08 EMAG

GB news

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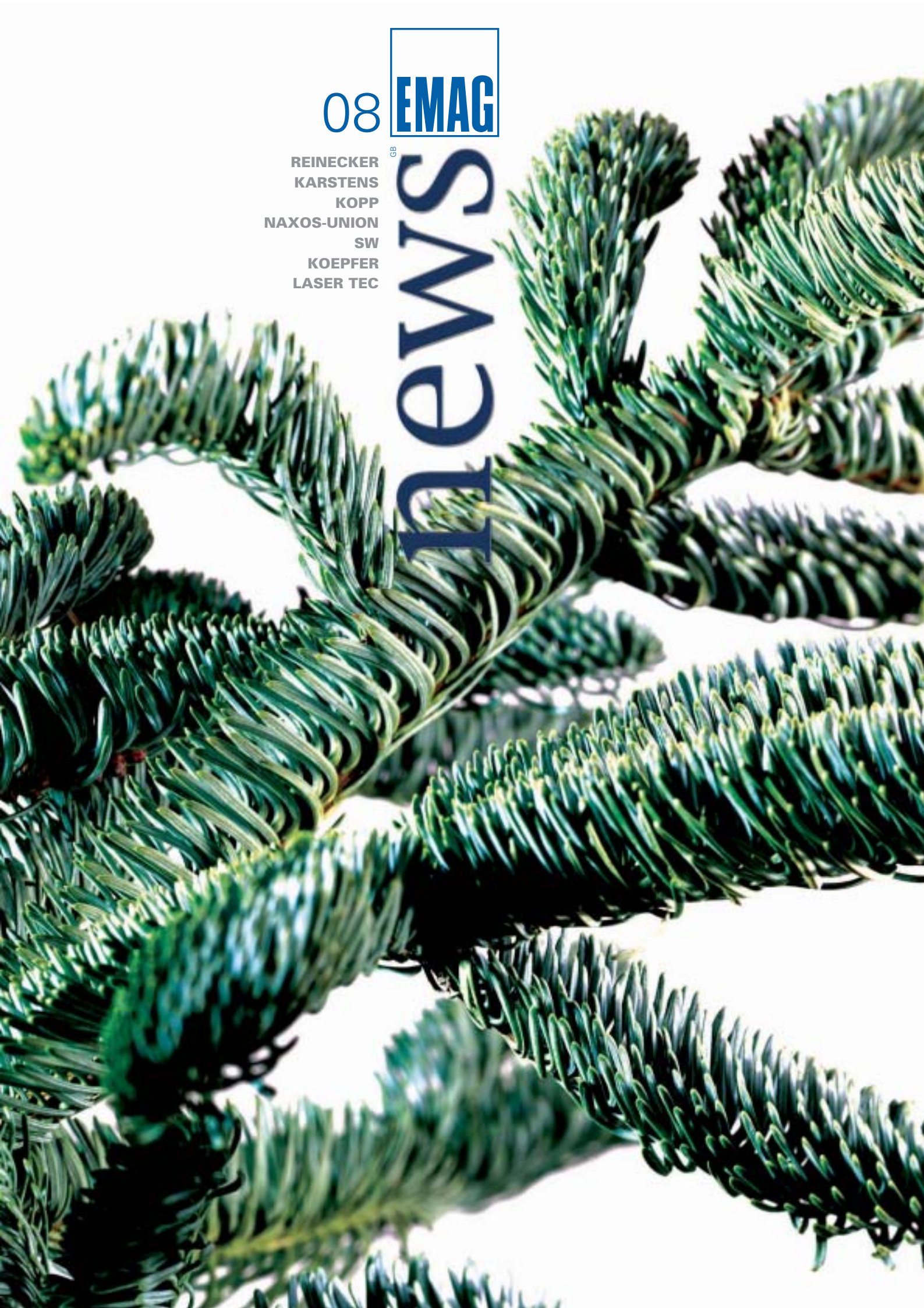
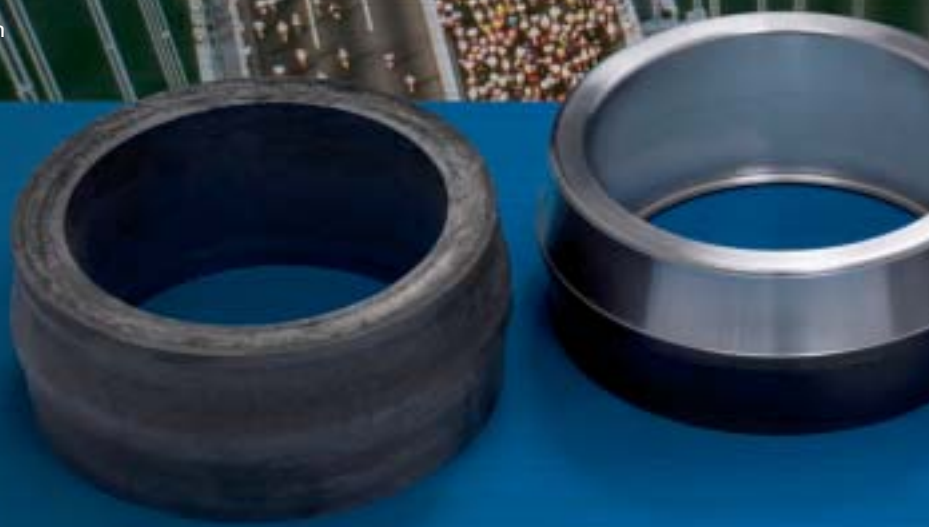


