

## 08 Series

Fast, compact machining centers  
for high precision and various applications

# Compact, fast & precise

As multifaceted as your manufacturing tasks

Application areas	[04–05]
Machine design	[06–07]
Extension options	[08–21]
Services	[22–23]



The machining centers of the CHIRON Series 08 are among the most versatile machines in the compact class. These high-performance centers are characterized by:

- Reliably high productivity
- Highest precision
- Minimum floor space requirements
- Fast set-up
- Simple operation
- High stability
- High dynamics
- Easy maintenance

With its modular design and the resulting numerous configuration possibilities, every 08 basic machine can be assembled into a perfect individualized solution.

**Your benefits:** Low production costs combined with high processing quality and unprecedented speed within the smallest possible space.



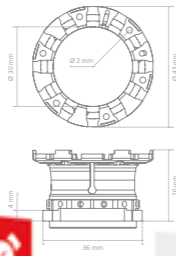
**DZ08 W**  
Double-spindle machining center with a workpiece changing unit 0°/180° and NC rotary table.

# For uncompromising quality

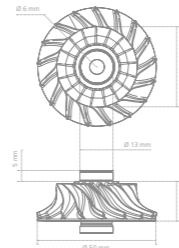
down to the smallest detail

▶ Application fields	[04–05]
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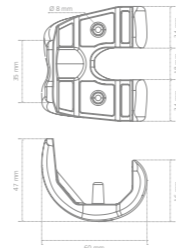
**Precision Technology**  
Board holder for electronic components made of stainless steel 1.4305 [Ø 50 mm]



**Automotive**  
Compressor wheel for turbochargers made of Al 3.1924 [Ø 49 mm]



**Medical**  
Knee implant made of cobalt-chromium steel 2.4979



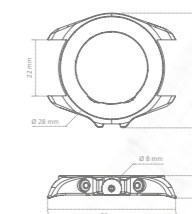
**Aerospace**  
Aluminum hinges for passenger planes, completely manufactured from profile [max. 95 mm x 95 mm]

**Medical**  
Dental caliper stainless steel 1.4021 [L 150 mm]

## We love perfection ...

that's why we view every detail as an exciting challenge. Whether automotive, aerospace, mechanical engineering, medical or precision engineering – the high-quality machining centers of the CHIRON 08 Series reduce processing times, produce excellent surfaces, compress your manufacturing process into the smallest space possible and are the perfect tools to implement your product ideas quickly with micron-level precision.

**Market leaders trust us.**






**Precision Technology**  
Jewellery and watch components with great accuracy and surface quality, such as stainless steel cases, main plates, watch band links, etc

# Perfectly matched high-tech modules to meet the highest requirements and for customized production

Application fields	[04–05]
▶ Machine design	[06–07]
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Services	[22–23]


## Spindles & spindle systems:

-  Proven single-spindle machining centers in the vertical traveling column design.
-  Highly productive double-spindle machining centers with a spindle clearance of 200 mm.
-  Machining centers with NC swivel head with infinitely programmable positioning in the range of -20° to +115°. Very robust, opposing pre-tensioned backlash-free precision gear with direct measuring system.







Highest precision glass scales, digital drive technology and absolute path measurement systems allow high acceleration with equally high contour accuracy.

