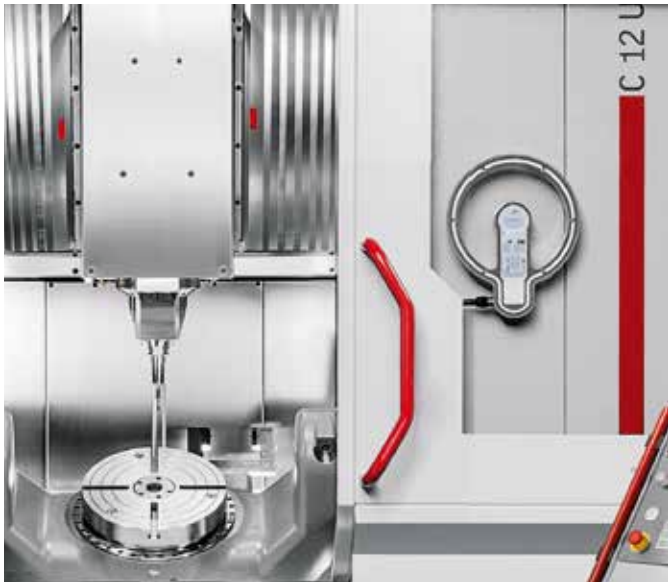
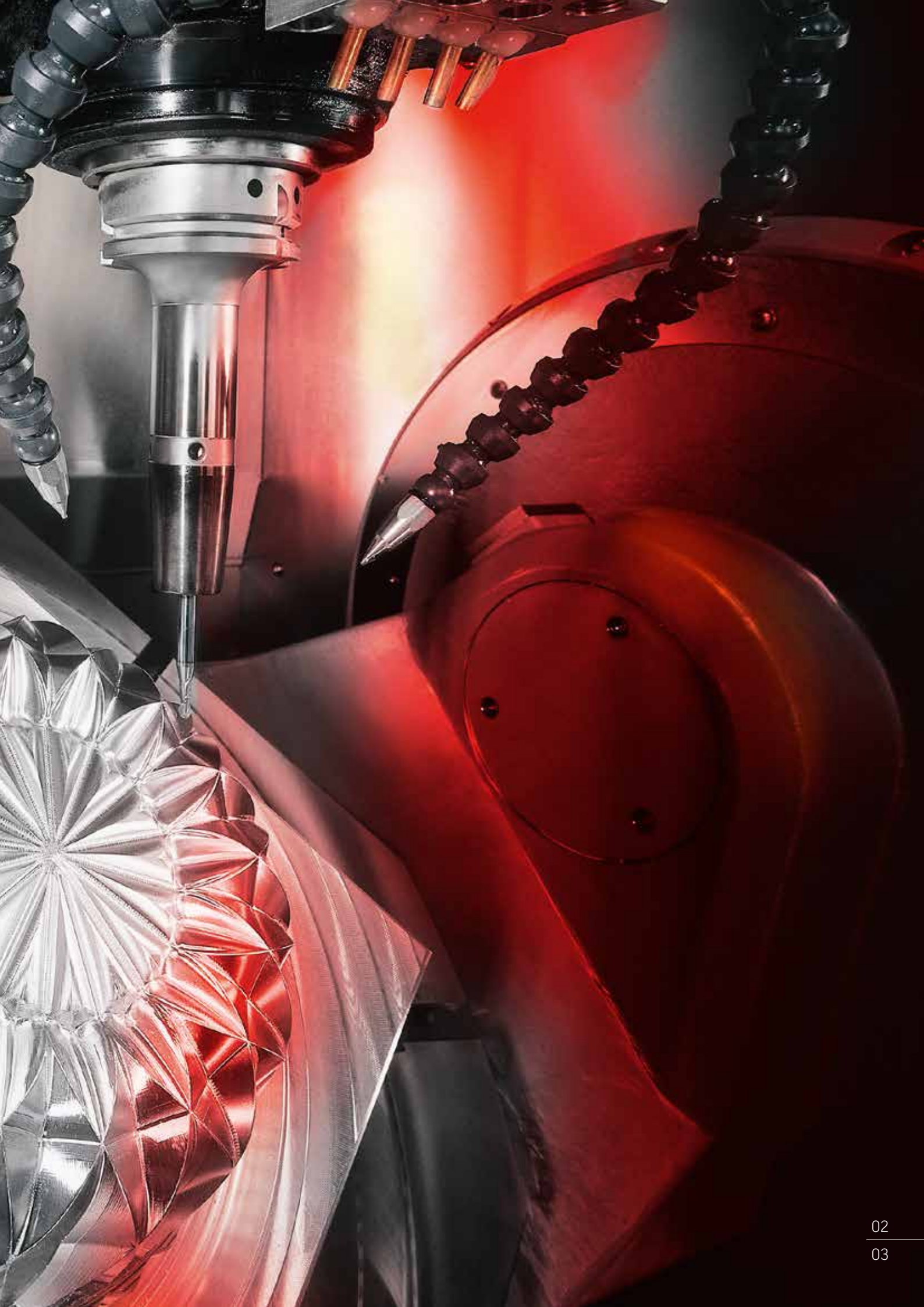
C 12
www.hermle.de



HERMLE
Milling at its best

Milling at its best: Hermle machines are often at the forefront when it comes to optimized results.
The proverbial Hermle precision in combination with process consulting and project management has made us an important machine manufacturer in nearly all key sectors: From large complex components to the very smallest components in the high-tech sector. Versatile applications, uncompromising results Hermle – the original.



Contents.

01
Industry sectors

Hermle is at home in all sectors. For us, ensuring the highest precision and reliable machining is always paramount. Our machines are made for daily operation, whether as linked linear segments in production or as stand-alone workshop machinery.

Optical industry

Precision mechanics

Medical engineering

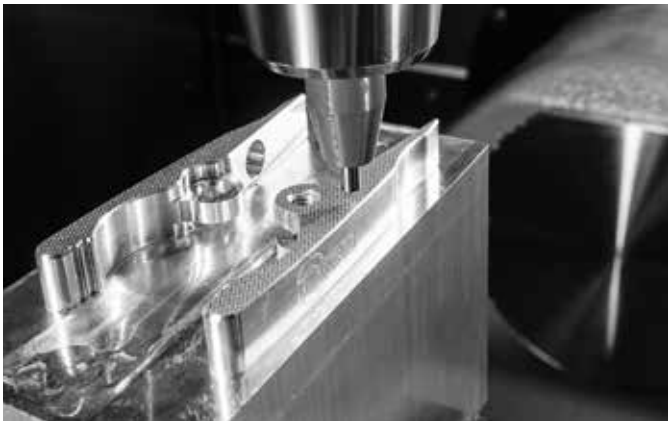
Tool technology

Aerospace industry

Machine construction

Tool and mould construction

Subcontractor industry



01.1 Applications

Dynamic, precise and reliable Hermle's C 12 can provide highly dynamic processing of workpieces up to 100 kg in weight simultaneously in 5 axes.
In particular, materials which are difficult to machine can be milled in record time and with perfect precision. This is achieved fully automatically right up to entire flexible production systems. Our systems are always extremely precise and ensure high machine availability.

Maultasche

Simultaneously in 5 axes

Branch: automation
Material: ABS
Tool: VHM ball and end milling cutter Ø 2/4 mm
Spindle: 18000 rpm
Main power/torque: 80 Nm/25 kW

Top left

Bottle form

Simultaneously in 5 axes with focus on highly polished surfaces

Branch: tool and mould making
Material: AlMgSi1
Tool: 0.3 mm finger milling cutter
Spindle: 30000 rpm
Main power/torque: 33 Nm/38 kW

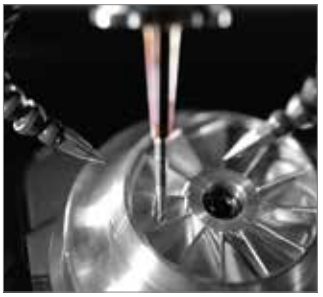
Bottom left

Shrouded impeller

Simultaneously in 5 axes

Branch: energy technology
Material: 1.4313
Tool: ball milling cutter Ø 6/8 mm and end milling cutter Ø 10 mm
Spindle: 18000 rpm
Main power/torque: 80 Nm/25 kW

Bottom



JU rump

Simultaneously in 5 axes

Branch: model making
Material: AlMgSi1
Tool: Torus/VHM end milling cutter
Spindle: 18000 rpm
Main power/torque: 80 Nm/25 kW

Left

Dental part

Simultaneously in 5 axes

Branch: medical engineering
Material: chrome-cobalt
Tool: Torus/VHM end milling cutter
Spindle: 42000 rpm
Main power/torque: 80 Nm/25 kW

Top

02
The machine

The C 12: a highly dynamic and compact machining centre designed consistently for 5-axis/5-side machining.
Features galore to ensure high-precision, economical parts production. Numerous automation solutions extend the application range many times over.

TECHNICAL DATA

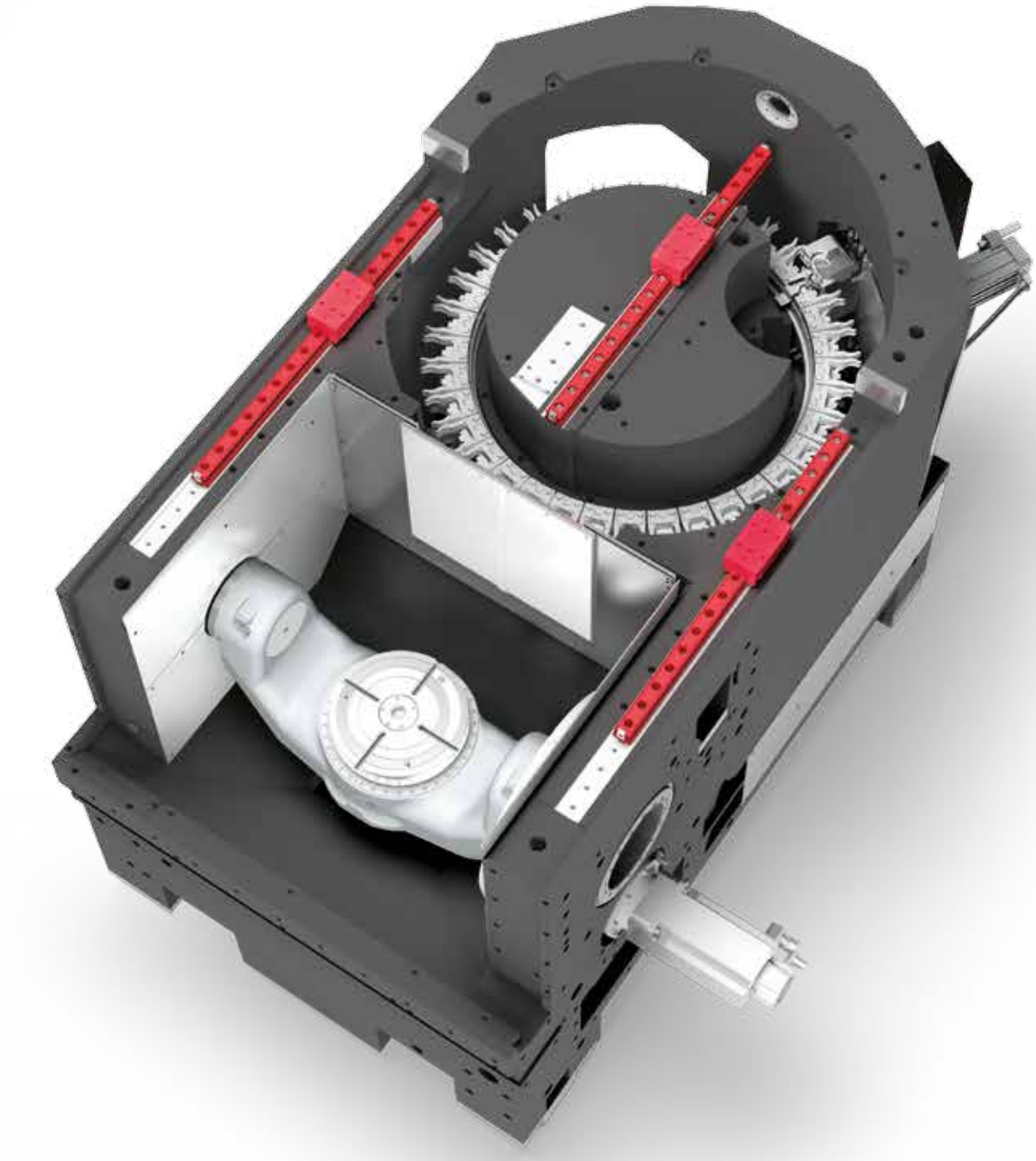
Traverse X-Y-Z:	*350 - 440 - 330 mm*
Speed:	*12000 / 15000 / 18000 / 30000 / 42000 rpm*
Rapid linear traverse X-Y-Z (dynamic):	*30 (50) m/min*
Linear acceleration X-Y-Z (dynamic):	*4 (8) m/s²*
Control:	*TNC 640*