VL 5

The VL 5: Advantageous price/performance ratio for a machine that is not all bells and whistles but still technically sophisticated and fully equipped with chip conveyor, suction system for the machining area, fluid cooling system for spindle motor and turret, automatic workhandling system – all inclusive. The VL 5 is also optionally equipped for heavy-duty machining requirements. For example, rings in 100Cr6 are complete-machined on the VL 5 in two setups and at cutting depths of up to 4 mm. The two machines are interlinked by a turning station. The combination of a recirculating conveyor belt on each of the machines and a turning station between them creates a fully-automatic production cell.



The advantages:

- Automatic workpiece changes in next to no time = fixed production rates
- Low capital outlay
- Integrated automation
- Short travels between loading station and machining area, resulting in very short cycle times
- High degree of availability
- Ideal chip flow conditions
- Very short chip-to-chip times
- Small footprint

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Maximum output in heavy-duty machining

The machine.

Chuck dia.	mm	250
Swing dia.	mm	260
X-axis travel	mm	570
Z-axis travel	mm	200
Speed, max.	rpm	4500
Power rating at 100 / 40% duty cycle	kW	18 / 28
Torque at 100 / 40% duty cycle	Nm	202 / 320
Disc-type turret		
Tool receptor with cylindrical shank to DIN 69880	Qty	12
Shank dia.	mm	40

HG 204/VTC 250

The machines.

Pre-machining	**VTC 250 DUO**	
Tools	VDI 40, live tools	
Technologies	turning, keyway milling with Y-axis	
Chuck dia.	mm	250
Workpiece dia., max.	mm	140
Workpiece length, max.	mm	1000
X-axis travel	mm	300
Z-axis travel	mm	740

Finish-machining
Peripheral speed of grinding wheel
Tool
Set-up time HG 204
Workpiece dia., max.
Workpiece length, max.
X-axis travel
Z-axis travel

