

# HURONEWS

HURON GROUP NEWS ROUND-UP

ISSUE 2022

## A LEGENDARY PASSION

OUR MACHINES

OUR SOLUTIONS

OUR SERVICES





# EDITORIAL

**Marc Troïa, passionate about mechanics, took over the management of HURON GRAFFENSTADEN on 1 January 2019. His professional background gives him a significant experience in business management and his passions legitimize his knowledge of the machine tool construction business.**  
**The Editorial Board asked Marc Troïa about the strategy he is implementing for the development of HURON GRAFFENSTADEN.**

« HURON is a future-oriented machine tool manufacturer. Listening to its customers, HURON GRAFFENSTADEN has adapted to better meet their needs. Some of them are timeless, such as the quality of the machine's finish, performance, precision and longevity; all assets that have been part of HURON GRAFFENSTADEN's offer for many years. Others have emerged in recent years, driven by the evolution of society:

- Need for reactivity in terms of machine deliveries
- Lack of skills, difficulty in finding staff trained in machining processes
- Decision-making support, support in the establishment of provisional cost prices
- Traceability of production, continuity of the digital chain
- Flexibility of machines and processes
- Shift work at night and at weekends with a minimum of production staff while maintaining the quality level

To provide solutions to these needs, HURON GRAFFENSTADEN is evolving while maintaining its historical strengths. Since 1835, the company has been creating and manufacturing its machines in France and has been working in partnership with suppliers and partners. These collaborations contribute to the company's operations and make it possible to develop resources useful to the industrial capital goods sector. This philosophy persists, and in order to meet market constraints, HURON GRAFFENSTADEN has acquired new industrial, methodological, organizational, technological and human resources.

## NEW PRODUCTION BUILDING: 10,000 M<sup>2</sup> EXTENSION OF THE ESCHAU SITE

HURON GRAFFENSTADEN is the only machine tool manufacturer to invest in a new production plant in France. This will increase our production capacity for large machines used in the aeronautics, tooling and general engineering markets. The configuration of the historic factory in Illkirch limits the production capacity of large machines to 4 to 5 machines built in parallel. The building being completed will increase this limit to 10 machines in parallel, thanks to a much higher height and capacity of the handling bridges. A new automated warehouse for spare parts and production parts will streamline manufacturing processes and optimize the surface area for machine production. This new industrial facility, with its 20,000 m<sup>2</sup> fully air-conditioned workshop, will make it possible to reduce manufacturing times and deliver machines built on demand within controlled deadlines.

## NEW RANGE OF PALLETIZED MACHINES

To meet productivity needs and sometimes also the lack of qualified personnel, HURON GRAFFENSTADEN extends the range of palletized or automated machines. Thus the entire range of 3, 4 or 5 axes machining centres is now available with an automation solution, by integrated 2 pallet changer, integrated multiple palletizer, or, depending on the models, by Cartesian or polyarticulated robot for loading/unloading pallets or parts. The large machining centres are now all compatible with external pallet changers/FMS systems, and the mechanical and automation architectures have been optimized to this end.

## NEW RANGE OF SUBASSEMBLIES AND ACCESSORIES

With the triple objective of reducing delivery times, reducing costs and improving reliability, HURON GRAFFENSTADEN has undertaken a twofold approach of modularization and standardization: modularization of machine frames, internalization of the production of all 5-axis heads and electospindles, concentration of the tool changer range, standardization of devices such as cooling tanks, chip conveyors, filtration devices, etc. These means facilitate design and allow production as quickly as possible, while improving maintainability. This modularization will reduce machine design times as well as pre-project times - costing. This will allow customers to focus on options and value-added choices when specifying their needs and defining a detailed composition of their machine.

## NEW ORGANIZATION

### Project Management

The needs are more and more specific but the machines must remain more and more versatile. To achieve these partly opposite objectives, we need to manage a machine project more precisely. Faced with this constraint, HURON GRAFFENSTADEN has set up a Project Department to strengthen the Sales Administration team. He will remain the main contact for the definition of the machine from pre-order and until it is put into production.

### Process / Feasibility studies

The customer relationship begins with the expression of its needs, and, if necessary, with a validation of performance or feasibility. In this context, HURON GRAFFENSTADEN has been enriched with new resources in machining processes, feasibility and performance. This reinforced team will determine the best process solutions and then qualify its choices through feasibility studies.

### New Customer Service organization

- **Commissioning of machines** : To reduce machine commissioning times during installation, we are strengthening the team dedicated to commissioning, acceptance and the starting-up of production as soon as possible.
- **Hotline** : The Hotline is in charge of the life of machines in production and becomes the main maintenance contact for production workshops. In addition to their technical expertise, the Hotliners are responsible for planning after-sales service and providing spare parts. Relying on a new computerized tool for tracking requests and interventions, Customer Service is able to monitor the resolution of complex problems, particularly on machines made up of older generation equipment.
- **Remote diagnosis** : Remote diagnosis improves the pertinence of diagnoses and helps to solve a problem quickly and by phone. This service is based on a wide range of tools available.
- **Retrofit / Upgrade of machines** : HURON GRAFFENSTADEN, through the proximity of its Design, Production and Customer Service departments and thanks to its local partnerships, can propose machine retrofit projects, on the mechanical part but also on the numeric control unit.
- **Maintenance agreement** : Some customers prefer to focus on their production and they choose to outsource their maintenance. HURON GRAFFENSTADEN offers a complete range of maintenance contracts (preventive, conditional preventive, corrective and curative), as well as reliability contracts based on connectivity technologies.
- **Training** : Skills are often difficult to find, sometimes difficult to maintain. To ensure that customers remain the most efficient, HURON GRAFFENSTADEN has completed the catalogue of training courses offered. In addition to the traditional training in the use of machines, we offer training in operation or programming on numerical control as well as training in the machining process.

## NEW RANGE OF PERFORMANCE AND OPERATIONAL SECURITY SOFTWARE

The range of productivity software - PRECIPOWER for adaptive roughing, PRECIFIVE for automatic axis calibration, PRECILIFE for automatic tool management, PRECIBALANCE for mill-turn unbalance detection on MX – has been extended in terms of operational safety and industrial performance with PRECIPROTECT which eliminates the risk of collision, compatible with the entire 5-axis machine range.

## PREDICTIVE MAINTENANCE AND CONTROL OF THE OEE

Our latest innovation is the creation of a supervision tool for a machine or a workshop : 7<sup>th</sup> SENS. This tool captures and measures the technical parameters of each machine, or a fleet of machines. It is dedicated to methods and preventive maintenance, but also promotes predictive maintenance. For the Production Department, this tool makes it possible to know the commitment rate of the machine fleet and the progress of planned production; it allows for better planning and the fulfilment of commitments. Finally, as a global production management tool, it automatically measures and classifies the production OEE (Overall Equipment Effectiveness) in order to optimize and improve it. All our software solutions are now compatible with the entire range of HURON machines. »



## **MADE in FRANCE**

HURON products are a guarantee of quality.

**Compliance with French and European manufacturing and design standards** is the basis of our thinking and production processes.

Our **factory, located in France**, reflects our attachment to the territory.

Every day, 120 employees work to put the **experience** we have acquired into practice and to pass on our **know-how**.

## **KNOW-HOW & EXPERIENCE**

HURON is a company that relies on its **human assets** and its **mastery of technology**. We also work to build long-term, close relationships with our customers and partners.

Creator and innovator for more than 160 years, we apply our know-how on a daily basis to guarantee the **HURON quality**, which is expressed in terms of **robustness, precision and performance**.

## **INDUSTRY 4.0**

Integrating **agility** into our machines and facilitating the **digital transition** of our customers are at the heart of our thinking for the **Industry of the future**.

Our products are **adapted, automated and interconnected** to meet customer requirements.

We support it in the digital transition in order to optimise its performance in terms of **productivity, agility and performance**.

## **ECO-SAVING & SUSTAINABILITY**

Our legendary reputation for **eco-sustainable** and responsible **products** is well established.

HURON products are built to be durable and the **robust mechanical design** makes them competitive in the long term with retrofit or upgrade possibilities.

The components are selected to ensure energy performance.



# FLEXIBILITY of the highest level

The MX series, the direct successor to the EX – a groundbreaker in its day in terms of modularity and adaptability – combines flexible multifunctionality with the latest machining and programming technologies, for workpiece milling and turning in a single setup, from roughing to finishing, along five axes and on five sides.