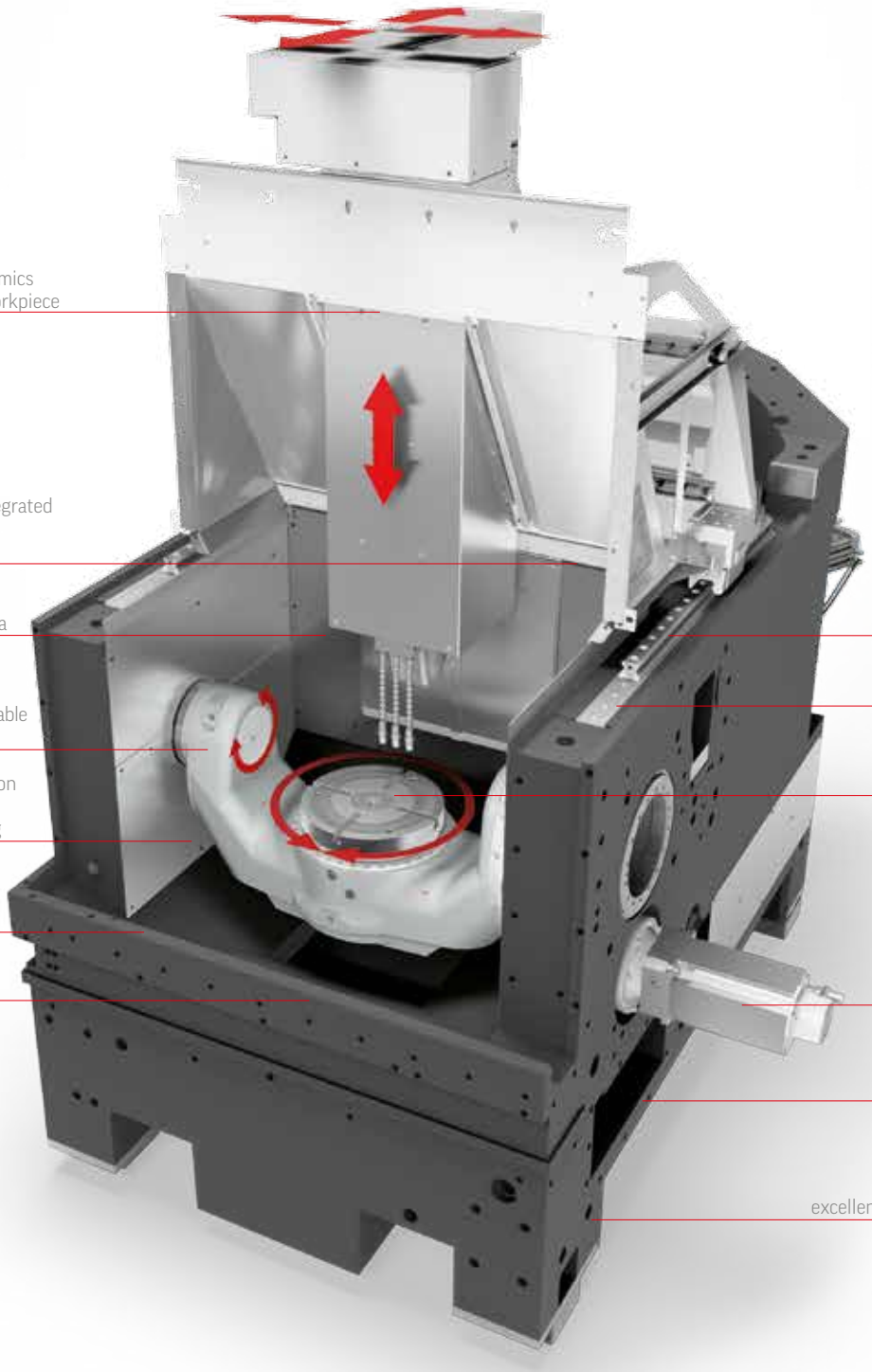
NC swivelling rotary tables:

Table with torque:	*Ø 320 mm*
Swivelling range:	*+/- 115°*
A-axis speed (dynamic):	*25 (55) rpm*
C-axis speed (dynamic):	*40 (80) rpm*
Max. table load:	*100 kg*


C 12 U

02.1
A new dimension of dynamics





3 axes in a tool dynamics
independent from workpiece

Pickup magazine integrated
into the base body
to save space

Stainless steel lining
of entire working area

Swivelling range of
NC swivelling rotary table
+115° to -115°

Optimised chip ejection
in working area
during dry machining

Large working area
relative to the
installation area

Accessibility,
excellent ergonomics

Force characteristics:
3 guideways with one guide
shoe for ideal force balance

Linear axes above
the working area

Torque motor (C-axis)
for high dynamics

One-sided drive (A-axis):
Torsion avoidance and
high level of accuracy

Modified gantry design
with optimum main
axis support

Mineral casting design with
excellent vibration damping properties

02.2
The workpiece

Many important points must be observed in order to guarantee that every workpiece is machined perfectly. For this reason, Hermle has been working on perfecting and optimising the machining process for many years. This is the reason that the C 12 is now equipped with:
- The largest working area relative to the installation area.
- The largest swivelling range of workpieces in the working area.
- Utilisation of the entire traverse range.
- A large collision circle between the table flanges.

THE WORKPIECE DIMENSION

- *Unlimited crane top loading to above the table centre*
- *When loading the crane the spindle moves to the magazine – this means the working area is completely clear and accessible*
- *Extensive automation solutions for optimum workpiece handling*

5-axes

Ø 320 x 265 mm

max. 100 kg

Collision circle: Ø 610 mm

Vertical table clearance: max. 430 mm

5-axis machining

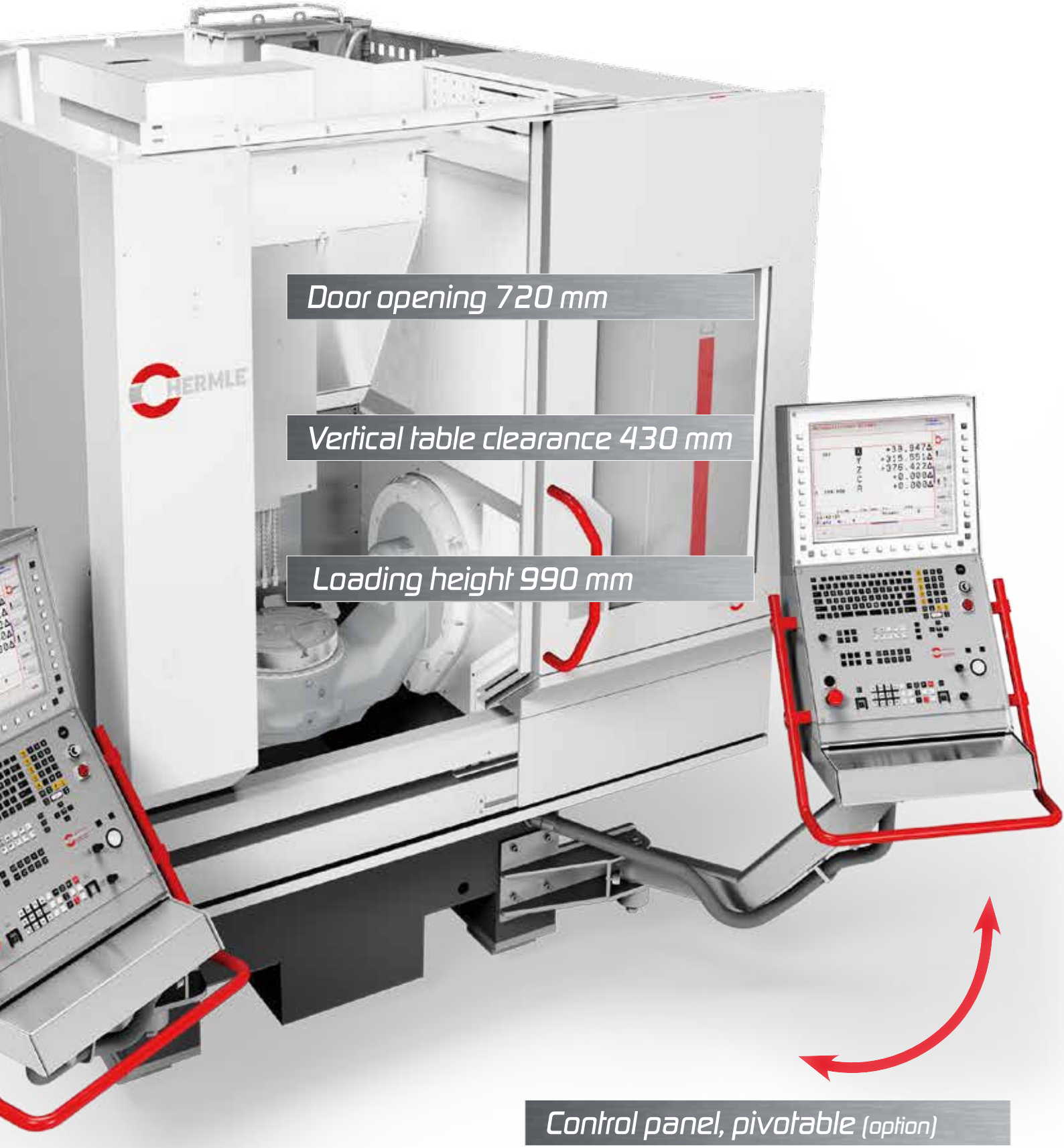
02.3 Ergonomics

Built for daily use: the Hermle C 12 can be ergonomically adapted for every machine operator for optimum ease of use, simple operation and uncomplicated maintenance.

HIGHLIGHTS

- *Ergonomic control panel:*
  - *19" screen*
  - *Control panel adaptable to the left or right of the machine (left standard)*
  - *Control panel pivotable from the tool loading point to the working area*
- *Optimum loading height*
- *Crane loading*
- *Minimum interval between table and operator*
- *Large door opening*

Practical, slide-in tray


Door opening 720 mm
Vertical table clearance 430 mm
Loading height 990 mm
Control panel, pivotable (option)
Control panel, pivotable (standard)

02.4
Table variants

Hermle's NC swivelling rotary table has revolutionised the concept of 5-axis machining. The C 12 also relies on 5-axis operation and takes full advantage of its advantages. These include torque drive on the highly dynamic version. All tables are manufactured exclusively and entirely at our plant in Gosheim.

