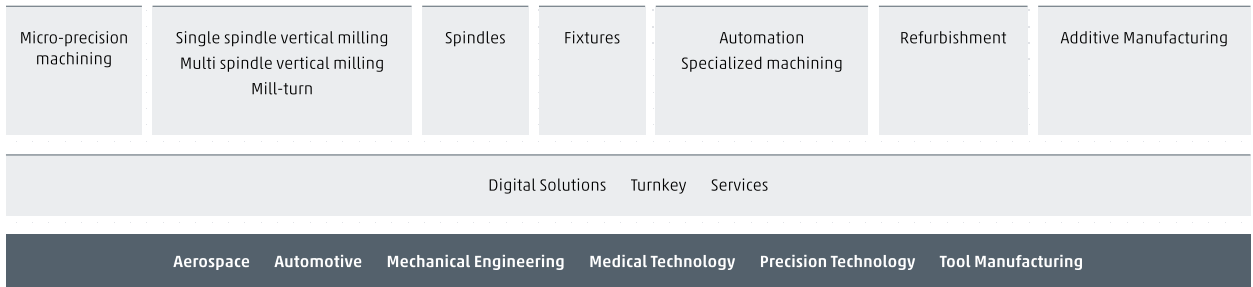




# Expertises compact

Products, solutions and services.  
For sustainably productive processes.

# CHIRON Group

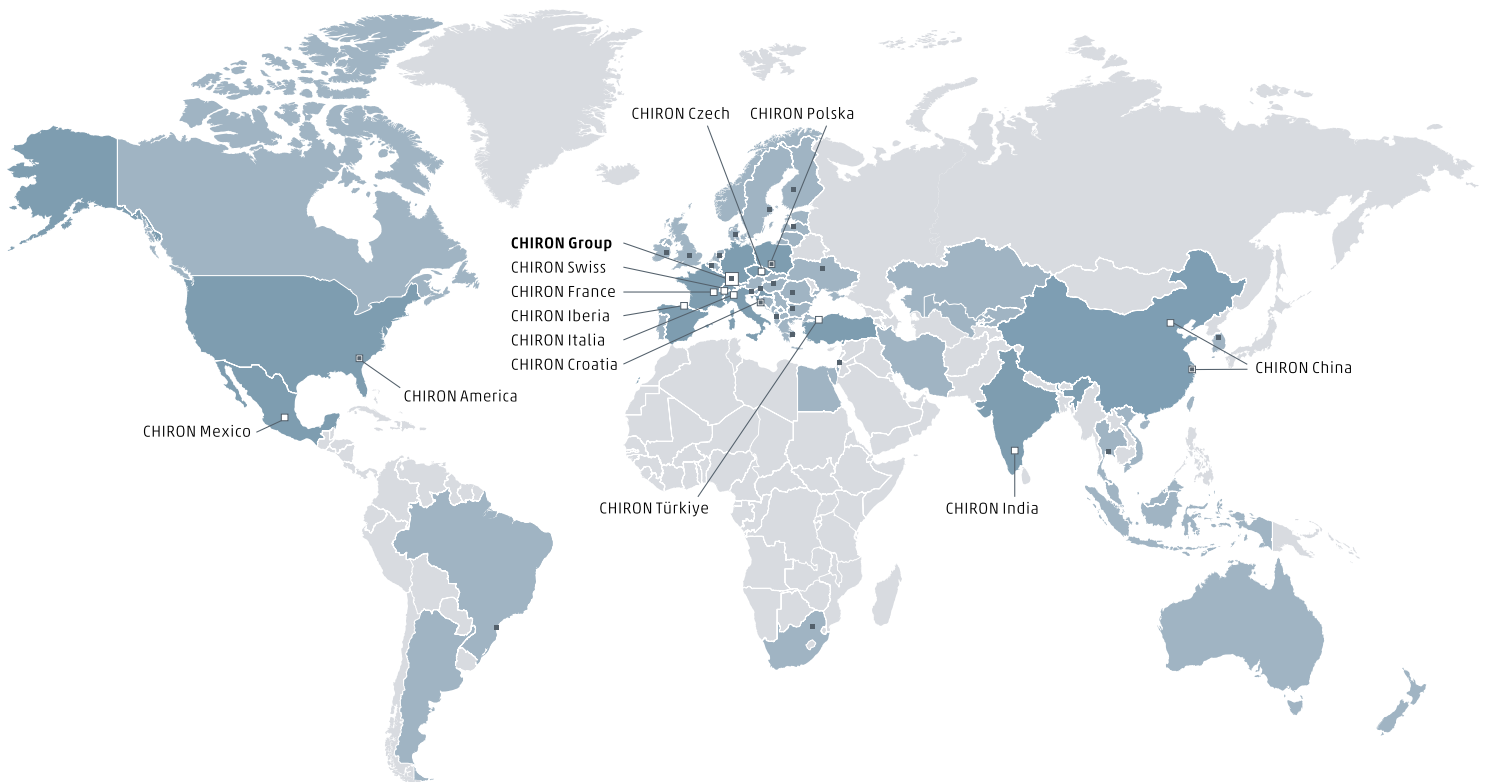


COMPETENT  
 SMART  
 INNOVATIVE  
 SUSTAINABLE

---

# Strong group.

To be a long-term strong and reliable partner: This goal characterizes our acting, is the guiding principle for the CHIRON Group. With innovative products and services, we facilitate precise, productive and flexible machining in many different industries, all over the world. We continuously strengthen our leading position in the market, acquire new fields of expertise and thus secure you the decisive competitive edge beyond today.



MILLING / MACHINING  
ADDITIVE MANUFACTURING  
AUTOMATION  
DIGITAL SOLUTIONS  
TURNKEY SOLUTIONS  
SERVICES  
REFURBISHMENT



# MILL-TURN MACHINING AUTOMATION SOLUTIONS TURNKEY SERVICES REFURBISHMENT

- MILLING / MILL-TURN** Top technologies for CNC-controlled vertical and horizontal milling and turning. For productive and flexible machining over the entire machine lifecycle. With the unique combination of highest dynamics and precision. **6**
- ADDITIVE MANUFACTURING** Products and solutions for a wide variety of processes and industries using laser metal deposition technology. For coating, repair and 3D metal printing of larger and complex components. **24**
- AUTOMATION** Consistently high production quality, low unit costs, short lead times and flexibility for different tasks, Combined in one optimal process in a high-performance, fully automated complete solution. **26**
- DIGITAL SOLUTIONS** Digital systems and services for real added value to the machining centers, in production and in the company: the modular SmartLine software portfolio and SmartServices for every stage of the machine's lifecycle. **30**
- TURNKEY** Cost- and efficiency-optimized machining processes, developed along specific requirements. As a complete turnkey solution consisting of CNC machining center, tools, clamping devices and modules for automation. **31**
- SERVICES** More time for machining, lower operating costs. With LifetimeSolutions, precisely tailored services for every phase of the machine lifecycle. With SmartServices, digital services for increased profitability. **32**
- REFURBISHMENT** Customized refurbishing and modernizing of CHIRON Group machining centers using manufacturer knowledge: sustains productivity, giving machines a second life, while using fewer resources. **34**

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# Microprocessing. The smart way.



**Pallets**  
A 6 pallets



**Tool tower**  
B 60 tools



C




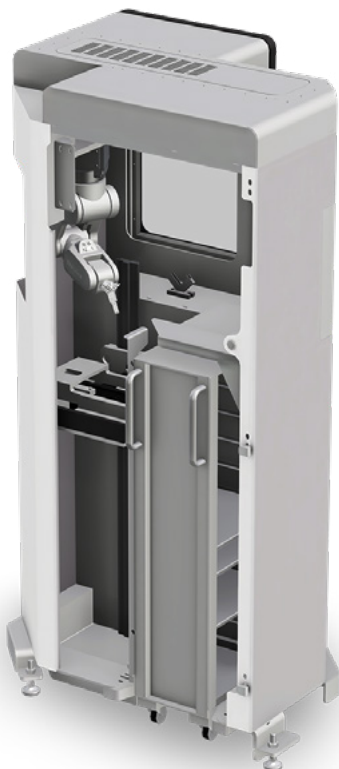


## Micro5

Where small parts require dynamic and high-precision machining, the Micro5 has caused a mini revolution. The machining center with four or five axes is extremely compact and can be set up very quickly almost anywhere – in the production area or directly right at the work station. The 5 in the name stands for the ideal 5:1 ratio of machine size to workpiece and for maximum efficiency: Energy consumption is 50 times lower in comparison to conventional systems. For increased autonomy, the Micro5 can be easily automated with the Feed5 handling system.

## Process advantages

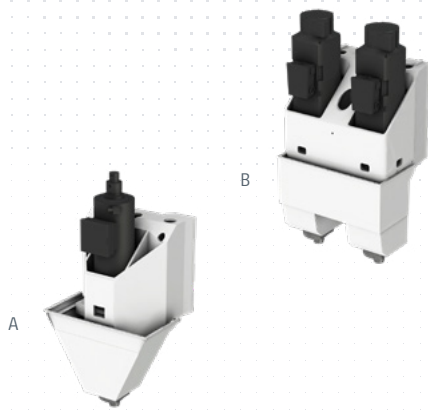
– Travel X – Y – Z max.	78 – 56 – 50 mm
– Spindle speed	60,000 rpm
– Torque max.	10 Ncm
– Chip-to-chip time	3.5 s
– Tool options	60 with HSK-EZ 15
– Position accuracy	< 2 $\mu$ m
– More information	