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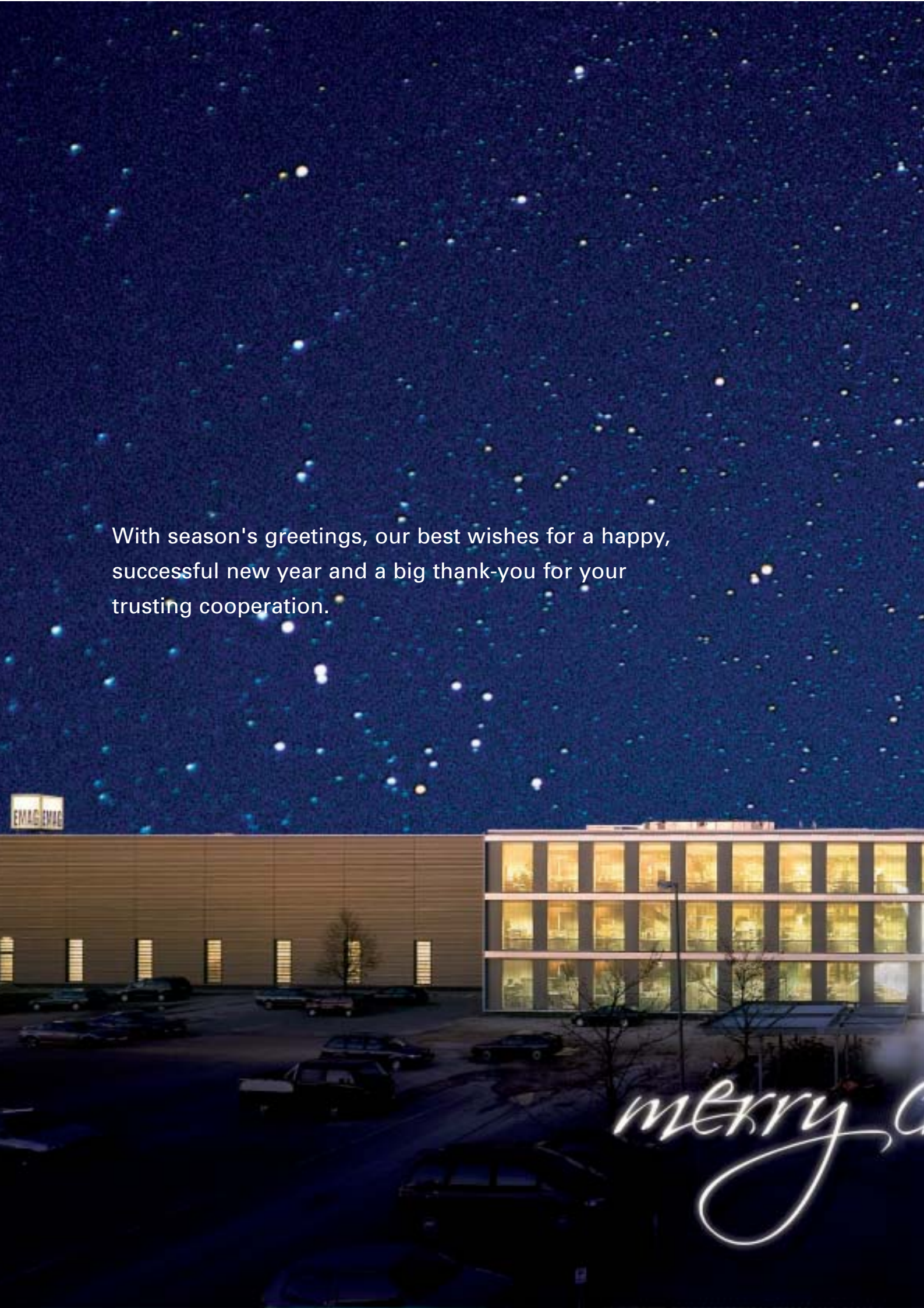
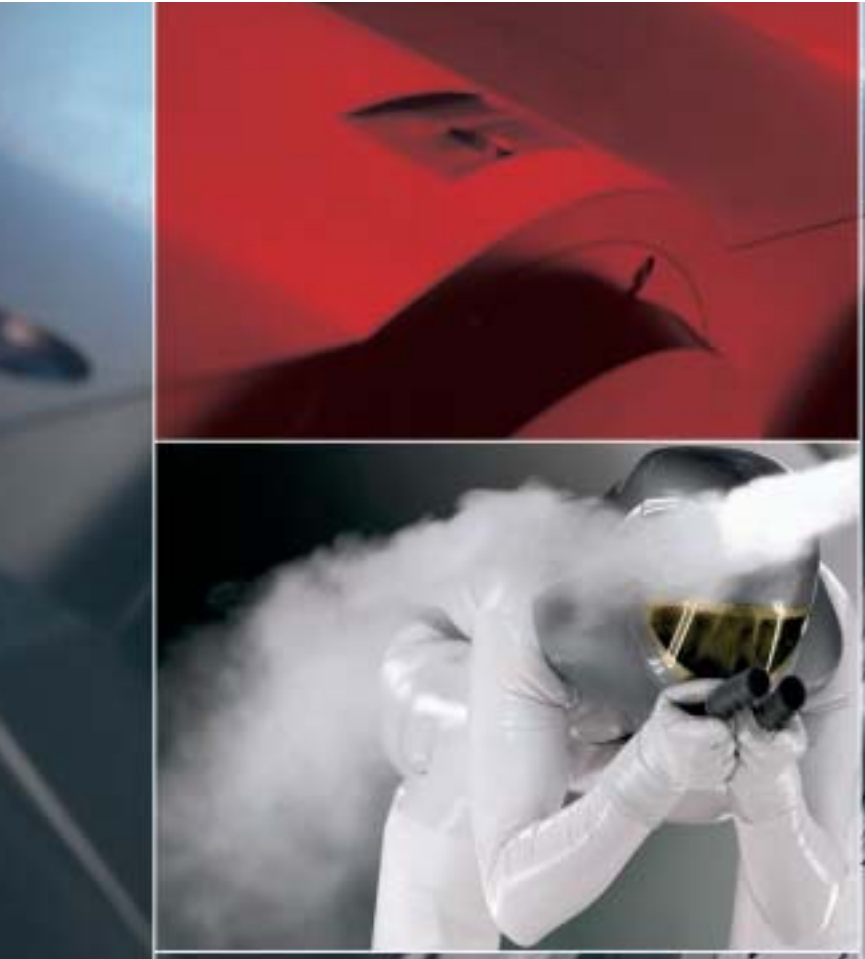
2 x HG 204

