HEDELIUS

CUSTOMER MAGAZINE 12/2020

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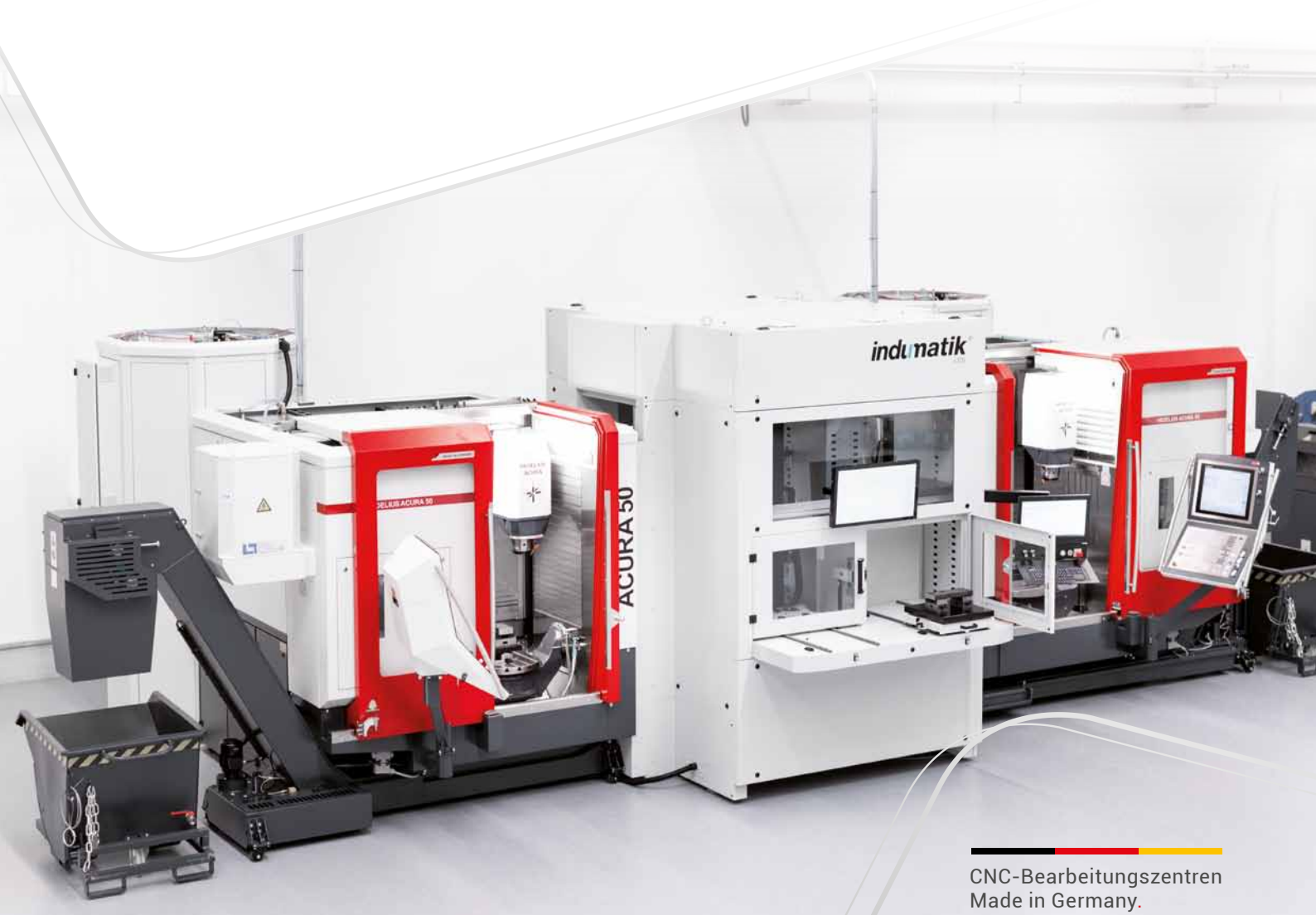


CNC-Bearbeitungszentren
Made in Germany.

NEW PRODUCTS IN 2020.

ACURA 50, FORTE 50 Single 1120, TILTENTA 11-2600.

We were able to roll out some exciting new products over 2020. You're welcome to come and see our current star machines in our demonstration centre. We'd be happy to give you a comprehensive on-site tour tailored to your interests. There's plenty to discover.

Despite the difficulties caused by the coronavirus pandemic this year, our demonstration centre in Meppen remains open to visitors. Paying us a visit is more rewarding than ever!

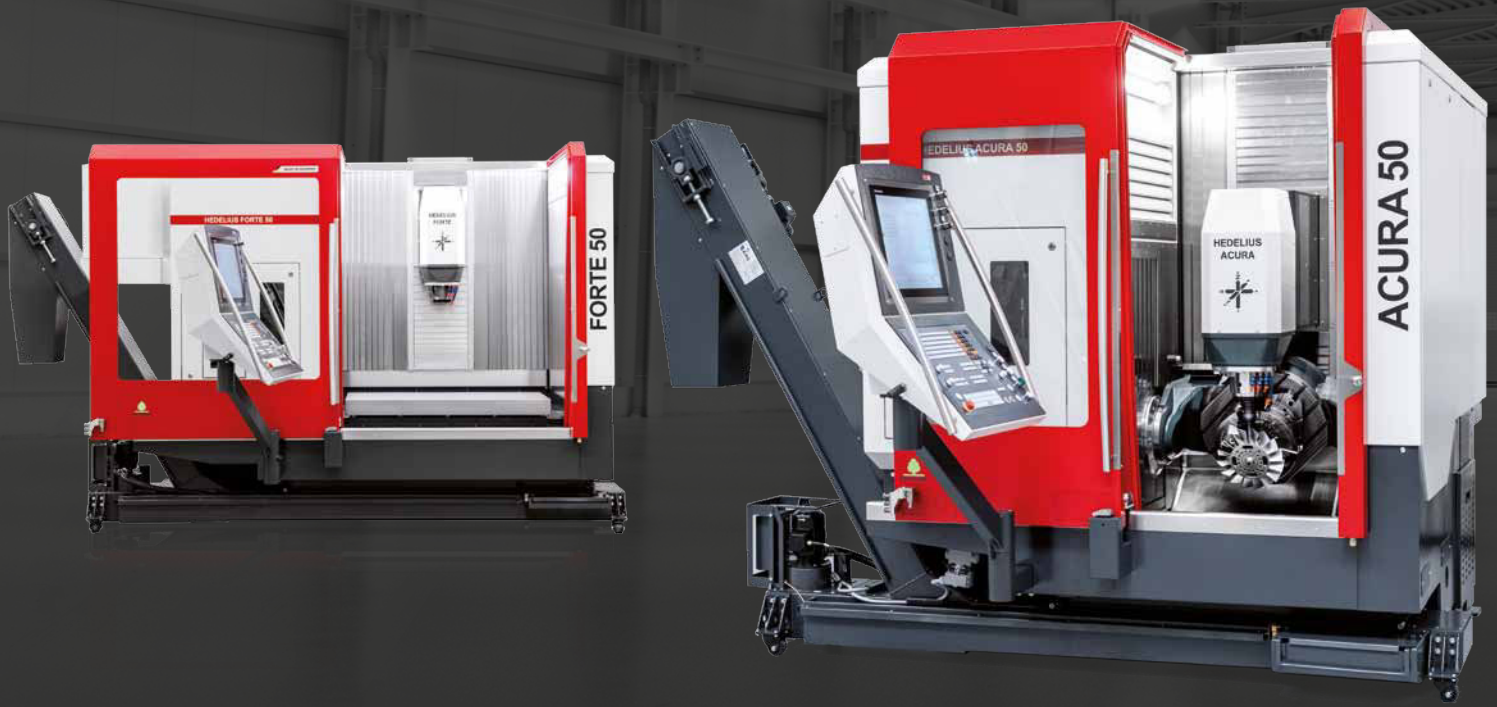
For instance, you can see the FORTE 50 Single 1120 and the ACURA 50 live in operation. Both machining centres have been great new additions to our range this year, and are particularly notable for their compact dimensions. With its generous X travel distance of 1120 mm, the FORTE 50 Single 1120 nevertheless offers a wide range of machining options. Most impressively, the tool machine, which comes with either 55 or 80 tool slots, can be loaded in parallel to production. This significantly reduces set-up times. The

FORTE 50 Single 1120

The small vertical centre with the big tool changer LIVE

ACURA 50

Compact, precise and reliable LIVE in operation



ACURA 50 magazine has also been expanded, so you can now choose between 55 and 80 tool slots. Read more about this in the article on page 22.

Another newcomer to the demonstration centre is the TILTENTA 11-2600. Its combination of a continuously pivotable main spindle and a long machine table with an integrated NC rotary table enables mixed manufacturing of large workpieces and precise 5-axis machining within the apparatus.

And there's lots planned for 2021, too: we will be unveiling two new additions to the TILTENTA range. A real highlight will come at the start of the New Year with the launch of the new TILTENTA 7-2000, which can also be seen in our demonstration centre. The versatile 5-axis machining centre, with an infinitely pivoting main spindle and integrated NC rotary table, is particularly impressive when it comes to individual part and small series production in machine and tool construction, with high machining performance.

The second newcomer to the group will be the TILTENTA 11-3600, which will be presented later this year. With its large-sized X, Y and Z axis and rigid machine bed, the TILTENTA 11-3600 is setting new standards. The 4 axes in the tool itself ensure superb dynamics regardless of the weight of the workpiece, and thus provide the ideal conditions for rapid traverse of up to 40 metres per minute.

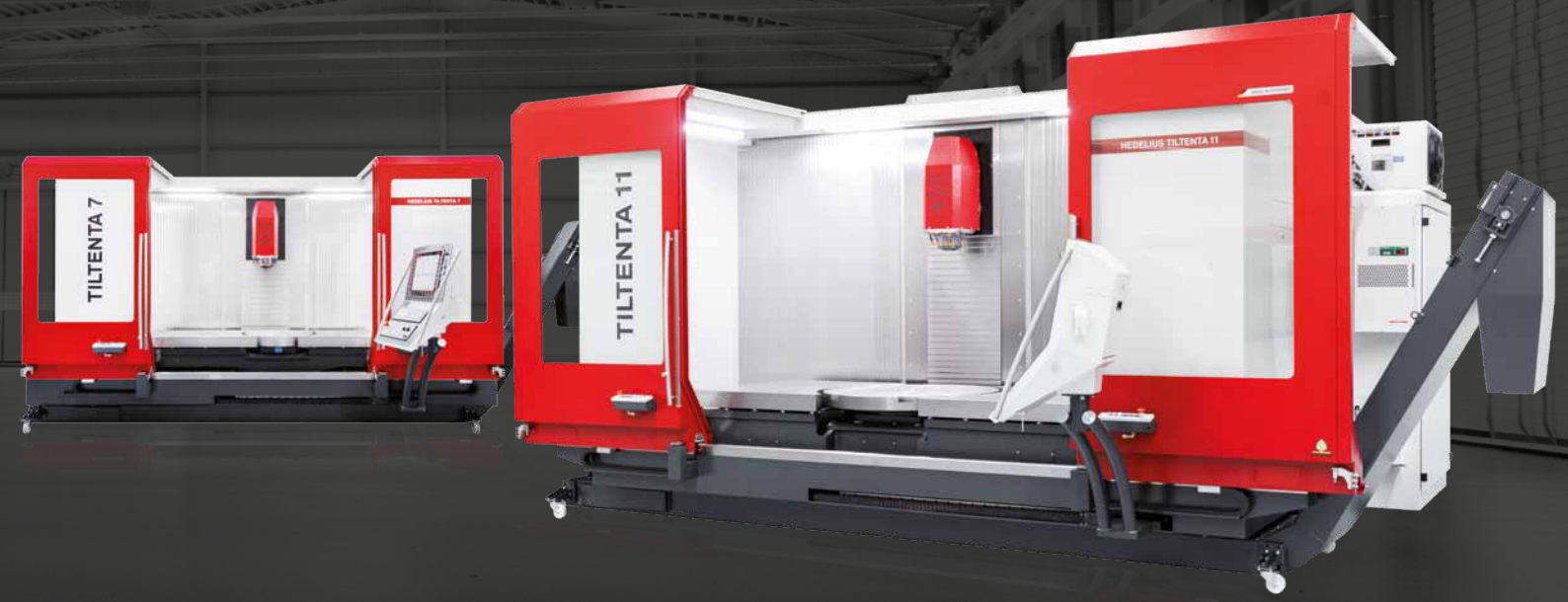
In other words, there are lots of good reasons to visit us in Meppen in the New Year. Just get in touch to arrange your own personal demonstration. We look forward to seeing you!

TILTENTA 7-2000

Highly flexible with a pivoting spindle
From January 2021

TILTENTA 11-2600

5-axis machining of heavy workpieces LIVE in operation



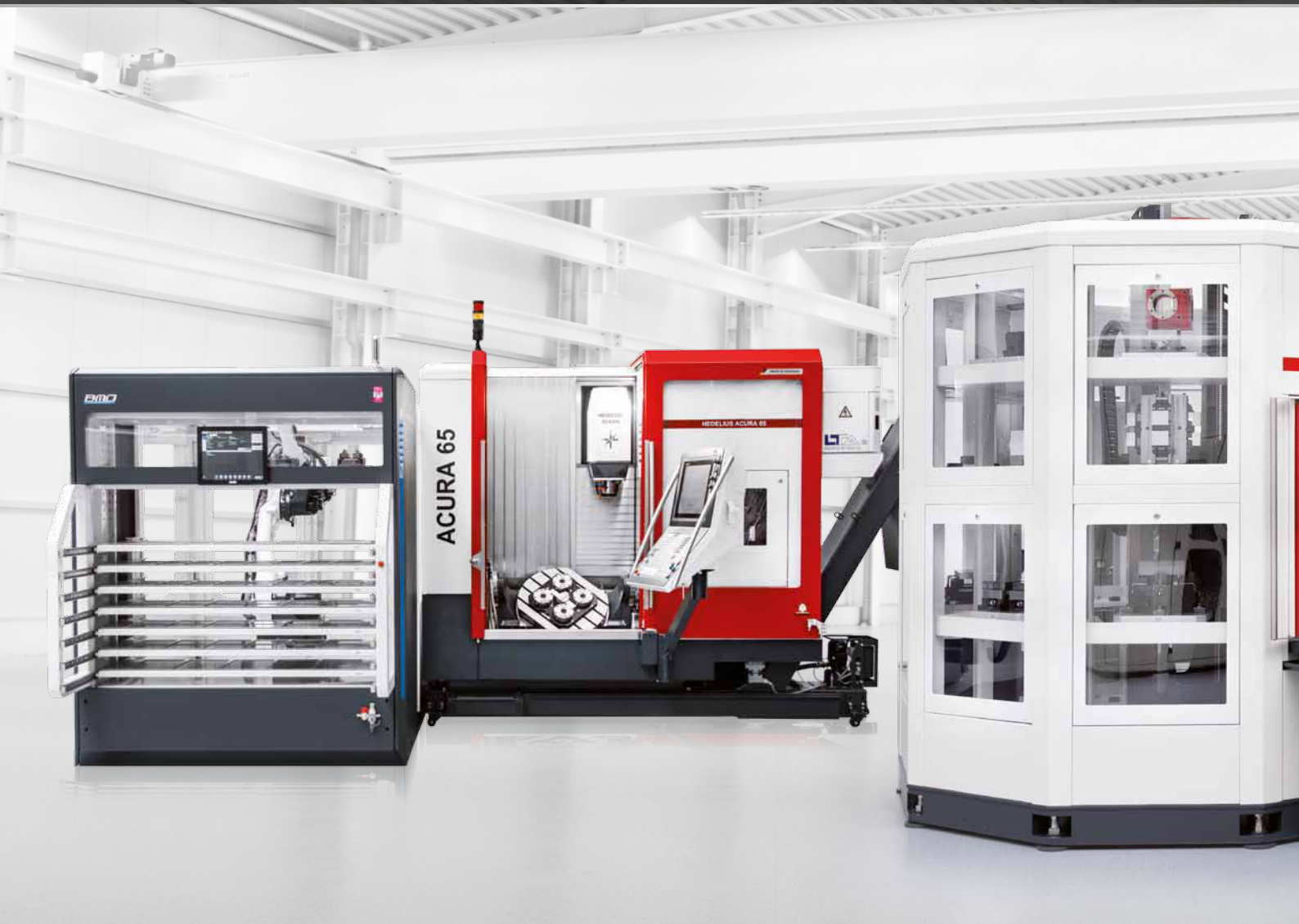
NEW PRODUCTS IN 2020.

MARATHON, INDUMATIK, EROWA, BMO.

Have you ever thought about automating your production processes? At our demonstration centre, we present the latest automation solutions from different manufacturers on the machines from our ACURA range. Come and see what's possible!

We'd be happy to show you in person how you can get more from your production processes with automation systems from INDUMATIK, BMO and EROWA, plus our very own multi-pallet storage-system MARATHON P422.

With 22 pallets sized 400 x 400 mm, the MARATHON P422 multi-pallet storage system is especially well suited to the production of individual and repeat parts or small to medium-sized series. The system is perfectly tailored to our ACURA 65 5-axis machining centre and, combined with the Heidenhain TNC 640 controls, enables a consistent operating concept on the machine, the tool terminal for the standby magazine and the terminal for the pallet storage system.