TECHNICAL DATA

High degree of freedom in working area
- *Very high table load (up to 100 kg with the highest accuracy)*
- *No accumulation of chip on the table (swivel table)*
- *Swivelling axis A and rotary axis C are located within the workpiece (U-shape)*
- *Wide spacing between the A axes flanges results in a very large collision circle*
- *High swivelling range for undercuts*

Torque table

- *High dynamics on the A and C axes*
- *No wear*
- *Direct, absolute measuring system*

DRIVE TECHNOLOGY

- *Central table load*
- *Drive directly on table housing = low torsion A-axis*
- *Direct, absolute measuring system*
- *Good maintenance accessibility*
- *A-axis integrated in machine bed*

One-sided drive

- *Mechanical drive on left of table housing*

NC swivelling rotary table

Drive type of C-axis: Torque

The “Torque” NC swivelling rotary table provides the ideal conditions for highly dynamic 5-axis and 5-axis simultaneous machining.

Zero-point clamping systems / pallet clamping systems

Clamping surface:	Ø 320 mm
T-grooves:	star-shaped 4 units / 14 H7
Swivelling range:	+/- 115°
Drive type of C-axis:	torque
Speed - rotary axis C (dynamic):	40 (80) rpm
Speed - swivelling axis A (dynamic):	25 (55) rpm
Maximum table load:	100 kg

02.5 Spindles

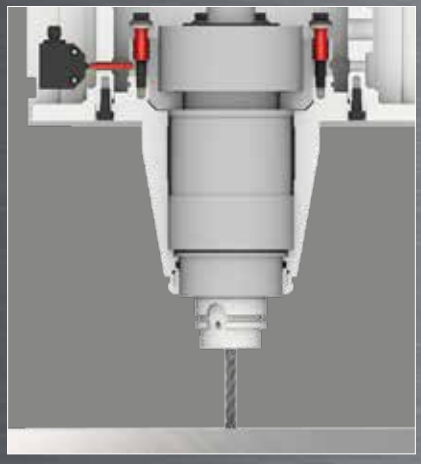
The C 12 can be equipped with two-piece or compact spindles. All spindles can be replaced quickly and easily in case of failure.
With the different speed ranges and tool holding fixtures the spindles are suitable for a wide variety of machining tasks. Like the tables, all spindles are manufactured exclusively and entirely at our plant in Gosheim

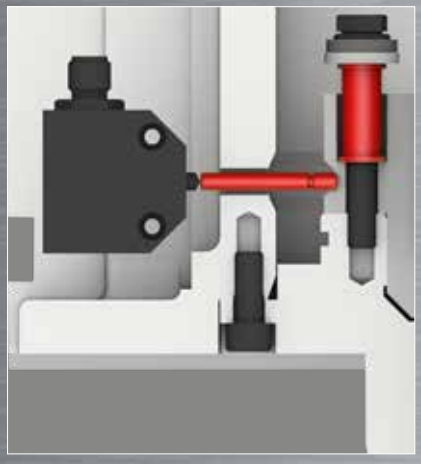
TECHNICAL DATA

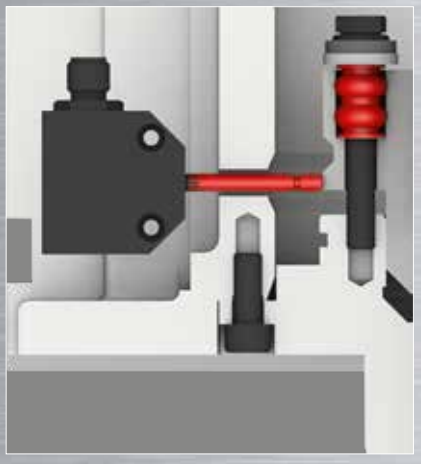
- *High-tech spindles for demanding milling processes*
- *Slim-end spindle for machining deep cavities*
- *Few projecting edges (prevention of collision)*
- *Two-part spindle (faster, easier replacement)*
- *Collision protection (collision sleeves) prevents damage in 50% of collisions*

Collision protection with collision inquiry

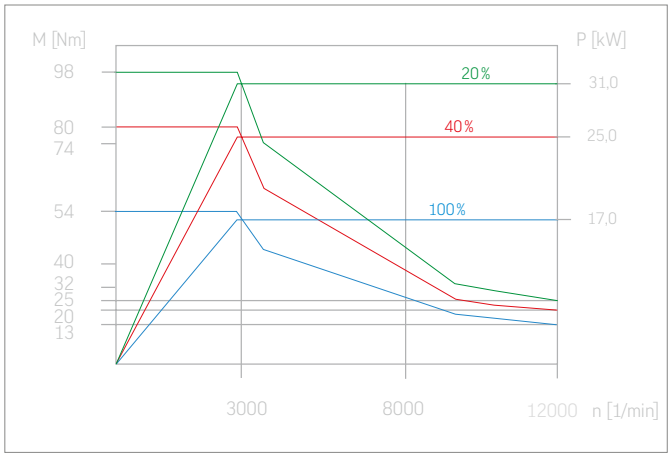
Each spindle has several collision sleeves which compensate collision energy in the Z direction.





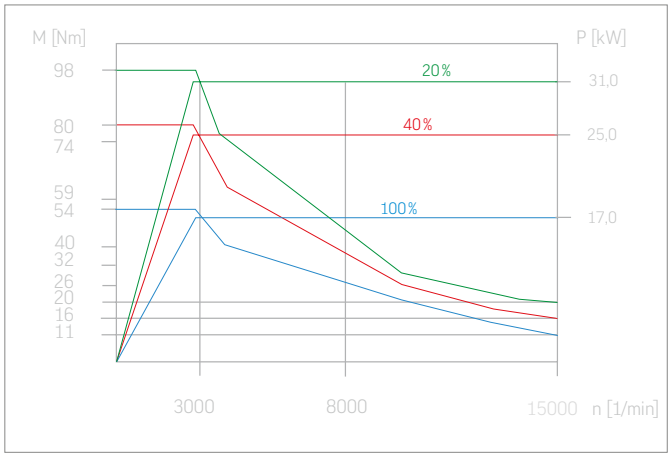


Spindle 12000 rpm



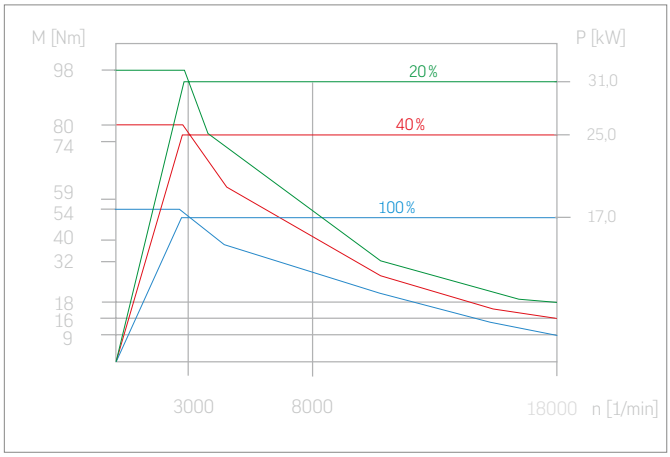
Maximum spindle speed:	12000 rpm
Main Power 20% c.d.f.:	31 kW
Torque 20% c.d.f.:	98 Nm
Tool holding fixture:	SK 40 / HSK A 63
Spindle:	two-piece
Collision protection:	collision sleeves

Spindle 15000 rpm



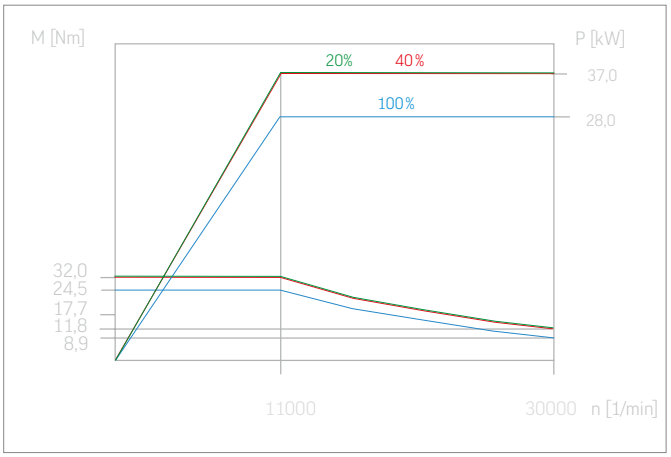
Maximum spindle speed:	15000 rpm
Main Power 20% c.d.f.:	31 kW
Torque 20% c.d.f.:	98 Nm
Tool holding fixture:	SK 40
Spindle:	two-piece
Collision protection:	collision sleeves

Spindle 18000 rpm



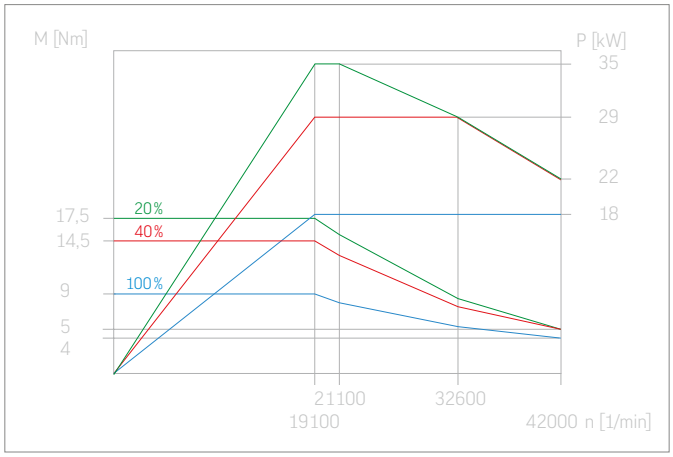
Maximum spindle speed:	18000 rpm
Main Power 20% c.d.f.:	31 kW
Torque 20% c.d.f.:	98 Nm
Tool holding fixture:	HSK A 63
Spindle:	two-piece
Collision protection:	collision sleeves

Spindle 30000 rpm



Maximum spindle speed:	30000 rpm
Main Power 20% c.d.f.:	37 kW
Torque 20% c.d.f.:	32 Nm
Tool holding fixture:	HSK A 50
Spindle:	compact

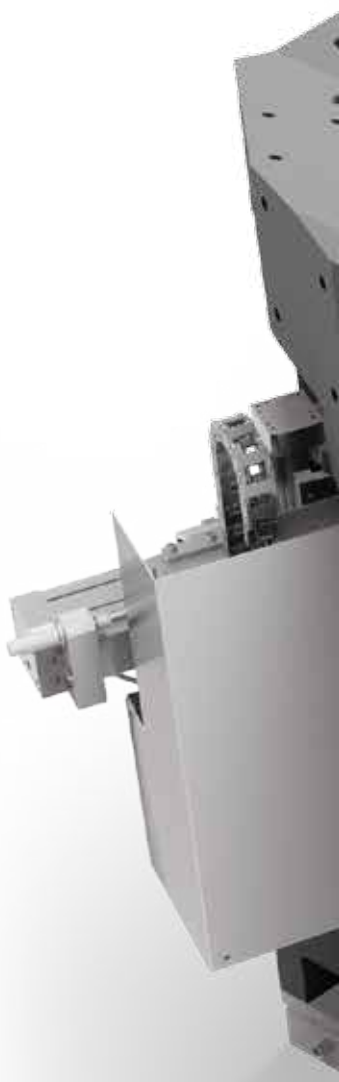
Spindle 42000 rpm



Maximum spindle speed:	42000 rpm
Main Power 20% c.d.f.:	35 kW
Torque 20% c.d.f.:	17,5 Nm
Tool holding fixture:	HSK E 40
Spindle:	compact

02.7
The magazine

The C 12's tool magazine holds up to 36 tools in the standard version and is integrated into the machine bed to save space. As an option a second tool magazine ring can be integrated, without the requirement for additional footprint, of the machine which increases the number of available tools to 71.