Twin-pallet device  
MX8 à MX12



Pallet device with up to 4 pallets  
for MX16 and MX20

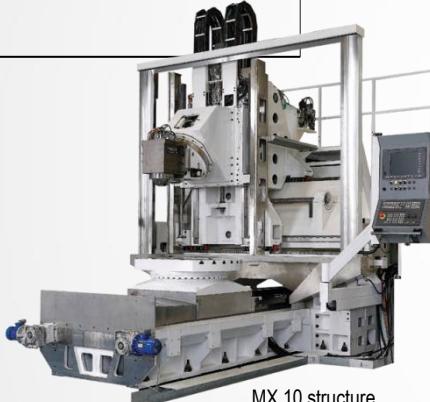


## Palletizing for increased productivity

- Twin-pallet palletizer attached to the front of the machine
- Optimal operator access to the machine and constant visibility over the work area
- Safeguard for easy, ergonomic pallet loading/unloading from above and from the front of the machine

## Design and structure

- Extremely rigid design
- Dedicated foundation for improved dynamics
- Structural design guaranteeing long mechanical life
- Column guiding system on the crossrail for a high level of stability
- Balanced Z-axis movement for greater precision and reduced energy consumption



MX 10 structure

## Ergonomics and environment

- Channels for chips recovery with washing system and spiral conveyors
- Large glazed windows, with or without palletizer, for improved visibility over the work area
- Wide-opening doors for easier operator access to the table, workpiece and working area
- Tilting operator panel

## MAIN PROPERTIES

### MX 8 M/MT    MX 10 M/MT    MX 11 M    MX 12 M/MT    MX 16 M    MX 20 M

Travels X / Y / Z	mm	1.160 x 1.000 x 900	1.200 x 1.200 x 1.000	1.250 x 1.250 x 1.000	1.200 x 1.600 x 1.000	2.300 x 2.300 x 1.250	3.000 x 3.100 x 1.600
Rapid feedrates	m/min	42	42	40	42	40	40
Tool changer	Pockets	60	60	60	60	60	60
Positioning (P)				X / Y / Z : 0,007 mm – A, C : 10 sec			
Repeatability (P <sub>s</sub> medium)				X / Y / Z : 0,004 mm – A, C : 5 sec			
Weight of the machine	kg	22.000	35.000	28.000	37.000	60.000	65.000
Width (doors closed + conveyor)	mm	6.250	6.335	5.900	3.990	7.500	8.500
Depth	mm	6.150	7.950	8.500	8.660	8.500	10.350
Height	mm	3.930	4.870	3.600	4.870	6.570	6.750

## VERSION L

### MX 12 M L

Travels X / Y / Z	2.000 x 1.600 x 1.000 mm
Table size	Ø 1.600 x 1.250 mm
Max. machining volume (ØxH)	1.600 x 1.130 mm
Admissible weight	4.000 kg
Table rotation speed	50 rpm
Torque : Motor / Clamping	4.590 / 12.000 Nm
Clamping system	10 slots
T-slots	22H7 / H12 – 125 mm
Reference bore	Ø 100H7



## STANDARD SPINDLES

### MX 8 / 10 / 11 / 12 – VERSION M

### MX 8 / 10 / 12 – VERSION MT

### MX 16 / 20 – VERSION M

Spindle speed	14.000 rpm	10.000 rpm	10.000 rpm
Tool taper	HSK 63A	HSK 100A	HSK 100A
Power	29 kW	43 kW	43 kW
Torque	277 Nm	415 Nm	415 Nm



## WHAT MAKES THE DIFFERENCE

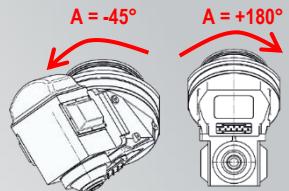
- Suitability for a variety of jobs
- Modularity
- Precise five-axis positioning for general mechanical engineering components
- Volumetric precision in mould making



### The universal head, a trump card for productivity

Positioned on a 45° plane, the continuously controlled head is designed to maintain the levels of accuracy in terms of positioning and repeatability, even in high-speed machining

- Optimum clamping torque for a high roughing capacity
- Direct drive for backlash-free and wear-free movement



A-AXIS = -45° / +180°

Rotating speed	100 rpm
Clamping torque	2.500 Nm
Working torque	1.200 Nm

## VARIANTS



**Fork head**, for the machining of workpieces requiring negative angles. It is combined with a powerful 8.000 rpm spindle (86 kW / 235 Nm).

On versions 10/12 M

B-AXIS = -110° / +10°

Rotating speed	30 rpm
Clamping torque	7.000 Nm
Working torque	500 Nm

A-AXIS = -45° / +180°

Rotating speed	100 rpm
Clamping torque	7.000 Nm
Working torque	3.640 Nm



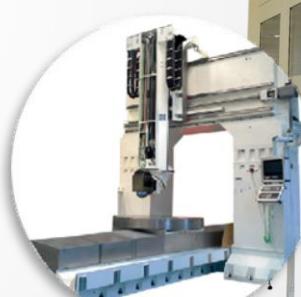
**Mechanical head**, for milling difficult materials such as titanium, Inconel and stainless steel. Combined with a high-torque 6.000 rpm (28 kW / 1.350 Nm), this head is designed for heavy roughing with a high chip removal rate.

On versions 10/12 M/MT and 16/20 M



## Range extension

In order to allow our customers to machine extremely large parts, the MX range has been extended to include extra-large models, with M 16 and MX 20. The larger workpiece clearance will be appreciated by some of our customers, particularly in the aeronautic and energy industries.



MX 20 structure

## The table, Milling or Mill/Turn ?

- Continuously controlled C-axis
- Optimum positioning accuracy and repeatability
- Torque motor drive for backlash-free and wear-free movement
- Max. weight allowed



### Version M MILLING

#### MX 8 M    MX 10 M    MX 11 M    MX 12 M    MX 16 M    MX 20 M



Rotating speed	rpm	50	65	30	50	7**	7**
Table size	mm	Ø 1.000 x 800	Ø 1.250 x 900	Ø 1.000 x 800	Ø 1.600 x 1.250	Ø 1.750	Ø 2.200
Max. machining volume ( ØxH)	mm	Ø 1.000 x 1.035*	Ø 1.250 x 1.130*	Ø 1.250 x 1.000	Ø 1.600 x 1.130*	Ø 1.800 X 1.250	Ø 3.000 X 1.400
Max. admissible weight	kg	2.000	2.500	2.000	4.000	10.000	12.000

### Version MT MILL/TURN

#### MX 8 MT    MX 10 MT    MX 12 MT    MX 16 MT    MX 20 MT



Rotating speed	rpm	500	250	250	
Table size	mm	Ø 800	Ø 1.400	Ø 1.400	
Max. machining volume ( ØxH)	mm	Ø 800 x 1.035*	Ø 1.600 x 1.130*	Ø 1.600 x 1.130*	
Max. admissible weight	kg	2.000	4.000	4.000	

Coming soon

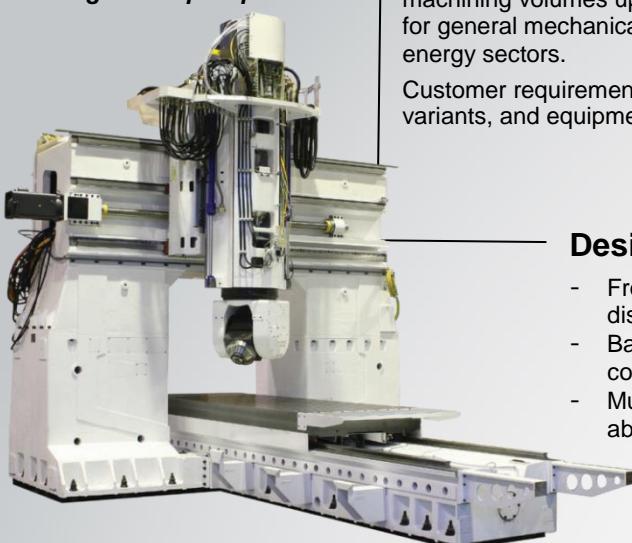
Coming soon

\* with X-travel restriction

\*\* other variants and accessories optionally available

# VERSATILITY to meet all customer requirements

The KX Large series offers a wide selection of machines for continuous five-axis/five-side machining of complex parts.