You can also see the BMO Platinum robot cell in action, connected up to a ACURA 65. Up to two CNC machines can be connected to the system and loaded with workpieces. The workpieces are taken off grid drawers by a 6-axis robot and inserted into the machine. The BMO Platinum offers space for 8 pallets sized 395 x 395 mm or 16 pallets sized 395 x 195 mm.

The EROWA ERC 80 pallet storage system, which fits with our compact ACURA 50 machining centre, has proven to be an especially space-saving automation solution. At just 1060 mm wide, it offers space for up to 10 or 16 pallets sized 320 x 320 mm. Alternatively, the pallet storage system can also handle smaller pallets, e.g. up to 24 pallets, each with a diameter of 210 mm.

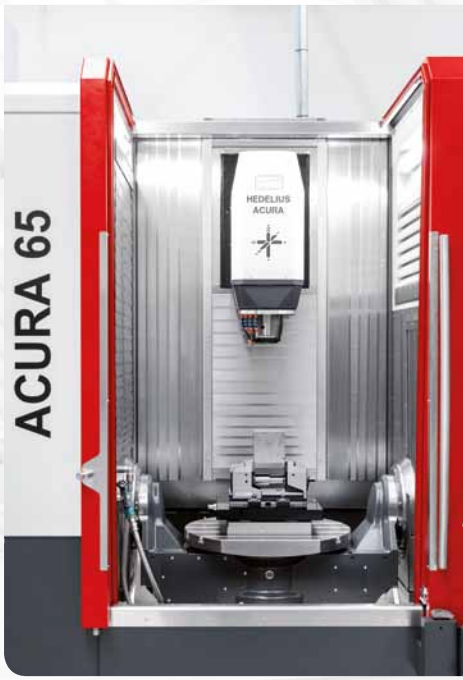
As a highlight example of our automation solutions, we are also showcasing a chain series consisting of the ACURA 50 EL with the ACURA 65 EL via INDUMATIK Light 120. The pallet handling system loads the 5-axis CNC machining centres with pallets measuring 400 x 400 and 200 x 200 mm. The demonstration unit holds a total of 33 pallets (12 measuring 400 x 400 mm and 21 measuring 200 x 200 mm).

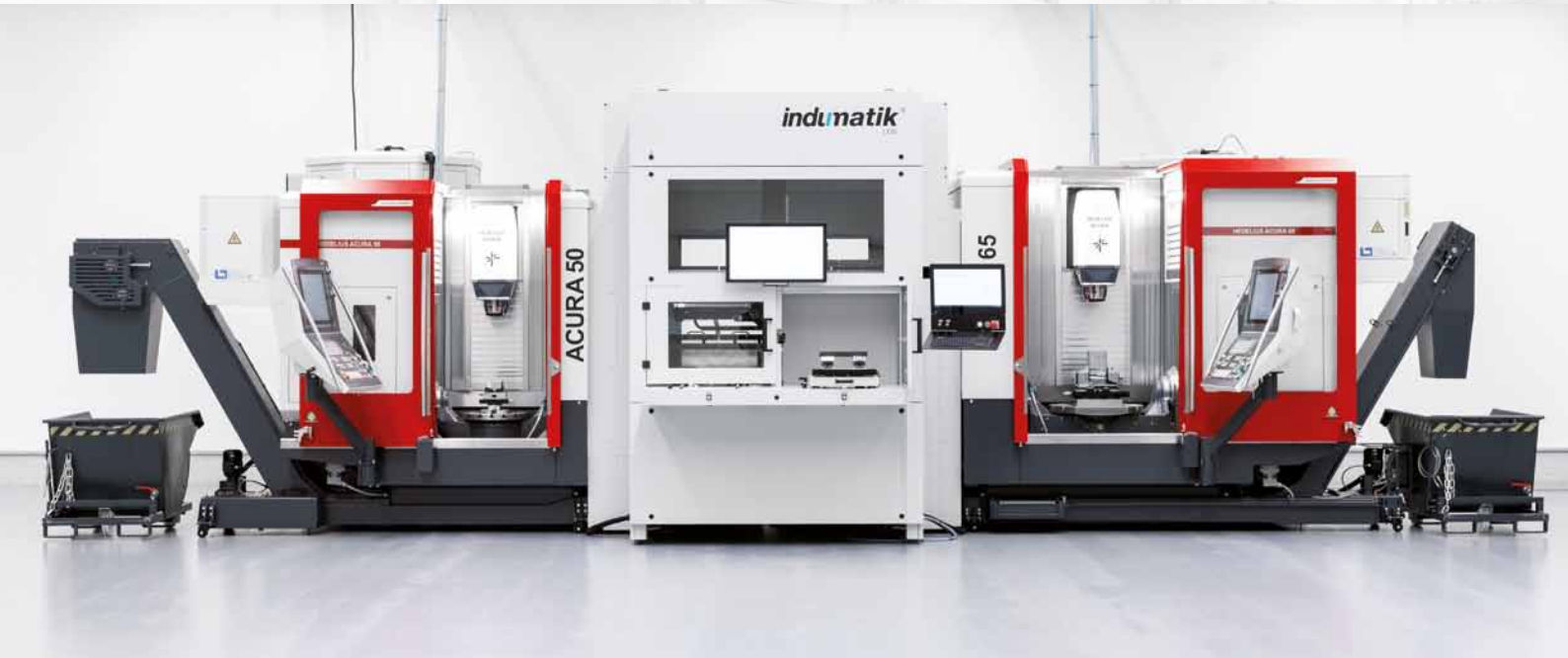
See page 6 to read more about chain linking.

New to the demonstration centre: The high-end automation cell with 33 pallets and 480 tools.

This setup comprising an interlinked ACURA 50 EL and an ACURA 65 EP is now ready for demonstration via the pallet handling system Indumatik 120. The Indumatik 120 loads the 5-axis CNC machining centres with pallets measuring 400 x 400 and 200 x 200 mm. The demonstration unit holds a total of 33 pallets (12 measuring 400 x 400 mm and 21 measuring 200 x 200 mm). Of course, other pallet dimensions are available. Both machining centres have an HSK A63 spindle operating at 18,000 rpm and a standby magazine. A total of 480 tool slots are available across both CNC machines (235 on the ACURA 50 and 245 on the ACURA 65).

The innovative ACURA concept with side loading allows an ACURA 50 EL and an ACURA 65 EL to be automated with a pallet storage system or robotic cell. Are your order books completely full? No problem – both machines run automatically around the clock. Do you need to make new parts? No problem – one machine runs automatically, leaving you free to make your parts on the other. Does your customer need an individual part? No problem – one machine continues running automatically while you manufacture the individual part on the other. As there's always at least one machine running automatically, you can harness the full benefits of automation. The tiered investment option is also a good solution. When starting out, for instance, you might purchase a machining centre plus automation. Once orders start increasing, you can expand your system by acquiring a second machining centre. You space requirements and investment volume are significantly smaller than those of a conventional linear production system.

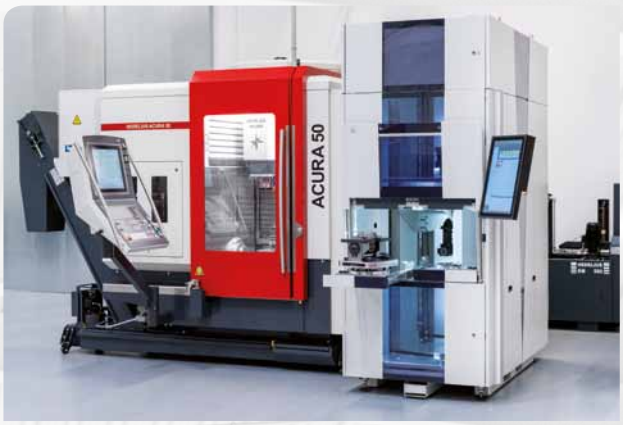


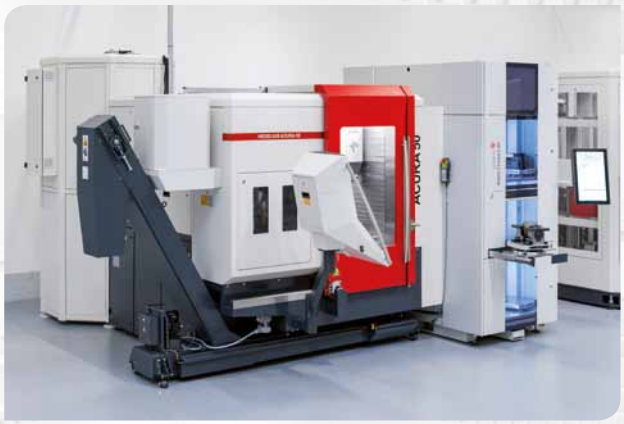


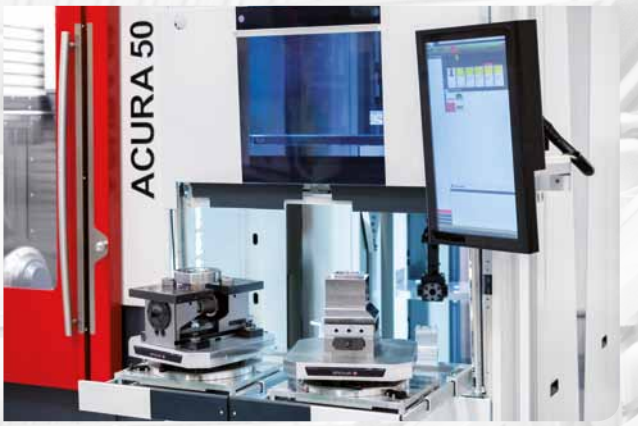
EROWA ERC 80 – live at the demonstration centre.

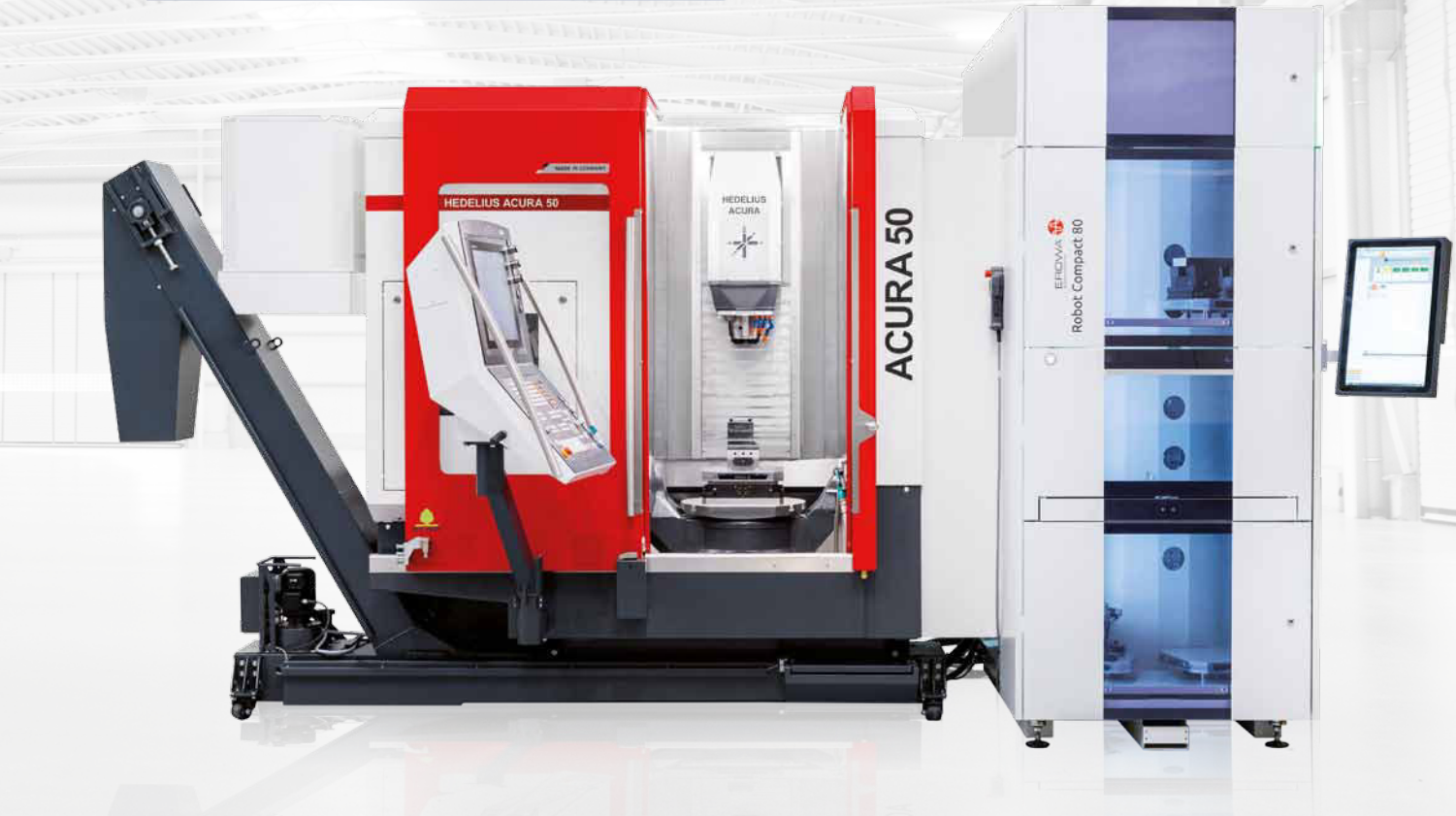
The EROWA ERC 80 loads the ACURA 50 EL 5-axis machining centre with pallets of size 320 x 320 mm. The multi-pallet storage system has capacity for 10 pallets sized 320 x 320 mm (option for 16 pallets), with a transfer weight of 80 kg. Alternatively, the pallet storage system can also handle smaller pallets, e.g. up to 24 pallets at Ø 210 mm. The special thing about this concept is that it requires little space – approx. 4,480 mm.

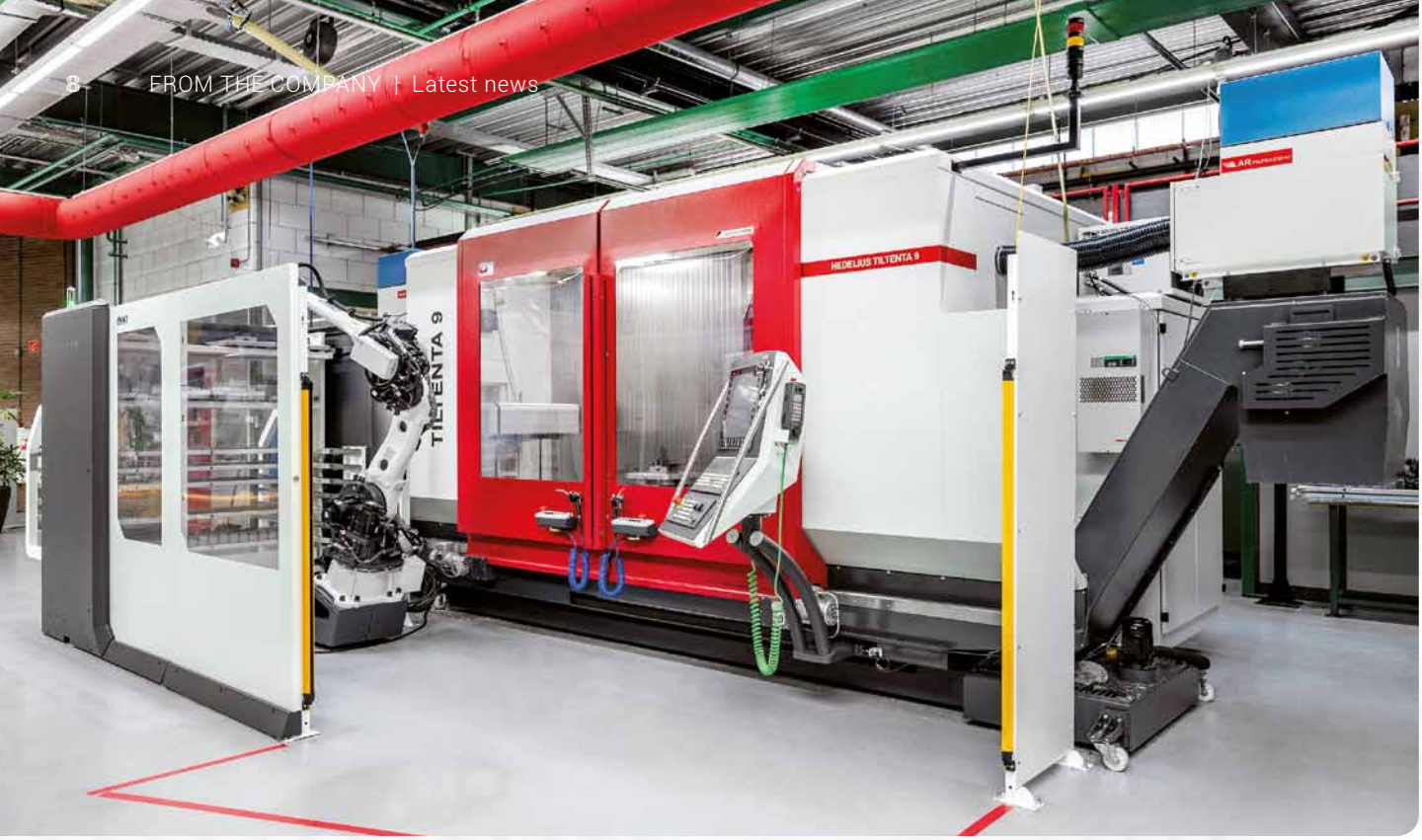
- Very small footprint – approx. 1,060 mm wide
- Chaos-based production of different components
- Storage and retrieval station
- Priority-based workpiece supply







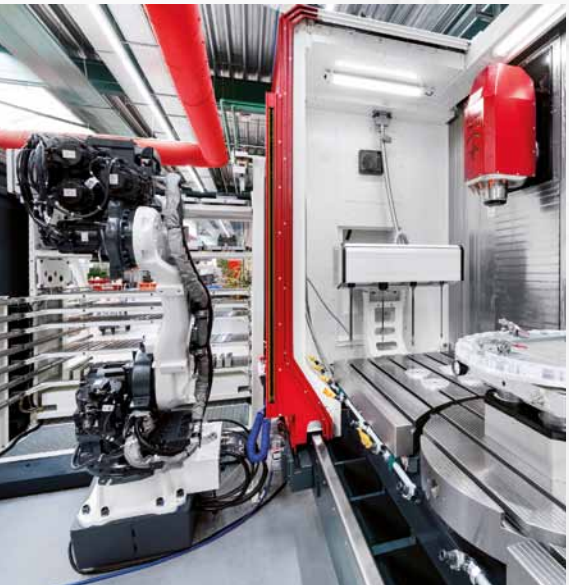




Automation with TILTENTA pivoting spindle machining centres.

