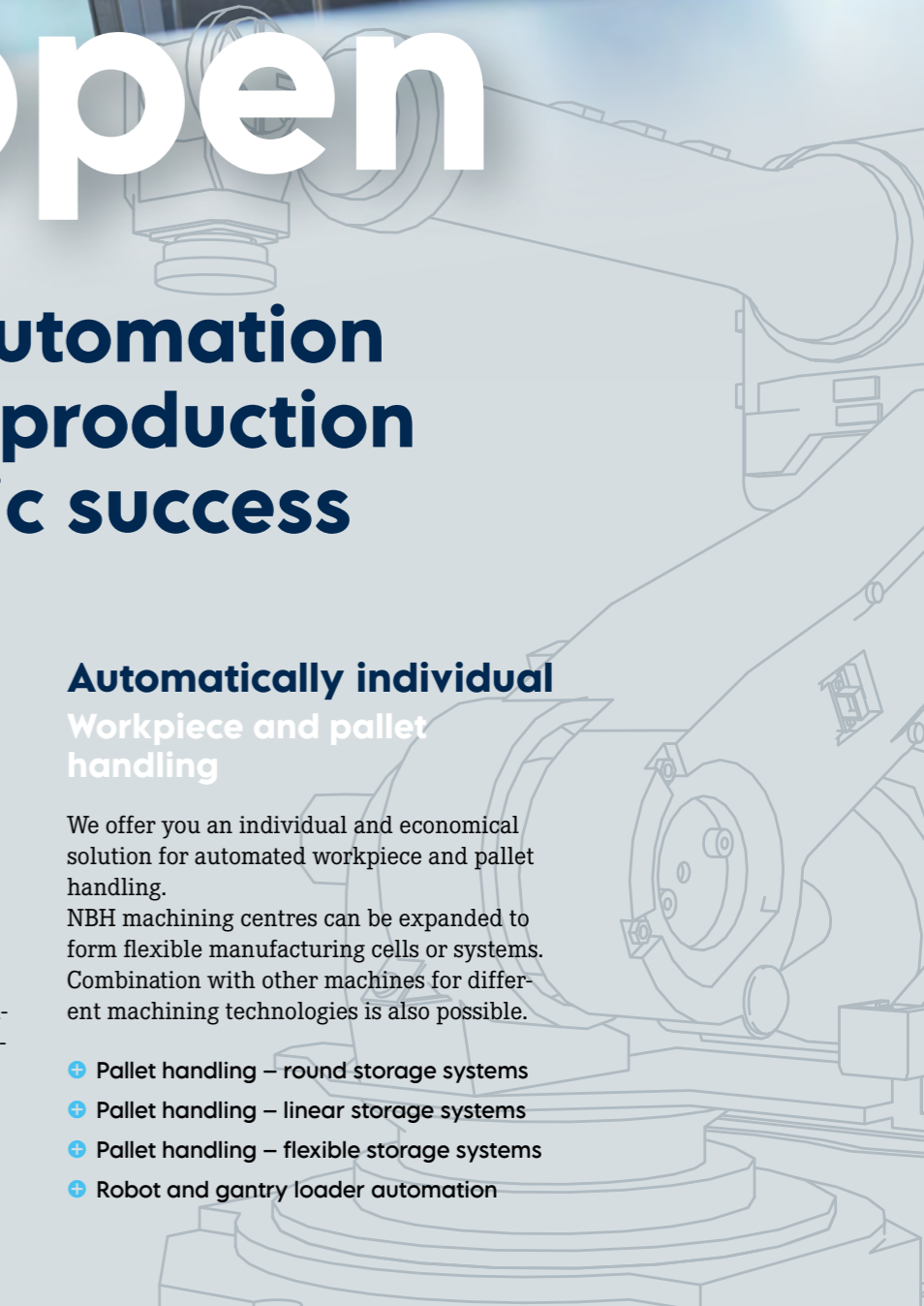
Agile and stable Semi and fully automatic production

We redefine flexibility in production for you. Intelligent automation concepts enable customised turnkey solutions for processes that are both agile and stable. Regardless of whether your production is semi-automatic or fully automatic. Optimum coordination of the interfaces between machine and automation allow consistently high production quality. Dependable performance with seamless interaction of all competences.

Automatically individual Workpiece and pallet handling

We offer you an individual and economical solution for automated workpiece and pallet handling. NBH machining centres can be expanded to form flexible manufacturing cells or systems. Combination with other machines for different machining technologies is also possible.