The fixed-portal architecture and machine design ensure maximum rigidity for extremely precise machining in a variety of difficult materials.

Its large work area, capable of supporting up to 20 tons in weight and accommodating machining volumes up to 4.080 x 2.180 x 1.550 mm, is suited to machining large parts for general mechanical and precision engineering, 3D shapes, and the aeronautical and energy sectors.

Customer requirements are comfortably met by the modularity of design, the choice of variants, and equipment.

## Design and structure

- Front guide rails on the Y-axis designed for effective distribution of the weight of the saddle/headstock assembly
- Balance for greater precision and reduced energy consumption
- Multiple fixing points providing rigidity and vibration absorption

## MAIN PROPERTIES

	KX 50 M	KX 50 L	KX 100	KX 200	KX 300
Travels X / Y / Z	mm	2.000 x 1.700 x 900	3.000 x 1.700 x 900	2.300 x 2.300 x 1.000	3.300 x 2.300 x 1.000
Rapid feedrates	m/min	X / Y / Z : 40	X / Y / Z : 40	X / Y / Z : 40	X : 25 - Y / Z : 40
Table size	mm	2.200 x 1.250	3.300 x 1.250	2.500 x 1.250	3.500 x 1.250
Max. admissible load	kg	4.000	6.000	6.000 (12.000 max.)	9.000 (12.000 max.)
Spindle rotating speed	Rpm	20.000	20.000	18.000	18.000
Taper		HSK 63A	HSK 63A	HSK 63A	HSK 63A
Power – Torque	kW – Nm	75 – 75	75 – 75	30 – 240	30 – 240
Tool changer	Pockets	30	30	40	40
Positioning (P)		X / Y / Z : 0,007 mm B, C : 10 sec	X / Y / Z : 0,007 mm B, C : 10 sec	X / Y / Z : 0,007 mm B, C : 10 sec	X / Y / Z : 0,010 mm B, C : 10 sec
Repeatability (Ps medium)		X / Y / Z : 0,004 mm B, C : 5 sec	X / Y / Z : 0,004 mm B, C : 5 sec	X / Y / Z : 0,004 mm B, C : 5 sec	X / Y / Z : 0,005 mm B, C : 5 sec
Weight of the machine	kg	30.000	36.000	37.000	41.000
Width (doors opened + conveyor)	mm	4.930	4.930	7.280	7.280
Depth	mm	7.520	9.900	7.890	10.360
Height	mm	5.140	5.140	5.410	5.410

Main characteristics of the Serie. Other variants and accessories optionally available.

## Fork head

- Positioning accuracy and repeatability maintained in high-speed machining, even for complex-shaped parts
- Angular encoder in the axis for high positioning accuracy and repeatability
- Torque motors for backlash-free and wear-free movement
- High clamping torque for high roughing ability
- Negative angles possible
- Spindle and machining process secured by vibration monitoring



## Variant

Mechanical head, for milling difficult materials, such as titanium, Inconel and stainless steel.

Combined with a high-torque 4.000 rpm spindle (21 kW / 810 Nm), this head is designed for heavy roughing with a high chip removal rate.



## KX 50

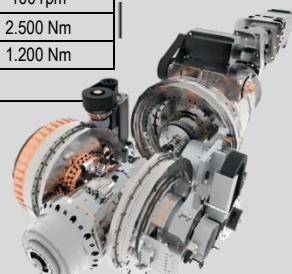
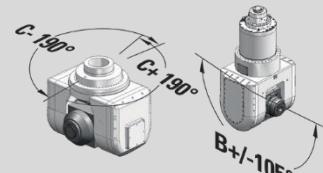
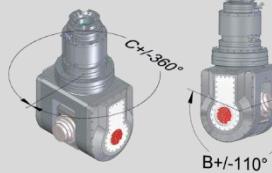
Rotating speed	100 rpm
Clamping torque	4.000 Nm
Working torque	B : 994 Nm C : 878 Nm

## KX 100 / 200 / 300

Rotating speed	30 rpm
Clamping torque	7.000 Nm
Working torque	B : 1.150 Nm C : 1.100 Nm

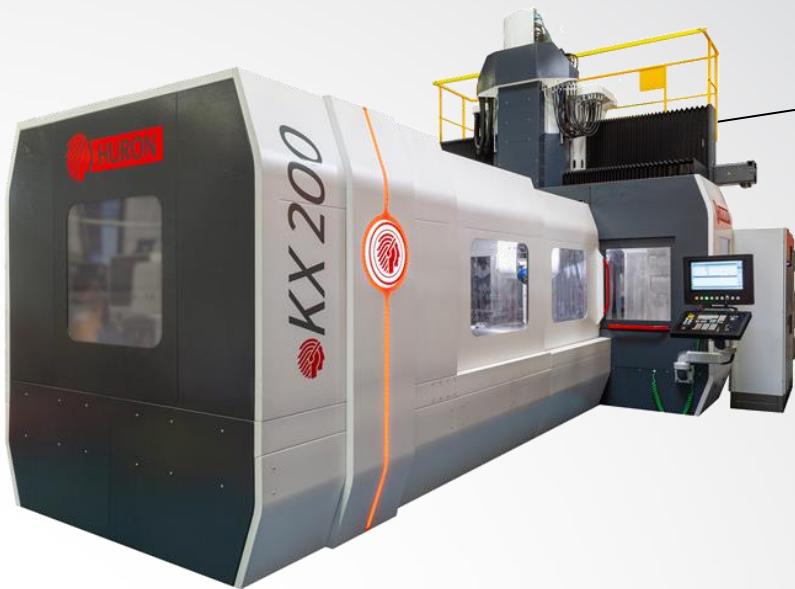
## B-AXIS = ±95° / C-AXIS = ±200°

Rotating speed	100 rpm
Clamping torque	2.500 Nm
Working torque	1.200 Nm



Several spindles available depending on the type of application for an excellent compromise between power and torque.

# KX Large



## WHAT MAKES THE DIFFERENCE

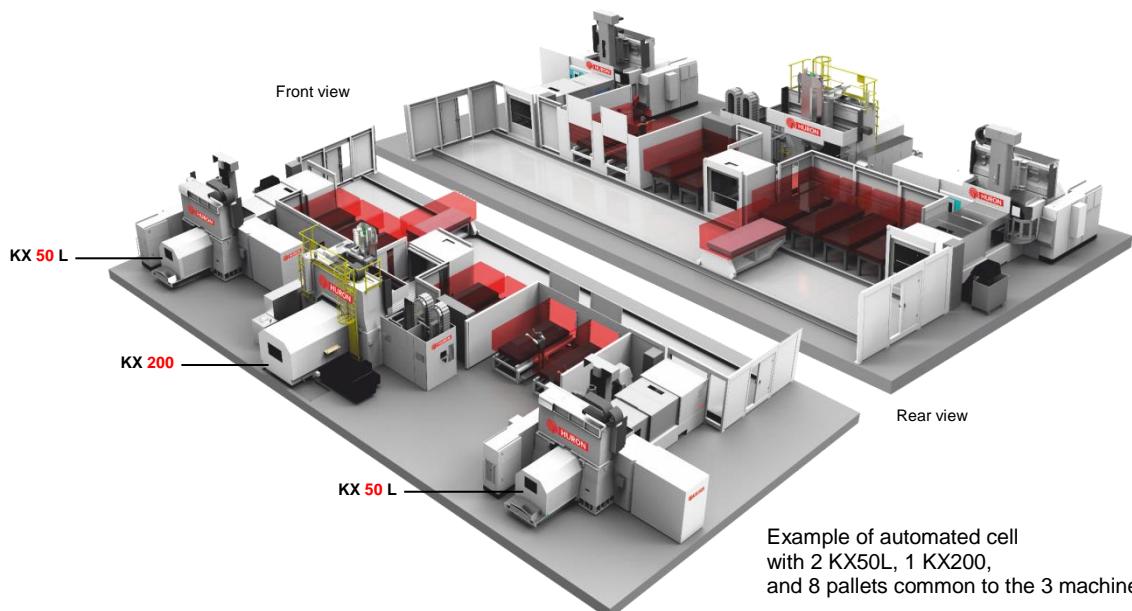
- Machine with palletizing function, **increased productivity**
- **Volumetric precision** for making moulds and complex parts
- **Wide clearance between columns** to exploit the work volume fully
- **Spindle offering optimum performance** for roughing and finishing
- Spindle suited to **high chip rates**
- Structural design guaranteeing **long mechanical life**
- **High degree of precision** due to direct measurement on the linear and rotary axes

## AUTOMATION

For higher productivity or greater precision in machining, Huron offers the possibility to add a number of supplementary and optional systems to the machine, such as fluid application, micro-spraying, probes, etc., not to mention Huron NC cycles and our support services.