## Configurations

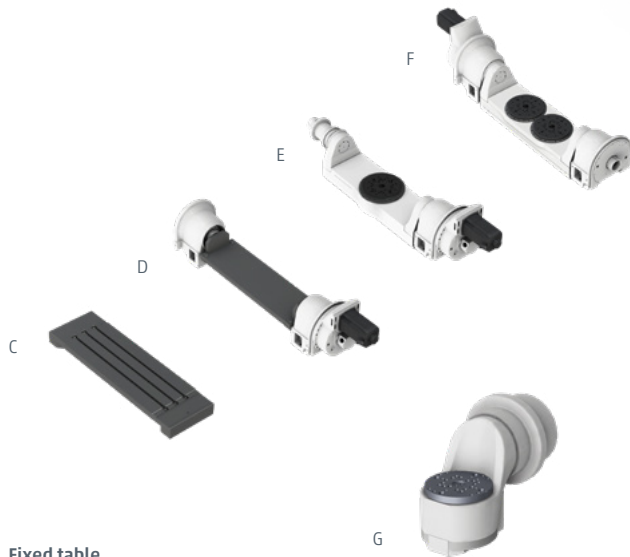
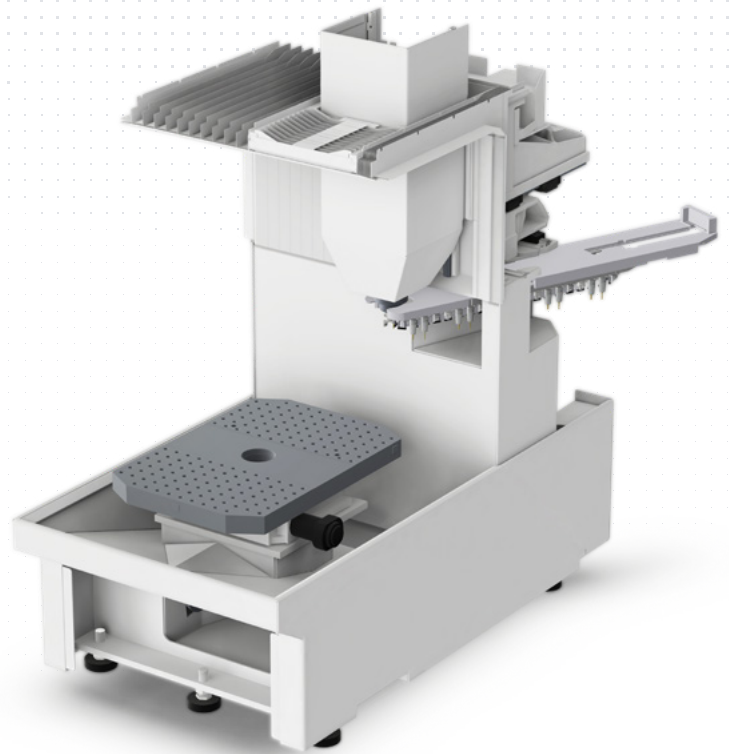
- C Work bench
- D Handling system Feed5





#### Spindles

- A Single-spindle
- B Double-spindle

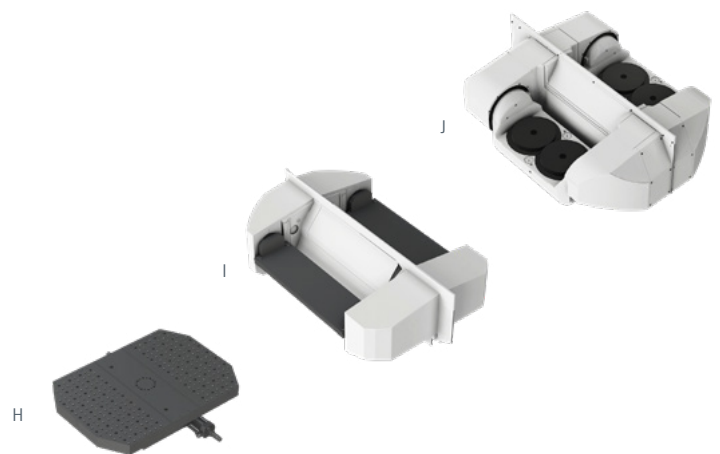


#### Fixed table

- C 3-axis

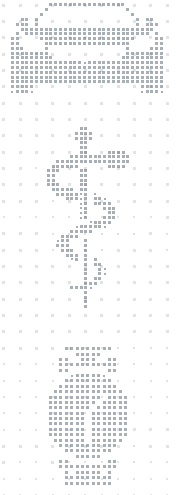
#### Trunnion possibilities

- D 4-axis
- E 5-axis, one face plate (AC kinematics)
- F 5-axis, two face plates (AC kinematics)
- G 5-axis, one face plate (BC kinematics)



#### Workpiece changing devices

- H 3-axis
- I 4-axis
- J 5-axis, two face plates




# Process stability and versatility. Within the smallest space.

## 08 Series

Minimum tolerances of a few  $\mu\text{m}$  and top surface quality: You can meet these requirements with the versatile machining centers of the 08 Series. All models represent high performance in a compact design. They can be set up quickly, are easy to operate, very stable, highly dynamic and low-maintenance. Thanks to the modular structure, there are numerous configuration possibilities. Any 08 Series basic machine can be assembled into an individual solution that fits perfectly to your production tasks.

## Process advantages

– Travel X – Y – Z max.	450 – 270 – 360 mm
– Spindle speed min. – max.	15,000 rpm – 54,000 rpm
– Torque max.	2 – 23 Nm
– Spindle distance DZ	200 mm
– Tool options	24 – 96   2 x 12 – 2 x 48
– Tool length max.	42 mm
– Interference circle $\varnothing$ 1 face plate	$\varnothing$ 500 mm
– Interference circle $\varnothing$ 2 face plates	$\varnothing$ 199 mm
– More information	



### Magazins

K 24 tools

L 40 tools




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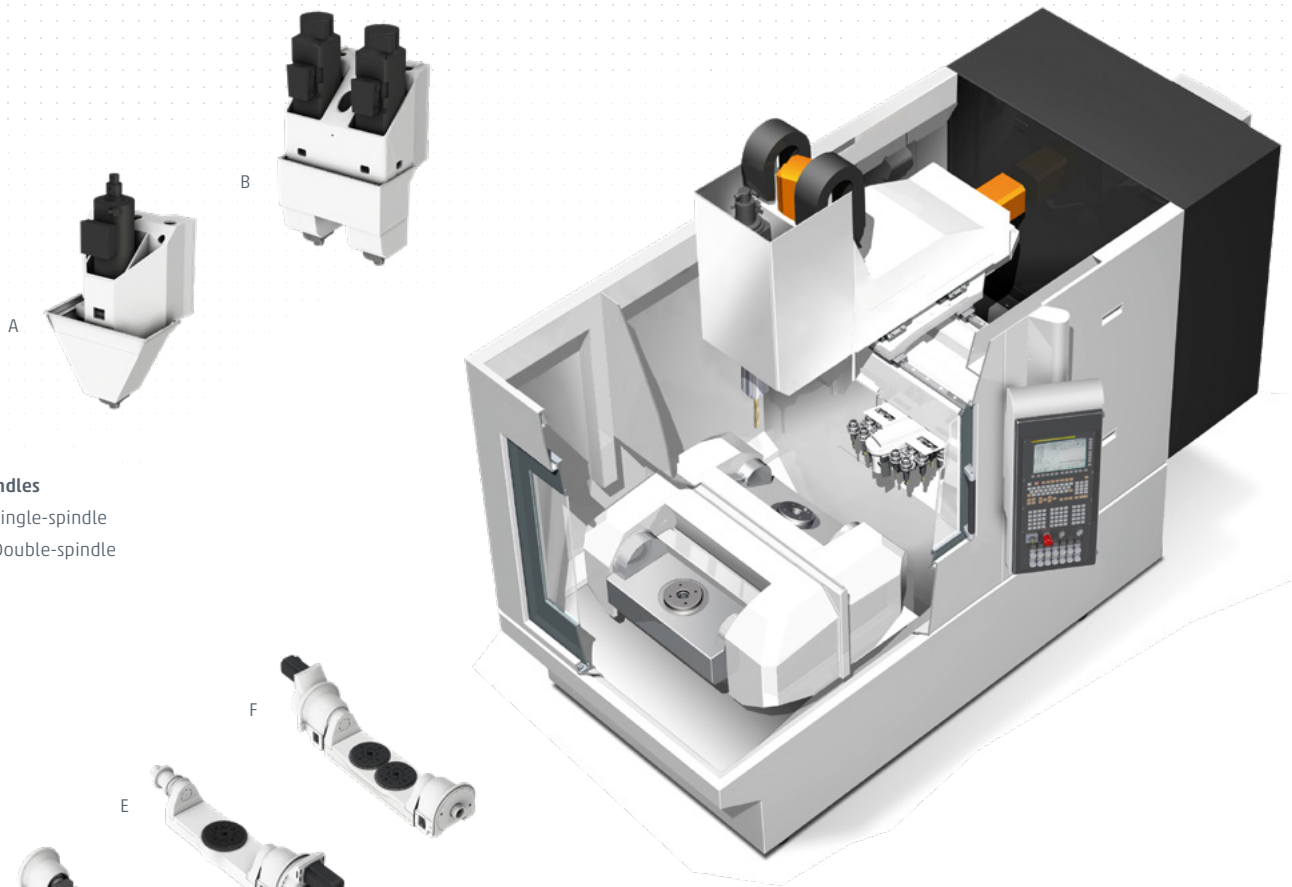
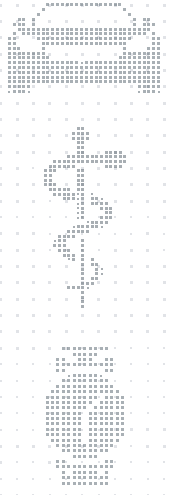
# Highly efficient and multifunctional. For the lowest cost per piece.

## 12 Series

So you want synchronized production quality at low cost per unit? The machining centers of the 12 Series combine these stipulations and are ranked the best in their class in terms of speed, compact design and versatility. On the FZ 12 S five axis in proven travel column design, workpieces with high surface quality can be manufactured in one clamping arrangement. The double-spindle DZ 12 S five axis performs five axis simultaneous operations using high-performance control options.

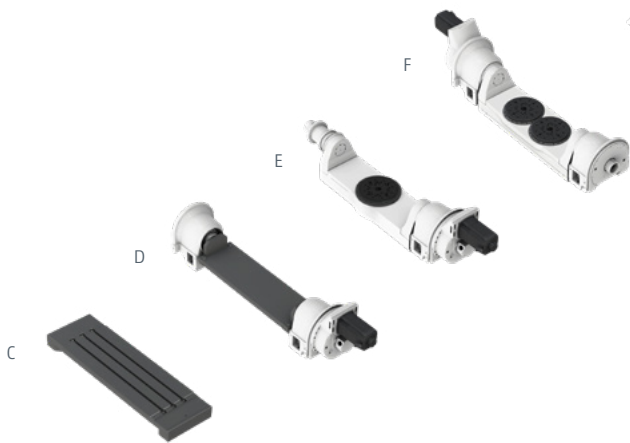
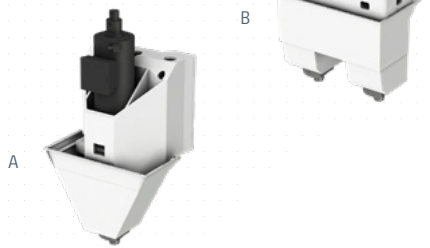
## Process advantages

— Travel X - Y - Z max.	550 - 400 - 400 mm
— Spindle speed min. - max.	12,000 rpm - 30,000 rpm
— Torque max.	11 - 110 Nm
— Spindle distance DZ	250 mm
— Tool options	24 - 208   2 x 12 - 2 x 104
— Tool length max.	250 mm
— Interference circle Ø 1 face plate	Ø 650 mm
— Interference circle Ø 2 face plates	Ø 249 mm
— More information	



