

C 1200 V

The unique one



C 1200 V

One-of-a-kind
in the Y-axis

The C 1200 V -
at home in all fields

Tool and mould making
Large dies and plates
up to 1.2 m²

Medical engineering
Difficult to machine material

Aerospace
Precision in perfection

Mechanical engineering
High machining capacity

Motor sport
Highest precision at
high availability

Subcontract industry
Dynamic, precise and reliable





C 1200 V

Gantry design in a new dimension

Collision protection
with collision monitor

Y-traverse stroke of 900 mm
for large workpiece dimensions

Pick-up magazine
adapted for space-saving side mounting

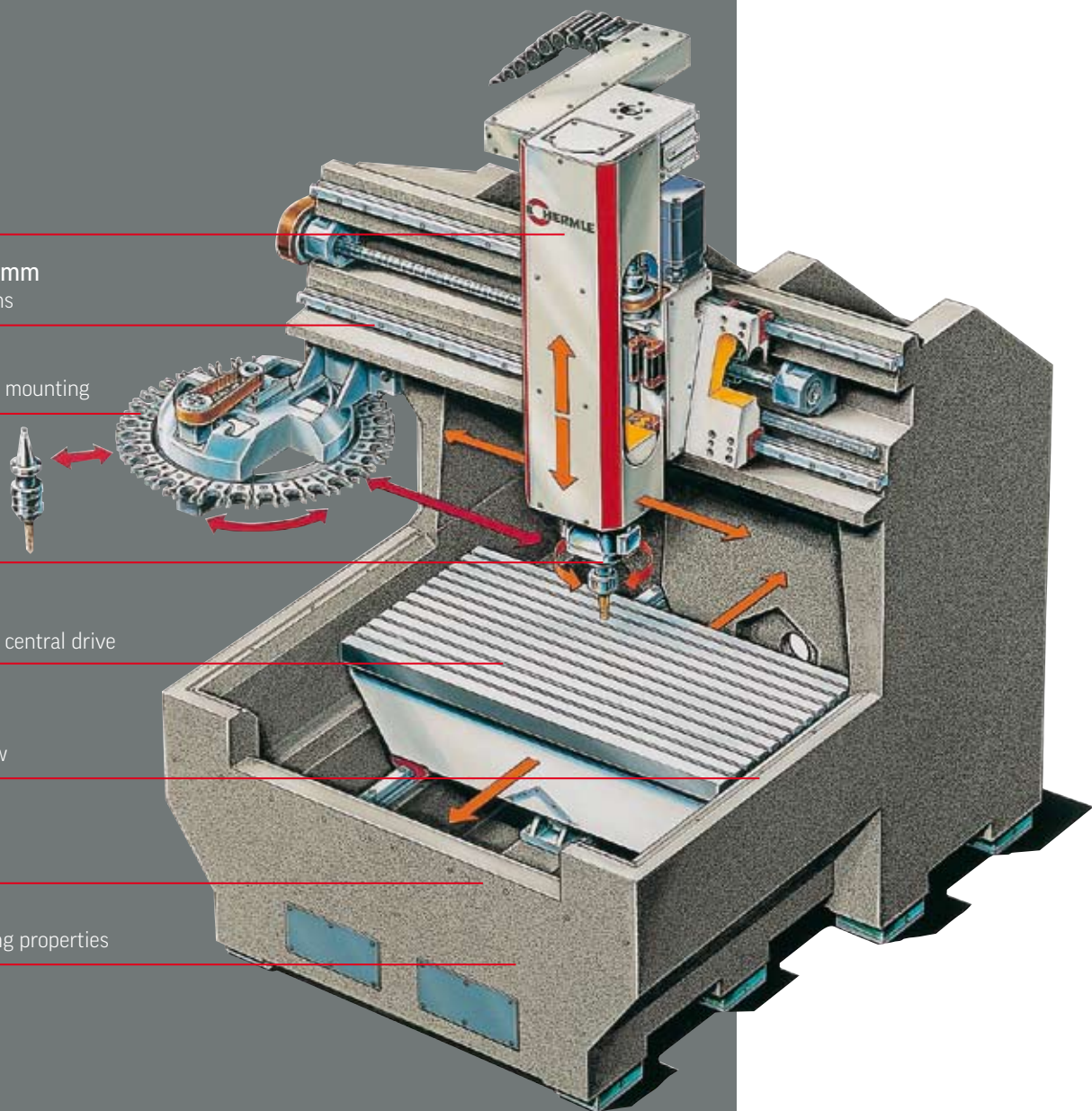
2 axes in the tool
one axis in the workpiece