In order to increase production speeds and optimise machining cycles, we offer a variety of palletizing configurations.

With 1, 2, 3 or more machines, your line will become a flexible production unit, allowing you to save valuable time. The processes are independent, safe and reliable.



# MACHINING PERFORMANCE enhanced

The KXG series comprises gantry milling centres that are particularly effective in machining large, complex parts.



## Design and structure

- Gantry structure with reinforced, U-type moving crossrail
- Polymer concrete walls, incorporating a double guiding system
- X-axis driving by linear motor (KXG-L) or rack gear (KXG-P)
- Optimization of the moving axes by finite element structural calculation
- Dedicated foundation for improved dynamics

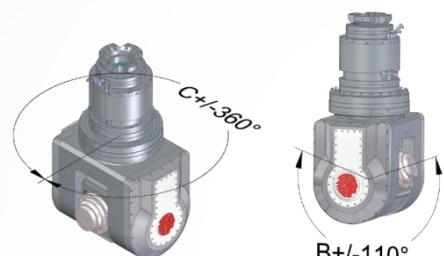
## Ergonomics and environment

- Retractable roof for easy access to the work area and workpiece
- Tool magazine outside of the work area
- Tilting, inclined operator panel
- Energy efficiency for the production of large-sized parts

## A winning trio for high productivity

### Continuous 2-axis swivel fork head

- Positioning accuracy and repeatability maintained in high-speed machining, even for complex-shaped parts
- Angular encoder in the axis for high positioning accuracy and repeatability
- Torque motors for backlash-free and wear-free movement
- High clamping torque for high roughing capacity
- Negative angles possible



### Powerful electrospindle

- Powerful, high-speed electrospindle
- Several spindles available according to the type of application for an excellent compromise between power and torque
- Spindle and machining process secured by a vibration monitoring

### KXG

Rotating speed	100 rpm
Clamping torque	4.000 Nm
Working torque	B : 994 Nm C : 878 Nm

### Tools changer

- Tools changer with 40-tools loading station

## 2 versions : KXG-L (linear motors on X-axis) or KXG-P (rack gear on X-axis)

MAIN PROPERTIES	KXG 30-15	KXG 45-15	KXG 45-25	KXG 60-25	KXG 90-25
Travels X / Y / Z	mm	3.000 x 1.500 x 800	4.500 x 1.500 x 800	4.500 x 2.500 x 800	6.000 x 2.500 x 800
Rapid feedrates	m/min	X / Y : 60 / Z : 45	X / Y : 60 / Z : 45	X / Y : 60 / Z : 45	X / Y : 60 / Z : 45
Table size	mm	3.000 x 1.500	4.700 x 1.390	4.700 x 2.480	6.200 x 2.480
Max. admissible load	kg	13.000	18.000	21.000	25.000
Spindle rotating speed	Rpm	20.000	20.000	20.000	20.000
Taper		HSK 63A	HSK 63A	HSK 63A	HSK 63A
Power – Torque	kW – Nm	75 – 75	75 – 75	75 – 75	75 – 75
Tools changer	Pockets	40	40	40	40
Positioning (P)		X : 0,025 mm Y / Z : 0,010 mm B, C : 10 sec	X : 0,025 mm Y / Z : 0,010 mm B, C : 10 sec	X : 0,025 mm Y / Z : 0,010 mm B, C : 10 sec	X : 0,035 mm Y / Z : 0,010 mm B, C : 10 sec
Repeatability (Ps medium)		X / Y / Z : 0,005 mm B, C : 5 sec	X / Y / Z : 0,005 mm B, C : 5 sec	X / Y / Z : 0,005 mm B, C : 5 sec	X : 0,006 mm Y / Z : 0,005 mm B, C : 5 sec
Weight of the machine	kg	80.000	60.000	75.500	90.000
Width (doors opened + conveyor)	mm	8.100	7.550	8.940	9.100
Depth	mm	9.060	9.700	10.000	11.700
Height	mm	5.735	4.980	4.980	4.980

Main characteristics of the Serie. Other variants and accessories optionally available.

# KXG

## WHAT MAKES THE DIFFERENCE

- Design suited to continuous 5-axis machining of very large parts
- **Machining with very high feed speeds**
- High rigidity enabling very high metal removal rates



## TWIN pendulum machining (optional), to boost return on investment

- Adaptability and flexibility of the work space to match the customer's production requirements with ease
- 2 independent machining and work areas obtained by a separating wall with 3 different positions
- Retractable shutter for head transfer between areas
- Access to each area via sliding doors at the front and rear of the machine
- Each area is equipped with a tool changer, an operator panel and all other necessary workpiece machining equipment

# **EXCELLENCE** in five-axis precision machining

The KX Five series is a combination of dynamics and precision for continuous five-axis machining of complex parts.

Through the excellent standard of machining vibration damping, high-quality surface finishes and optimum precision can be achieved on a variety of materials.

# KX Five

THE TABLE		K3X 8 FIVE	K2X 10 FIVE
Table size	mm	55° plane Ø 500	45° plane Ø 630
Max. workpiece Ø	mm	Ø 700	Ø 800
Admissible load	kg	250 (max. 300)	500 (max. 750)
<b>A-axis</b>			
Swivelling angle		+30° / -180°	+45° / -180°
Max. orientation		-110°	-90°
Rotating speed	rpm	50	40
<b>C-axis</b>			
Indexing angle		360° continuously	360° continuously
Rotating speed	rpm	50	90



## WHAT MAKES THE DIFFERENCE

- Direct measurement on all axes for increased positioning accuracy
- Large-sized monoblock bed and reinforced portal
- Exceptional accessibility and permanent visibility over the workpiece
- Performance
- High level of precision in contouring and profiles
- Compact, dynamic table, with torque motors
- Efficient swarf removal
- Standard or specific automation device

## MAIN PROPERTIES

K3X 8 FIVE	K2X 10 FIVE
Travels X / Y / Z	mm
Rapid feedrates	m/min
Rotating spindle speed	rpm
Taper	HSK 63A
Power – Torque	kW – Nm
Tools changer	pockets
Positioning (P)	X / Y / Z : 0,004 mm A, C : 7,2 sec
Repeatability (Ps medium)	X / Y / Z : 0,002 mm A, C : 3,6 sec
Weight of the machine	kg
Width (doors closed + conveyor)	mm
Depth	mm
Height	mm

Main characteristics of the Serie. Other variants and accessories optionally available.

## AUTOMATION

The MP PRO500 pallet loader is a fully automated cell that can be easily integrated into the machine. Its compact, monoblock design allows for quick installation and commissioning. Interactive solutions between machine, robot and part measurement system are possible to fully automate the part production cycle.



Pallet device MPPRO500  
1 loading/unloading station  
1 supervisory station  
1 transfer robot  
5 storage racks with 3 pallets each

Qty of pallets	15
Pallet size	400 x 400 mm
Max. admissible load on pallet	250 kg



# THE REFERENCE in 5-sided machining

Thanks to our experience in 5-axis roto-tilting machines, the Umill benefits from the benefits of continuous improvement without compromising on the fundamental characteristic of HURON machines: increased stiffness for efficient and high-quality machining.