**Spindles**

- A Single-spindle
- B Double-spindle

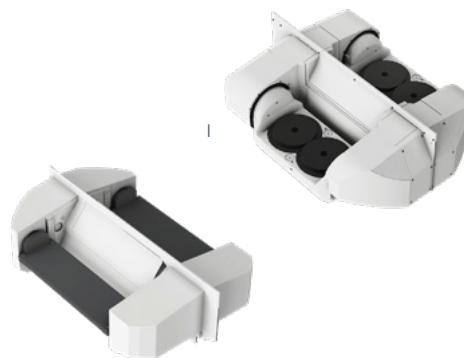


**Fixed table**

- C 3-axis

**Trunnion possibilities**

- D 4-axis
- E 5-axis, one face plate
- F 5-axis, two face plates



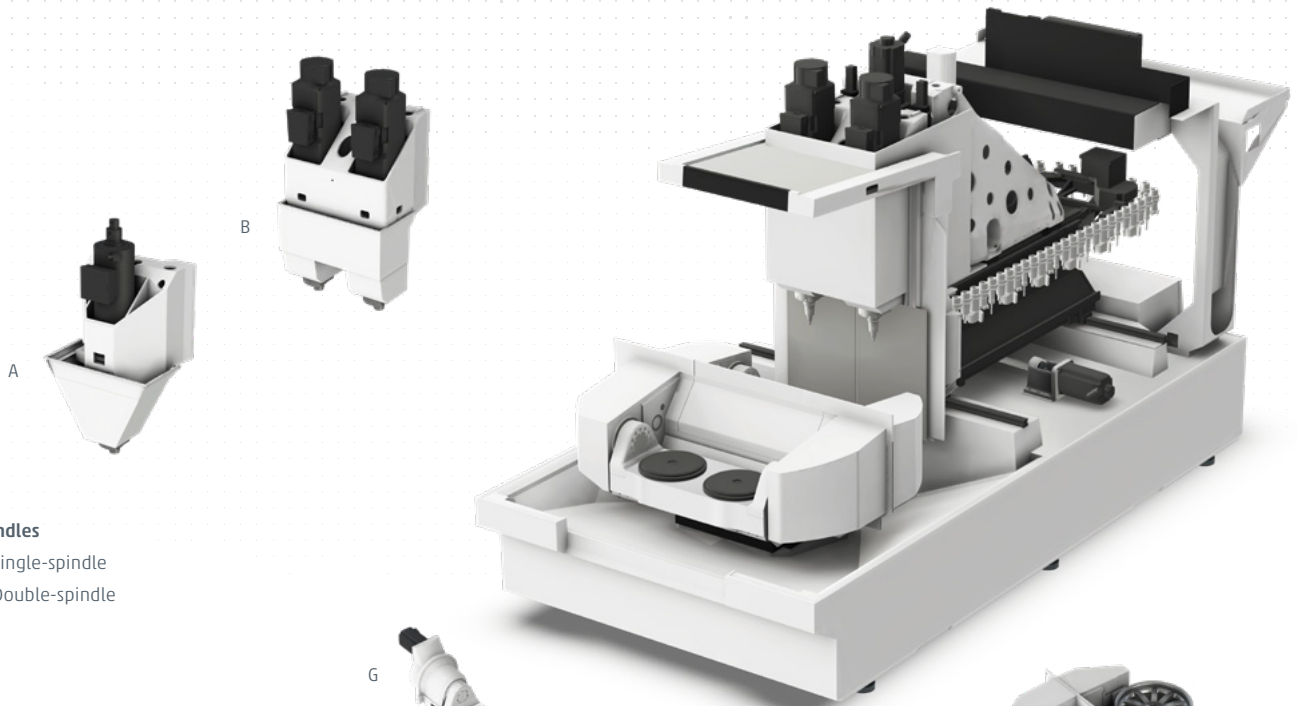
**Workpiece changing devices**

- G 3-axis
- H 4-axis
- I\* 5-axis, two face plates

\* optional hybrid solution table side one 4-axis, table side two 5-axis



# Precise and powerful machining. With compact, cutting edge technology.



A



B



## Spindles

A Single-spindle

B Double-spindle

G



F



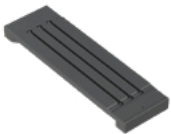
E



D



C



## Fixed table

C 3-axis

## Trunnion possibilities

D 4-axis

E 5-axis, one face plate

F 5-axis, one face plate

G 5-axis, two face plates

L



K°



J°



## Workpiece changing devices

H 3-axis

I 4-axis

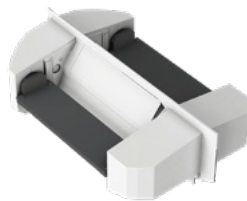
J° 5-axis, one face plate

K° 5-axis, two face plates

L 5-axis, wheel

° Face plates optional one-sided

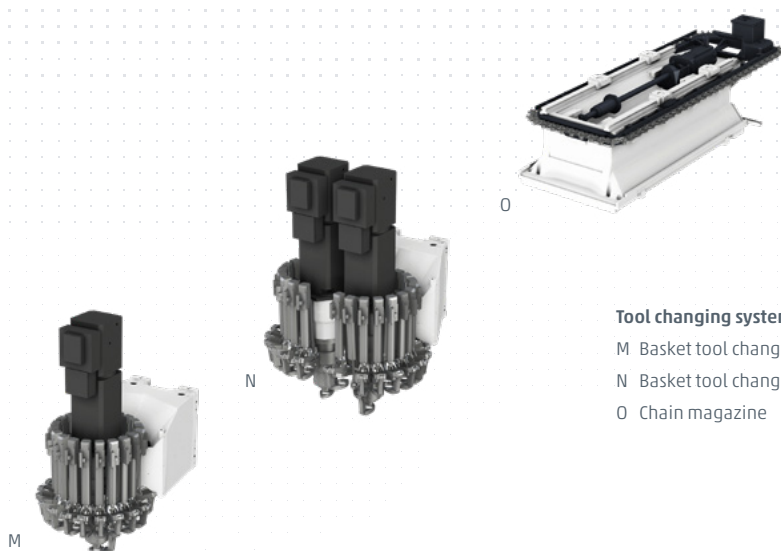
I



H







#### Tool changing systems

- M Basket tool changer single-spindle
- N Basket tool changer double-spindle
- O Chain magazine

## 15 and 18 Series

The machining centers of the 15 and 18 Series are one of the best machine tools of its class in terms of speed, compact design, stability and reliability. They feature enormous performance reserves for powerful CNC milling and, thanks to their modular design, can be assembled to your perfect individual solution. With, for example, the appropriate spindle and table variant, with fast basket tool changer or pick-up tool magazine, with integrated workpiece changing device 0° / 180° for loading and unloading during machining. Providing always powerful cutting, precision and high availability at low unit costs.

### Process advantages

### 15/18 Series

– Travel X – Y – Z max.	730 – 400 – 425 mm (15) 800 – 565 – 630 mm (18)
– Spindle speed min. – max.	10,500 rpm – 20,000 rpm
– Torque max.	70 – 290 Nm
– Spindle distance DZ	250   320   400 mm
– Tool options	12 – 158   2 x 35
– Tool length max.	200 mm
– Interference circle Ø 1 face plate	Ø 800 mm
– Interference circle Ø 2 face plates	Ø 570 mm