- + Pallet handling – round storage systems
- + Pallet handling – linear storage systems
- + Pallet handling – flexible storage systems
- + Robot and gantry loader automation



We're building the future for you

Our heavy-duty machine tools are up to the toughest tasks, industries and materials. Without fail. Every single day.

Never has there been more opportunity for new beginnings. We're taking off. Towards the future.

We look to the future with curiosity and confidence, trusting in our skills and our machines. Every challenge you give us spurs us on. Our NBHs are ready for action wherever they're needed. Customised for your machining task. The future is now.

Industries

We accelerate progress

Mechanical engineering

Meeting technical progress head on. Trends drive mechanical engineering and make new opportunities available. Agile engineering for efficient and precise solutions.

We transport heavy loads

Commercial & construction vehicles

The future of transport is changing. The construction site of tomorrow is digital and sustainable. Powerful engineering for high performance deployment.

We provide for people

Agricultural machinery

The technologies of sustainable agriculture must be efficient and ecological for functioning local supply structures. Economical engineering for long-term protection of the investment.

We restructure

Plant technology

Intelligent building technology for a safe and energy efficient plant infrastructure. The drive for networking and reliably facilitating everyday life. Perfect engineering for intelligent solutions.

We overcome boundaries

Aerospace

Giving new perspectives to challenges and overcoming boundaries in the process. A necessary change of perspective to discover new horizons. High-precision engineering for extraordinary cutting power.

We take responsibility

Renewable energy

We promote access to and expansion of alternative forms of energy and their sustainable development for future generations. Complex solutions for futureproof technologies.

We stay on the move

Drive technology

We need new mobility options. This keeps us on the move and makes us strive for something new. Future forms of mobility are alternative and clean. We help ensure high quality implementation. Intelligent drive for long-term growth.

We work on the future

Digitalisation

Smart and networked systems are our future. Individual solutions are the key to new developments. All the necessary information in the right place at the right time. Including from our machines.



Digitally networked, intelligent and transparent

Reliability

Smart chatbots made of steel.

Industry 4.0

The digital footprint throughout the entire life cycle of the machine allows existing potential to be exploited even further and brings transparency and automation to the shop floor – your added value for the digital production of the future. We help you along the way to the Smart Factory.

Virtualisation in the development process

Eye on the prize

The digital transformation is changing the way we think. We rely on agile product development and integrated engineering. Simulations provide inspiration that we follow up on and implement efficiently and consistently across all disciplines. A common language connects – we see effective interfaces as the basis for networking and transparency.

Digital support in production

The route to top quality

Man and machine complement each other. The intelligent machine constantly provides data on quality and efficiency along the value chain. Consistent monitoring of the machine status assures you of reliable production. Connectivity and automation solutions optimise your production process.