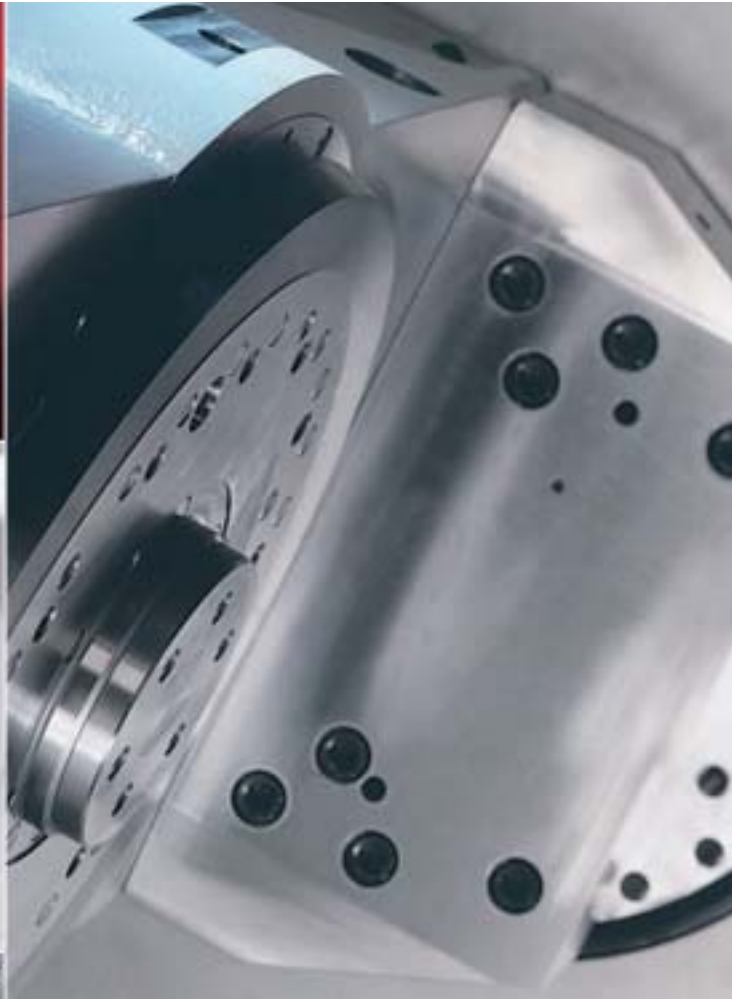
Vs = 50 m/s	
corundum grinding wheel	
< 41 min. (both machines)	
mm	200
mm	650
mm	380
mm	1000

The VTC 250 DUO and the HG 204 are designed for use in interlinked manufacturing systems and employed, for instance, for the machining of shafts for electric motors. The illustration shows a system that machines 40 workpiece variants of between 100 and 300 mm length and covering various diameter ranges. The system comprises a VTC 250 DUO (OP 10) for the pre-machining and two HG 204 (OP 20) grinders for the finish-machining operations. Between pre- and finish-machining processes the machines are connected by a storage conveyor. The twin-spindle manufacturing system allows for a number of workpiece variants to be machined. The advantage is that while the HG 204 finish-machine one workpiece variant, the VTC 250 DUO can already start pre-machining the next. All shafts are pre-machined on the VTC 250 DUO. This twin-spindle vertical shaft turner impresses with a 25% saving in floor space compared to the footprint of two horizontal machines.