– More information



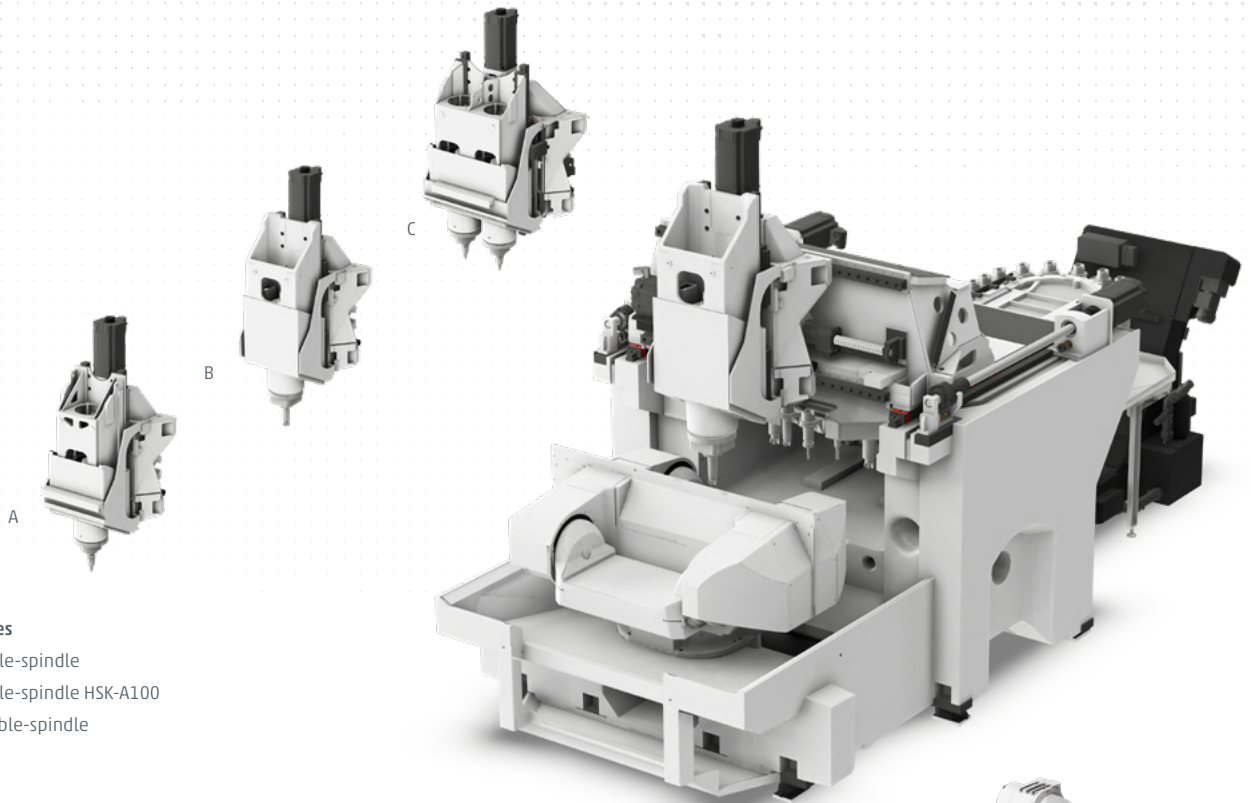
15



18

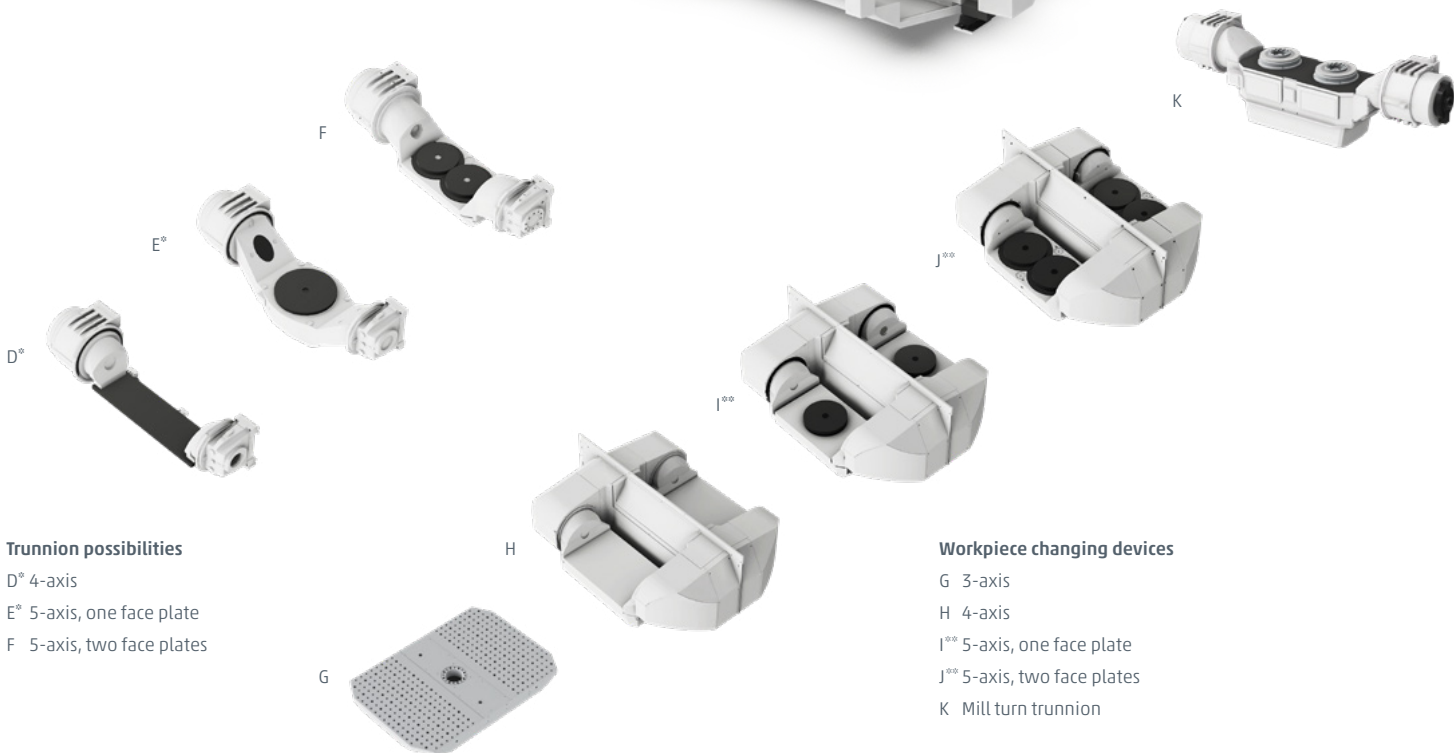


# Strong performance, high dynamics. For complex work pieces.



## Spindles

- A Single-spindle
- B Single-spindle HSK-A100
- C Double-spindle



## Trunnion possibilities

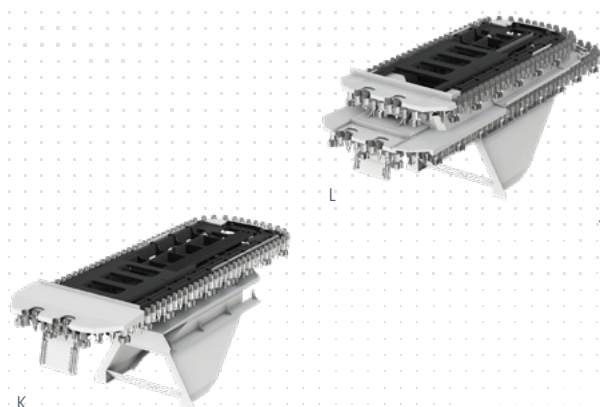
- D° 4-axis
- E° 5-axis, one face plate
- F 5-axis, two face plates

## Workpiece changing devices

- G 3-axis
- H 4-axis
- I°° 5-axis, one face plate
- J°° 5-axis, two face plates
- K Mill turn trunnion

° Only for 16 Series

°° Face plates optional one-sided



#### Tool magazines

K 1-chain magazine

L 2-chain magazine



## 16 and 22 Series

Whether FZ/DZ 16 or FZ/DZ 22 – both series convincingly answer your requirements regarding high precision, dynamics and best surface quality for larger, increasingly complex workpieces. Basis for this is a fundamentally new machining platform with mobile gantry design. Thus, the rigidity is significantly increased, resulting in even more precise machining. The single-spindle FZ 16 S five axis is designed for special precision requirements in 5-axis machining, the double spindle DZ 16 W is the specialist for larger quantities. With its 600 mm spindle distance, the DZ 22 is the ideal solution for complete machining of large-volume components in the automotive industry.

### Process advantages

- Travel X – Y – Z max.
- Spindle speed min. – max.
- Torque max.
- Spindle distance DZ
- Tool options
- Tool length max.
- Interference circle Ø 1 face plate
- Interference circle Ø 2 face plates
- More information

### 16/22 Series

660 – 660 – 500 mm (FZ 16)  
1,220 – 960 – 600 mm (FZ 22)

10,000 rpm – 20,000 rpm

200 – 408 Nm

320 | 600 mm

42 – 162 | 2 x 28 – 2 x 80

450 | 500 mm

Ø 660 mm

Ø 319 mm



16



22



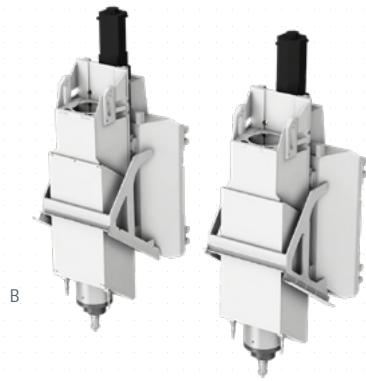
# The perfect combination. Of dynamics, precision, productivity.

## Spindles

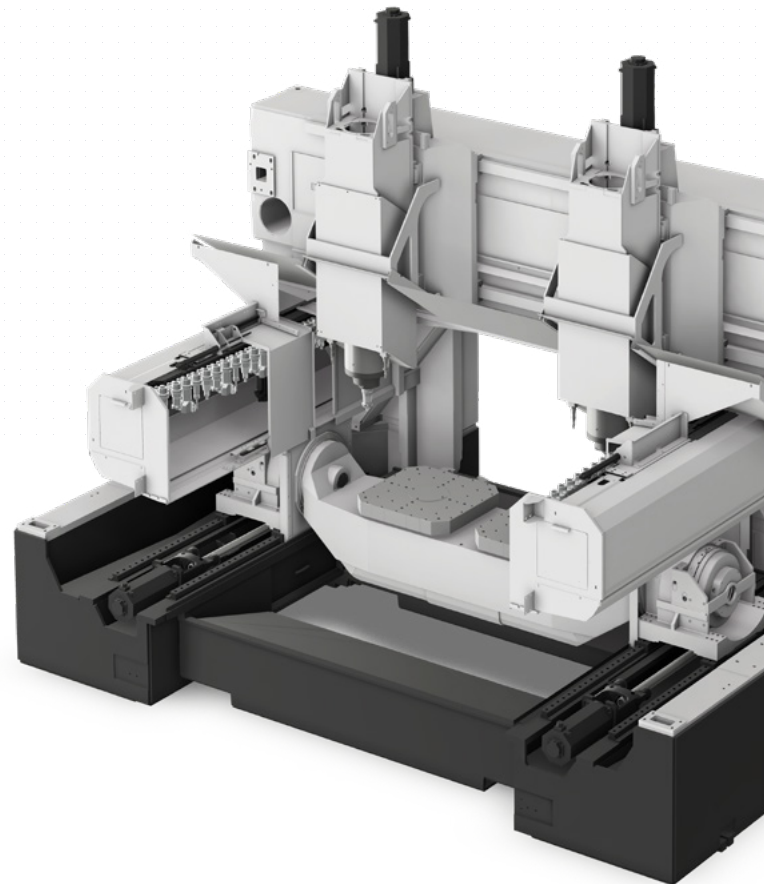
- A Single-spindle
- B Double-spindle



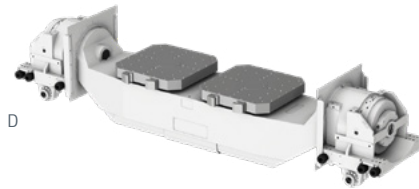
A



B



C



D

## Trunnion possibilities

- C 5-axis, one pallet
- D 5-axis, two pallets

## Workpiece changing device

- E Pallet changer



E



## 25 and 28 Series

The 25 and 28 Series are designed for machining complex, large-volume components. With large spindle distances of 800 or 1,200 mm, DZ 25 and DZ 28 enable the double-spindle production of aluminum components for the automotive and aerospace industries – in a perfect combination of productivity, precision and dynamics. Further advantages for your manufacturing practice: a compact, flexible machine layout, spindles that can traverse independently in X and Z directions and simple automation with robot or gantry. Operating and loading take place on separate sides, for best access to the work area and good visibility into the process.