Good guideway ratios
due to four point support and central drive

Accessibility
through lateral sliding window

Modified portal design
with closed rear panel

Mineral casting design
very good vibration dampening properties



Design principle

- Modified portal design with closed rear panel
- Two axes in the tool, thus very good mass distribution, ideal condition for rapid movement and feeds up to 30 m/min
- Mineral casting of the machine base
- Compact single-column design, thus little space requirement
- Complete transport
- No foundation required (8-point-support)
- High rigidity
- Good static and dynamic properties
- Maximum utilisation, positioning and long term accuracy
- Short positioning and start times on account of high acceleration of 4 m/s²

Mineral casting version

- Mineral casting has excellent cushioning properties, very low thermal conductivity and will not absorb moisture
- Extremely high form and contour accuracy in all planes
- Optimum surface finish in combination with very narrow tolerances
- Ecological manufacturing and disposal of mineral casting

Drives and guideways

- Y slide is guided by 4 carriages on 2 linear guideways
- Good guideway ratios due to four point support and central drive
- Excellent support of the portal when subjected to torsional load
- Recirculating linear roller guideways in all linear axes
- Digital AC servo motors with pretensioned ball screws
- Permanent position monitoring system
- Low-maintenance automatic central grease lubrication system

Tool change

- Automatic tool change with the pick-up method
- Ring magazine for 30 tools as SK 40 or HSK A 63
- The ring magazine is located on the left, in the extension of the X-axis
- Protected outside of the working area, thus no contamination of the tools

Electronics

- Digital drives
- Incremental measuring systems
- Latest control technologies
- Frequency-based recovery of the braking energy into the mains
- Switch cabinet with air-conditioning unit

Machine

ADVANTAGES OF A UNIQUE MACHINE CONCEPT

LARGEST WORKING AREA RELATIVE TO THE INSTALLATION SURFACE

UNIQUE AXIS CONCEPT

LONG TRAVERSE STROKES IN THE X- AND Y-AXES

SHORT CHIP-TO-CHIP TIMES ON ACCOUNT OF INTEGRATED TOOL MAGAZINE

SINGLE LIFT TRANSPORT AND BOLT FREE INSTALLATION





Working area

Traverse	
X-Y-Z	1200-900-500 mm
Rapid linear traverse	
X-Y-Z	30 m/min
Linear acceleration	
X-Y-Z	4 m/s ²

Main spindle drive

Speed:	10,000, 16,000, or 24,000 rpm
Torque	up to 200 Nm
Main power	up to 32 kW

Tool changer (pick-up)

Magazine positions	30
Chip-to-chip time*	approx. 6,5 s

Control

Heidenhain	iTNC530
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*[chip-to-chip times were determined in accordance with VDI 2852, sheet 1 in a 3-axis design]

