

SLITstream FUSION network-ready cutting dust extraction system - Industry 4.0

The latest development from Hildebrand Technology – Gema Switzerland GmbH – is the world's first Industry 4.0 cutting dust extraction system, which is network-ready and makes straightforward integration into all important field or industrial ethernet networks possible.

It combines the latest technological developments and is micro-processor controlled with local 'embedded' intelligence. The following functions and parameters enable continuous real-time monitoring and visualization at any time: De-dusting efficiency, flow rates of the vacuum air stream on the cutter blade, upstream iONstream FUSION AUTO^{DC}® discharge system as well as electrode contamination, the emitter points condition and neutralization efficiency. The core sizes and data can be accessed via a GateWay or a master touchscreen display, enabling the system data to be read out easily for users or the parameters to be modified for the process engineers. As a result, depending on the application, you can intervene in the process at any time; this ensures that the accumulated cutting dust is fully removed directly on the cutting blade.

Network / software features

The SLITstream can be integrated into all common industry networks, such as Profibus, Profinet, Ethernet etc., or can be used with a wireless iONlinktransfer via Bluetooth to communicate with suitable end devices, such as tablets, PCs and smart devices. The iONlink Bluetooth module is plugged into the network at any point and enables the system data of all system participants to be received wirelessly up to a distance of 100 meters and in real time by android-compatible tablets or hand-helds. Visualization and operation is performed via touch screen – the Xpilot Hildebrand app makes this easy and instinctive.

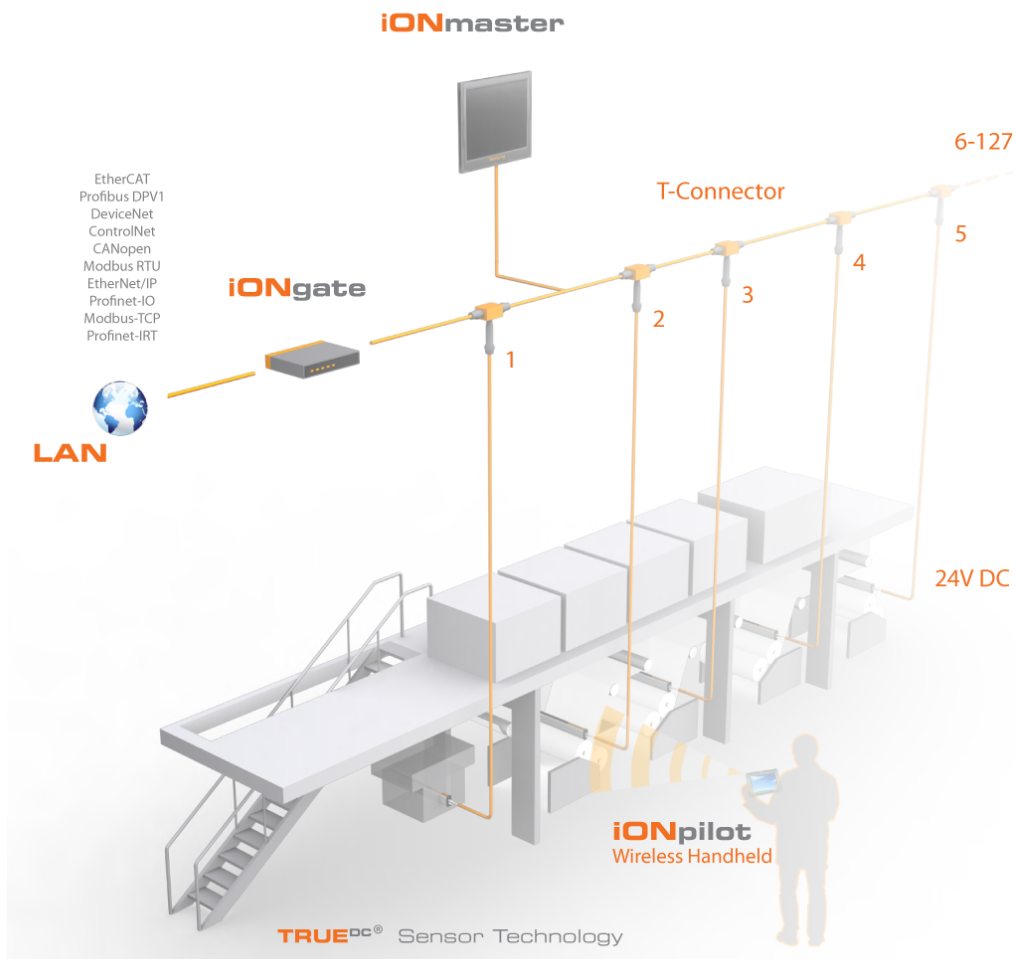
The following system-relevant data can be read out, processed or visualized:

