



18 Series

Powerful, single and double spindle
Machining centers for high-speed
machining and heavy cutting

Compact, strong and fast

for productive cutting

Application areas	[04–05]
Machine design	[06–07]
Extension option	[08–17]
Complete solutions	[18–19]



The CHIRON series 18 offers the optimal prerequisites for highly productive cutting and precise machining results. Whether your focus is on flexible single-unit production, or high volume precision manufacturing – due to its modular design and numerous configuration possibilities, every series 18 basic machine can be assembled into a perfect individualized solution.

Your benefits:

- Reliably high productivity
- Powerful drives
- Highest precision and processing quality
- Fast set-up
- High stability
- High dynamics
- Simple operation
- Easy maintenance

FZ18 W

Machining center with basket tool changer (20 tool places) and workpiece changing device 0°/180°, enabling loading and unloading during machining.



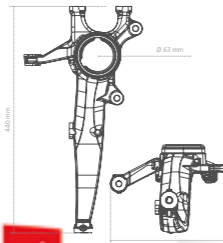
Series 18 precision machining centers are available as single and twin-spindle machines or as wheel variants and have enormous reserves for powerful milling performance.

Precision without compromise

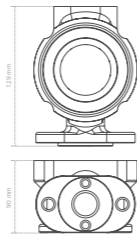
Wide variety of workpieces – excellent surface quality

▶ Application areas	[04–05]
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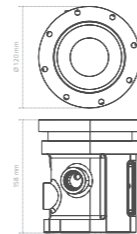
Automotive
5-axis complete machining of undercarriage components, e.g. steering knuckles.



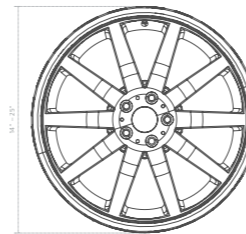
Mechanical Engineering
4-sided complete machining of components for Measuring and Control Technology, e.g. valve housings made of stainless steel.



Aerospace
Piece cost-effective complete machining of aircraft- and helicopter parts, e.g. Engine housings.



Automotive
individual solutions for productive wheel machining on the front and rear side [14" – 25"]



Automotive
Complete machining of vehicle components at the lowest cost per piece, such as:

- car body components from structural aluminium casting
- Motor parts & aggregates
- Fuel systems
- Steering/chassis systems
- AC/ventilation systems
- Brake systems
- Drive train systems and many more



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 18 Series reduce processing times, produce with high milling capacity and compress your manufacturing process into the smallest space possible. The perfect tools to implement your product ideas quickly, with micron-level precision.

Market leaders trust us.

High-tech modules for any application

Unique versatility for maximum flexibility

Spindles & spindle systems:

-  FZ: Proven single-spindle machining centers in the vertical traveling column design.
-  DZ: Highly productive twin-spindle machining centers with spindle distance 320 or 400 mm.

Tool changing systems:







-  CHIRON basket tool changer with 20 (2 x 12 for DZ) tool places (SK 40 or HSK 63). High productivity due to the shortest chip-to-chip times starting from 1.9 seconds.
-  Automatic tool change with the pick-up procedure in as little as 1.0 seconds with 2 x 35 tool places, HSK 63.

Table options:

-  S: Fixed table with ample space for devices, or NC rotary table superstructures for multi-sided machining.
-  FX: 2-axis swivel rotary table with one or two face plates (Ø 1 x 280 / 2 x 280 mm) for single or twin-spindle multi-sided machining.
-  W: Workpiece changing device with table loading capacity of up to 400 kg per side and large clamping surfaces (2 x 940 x 520 mm), borehole pattern, central distributor for energy supplies.
-  WHEEL: Flexible wheel machining system for individual needs.