## Tool changing systems:

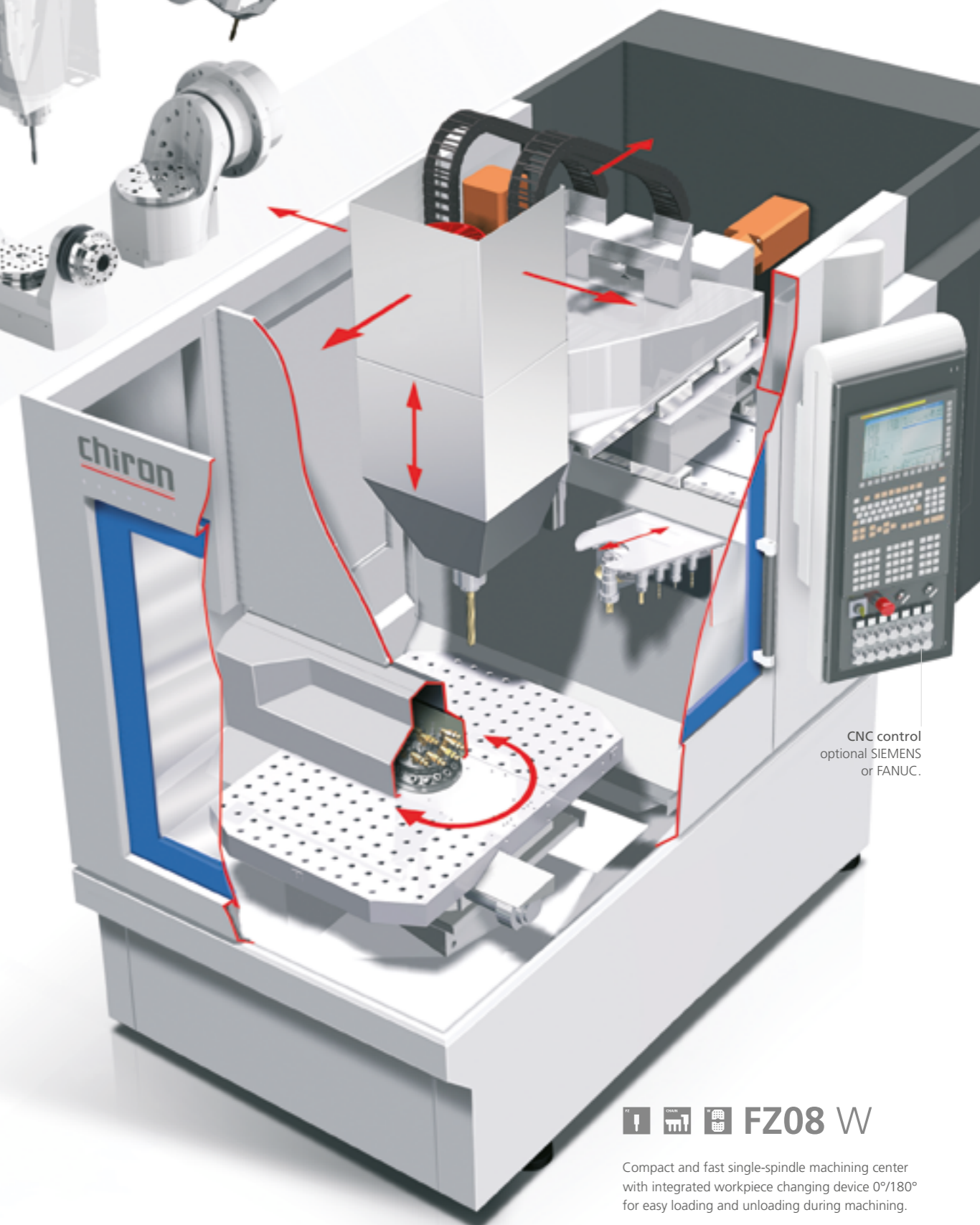
-  Automatic tool change with the pick-up method (as fast 0.8 s) in single or double version for the provision of up to 80 tools (HSK 32 or HSK 40).

## Table options:

-  Fixed table with plenty of space for devices and NC rotary table assemblies for multi-sided machining in one set-up.
-  2-axis tilt rotary table in BC kinematics with a face plate (diameter: 245 mm). The face plate provides the option of hydraulic or pneumatic workpiece clamping.
-  2-axis tilt rotary table with AC kinematics and one or two face plates (diameter: 195 mm) for single or double-spindle multi-sided machining.
-  Workpiece changing device with table loading capacity of up to 200 kg per side and large clamping surfaces (2 x 660 x 350 mm), borehole pattern, central distributor for energy supplies.

## Modular concept:

- Vertical traveling column principle
- Compact installation area from width 1,260 mm x depth 2,700 mm
- Steel mineral cast machine bed
- High rigidity and thermal stability
- Motor spindles with water cooling
- Precision glass scales on all axes
- Dynamic direct drives and precision guides
- Robust CHIRON rotary axes
- Fully enclosed work area, stainless steel covers
- Smooth, steep walls for ideal chip flow directly into the chip conveyor
- Ergonomic operating and loading concept
- Service friendly access to all auxiliary units
- Low-maintenance and durable



CNC control optional SIEMENS or FANUC.