Table variants

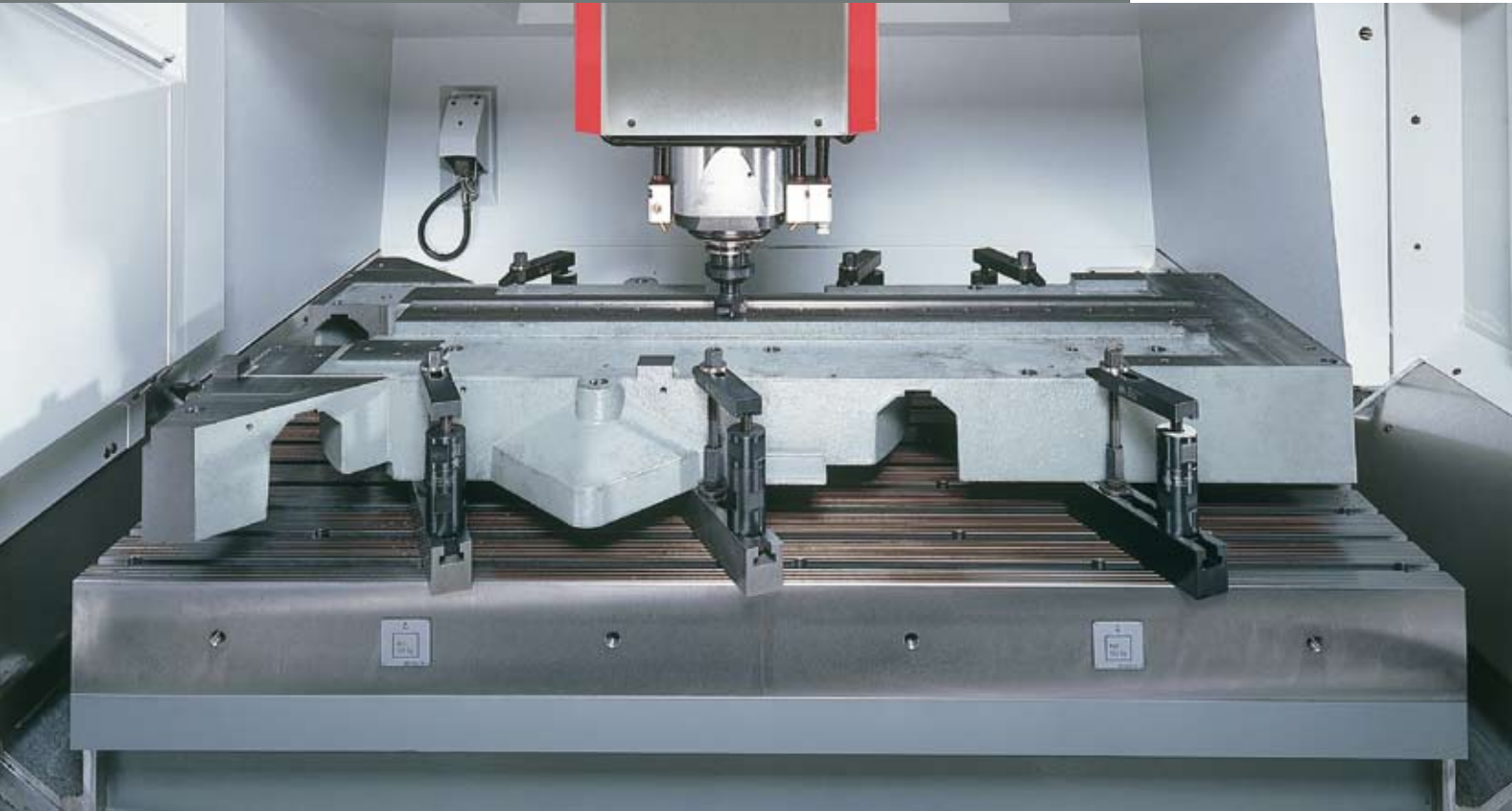
VERY LARGE CLAMPING SURFACE IN RELATION TO WORKING AREA

Y-TRAVERSE STROKE OF 900 MM FOR PLATES AND LARGE DIES

HIGH TABLE LOAD (UP TO 1,800 KG AT HIGHEST PRECISION)

HIGH LOADING HEIGHT OF 900 MM

ATTACHABLE TABLE PLATES



Rigid clamping table

Clamping surface: 1,400 x 900 mm

Maximum table load: 1,800 kg

T-grooves: parallel 14 / 14 H7

Table plates, attachable 700 x 900 mm

Table plates set, attachable (2 parts)

- side by side 120 mm high* 1,400 x 900 mm

- on top of each other 240 mm high 700 x 900 mm

* (see illustration above)