Full transparency

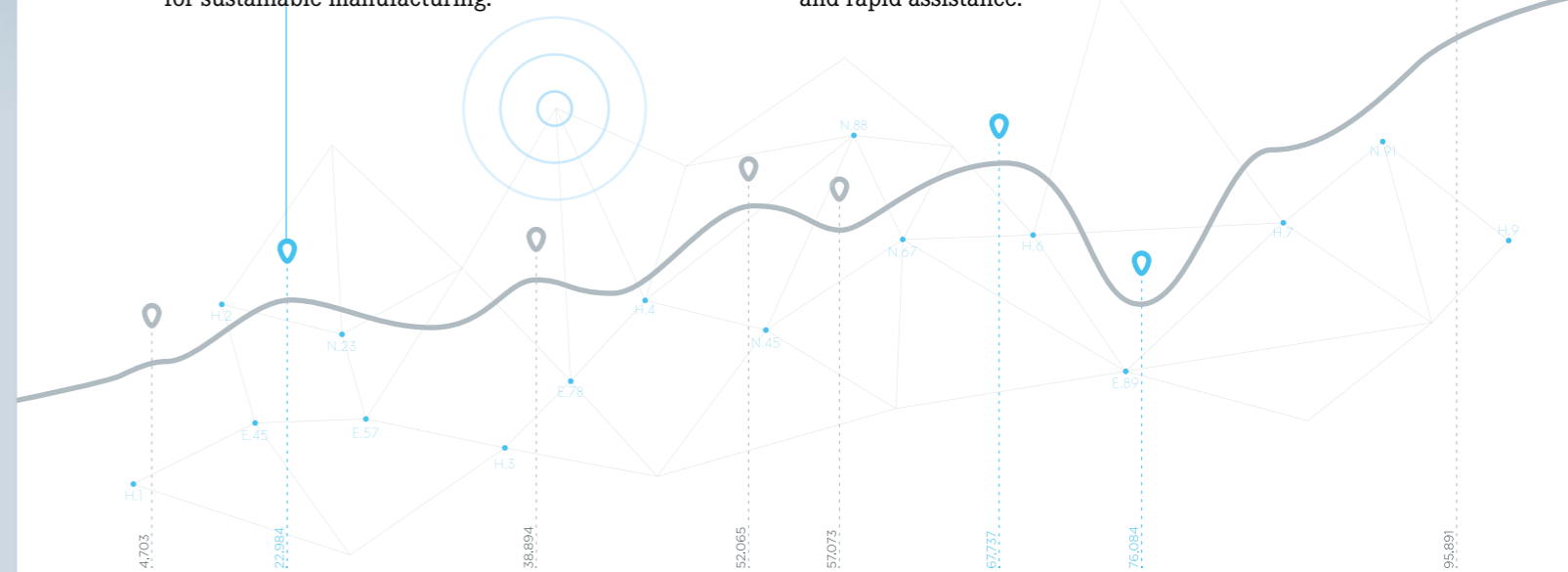
Always know what the machine is doing

Knowledge helps you stay ahead. The digital footprint throughout the machine life cycle provides information on the current condition of the plant; processed real-time data allows you to take appropriate action. Thanks to the comprehensive overview, you control the resource and energy requirements for sustainable manufacturing.

Smart maintenance

Longer service life instead of unexpected setbacks

Predictive monitoring actively enables the initiation of preventive measures; condition monitoring prevents problems from occurring in the first place and provides information for the sustainable protection of resources. Our service team is there for you with real-time support and remote diagnosis for targeted and rapid assistance.



Keep your machines purring

Premium service from the experts – because downtime is not an option



Smart services

Real-time service support

We are your partner for comprehensive support – directly on site and digitally. Available to you at all times. 24|7. Our hotline is your direct link to a professional initial diagnosis. Our real-time virtual support connects you with our experts around the world. Together we develop measures to solve the problem and provide assistance – advice and implementation in one.



Service

Pit stop for your machine

Don't let faults happen in the first place. We provide regular preventive maintenance and servicing. This protects your machine during its life cycle, optimises plant availability and makes for greater efficiency in the long term. On an individual basis, to suit your needs.



Spare parts

Just-in-time beats warehousing

We offer you the benefit of a complete range of original spare parts and expertise direct from the manufacturer. Quickly available, state of the art and at a fair price. Enabling you to achieve maximum plant availability and utilisation.



Retrofit

Not only looks better, but runs like new

Taking your machine out of service is not an option. It, too, can be upgraded. A customised concept, retrofits and first-class overhauls bring the plant up to date, including improvements to energy consumption and your carbon footprint.

At your beck and call

Service hotline

Call us. We are your direct link to a professional initial diagnosis or spare parts enquiry. Our service team will offer you quick and efficient assistance.



Or 24|7 via
our website:
www.hueller-hille.com



Eyes open

We see what you see – with Smart Glasses. This is the fastest way to fix problems: with our support and your own hands.

With our Smart Glasses Service, you benefit from quick and easy on-site troubleshooting. We see your machine through your eyes and tell you what to do – directly. The expert doesn't necessarily have to be on site to resolve problems quickly. We offer you contact to the manufacturer service where necessary.

We are with you throughout the entire life cycle of your plant. Customised concepts for your individual scenario.

Our training courses help you build up internal expertise and teach you how to carry out measures competently yourself.



