

INFO

on a new machine concept

TUBE – a built-in future

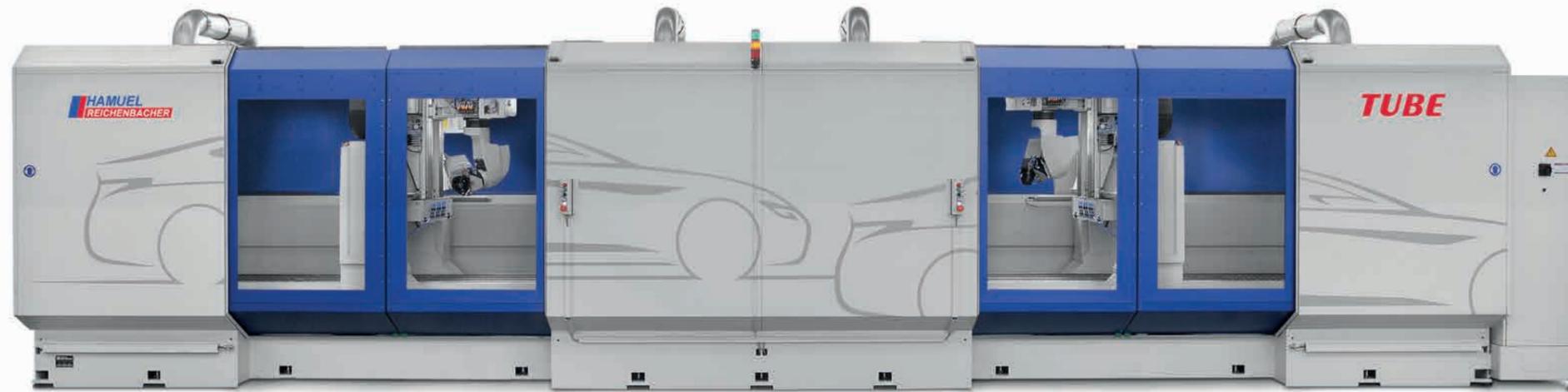


*Tailor-made for the
automotive industry*

*CNC-machining centres
to meet highest demands*

HAMUEL
REICHENBACHER
Members of the SCHERDELGroup

CNC-machining centre TUBE



Our business philosophy consists in developing lines that appeal to our target groups. Normally, to achieve this goal we base the concept for each line on our modular system. In other words, we select the optimum series and modify its technical equipment to customise the machine in such a way that it perfectly meets the requirements of the respective client. For the first time our approach has been different in the case of the TUBE. The automotive industry has several peculiarities which we want to accommodate.

Global players in this industry must be extremely flexible, not only in terms of their range of products, but also where the production sites are concerned. A relocation can imply transporting many machines and lines. In doing so, international standards will have to be observed, meaning that, apart from safety, the focus will also have to be on the ease of transportation.

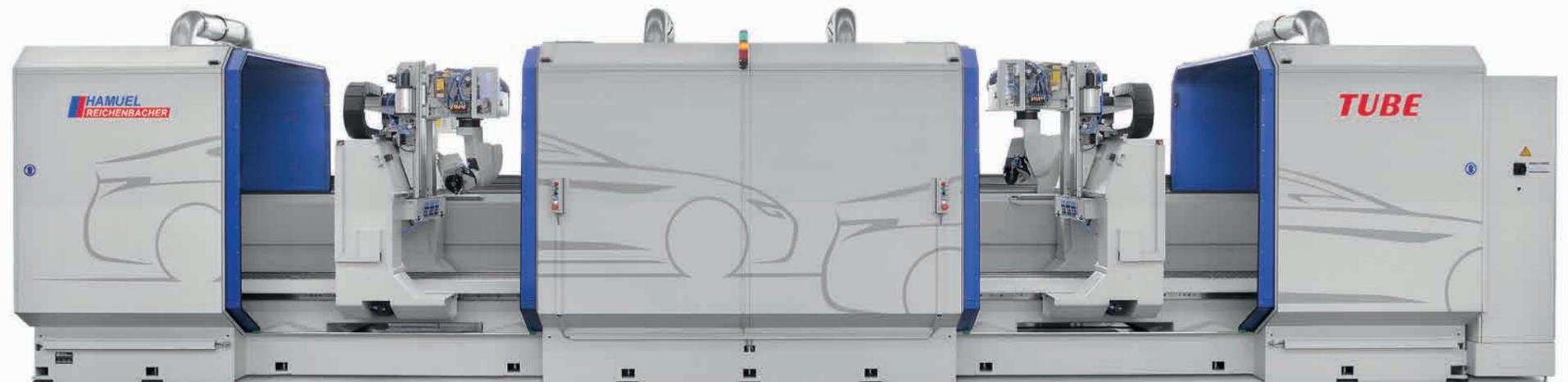
The major challenge for our engineering department was to build the TUBE in such a way that it could be loaded into a container and shipped to places all over the world without the need to remove many of its components. This has successfully been accomplished with this fully enclosed machine, where the control cabinet and the cabin are firmly connected with the machine base. Using a 20 ton crane, the line can be loaded in one piece into a 40' open top high cube container. A considerable cost reduction is achieved by this design, both, for transportation and for commissioning.

This series has been dubbed TUBE, as it very much resembles an underground. The "automotive industry" is our explicit target group, which is an absolute novelty, as all preceding series had never been designed for a specific industry. However, it is to be expected that its future utilisation won't be restricted to this industry. Taking into account the fact that the TUBE is ideally suited for the machining of plastics, aluminium and composites (CFRP, GFRP), it will attract the attention of other industries, too.



The TUBE system:

- CNC-centre for the machining of plastics, aluminium and composites (CFRP, GFRP).
- Very spacious machining area (2x 3,200 mm in X-direction) at a very small machine footprint (12,000 x 2,500 x 2,500 mm).
- Automatic loading doors offer excellent accessibility for the operator and at the same time a good view of the machining processes.
- Setting/loading in parallel to machining time: while machining is in progress in station 1, loading can take place in station 2.
- Machine fully enclosed with two cardanic 5-axes units and separate tool changers.
- Control cabinet and cabin firmly connected with the machine base.
- Cost reductions for commissioning, as well as for transportation (container).
- Container loading of the crane hook machine: transportation in 40' open top high cube container.



Technical data

TUBE	Basic concept of the machine
Equipment configuration	5-axes milling unit with cardanic spindle (-46° undercut)
Additional equipment	Minimum quantity lubrication Blasting nozzles Spotlight at the working head Vibration monitoring Measuring probe
Spindles	IBAG make – 4.5 kW; 58,000 rpm; HSK-F40 Omlat make – 7 kW; 40,000 rpm; HSK-E40
Tool changers	Pick-up with 4 places (in combination with spindle IBAG make) Pick-up with 8 places (in combination with spindle Omlat make)
Extraction and chip removal	Oil mist extraction Chip conveyor
Machine table equipment	Table with steel bars provided with fitted bushes and threads
Working area layout (strokes of axes)	Each table side 3,200 x 800 x 600 mm (in combination with spindle IBAG make) Each table side 3,200 x 800 x 450 mm (in combination with spindle Omlat make)
Workpiece clamping technology	Vacuum clamps Pneumatic clamps Special clamping devices
Control systems	Siemens Sinumerik 840D sl (user interface HMI Operate, WIN 10)
Control options	Mobile operator desk Suspended operator panel HT2 hand-held unit (as an option) HT8 hand-held unit (as an option) Control option remote diagnostics (Teamviewer) Control option machine data recording Control option OEM run time licence

Changes in the course of technical progress are reserved.