Application areas [04–05]

▶ Machine design [06–07]

Extension options [08–17]

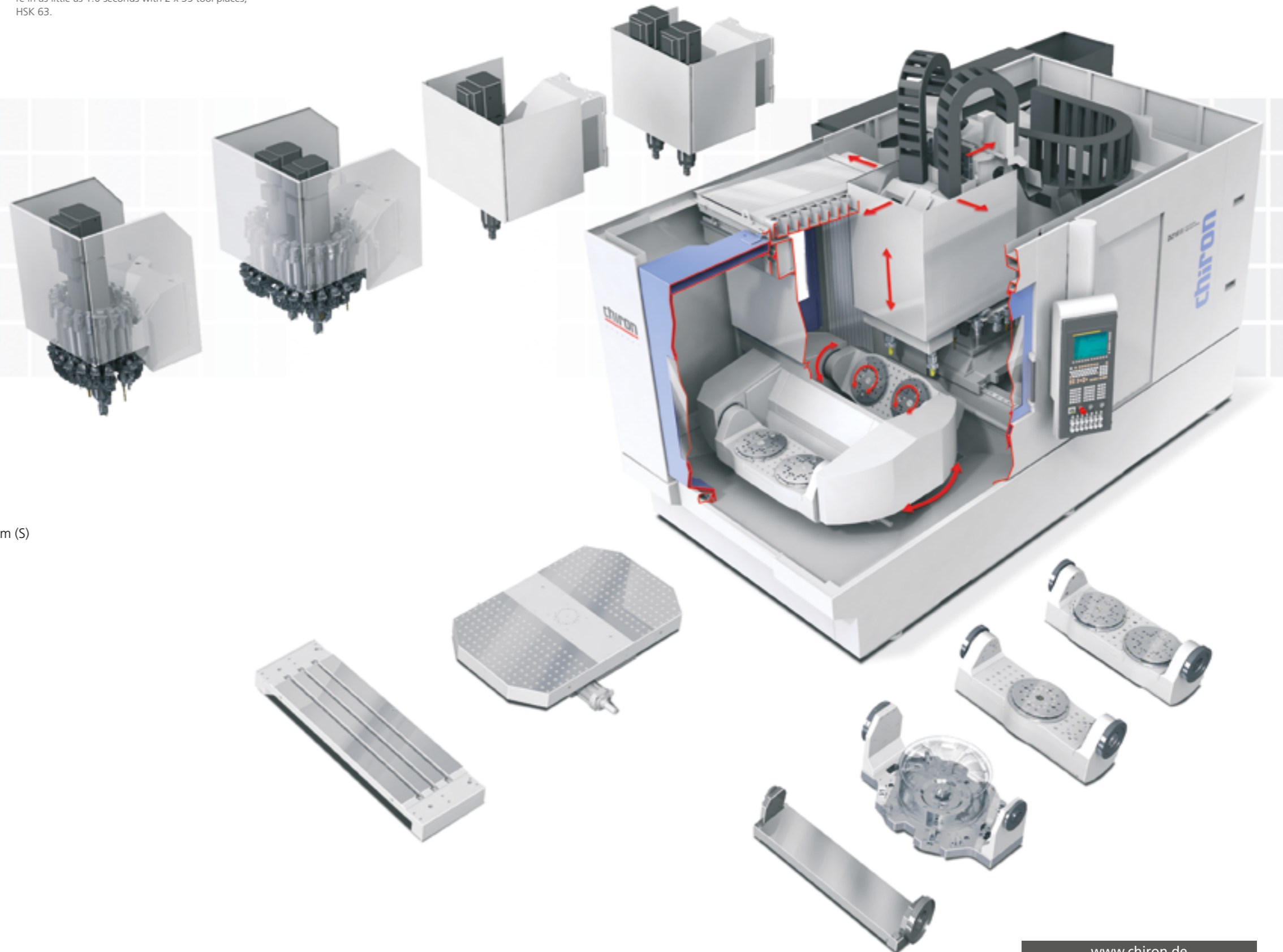
Complete solutions [18–19]