### Process advantages

- Travel X – Y – Z max.
- Spindle speed min. – max.
- Torque max.
- Spindle distance DZ
- Tool options
- Tool length max.
- Interference circle Ø 1 face plate
- Interference circle Ø 2 face plates
- More information

### 25/28 Series

1,600 – 1,100 – 800 mm (25)  
1,200 – 1,100 – 800 mm (28)

12,500 rpm – 20,000 rpm

200 Nm

800 | 1,200 mm

36/60 | 2 x 36/60

450 mm

Ø 1,199 mm

Ø 799 mm



25



28



# Highly productive cutting. Generous traverse paths in all axes.



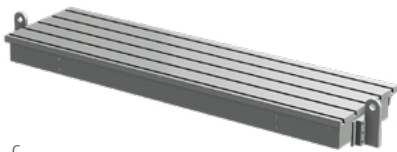
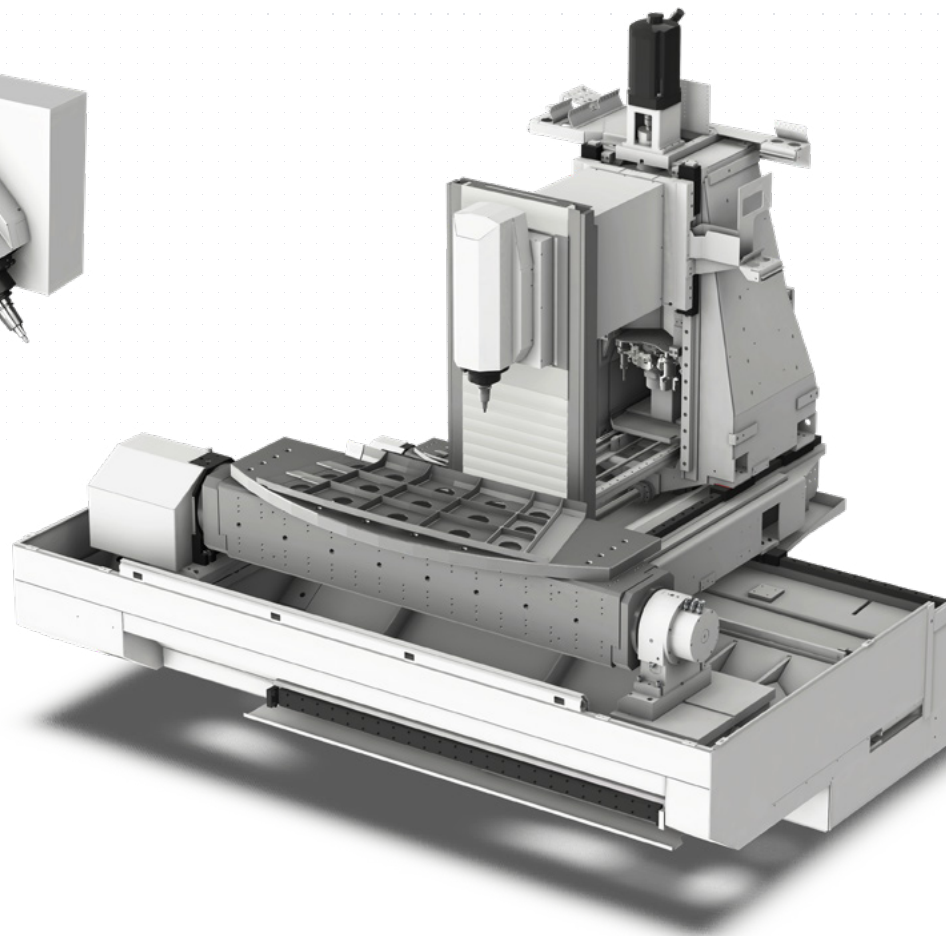
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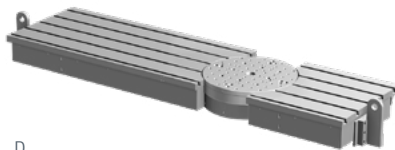
B

## Spindles

- A Fixed spindle
- B Swivel head



C



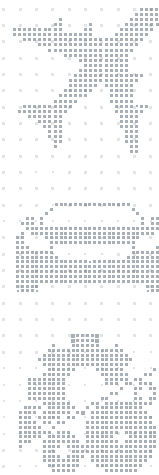
D

## Fixed table

- C 3-axis
- D 3-axis with rotary table
- E 3-axis with central splash guard



E



## MILL Series

From small parts to large workpieces: The machining centers of the MILL Series offer you optimal preconditions for highly productive cutting and precise machining results with the lowest costs per piece. All models of this series are distinguished by their high performance in CNC Milling and by traverse paths in X up to 6,000 mm. Large and flexible work areas, high dynamics and powerful drives, fast set-up and simple operation are further benefits, whether in flexible single-unit production or in manufacturing small and medium quantities.

## Process advantages

- Travel X – Y – Z max. 6,000 – 915 – 715 mm
- Spindle speed min. – max. 12,000 rpm – 30,000 rpm
- Torque max. 180 Nm
- Tool options 24 – 170
- Tool length max. 370 mm
- Interference circle Ø 1 face plate Ø 1,010 mm
- More information



F



G



H

### Table options

- F Swivel plate
- G Clamping cube

### Swivel rotary table

- H 5-axis, one face plate  
(double face plates optional possible)

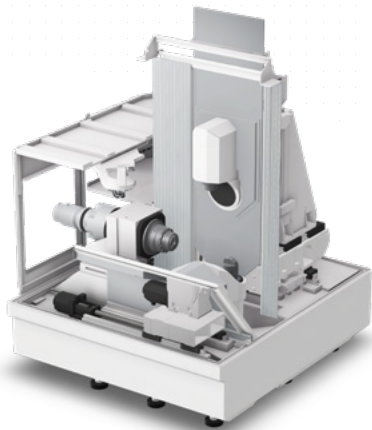


# Complete six-side machining. Efficient, from the bar.

## Machining centers mill turn

Milling off the bar: The CHIRON Group covers the complete manufacturing spectrum and offers the appropriate machine solution for every workpiece dimension, every batch size and every specific requirement. For example, the compact FZ 08 S mill turn precision\* for multifunctional machining of small and medium bars.

### FZ 08 S mill turn precision\*



A



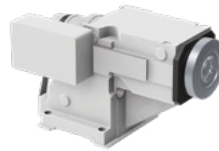
B



C



D



E



F

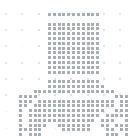
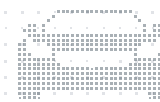
### FZ 08 S mill turn precision\*

- A Swivel head
- B Counter spindle
- C Counter chip block
- D Turning Spindle 32
- E Turning spindle 42
- F Turning spindle 65
- G Bar loader short



G





### Process advantages

- Travel X - Y - Z max.
- Spindle speed milling spindle max.
- Torque milling spindle max.
- Tool options
- Tool length max.
- Counter turning spindle torque and speed
- Main turning spindle torque and speed
- Main / counter spindle outlet max.
- More information

### MT 08

210 - 270 - 360 mm  
 54,000 rpm  
 19.5 Nm  
 40 - 96  
 160 mm  
 8,000 rpm  
 6,000 rpm - 8,000 rpm  
 65 mm

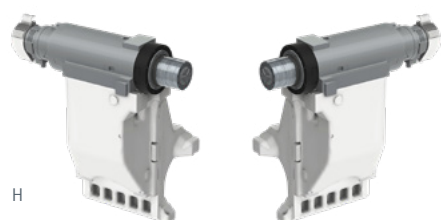
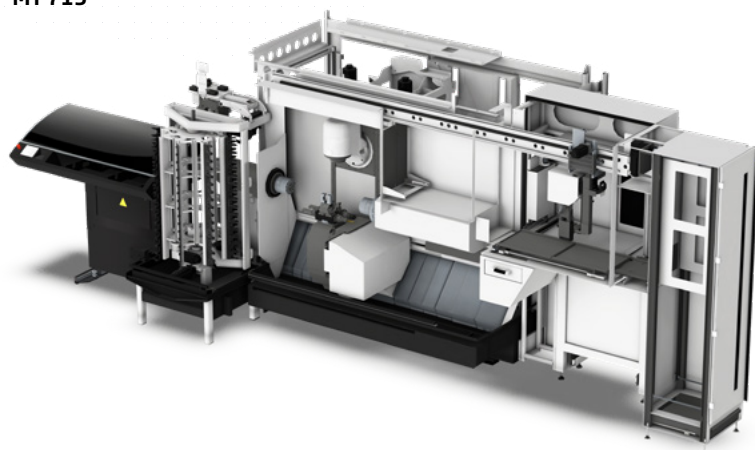


### MT 715

1,000 - 210 - 480 mm  
 20,000 rpm  
 120 Nm  
 64 - 176  
 450 mm  
 4,800 rpm, 27 kW  
 4,800 rpm, 27 kW  
 102 mm



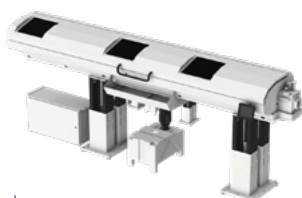
### MT 715



H



I



J



K

### MT 715

- H Main and counter spindle mill turn
- I Machining unit tool revolver
- J Bar loader
- K Pallet storage

# Multi-functional machining. In one end-to-end process.

## Process advantages

- Travel X – Y – Z max.
- Spindle speed milling spindle max.
- Torque milling spindle max.
- Tool options
- Tool length max.
- Spindle distance milling spindle
- Spindle speed turning spindle max.
- Torque turning spindle max.

## MT 831

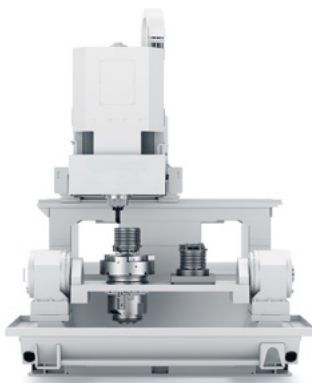
- 780 – 400 – 400 mm
- 10,000 – 15,000 rpm with 140 Nm
- 140 | 170 Nm
- 60
- 300 mm
- 
- 4,200 rpm
- 180 Nm

## MT 831 TWIN

- 700 – 400 – 400 mm
- 10,000 – 15,000 rpm with 140 Nm
- 2 x 140 | 70 Nm
- 2 x 35
- 300 mm
- 400 mm
- 4,200 rpm
- 2 x 180 Nm



## System 8



### Variant 1

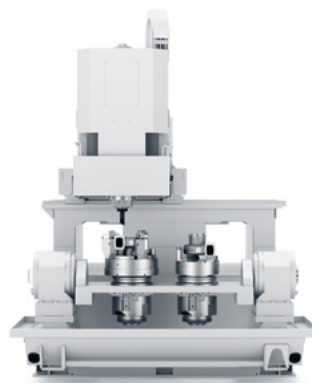
- Work space fitted with
- One milling spindle
- One turning spindle
- One clamping point/torque axis

#### Concept

- Prototypes and low volume

#### Two clamping positions

- OP10 sides 1 to 5 milling and turning
- OP20 sides 2 to 6 milling



### Variant 2

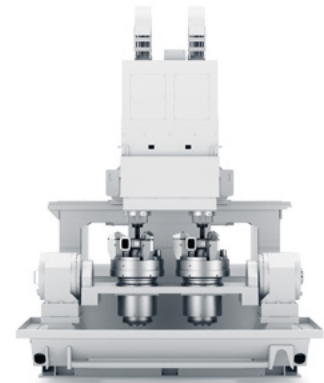
- Work space fitted with
- One milling spindle
- Two turning spindles

#### Concept

- Prototypes and low volume

#### Two clamping positions

- OP10 sides 1 to 5 milling and turning
- OP20 sides 2 to 6 milling and turning



### Variant 3

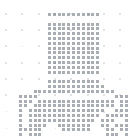
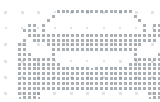
- Work space fitted with
- Two milling spindles
- Two turning spindles

#### Concept

- High-volume production

#### Two clamping positions

- OP10 sides 1 to 5 milling and turning
- 2 x OP10 sides 1 to 5 on twin machine



## MP multi profile Series

Milling from profile: With the FZ 08 S multi profile and the MP 715, the CHIRON Group offers two solutions for profile machining. The advantage here: The clamping elements can be exchanged in a very short time, which makes

changeovers much easier. In addition, the numerous options allow individual configuration, and customized automation ensures a high degree of autonomy.