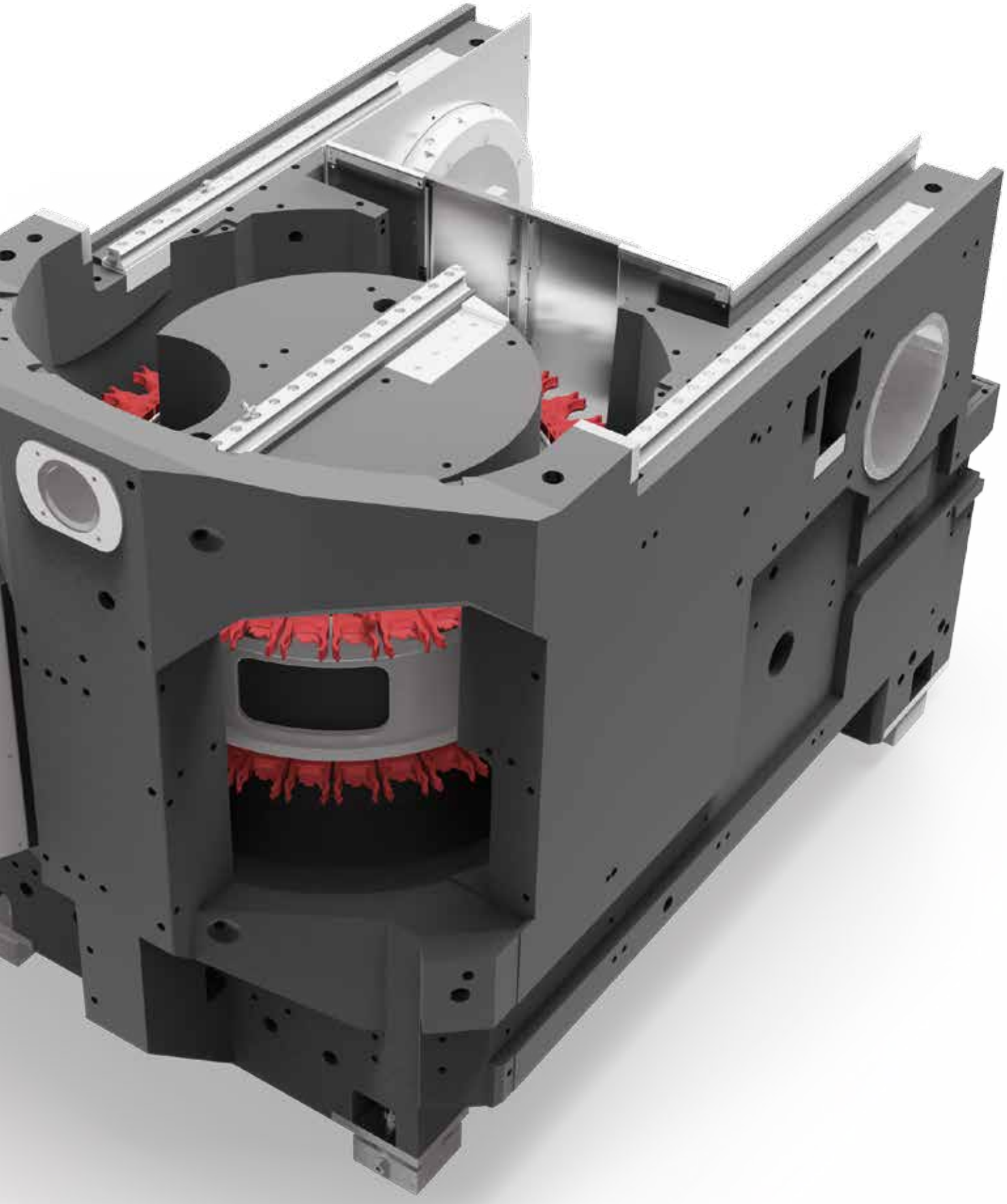


TECHNICAL DATA

- Pick-up magazine
- Integrated in the machine bed
- Excellent accessibility
- Additional magazine ZM 35 as a second ring
- Covers for tool holding fixture
- Tool changer (pick-up)

Interface:	SK 40 / HSK A 63 / HSK A 50 / HSK E 40
Magazine pockets:	36 tools in the ring magazine
Additional magazine ZM 35:	35 tools in the second ring magazine
Max. tool weight:	8 / 8 / 6 / 2.5 kg
Max. tool diameter:	Ø 80
Max. tool length:	200 mm
Max. magazine load:	144 kg
Chip-to-chip time*:	4.5 s

*(Chip-to-chip times German standard VDI 2852, page 1)



02.7
Control unit

The C 12 can be equipped with the Heidenhain TNC 640 control unit. The control unit provide diverse program functions. Hermle simplifies programming and operation still further with comprehensive extra features.

Heidenhain

Heidenhain TNC 640

- Dynamic Efficiency – Active Chatter Control (ACC), Adaptive Feed Control (AFC), trochoidal milling
- Dynamic Precision – Cross Talk Compensation (CTC), Active Vibration Damping (AVD)
- 19" TFT colour flat screen
- Keyboard unit with full keyboard, integrated trackball, USB and Ethernet interfaces
- Fully digital with HSCI interface and EnDat interface
- Programming in Heidenhain plain text with smarT.NC or per DIN/ISO
- Standard drilling and milling cycles
- Touch probe system cycles
- Free contour programming
- Special functions for fast 3D machining
- Automatic calculation of cutting data
- Software option Kinematic Opt (Measurement cycle for improving accuracy of rotational and swivelling operations)

For further advantages and detailed technical data, please see the Heidenhain brochures.

Hermle setups

Standard

Standard

- Standard setting.
- Switches back to the standard setting after a different setup has been used.

Heavy duty machining

Heavy duty machining

- For roughing in conjunction with high milling power.
- Greater machining performance possible thanks to reduced machine vibration (depending on the tool and the selected technology data).

HDM Heavy-Duty-Machining

High production

Production

- Quicker machining with programs which have many cycle calls or subprograms.

HP High-Production

Hermle control tools

Hermle "Tool Management Control"

Simple Hermle tool management for Heidenhain controls.

Hermle "Adaptive Feed Control"

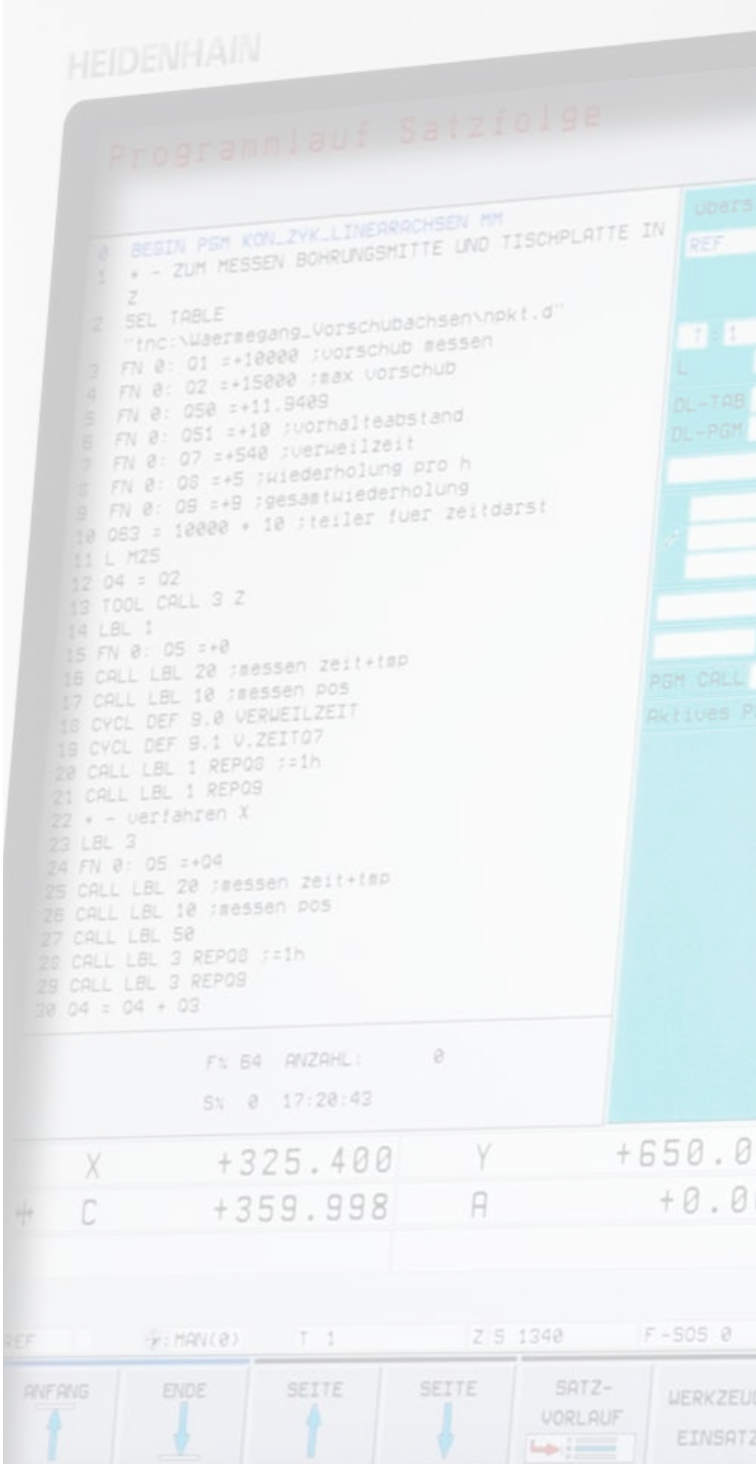
In adaptive feed control (AFC), the feed rate is automatically controlled (depending on the percentage of spindle output).

Hermle "Wear Diagnosis System"

Machine status is continually monitored by the Hermle wear diagnosis system. It facilitates rapid machine diagnostics and status-oriented detection of maintenance tasks.

Hermle "Automation Control System"

Simple, Hermle pallet management software.



3D contour tolerance max.

3D contour tolerance max.

- For 3D roughing with low machining performance.
- Very high machining speed, mainly for free-form surfaces.

3D contour tolerance min.

3D contour tolerance min.

- For very high demands of machining accuracy, mainly for free-form surfaces.
- Can also be used with conventional programs.

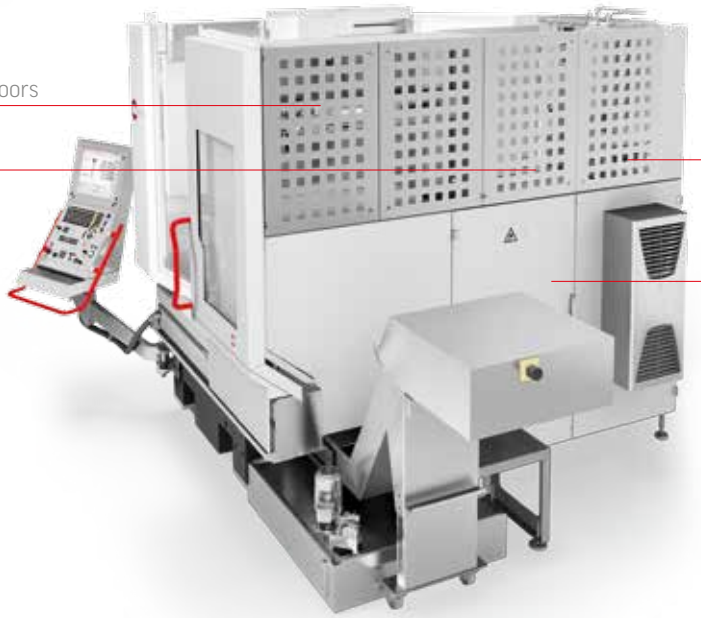
3D path smoothing

3D path smoothing

- For very high demands on the surface quality, mainly for free-form surfaces.