DZ18 W MAGNUM

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

CNC controls of the 18 series: Siemens, Fanuc



Modular concept:

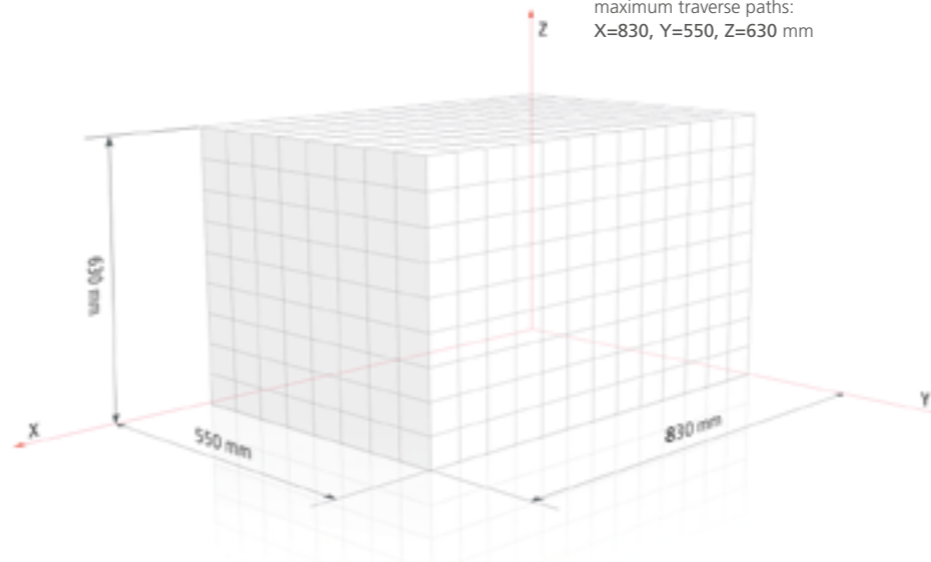
- Vertical traveling column principle
- Compact installation area from width 1,900 x depth 3,690 mm (S)
- Sturdy machine bed
- High rigidity and thermal stability
- Precision glass scales on all axes
- Dynamic direct drives and precision guides
- High running, positioning and long-term precision
- Robust CHIRON rotary axes
- Fully enclosed work area, stainless steel covers
- Smooth, steep walls for ideal chip flow directly to the chip conveyor
- Ergonomic operating and loading concept
- Service friendly access to all auxiliary units
- Low-maintenance and durable

The right machine for each component

Proven modules for customized configurations

Flexible work areas and maximum traverse paths: X=830, Y=550, Z=630 mm

Application areas [04–05]
Machine design [06–07]
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Spindles & spindle systems
Automatic tool changer
Table options

		S	FX	W	WHEEL
FZ	BASKET	FZ18 S	FZ18 FX	FZ18 W FZ18 W MAGNUM	FZ18 S WHEEL FZ18 W WHEEL
DZ	BASKET			DZ18 W DZ18 W MAGNUM	
FZ	CHAIN		FZ18 FX	FZ18 W MAGNUM	
DZ	CHAIN		DZ18 FX	DZ18 W MAGNUM	



Process advantages:

- Maximum traverse path [X–Y–Z] 830–550–630 mm
- Maximum power 37 kW
- Spindles / distance DZ 2 / 320 or 400 mm
- Maximum spindle speed: 16,000 rpm
- Chip-to-chip time starting from 1.9 s
- Axis acceleration X–Y–Z max. 17 m/s²
- Rapid feed as fast as 75 m/min
- Max. number of tools 60 / 2 x 35
- Tool taper SK 40 / HSK A-63
- Maximum tool weight 10 kg
- Maximum tool diameter 180 mm
- Max. tool length 380 mm
- Workpiece change starting from 3.5 s



FZ18 S

Powerful precision machining center with fast basket tool changer, fixed table and large work area for universal use. The fixed table provides ample space for various devices or NC rotary table assemblies.