With season's greetings, our best wishes for a happy, successful new year and a big thank-you for your trusting cooperation.
merry


christmas



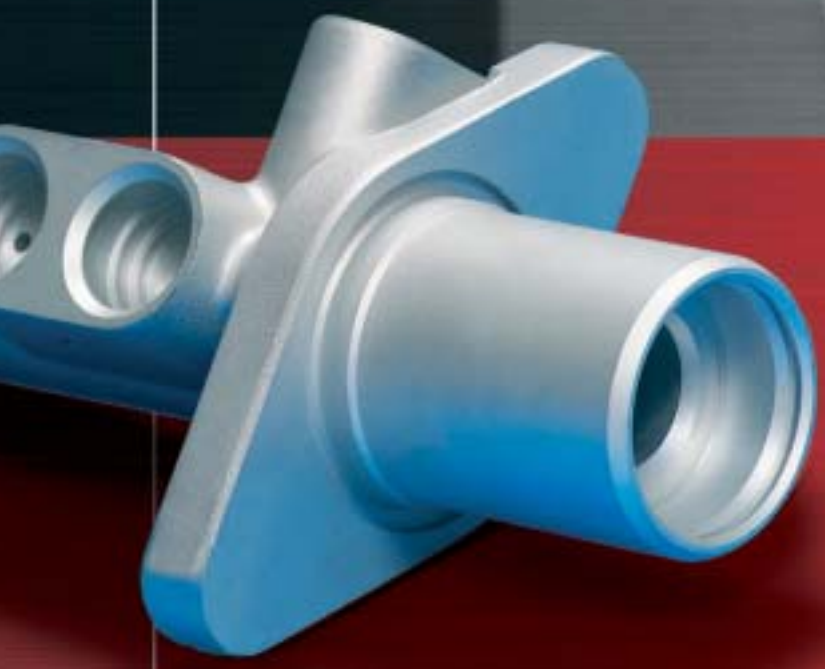


BA W04

Optimised machining.

High-speed machining of outstanding quality. To meet this demand, SW develops manufacturing concepts that are optimally suited to the workpiece: for instance the BA W04 – the horizontal machining center of monobloc construction with linear motors. A BA W04-22 made it possible to reduce the cycle time for the component pictured here by 30% compared to machining centers with ball screws. The optimal solution for the highly productive machining of light alloy components!

Two-spindle milling, drilling, threading and circular plunge-cutting. The BA W04 – the "optimiser" for your production environment.



The machine.	**BA W04**
X-axis travel	400
Y-axis travel	500 (775*)
Z-axis travel	425
Distance between spindles	400
Tool receptor	hollow shank to DIN 69893 – HSK – A63
Speed range	1 – 17.500 rpm
Power rating (40% duty cycle)	2 x 35 kW / 4200 rpm
Torque (40% duty cycle)	2 x 80 Nm
Rapid traverse X, Y, Z	100 m/min
Chip-to-chip time	2,6 s

