



Abrasive Management System AMS III

The integrated solution for automated
waterjet cutting



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Research and development in the field of waterjet cutting technology is increasingly focused on optimization and automation of the cutting process. As a leading provider of advanced waterjet cutting technology, KMT WATERJET SYSTEMS can again offer its customers more than others. The KMT range of leading-edge products includes now the AMS III abrasive management system, catering for the full integration of all components of a waterjet cutting unit.

Everything under control: centralised control and monitoring of all modules

The AMS III abrasive management system controls the entire abrasive supply flow of the waterjet cutting machine, from filtering of the abrasive to monitoring the cutting process, ensuring optimised cutting results. The amount of abrasive used is a key cost factor for the operation of a waterjet cutting unit. Optimised control of all modules therefore does not only help achieve precision cuts, it also reduces the costs for consumables, thus giving you a clear competitive edge.

The three main components of the AMS III abrasive management system:

- ABRALINE III abrasive storage and supply system
- FEEDLINE IV abrasive metering system
- ACTIVE AUTOLINE™ II or ACTIVE IDE™ II abrasive cutting head system

AMS III with ACTIVE AUTOLINE™ II cutting head

ACTIVE AUTOLINE™ II is an abrasive cutting head system that can be easily integrated into any waterjet cutting machine in a matter of seconds. The ACTIVE AUTOLINE™ II is particularly user-friendly, as the water nozzle can be replaced without the need for tools. The system does away with time-consuming centring, and the three main wear parts can be replaced individually, when needed. The ACTIVE AUTOLINE™ II is a complete module consisting of a high pressure valve, a custom-length nozzle tube and the AUTOLINE™ II cutting head with diamond and focusing tube.

Optimised abrasive feed

The abrasive material is fed through a wear-proof cemented hard metal tube at an angle of 30° to the mixing chamber. This reduces the need for space and prolongs the service life of the nozzle body and insert. The mixing chamber is positioned in such a manner that it offers easy access for the cleaning and replacement of the nozzle insert. A pin ensures proper alignment of the mixing chamber and the abrasive inlet at the nozzle body, so that flow loss caused by incorrect installation is effectively prevented. The water nozzle is mounted directly on the mixing chamber.

AMS III – ACTIVE AUTOLINE™ II



AMS III – ACTIVE IDE™ II





AMS III mit ACTIVE IDE™ II cutting head

As the cutting head contains a minimum number of individual components, it is particularly easy to handle while producing high-precision cuts. The key advantages of the ACTIVE IDE™ II are the exact targeted cutting jet, the pre-filter protecting the orifice and the advanced nozzle valve design. The unit is also virtually maintenance-free. The diamond orifice and the mixing chamber are combined in a single nozzle body. Both professional users and workers who have only recently been introduced to abrasive cutting benefit from the simple design of the unit, as the focussing tube and the pre-filter, which are the only wear parts, can be exchanged easily and quickly. Maintenance is thus limited to an absolute minimum.

The AMS III abrasive management system is available in the following models:

- AMS III S SC 4.3:
for single head machines
- AMS III D SC 4.3:
for dual head machines
- AMS III T SC 4.3:
for triple head machines
- AMS III Q SC 4.3:
for four-head machines

FEEDLINE IV abrasive metering system

Cutting thin materials requires considerably less abrasive than cutting thick and hard materials. The operation of waterjet cutting machines that do not allow for the adjustment of the abrasive feed rate is therefore rather wasteful and highly uneconomical. With the FEEDLINE IV abrasive metering system, you can accurately adjust the abrasive flow rate to suit the application. The abrasive feed rate is adjusted by means of a potentiometer or by entering the relevant parameter values in the CNC software. The system caters for 2D cutting benches, multi-axis systems and 3D cutting boxes.



ABRALINE III abrasive storage and supply system

The quality of the abrasive supply is a key factor for good cutting results, especially where brittle materials such as glass and natural stone are processed. These materials tend to break instantly upon the impact of a water jet without abrasive. In such an instance, the workpiece must be replaced and the cutting process must be restarted. Such wastage and inefficiency can be prevented with the ABRALINE III abrasive storage and supply system. If the fill level in the abrasive tank drops below a certain level, an alarm signal is issued, resulting in a flashing light and respective message on the display. The operator has thus ample time to add abrasive to the tank without interrupting the cutting process.



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