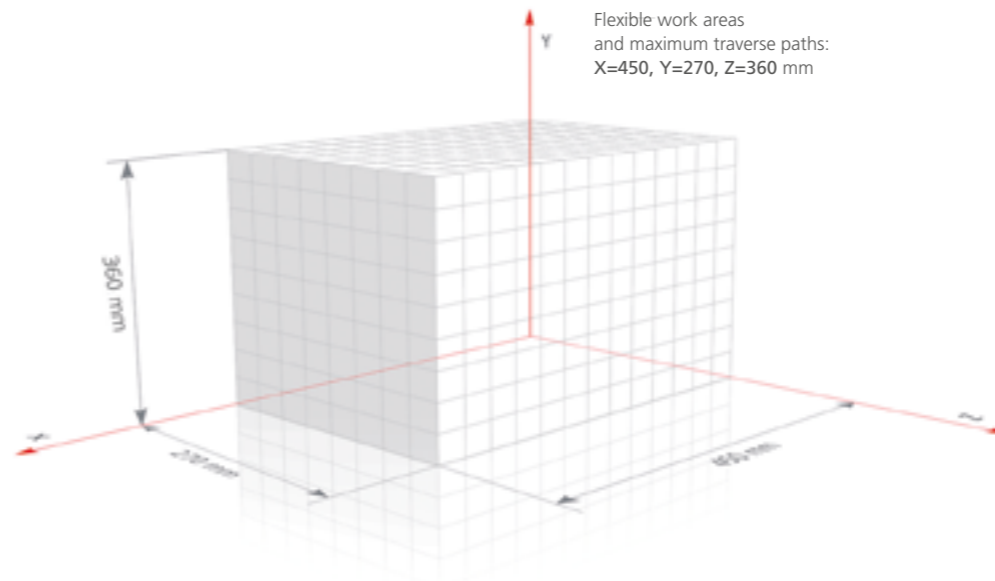
## FZ08 W

Compact and fast single-spindle machining center with integrated workpiece changing device 0°/180° for easy loading and unloading during machining.

# The appropriate machine for each component

Variants and extension options

Application fields [04–05]  
 Machine design [06–07]  
 ▶ Extension options [08–21]  
 Services [22–23]



		Spindles & spindle systems				
		Automatic tool changer				
		Table options				
		S	FX	W	MT	MP
FZ	CHAIN	FZ08 S	FZ08 FX	FZ08 W	FZ08 MT	FZ08 MP
DZ	CHAIN	DZ08 S	DZ08 FX	DZ08 W		
S-HEAD	CHAIN	FZ08 S			FZ08 MT	



### Process advantages:

- ▀ Traverse paths X–Y–Z max. 450–270–360 mm
- ▀ Power max. 18 kW
- ▀ Spindle clearance 200 mm
- ▀ Spindle speed max. 54,000 rpm
- ▀ Chip-to-chip time starting 2.1 s
- ▀ Axis acceleration X–Y–Z max. 10 / 13 / 12 m/s<sup>2</sup>
- ▀ Rapid feed rates max. 75 m/min
- ▀ Number of tools max. 96
- ▀ Tool taper HSK 32 / HSK 40
- ▀ Tool weight max. 1.2 kg
- ▀ Tool diameter max. 100 mm
- ▀ Tool length max. 200 mm
- ▀ Automatic workpiece change in 2.0 s
- ▀ High process stability with filigree machining



**FZ08 W**

Machining center with a workpiece changing device, NC rotary table and 2-way clamping device with fast CHIRON pick-up tool changer.



**FZ08 FX**

Fast and compact precision machining center with a 2-axis tilt rotary table for 5-axis simultaneous and complete machining. Workpieces can be machined with high surface quality in one set-up.



**DZ08 FX**

Fast and compact double-spindle machining center with 2-axis tilt rotary table and two face plates. 5-axis simultaneous operations are carried out using high-performance control options.



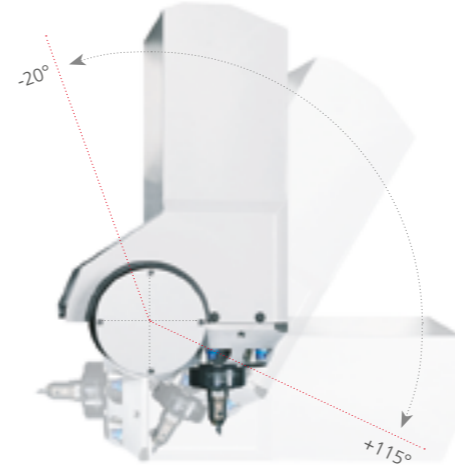
**FZ08 MP**

Multifunctional machining center for the complete machining of workpieces of different lengths from extruded profiles. Whether milling, tapping, countersinking, reaming or cutting - everything is possible.

# Variety and flexibility as a foundation

Proven technology and the highest precision standards

Application fields	[04–05]
Machine design	[06–07]
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## FZ08 S

Compact precision machining center with a fixed table and NC swivel head with infinitely programmable positioning (-20°/+115°).

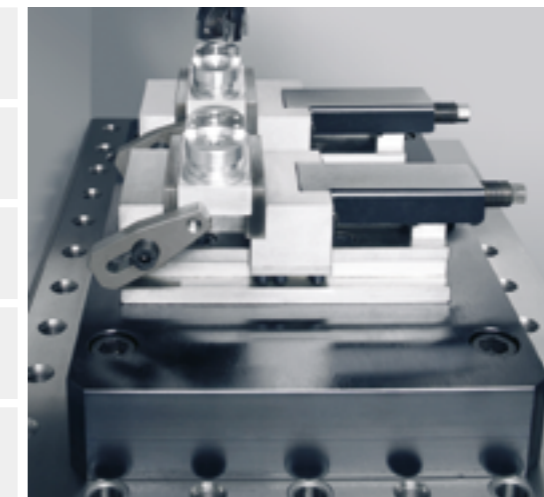
The fixed table / workpiece changing device provides ample space for devices or NC rotary table assemblies.