### Process advantages

- Travel X - Y - Z max.
- Spindle speed milling spindle max.
- Torque milling spindle max.
- Tool options
- Tool length max.
- Opening max.
- More information

### MP 08

210 - 270 - 360 mm  
 40,000 rpm  
 23 Nm  
 40  
 200 mm  
 95 x 95 mm



### MP 15

730 - 400 - 425 mm  
 20,000 rpm  
 180 Nm  
 20  
 300 mm  
 150 x 150 mm

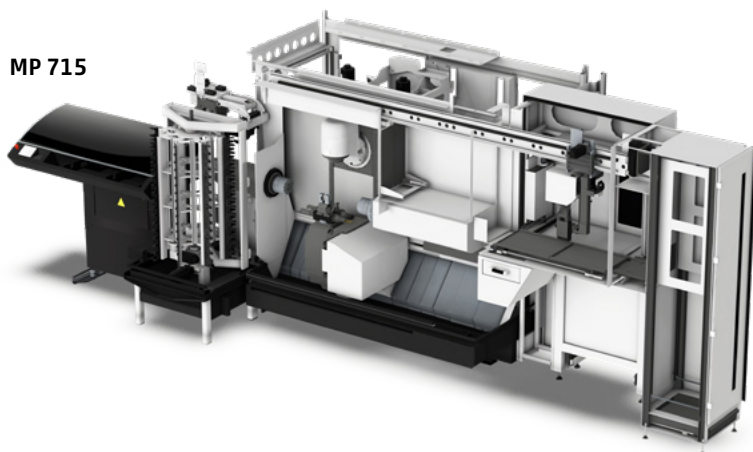


### MP 715

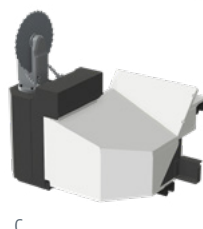
1,000 - 210 - 480 mm  
 20,000 rpm  
 120 Nm  
 64 - 176  
 450 mm  
 150 x 150 mm



### MP 715



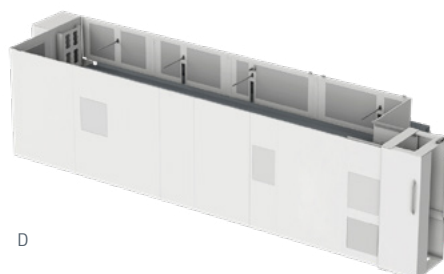
A



C



B



D

#### MP 715\*

- A Swivel head
- B Synchronized rotary axes multi profile
- C Automatic saw
- D Profile loader

\* Illustration only MP 715

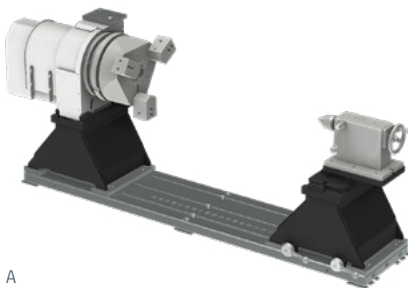
# Additive Manufacturing of a new kind. Multifunctional and easy to use.

## Highlights AM Cube

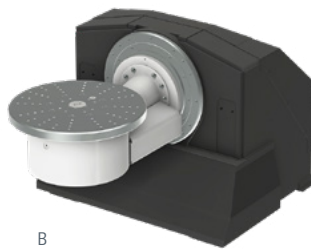
- Coating, repair, 3D printing
- Automatic deposition-head changing
- Wire or powder feedstock material
- Modular design 3-axis, 4-axis, 5-axis
- Innovative user interface with TouchLine
- Programming in a cartesian coordinate system in DIN ISO or CAM
- Well-known Siemens control system components
- Comprehensive quality monitoring with DataLine AM and VisioLine AM

## Process advantages

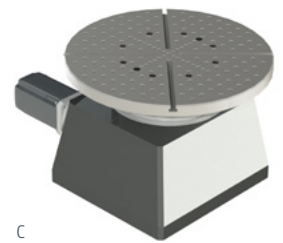
- |                             |                                                                                                                     |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------|
| — Workpiece dimensions max. | 3-axis: 1,000 – 500 – 600 mm<br>4-axis: Ø 650 – 1,000 mm (L)<br>5-axis: Ø 500 – 500 mm (H),<br>Ø 1,000 – 700 mm (H) |
| — Power solid state laser   | Optionally 2   4   6 kW                                                                                             |
| — Beam quality              | NA 0.1                                                                                                              |
| — Focus diameter            | 1.2 – 4.0 mm, depending on<br>deposition head                                                                       |
| — Control                   | Siemens SINUMERIK ONE                                                                                               |
| — Swivel area               | 4-axis: A-axis 360°<br>5-axis: B-axis ± 100°,<br>C-axis 360°                                                        |
| — Permissible load max.     | 3-axis: 1,000 kg<br>4-axis: 400 kg<br>5-axis: 400 kg   1,000 kg                                                     |
| — Footprint                 | 2,650 – 2,650 mm, plus periphery                                                                                    |



A



B



C

### Axis configuration

- A 4-axis with movable tailstock
- B 5-axis rotary table
- C C-axis rotary table



D



E

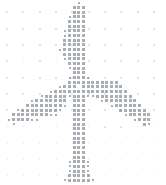
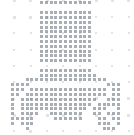
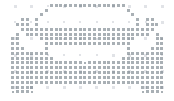


F

## AM Cube 3D metal printer

Manufacturing larger and complex components, coating or repairing components, near-net-shape production of semi-finished products: The **AM Cube** is an innovative, future-proof combination solution for laser metal deposition with wire and powder in one system. A distinctive feature is the automatic change of the deposition head during an active process. This allows you to realize different requirements – a high-quality surface finish, a high deposition volume, as well as the deposition of wire and powder. The process data can be documented via DataLine AM, and the welding process can be recorded in real time with VisioLine AM.

Also designed to meet the highest requirements is **AM Coating**, a system for applying extremely hard coatings to brake discs or rotationally symmetrical components. With the AM Coating SINGLE you develop process parameters or produce small batches, with the fully automated AM Coating TWIN large batches.



### Deposition heads

D Wire

E Powder

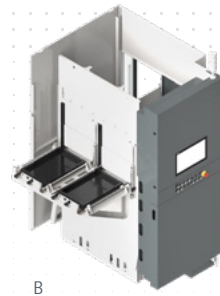
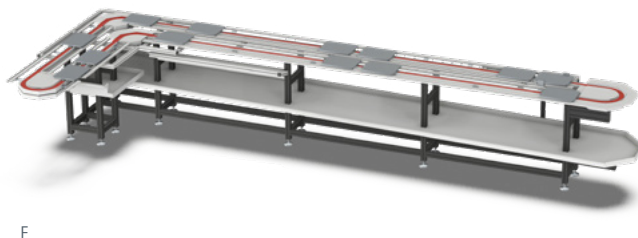
F Powder for internal coating

## Automation

Every CHIRON Group automation solution merges consistently high manufacturing quality, low unit costs, short run-up times and flexibility for a wide range of tasks in an optimum process.

Integrated and cost-effective: The **VariocellUno** transforms your machining center into a highly-productive, autonomous manufacturing unit. Handling robots, workpiece stores and exchange equipment for loading and unloading during machine operation are incorporated into the machine.

Greater flexibility and dynamism: The **VariocellPallet** gives the five-axis machining centers of the 12, 15, 16, 18 and MILL Series greater dynamism and flexibility in machining small batches and complex workpieces, as well as when manufacturing single parts with long machining times.

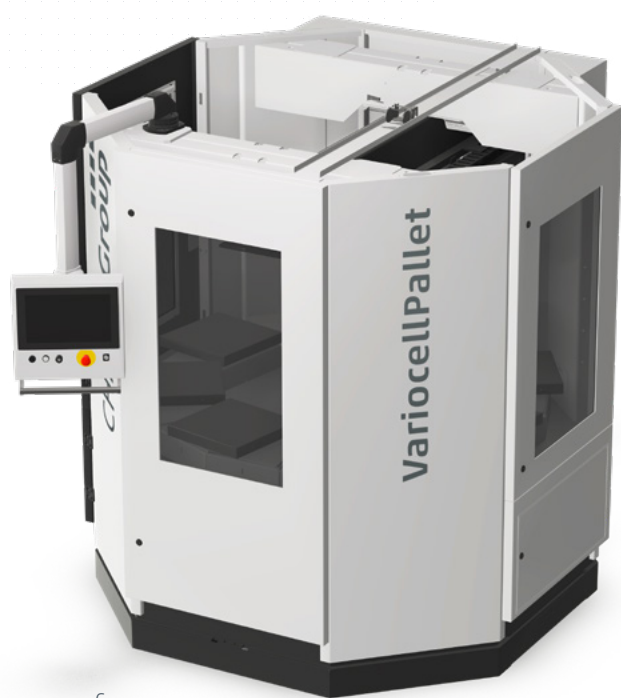




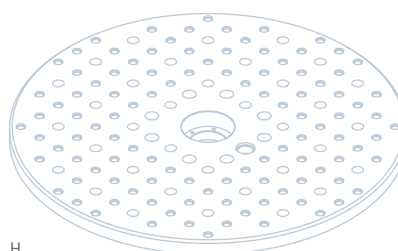
More of everything:  
Production time,  
performance,  
flexibility.