*Alternative

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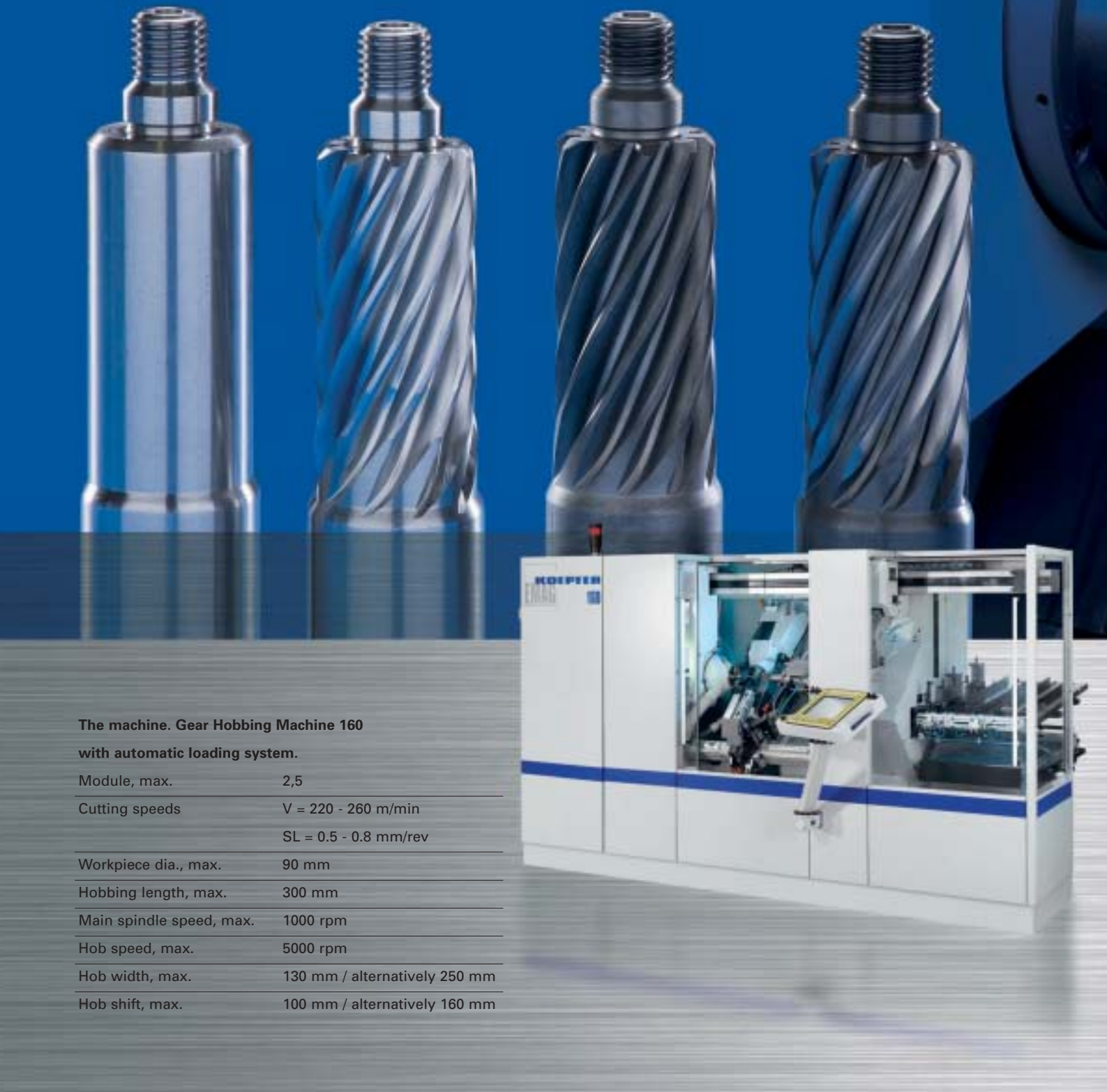
The workpiece.

Workpiece	main brake cylinder
Material	aluminium gravity die casting
Process stability	cpk 2.0
Machining technologies	milling, drilling, threading, circular plunge-cutting
Cycle time	68 s / part

