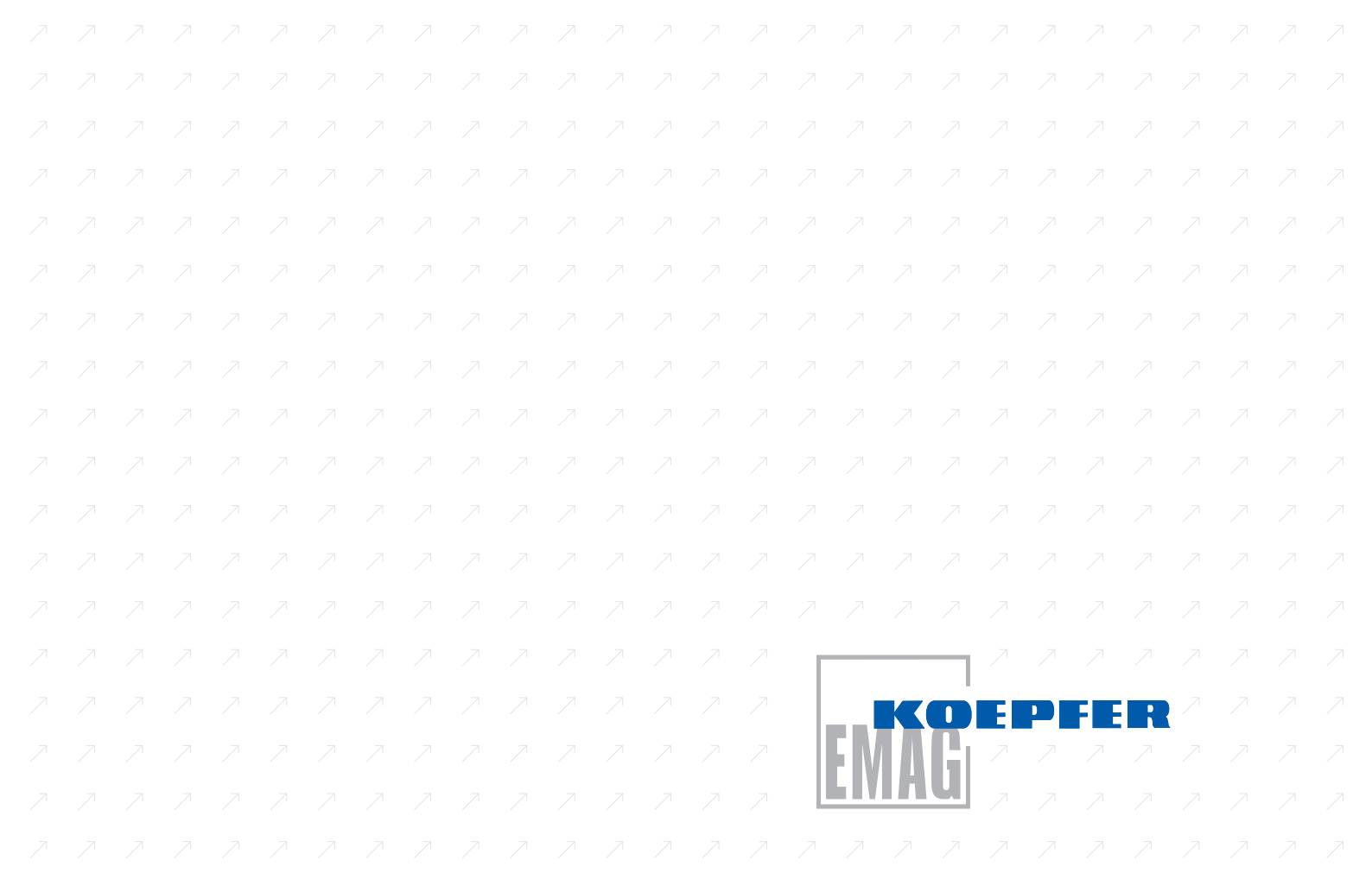


Combined turning and
gear hobbing machine
VSC 400 WF



KOEPFER

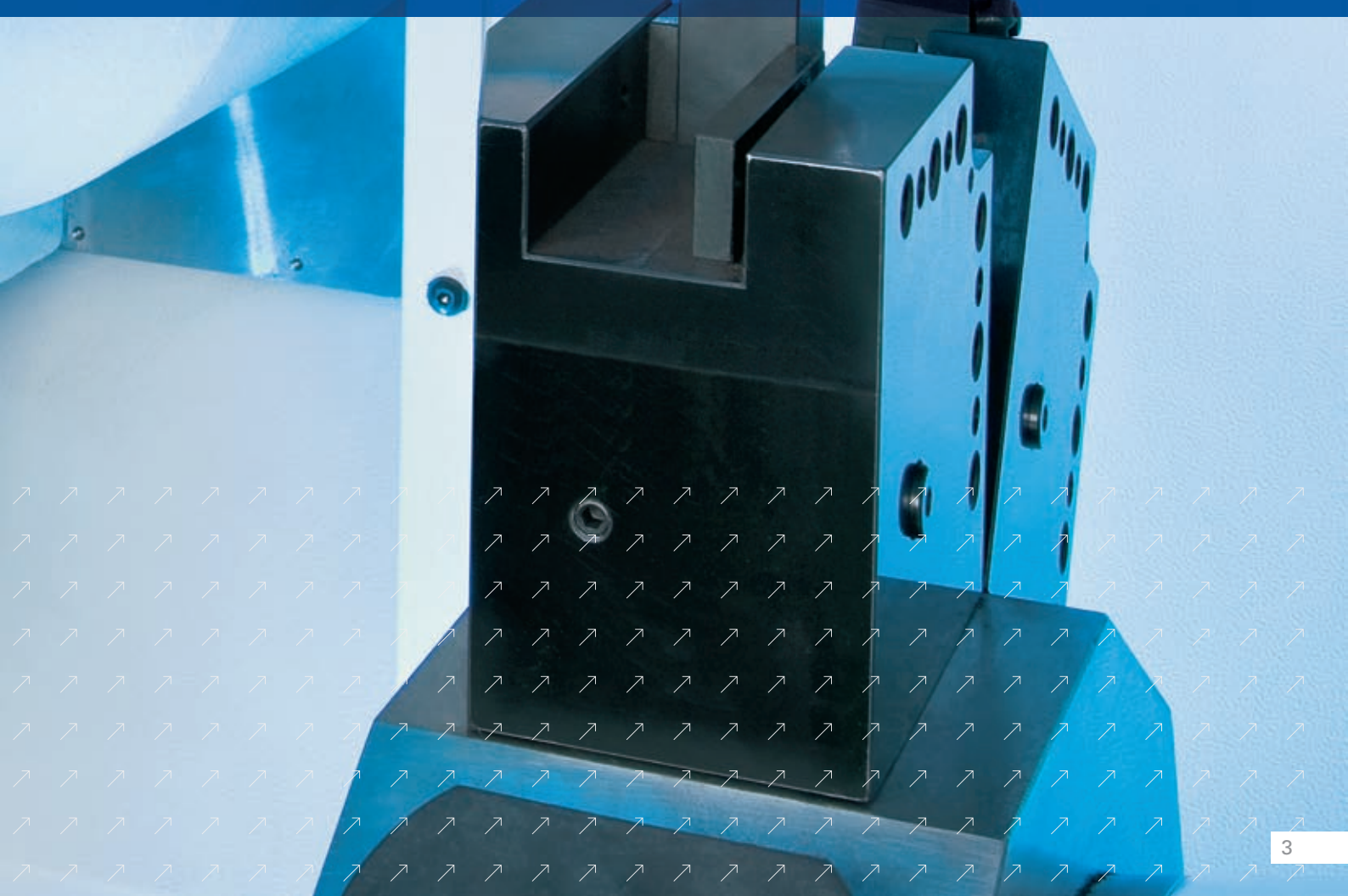
The VSC 400 WF is designed for the machining of gear-type workpieces. It offers the user greater flexibility, as it can be utilised as a fully-fledged single-spindle turning machine, a fully-fledged gear hobbing machine or a combination of both. Its main field of application is the machining of tooth profiles in medium and large batches. Highest precision is guaranteed, as the components are machined in a single set-up and reclamping errors completely eliminated.

V S C 4 0 0 W F





COMBINED TURNING AND GEAR HOBGING MACHINE



Quickly and with flexibility toward high-precision tooth profiles.