02.9
The details

The C 12's details are packed with know-how. All attachments and controls of the C 12 have been smartly optimised for users and designed specifically for respective machining tasks.



Storage of platform

Position for platform to access the fluid box

02.9
The details

The C 12 is built using an elegant cassette panel construction. This high-tech building block concept is used throughout from the standard machine to the flexible manufacturing system. The machining centre can be transported without any disassembly and set up without a foundation.
Furthermore, all units are arranged for easy maintenance and servicing.

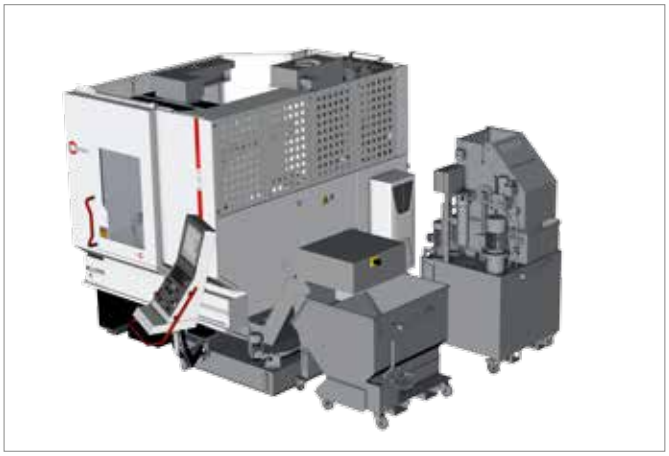
HIGHLIGHTS

- Comprehensive fluid technology
- Optimised chip management
- Diverse cooling lubricant units
- Scraper belt conveyor
- Hinged belt conveyor
- We provide the correct method of chip removal from the working area for all kinds of chip

Space-saving chip conveyor arrangement

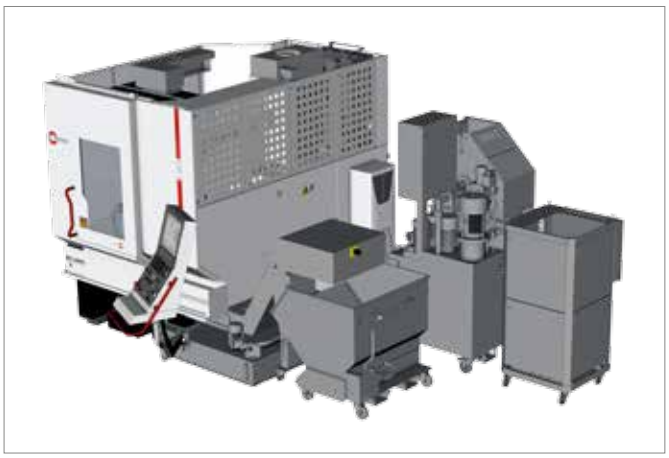
Chip slide

Chip conveyor



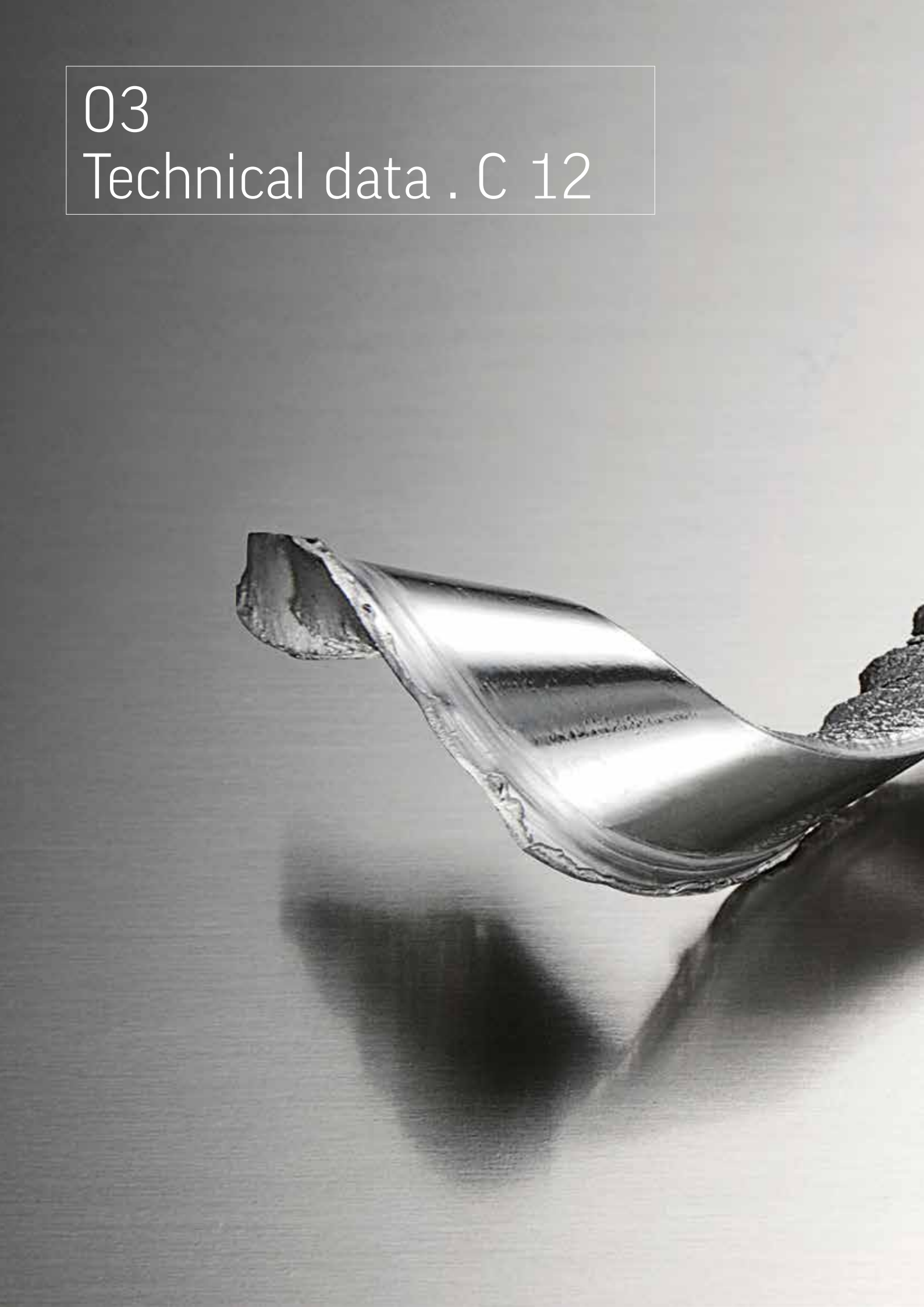
Chip conveyor with internal cooling lubricant supply ICS 40

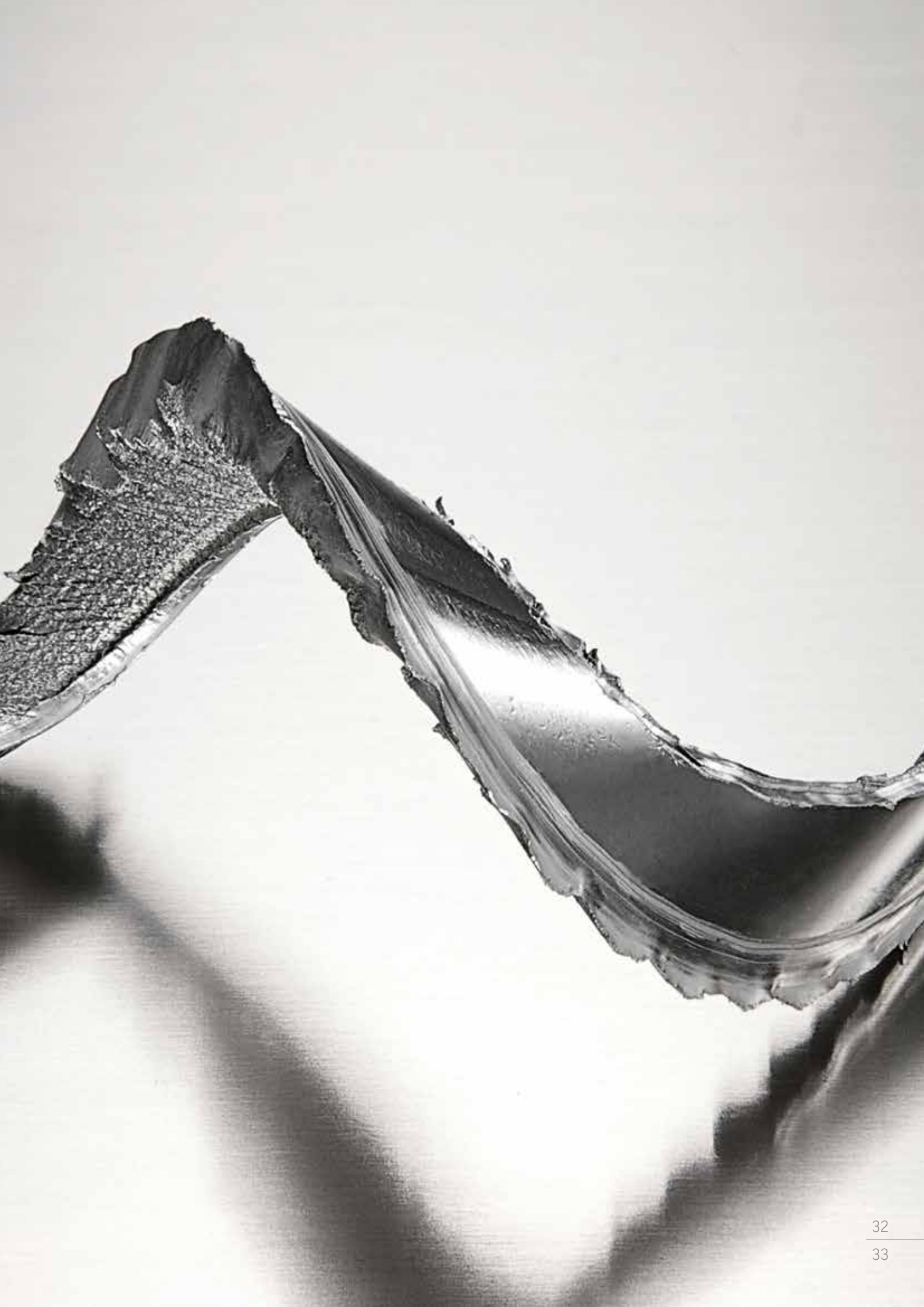
Chip conveyor with internal cooling lubricant supply ICS 80