# Umill

## WHAT MAKES THE DIFFERENCE

- **Structural design** with the aim of limiting vibrations in order to **protect the mechanics** and increase the lifetime of components
- **Excellent approach of the part** on its 5 sides thanks to the profile of the spindle holder
- **Max. workpiece diameter up to 820 mm**
- **Modern design**
- **Compactness of the machine**
- **Points of maintenance centralized at the rear of the machine**

## Design and structure

- Portal, bed and saddle of table in cast iron with high mechanical properties
- Load distribution on 17 ground fixing points to increase rigidity and ensure high geometric stability
- Excellent vibration damping coefficient generated during machining
- Direct drive by ball screws on the linear axes for high accuracy and smooth servo-control
- C-axis, driven by helical gears
- A-axis, driven by wheel and worm drive
- Measurement on rotary axes by direct encoder for high angular accuracy
- Centralized lubrication of axes
- Optimized clearance between the bed's guide rails in relation with the diameter of the table for a better distribution of the part's weight
- Roller linear guide rails ensuring high load displacement while guaranteeing high rigidity



## Ergonomics and maintenance

- Loading/unloading the workpiece from the side
- Table and spindle easily accessible thanks to the ergonomic design of the guarding
- Easy access to the table's saddle for maintenance
- Large visibility window on the machining area
- Lighting of the operator station for optimal working comfort

	UMILL 5	UMILL 6
Travels X / Y / Z	mm	500 x 560 x 450
Rapid feedrates	m/min	40
A-axis swing		+20° / -110°
C-axis rotation		360°
Table size	mm	Ø 500
Max. workpiece : Ø x Height	mm	500 x 300
Admissible load	kg	450
Spindle rotating speed	rpm	10.000
Taper		ISO 40
Power – Torque	kW – Nm	18 – 176
Tools changer	Pockets	30
Weight of the machine	kg	11.000
Width (doors closed + conveyor)	mm	4.200
Depth	mm	4.200
Height	mm	3.150
Main characteristics of the Serie. Other variants and accessories optionally available.		

## Rotary-tilting table

- Large workpiece volume machinable
- Workpiece accessible at 360° by the operator door
- Rotation of the C-axis to 360° and large angular variation of the A-axis from +20° to -110°
- High clamping torque for an important roughing during 5-sided machining
- Reinforced safety : additional mechanical brake in case of power failure



# **THE CHOICE** for profitability

The VX series, specially designed to meet customers' precision and reliability criteria, is extremely user-friendly and guarantees excellent profitability. The return on investment is fast and proven. Compact, ergonomic, powerful and precise, the VX is an ideal investment for the manufacture of tooling and for small to medium-series production.

## Rigidity and constant precision over time

- C-frame structure in quality ribbed cast iron
- Wide base and reinforced column architecture to support cutting forces and dampen the effects of machining vibrations
- Excellent dynamic performance for rapid changes of direction and acceleration
- Calibrated, pre-stressed ballscrews with direct motor coupling



VX 12 structure

## Ergonomic, accessibility

- Moving table for easy access to the workpiece
- Tilting operator panel
- Improved accessibility to maintenance components, for checking fluid levels and for cleaning the work areas



## A genuine production tool ready for action

The basic version of the VX is a comprehensive, packaged model that is delivered and installed, ready for production

- 10.000 rpm spindle with ceramic ball bearings for improved thermal stability
- Low-pressure cooling by nozzles – 2 bar
- Preparation for through-tool cooling
- Air blowing by nozzles
- Tools changer with 40 pockets
- Chips conveyor
- Handwheel
- Air-conditioning of electrical cabinet
- Washing gun
- Chips bin

Other optional equipments are available for the machine : various spindles, tools changer with a large number of pockets, workpiece and tool probes, 4<sup>th</sup> / 4<sup>th</sup>-5<sup>th</sup> axes dividing plates, encoders for the 3 linear axes, etc.

## MAIN PROPERTIES

### VX 8

### VX 12

Travels X / Y / Z	mm	820 x 510 x 510	1.220 x 600 x 610
Rapid feedrates	m/min	24	24
Table size	mm	1.000 x 530	1.400 x 630
Admissible load	kg	500	1.200
Spindle rotating speed	rpm	10.000	10.000
Taper		ISO 40	ISO 40
Power – Torque	kW – Nm	Siemens : 14,5 – 69 Heidenhain : 14 – 89 Fanuc : 11 – 70	Siemens : 14,5 – 69 Heidenhain : 14 – 89 Fanuc : 11 – 70
Tools changer	Pockets	40	40
Weight of the machine	kg	5.300	8.000
Width (doors closed + conveyor)	mm	3.700	3.775
Depth	mm	4.220	2.520
Height	mm	2.900	3.150

Main characteristics of the Serie. Other variants and accessories optionally available.

# VX

## WHAT MAKES THE DIFFERENCE

- **Versatility and performance in a range of machining operations** : milling, drilling, boring and tapping
- **High chip removal capability** thanks to the rigidity of the machine and a high-torque spindle
- **Machining quality** with a very high degree of precision in contouring and shaping
- **Easy to program** with the ergonomic human-machine interface
- **Excellent price/performance ratio**
- **Compact footprint**



VX 18 structure

## AUTOMATION

*The VX 8 can be automated with the integration of the MPPRO pallet device.*

*Its compact, monoblock design allows quick installation and commissioning, as well as an increase in the machine's availability rate.*

Pallet device MPPRO500  
1 loading/unloading station  
1 supervision station  
1 transfert robot  
5 storage racks with 3 pallets each

Quantity of pallets	15
Pallet size	400 x 400 mm
Max. admissible load on pallet	250 kg



## Big capacities models

### MAIN PROPERTIES

		VX 15	VX 18
Travels X / Y / Z	mm	1.510 x 810 x 810	1.810 x 810 x 810
Rapid feedrates	m/min	24	24
Table size	mm	1.700 x 810	2.000 x 810
Admissible load	kg	2.000	2.500
Spindle rotating speed	rpm	10.000	10.000
Taper		ISO 40	ISO 40
Power – Torque	kW – Nm	Siemens : 14,5 – 69 Heidenhain : 14 – 89	Siemens : 14,5 – 69 Heidenhain : 14 – 89
Tools changer	Pockets	40	40
Weight of the machine	kg	14.500	16.000
Width (doors closed + conveyor)	mm	5.400	6.100
Depth	mm	3.310	3.310
Height	mm	4.000	4.000

Main characteristics of the Serie. Other variants and accessories optionally available.

## PERFORMANCE IN GENERAL MECHANICS, VX with 5 axes : VX8<sup>3+2</sup>

*The right machine for general mechanics!*

### WHAT MAKES THE DIFFERENCE

- Application with 3+2 axes of 4+1 axes positionning machining
- **200 mm column extension** integrated as standard
- **2-axis dividing plate** directly integrated on the XY cross slide

### MAIN PROPERTIES

		VX 8 <sup>3+2</sup>
Travels X / Y / Z	mm	700 x 510 x 460
A-axis , tilting plate		Rotating speed : 25 rpm Swing : +110° / -30°
C-axis, rotary table		Ø 348 mm / 60 kg admissible on table Rotating indexing : 360°



# THE RIGHT technical-economic COMPROMISE

The PX 40 milling centre is the ideal compromise for general engineering. Its compact and rigid design guarantees very good machining performance, while perfectly meeting the constraints of economy and profitability of companies.

# PX

## WHAT MAKES THE DIFFERENCE

- High quality cast iron structure
- Compact footprint
- Machining of difficult materials in the shortest possible time
- High chip removal capacity
- High precision in contouring

## MAIN PROPERTIES

### PX 40

Travels X / Y / Z	mm	760 x 510 x 510
Rapid feedrates	m/min	X / Y : 40 - Z : 32
Table size	mm	915 x 460
Admissible load	kg	500
Spindle rotating speed	rpm	10.000
Taper		ISO 40
Power – Torque	kW – Nm	8,3 / 53 (Siemens) 7,5 – 48 (Fanuc)
Tools changer	Pockets	20
Positioning accuracy (P)	mm	X / Y / Z : 0,010
Repeatability accuracy (Ps medium)	mm	X / Y / Z : 0,005
Weight of the machine	kg	4.300
Width (doors closed + conveyor)	mm	3.410
Depth	mm	2.770
Height	mm	2.810

Main characteristics of the Serie. Other variants and accessories optionally available.



# THE PERFORMANCE

The RDX 30 milling centre has been specially designed for the production of workpieces with particularly high demands on precision and quality, such as general and precision mechanics.