### Advantages with VariocellUno / VariocellPallet

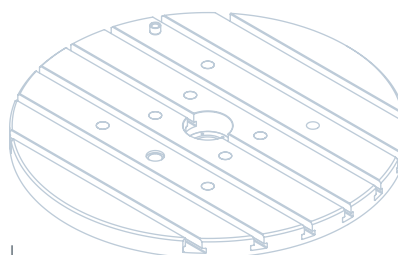
- High degree of utilization
- High storage capacity
- Replacement of blanks and finished-part pallets during machine operation
- Simple set-up and commissioning
- Easy to operate and program
- Possible pallet sizes with 320 x 320 mm, 400 x 400 mm and 500 x 500 mm



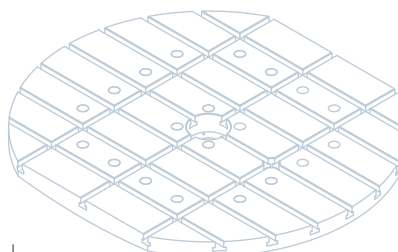
G



H



I



J

#### Automation solutions

- A VariocellUno
- G VariocellPallet

#### Storage options for VariocellUno

- B Pallets
- C Drawer
- D Container with AGV
- E Container
- F Conveyor belt

#### Pallet variants

- H Pallet with thread and locating hole grid
- I Pallet with T-slots
- J Pallet with cross T-slots

# Manufacturing with high autonomy. In an optimum process.

## Advantages with VariocellSystem

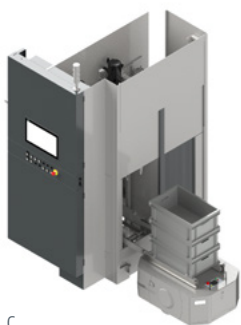
- Maximum flexibility in design
- Robots can be used for additional tasks
- Integration of peripheral units
- Simple operation and programming
- Machining center and automation from one hand



A



B



C



D



E

### Machining centers

- A Turning respectively mill-turning machining
- B Milling

### VariocellSystem

- C AGV (Automatic guided vehicle)
- D Portal
- E Robot



## Automation

Flexible and individually configurable: Each **VariocellSystem** automation solution is as individual as your requirements. And always as autonomous and productive as possible. With integrated handling systems, gantry or articulated arm loaders, workpiece stores for blanks and finished parts, pallet stores, feeding or discharging equipment or peripheral units for cleaning, identification, testing or measuring.



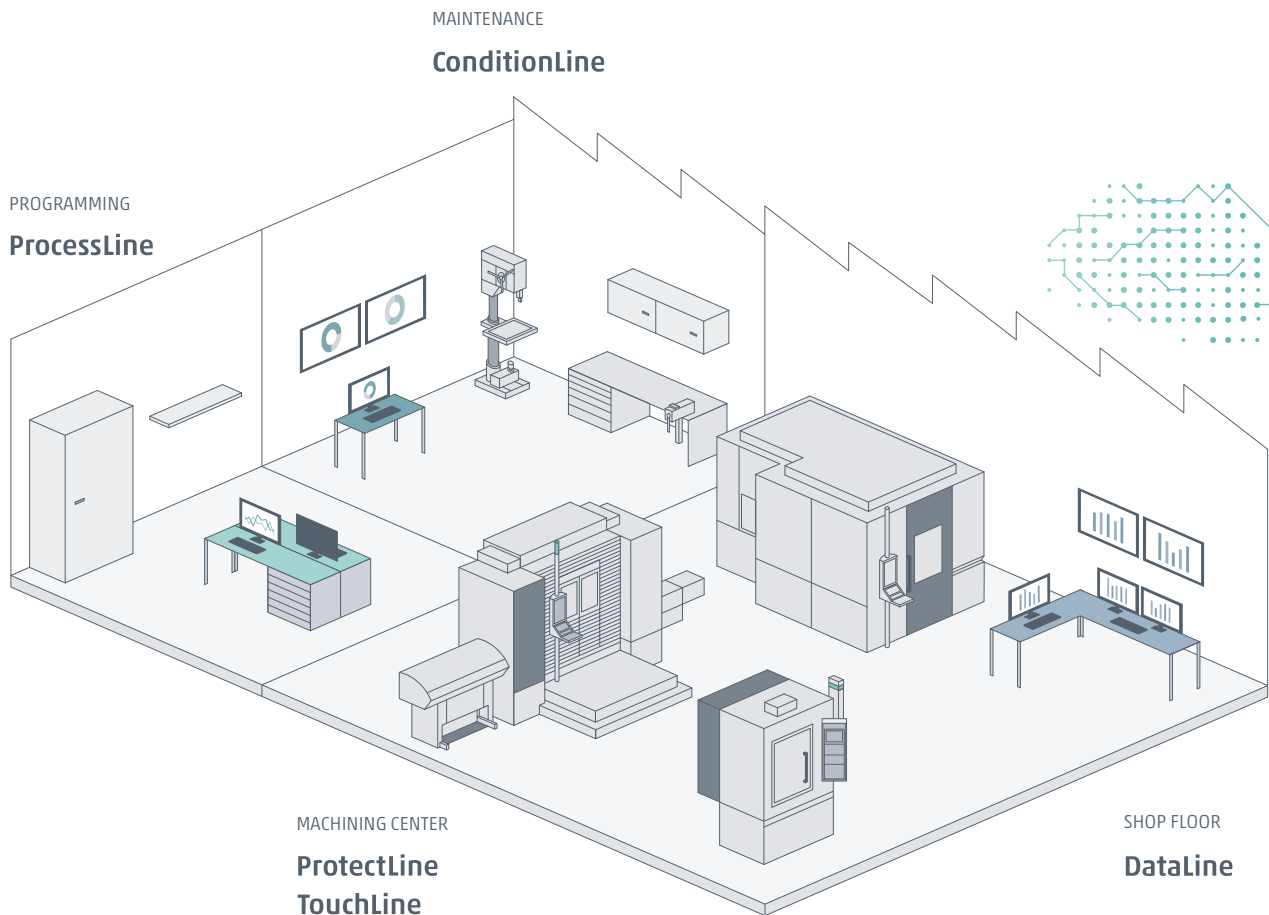
Welding Soldering Riveting Screwing  
Gluing Assembling Sorting Washing  
Deburring Balancing Drying Packing  
Order management MES Linked process  
Integrated process Labeling Marking  
Laser marking Needle marking  
Write codes Read codes Gripper station  
Fixture station Loading Unloading  
Feeding Discharging Conveying  
SPC drawer N.o.k drawer  
Optical measuring Tactile measuring  
Plasmatizing Inspection systems...

# Digital solutions. Real added value.

## SmartLine

Whether you operate in the automotive industry, mechanical engineering, aerospace, medical or precision engineering: The digitalization of your production facilitates greater efficiency, higher availability and increased productivity. SmartLine – a modular portfolio of digital systems from the CHIRON Group – harnesses this potential and adds real, lasting value to your machining centers, in terms of both production and the wider business.

All SmartLine modules can be integrated either as a standalone or in combination with others, with each digital system adding value to a specific area. Their individual functions and strengths combine to create an impressive package, providing extra efficiency, availability and productivity.



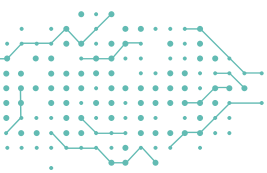
# Intelligent manufacturing solutions. From planning to series production.

## Turnkey

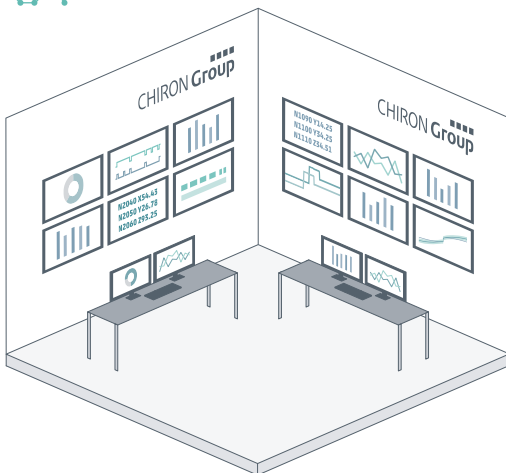
As a user, you can expect a manufacturing solution that is as individual as it is intelligent. A solution that uses the quantity structure and framework conditions to transfer your concrete machining task into a Turnkey process specific to your workpiece. To do so, the engineers and technicians of the Application division contribute their expertise for all phases from planning to series production readiness and deliver a production-ready overall solution of machining centers, tools, clamping devices and automation. Completed with the appropriate services over the entire lifecycle.

## The process

- Comprehensive process design
- Engineering and project management
- Validation of statistical process capability
- Assurance of target productivity
- Customized automation
- Production support during the start-up phase
- Trainings for optimal use of the solution
- Tailored services



CHIRON Group  
**RemoteLine**



## Modules for increased efficiency, availability and productivity

- ConditionLine: Automatic condition monitoring
- DataLine: Integrated machine and process diagnostics
- ProcessLine: Machining simulated and optimized in advance
- ProtectLine: Preventive machine protection in every mode of operation
- RemoteLine: Remote diagnostics and remote maintenance
- TouchLine: Reliable and intuitive operation

# The right services. At the right time.

## SmartServices

Real added value is also offered by SmartServices, digital services based on software solutions from the SmartLine portfolio. Regardless of location or distance from your machinery, SmartServices are on-hand to help you convert the potential of your manufacturing processes into increased profitability.



## LifetimeSolutions

High machine availability, low operating costs, and the highest workpiece quality at minimum cost per part. This is the CHIRON Group commitment delivered with each machining center. An integral part of this commitment is the highly efficient CHIRON Group service. Nearly 500 service professionals in 26 countries provide comprehensive support, as trusted partners throughout the entire lifecycle of your machine with traditional on-site services and other services such as maintenance, repair, optimization and modernization.

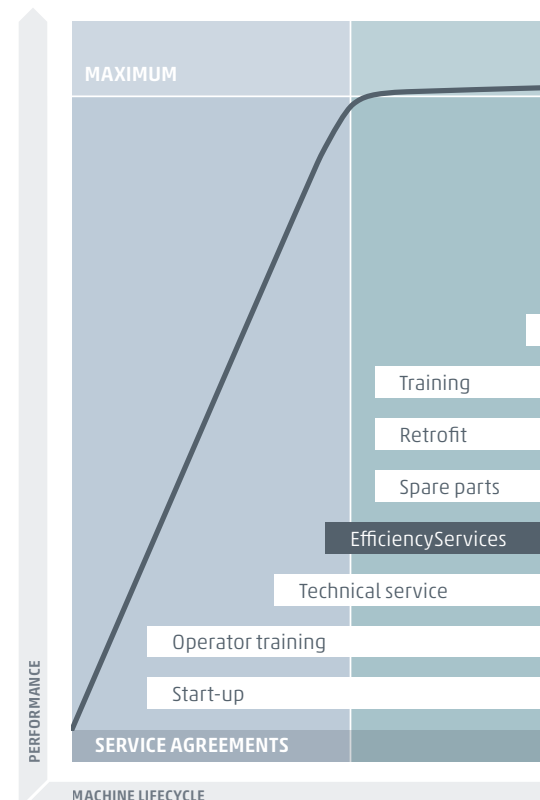
However, in today's manufacturing, professional service encompasses much more. It is targeted response, with the right services, at the right time. This is exactly what LifetimeSolutions provides: Based on the various phases of the machine lifecycle, as well as your specific needs, the CHIRON Group service specialists assemble a complete package of tailored services. With clear added value: More time for machining, lower operating costs.