Workpiece changing device 0°/180° with ample space for devices and NC rotary tables, such as the installation of a workpiece swivel device as the fourth NC axis.



## FZ08 S

Fast and compact precision machining center. Highest productivity through tool-changing times starting from 0,8 seconds



## FZ08 S

Compact and flexible precision machining center with fixed table and automatic tool change with the pick-up method. Ample space for devices or NC rotary table installations for multi-sided machining.



## FZ08 W

Machining center with a workpiece changing device, for simultaneous loading and unloading of the machine.

### Your advantages with the CHIRON fixed table or workpiece changing device:

- 3-axis basic machining center based on the vertical traveling column principle
- Compact installation area from width 1,260 mm x depth 2,700 mm
- Steel mineral cast machine bed
- High rigidity and thermal stability
- Clear, easily accessible work area
- Work area for larger workpieces or multiple set-ups
- Automatic tool change with the pick-up method
- Short chip-to-chip times 2.1 s
- Loading and unloading during machining time with a workpiece changing device (workpiece change time 2.0 seconds)
- Workpiece changing device with central splash guard and optimal accessibility
- Expandable to 4 axes with the basic device or to 5-axis machining with the 2-axis tilt rotary table
- Optional fully integrated automation solutions (Variocell UNO)
- Machine tool construction „Designed and Made in Germany“

# Precision and dynamics at the highest level

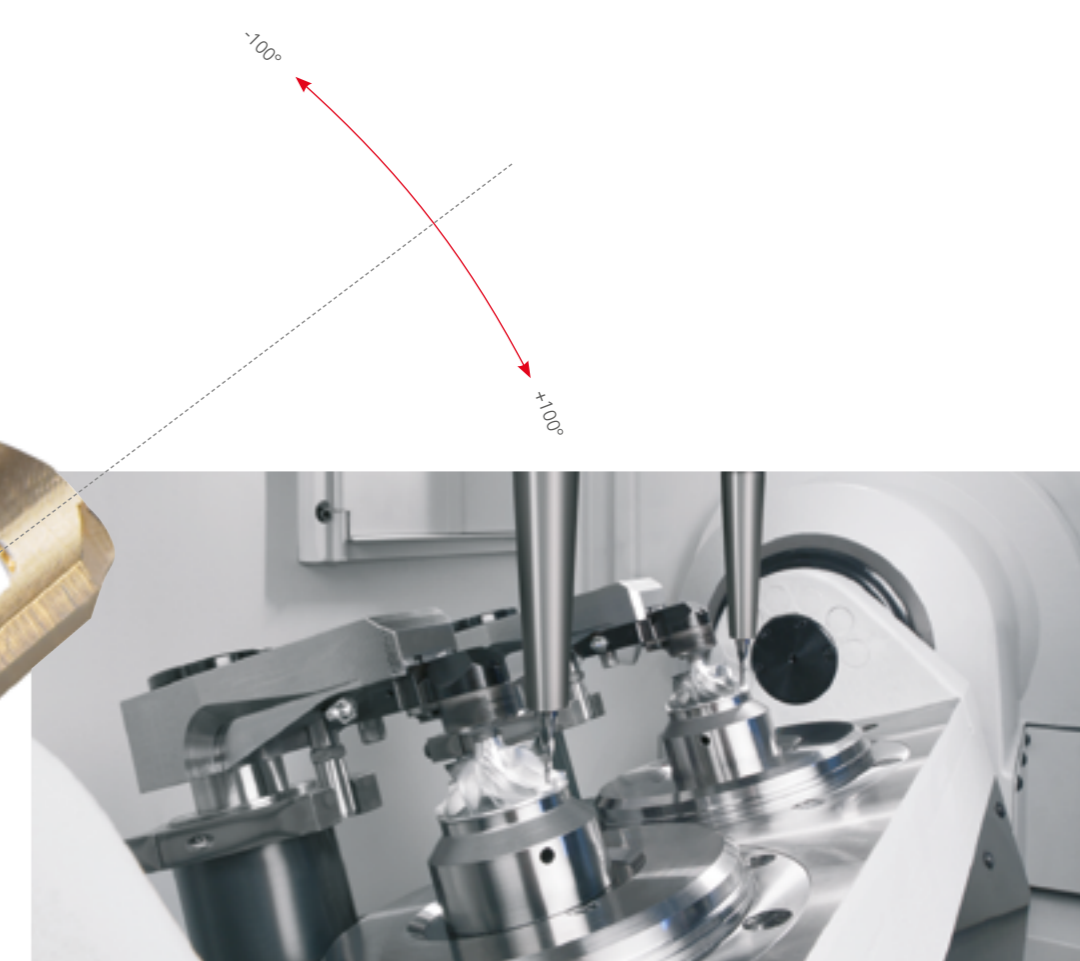
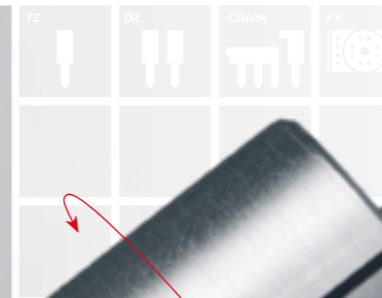
Complete machining with CHIRON Five axis

Application fields	[04–05]
Machine design	[06–07]
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## FZ08 FX

Integrated 2-axis rotary table (BC kinematics), maintenance-free TORQUE drive technology and automatic tool change with the pick-up method.