# RDX

## WHAT MAKES THE DIFFERENCE

- High quality cast iron structure
- Compact and rigid design for excellent surface finish
- Compact footprint
- Machining of difficult materials in the shortest possible time
- High chip removal capacity
- High precision in contouring

## MAIN PROPERTIES

### RDX 30

Travels X / Y / Z	mm	1.020 x 600 x 610
Rapid feedrates	m/min	X / Y / Z : 30
Table size	mm	1.200 x 550
Admissible load	kg	900
Spindle rotating speed	rpm	10.000
Taper		ISO 40
Power – Torque	kW – Nm	14,3 – 68 (Siemens) 11 – 70 (Fanuc)
Tools changer	Pockets	24
Positioning accuracy (P)	mm	X / Y / Z : 0,015
Repeatability accuracy (Ps medium)	mm	X / Y / Z : 0,007
Weight of the machine	kg	6.500
Width (doors closed + conveyor)	mm	2.800
Depth	mm	2.600
Height	mm	2.900

Main characteristics of the Serie. Other variants and accessories optionally available.



# DYNAMICS conceptualized

**Tachyon, mini drilling, tapping and milling centre for the production of small and medium series of general and precision mechanical components requiring extreme precision and high dynamism.**



## WHAT MAKES THE DIFFERENCE

- **Fixed base, 3 linear axes on the tool,** constant accuracy event at high speed
- **Cross slide structure on fixed bed** for high dynamics and machining accuracy
- **Electromechanical drive system** for accurate and repeatable positioning and fast rotation
- **Workpiece size** dimensioned in relation to the travels

## MAIN PROPERTIES

		Tachyon 4	Tachyon 5
Travels X / Y / Z	mm	400 / 400 / 450	550 x 400 x 450
Rapid feedrates	m/min	X / Y / Z : 60	X / Y / Z : 60
		<b>Fixed table</b>	
Size	mm	600 x 400	600 X 400
Admissible load	kg	400	400
Spindle rotating speed	rpm	24.000	24.000
Taper		BBT 30	BBT 30
Power – Torque	kW – Nm	Siemens : 20 – 21 Fanuc : 6 – 7,3	Siemens : 20 – 21 Fanuc : 6 – 7,3
Tools changer	Pockets	24	24
Positioning accuracy (P)	mm	X / Y / Z : 0,006	X / Y / Z : 0,006
Repeatability accuracy (Ps medium)	mm	X / Y / Z : 0,004	X / Y / Z : 0,004
Weight of the machine	kg	4.200	4.300
Width (doors closed + conveyor)	mm	1.530	1.620
Depth	mm	3.280	3.300
Height	mm	2.630	2.630

Main characteristics of the Serie. Other variants and accessories optionally available.

# Tachyon

## Integrated rotopallet

- Very fast rotation
- Reduced time to change parts



## PRODUCTIVITY in series work

**The HSX horizontal machining centre easily combines high dynamics and high precision for a wide range of applications.**

**Its high productivity allows a significant reduction in the time needed to produce finished parts.**

# HSX

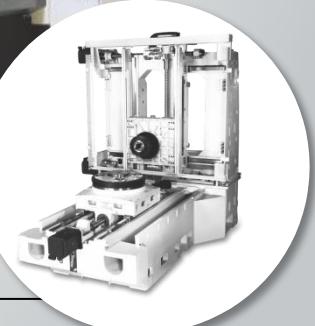
## WHAT MAKES THE DIFFERENCE

- Stable machine for good vibration absorption
- High load capacity on table
- Indexing table in basic version
- Fast and accurate automatic pallet changer
- Excellent accessibility to the room and to the loading/unloading area
- Torque motor table for optimum positioning accuracy

## MAIN PROPERTIES

### HSX 650

Travels X / Y / Z	mm	800 x 730 x 750	
Rapid feedrates	m/min	50	
		<b>Automatic pallet changer</b>	
Size of pallet	mm	2x 630 x 500	
Admissible load	kg	2x 700	
Spindle rotating speed	rpm	10.000	
Taper		ISO 50	
Power – Torque	kW – Nm	44 – 230	
Tools changer	Pockets	40	
Positioning accuracy (P)	mm	X / Y / Z : 0,010	
Repeatability accuracy (Ps medium)	mm	X / Y / Z : 0,005	
Weight of the machine	kg	19.000	
Width (doors closed + conveyor)	mm	4.350	
Depth	mm	5.800	
Height	mm	3.150	



## Design and structure

- Cast iron machine structure for excellent rigidity and geometric accuracy
- Robust structure design to increase positioning accuracy
- Optimal space for the workpiece

Main characteristics of the Serie. Other variants and accessories optionally available.

# DEFYING time

**KX**, a timeless name given to the first portal-structured machine and one that still features in the Huron product range. It incarnates the most efficient concept for machining complex parts along three axes, from roughing to finishing.

This range of machines combines dynamic action and precision for top quality surface finishes, especially for 3D shapes for moulds, forgings and tooling.



# Kmill

# KX

# K2X

KX 30 structure



## WHAT MAKES THE DIFFERENCE

- **Ribbed cast iron structure** offering high mechanical performance for greater rigidity
- **Excellent absorption of the vibrations** generated by the tough cutting conditions
- **Floor anchoring** to maintain geometric stability and accuracy over time



## MAIN PROPERTIES

### KMILL 8

### KMILL 10

Travels X / Y / Z	mm	700 x 600 x 500	1.000 x 700 x 600
Rapid feedrates	m/min	X / Y / Z : 40	X / Y : 30 Z : 18
Table size	mm	800 x 600	1.250 x 700
Admissible load	kg	500	1.500
Spindle rotating speed	rpm	15.000	15.000
Taper		ISO 40	ISO 40
Power – Torque	kW – Nm	26,4 – 110	26,4 – 110
Tools changer	Pockets	30	30
Positioning accuracy (P)	mm	X / Y / Z : 0,010	X / Y : 0,015 Z : 0,007
Repeatability accuracy (Ps medium)	mm	X / Y / Z : 0,005	X / Y : 0,007 Z : 0,005
Weight of the machine	kg	7.000	10.500
Width (doors closed + conveyor)	mm	4.100	4.590
Depth	mm	2.050	2.840
Height	mm	3.060	3.060

### K2X 10

### K2X 20

### KX 30

1.000 x 800 x 500	1.200 x 1.000 x 500	1.800 x 1.000 x 700
X / Y / Z : 60	X : 50 Y / Z : 60	X / Y : 30 Z : 18
1.150 x 800	1.400 x 1.000	2.000 x 1.000
1.000	2.000	4.000
18.000	18.000	18.000
HSK 63A	HSK 63A	HSK 63A
26,7 – 110	26,7 – 110	26,7 – 110
36	36	36
X / Y / Z : 0,004	X / Y / Z : 0,005	X : 0,009 Y / Z : 0,007
X / Y / Z : 0,002	X / Y / Z : 0,003	X / Y / Z : 0,005
12.500	14.400	17.000
5.130	4.700	5.480
3.100	4.510	6.310
3.400	3.560	3.425

Main characteristics of the Serie. Other variants and accessories optionally available.

# **POWER** and rigidity for roughing

**The NX series of flexible, modular three-axis portal milling centres fulfils the most exacting demands in the field of general mechanical and precision engineering**

The portal structure, the large distance between the columns and the optimised cutting conditions allows the intensive and high quality machining of heavy and complex workpieces of large dimensions.

# NX



## Robust design

- Heavy column and portal for greater stability
- Friction guide ram design enabling the rigidity, the stability on machining and the absence of vibration during cutting
- Z-axis balancing for smooth motion during axis movements
- X and Y guide rails for improved productivity and consistent accuracy

## WHAT MAKES THE DIFFERENCE

- Robust construction and floor anchoring to guarantee accuracy and geometric stability
- High chip removal capacity on roughing thanks to the friction guiding system on the vertical axis
- Large area on table and wide distance between columns to process the full volume of the workpiece
- Outstanding accessibility to the table and the workpiece thanks to the tunnel-type safeguard
- Efficient swarf removal
- Tilting operator panel
- Easy maintenance

## MAIN PROPERTIES

		<b>NX 40</b>	<b>NX 50</b>	<b>NX 60</b>
Travels X / Y / Z	mm	2.200 x 1.500 x 800	3.200 x 1.500 x 800	3.200 x 2.200 x 800
Rapid feedrates	m/min	X / Y : 20 Z : 15	X / Z : 15 Y : 20	X / Y / Z : 15
Table size	mm	2.200 x 1.250	3.000 x 1.250	3.000 x 2.000
Admissible load	kg	6.000	8.000	10.000
Spindle rotating speed	rpm	6.000	6.000	6.000
Taper		ISO 50	ISO 50	ISO 50
Power – Torque	kW – Nm	32,3 – 170	32,3 – 170	32,3 – 170
Tools changer	Pockets	40	40	40
Positioning accuracy (P)	mm	X / Y / Z : 0,020	X / Y / Z : 0,020	X / Y / Z : 0,020
Repeatability accuracy (Ps medium)	mm	X / Y / Z : 0,008	X / Y / Z : 0,008	X / Y / Z : 0,008
Weight of the machine	Kg	22.000	25.000	30.000
Width (doors closed + conveyor)	mm	5.200	5.400	6.160
Depth	mm	7.400	9.550	9.550
Height	mm	4.420	4.420	4.420

Main characteristics of the Serie. Other variants and accessories optionally available.