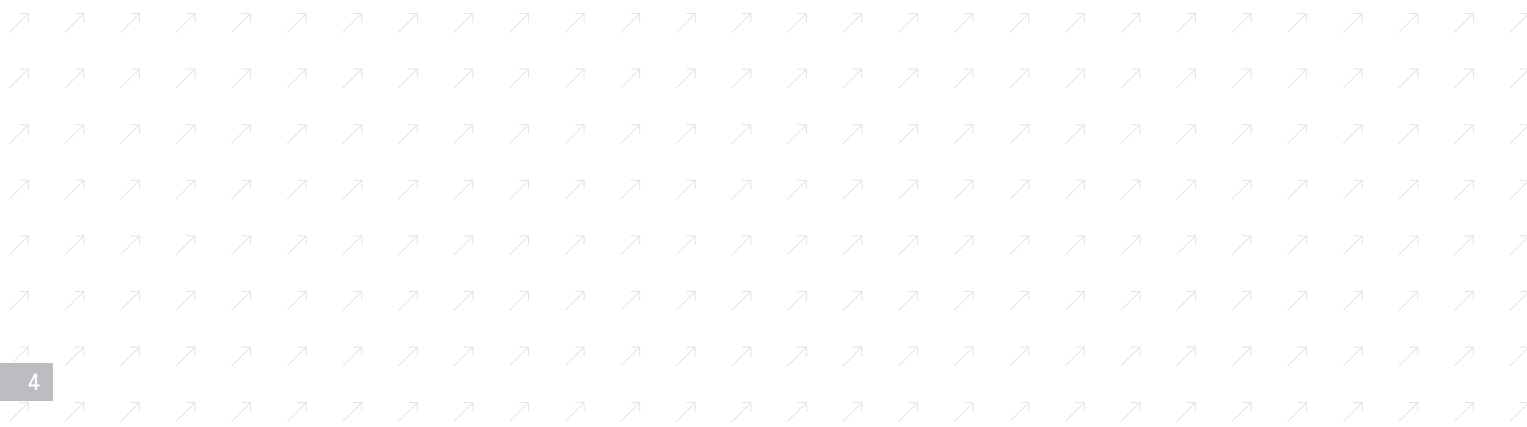
The high-speed pick-up gear hobbing machine VSC 400 WF is designed for gear-type workpieces up to module 4 and a diameter of 230 mm.

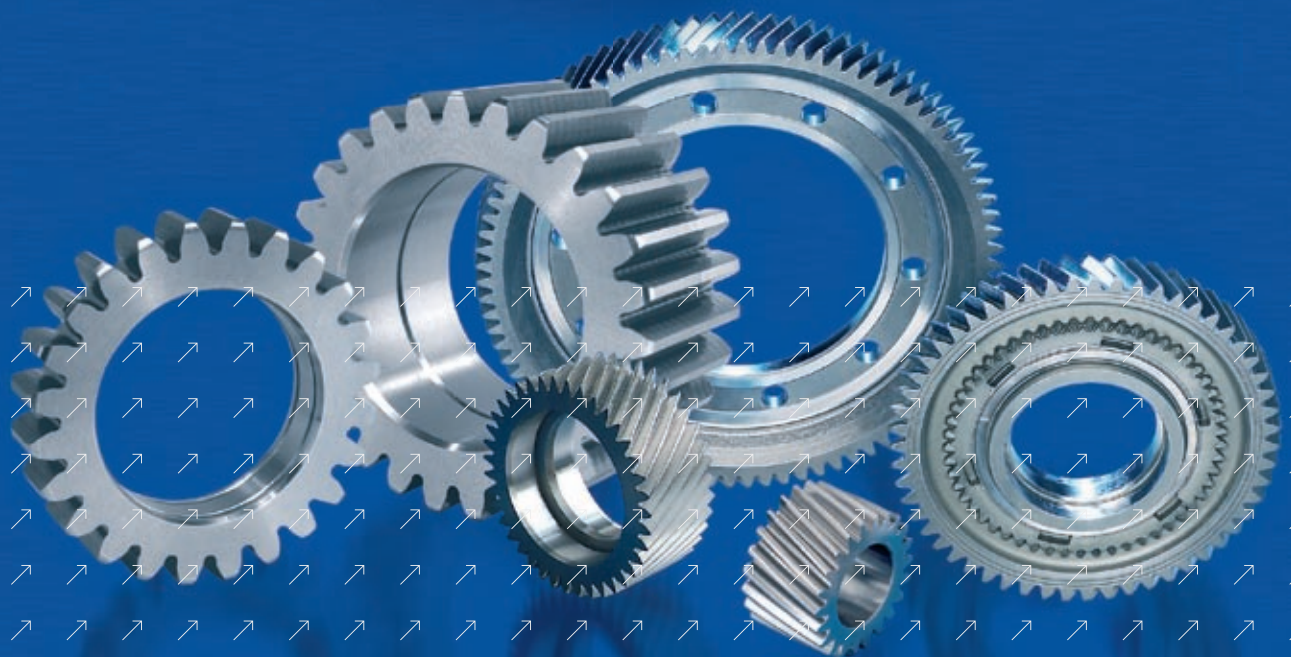
Every machine is a manufacturing cell that utilises the pick-up spindle to load itself: short travels and, consequently, short loading and unloading times.