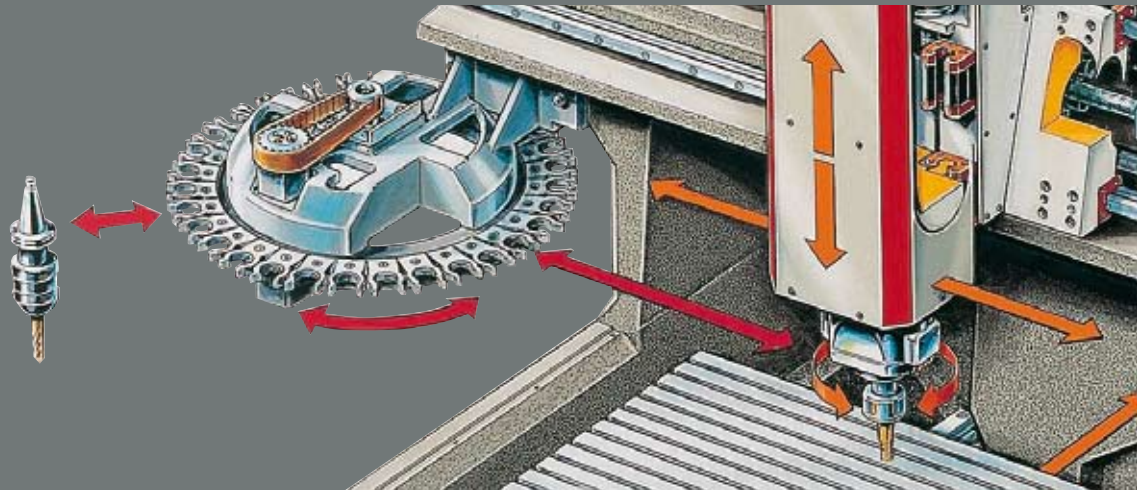
Magazine

PICK-UP MAGAZINE

INTEGRATED INTO THE MACHINE ENCLOSURE FROM THE SIDE

VERY GOOD ACCESSIBILITY

OPTIONALLY EXPANDABLE



Tool changer (pick-up)

Magazine positions:	30
Chip-to-chip time*:	ca. 6,5 s
Maximum tool length:	300 mm
Maximum tool diameter:	Ø 80 mm
Maximum tool diameter with corresponding adjacent pocket allocation:	Ø 125 mm
Maximum magazine load at 30 units:	120 kg

*(chip-to-chip times were determined in accordance with VDI 2852, sheet 1, in a 3-axis design)

Additional magazine ZM 57

Magazine positions: (Thus providing a total of 87 magazine pockets)	57 pockets
Maximum tool length:	300 mm
Maximum tool diameter:	Ø 80 mm
Maximum tool diameter with corresponding adjacent pocket allocation:	Ø 125 mm
Maximum tool weight:	8 kg

Additional control panel at the loading pocket



Spindles

HIGH-TECH SPINDLES FOR DEMANDING MILLING PROCESSES

COLLISION PROTECTION WITH COLLISION MONITORING

SLIM-END SPINDLE FOR MACHINING DEEPER CAVITIES

FEW IRREGULAR EDGES (PREVENTION OF COLLISION)

TWO-PART SPINDLE (FASTER REPLACEMENT)

Each spindle has six displacement sleeves to compensate the collision energy.