With the CHIRON FX you achieve shiny surfaces, extremely fine structures, the smallest bore holes, grooves, pockets, fits and geometries with tolerances of a few microns – reliably, quickly and economically.



## DZ08 FX

Double productivity in a small space  
The smallest and fastest double-spindle machining center with a 2-axis tilt rotary table (AC-kinematics) for efficient complete machining with five simultaneously controlled axes.

■ Spindle clearance	200 mm
■ 2-axis tilt rotary table CASD	160-2
- Swivel range	± 120°
- Face plates	2 x Ø 195 mm
■ Chain magazine / tool places	2 x 16
■ Tool change time	0,9 s

### Your advantages with CHIRON FX:

- Compact installation area from width 1,580 mm x depth 2,540 mm
- Steel mineral cast machine bed
- High rigidity and thermal stability
- Highest precision in positioning and simultaneous operation
- Motor spindle speeds of up to 40,000 rpm
- Excellent surface quality
- Integrated CHIRON 2-axis tilt rotary table with direct measuring systems
- Integrated 6-way energy supply for clamping device on the face plate
- Zero-point clamping systems can be integrated
- 4th axis with swivel range up to +/- 100° (BC) or +/- 120° (AC)
- 5th axis with TORQUE drive up to 6,500 rpm for turning work
- Optional fully integrated automation solutions (Variocell UNO)
- Machine tool construction „Designed and Made in Germany“

The workpiece is positioned exactly in the center of the swivel axes, which minimizes compensating movements of the linear axes.

# Manufacture quality products up to 50% faster with CHIRON multi-spindle machining

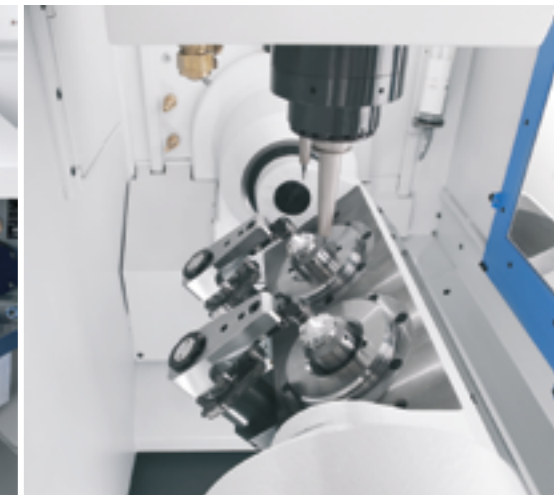
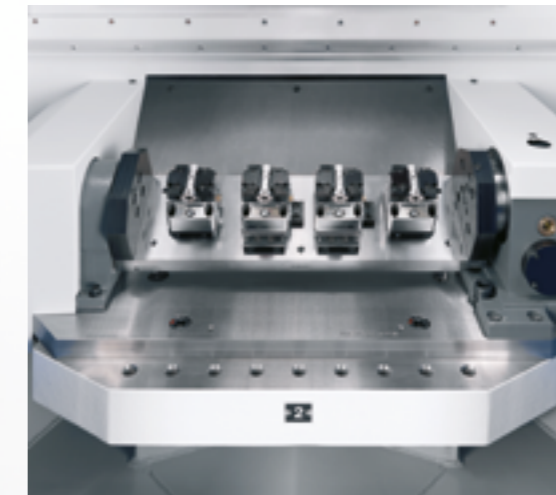
Application fields	[04–05]
Machine design	[06–07]
▶ Extension options	[08–21]
Services	[22–23]

## DZ08 W

Perfect combination of two spindles, workpiece changing device 0°/180° and NC rotary table with 4-way clamping device for multi-sided machining.

## DZ08 FX

The smallest and fastest double-spindle machining center with a 2-axis tilt rotary table (AC kinematics) for economical five-axis complete machining.



The multiplier effect – more spindles, more cutting, more profit  
The combination of 2 spindles and a 4-fold clamping device results in a cost saving of up to 50%. Doubled productivity on one machine means a reduction in machining time of nearly 50%. There is also the option of multi-sided machining through NC controlled round axis.