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The advantages of the VSC 400 WF are:

- The second side can be turned and the tooth profile hobbled in a single set-up.
- The turret, a fully-fledged tooling system, allows for the implementation of auxiliary operations such as the deburring of tooth profiles with a turning tool or a roller deburring tool.
- A high degree of flexibility ensures that customer-specific solutions to the question of automation can often be incorporated.
- The VSC 400 WF offers a very interesting price-performance ratio, especially in comparison to traditional solutions for the combination of turning machine and gear hobbing machine.



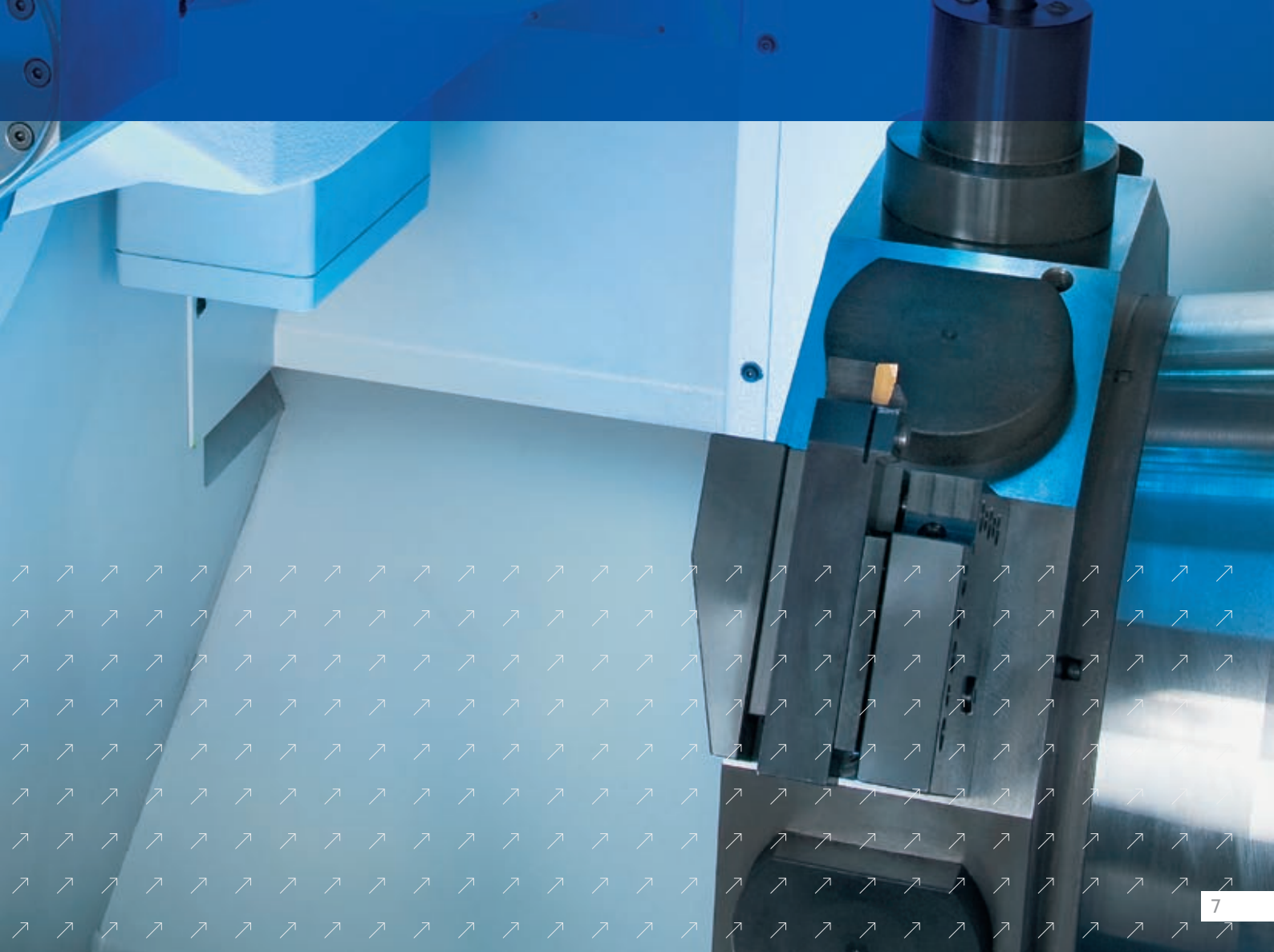
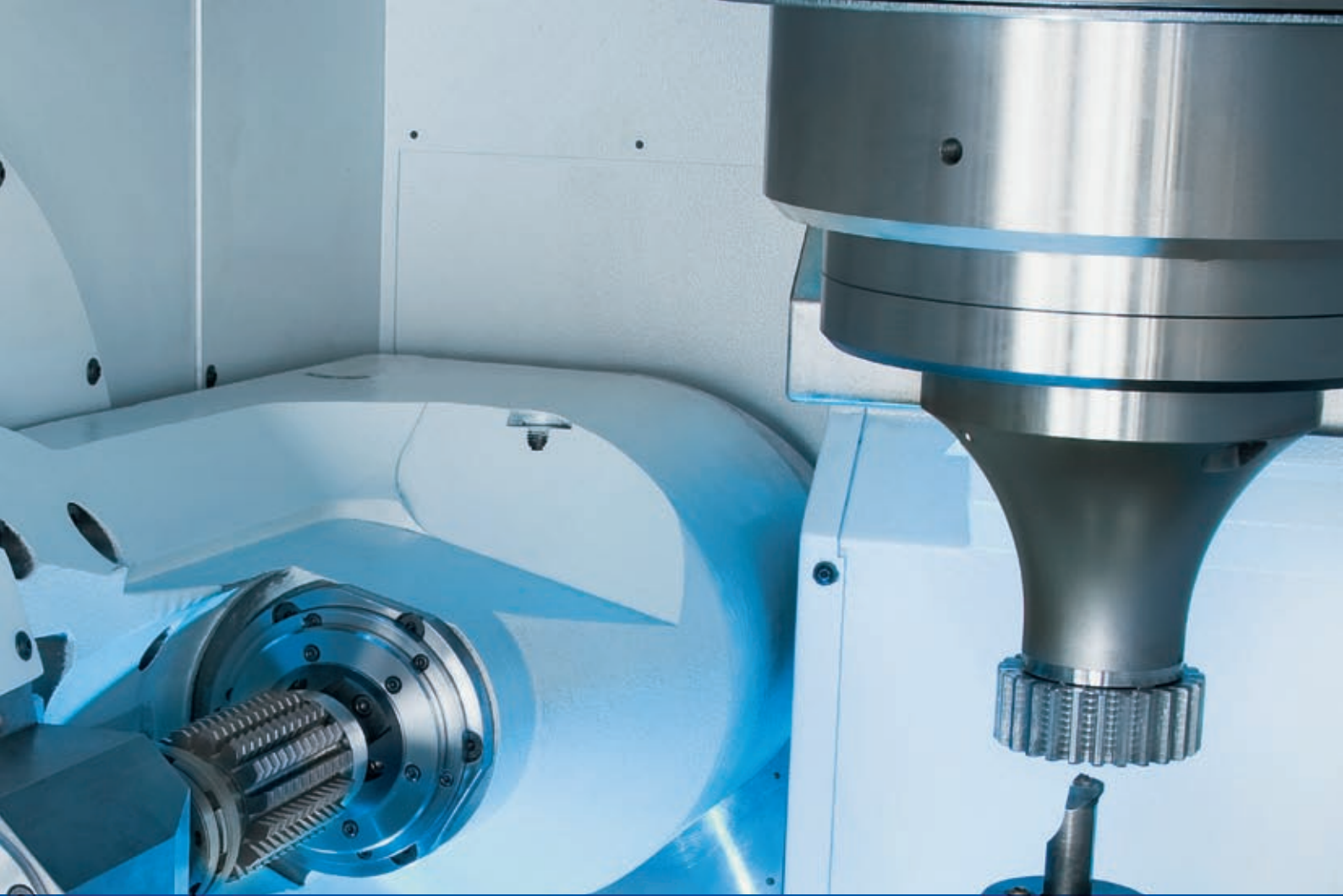