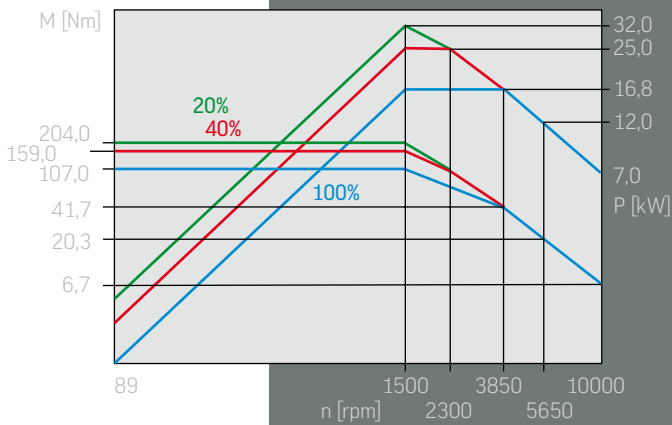


Prior to a collision



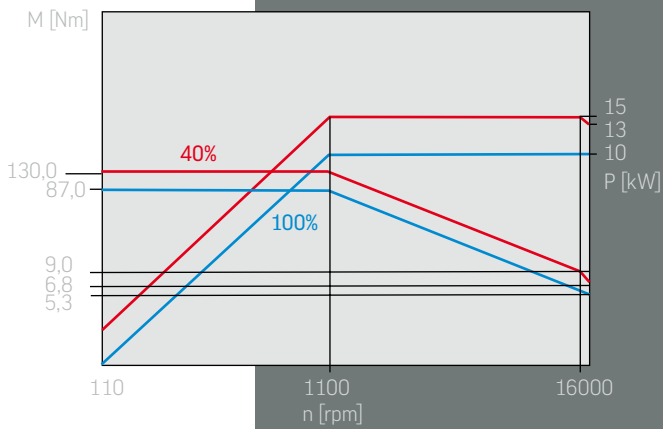
After a collision





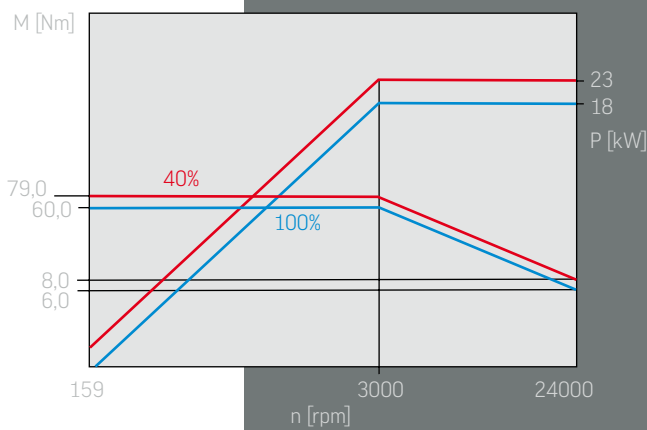
Spindle

Spindle speed:	10,000 rpm.
Torque:	200 Nm
Main power:	32 kW
Interface:	SK 40 / HSK A 63
Collision protection:	Upsetting sleeves



Spindle

Spindle speed:	16,000 rpm.
Torque:	130 Nm
Main power:	15 kW
Interface:	SK 40 / HSK A 63
Collision protection:	Upsetting sleeves



Spindle

Spindle speed:	24,000 rpm.
Torque:	79 Nm
Main power:	23 kW
Interface:	HSK A 63
Collision protection:	-

Options

OPTIONS FOR

INCREASING THE SAFETY FEATURES

THE INDIVIDUAL APPLICATION POSSIBILITIES

THE PROCESS SAFETY

THE ECONOMIC EFFICIENCY

Options in detail

- Internal coolant supply
- Chip cart
- Blowing attachment
- Oil mist extractors
- Accuracy packages
- Coolant nozzle
- Tool breakage monitoring system
- Tool measurement



Control

HEIDENHAIN iTNC 530

3D SOFTWARE

15" TFT-TECHNOLOGY

USER-DEFINED SOFTKEYS

smarTNC

CONTROL FOR DEMANDING MILLING PROCESSES

whether for tool and mould making, in production or in high-speed machining, it stand out for its many advantages.

SAFE CONTROL

Control with integrated safety technology keeping with category 3 described in European standard EN 954-1.

E-MESSENGER

Increases the availability of the machines and minimises production failures.

TELESERVICE

Teleservice ensures even faster support in case of programming and operating problems.



For detailed information, please refer to the individual leaflets.

Technical data

Working area	Traverse	X axis	1,200 mm	
	Traverse	Y axis	900 mm	
	Traverse	Z axis	500 mm	
	Linear rapid traverse	X-Y-Z	30 m/min	
	Linear acceleration	X-Y-Z	4 m/s ²	
	Linear feed force	X-Y-Z	10,000 N	
Main spindle drive	Speed	10,000 rpm.	SK 40 / HSK A 63	■
	Main power / torque	20% c.d.f.	32 kW / 200 Nm	
	Speed	16,000 rpm.	SK 40 / HSK A 63	●
	Main power / torque	40% c.d.f.	15 kW / 130 Nm	
	Speed	24,000 rpm.	HSK A 63	●
	Main power / torque	40% c.d.f.	23 kW / 79 Nm	
Control unit	Heidenhain		iTNC 530	■
Tool changer (pick-up)	Magazine pockets		30	■
	chip-to-chip time*		approx. 6,5 s	
	*(chip-to-chip times were determined in accordance with VDI 2852, sheet 1 in a 3-axis design)			
	Maximum tool length		300 mm	
	Maximum tool diameter		Ø 80 mm	
	Maximum tool diameter with corresponding adjacent pocket allocation		Ø 125 mm	
	Maximum magazine load at 30 units		120 kg	
Extension of tool storage capacity	Additional magazine		57 pockets	●
	Maximum tool diameter in additional magazine		Ø 80 mm	
	Maximum tool diameter with corresponding adjacent pocket allocation in additional magazine		Ø 125 mm	
	Maximum tool weight		8 kg	
Connection-values (machine)	Mains connection		400 V / 50 Hz	
	Power consumption		43 kVA	
	Compressed air		6 bar	
Weight	(Standard version)		ca. 12.7 t	
Transport dimensions C 1200 (basic machine)	Width		3,000 mm	
	Depth		4,000 mm	
	Height		2,800 mm	