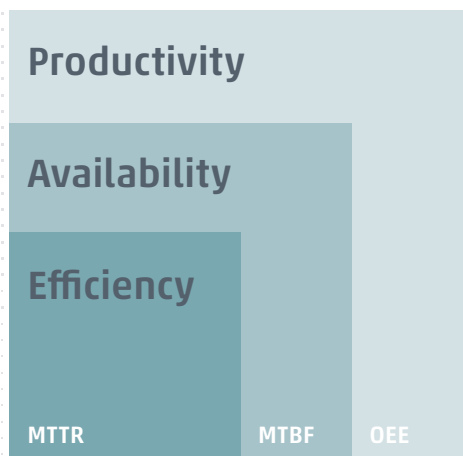


## TAKE OFF

## PRODUCE

ENSURE PRODUCTION





**ProductivityServices**

Analyzing and optimizing the entire value chain for increased OEE



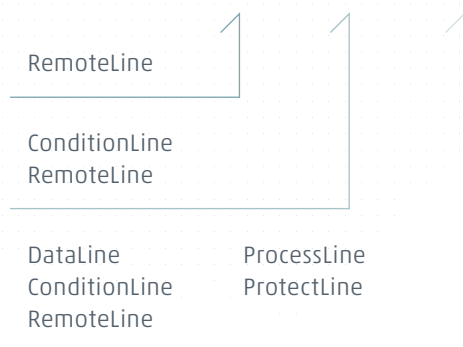
**ConditionServices**

Condition-based, individual maintenance management for increased availability at predictable costs



**EfficiencyServices**

Optimized reactive maintenance with tailored support for reduced downtime



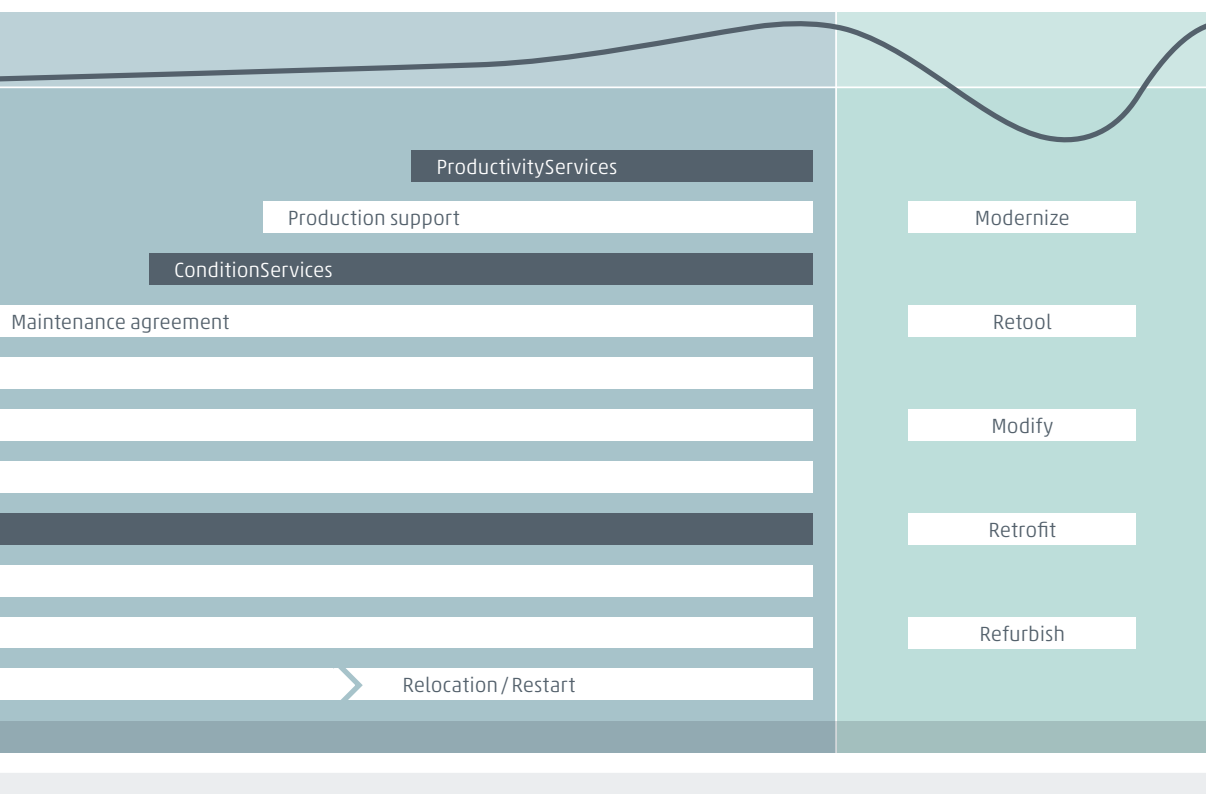
**MTTR** Mean Time To Repair

**MTBF** Mean Time Between Failures

**OEE** Overall Equipment Effectiveness

**MODERNIZE**

ENHANCE PRODUCTIVITY



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# An original. Of the sustainable kind.

## Refurbishment

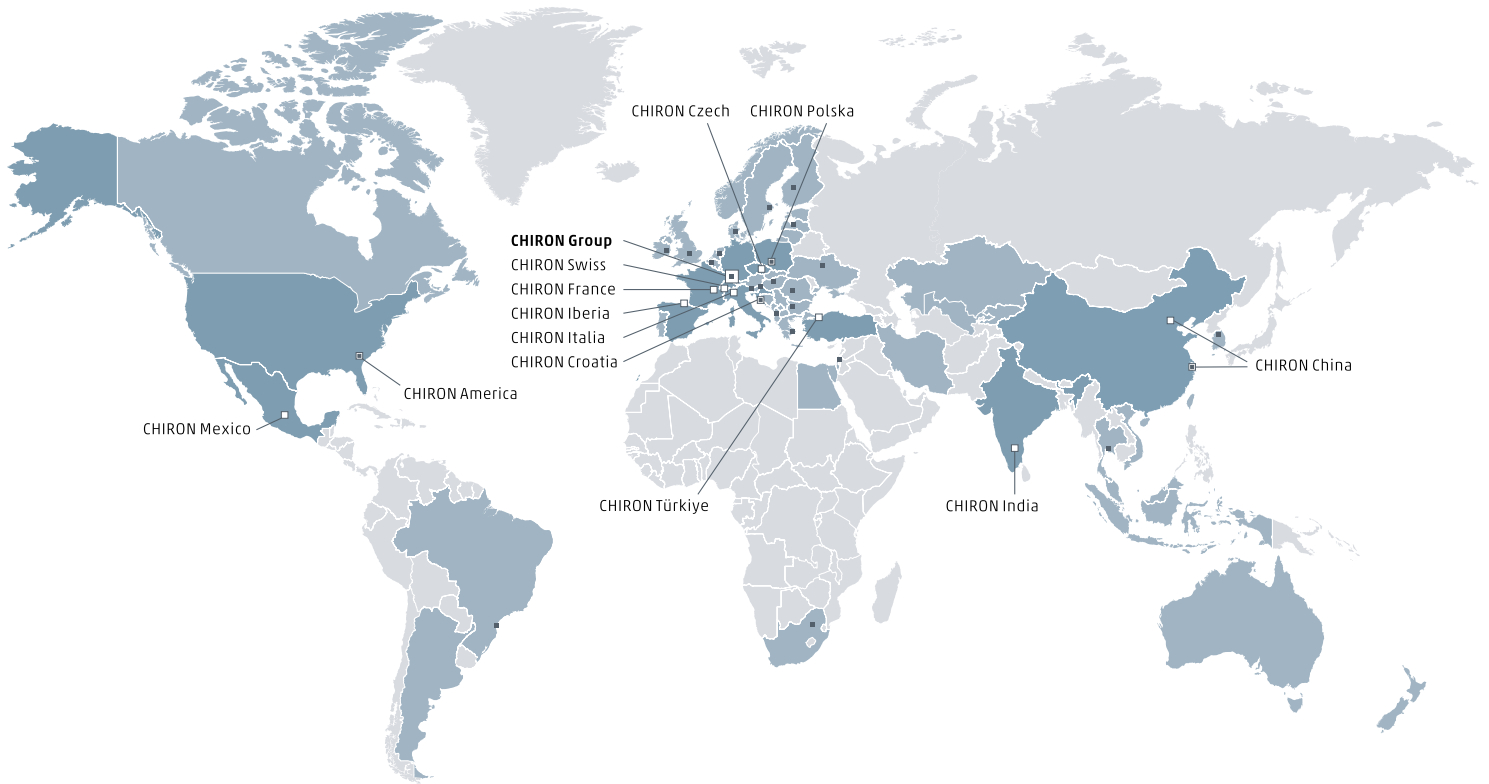
A CHIRON Group machining center is an investment in high-quality machine technology and thus in sustainability. In permanently high production rates, short process times, consistently high quality. Advantages that pay off even longer with a refurbishment. Thus the lifecycle of existing machines can be increased – and not only that: During a complete refurbishment, the specialists renew all important elements such as drives and main spindles and, if necessary, modernize the control system. The systems manufacture 30 to 40 percent faster than before. At the same time, the energy requirements decrease, the environmental footprint is getting smaller.

In addition to the aspect of sustainability, a refurbishment is also an interesting option in other respects: Low investment costs and short delivery times for a machining center facilitate the entry into quality production with the CHIRON Group. An individual refurbishment, if desired also as a turnkey solution, prepares your machine for new tasks. In addition, the CHIRON Group has a pool of machines: used machines in in three refurbishment categories, as-new demonstration machines and pre-configured machining centers of the baseline Series.



We turn **OLD** → into **NEW**





## CHIRON Group locations

### ■ Production, sales and services

GERMANY	□ Tuttlingen, Neuhausen, Spaichingen
CHINA	□ Taicang
USA	□ Charlotte, NC
CROATIA	□ Zadar
POLAND	□ Paniówki

### □ Sales and services

CHINA	□ Beijing
CZECH REPUBLIC	□ Brno
FRANCE	□ Lyon
GERMANY	□ Schlierbach
SWITZERLAND	□ Iséables, VS

### ■ Partner Sales and services

ITALY	□ Rodano Millepini (MI)
MEXICO	□ Querétaro
SPAIN	□ Itziar-Deba
INDIA	□ Bangalore
TURKEY	□ Istanbul

## CHIRON Group SE

Kreuzstraße 75  
78532 Tuttlingen  
Germany



The CHIRON Group, headquartered in Tuttlingen, Germany is a global company specializing in CNC vertical milling and mill-turning machining centers, as well as turnkey and automation solutions. Comprehensive services, digital solutions and products for additive manufacturing complete the portfolio. The Group has a global presence, with production and development sites, sales and service subsidiaries, and sales agencies worldwide. Key customer sectors are the automotive, mechanical engineering, medicine and precision engineering, aerospace industries, as well as tool manufacturing.

[www.chiron-group.com](http://www.chiron-group.com)