Complete-machining in a single set-up

The VSC 400 WF combines the technologies of turning and gear hobbing in a single machine. This allows for the second side of gear-type workpieces to be turned and the tooth profile hobbled in a single set-up. In other words, in the VSC 400 WF the user has two fully-fledged machines, which he can use as and how changes in the component range demand. If a third production phase calls for additional operations –

such as milling or drilling in alignment with the tooth profile or perhaps deburring – they can be carried out using auxiliary tools in the turret. Apart from saving time, a single set-up also means reclamping errors are avoided.

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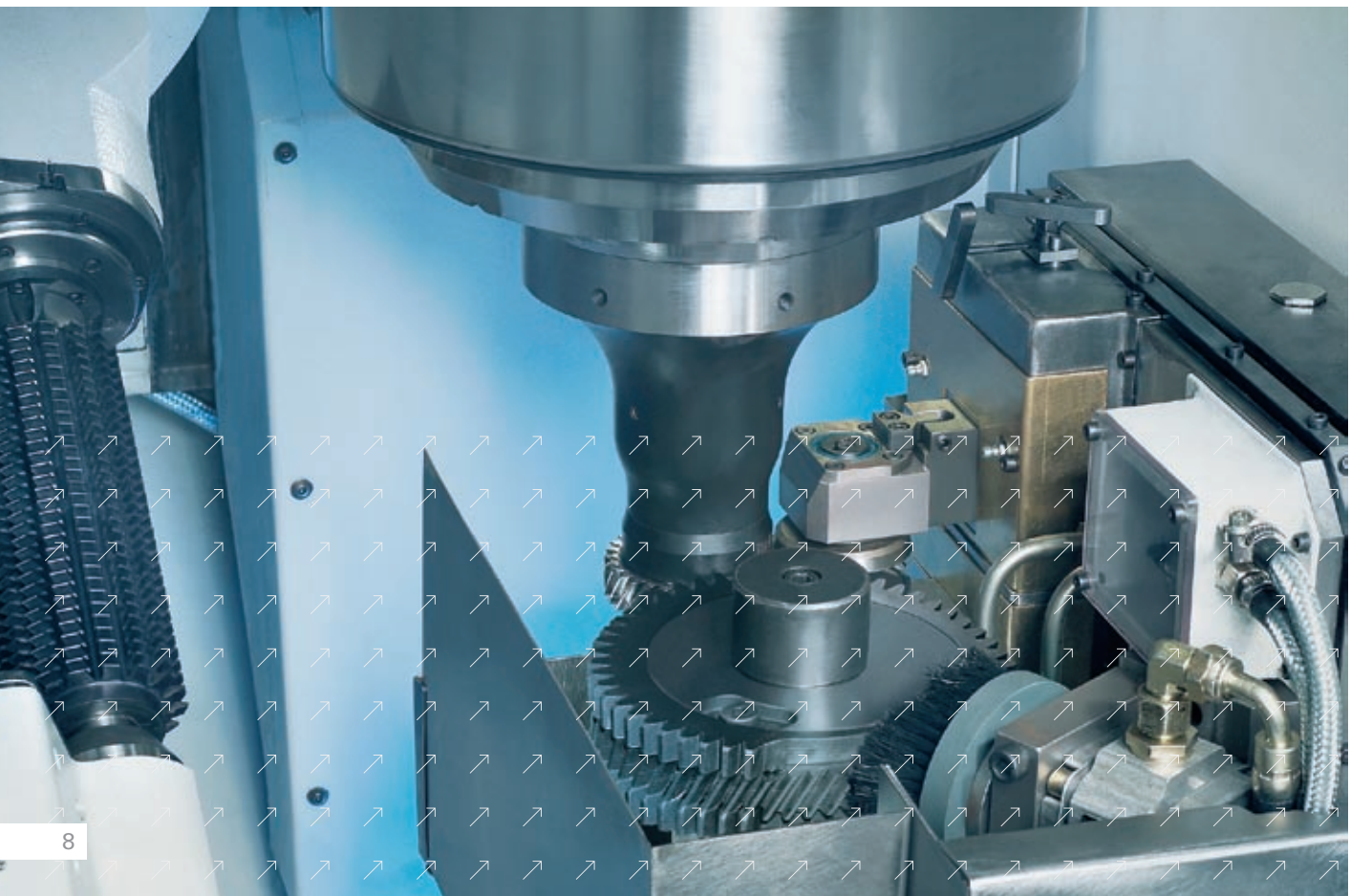