Hermle AG reserves the right to carry out modifications without prior notification, which may lead to deviating technical data.

Table variants	Rigid clamping table		■
	Clamping surface	1,400 x 900 mm	
	Loading height	900 mm	
	Maximum table load	1,800 kg	
	T-grooves parallel	14 / 14 H7	
	Table plate, attachable 120 mm high	700 x 900 mm	●
	Table plates, set, attachable (2 parts) - side by side 120 mm high - on top of each other 240 mm high	1,400 x 900 mm 700 x 900 mm	●
Position measuring system direct	Resolution	0.0001 mm	■
Position tolerance	Tp in X-Y-Z-axis keeping German standard VDI/DGQ 3441 (determined at 20° Celsius +/- 1° Celsius constant ambient temperature. Our products are subject to German export laws and exports have to be approved as the achievable accuracy may be smaller / equal than 6 µm.)	0.010 mm	■
Volume of coolant	Amount of coolant	300 l	■
Through the spindle coolant supply	Amount of coolant	600 l	●
	Pressure (infinitely variable manual)	max. 40 bar / 40 l/min	
Chip conveyor	Scraper belt		■
	Ejection height of swarf conveyor	1,000 mm	
	Chip cart	450 l	●
Hydraulic system	Operating pressure	120 bar	■
Central lubrication system	Minimum quantity lubrication		■