- Cleaning efficiency
- Ionization efficiency
- Vacuum
- Speed of air flow
- Filter condition
- Condition of filter trap container
- Condition of fan/frequency converter
- Maintenance information about the filter and ionization system

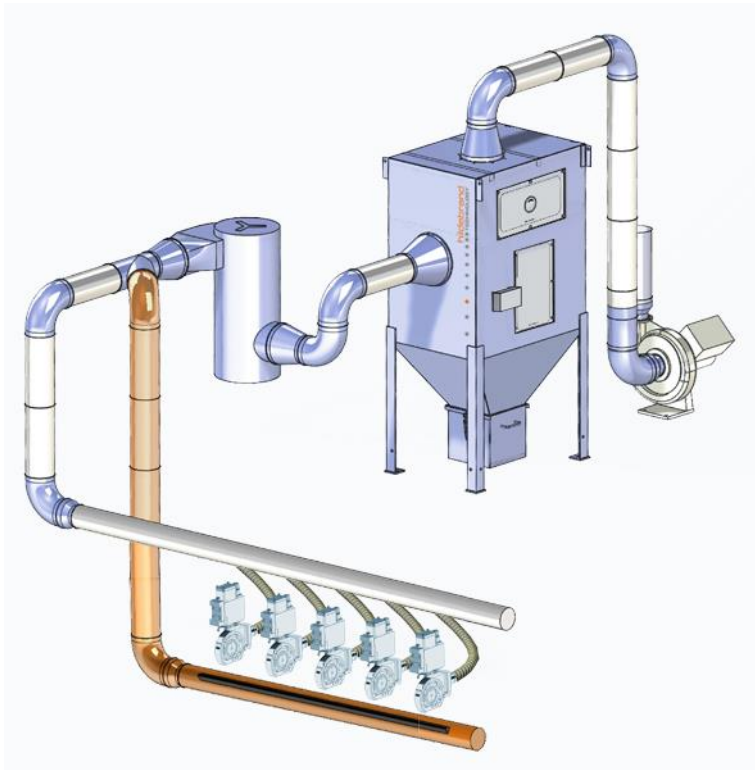
Access of every individual system participant to detailed system data and possible parameter setting is possible through the process engineer.

The graphical presentation of the values and storage to the log book can be used to document the quality of the production run. Measurement and verification for **100%**process control/ TQM can be carried out without a problem.

Network overview for a typical application example with several participants:



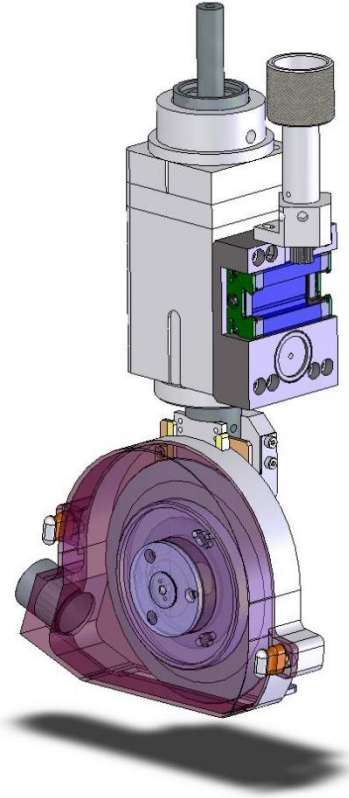
System overview with bottom blade suction and pre-filter



The operating principle

The cutting dust extraction system **SLITstream FUSION** for longitudinal cutting systems has been specially developed to suction accumulating cutting dust directly on the longitudinal blades. The designed suction hood generates a very high air stream within the system directly on the cutting blades. This extremely powerful air jet itself suctions the smallest particles. The **SLITstream FUSION** system can be appropriately adapted for all conventional blade holders available on the market from various manufacturers.

It combines the latest knowledge in aerodynamic airflow technology with the electrostatic discharge of substrates before the cutting process, creating a 'ready to use' extraction system. The development of the **SLITstream FUSION** system is based on aerospace technology, where the air is forced into a certain direction at an extremely high speed when it reaches certain profile shapes.



Other system features

The **SLITstream FUSION** system was developed in collaboration with leading global companies from the paper, film, nonwovens and tissue sectors. The result is a user-friendly system, which allows blades to be changed using a magnetic clasp without the need for tools. The cover of the suction hood is also transparent and the overall structure is designed in such a way that allows the blades to be resharpened multiple times. The **SLITstream FUSION** design is automatically suited to the ever smaller blade diameter.



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