Precision + time savings = VSC 400 WF.

All machine elements are mechanically very stable and particularly vibration resistant. This is guaranteed by the machine base in polymer granite MINERALIT® with its super damping effect and by the design of the work spindle. The latter forms an integral part of the quill unit, which carries out its movement in Z in a high-precision hydrostatic guideway – a design feature that adds to the vibration damping properties.

The tooling systems, firmly embedded in the machine base, form a stable basis for demanding turning and milling work. A machine that combines gear hobbing and turning and accommodates most customer-specific automation systems.

V S C 4 0 0 W F





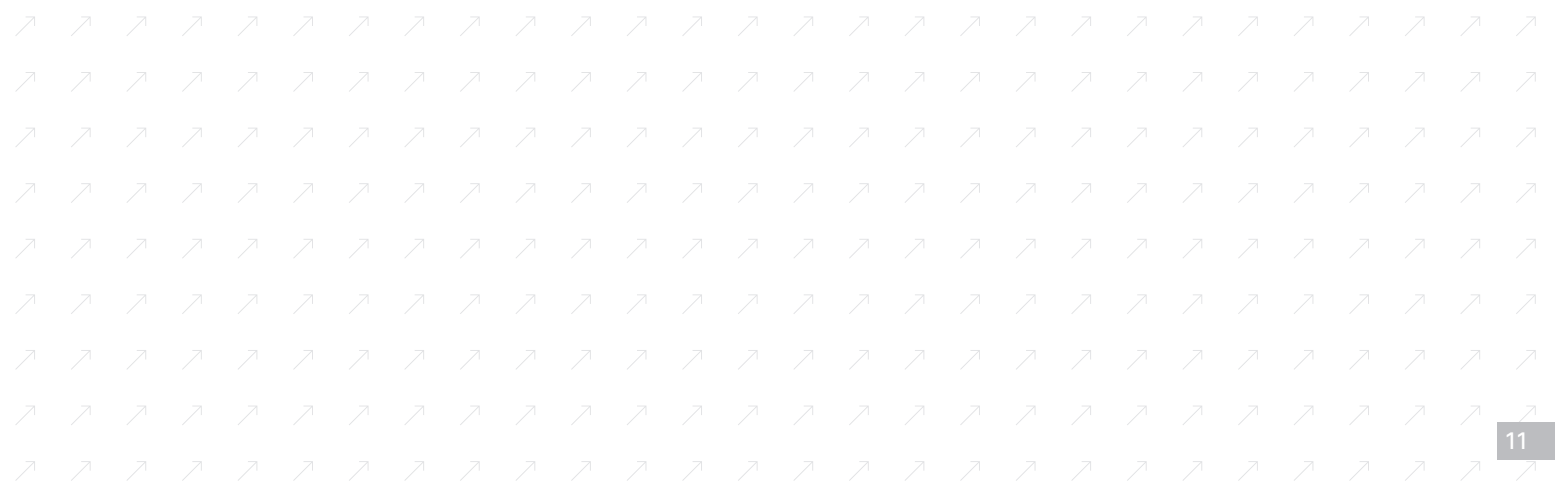
Machining, quality control and automation – all in a single machine.

Standardised, clearly defined interfaces allow for the problem-free link-up of pallet systems, gantry loaders or robots. In other words, it is quite simple to connect the machine to up- or downstream processes. The VSC 400 WF, equipped with shuttle automation as standard, can be run as a stand-alone or – without any problem - be integrated into a production line via the shuttle interface.