FZ18 FX

Flexible precision machining center with a basket tool changer and a 2-axis swivel rotary table for 5-axis simultaneous and complete machining in one set-up.



DZ18 W MAGNUM

Highly productive twin-spindle machining center with automatic tool change using the pick-up method and tool changing device (0°/180°) for loading and unloading during machining.



FZ18 S WHEEL

Fast precision machining center with basket tool changer, integrated rotary table and CHIRON universal device for wheels.

Diversity and flexibility

Proven technology and high precision as a foundation

FZ18 S

Powerful precision machining center with a fast basket tool changer. The fixed table offers ample space for devices or NC rotary table assemblies.



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

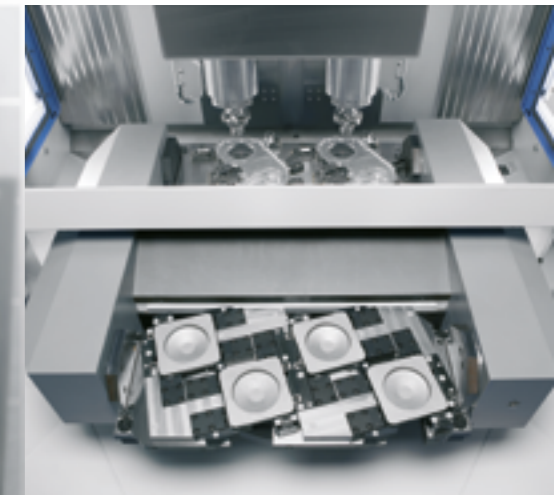
- 3-axis machining center based on the vertical traveling column principle
- Expandable to four axes with the basic device or 5-axis machining with 2-axis swivel rotary table
- High rigidity and thermal stability
- Clear, easily accessible work area
- Work area for larger workpieces or multiple set-ups
- Chip-to-chip time starting from 1.9 s
- Loading and unloading with workpiece changing device during machining (Workpiece change times starting from 3.5 s)
- Workpiece changing device with central splash guard and optimal accessibility
- High table loading
- High milling capacity
- Integrated automation solutions possible
- Machine tool construction "Designed and Made in Germany"

Application areas	[04–05]
Machine design	[06–07]
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Complete solutions	[18–19]



DZ18 W MAGNUM

Fast precision twin-spindle machining center with automatic pick-up tool changer and workpiece changing device (0°/180°) for loading and unloading during machining.



Depending on the customer's requirements, the workpiece changing device can be configured with individual table assemblies for 3-, 4-, or 5-axis machining. It offers plenty of space for devices and is equipped with a central distributor for energy supplies.

Downtimes are greatly reduced, due to the capability of loading and unloading workpieces during machining.