The demand for automation solutions is growing apace. Many machining centres from the ACURA range have already been equipped with pallet handling systems or robotic elements over recent years. But the demand for automation solutions for our TILTENTA machining centres is also on the rise.

Machining centres from the TILTENTA range are mainly used in single part and small series production due to the high level of universality of combined 5-axis and long part machining. Thanks to extra automation, customers are able to get the very most out the machine and its space by achieving ultimate productivity, e.g. by initiating automatic operation in an additional shift or at the weekend. As an example, we will show you a TILTENTA 9 machining centre with X-travel of 2,600 mm newly fitted with a BMO platinum robotic system that combined pallet and workpiece loading. HEDELIUS has equipped the machine with rotary transfer and pneumatics to control the zero-point clamping system, a door opening system and a robot interface. The automated aspects have been integrated directly by our automation partner.

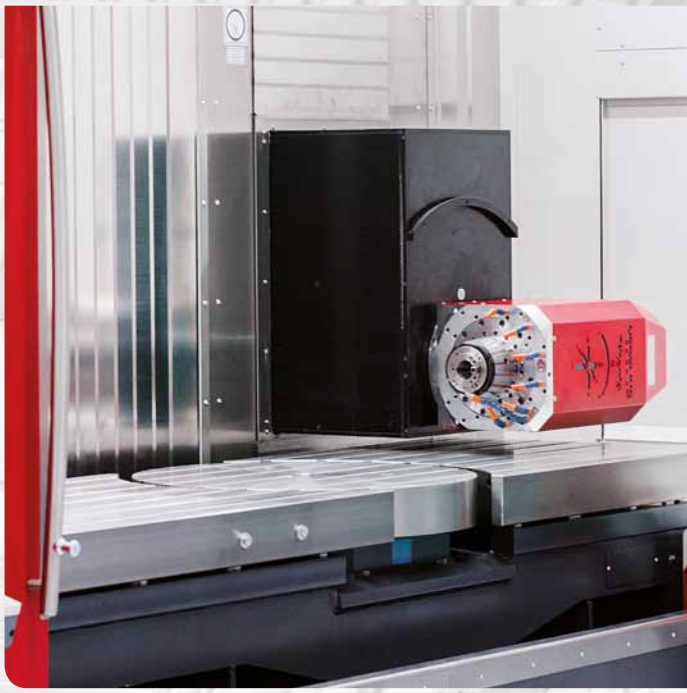


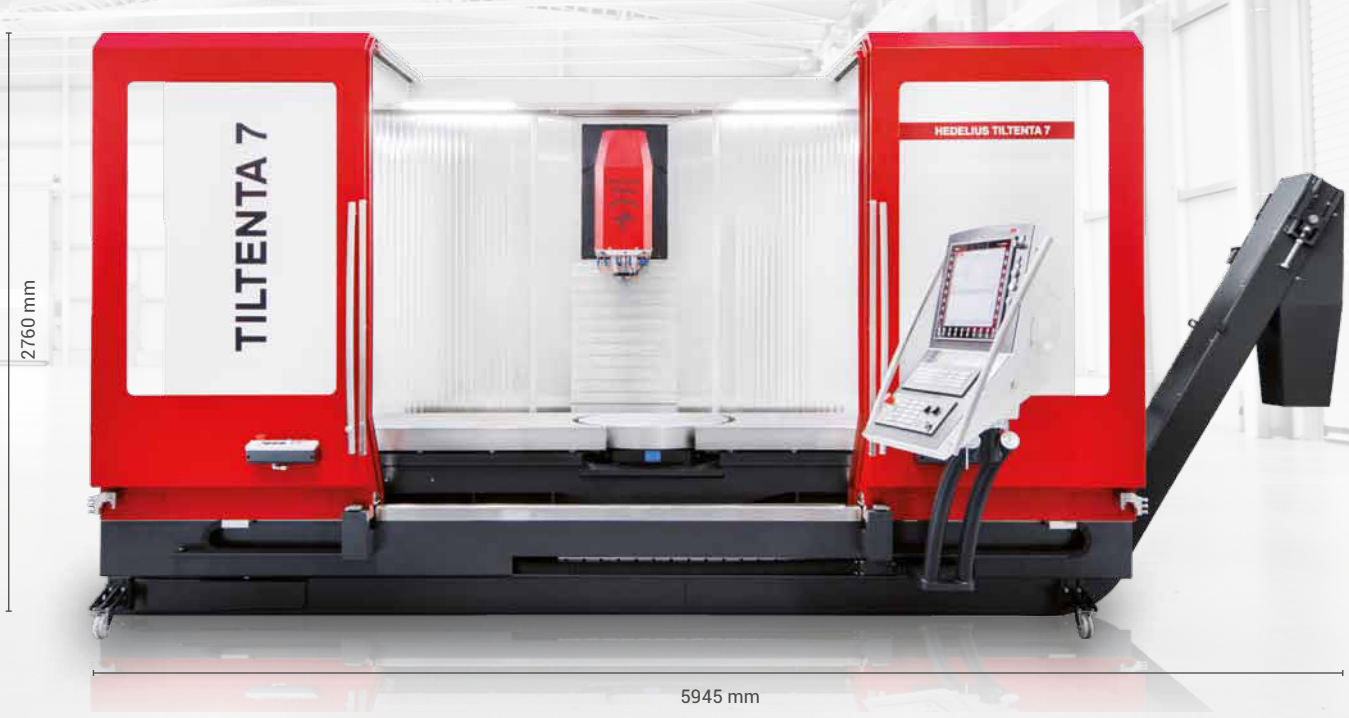
TILTENTA 7-2000 from January 2020 live at the demonstration centre.

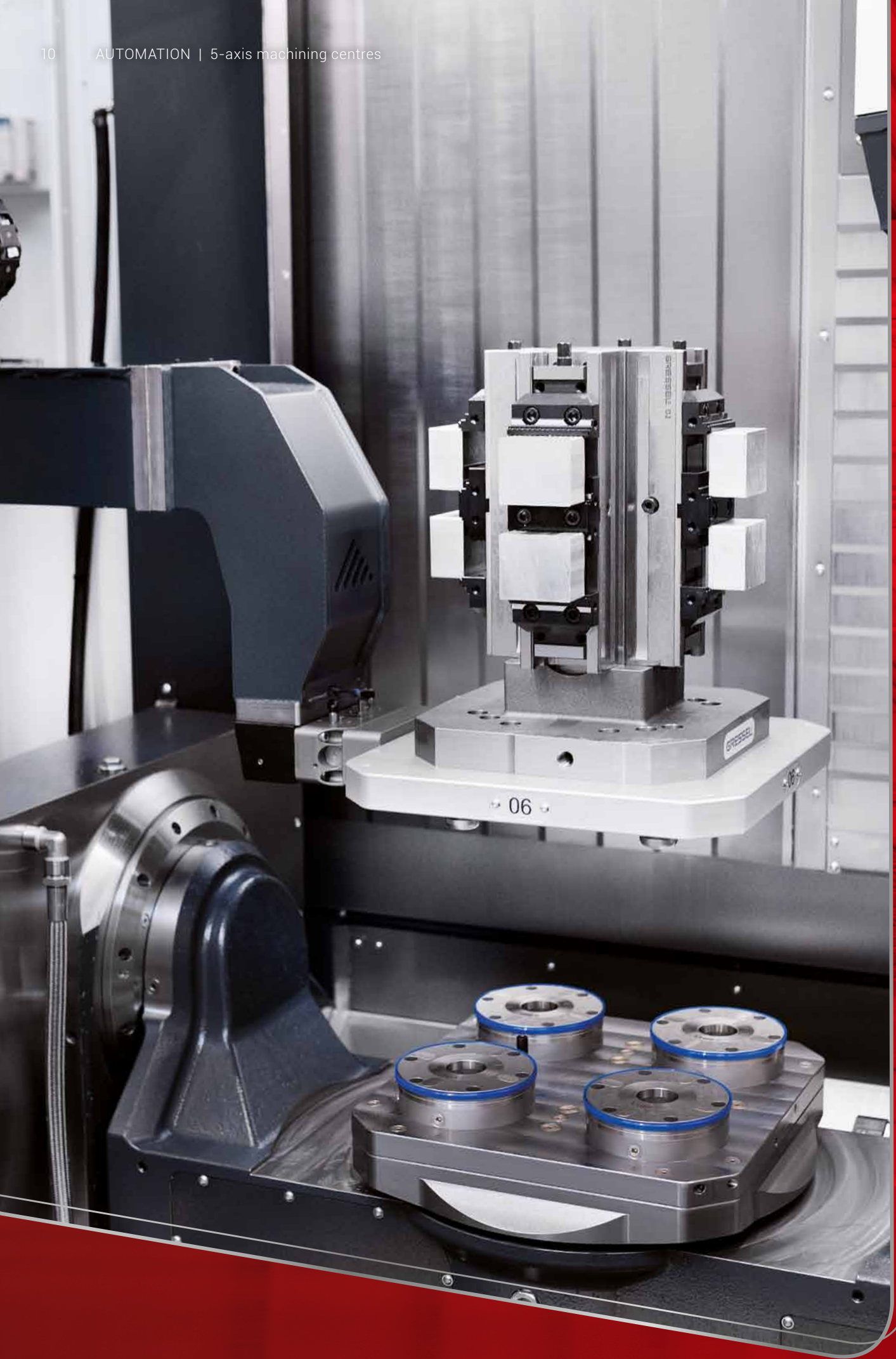
Whether used for 5-side machining or 5-axis simultaneous machining, the TILTENTA 7-2000, with its infinitely pivoting main spindle and integrated NC rotary table, is particularly impressive when it comes to individual part and small series production in machine and tool construction, with high clamping performance and compact installation dimensions. The large machine table allows the 5-axis machining of workpieces with an interference diameter of up to 1100 mm and a maximum clamping weight of 2000 kg, plus the machining of workpieces of up to 2000 mm long.

TILTENTA 7-2000

X-, Y-, Z-travel	2000/1430 x 750 x 695/800 mm
Swivel range	-5° – +98°/-98° – +98°
Speed range	14000/18000 rpm
Spindle power	22.00/29.00/35.00 kW
Number of tools	50/230 (max.)
Tool holder	SK 40/HSK A63
Rapid traverse	40/40/40 m/min
Feed measurement system	direct
Control	Heidenhain TNC 640 / Sinumerik 840 D
Total clamping surface	2300 × 750 mm
Fixed table load	2000 kg
Clamping area round table	Ø 750 mm
Load of the rotary table	800 kg
Diameter interference circle	Ø 1100 mm





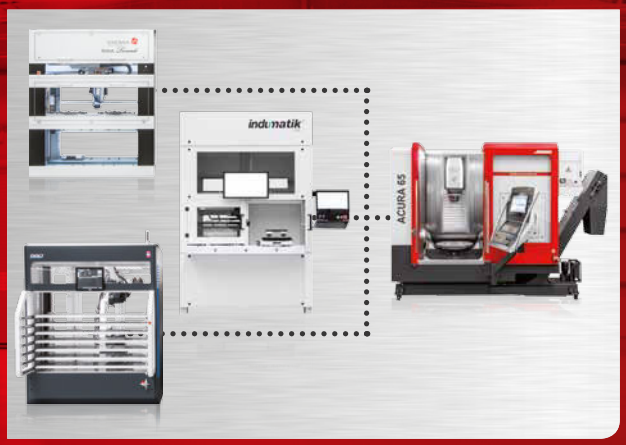

06

AUTOMATION OF 5-AXIS MACHINING CENTRES.

Greater productivity, more reliable delivery, less pressure on employees: there are plenty of good reasons for automating production. The 5-axis machining centres of the ACURA EL range are ideal for automating. The abbreviation EL stands for "external loading", referring to the machine's provision for loading pallets or workpieces into the workspace from the machine side.

Side loading.

Automation is set up on the left side of the machine. Thanks to the side loading, the workspace is fully maintained for set-up and control tasks, as well as for tasks such as single-item production during day shifts. The machine even offers unrestricted crane loading. Another advantage (dependent on the selected automation) is the ability to see into the workspace, thus ensuring optimised process monitoring when setting up the automation component. At the same time, this solution requires less depth and is easy to integrate into existing production.



Interfaces for third-party suppliers

Preconfigured standard interfaces are available for electrical connection to an automation component, e.g. EROWA, INDUNFORM or industrial robots. The ACURA EL is designed in such a way that users can select the optimal market solution for their automation tasks and can simply connect to the machine. For optimal automation design, HEDELIUS provides the automation company with the machine's 3D data in order to check the accessibility of the automation in the workspace on interfering contours.

MARATHON

REALLY GET YOUR PRODUCTION UP AND RUNNING.

The perfect combination.

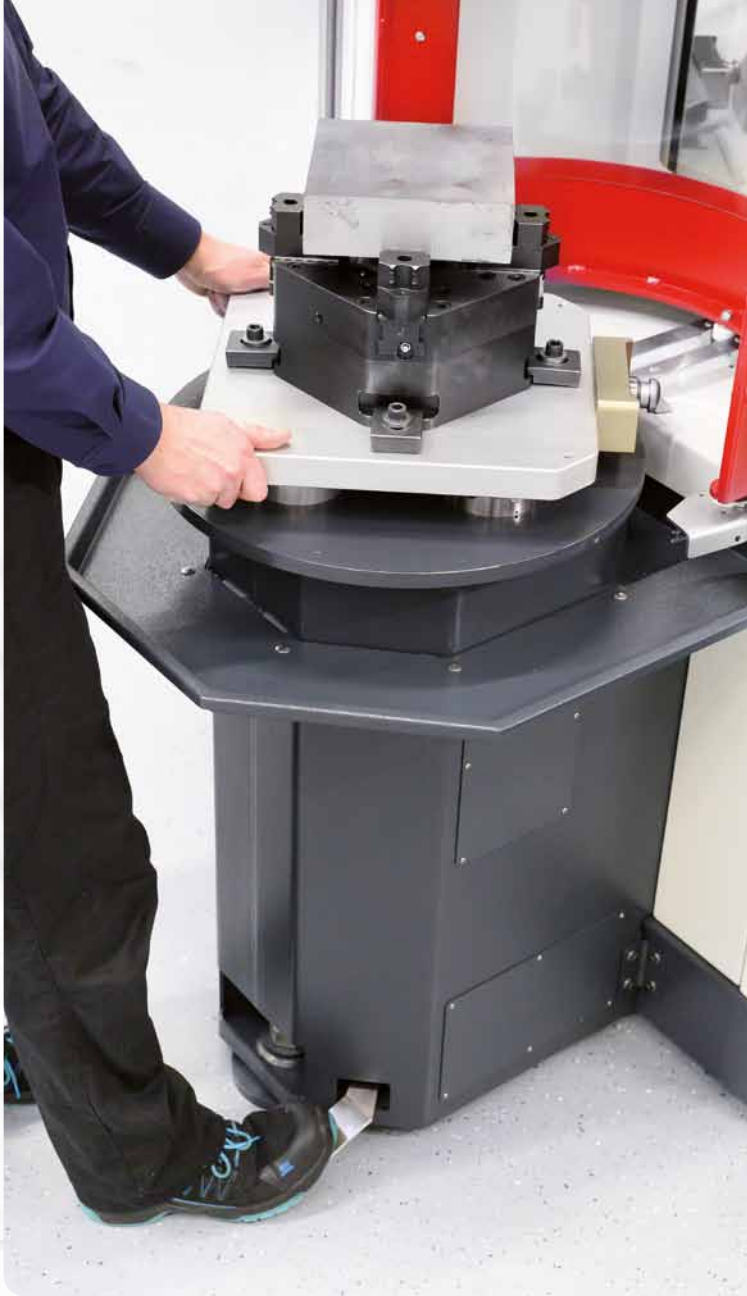
- Parallel set-up of apparatus during operating time (zero subsequent setting-up time)
- Clamping of workpieces during operating time
- Bridging of downtime with longer runtime from memory
- Multi-machine operation due to longer runtime from memory
- Consistent Heidenhain operating concept with TNC 640 at the machine, Heidenhain tool terminal for the standby magazine and Heidenhain pallet changer controls