4-axis Horizontal 4-axis machining centres



		NBH 40	NBH 50 NBH 500	NBH 60 NBH 600	NBH 63 NBH 630	NBH 80 NBH 800	NBH 100 NBH 1000	NBH 1100	NBH 1250	NBH 1600	NBH 2000	
Pallet size	mm	400 × 500 [500 × 500]	500 × 500 [500 × 630]	500 × 630 [630 × 630]	630 × 630 [800 × 800]	800 × 800 [1000 × 1000]	1000 × 1000 [1000 × 1200]	800 × 1000 [1000 × 1000] [1000 × 1250]	1250 × 1250 [1600 × 1600]	1600 × 1600 [2000 × 2000] [2000 × 2500]	2000 × 2000 [2000 × 2500]	
X-axis / Y-axis / Z-axis	mm	700 / 630 / 700	900 / 800 / 900	800 / 800 / 800	1000 / 850 [1050] / 1150	1400 [1800] / 1100 [1400] / 1400	1800 / 1400 / 1800	1500 [1800/2000] / 1300 [1600] / 1400 [1600]	2100 [2800] / 1800 [2100] / 1800 [2100]	2800 [3500] / 2100 [3000] / 2100 [2600]	4200 [4800] / 3000 [3900] / 2600 [3200]	
Interference area diameter (flattened)	mm	700	900	900	900 (1150)	1360 (1600)	1700 (2000)	1500 [1800/2000]	2400 [2700]	3000 [3500]	4200 [4800]	
Loading height	on pallet	mm	1000	1000	950	1300	1500 [1800]	1800	1800 [2100]	2200 [2500]	2600 [3500]	3500 [4400]
Loading weight	on pallet	kg	500	800	1000	1500	2000	3000	3500 [5000]	5000 [10,000]	10,000 [15,000]	20,000 [30,000]
Motor spindle		NBH 40	NBH 50	NBH 60	NBH 63	NBH 80	NBH 100					
Speed	up to	rpm	16,000	16,000	12,000	12,000	12,000	12,000				
Drive power	40 % duty cycle, up to	kW	52	52	66	66	66	66				
Torque	40 % duty cycle, up to	Nm	180	180	370	370	370	370				
Gear spindle			NBH 500	NBH 600	NBH 630	NBH 800	NBH 1000	NBH 1100	NBH 1200	NBH 1600	NBH 2000	
Speed	up to	rpm	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	
Drive power	40 % duty cycle, up to	kW	22.5	46	81	80	80	80	80	80	80	
Torque	40 % duty cycle, up to	Nm	466	1130	1236	2600	2600	2600	2600	2600	2600	

5-axis Horizontal 5-axis machining centres

		NBH 630 ^{BA}	NBH 630 ^C	NBH 800 ^{BA}	NBH 800 ^C	NBH 1000 ^A	NBH 1000 ^{BA}	NBH 1100 ^A	NBH 1250 ^A	NBH 1600 ^A	NBH 2000 ^A	
Pallet size	mm	630 × 630	630 × 630 [800 × 800]	800 × 800	800 × 800 [1000 × 1000]	1000 × 1000 [1000 × 1250]	1000 × 1000	800 × 1000 [1000 × 1000] [1000 × 1250]	1250 × 1250 [1600 × 1600]	1600 × 1600 [2000 × 2000] [2000 × 2500]	2000 × 2000 [2000 × 2500]	
X-axis / Y-axis / Z-axis	mm	1000 / 850 [1050] / 1150	1000 / 850 [1050] / 1150	1400 [1800] / 1100 [1400] / 1400	1400 [1800] / 1100 [1400] / 1400	1800 / 1400 / 1800	1800 / 1400 / 1800	1500 [2000] / 1300 [1600] / 1400 [1600]	2100 [2800] / 1800 [2100] / 1800 [2100]	2800 [3500] / 2100 [3000] / 2100 [2600]	4200 [4800] / 3000 [3900] / 2600 [3200]	
Interference area diameter (flattened)	mm	900	900 (1150)	1200	1360 (1600)	1700 (2000)	1600	1500 [1800/2000]	2400 [2700]	3000 [3500]	4200 [4800]	
5th axis	type	Swivel rotary table	Swivel head	Swivel rotary table	Swivel head	Tilt head	Swivel rotary table	Tilt head	Tilt head	Tilt head	Tilt head	
Swivel range	degrees	+30 to -120	0 to -225	+30 to -120	0 to -225	+60 to -120	+30 to -120	+60 to -120	+60 to -120	+60 to -120	+60 to -120	
Loading height	on pallet	mm	800	1300	1100 [1400]	1500 [1800]	1700	1400	1800 [2100]	2200 [2500]	2600 [3500]	3500 [4400]
Loading weight	on pallet	kg	900	1500	1200	2000	3000	2500	3500 [5000]	5000 [10,000]	10,000 [15,000]	20,000 [30,000]
Motor spindle		NBH 630^{BA}	NBH 630^C	NBH 800^{BA}	NBH 800^C		NBH 1000^{BA}					
Speed	up to	rpm	12,000	16,000	12,000	16,000		12,000				
Drive power	40 % duty cycle, up to	kW	66	42	66	42		66				
Torque	40 % duty cycle, up to	Nm	370	370	370	370		370				
Gear spindle		NBH 630^{BA}		NBH 800^{BA}		NBH 1000^A	NBH 1000^{BA}	NBH 1100^A	NBH 1200^A	NBH 1600^A	NBH 2000^A	
Speed	up to	rpm	10,000		10,000	6000	10,000	6000	6000	6000	6000	
Drive power	40 % duty cycle, up to	kW	46		80	46	80	46	46	46	46	
Torque	40 % duty cycle, up to	Nm	1130		2600	1390	2600	1390	1390	1390	1390	



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