Options

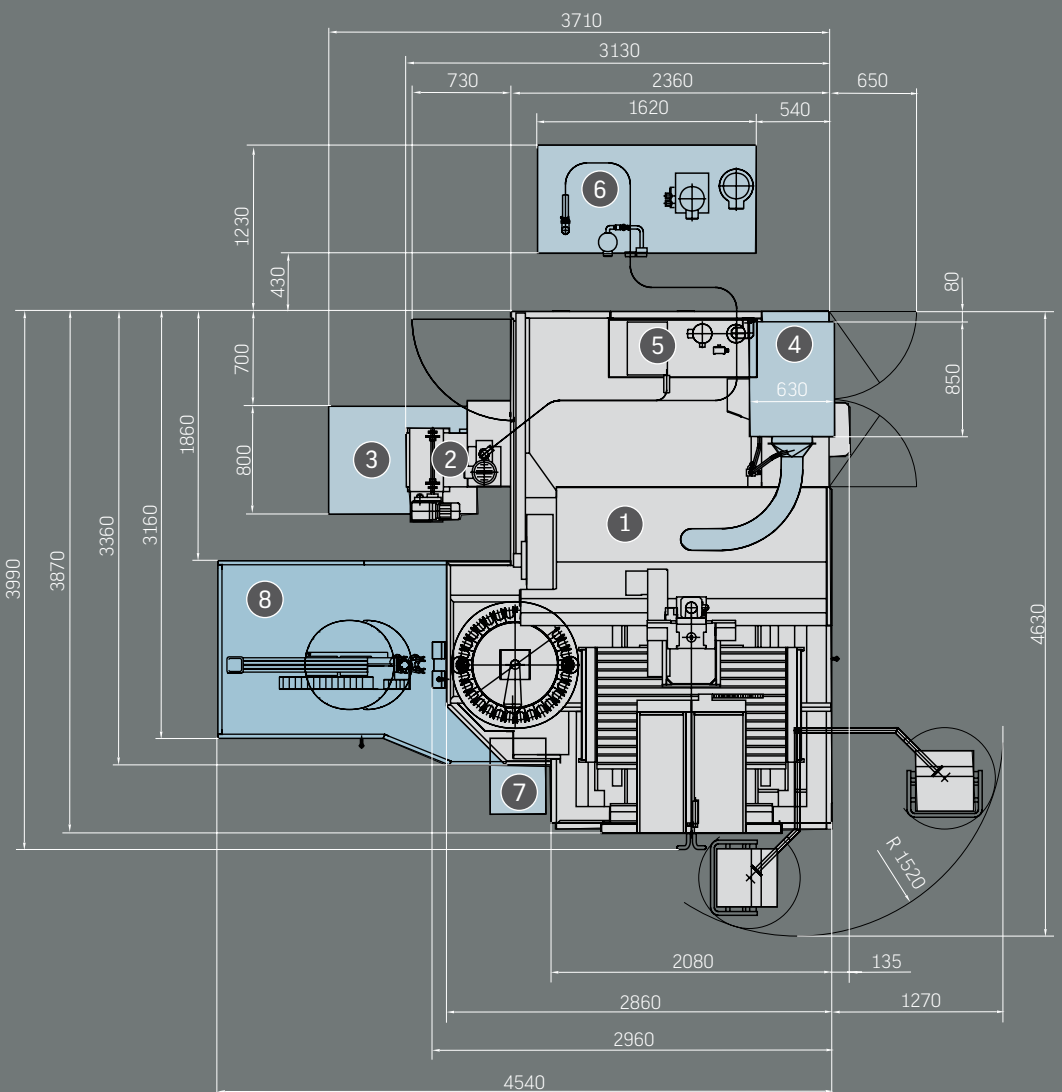
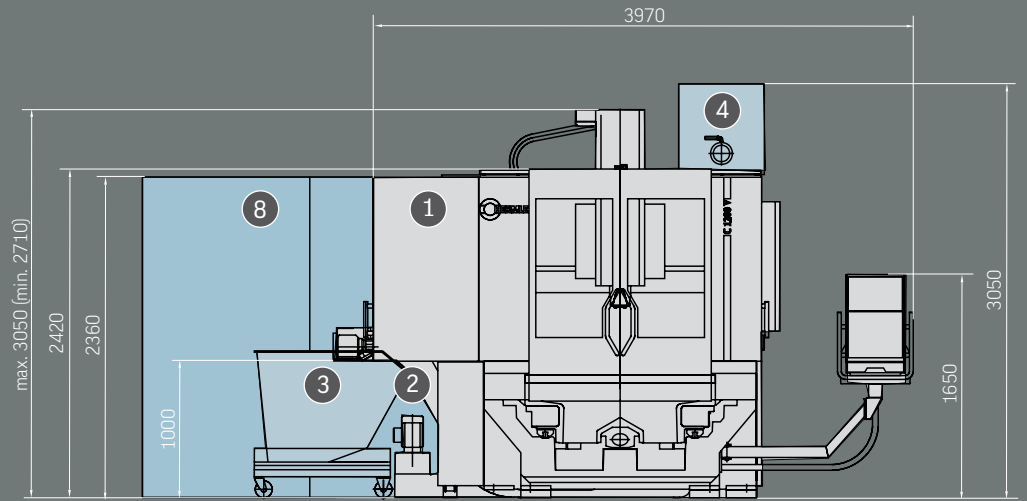
Closed cabin top	■
Internal table flushing	■
Chip conveyor	■
Chip cart	●
Blowing attachment	●
Rotating clear-view window	●
Electrical heat compensation X/Z	●
Electrical hand-held control module	●
Touch probe including preparation	●
Preparation for touch probe	●
Tool breakage monitoring / measuring system	●
Coolant nozzle	●
Oil mist extractor	●
Air purge for linear scales	●

■ standard equipment

● to order



Dimensions



C 1200 V

- | | |
|---|--|
| 1 | Standard machine |
| 2 | Chip conveyor |
| 3 | Chip cart |
| 4 | Oil mist extractor |
| 5 | Coolant tank (standard)
not available in case of
internal coolant supply |
| 6 | internal coolant supply |
| 7 | Coolant system at
24,000 rpm.
(600 x 420 mm) |
| 8 | Magazine extension ZM 57 |