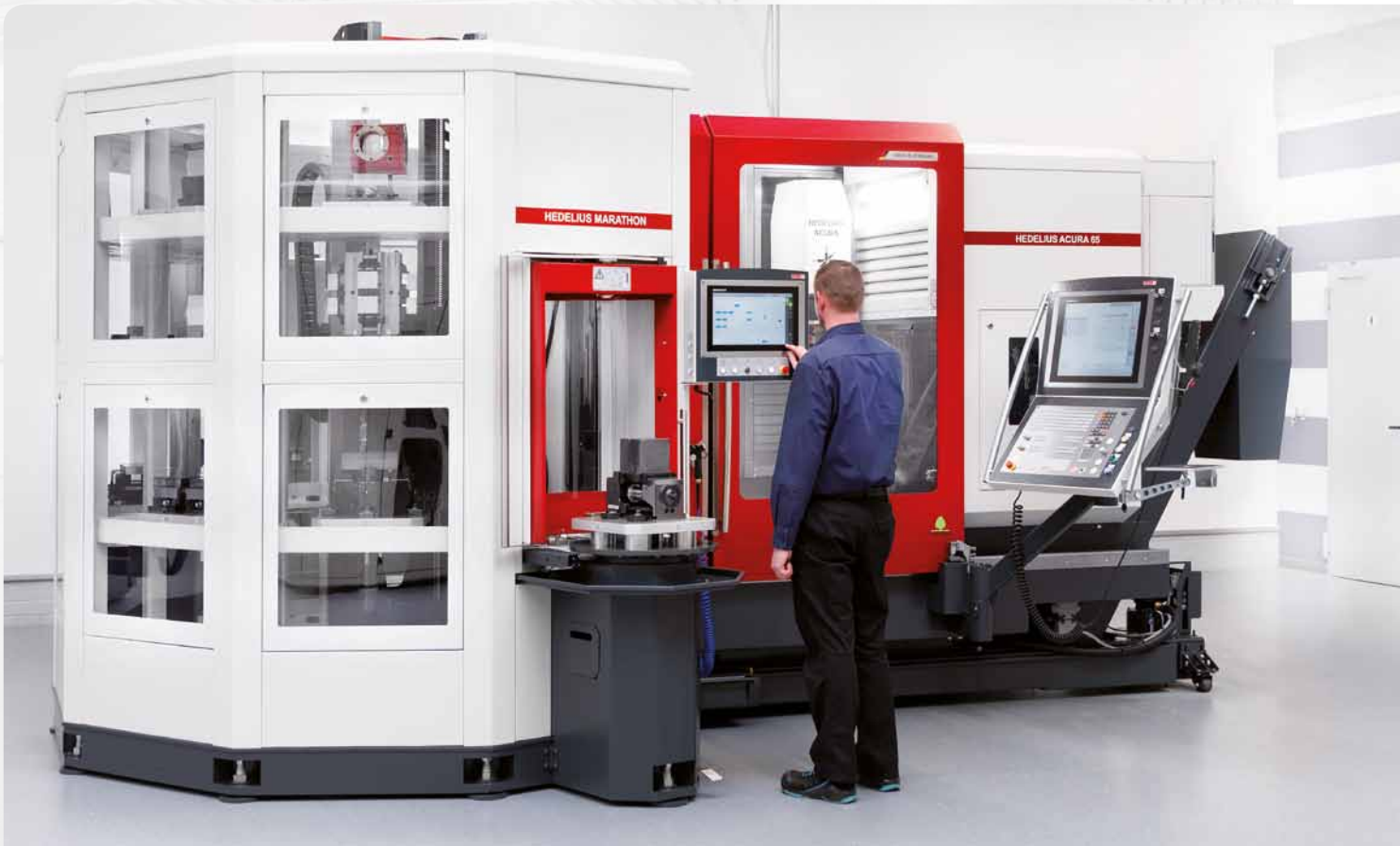
In an effort to optimise the manufacturing process, set-up and clamping times are increasingly the focus of attention among those in charge of production. In the past, large tool magazines and zero-point clamping technology were installed in many companies for the purposes of set-up optimisation. With the development of the MARATHON P422 multi-pallet storage system, HEDELIUS is now taking the next step towards further increasing the spindle running time of the machine and thus its productivity.

What we have done with our machining centres is also being carried across to the automated solution. At HEDELIUS, we focus on the operator. As such, the MARATHON features an array of technical details. The loading height up to the top edge of the pallet is 965 mm, simplifying set-up for the operator. The rotating set-up station, which comes as standard, and the pneumatic locking of pallets to the set-up station are also designed to simplify processes and ensure better clamping of workpieces. A query sensor is integrated into the set-up station and determines whether a pallet is already in there. This prevents the possibility of incorrect operation. The loading opening can be moved backwards for crane loading, thus leaving the set-up station completely free.

Pallets	
Number	22
Dimensions	400 x 400 mm
Workpiece	
Clamping weight	150 kg
Transfer weight	170 kg
Interference circle diameter	500 mm
Max. clamping height	400 mm*
Setup station	
Characteristic	rotatable standard
Tension	pneumatically locked
Query	sensory
Control	
Pallet changer control	Heidenhain

*Please note the maximum machining height of the machining center.



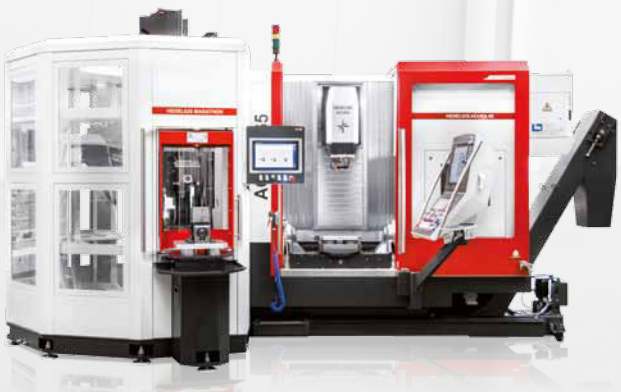


PALLET AUTOMATION.

An automation solution that uses pallets is ideal in cases where individual parts have to be repeated or small to medium-sized batches are to be manufactured. The advantage of pallets is that while the workpiece is being processed in the machine, a new workpiece can be clamped at the same time, or the apparatus modified. Pallet storage systems are increasingly being used to ensure that the machine can continue with production even during breaks or whole shifts with little in the way of manpower. The pallet stock may comprise several thousand pallets and is geared towards the average lifespan of the workpiece and achieving the desired overall runtime with low manpower.

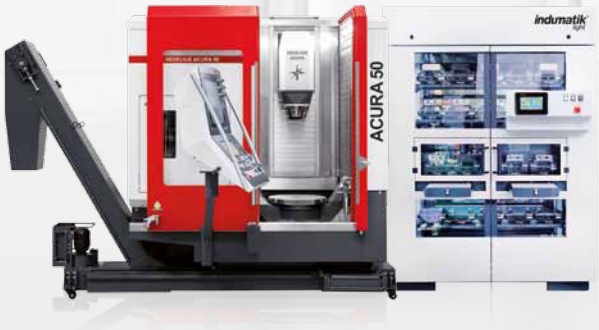
MARATHON P422

Interface for	ACURA 65
Storage/retrieval station	1-fold
Pivotable storage/retrieval station	Yes
Number of pallets	22
Pallet clamping surface	400 x 400 mm
Handling weight	170 kg
Multi-machine operation	No



INDUMATIK Light 30

Interface for	ACURA 50
Storage/retrieval station	2-fold
Pivotable storage/retrieval station	No
Number of pallets	50/50/72
Pallet clamping surface	240 x 190 mm / Ø 150 mm / HSK100
Handling weight	30 kg
Multi-machine operation	No

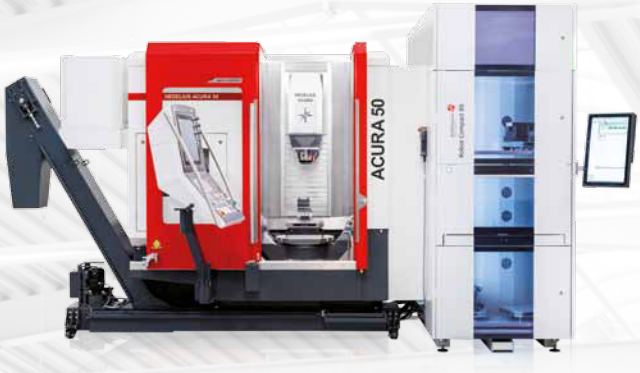


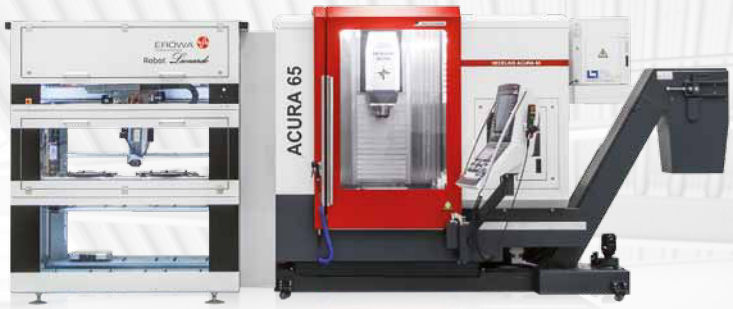
EROWA ERC 80

Interface for	ACURA 50
Storage/retrieval station	2-fold
Pivotable storage/retrieval station	Yes
Number of pallets	10/15/25
Pallet clamping surface	320 x 320 mm / Ø 210 mm / Ø 148 mm
Handling weight	80 kg
Multi-machine operation	No

EROWA Leonardo

Interface for	ACURA 50/ACURA 65/ACURA 85
Storage/retrieval station	2-fold / 4-fold
Pivotable storage/retrieval station	Yes
Number of pallets	24/32/40
Pallet clamping surface	400 x 400 mm / 320 x 320 mm / Ø 210 mm
Handling weight	80/120 kg
Multi-machine operation	Yes



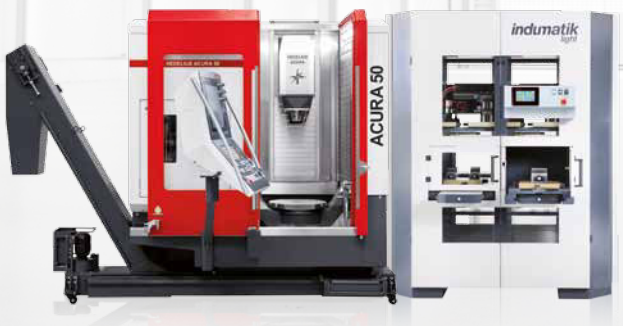


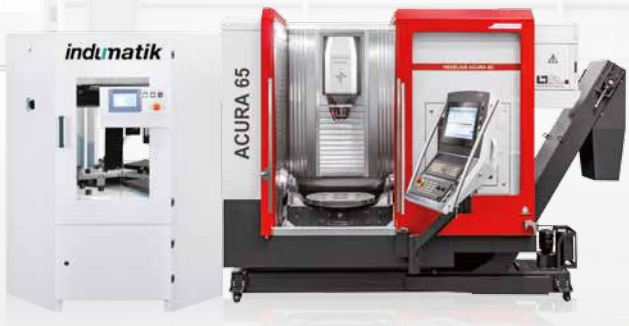
INDUMATIK Light 60

Interface for	ACURA 50/ACURA 65
Storage/retrieval station	2-fold
Pivotable storage/retrieval station	No
Number of pallets	24/30
Pallet clamping surface	320 x 320 mm / 230 x 230 mm
Handling weight	60 kg
Multi-machine operation	No

INDUMATIK UltraLight 100

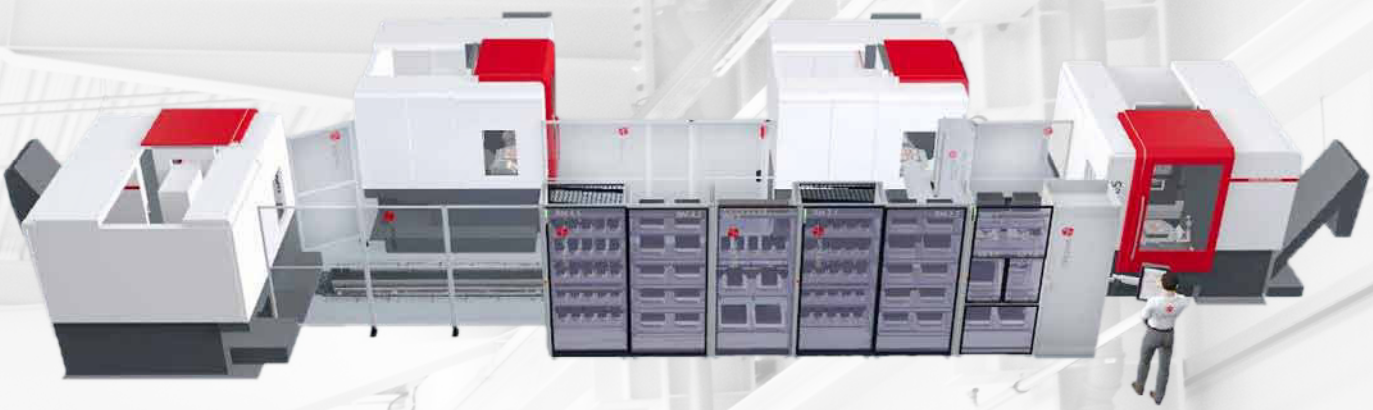
Interface for	ACURA 50/ACURA 65/ACURA 85
Storage/retrieval station	No
Pivotable storage/retrieval station	No
Number of pallets	6/8/16
Pallet clamping surface	400 x 400 mm / 320 x 320 mm / 200 x 200 mm
Handling weight	100 kg
Multi-machine operation	No





EROWA ERD 150

Interface for	ACURA 50/ACURA 65/ACURA 85
Storage/retrieval station	Yes
Pivotable storage/retrieval station	Yes
Number of pallets	Unique
Pallet clamping surface	400 x 400 mm / 320 x 320 mm / Ø 210 mm
Handling weight	150 kg
Multi-machine operation	Flexibly expandable