Chip conveyor with internal cooling lubricant supply ICS 80 and recooling unit

03
Technical data . C 12





03.1
Technical data . C 12

Working area	Traverse	X-axis	350 mm
	Traverse	Y-axis	440 mm
	Traverse	Z-axis	330 mm
	Rapid linear traverse (dynamic)	X-Y-Z	30 m/min (50 m/min)
	Linear acceleration (dynamic)	X-Y-Z	4 (8) m/s²
	Linear feed force	X-Y-Z	3000 N
	Max. vertical table clearance		430 mm
	Max. workpiece diameter		Ø 320 mm
	Max. workpiece height		265 mm
Main spindle drive	Speed Main power/Torque	12000 rpm 20% c.d.f.	SK 40 / HSK A 63 ● 31 kW / 98 Nm
	Speed Main power/Torque	15000 rpm 20% c.d.f.	SK 40 ○ 31 kW / 98 Nm
	Speed Main power/Torque	18000 rpm 20% c.d.f.	HSK A 63 ○ 31 kW / 98 Nm
	Speed Main power/Torque	30000 rpm 20% c.d.f.	HSK A 50 ○ 37 kW / 32 Nm
	Speed Main power/Torque	42000 rpm 20% c.d.f.	HSK E 40 ○ 35 kW / 17.5 Nm
Control	Heidenhain		TNC 640 ●
Tool changer (pick-up)	Magazine pockets Additional magazine ZM 35		36 items ● 35 items ○
	Chip-to-chip time*		approx. 4.5 s
	*(Chip-to-chip times with German standard VDI 2852, page 1)		
	Max. tool length		200 mm
	Max. tool diameter with		Ø 80 mm
	Max. magazine load		144 kg
NC swivelling rotary table	NC swivelling rotary table		Ø 320 ●
	Clamping surface Collision circle		Ø 320 mm Ø 610 mm
	Swivelling range		+/- 115°
	C-axis drive mode		Torque
	Swivelling axis A speed standard (dynamic)		25 (55) rpm
	Rotary axis C speed standard (dynamic)		40 (80) rpm
	Max. table load		100 kg
	T grooves star-shaped		4 / 14 H7

Position measuring	Resolution	0.0001 mm	●
Positional tolerance	Tp in X-Y-Z axes according to VDI/DGQ 3441 (calculated at a constant ambient temperature of 20 °C +/-1 °C. Our products are subject to the German Export Law and require authorization since the attainable precision may be less than 6 µm.)	0.008 mm	●
Chip slide	Removable chip slide		●
Chip conveyor	Scraper belt or hinge conveyor ejection height		
	ejection height	1100 mm	○
	chip cart	450 l	○
External cooling lubricant supply	With chip slide and cooling lubricant tank		●
	Base container capacity chip slide	236 l	
	Base container capacity chip conveyor	325 l	
	Cooling lubricant unit without high-pressure pump with sieve basket		○
	Capacity of base container	100 l	
	Capacity of cooling lubricant tank	570 l	
	Cooling lubricant unit without high-pressure pump with paper band filter		○
	Capacity of base container	100 l	
	Capacity of cooling lubricant tank	570 l	

Internal cooling lubricant supply with paper band filter	Capacity of base container	100 l	100 l	○
	Capacity of cooling lubricant tank	570 l	750 l	
	Pressure (manually adjustable up to)	max. 40 bar / 27 l/min	max. 80 bar / 18 l/min	
	Mains connection (ICS)	-	400 V / 50 Hz	
	Power consumption (ICS)	-	17 kVA	

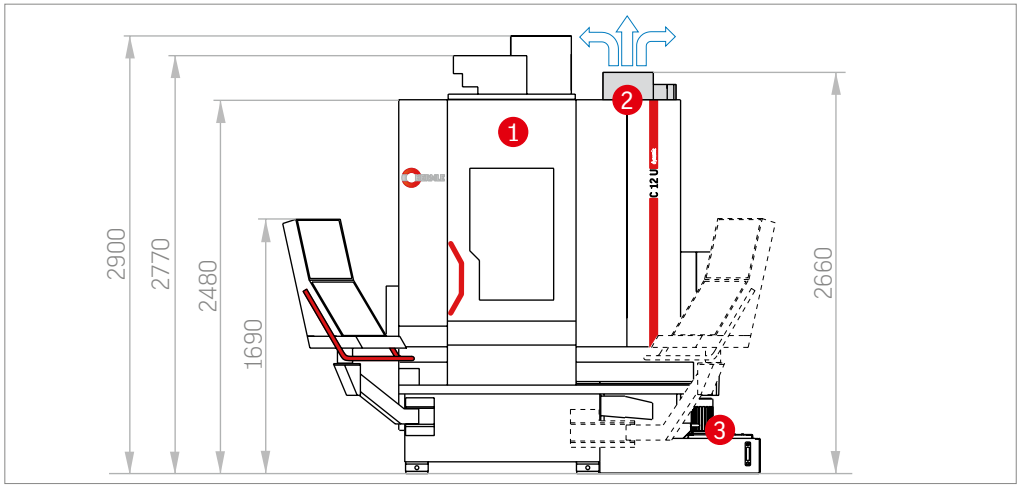
Hydraulics	Operating pressure	120 bar	●
Central lubrication	Minimum grease lubrication quantity		●
Connected loads (machine)	Mains connection	400 V / 50 Hz	
	Power consumption	46 kVA	
	Compressed air	6 bar	
Weight	(Standard version without optional extras, attachments, workpieces and cooling lubricant)	about 7.2 t	

● Included in standard delivery
○ Available upon request

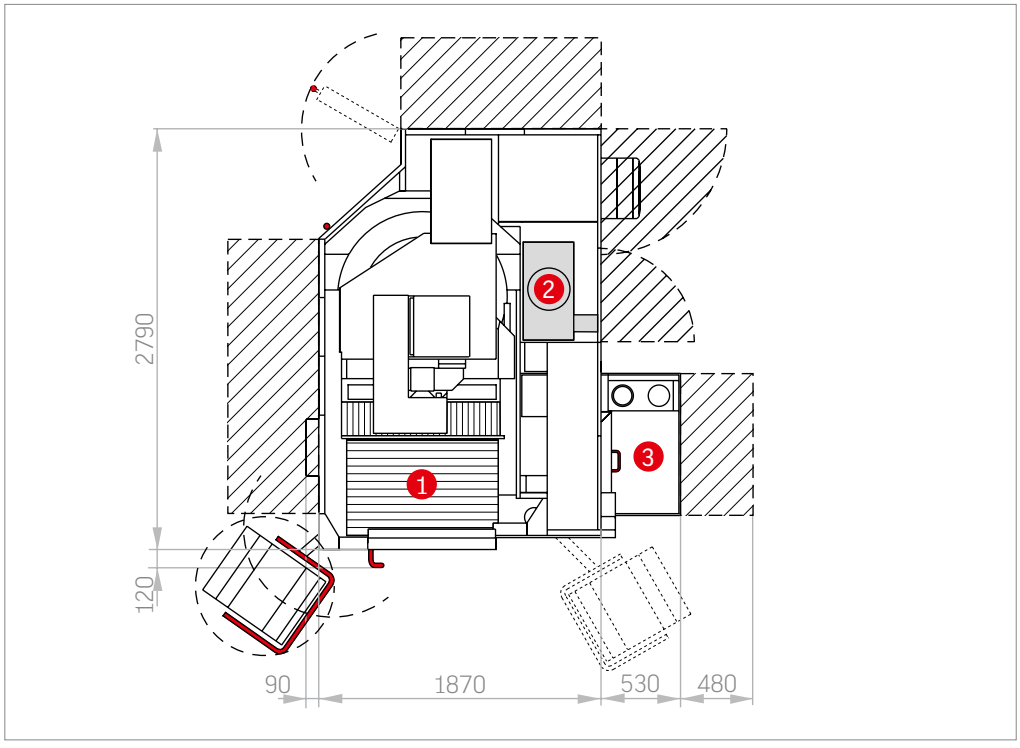
03.2 Options

The C 12 is prepared for anything: numerous optional extras make machining even more efficient and powerful in real applications and enable you to optimise your work with the machining centre still further.

C 12 standard machine dimensions



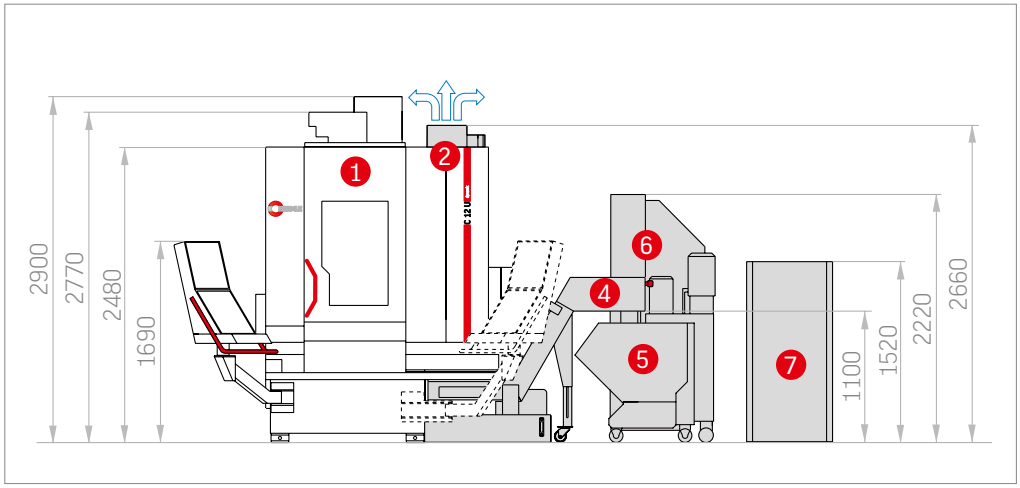
1 Machine
2 Emulsion mist extraction
3 Chip slide

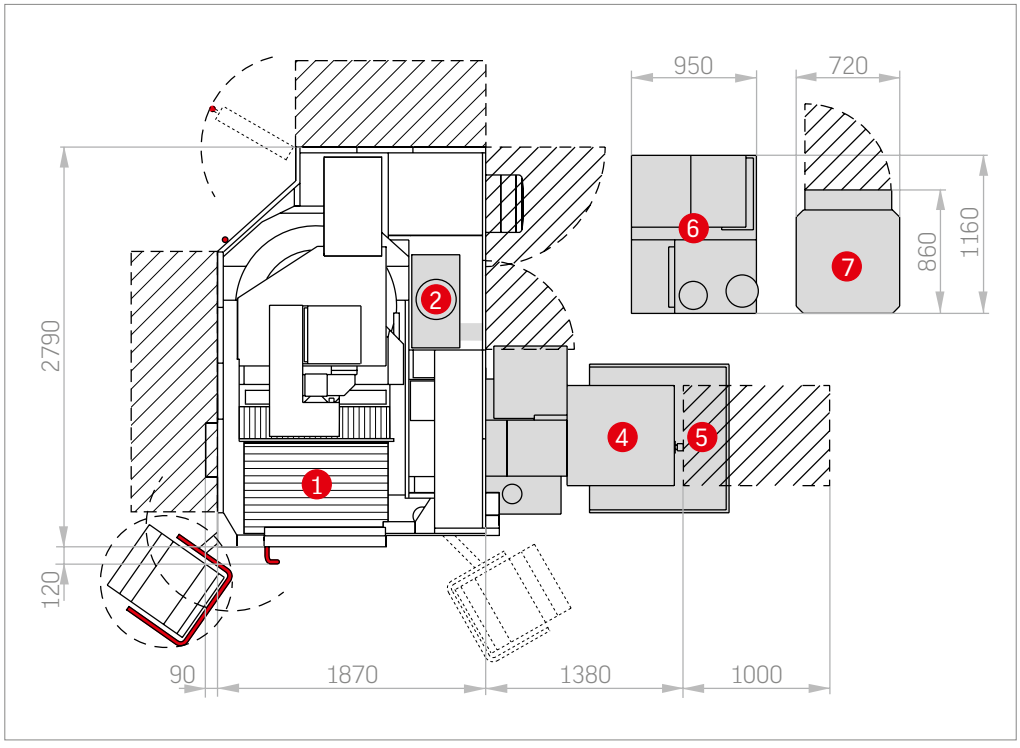


Options

- Automatic cabin top
- Automatic cabin doors
- BDE-signal
- Control panel with 19" swivel screen
- Additional control panel to tool magazine
- Bed flushing
- Blow air through spindle centre
- 6-fold rotary feed-through
- Electr. heat compensation
- Emulsion mist extraction
- Fluid box doors
- Precision packages
- Graphite machining packages
- Touch probe with preparation
- Internal cooling lubricant supply
- Preparation button
- Pallet clamping system
- Pallet storage
- Pallet changer
- Rotating transparent window
- Recooling unit for ICS
- Rotatable setup station
- Chip conveyor
- Coolant nozzle
- Chip cart
- Sealing air for scales
- Status lamp
- Laminated safety glass panes
- Tool breakage monitoring / measuring
- Additional magazine ZM 35