Hermle

all over the world

Hermle + Partner Vertriebs GmbH

Industriestraße 8-12
D-78559 Gosheim
Phone +49 (0)7426 95-0
Fax +49 (0)7426 95-6109
vertrieb.hpv@hermle.de
www.hermle-partner-vertrieb.de

Hermle-Leibinger Systemtechnik GmbH

Daimlerstraße 14
D-78532 Tuttlingen
Phone +49 (0)7461 96628-0
Fax +49 (0)7461 96628-398
info.hls@hermle.de

Innovaris GmbH & Co. KG

Daimlerstraße 6
D-85521 Ottobrunn
Phone +49 (0)89 6735950-950
Fax +49 (0)89 6735950-952
info@innovaris.de
www.innovaris.de

Hermle (Schweiz) AG

Tobelackerstrasse 6
CH-8212 Neuhausen am Rheinfall
Phone +41 (0)52 67400-40
Fax +41 (0)52 67400-41
info@hermle-schweiz.ch
www.hermle-schweiz.ch

Hermle Nederland B.V.

Molliërelaan 176
NL-5924 AN Venlo-Blerick
Phone +31 (0)77 3961761
Fax +31 (0)77 4641070
info@hermle-nederland.nl
www.hermle-nederland.nl

Verkaufsbüro Belgium

Martin Coun
Meldertsestraat 55 - BE-3545 Halen
Phone +32 (0)13 5563-83
Fax +32 (0)13 5563-84
hermle@scarlet.be

Hermle Machine Co. LLC

5100 West Franklin Drive
Franklin, WI 53132, USA
Phone +1 414 421-9770
Fax +1 414 421-9771
info@hermlemachine.com
www.hermlemachine.com

Hermle Italia S.r.l.

Via Papa Giovanni XXIII 9-b
IT-20090 Rodano (MI)
Phone +39 02 95327-241
Fax +39 02 95327-243
info@hermle-italia.it
www.hermle-italia.it

Hermle Österreich

Rudolf Fluch
Sportplatzstraße 31/2 - AT-8712 Proleb
Phone +43 (0)3842 83377
Fax +43 (0)3842 82410
rudolf.fluch@hermle.co.at

Florian König

Rofansiedlung 449 D - AT-6210 Wiesing
Phone +43 (0)5244 62373
Fax +43 (0)5244 62378
florian.koenig@hermle.co.at

Hermle Česká Republika

Miloš Branda
Chudenická 1060/28
CZ-102 00 Praha 10
Phone +420 (0)272 652 340
Fax +420 (0)272 652 977
milos.branda@hermle.cz

Martin Skukálek

Podhájom 1365/164-73
SK-01841 Dubnica nad Váhom
Phone +421 (0)424 441 888
Fax +421 (0)424 441 886
martin.skukalek.hpv@stonline.sk

Hermle China

Shanghai Representative Office
Floor 21 E, Shanghai Industry Building No. 18
North Cao Xi Road
Shanghai 200030, P.R.China
Phone +86 21 2281 9188
Fax +86 21 6427 1887
hermlesha@126.com

Beijing Representative Office No. 1707

Tower A, Dongyu Building No. A1
Shuguang Xili Road
Chaoyang District
100028 Beijing, P.R.China
Phone +86 10 5822 0951/2/3
Fax +86 10 5822 1426
hermlebeijing@vip.163.com

Hermle WWE AG

Zuger Strasse 72
CH-6340 Baar/ZG
Phone +41 (0)41 768 51-51
Fax +41 (0)41 768 51-50
info@hermle-wwe.com

OOO Hermle Vostok

ul. Polkovaya 1
RU-127018 Moskau
Phone +7 495 221 83 68
Fax +7 495 221 83 93
info@hermle-vostok.ru

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Maschinenfabrik
Berthold Hermle AG
Industriestraße 8-12
D-78559 Gosheim
Phone +49 (0)7426 95-0
Fax +49 (0)7426 95-6109
info@hermle.de
www.hermle.de