V S C 4 0 0 W F

It is also a simple procedure to connect the VSC 400 WF to turning machines that turn the first side, if this should be the preferred option. Such solutions to the question of automation can be applied with flexibility, depending on component range and batch size. Owing to the great flexibility of the machine most customer-specific solutions to automation can be accommodated.

The workpieces are measured quickly, without detours and with great precision. On their way from machining to unloading area they can be conveyed to a fixed-position measuring probe located outside the tooling zone, where the measuring results are not affected by chips or dirt particles. Measuring takes place with the component in its original set-up.



Technical data.

Capacity VSC 400 WF

Workpiece diameter, max.	mm	230
X-axis travel	mm	930
Y-axis travel	mm	315
Z-axis travel	mm	315

Main spindle

Spindle nose to DIN 55 026	Size	11
Spindle bearing, front	dia. in mm	140
Speed, max.	rpm	1,500

Feed drives

Rapid traverse speed	X / Z	m/min	45 / 30
Rapid traverse speed	Y	m/min	33
Feed force	X / Z	kN	11 / 11
Feed force	Y	kN	11
Ball screw	X / Z	dia. in mm	50 / 40
Ball screw	Y	dia. in mm	40

Gear hobbing unit

Setting angle for hobs	degrees	+/- 35
Speed, max.	rpm	3,000
Total tool length, max. (depending on clamping device)	mm	210
Tool diameter, max.	mm	130
Standard module, max.	mm	4

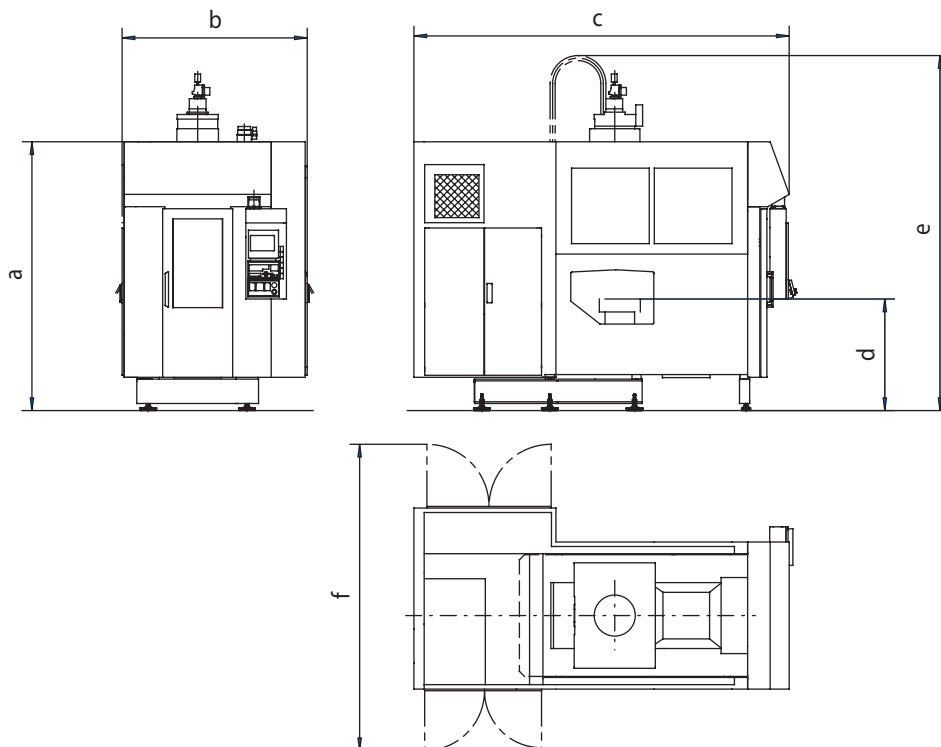
Tooling system

EMAG disc-type turret		
Tool receptors		
for cylindrical shanks to DIN 69 880	Qty	12
Shank diameter	mm	50

Weights and measurements

VSC 400 WF

Dimension a	mm	2,650
Dimension b	mm	1,960
Dimension c	mm	4,350
Dimension d	mm	1,150
Dimension e	approx. mm	3,400
Dimension f	approx. mm	3,350
Weight	kg	13,000



Subject to technical changes.

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