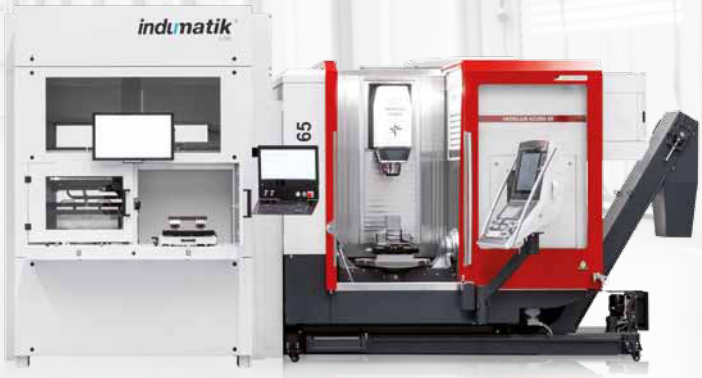


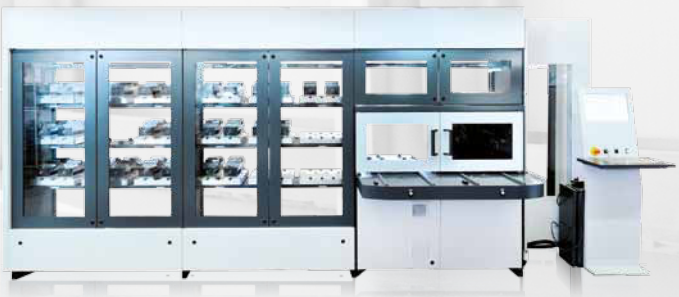
INDUMATIK Light 120

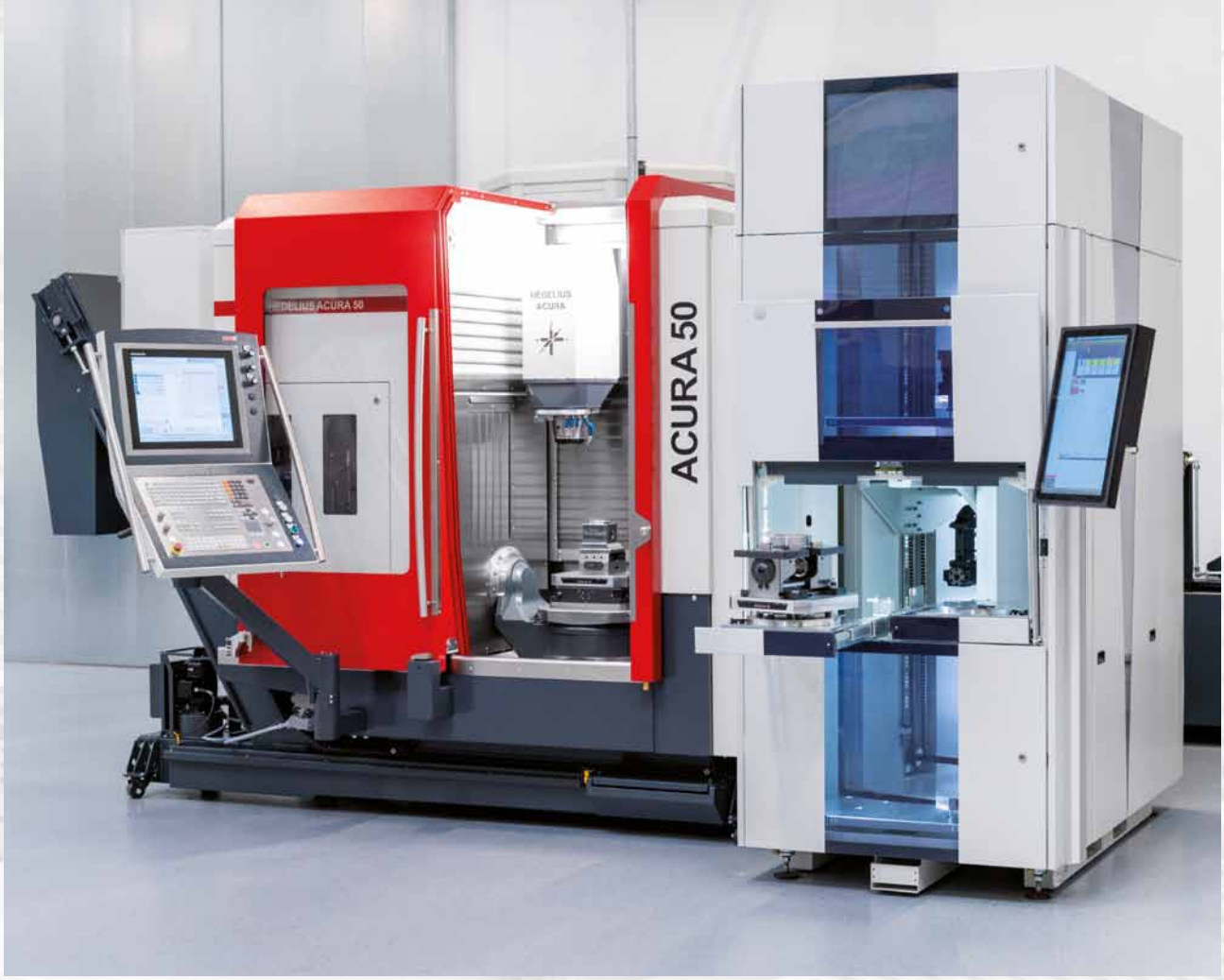
Interface for	ACURA 50/ACURA 65/ACURA 85
Storage/retrieval station	2-fold
Pivotable storage/retrieval station	No
Number of pallets	24/30/42
Pallet clamping surface	400 x 400 mm / 320 x 320 mm / 200 x 200 mm
Handling weight	120 kg
Multi-machine operation	Yes

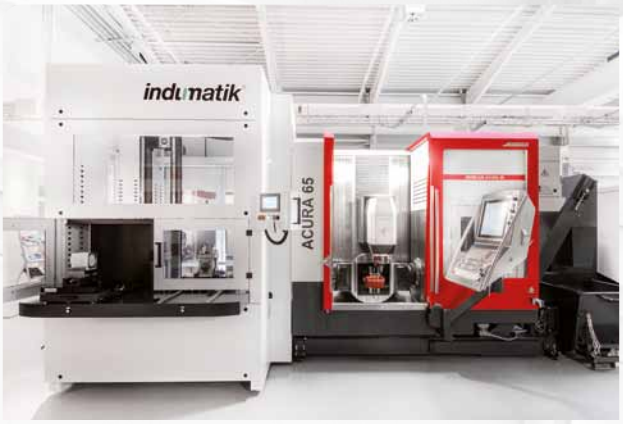
INDUMATIK 150

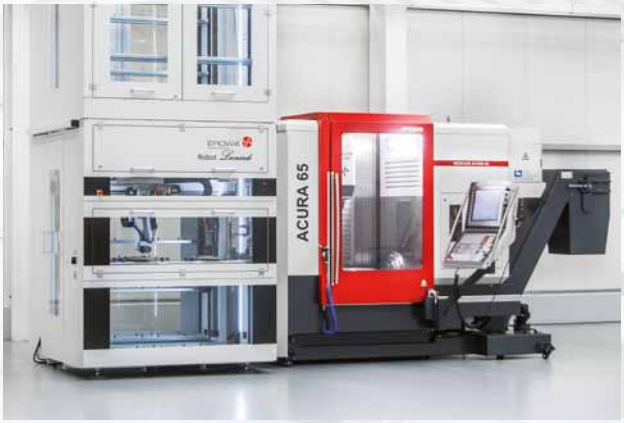
Interface for	ACURA 50/ACURA 65/ACURA 85
Storage/retrieval station	2-fold
Pivotable storage/retrieval station	No
Number of pallets	Unique
Pallet clamping surface	400 x 400 mm / 320 x 320 mm / 200 x 200 mm
Handling weight	150 kg
Multi-machine operation	Flexibly expandable











Numerous automation systems can be connected to the HEDELIUS ACURA range, such as multi-pallet storage systems in the Indumatik Light or Erowa Leonardo models, all the way through to linear systems for the chain-linking of several machines.

WORKPIECE AUTOMATION.

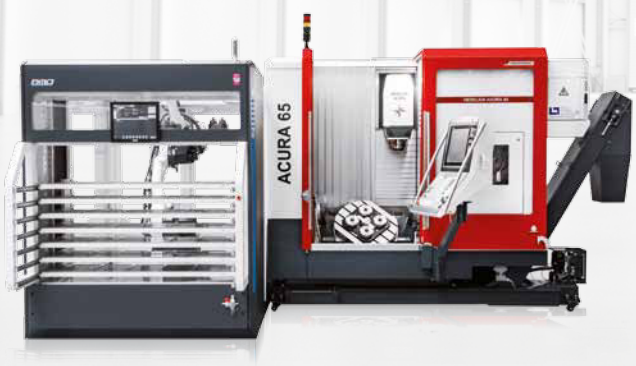
Robot cells are able to load tool machines with raw parts quickly and precisely, and then remove the finished parts. Thanks to sophisticated user interfaces, a knowledge of programming is no longer needed to retool quickly and easily. This makes robot cells cost-effective even for smaller batch sizes. Along with handling workpieces, modern robot cells can also change workpiece pallets, thus increasing flexibility in small and medium batch production. To make them easier to put into operation, HEDELIUS offers standardised interfaces for different solutions.

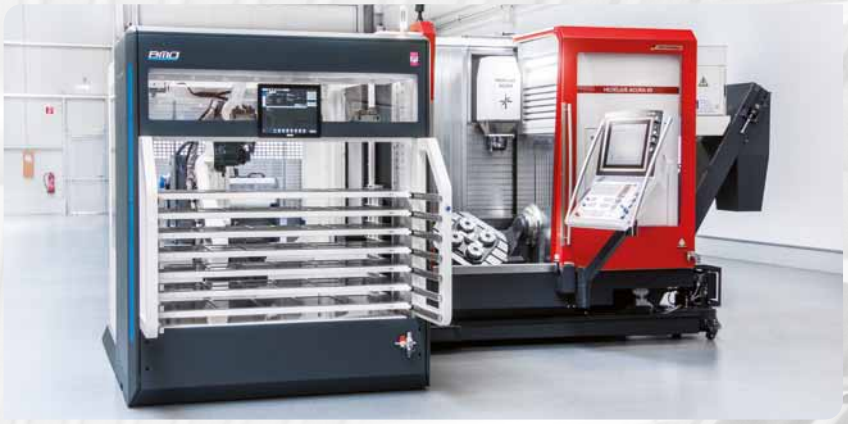
BMO Platinum

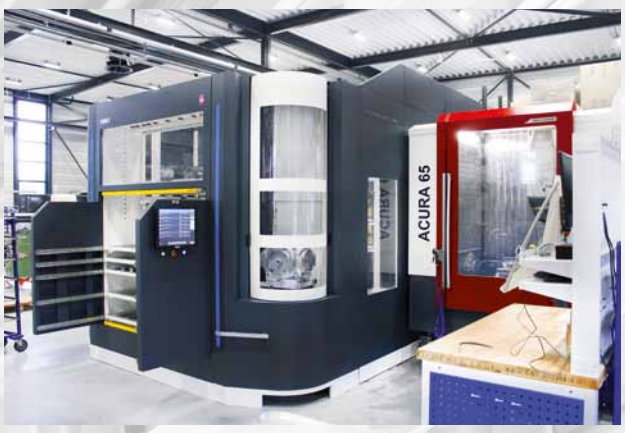
Interface for	ACURA 50/ACURA 65
Workpiece handling	Yes
Workpiece storage	Drawers
Number of stores	4-7
Gripper	Single / double
Pallet handling	Yes
Pallet storage/retrieval station	No
Pivotable storage/retrieval station	No
Number of pallets	8 / 16
Pallet clamping surface	395 x 395 mm / 395 x 195 mm
Handling weight	24 / 50 / 80 kg
Multi-machine operation	Yes

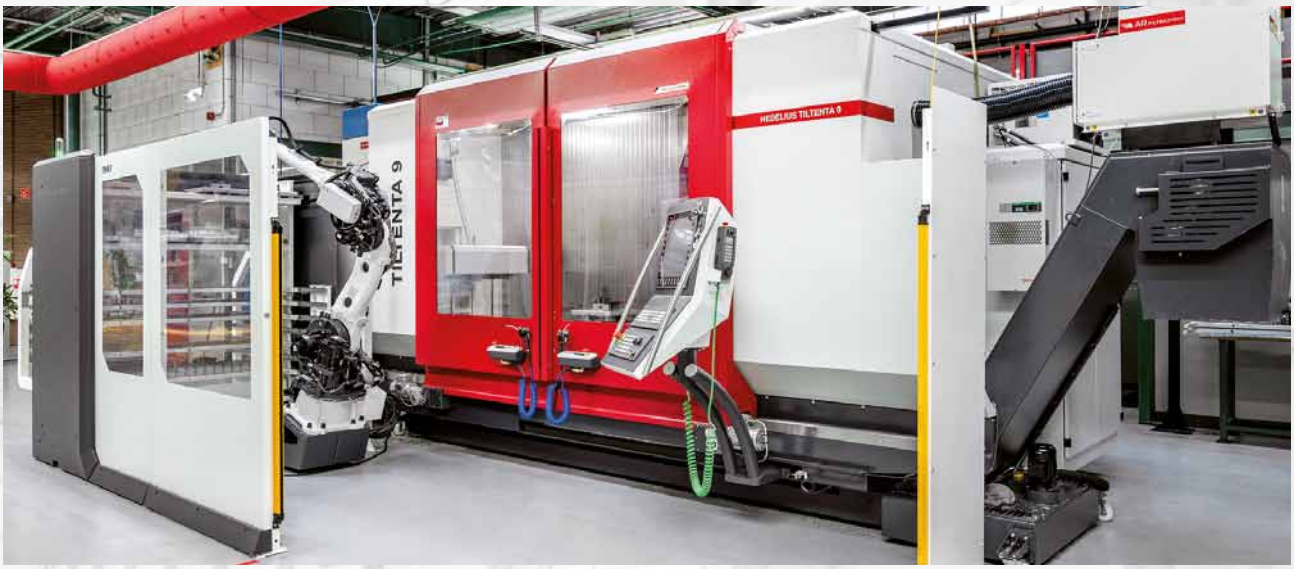
BMO Titanium

Interface for	ACURA 50/ACURA 65/ACURA 85
Workpiece handling	Yes
Workpiece storage	Drawers
Number of stores	4-7
Gripper	Single / double
Pallet handling	Yes
Pallet storage/retrieval station	Yes
Pivotable storage/retrieval station	Yes
Number of pallets	8-100
Pallet clamping surface	395 x 395 mm / 395 x 195 mm
Handling weight	180 / 500 kg
Multi-machine operation	Yes



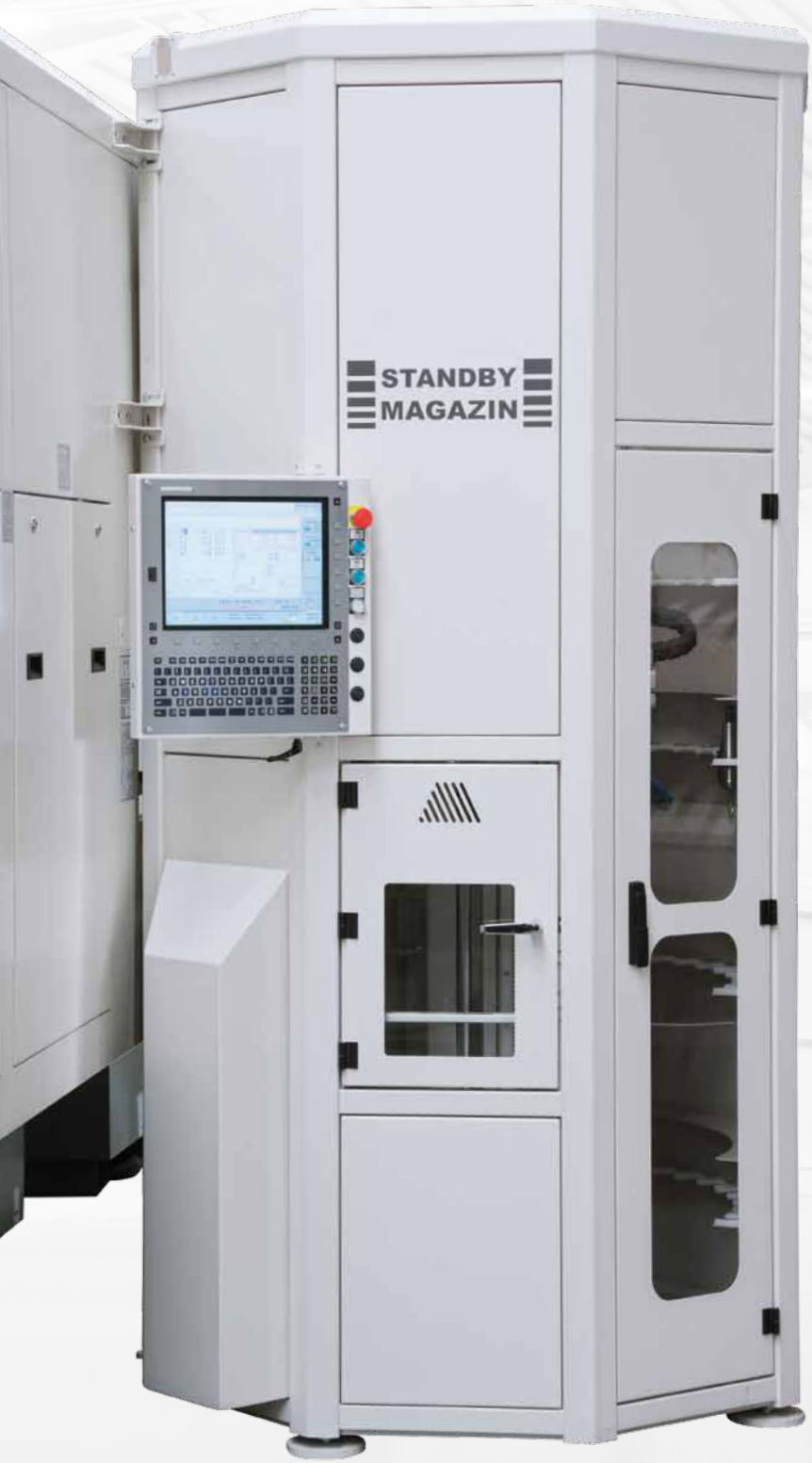



ACURA 65


TILTENTA 9

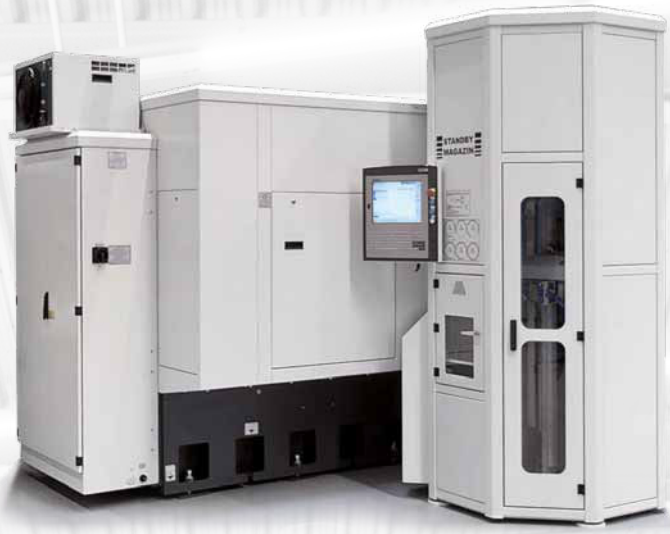
TOOL AUTOMATION: STANDBY MAGAZINE.