### Your advantages with CHIRON multi-spindle machining:

- Compact installation area from width 1,580 mm x depth 3,300 mm
- Two spindles – double productivity – energy saving of more than 35%
- Water-cooled motor spindles up to 40,000 rpm
- Spindle clearance 200 mm
- High rapid feed speeds up to 75 m/min
- Highest precision in positioning and simultaneous operation
- Precision glass scales on all axes
- Minimum chip-to-chip times 2.1 s
- CHIRON 2-axis tilt rotary table optional
- Optional fully integrated automation solutions (Variocell UNO)
- Machine tool construction „Designed and Made in Germany“



# PRECISION<sup>+</sup> - for more precision

High-precision 6-sided complete machining on less than 3,1m<sup>2</sup>

Application fields	[04–05]
Machine design	[06–07]
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## FZ08 MT PRECISION<sup>+</sup>

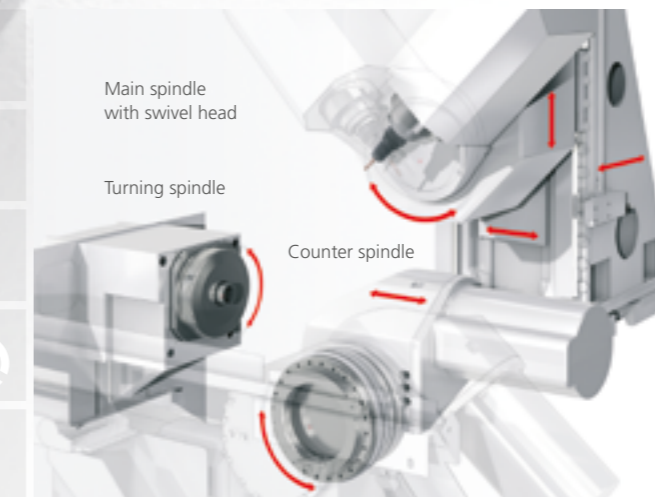
CHIRON MT: The fastest 6-sided complete machining with swivel head, turning spindle and opposed spindle for milling and turning from bars.



Main spindle  
with swivel head

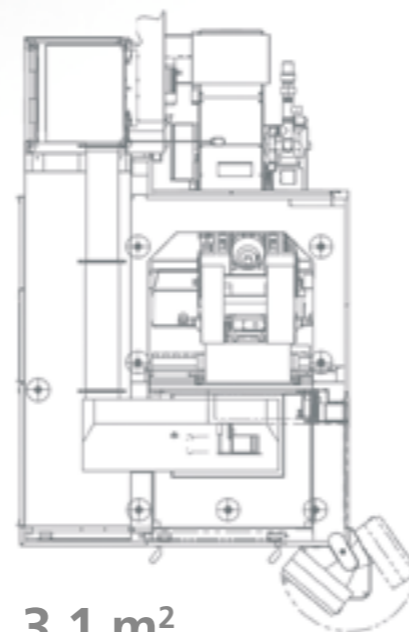
Turning spindle

Counter spindle



The modular design of the FZ08 MT allows a customized configuration for various applications in numerous industries. The MT machining center is equipped with the new CHIRON swivel head with a torque drive for higher precision and surface accuracy.

The swivel head axis is aligned with the tool centre point for maximum accuracy during simultaneous machining. (Eliminating the need for compensatory movement in the milling axis)



3,1 m<sup>2</sup>

### Your advantage - compact, highly-precise, efficient, flexible

- Highest precision and excellent precision surfaces
- Direct torque drive for optimal swivel head kinematics
- Multi-functional machining in a single machine (Milling, turning, drilling, threading, etc.)
- Fully-fledged rotation function by turning spindle (up to 8,000 rpm / IT5)
- Counter spindle for reverse-turning and 5-axis simultaneous milling
- Optimized use of the working area through ingenious placement of the counter spindle
- Reduce processing times with complete 6-sided machining from bar (up to 42 mm Ø)
- Wear-free, highly dynamic linear direct drive axes in X, Y and Z
- Direct measuring system in all axes
- Very compact footprint (3.1 m<sup>2</sup>)
- Individual material supply solutions (bar loader / bar loading magazine / Variocell UNO/SYSTEM))
- Integrated precast removal (slide, drawer)
- Service friendly access to all auxiliary units (FluidTower)
- Tool construction „Designed and Made in Germany“