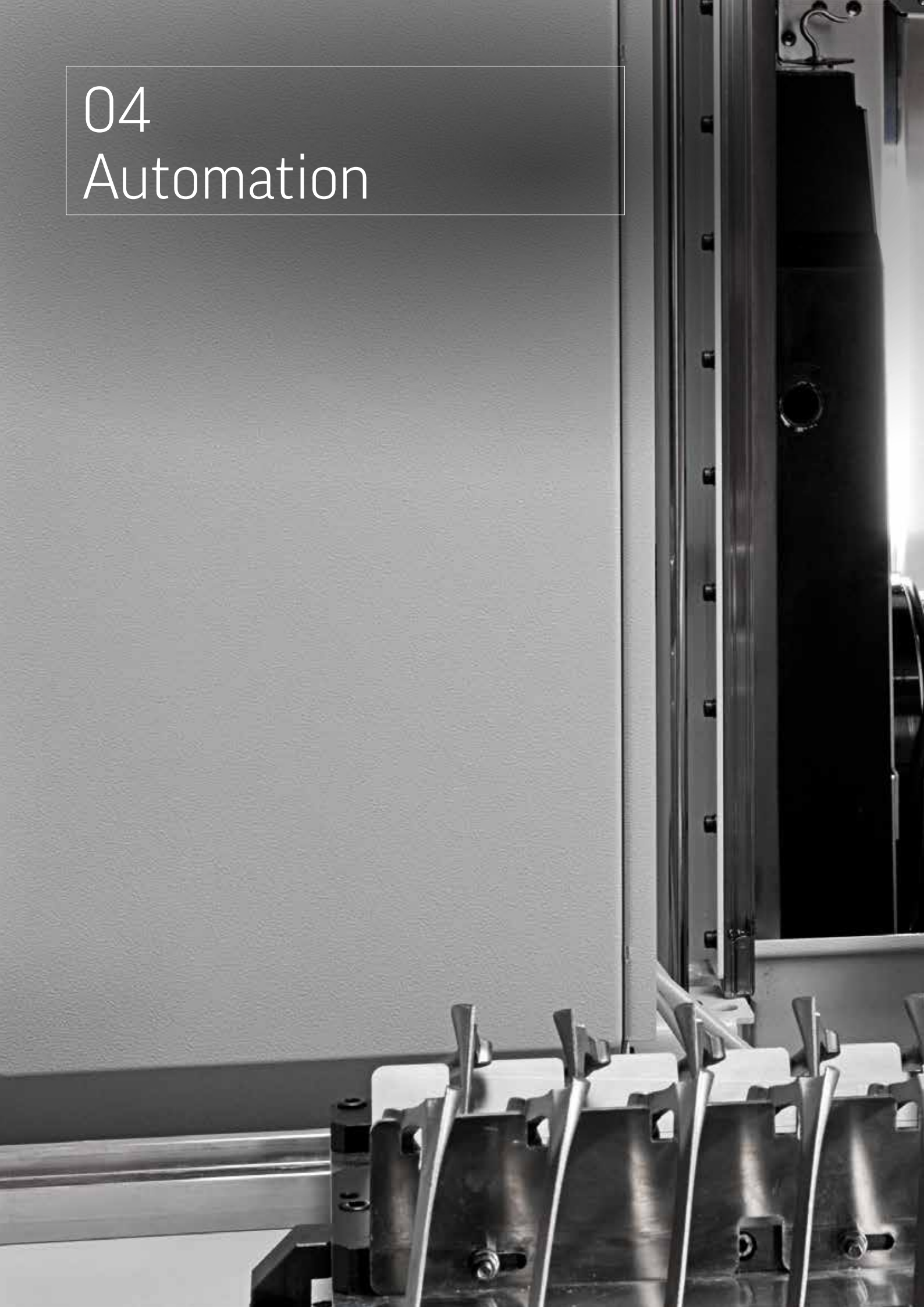
C 12 machine dimensions





1 Machine
2 Emulsion mist extraction
4 Chip conveyor
5 Chip cart
6 Internal cooling lubricant supply
7 Recooling unit for ICS

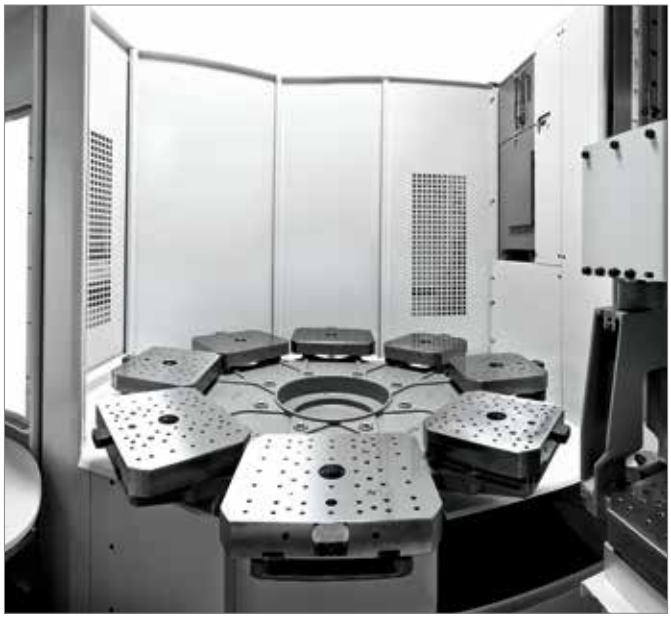
04
Automation



04.1
Automation . C 12

Everybody is talking about automation, but it's much more than just a trend. We ourselves have changed from being a machine manufacturer to a process provider because we believe that the decisive criterion for automated efficiency is integration of the entire environment. In keeping with this philosophy, we are continuing what began with economical pallet changing and intelligent handling systems with highly advanced robot solutions.

Double gripper for 2 x 100 kg



Pallet changer PW 100 with setup station and 8x pallet storage

Fix setup station
(rotatable setup station option)

PW 100 . Compact pallet changer:

Gripper as double gripper

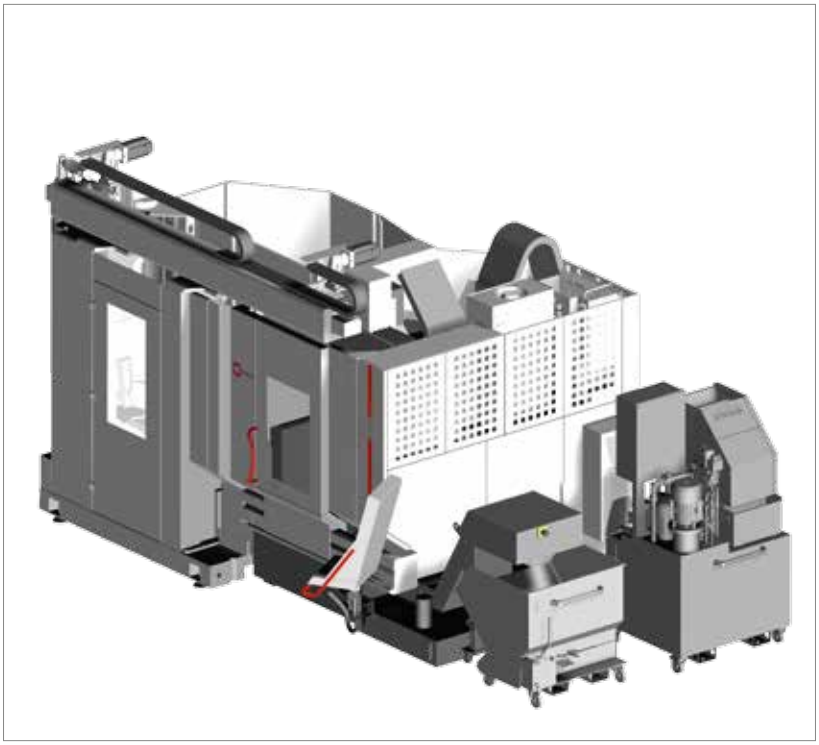
Pallet storage	3x pallet storage	8x pallet storage	15x pallet storage
Pallets	6 units	11 units	18 units
Pallet dimensions	320 x 320 mm	320 x 320 mm	320 x 320 mm
Max. workpiece diameter	Ø 320 mm	Ø 320 mm	Ø 320 mm
Max. workpiece height	360 mm	360 mm	305 mm
Max. transport weight (incl. pallet)	2 x 100 kg	2 x 100 kg	2 x 100 kg
Pallet change time	approx. 18 s	approx. 18 s	approx. 18 s

Repeating accuracy < 0.01 mm

Pallet changer setup station

THE ADVANTAGES

- *Completely free access to the machining centre*
- *Quick and easy installation*
- *No floor anchorage required*
- *Complete transport (no disassembly)*
- *Side-mounted setup station*
- *Setup station optionally rotatable*
- *Large pallet storage*
- *Additional pallet storage space*



Compact pallet changer PW 100 with free access to machining centre

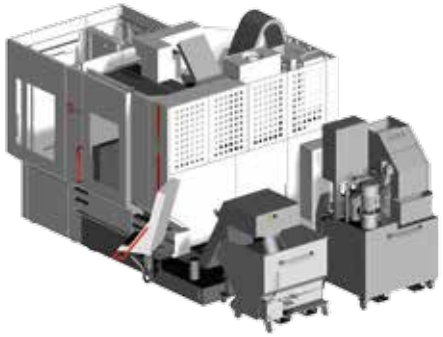
PW 100 with 15x pallet storage

04.1
Automation . C 12

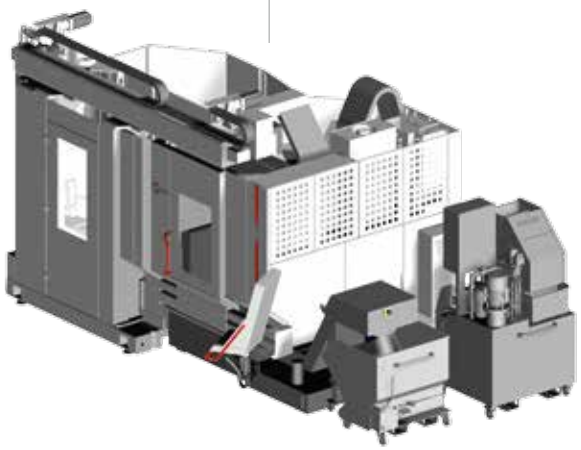
Our pallet changer is setting new standards for parallel setup in our highly dynamic machining centres. A further increase in productivity allows for more adaptable storage systems.
Machining centres can be set up via pallet storage for production-oriented machine runs with minimum operator interference/without operator interference or for customer-specific runs using a wide range of parts.
Furthermore, multiple machining centres can be linked to form a complete manufacturing system.

Hermle – milling at its best. We stand for
- Machining centres and automation solutions from a single source.
- High system expertise during planning, installation and maintenance.
- 3-, 4- and 5-axis machining centres for which we ourselves manufacture and install all components including table units, main spindles and entire sheet metal enclosures.
- Automation solutions from pallet changing systems and pallet storage, tool magazines and flexible manufacturing systems to custom turnkey solutions.