Having the right tools is essential in daily production. Searching for tools, calibrating them, transporting them and loading the magazine takes up valuable time and adds up to several hundred working hours over the year.



Technical specifications	SBM 40S / 63S
Tool holder	SK 40 / BT 40 / HSK A63
Capacity max.	180
Tool length A max.	240 mm
Capacity A max.	100
Tool length B max.	300/330 mm
Capacity B max.	80
Tool change time	17–21 sec.
Base area	1340x1340 mm
Overall height	2810 mm

Tool diameters are adapted to fit each machine.



The HEDELIUS standby tool magazine is a cabinet magazine positioned behind the machining centre. A rotating lifting frame with gripper removes the tools from the standby magazine and places them in the tool magazine of the machining centre. The changeover time is just a few seconds. The required tools are selected at the beginning of an NC program. The tool management software checks whether the tools are in the main magazine of the machine. If a tool is missing, it is automatically taken from the standby magazine and inserted into the main magazine of the machining centre. If more tools are required for a workpiece than are present in the main magazine, the additional tools are also taken automatically from the standby magazine. This eliminates time-consuming manual changeovers.

Example calculation	**Manuell**	**Standby Magazin**
Setup time per tool	75 sec.	20 sec.
Setup time per day for 56 tools	70 min.	18,5 min.
Setup time per year for 250 working days	291 h	77 h
Setup costs per year at an hourly rate of € 80	23,280 €	6,160 €

Annual savings: 17,120 €

Example calculation: With four changeovers per day with an average of 14 new tools to be fitted, the total tool requirement is 56 tools per day.

ACURA 50.

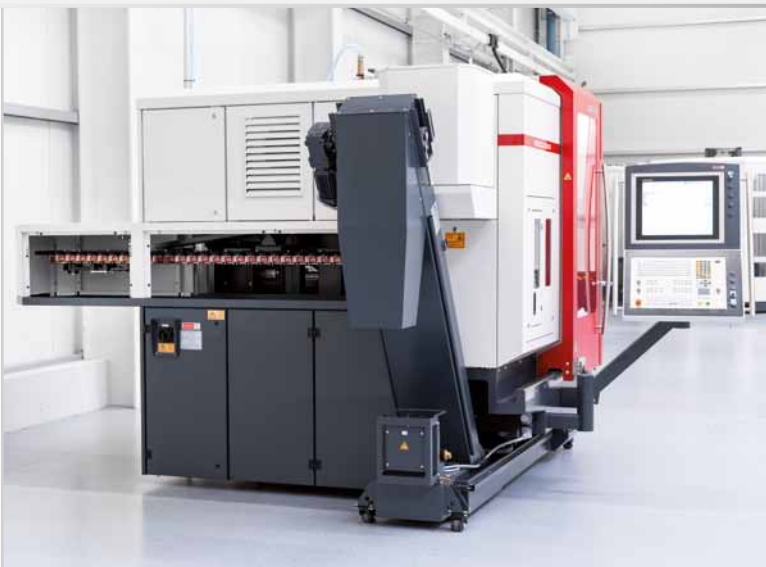
With an 80-slot tool magazine.

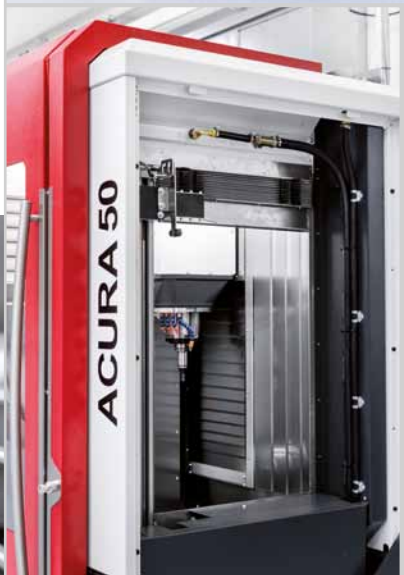
HEDELIUS has responded to the trend for more tools to reduce setup times by introducing the ACURA 50. The 5-axis high-performance machining centre already comes with a 55-slot magazine as standard. However, those interested in the model soon began asking whether it might be possible to expand the magazine, especially with a view to automation. On the back of this interest, HEDELIUS is now offering the optional expansion of the magazine to 80 tool slots. The apparatus of the standard magazine was extended easily and cost-effectively to fit 80 slots. Compared with the standard 55-slot magazine, the CNC magazine requires just approx. 950 mm more space in terms of depth.

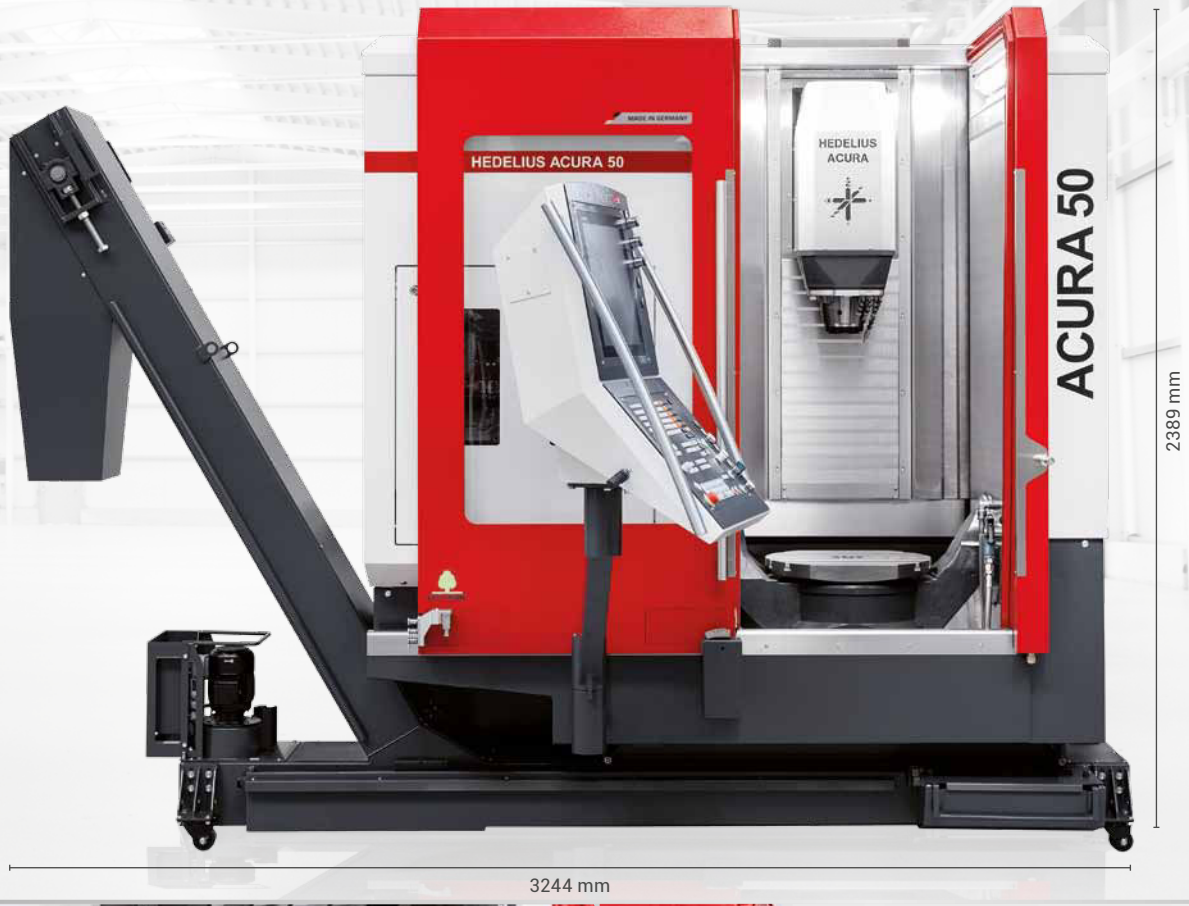
- Z travel of 550 mm
- Rotary/tilt table supported on both sides for high-precision cutting performance
- Moving column design with fixed cantilever of the Y-axis
- 55- or 80-tool magazine operated from the front
- Optimised chip fall thanks to vertical stainless steel cover
- Space-saving chip conveyor on castors can be pulled out forwards
- Low profile, slim design
- Optional 5-axis simultaneous milling

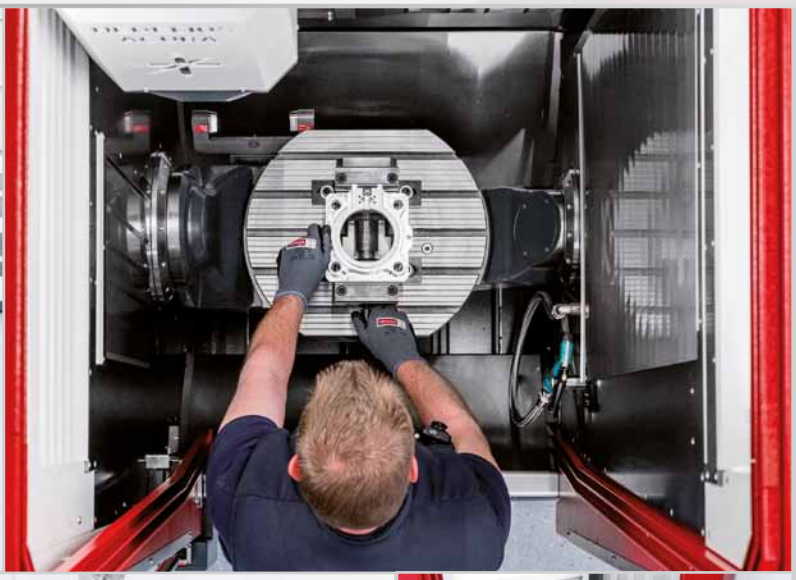
ACURA 50

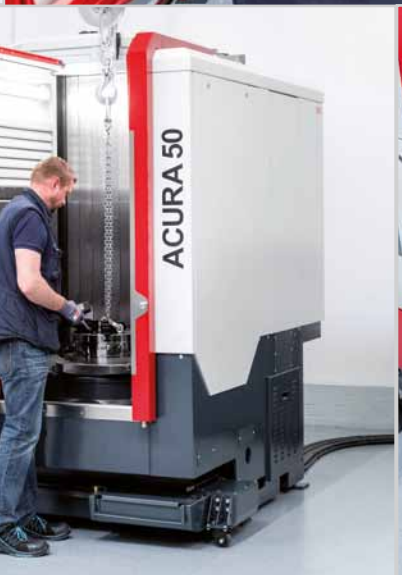
X-, Y-, Z-travel	500 x 550/370 x 550 mm
Swivel range	+30° – -115°
Speed range	14000/18000/24000 rpm
Spindle power	22,00/29,00/30,00/35,00 kW
Number of tools	55/80/235 (max.)
Tool holder	SK 40/HSK A63
Rapid traverse	40/40/40 m/min
Feed measurement system	direct
Control	Heidenhain TNC 640 / Sinumerik 840 D
Clamping area round table	500 x 430 mm
Load of the rotary table	300 kg
Diameter interference circle	Ø 550 mm



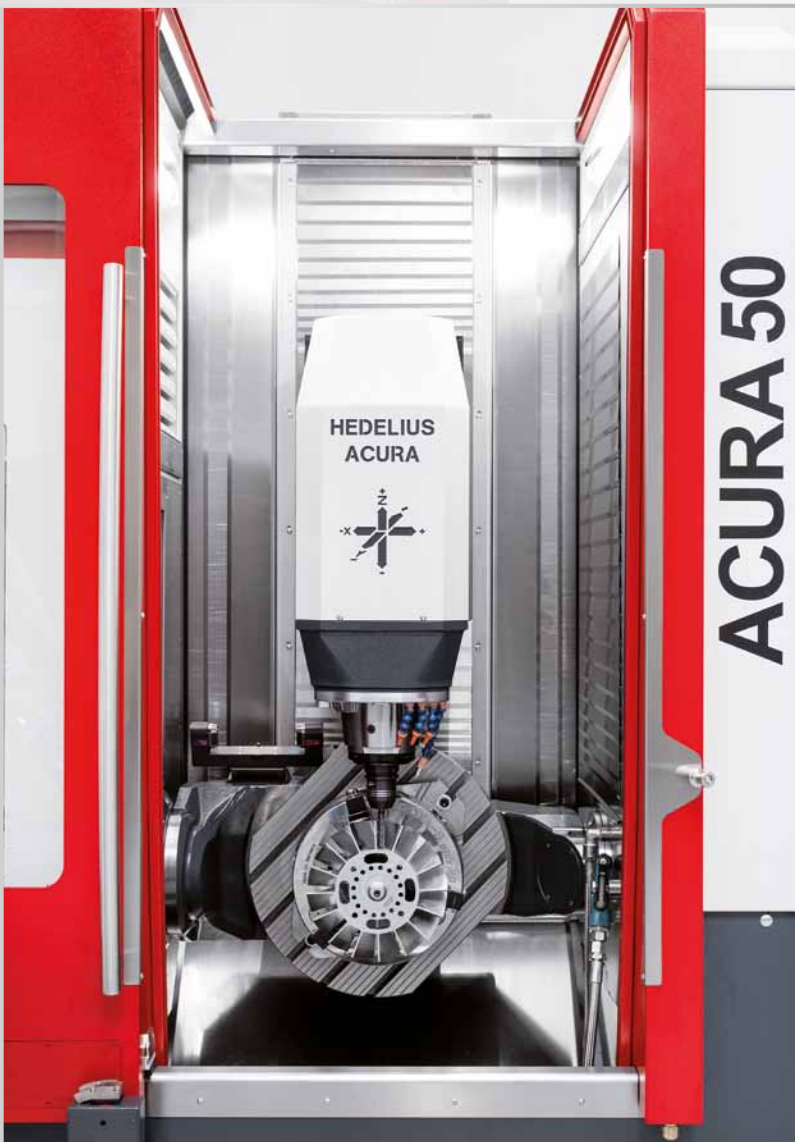



HEDELIUS ACURA 50
HEDELIUS ACURA
ACURA 50
2389 mm
3244 mm



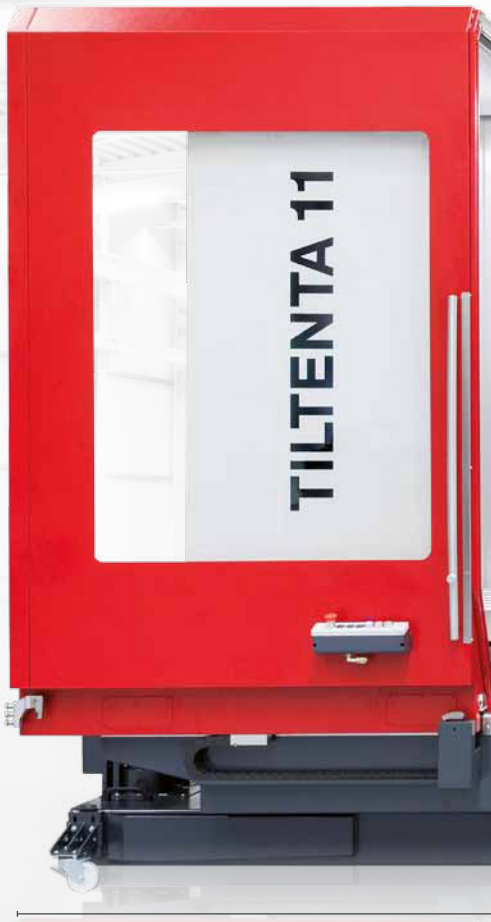

ACURA 50


ACURA 50


HEDELIUS ACURA
ACURA 50

TILTENTA 11-2600.

Highly flexible with pivotable main spindle.