Precision and dynamics in one set-up

Complete machining with CHIRON Five axis

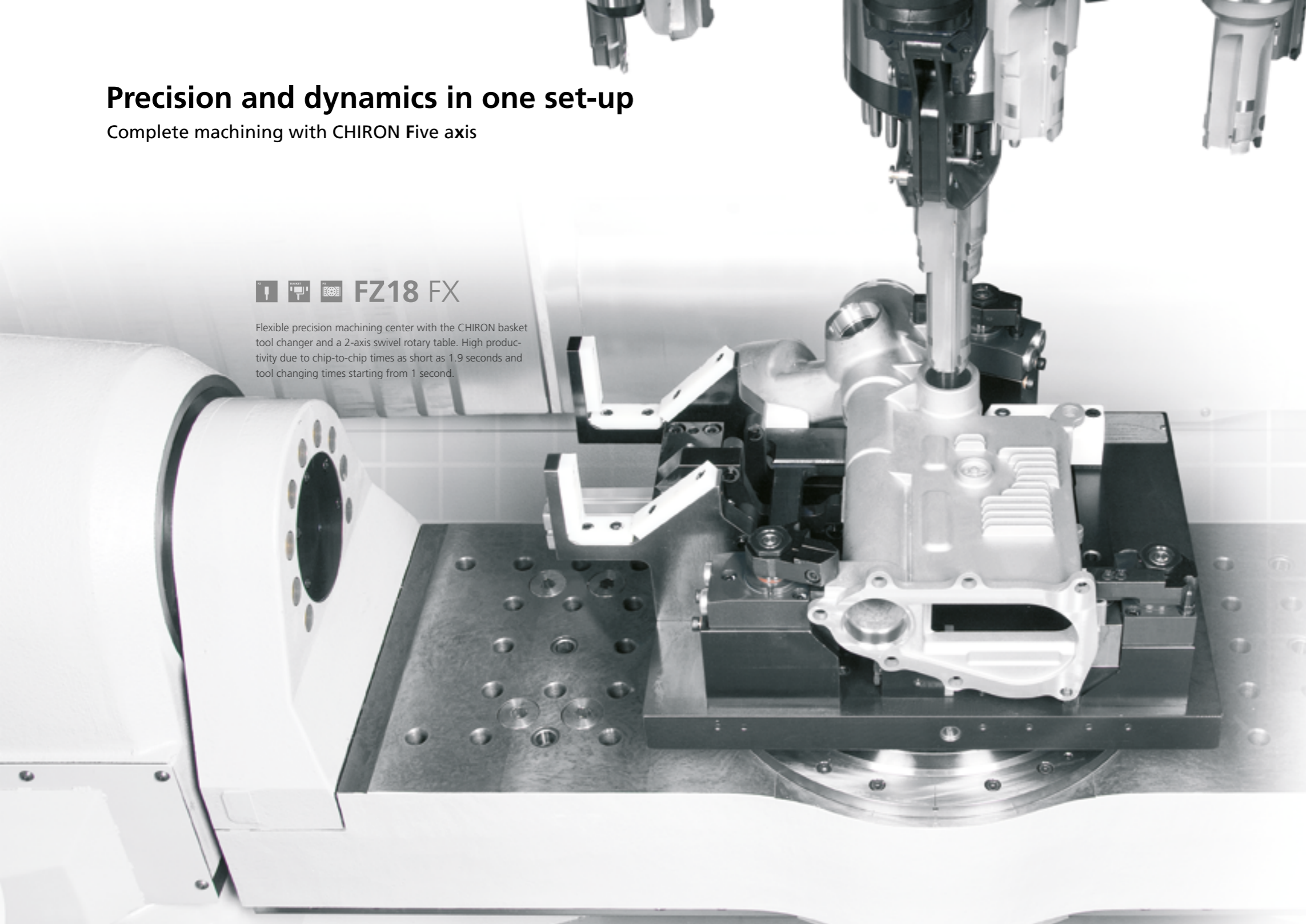
Application areas	[04–05]
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FZ18 FX

Flexible precision machining center with the CHIRON basket tool changer and a 2-axis swivel rotary table. High productivity due to chip-to-chip times as short as 1.9 seconds and tool changing times starting from 1 second.

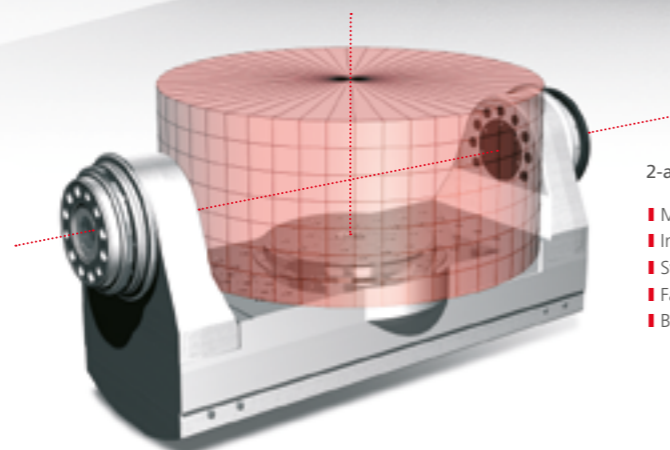
DZ18 FX

Doubled productivity with minimal space requirements: fast double-spindle machining center with a 2-axis swivel rotary table with two face plates for efficient complete machining with five simultaneously controlled axes.