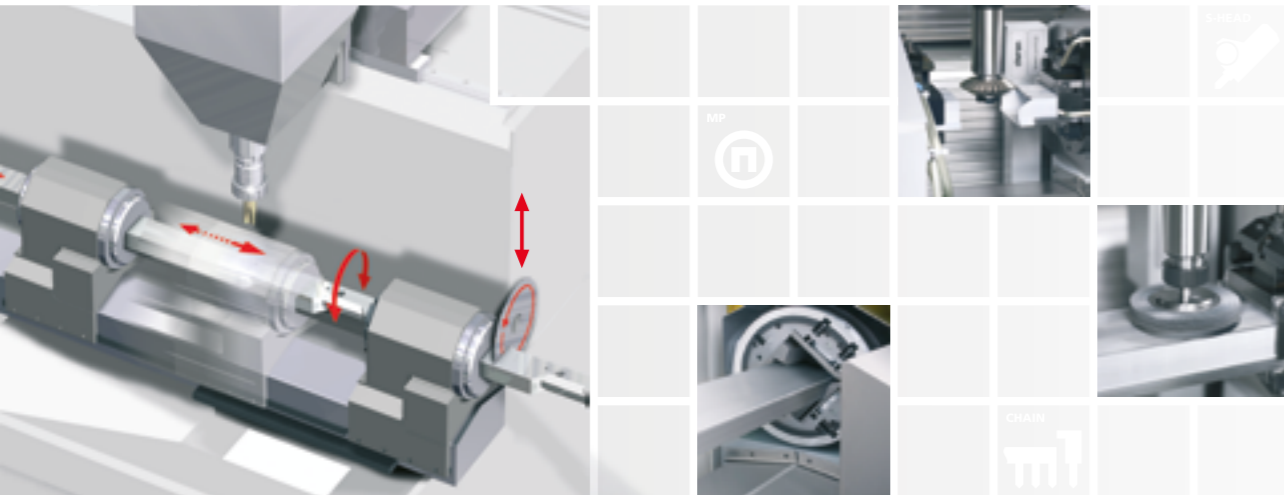
# Multi-functionality by the meter

Complete machining of extruded profiles with CHIRON MultiProfile

Application fields	[04–05]
Machine design	[06–07]
▶ Extension options	[08–21]
Services	[22–23]

## FZ08 MP


Multifunctional machining center for the complete machining of workpieces with different lengths from extruded profiles. Whether milling, tapping, countersinking, reaming or cutting – everything is possible.



The profiles are precisely guided between two synchronized NC rotary axes, accurately positioned and firmly clamped.

### Your advantages with CHIRON MP:

- Automatic production of workpieces, one after the other
- Profile sizes up to 80 x 80 mm
- Lower costs per unit due to high productivity of the process
- High production quality by machining in one set-up
- Cost-effective clamping design
- Minimal set-up effort for different batch sizes and variants
- Autonomous manufacturing
- Can be easily automated with different loading and unloading systems
- Low-maintenance and durable
- Machine tool construction „Designed and Made in Germany“

- 
- Rectangular profiles
  - Round profiles
  - Flat profiles
  - W profiles
  - C profiles
  - H profiles
  - T profiles
  - Z profiles
  - U profiles
  - Customized profiles
  - ...

# Flexible automation solutions

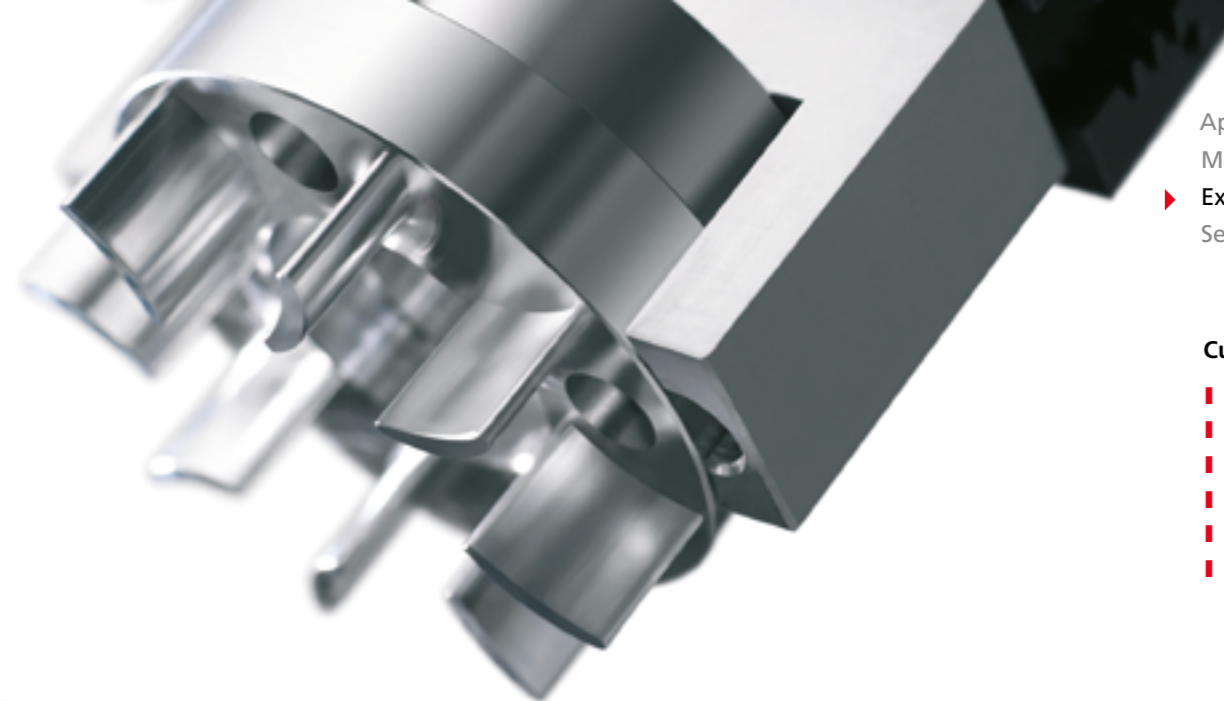
perfectly tailored to your specific application