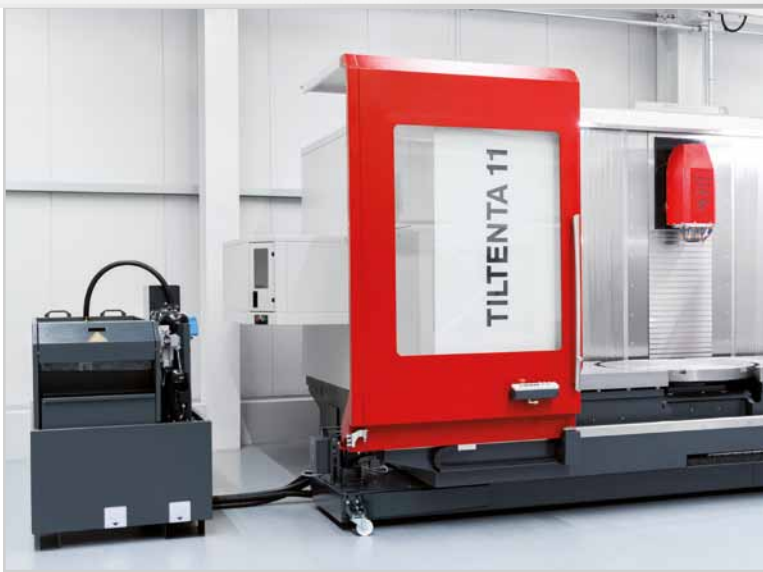


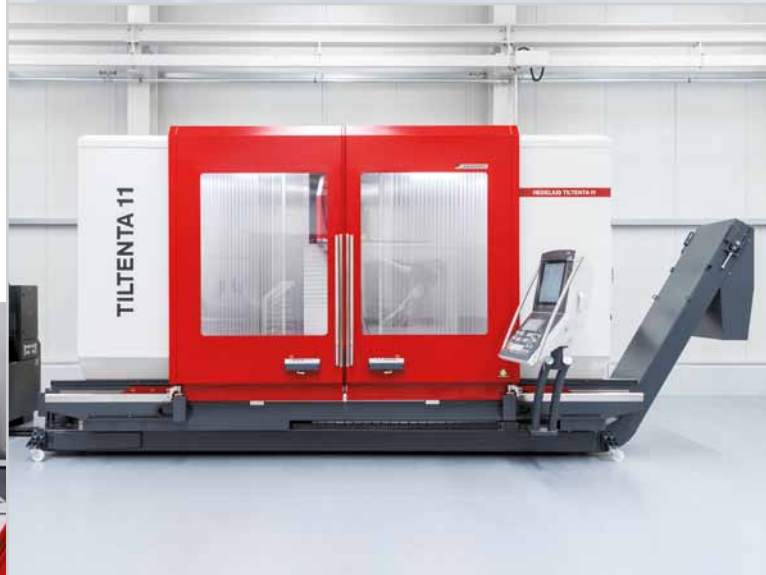
The TILTENTA-11 range from HEDELIUS is scaling new heights with its remarkable 1,100 mm Y travel path. The TILTENTA 11-2600 opens up new areas of application in the machining of individual parts and entire series in machine construction, tool making and vehicle manufacturing. The TILTENTA crossover concept solves all sorts of challenges, whether machining long workpieces or 5-sided complete machining with an integrated NC rotary table. The combination of a continuously pivotable main spindle and a long machine table with an integrated NC rotary table enables mixed manufacturing of large workpieces and precise 5-axis machining within the apparatus.

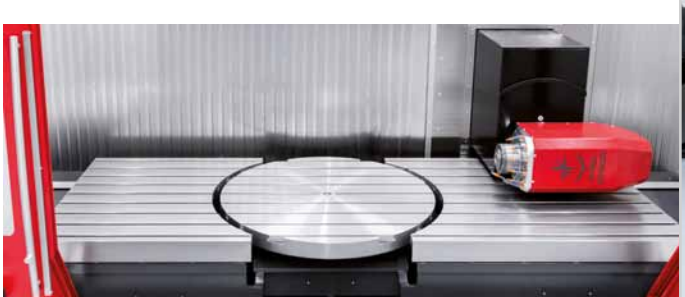
- Extra-large Y travel of 1,100 mm
- Versatile 4/5-axis machining centre with pivoting main spindle
- High table load
- Optionally with integrated heavy-load rotary table
- Utmost precision across four axes in the tool and one axis in the workpiece
- Fast 65-slot tool changer

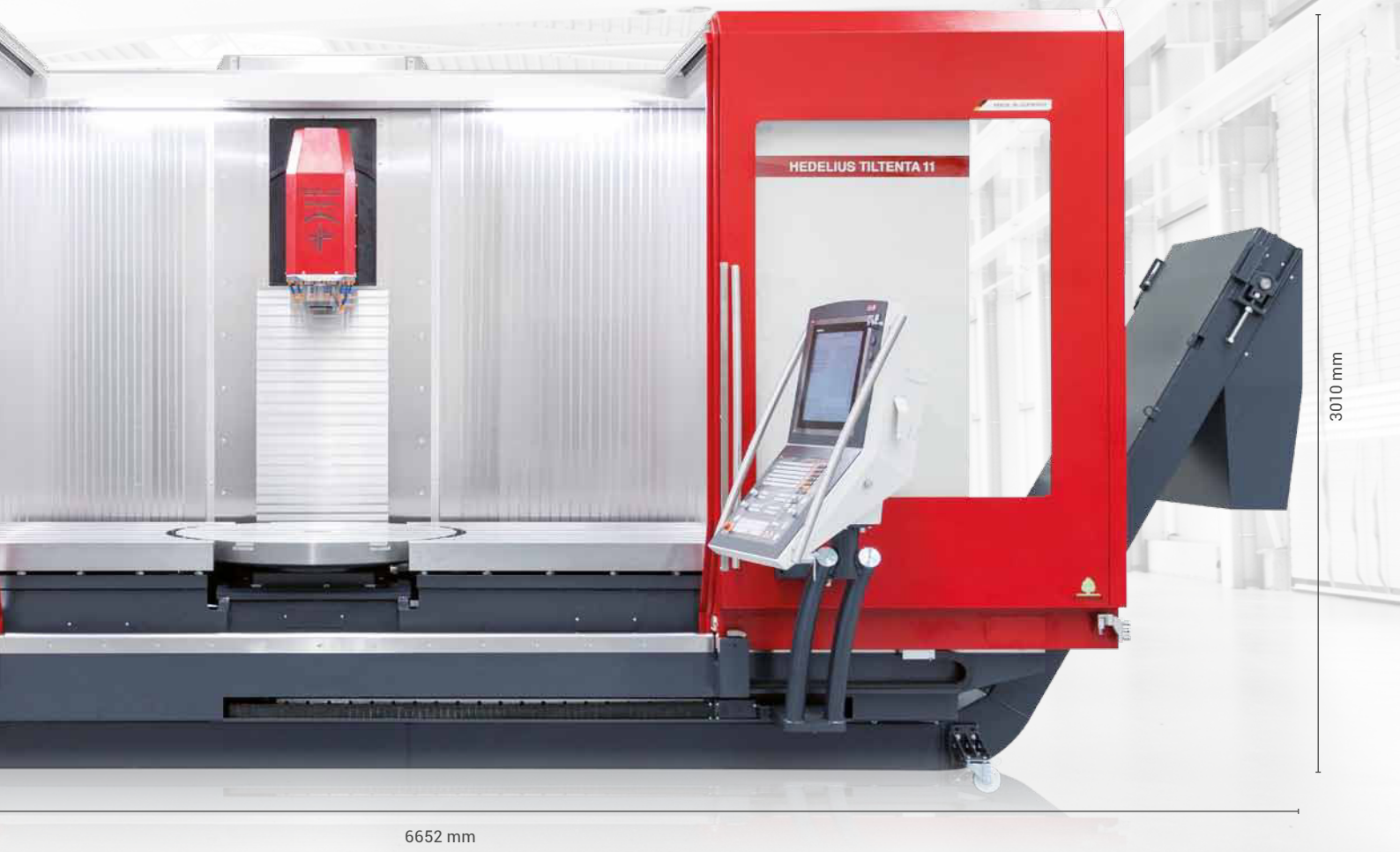
TILTENTA 11-2600

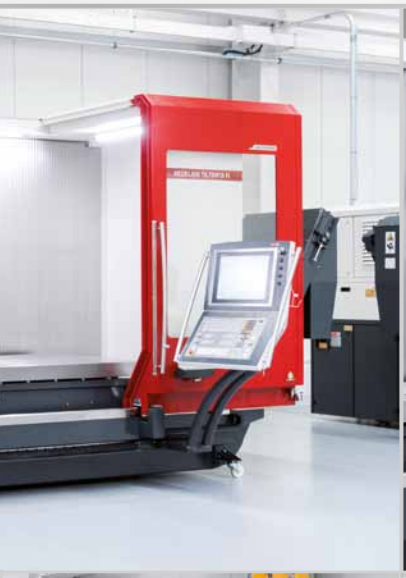
X-, Y-, Z-travel	2600/2030 x 1100 x 900/1005 mm
Swivel range	-5° – +98°/-98° – +98°
Speed range	14000/15000/18000 rpm
Spindle power	22.00/29.00/35.00/50.00 kW
Number of tools	65/245 (max.)
Tool holder	SK 40/HSK A63
Rapid traverse	40/40/40 m/min
Feed measurement system	direct
Control	Heidenhain TNC 640 / Sinumerik 840 D
Total clamping surface	3080 x 1100 mm
Fixed table load	4000 kg
Clamping area round table	Ø 1140 mm
Load of the rotary table	1800 kg
Diameter interference circle	Ø 1450 mm

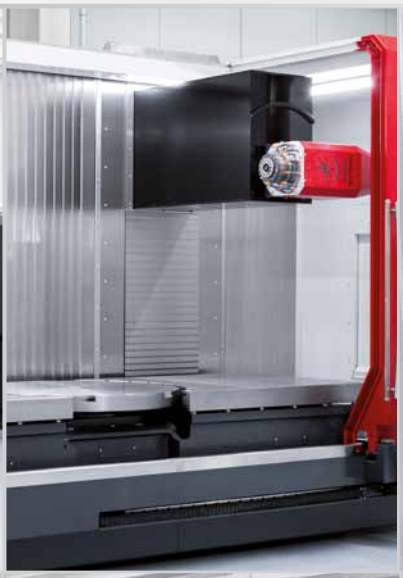


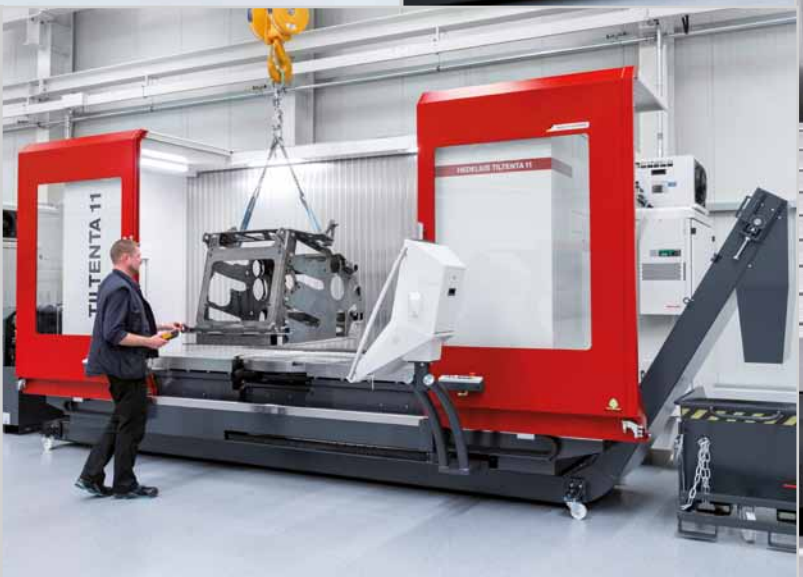


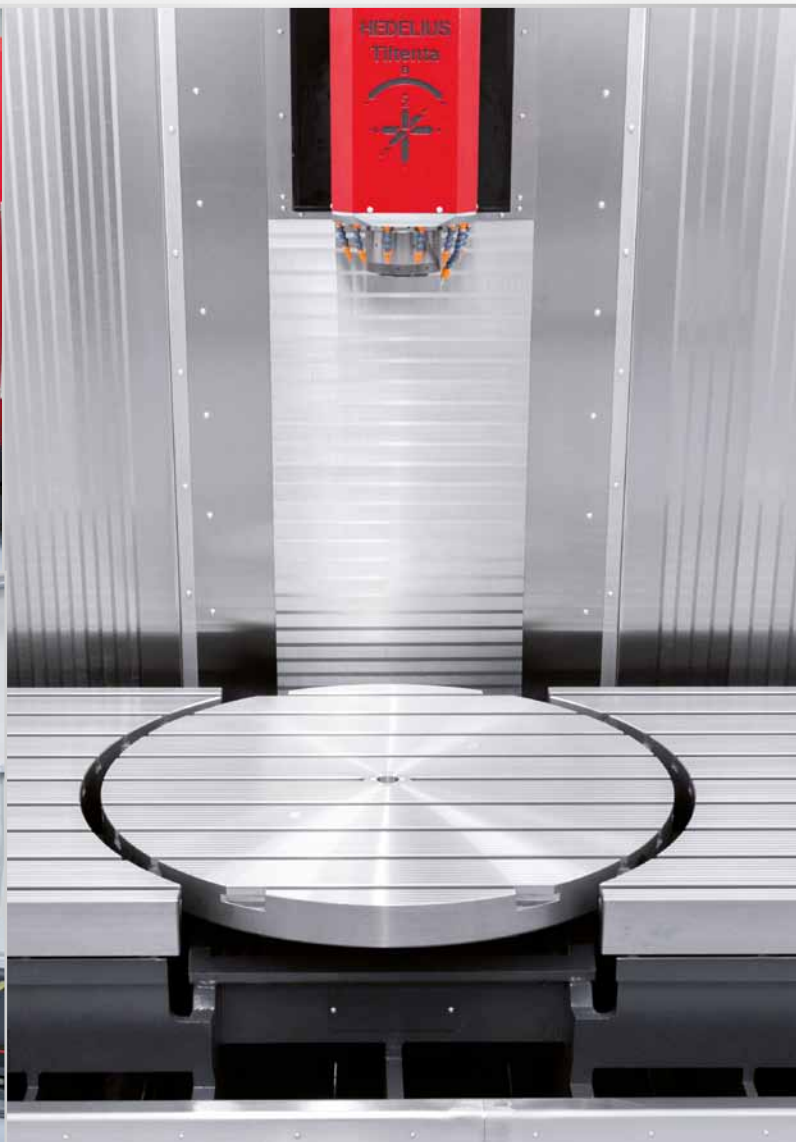



HEDELIUS TILTENTA 11
3010 mm
6652 mm






TILTENTA 11


HEDELIUS
Tiltenta

FORTE 50 Single 1120.

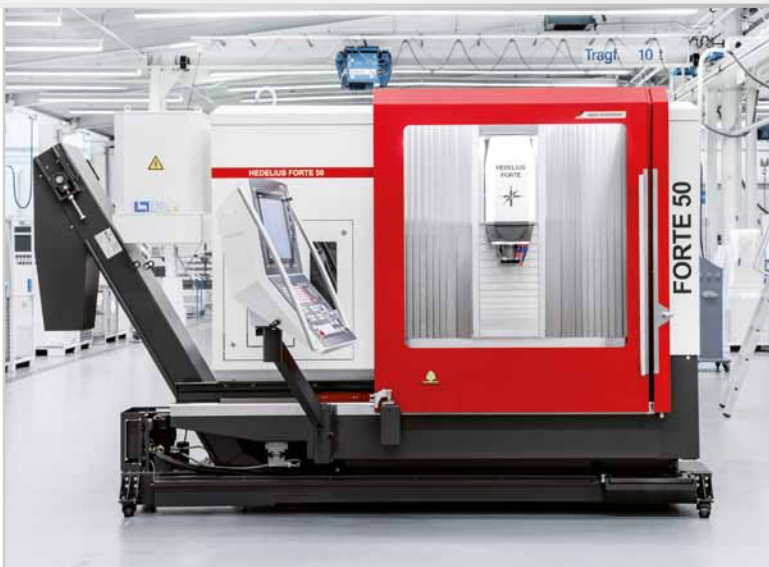
The small vertical centre with the big tool changer.

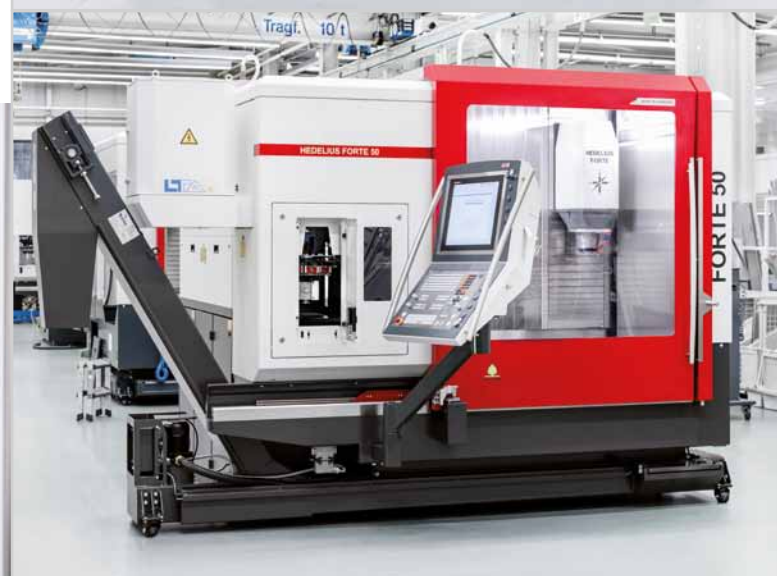
The installation times of the FORTE 50 Single 1120 can be considerably reduced with the optional zero point clamping systems. They thus offer a sensible addition, especially for individual part to medium-sized series production. Other options include, for example, the 3D mould construction tuning or the 3D infrared measurement sensors for the automated scanning of the work pieces and independent adjustment of the processing specifications for measurement deviations.