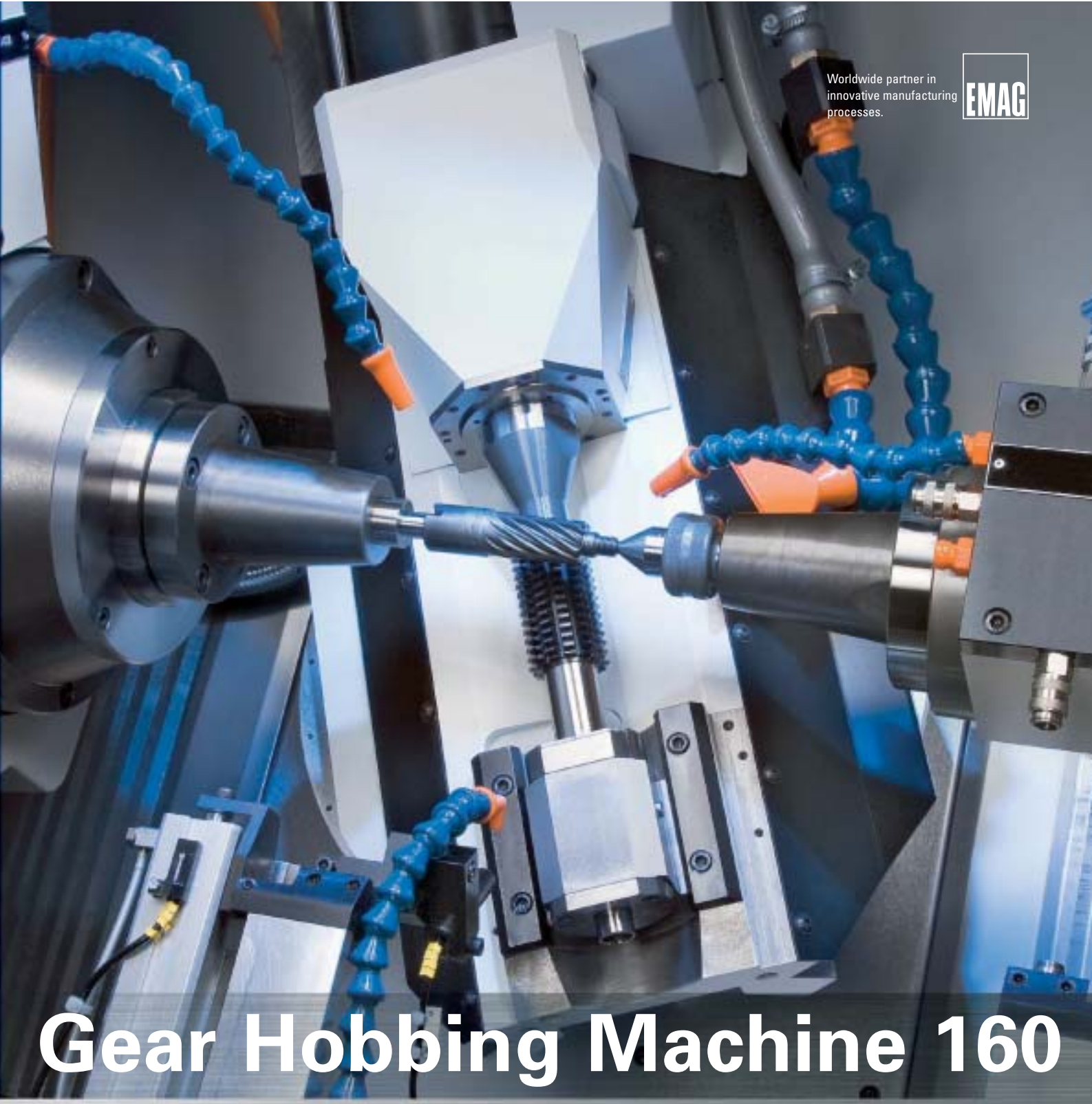
Soft and hard machining on a single machine.

Nowadays, all cars are equipped with power steering as standard. It is the reason why the demand for the pinions that transmit the movement of the steering wheel to the steering gear is so great. A piece of cake for the KOEPFER 160 Gear Hobbing Machine specially designed for the manufacture of steering pinions. The machine is equipped with the latest generation 8-axis control system and offers high milling head and main spindle speeds. The resulting high cutting speeds can be used to generate even the smallest number of teeth on shafts and pinions. An integral gantry loader ensures that a variety of steering pinions can be loaded and unloaded automatically. The position of the workpieces is checked in the magazine feeder, as the gearing has to be generated in line with a contour (flat, groove). Both the (soft) pre-milling and the subsequent rough-milling of the hardened workpieces are carried out on the 160 gear hobbing machine. The system shows an exceptional rate of availability, despite the number of workpiece variants and the demanding machining operations. This speaks for itself – and for the 160 gear hobbing machine.



The machine. Gear Hobbing Machine 160 with automatic loading system.

Module, max.	2,5
Cutting speeds	V = 220 - 260 m/min
	SL = 0.5 - 0.8 mm/rev
Workpiece dia., max.	90 mm
Hobbing length, max.	300 mm
Main spindle speed, max.	1000 rpm
Hob speed, max.	5000 rpm
Hob width, max.	130 mm / alternatively 250 mm
Hob shift, max.	100 mm / alternatively 160 mm



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Gear Hobbing Machine 160

The workpiece.

Workpiece	steering pinion
Material	14NiCr14
Machining technologies	soft pre-milling and subsequent hard rough-milling of the gearing
Manufacturing quality	– pre-milling (soft) to DIN 7-8
	– rough-milling (hard) to DIN 7
Workpiece variants	2 x 10, all with left-hand and right-hand pitch
Cycle times	– pre-milling (soft): depending on type and number of teeth, approx. 30-40 s (including alignment)
	– rough-milling (hard): depending on type and number of teeth, approx. 40-50 s (including alignment)

The EMAG Group – World-wide partner in forward looking production techniques

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