The DZ08 W and the robot cell Variocell UNO as a unit:  
Transported together, no separate setup,  
robot cell alignment is not required.  
Integrated automation in the smallest possible space



## Variocell UNO

Flexible and inexpensive: a compact machining center,  
handling robot, workpiece storage and workpiece changing  
device (0°/180°) for loading and unloading during machining.



Application fields	[04–05]
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### Customized automation solutions:

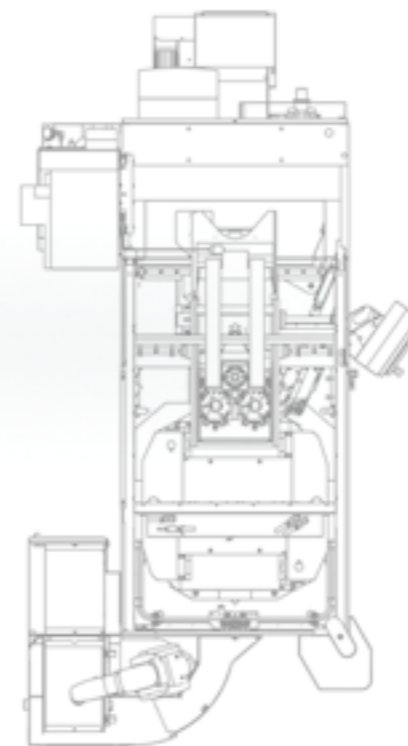
- Machine-integrated spindle grippers
- Portal and articulated-arm solutions
- Load and unload devices
- Pallet changing systems
- Pallet storage for raw and finished parts
- Interlinked systems and much more

Pallet storage for up to 12 raw part pallets  
(300 x 400 mm) at a distance of 50 mm. For larger  
workpieces, the number of pallets is reduced. Pallets  
for raw and finished parts can be exchanged any  
time during machining.

The operator can view the loading and unloading  
process at all times. The robot pulls out the pallets  
from the storage unit and brings them back to the  
storage unit after the workpieces have been processed.



Customized automation solutions including:  
Autonomous production due to the use of a  
pallet changer/storage with loading and unloading  
portal robot.



### Your advantages with CHIRON Variocell UNO:

- Integrated automation in the smallest possible space (< 1 sq. meter)
- Machine and automation as a unit – no safety fence
- Simple installation and set-up, as well as in-plant repositioning
- High efficiency for more profit
- High storage capacity
- Simple operation and programming
- Raw and finished part pallets can be replaced during machining
- Double gripper robot for quick workpiece change (option)
- Integrated measuring part discharge (for instance SPC parts)
- Unrestricted access to the work area in the manual mode
- Robots can be used for additional tasks
- Machine tool construction „Designed and Made in Germany“

# From planning to serial production – all of the expertise from one source – CHIRON TURNKEY

Application fields	[04–05]
Machine design	[06–07]
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▶ Services	[22–23]

**Analyzing:**  
Your requirements are our challenges



**Designing**  
Innovative technologies efficiently implemented



**Detailing:**  
Perfection – to the finest detail.



**Implementing:**  
Precisely the agreed upon performance



Today, manufacturing excellent machining centers is not enough. Users expect a solution, which is as individual as it is intelligent. From one specific machining task, a „Turnkey process“ is to be developed around the workpiece based on the specifications and constraints. The CHIRON TURNKEY makes it possible to optimally solve complex tasks.

Together with perfectly adapted technology modules, CHIRON engineers create the most economical solution from one source to meet the customer’s special needs. This ensures decisive competitive advantages for CHIRON customers. CHIRON not only offers the machining solution itself, but also the support to keep manufacturing running at an optimal level.



## CHIRON turnkey solutions

- Comprehensive process design
- Expert engineering
- Experienced project management
- Validation of statistical process capability
- Ensuring targeted productivity
- Production assistance during the initial phase
- Training in operation and programming
- CHIRON Service available around the world

# CHIRON worldwide

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- Sales & Service
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CHIRON Group

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