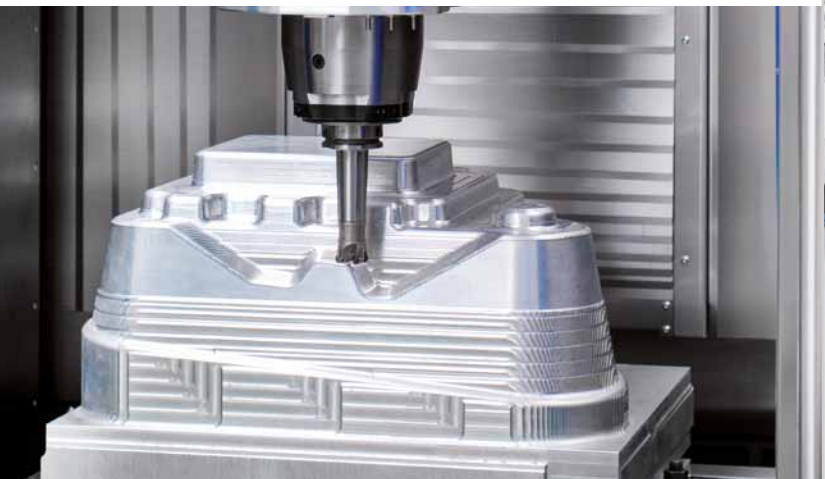
- Generous X travel length of 1120 mm
- Large Z travel length of 550 mm
- Direct measurement systems as standard
- Completely enclosed work space
- Heavy-duty, fixed machine bench
- Vertical stainless steel covering for optimised chip fall
- Moving columns of high quality machine casting
- Highlight: Parallel tool magazine loaded during main processing time with 55/80 positions

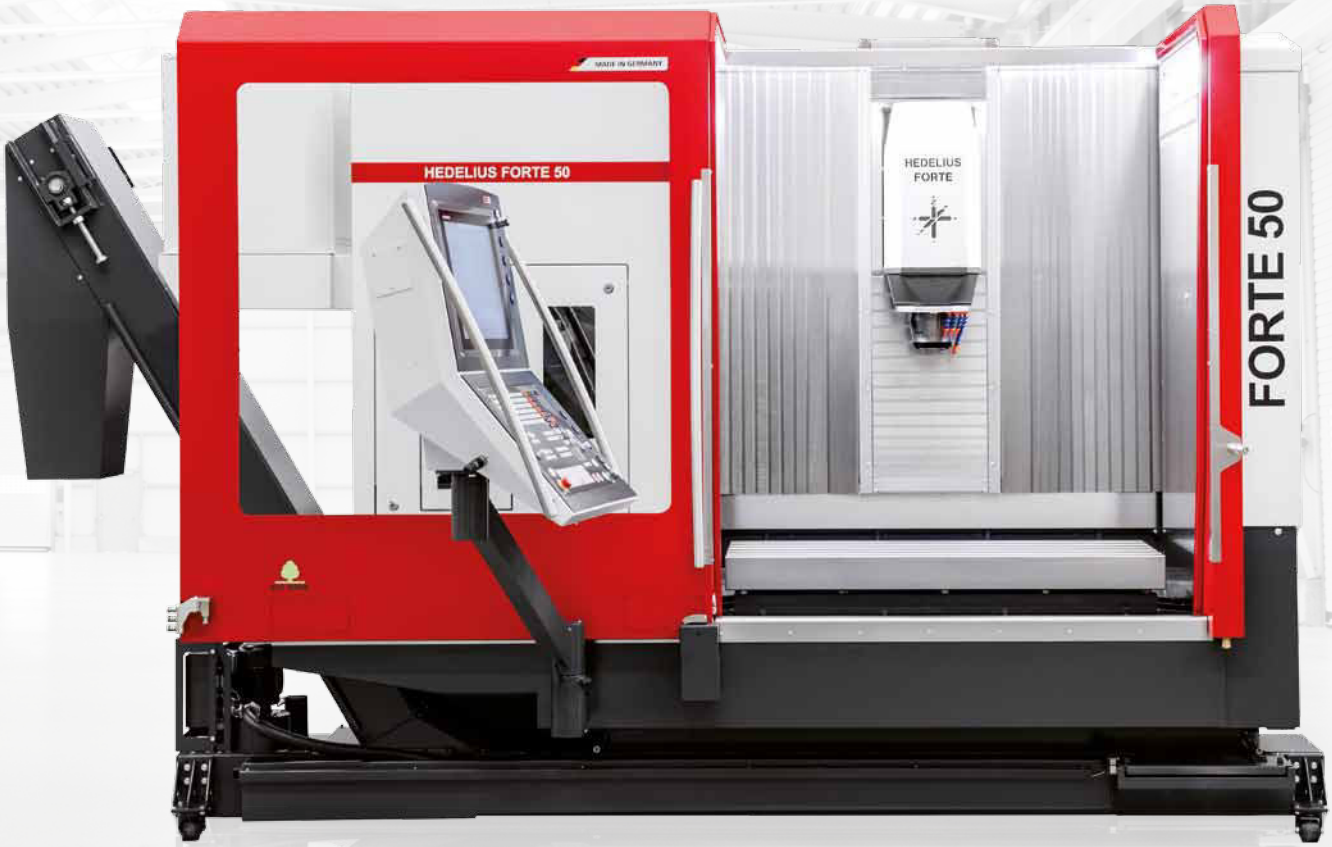
FORTE 50 Single 1120

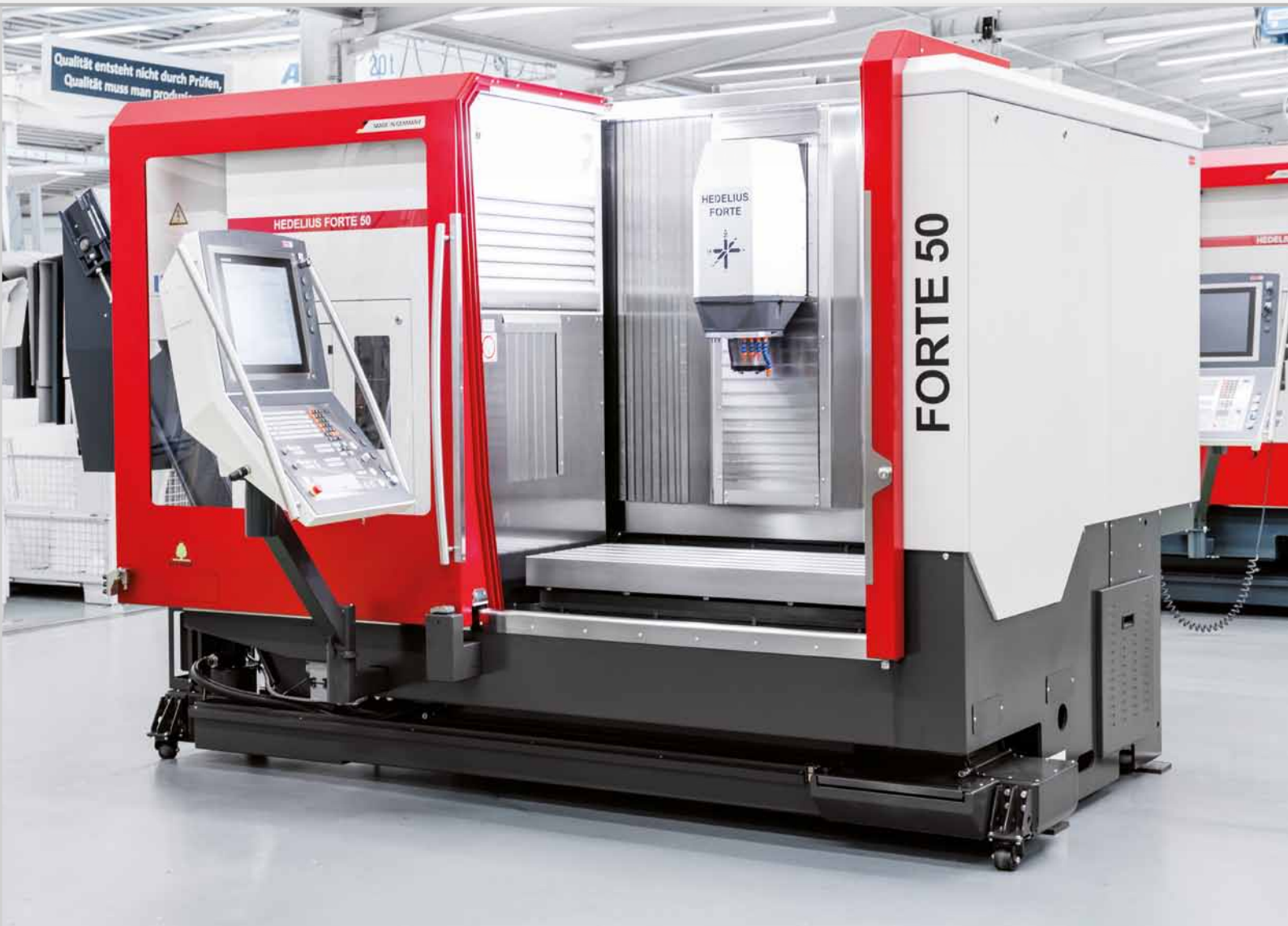
X-, Y-, Z-travel	1120 x 550 x 550 mm
Speed range	14000/18000/24000 rpm
Spindle power	22.00/29.00/30.00/35.00 kW
Number of tools	55/80/235 (max.)
Tool holder	DIN 69871-A40 / HSK A63
Rapid traverse	40/40/40 m/min
Feed measurement system	direct
Control	Heidenhain TNC 640 / Sinumerik 840 D
Total clamping surface	1300 x 550 mm
Fixed table load	800 kg








HEDELIUS FORTE 50
HEDELIUS FORTE
FORTE 50
2410 mm
3876 mm


HEDELIUS FORTE 50
HEDELIUS FORTE
FORTE 50

Efficient manufacture of order-based individual parts

SOLLICH KG | Sector: Food and packaging technology
Headquarters: Bad Salzuflen, Germany | Employees: 400

SOLLICH KG is the global market leader in chocolate processing machinery. But when the time came to renew their machinery, this family company from Bad Salzuflen in East Westphalia was faced with a major challenge. It had to find a means of manufacturing individual parts flexibly and efficiently in a wide variety of sizes and lengths, and despite their increasing complexity. In HEDELIUS Maschinenfabrik, they found a partner who could make it all possible.

When Robert Sollich founded his bakery and pastry shop in Ratibor, Upper Silesia, over a hundred years ago, he also laid the foundations for a huge success story. A few years later, the company moved to Rostock and the bakery became a producer of confectionery and the associated machinery. Many of these machines were delivered to East Westphalia, which was a hub of the confectionery industry at that time. As a result, Robert Sollich too made the move, relocating to Bad Salzuflen in 1950, where he concentrated on developing chocolate machines. The 1970s saw the start of industrial production. The second generation of the family made a significant contribution to this evolution of the business. "Helmut Sollich, our founder's son, led the company from 1966 and had a real influence on the company's industrial direction," says Kersten Stolpe, Production Manager at SOLLICH. Today the company has over 400 employees and is managed by the third generation of the Sollich family. The fourth generation is already in the starting blocks. Over the decades, the global machinery manufacturer has become the market leader in the temperature control process for chocolate and enrobing systems. „It is very difficult to process chocolate using machinery in such a way that it ultimately meets the high demands of the customers. This is our core area of expertise," explains Stolpe. „We not only supply customers with machinery, but also hone it according to their wishes, conduct practical tests, put systems into operation and provide excellent service."

"We're almost like a family."

Everyone at SOLLICH pulls together in order to be able to make products and execute projects at short notice, while also meeting high standards of hygiene, functional reliability and durability. "We're almost like a family. There's hardly any turnover among employees, because we put a great emphasis on appreciation and modern corporate management," says Stolpe, himself a SOLLICH veteran with over 30 years of service. He adds, "The company lives through its people. We have highly trained, skilled workers with a lot of experience and expertise." That is carried across to the design and manufacture of the machinery in turn. At the same time, however, modern production facilities are also required in order to be able to meet the constantly increasing demands of customers. "We almost exclusively manufacture order-related individual parts, and things often have to be done quickly in order to meet customer needs. This means that flexible machining is necessary. At the same time, parts for new machines are becoming more and more complex," says Alexander Janott, Machining Foreman at SOLLICH. When their machine pool needed to be upgraded, the company was looking for a supplier who could meet these challenges.

An array of different requirements.

The company has to manufacture many different products, from small workpieces to long, heavy components over 3,000 mm in length, mainly from stainless steel, but also from aluminium and plastic. In addition to these challenges, they also required more from their new machining centres supplier. The aim was to have to reclamp as few pieces as possible, but to be able to manufacture more sophisticated parts. "Milled parts are getting more complicated. The customers have ever higher requirements of our machines, so we have to be able to respond to that," says Stolpe. After an intensive selection process by a large committee of specialists and managing executives, the East Westphalian company struck gold. HEDELIUS Maschinenfabrik GmbH from Meppen, Lower Saxony, was able to meet their requirements. Foreman Janott is pleased with the outcome: "We knew what we needed and the HEDELIUS machining centres are designed precisely for our product range and our requirements."

Large machining centres with a swivelling main spindle.

Late 2017 saw the acquisition of the first machining centre by the north German family-run company, a 3-axis machine FORTE 65 Single 1320 with travelling distances of 1,320 x 650 x 600 mm (x/y/z). Less than three months later, before the delivery of the FORTE 65, SOLLICH ordered two 5-axis milling machines with swivelling main spindles from the TILTENTA series, a T6-2300 with travelling distances of 2,300 x 600 x 695 mm (x/y/z) and a T9-2600 with 2,600 x 900 x 900 mm (x/y/z). "At the outset, we were toying with the idea of the larger swivel head machines," admits Stolpe. The 3-axis milling machine was procured first in order to gain some experience before the 5-axis machining centres were put into operation. As a result, three extremely versatile milling machines began operating in 2018. These allow the use of rotary tables and swivel bridges. The clamping of vices in a row, vacuum clamping plates or grid plates can also be achieved without any issues. After all, HEDELIUS machining centres are extremely versatile. Exactly how they wanted things at SOLLICH.

Impressively compact.

All three machining centres were ordered with the same controls and spindle. They have Heidenhain TNC 640 controls and a 29 kW spindle with a speed of up to 12,000 rpm. "The idea is that members of staff can switch between any of the machines in order to achieve the most efficient one-shift operation possible. It's worked out very well. Our people have adjusted brilliantly to the new situation and new machinery," says Stolpe, full of praise for his employees. The 5-axis machining centres have also been equipped with a standby tool magazine that holds up to 180 additional tools. As a result, the TILTENTA 6-2300 has a tool capacity of 220 slots, while the TILTENTA 9-2600 has some 240 slots. "Thanks to the standby magazine, all of our tools are always ready and waiting," says Michael Nuchte with satisfaction. The machining foreman is particularly impressed with the many details of the HEDELIUS machining centres. „The machines are easily accessible, not only for the operator, but also for maintenance and repair. They have a compact footprint, large viewing windows and a small distance from the spindle nose to the table," says Nuchte. His colleague Alexander Janott adds, „The ratio of the travel to the footprint is very good, so we're really impressed with HEDELIUS."

The right partner.

SOLLICH is satisfied with their first HEDELIUS machining centres – so satisfied, in fact, that they purchased another milling machine in 2020, naturally with Heidenhain TNC 640 controls and a 29 kW spindle. The 3-axis FORTE 6-2300 machining centre has travel distances of 2,300 x 600 x 800 mm (x/y/z). Here, too, the configuration of a fourth axis is possible, at the least, so that employees can work with swivel bridges or long parts without having to conduct any major conversions. The FORTE 6-2300 fits perfectly into the SOLLICH production concept. The East Westphalian family company is delighted to have found the right partner for its machining centres.

Series overview.

ACURA.

5 axes

ACURA 50
500 x 550/370 x 550 mm

ACURA 50 EL
500 x 550/370 x 550 mm

ACURA 65
700 x 650/465 x 600 mm

ACURA 65 EL
700 x 650/465 x 600 mm

ACURA 85
900 x 850/600 x 700 mm

ACURA 85 EL
900 x 850/600 x 700 mm

MARATHON.

Pallet automation

MARATHON P422
22 pallets 400 x 400 mm,
clamping weight 150 kg,
interference circle 500 mm

TILTENTA.

5 axes

TILTENTA 6-Single
1350/780 x 600 x 695/800 mm

TILTENTA 6-2300
2300/1730 x 600 x 695/800 mm

TILTENTA 7-2000
2000/1430 x 750 x 695/800 mm

TILTENTA 7-2600
2600/2030 x 750 x 695/800 mm

TILTENTA 7-3200
3200/2630 x 750 x 695/800 mm

TILTENTA 7-4200
4200/3630 x 750 x 695/800 mm

TILTENTA 9-2600
2600/2030 x 900 x 900/1005 mm

TILTENTA 9-3600
3600/3030 x 900 x 900/1005 mm

TILTENTA 9-4600
4600/4030 x 900 x 900/1005 mm

TILTENTA 11-2600
2600/2030 x 1100 x 900/1005 mm

TILTENTA 11-3600
3600/3030 x 1100 x 900/1005 mm

FORTE.

3 axes

FORTE 6-2300
2300 x 600 x 800 mm

FORTE 7-2000
2000 x 750 x 800 mm

FORTE 7-2600
2600 x 750 x 800 mm

FORTE 7-3200
3200 x 750 x 800 mm

FORTE 7-4200
4200 x 750 x 800 mm

FORTE 9-2600
2600 x 900 x 1005 mm

FORTE 9-3600
3600 x 900 x 1005 mm

FORTE 9-4600
4600 x 900 x 1005 mm

FORTE 50 Single 1120
1120 x 550 x 550 mm

FORTE 65 Single 1320
1320 x 650 x 600 mm

FORTE 85 Single 1620
1620 x 850 x 700 mm

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