# TURNING with 2 axes

**The DX range, a 2-axis turning centre, is ideal for the production of parts in one clamping**

Particularly flexible and equipped with a turret with tools for drilling, boring and turning operations, the DX turning centre allows significant time savings. The rigidity combined with high positioning accuracy and repeatability make it an investment of choice and a good value for money thanks to its excellent price/performance ratio.

# DX



## Design and structure

- High quality monoblock cast iron structure with inclined bed for reinforced rigidity and strength
- Total absence of vibrations with excellent surface finishes, even on hard materials
- Profitability on tooling cost

## WHAT MAKES THE DIFFERENCE

- Robustness and high precision
- Excellent swarf removal
- High torque electrospindle
- Motorised tool probe
- Compact footprint
- Accessible and intuitive NC
- Easy to program with ShopTurn
- Wide range of productivity options such as bar feeder, parts catcher...



## MAIN PROPERTIES

		DX 100	DX 200	DX 350-1.000
Max. swing over bed	mm	470	500	740
Standard/max. turning Ø	m/min	100 / 200	250 / 330	415 / 600
Max. turning length	mm	200	500	1.000
Chuck Ø	mm	169	210	304
Travels : X / Z	mm	360 / 200	200 / 500	310 / 1.000
Spindle speed	rpm	50 – 4.000	50 – 4.500	50 – 2.500
Spindle nose		A2-5	A2-6	A2-8
Power	kW	9,8	9,2	15,6
Torque	Nm	70	175	298
Max. bar capacity	mm	44	52	65
Turret		Tool holder table – 4 pockets	12 pockets – VDI 30	12 pockets – VDI 30
Weight of the machine	kg	2.500	3.800	6.500
Width (doors closed + conveyor)	mm	3.270	4.050	4.725
Depth	mm	1.470	1.710	1.890
Height	mm	1.665	1.690	2.025

Main characteristics of the Serie. Other variants and accessories optionally available.

# MULTITASKING with precision

**The flexible and rigid AX series has been designed to meet a variety of needs.**

The AX can carry out a number of turning and milling operations. With its driven tools, C axis or Y axis, the AX multitasking centre is perfectly suited to the production of runs of engineering parts for the automotive or hydraulics industries, or precision engineering parts.



## Structure

- High quality cast iron structure for maximum rigidity
- 45° inclined bed architecture for excellent chip evacuation

## WHAT MAKES THE DIFFERENCE

- **Robust, rigid monoblock construction** for excellent vibration damping
- Very high **surface finishing quality**
- High **accuracy and repeatability**
- **12-stations turret** with all powered tools
- **C-axis** for milling operations
- **Y-axis**
- **Optimised tool management**
- High speed **electrospindle** and rigid spindle holder
- **Motorised tailstock**
- **Excellent swarf removal**
- **Compact footprint**
- Accessible and **intuitive NC**
- Easy to program with **ShopTurn**

## Productivity

Possibility to add many equipments such as various hydraulic collet chucks, bar feeders, tool feeler, 10 bar coolant by the tool centre, set of tool holders, parts catcher

## Ergonomics

- Adjustable, operator-friendly control panel
- Compact footprint

## MAIN PROPERTIES

	AX M		AX MY		AX MSY	
	200	300	200	300	200	300
Max. swing over bed	mm	550	650	550	650	550
Standard/max turning Ø	mm	330	420	330	420	330
Max. turning length	mm	625	600 / 1.200	625	600 / 1.200	625
Chuck Ø	mm	200	254	200	254	200
Travels : X / Z	mm	200 / 625	250 / 625 / 1.225	200 / 625	250 / 625 / 1.225	200 / 625 / 1.225
<b>Main spindle</b>		<b>Main spindle / Model 200</b>		<b>Main spindle / Model 300</b>		
Spindle speed	rpm	4.500		4.000		
Spindle nose		A2-6		A2-8		
Power	kW	9,2		28		
Torque	Nm	175		300		
Max. bar capacity	mm	52		65		
<b>Secondary spindle MSY</b>						
Spindle speed	rpm	n.d.	n.d.	5.000	4.500	
Spindle nose				A2-5	A2-6	
Power	kW			7	9,2	
Torque	Nm			95	175	
Max. bar capacity	mm			65	65	
Chuck Ø	mm			170	210	
Revolver		Motorised – 12 stations		Motorised – 12 stations		Motorised – 12 stations
Tool holder		BMT 45	BMT 55	BMT 45	BMT 55	BMT 45
Weight of the machine	kg	4.800	6.500	4.800	6.500	5.000
Width (doors closed + conveyor)	mm	4.280	4.225	4.280	4.225	4.280
Depth	mm	2.436	4.220	2.436	4.220	2.436
Height	mm	1.990	2.210	1.990	2.210	1.990

Main characteristics of the Serie. Other variants and accessories optionally available.



# HURON

Reliability | Productivity | Performance

Serving the success  
of its Customers !



● **Make more reliable**

(The way to ensure the fulfilment of contracts)

● **Planify**

(The way to control costs and meet targets)

● **Coordinate**

(Choose the best time for intervention)

● **Produce**

(The way to reduce unscheduled downtime)

● **Make it profitable**

(Maximise resources capacities)

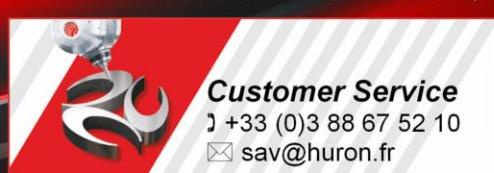
To secure your production, we offer a range of calibrated or customised services

- **Service, one-off maintenance and maintenance contract** for a sustainable and perennial machine
- **Assistance and technical support** from our experts
- **Original spare parts and consumables**
- **Spindle repair** to continue to benefit from all the dynamic features of HURON machines
- **Upgrade and Retrofit** OF HURON machines to remain at the cutting edge of technology
- **Training** to increase the competence of machine operators
- **Applications and consulting** on machining strategies to develop business opportunities

For more information



HURON GRAFFENSTADEN  
1 rue de l'Artisanat - 67114 Eschau  
03 88 67 52 52 - [commercial@huron.fr](mailto:commercial@huron.fr)  
[www.huron.eu](http://www.huron.eu)



# MAINTENANCE CONTRACT, an asset for reliability

**Having a maintenance plan in place is an additional asset for the long-term preservation of the qualities of the investment property.**

3 fundamental pillars :

- **Performance**, by delivering consistent quality. It participates actively and agilely in the profitability of the company
- **Serenity**, by guaranteeing cost control and planning of interventions
- **Safety**, by safeguarding the technical qualities of the machine and making it sustainable

## WHAT MAKES THE DIFFERENCE

- Priority and personalised **taking care**
- Sustainability and long-term viability of the investment property
- Optimisation of the machine availability rate thanks to the control of the planning of interventions  
**Control of operating costs** which are known, contained and predictable
- Long-term geometric stability maintaining of the machine
- Maintaining machining accuracy over time
- Prevention and anticipation of wear and tear
- Machine monitoring by the manufacturer
- Findings and recommendations



## Intervention opportunities

- One-off services (Audit Inspection Bronze, Control Silver, Performance Gold)
- Maintenance contrat
  - o Confort (Audit Bronze + Gold, Silver, Silver)
  - o Confort+ (Audit Bronze + Gold, Silver, Gold)

The maintenance contract is based on a number of operating hours.