- 5-axis machining with the CHIRON rotary table program:
- Solid and reliable technology – developed and manufactured by CHIRON
 - Backlash-free preclamped precision gears with high overload capacity
 - Rotation option due to highly dynamic torque drives

The workpiece is positioned exactly in the center of the swivel axes, which minimizes compensating movements of the linear axes. The unique CHIRON basket tool changer allows extremely short cycle times. Combined with fast rapid feeds and the dynamic NC swivel rotary tables, non-productive times are reduced to a minimum.



2-axis swivel rotary table

- Max. workpiece dimensions
- Interference range
- Swivel range
- Face plate (n)
- Borehole pattern

CASD 280

Ø 700 x 630 mm
 Ø 790 mm
 ± 120°
 Ø 280 mm
 M 16 x Ø 15H7 x 50 mm

CASD 280-2

2 x Ø 320 x 630 mm
 Ø 790 mm
 ± 120°
 2 x Ø 280 mm
 M 16 x Ø 15H7 x 50 mm

Your advantages with CHIRON FX:

- Highest precision in positioning and simultaneous operation
- High rigidity and thermal stability
- Mineral cast machine bed
- Spindle speeds up to 16,000 rpm
- Excellent surface quality
- Integrated CHIRON 2-axis swivel 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
- Fourth axis with a pivoting range of up to +/- 120°
- 5th axis with TORQUE drive up to 1,000 rpm for turning work
- Automatic machine compensation due to the 3D touch probe TS27
- Integrated automation solutions possible
- Machine tool construction "Designed and Made in Germany"

Doubled productivity

with CHIRON multi-spindle processing

DZ18 W

The combination of two spindles and a workpiece changing device 0°/180° as well as a quadruple clamping device results in cost savings of up to 50%.

Application areas	[04–05]
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DZ18 W MAGNUM

A perfect combination of two spindles, workpiece changing device 0°/180° and NC rotary table.



The multiplier effect – more spindles, more cutting, more profit: Doubled productivity on one machine means a reduction of machining time of nearly 50%. There is also the option of multi-side machining through NC controlled rotary axis.

Your advantages with CHIRON multi-spindle machining:

- Reduction of energy and space requirements
- Reduction of the total processing time
- Simplification of the material flow
- Reduced investment costs
- Reduced staff resources
- Spindle speeds up to 16,000 rpm
- High productivity
- High rapid-feed speeds of up to 75 m/min
- Highest precision in positioning and simultaneous operation
- Precision glass scales on all axes
- Shortest chip-to-chip times starting from 1.9 s
- CHIRON 2-axis swivel rotary table possible
- Integrated automation solutions possible
- Machine tool construction “Designed and Made in Germany”



Highly productive wheel machining

for individual needs

Application areas	[04–05]
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Wheel machining on the front and rear side in a single set-up.



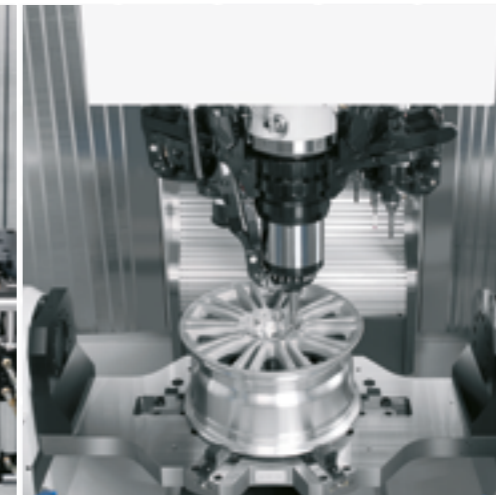
FZ18 S WHEEL

Fast precision machining center with integrated rotary table for productive machining of screw, valve and air supply boreholes in one set-up.