Robot system RS 05



Pallet changer PW 100



Pictures right shows C 22 ►

05
Precision

PRECISION IN EVERY DIMENSION: Hermle has a thorough understanding of the requirements for manufacturing high-precision machining centres for processing smaller and larger workpieces of up to 2.5 t in weight. For this reason, "The Original" only uses German machines for production and materials from European suppliers.
Furthermore, the entire machining production department is fully air conditioned and kept clean by a central chip disposal system.
Hermle machining centres have also been thoroughly tested by intensive endurance tests and in manufacture-oriented machining processes in our own machining manufacturing department. Our meticulous manufacturing processes allow Hermle to set new precision standards which undercut those demanded by the DIN/ISO 10791 standard in every way.
At Hermle, we distinguish between positioning precision (accuracy with which a certain position within the working area can be pinpointed on one axis) and geometric precision.
The latter is significant for the precision of the entire machine – it encompasses the following factors:
- Positioning of linear and rotary axes.
- Straightness and angular deviation of the linear axes.
- Rectangularity and parallel alignment of all axes to one other.
- Concentricity and axial run-out of the table.
- Concentricity of the working spindle.

The precision of Hermle machining centres originates during mechanical production and is not produced by subsequent electronic compensation. This further improves the precision of the individual axes (precision package 1 and 2).

PRECISION LEVELS

Hermle standard:

X-Y-Z: Pos. tolerance ≤ 8 µ
A: Pos. tolerance ≤ 16"
C: Pos. tolerance ≤ 9"

Hermle improved precision *:

X-Y-Z: Pos. tolerance ≤ 5 µ
A: Pos. tolerance ≤ 10"
C: Pos. tolerance ≤ 6"

*To achieve improved precision, components must be selected with care. Tolerances must also be taken into account whilst the machine is still being constructed. Hermle also recommends the HSK-A 63 tool holding fixture, electric heat compensation and an ICS recooling. Test and operating conditions are as follows: air conditioned room (+20 °C, +/- 2 °C) and temperature fluctuation of only 0.5 °C in one hour or max. 2 °C within 24 hours.

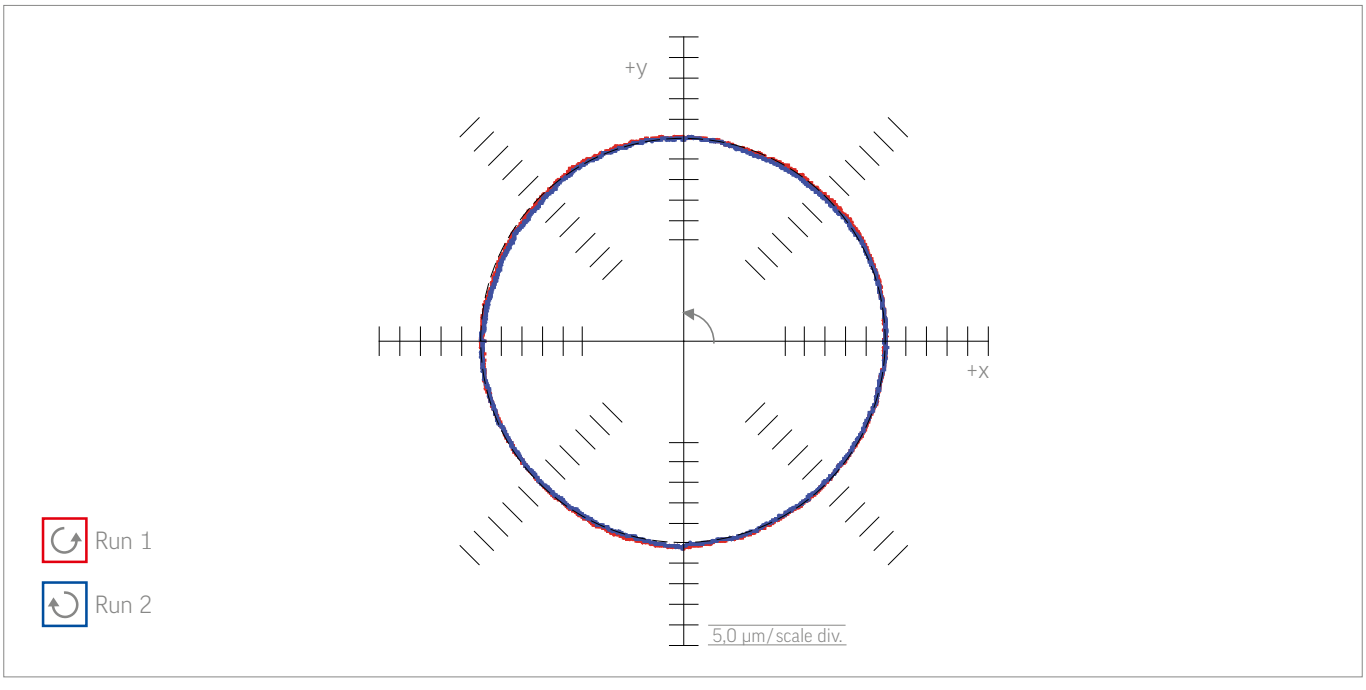
IMPROVED PRECISION PACKAGES

Precision package 1 (linear axes X, Y, and Z)

- Straightness optimisation
- Geometry adjustment and optimisation
- Straightness measurement
- X, Y, Z positioning accuracy: Pos. tolerance ≤5 µ
- Laser measurement according to VDI/DGQ 3441 or ISO 230-2

Precision package 2 (rotary axes A and C)

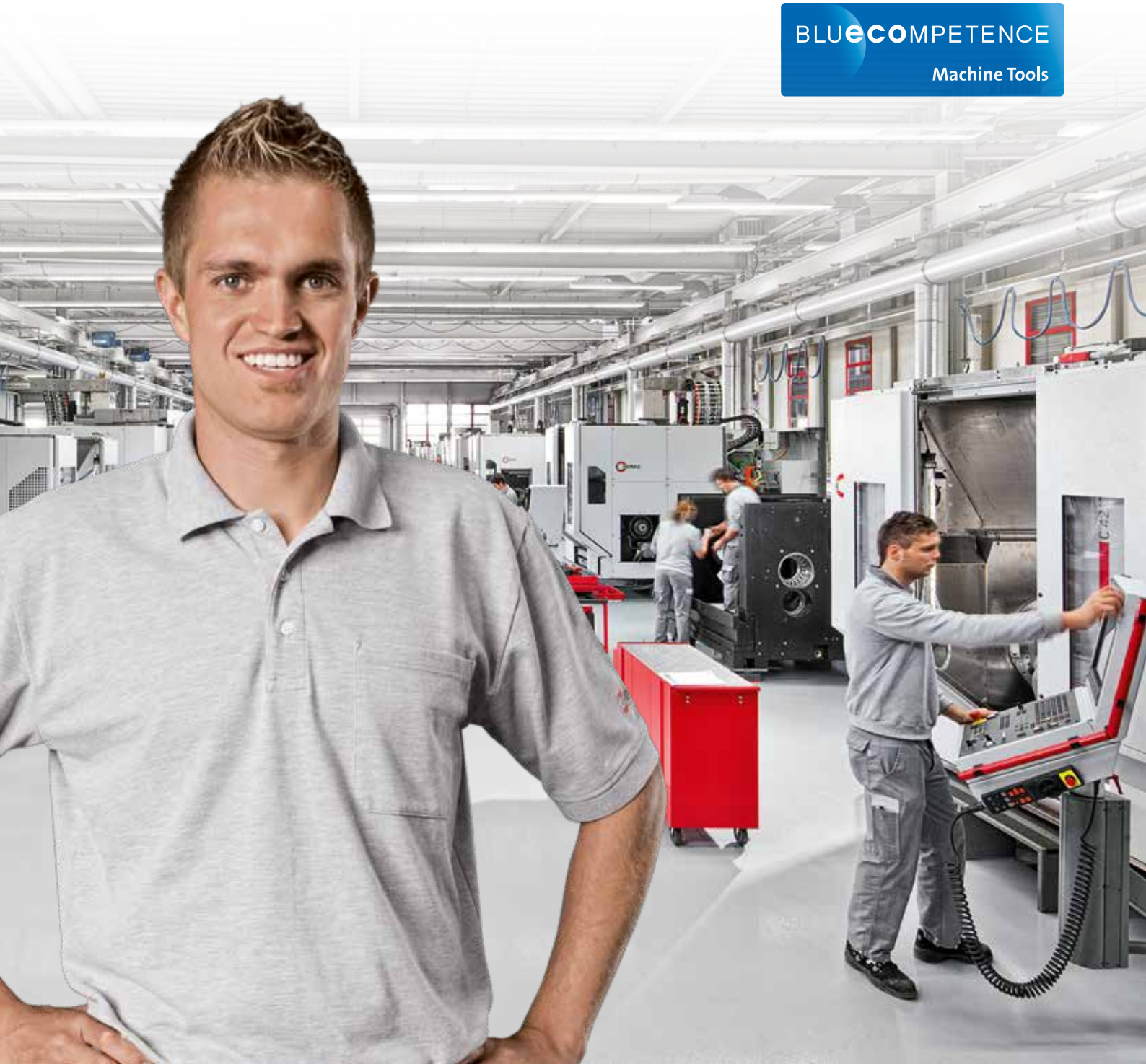
- Table geometry
- Axial run-out bearings
- C-axis bearing
- Adjustment of complete table
- Position of A and C axes relative to basic geometry
- Indexing precision A 10"
- Indexing precision C 6"
- Laser measurement according to VDI/DGQ 3441 or ISO 230-2



Ovality test of a standard machine

06
Energy efficiency

Both manufacturer and customer benefit from efficient production processes. Therefore, Hermle has focused on integrated resource sustainability and energy efficiency for many years. We can rightly claim pioneer status in the "bluecompetence" initiative founded by the VDW (German Machine Tool Builders Association).
From development to low-energy manufacturing (with a high level of in-house production) to the operation of CNC machining centres – Hermle has stood for a principle of sustainable environmental protection combined with economic considerations for many years. Energy recovery is just one of the advantages enjoyed by our customers.



EFFICIENT MANUFACTURING

We use energy efficient manufacturing methods not because it is the current trend or because it is required of us, but on principle. And we always have.

Low energy component manufacture
- *Mineral casting technology*
- *Lightweight construction*

Virtual machine optimisation / machine development

Reduction of transport energy consumption
- *High levels of in-house production*
- *Just one production plant*
- *Locally sourced components and materials*
- *No material tourism*

High-quality, high-efficiency components
- *Ball screws*
- *Guideways*
- *Antifriction bearing etc.*

EFFICIENT OPERATION

Our machining centres are energy efficient both during their manufacture and during operation.

Energy recovery has been standard at Hermle for over 20 years

High quality servo axes

Ideal drive design for the respective application

Demand-based cooling technology both for dimensioning and in application

De-energize system: Up to 80% less energy consumption in stand-by mode

Very long machine service life

07
Services

The perfection we insist on for our development and production of our machines is also mirrored by our service department. Our service team provides more than just spare parts and rapid response support within hours. At Hermle, we see ourselves as a comprehensive service provider which provides customers with numerous benefits.

Alongside standard services, these include:
- Our superior, cost-effective, practical and flexible training programmes carried out by sales representatives directly at the customers' premises.
- Our continual pursuit of optimisation and perfection. Our motto – those who stop improving today will not make the grade tomorrow.
- Intensive expert consultation on milling in general, programming and handling of our products.
- Our application technicians who are experts in machining processes and who are quick to assist and advise our customers.


HERMLE

Maschinenfabrik
Berthold Hermle AG
Industriestraße 8-12
D-78559 Gosheim

Phone +49 (0)7426 95-0
Fax +49 (0)7426 95-1309

info@hermle.de
www.hermle.de

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Milling at its best