The basic plan is calculated for a service every 2,000 operating hours.

This plan will be adapted according to the type of machine, the operating rates and in agreement with the customer.

# REMOTE CONTRAT, online maintenance

To save time and money, online maintenance is a real investment !

The Remote contract allows the remote monitoring of the machine, the elaboration of a precise and fast diagnosis as well as the execution of online interventions.

The real-time connection and visualisation of remote devices by our technicians is a real asset that contributes to improving the availability of the machine and its operating rate.

## WHAT MAKES THE DIFFERENCE

- Quick response
- Immediate diagnosis
- Better identification of the corrective actions to be taken
- Troubleshooting without on-site intervention
- Excellent compromise between geographical distance and the psychological comfort of having assistance
- Reduced costs for repairs and interventions

# UPGRADE AND RETROFIT, the eco-sustainable alternative

With Upgrade or Retrofit, transform your investment property to make it competitive and efficient.

**Retrofit** is suitable for used machines where we replace components with new, similar and efficient ones in order to increase the longevity of the machine.

**Upgrading** consists of replacing and/or adding new features to machines, regardless of their age, in order to increase their performance.

## WHAT MAKES THE DIFFERENCE

- Scalable and sustainable solution
- Complete or partial **reconditioning** of the machine
- Maintaining and improving of the performances
- Restoration of **equipment reliability**
- Development of the **flexibility** and **agility** of the machine
- Improve of the **competitiveness**
- **Moderate expense** not requiring depreciable investment

# HURON SPINDLE REPAIR, the perennial dynamic

**HURON, a manufacturer of machine tools for 160 years, is offering milling centres equipped with spindles and electrospindles for over 30 years. These are specifically developed for HURON machines to offer you the best machining performance.**



Mechanical spindle with belt drive



Mechanical spindle with direct drive



Electrospindle

Machining operations place great stress and strain on the spindles and electrospindles of your HURON machine tools. To compensate for failures and loss of performance of these components, HURON provides repair or standard exchange.

Your equipment benefits from the latest improvements and a quality repairing. We guarantee the preservation of productivity thanks to the integration of high-performance components of the latest technology.

By using our support, you can be sure that you will continue to benefit from the performance of HURON machines. You preserve your productivity and the profitability of your production equipment.

Our experts will advise you on the best solution for your needs in terms of price and time.



In order to guarantee the performance expected of a HURON machine, we have developed a unique set of resources, skills and expertise.

## WHAT YOU NEED TO KNOW

- Professional repair by qualified technician
- No chrome plating of the spindle taper or bearing spans
- No use of non-interchangeable chams
- Use of last generation spare parts
- Availability of spare spindles for spindles equipping HURON KX and VX machine tools
- **Repairing within 10 banking days**
- Exchange with spindle repaired within 2/3 working days
- **Total warranty 6 months on complete spindle**, including non-replaced parts (commissioning by an authorized HURON technician)

## Sustain your competitiveness

- Limit downtime and stops of production
- Reduce your maintenance and repair costs
- Optimize the time in production availability
- Increase the life of your HURON machines
- Reliability of production
- Preserve the legendary accuracy and repeatability
- Strengthen your competitiveness



FAIR PRICE  
GUARANTEED



CLEAN AND NEAT  
WORK



FREE AND FAST  
QUOTATION



MANUFACTURER  
WARRANTY

QUALITY    COSTS    DEADLINE    FAST    EFFICIENT



# **EXPERTS CYCLES**, a guarantee of performance !

*Productivity is an essential criterion in the field of machining.*

*To support our customers in meeting this challenge, we offer a range of solutions dedicated to increasing productivity and profitability while optimising accuracy.*

*Each cycle developed deals with a technical complexity. In the end, the programmer or operator benefits from a simple, efficient and intuitive interface to solve a complex problem.*

*These cycles, combined with the capabilities of our milling centres, make the HURON machine tool more efficient and facilitate the automation of manufacturing processes.*

## **PRECI**PROTECT

or how to machine without risk of collision?

This cycle allows the **detection of collisions** before they occur. Toolpaths and movements are monitored **in real time** and in anticipation of the actual machine data and the machining program. **If a risk of collision is detected, the machine immediately and automatically stops all movement.**

This simple and rapid solution takes into account all the elements necessary and indispensable for the **safe** machining of parts.

### **WHAT MAKES THE DIFFERENCE**

- Functioning in automatic or manual mode
- Benefit from the speed of the machine
- Prevention of operating errors in manual mode
- Preservation of machine and workpiece integrity
- Work without surveillance thanks to the reliability of the system

## **PRECI**LIFE

or how to automatically manage the tool life ?

This cycle **automates the inspection of tools** during machining or tool change. The detection of critical wear **automatically triggers the replacement** of the tool at **the most optimal time**.

- Preservation of the **integrity of the workpiece**
- Preservation of cutting tools and optimisation of their use
- Decrease of downtime
- Reduction in tooling costs

### **WHAT MAKES THE DIFFERENCE**

- Automation of measurement, control and tool replacement in hidden time
- No changes required to the NC program other than calling the cycle at the start of the program
- Easy implementation
- Setting up of a library of control parameters for each tool

## **PRECI**POWER

or how to optimise roughing operations ?

This cycle achieves **optimum roughing** by automatically modulating and adapting the feedrate in real time to **maximise the material removal rate**.

### **WHAT MAKES THE DIFFERENCE**

- Consistent use of the available spindle power
- Automatic feedrate control
- Optimum material removal efficiency
- Protection against spindle and rotary axis overloads during roughing

## **PRECI**FIVE

or how to get an accurate calibration of the machine ?

This cycle **automates the calibration of the kinematics** by measuring the position and orientation of the rotating axes.

The cycle can be included directly in the machining process for optimum precision.

### **WHAT MAKES THE DIFFERENCE**

- Automatic, accurate and rapid measurement
- Optimisation of accuracy
- Compensation for thermal expansion of the machine
- Elimination of scrap parts
- Fast verification of kinematics after a collision
- Generation of inspection reports with history

## **PRECI**BALANCE

or how to detect unbalance on Mill/Turn machines during turning operations ?

This cycle **automatically measures the unbalance** of the part and its clamping. It determines the angular position and the required balancing mass in order to obtain a balance in a plane. The cycle can be re-run after mounting the counterweights to validate the balancing and before starting the machining.

### **WHAT MAKES THE DIFFERENCE**

- Workpiece balancing
- Elimination of vibration for increased accuracy and improved surface finish
- Reduced wear and tear on mechanical components of the machine



HURON



#### **FRANCE - HURON GRAFFENSTADEN SAS**

1 rue de l'Artisanat - 67114 Eschau  
+33 (0)3 88 67 52 52 +33 (0)3 88 67 69 00 info@huron.fr  
[www.huron.eu](http://www.huron.eu)

#### **GERMANY - HURON FRÄSMASCHINEN GMBH**

Siemensstraße 56 - 70839 Gerlingen  
+49 (0)7156 92836 12 +49 (0)7156 92836 50 verkauf@huron.de  
[www.huron.de](http://www.huron.de)

#### **CANADA - HURON CANADA**

105-85 rue St-Charles Ouest – Longueuil, Québec, J4H 1C5  
+1 514 44 84 873 +1 514 44 84 875 infocanada@huron.fr  
[www.huron.eu](http://www.huron.eu)

#### **TURKEY - HURON TURKEY**

Merdivenköy Mah. Dikyol Sok. No:2/A - Kat:1 No:101/102 - 34387 Kadıköy / ISTANBUL  
+90 (0)216 463 33 67 info-turquie@huron.fr  
[www.huron.eu](http://www.huron.eu)

#### **INDIA - JYOTI CNC AUTOMATION LTD**

G-506, Lodhika G.I.D.C., Village : Metoda, Dist : RAJKOT - 360 021, GUJARAT  
+91 2827 306 100 /287 081 - /287 082 +91 2827 306 161 /287 811 info@jyoti.co.in ; sales@jyoti.co.in  
[www.jyoti.co.in](http://www.jyoti.co.in)

Les textes, caractéristiques et photos sont fournis à titre indicatif. Huron Graffenstaden se réserve le droit d'apporter à tout moment des modifications aux modèles décrits pour des raisons de nature techniques ou commerciales.