FZ18 W WHEEL

Efficient machining center with workpiece changing device. While a wheel is machined on one table side, loading and unloading can be carried out on the other side of the table. This reduces non-productive time to a minimum.



Your advantages with CHIRON WHEEL:

- Maximum flexibility and minimal set-up costs for all wheel variants and batch sizes
- Different wheel sizes on one device (14" to 25")
- Non-productive times reduced by wheel machining on the front and rear side in a single set-up
- Loading and unloading with workpiece changing device during machining (Workpiece change times starting from 3.5 s)
- User-friendly work area with perfect ergonomics
- High machine availability and process reliability
- Can be easily automated with different loading and unloading systems
- Low-maintenance and durable
- Machine tool construction "Designed and Made in Germany"

60 million wheels per year are manufactured on CHIRON machining centers

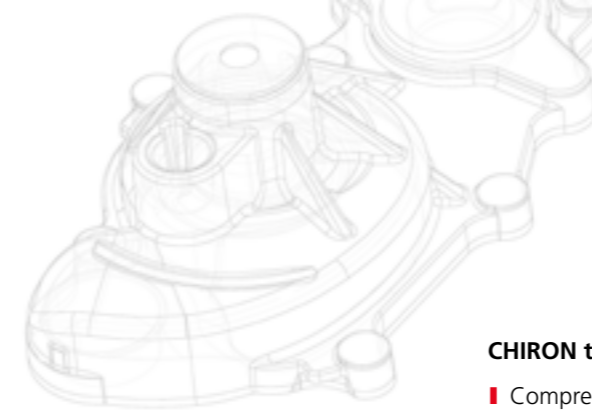
Innovative concepts are required in order to produce 1000 wheels per day in minute cycles: e.g. special clamping cylinders (without hydraulics), allowing each wheel size to be reliably clamped. The height adjustment of the support plate allows wheels of various widths to be machined.

Turnkey customization completely from one source

Individual automation and engineered solutions for greater productivity

Variocell SYSTEM – 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



Application areas	[04–05]
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CHIRON turnkey solutions

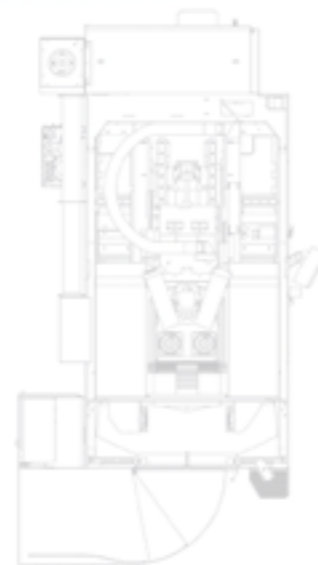
- Comprehensive process design
- Expert engineering
- Experienced project management
- Validation of statistical process capability
- Ensuring targeted productivity
- Production assistance during the initial phase
- Operation and programming training
- CHIRON Service available around the world



Variocell UNO

Machining center and robot cell as unit
Flexible and economical solution as a compact unit consisting of machining center, handling robot and workpiece storage unit for low-manpower operation and greater process reliability.

Integrated automation in the smallest area (1.5 sq. m), transported together, no separate set-up, no need for additional alignment of the robot cell or for more protective equipment.



From the planning stage to serial production

Today, manufacturing excellent machining centers alone is not enough. The user rightly expects a solution, which is as individual as it is intelligent. Starting from one specific machining task, a „Turnkey process“ is developed around the workpiece based on quantity structure 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.

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