



QUANTUM LEAP IN ABRASIVE CUTTING TECHNOLOGY

The revolutionary cutting head design from the waterjet specialists, STM and Maximator JET makes a significant contribution to optimising the performance, durability and ease of maintenance of abrasive waterjet cutting systems.

Bischofshofen/Schweinfurt. Up until now, nozzle effects have been an annoying yet unavoidable drawback during waterjet cutting. They were mainly caused by the ingress of sand particles during cutting and dirt when setting up. At best the consequences were downtimes and wear of spare parts, at worst, severe loss of production. All of which is now in the past. The waterjet specialists STM and Maximator JET have, in cooperation with Berlin Technical University and the Fraunhofer Institute, developed a completely new abrasive cutting head, which effectively minimises these problems. The new development is primarily remarkable for the centring of the water nozzle over a hole instead of, as previously, over a cone. The sealing is configured so that even during installation there are no harmful deformations due to overtightening (excess torque). No auxiliary tools are required during installation. Moreover, the abrasive cutting head is designed so that there is as little contact as possible between the abrasive particles and the water nozzle. This ensures that the water nozzle is optimally protected against destructive effects, which also means that the abrasive cutting head is much more powerful and precise. The development team estimates that the material wear and maintenance expense are reduced by up to 60 % with this prototype and that the quality of the entire production process can thus be markedly increased. Hence abrasive cutting systems from STM and Maximator Jet are being equipped as standard with the new cutting head with immediate effect. It will also be available, after the currently running long-term tests, to upgrade existing STM and Maximator JET waterjet cutting systems or the systems of other manufacturers. If you are interested, you will be able to view this promising innovation live in action from 26. – 30.10.2010 at the Euroblech in Hannover and from 27.10. – 3.11.2010 at the K in Düsseldorf on the shared stand of STM and Maximator JET. For more information see www.stm.at and www.maximator-jet.de.

The development, carried out by the 5-member research team between October 2009 and March 2010, involved intensive testing in the laboratory of standard commercial cutting heads to investigate performance and wear. The flow processes in the mixing chamber were analysed and documented using a high-speed camera. This empirical data was appropriately and



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thoroughly backed up by theoretical considerations and a completely new design laid out. This improved the overall performance of waterjet cutting systems so sustainably, that the manufacturer is even talking of a whole new era in abrasive waterjet cutting. "It is during daily use in contract cutting centres that the product advantages of the new abrasive cutting head are most impressive," explains STM managing director Jürgen Moser. "Up until now, users who had to replace the water nozzle every 20 operating hours to ensure uniform high quality, can now achieve up to 40 hours or more without problem. Thanks to reduced downtimes and maintenance work, the yield of a waterjet cutting system can be improved even further. A fact that makes us proud and our customers very happy."

STM is a leading provider of waterjet cutting systems with its head office in Bischofshofen, Austria. For more than 20 years, the traditional company has developed future-proof production solutions, primarily for the steel, aluminium, metal, plastic, stone and glass industries, which are most notable for their efficiency, ease of use and resistance to wear. Alongside future-proof technology and quality as standard, STM places great emphasis on innovative full service. In so doing, the brand name manufacturer ensures that its individual manufacturing processes are continually matched to the current requirements of its customers. STM cooperates with the German, Schweinfurt-based company, Maximator JET GmbH, in the fields of development and sales. Maximator Jet chooses STM systems for their reliability and quality.

For its part, Maximator JET GmbH is a leading system supplier to the waterjet cutting industry, with its head office in Schweinfurt in the Franconia region of Germany. Since 1999, the company has focussed on building and selling highly specialised waterjet cutting systems for special applications throughout Europe. Alongside its in-house manufactured 2D and 3D cutting systems, its product range also includes systems made by the Austrian system partner, STM, high pressure pumps of up to **6,000 bar, high pressure components, equipment and a correspondingly comprehensive support and maintenance service.**

Further information:

Maximator JET GmbH | Karl-Götz-Strasse 5 | D- 97424 Schweinfurt
Phone +49. (0) 9721.946994-0 | Fax +49. (0) 9721.946994-14



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info@maximator-jet.de | www.maximator-jet.de

Stein Moser GmbH | Salzburger Straße 77 | A-5500 Bischofshofen
Phone +43. (0) 6462. 30 30 0 | Fax +43. (0) 6462. 30 30 5
office@stm.at | www.stm.at

Press contact: YNet - Agency for communication and media design
Mr Wilfried Hummel | Dorfwerfen 66 | A-5452 Pfarrwerfen
Phone +43. (0) 6468 8911-0 | Fax: +43. (0) 6468 8911-12 | office@ynet.at