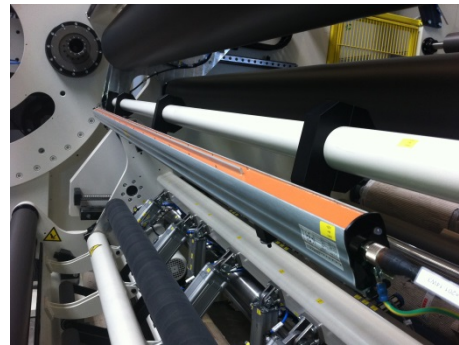


Advanced Static neutralizing Application **iONpilot industrial APP 4.0** latest development up-date from Hildebrand Technology.

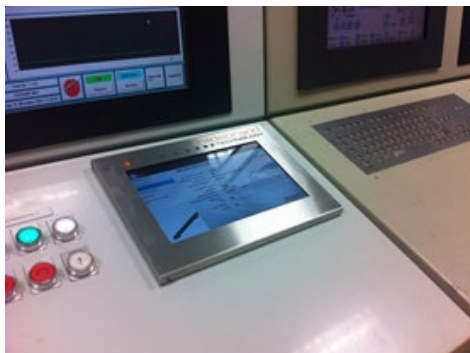
Since its launch in 2013 Hildebrand Technology's advanced **iONstream Fusion** equipment has proved extremely popular with a broad spectrum of customers in Plastics, Film, Converting, tissue, Nonwoven, Textile and Thinn-Glass Industries.



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A recent innovation in control and monitoring has been the integration on Multiple Platforms Android, iOS and Windows, Customizable Machine Overview, Graphical Trend Views and future Quality Data Exchange

The **iONpilot industrial APP 4.0** can be supplied pre- installed on the Hildebrand **iONtouch 10"** touch pad computer, which is supplied with a stainless steel anti-theft housing, or downloaded directly onto the customers own smart devices.



Final installation on main control desk

Hildebrand's **iONlink** Bluetooth unit is then connected into the system and communicates neutralizing data and device status back to the smart device at a range of up to 100 meters.



iONlink Bluetooth Module wireless excess to **iONtouch**



iONnet Board for Plug & Play wiring of Bars

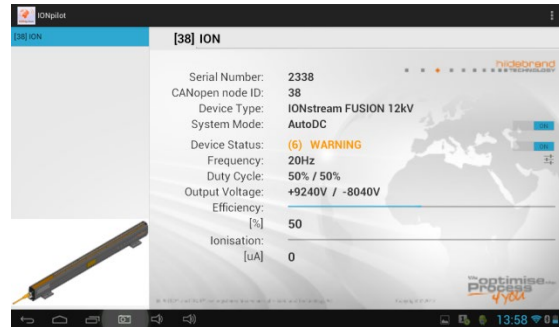
Any neutralizing bar on the system can be remotely monitored for predictive Maintenance. The operating mode can be selected and individual bar neutralizing data and pollution trend are visualized. If **iONsense** electrostatic field sensors are also incorporated within the selected system residual charge data can be displayed.

The IonPilot app in combination with embedded firmware in each bar

compliments the already available longate gateway for multi language industrial network communication and the Ionmaster industrial touch screen PC.



Intelligent electrostatic measuring system
iONsense FUSION

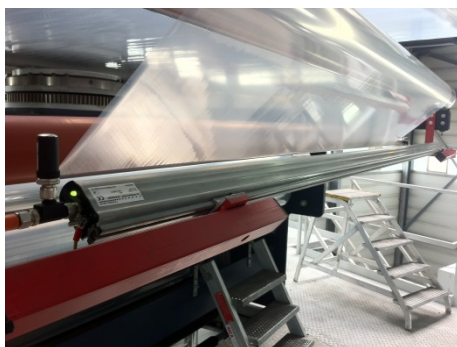


iONsense Electrostatic Fieldsensor

Device Status view per Bar in the System

iONstream Fusion is a microcontroller driven static neutralizing system with onboard intelligence and high voltage generation encapsulated within the neutralizing bar profile. **iONstream Fusion** can be easily integrated into new or existing process machines. The system only requires a 24 Volt DC power supply therefore eliminating any external high voltage power cables altogether.

The bar comes as standard with an integrated multifunction LED which shows the bars status at a glance. The LED indicates a multitude of statuses including 'clean bar warning' which signifies an ionizing output reduction and 'clean bar now' which signifies a critical reduction in ionizing output (these alarm thresholds can be easily adjusted to suit the application or individual customer requirements). It also indicates bar on, bar off and malfunction to name but a few. An external general alarm can also be activated when wired into the bars 24VDC open collector contact or when the bars are controlled by a single **iONnet** network board. The general alarm is activated by a status change on any of the systems neutralizing bars.



Blown Film Line Application



SR-Application final Rewind.

At the heart of **iONstream Fusion** is the patented 'Auto DC' operation mode. The system initializes a so called "teach in" Pulse mode and for a matter of micro seconds outputs positive than negative ions to establish if there is a dominant charge polarity on the target material.

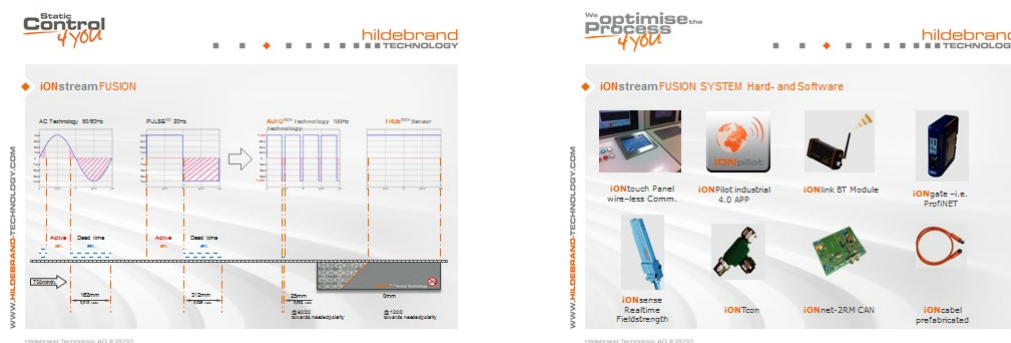
If a dominant polarity is sensed, **AUTO^{DC}** automatically corrects the pulse pause relationship to achieve an output bias of up to 95% of the correct polarity ions to neutralize the charge presented to the bar. This is achieved without any operator intervention whatsoever. A short 5% check pulse of the same polarity is fired at the end of the 95% output to establish if the surface charge polarity has changed.

If the target material polarity is the same, the bar continues to operate in **AUTO^{DC}** mode. If the polarity has changed **iONstream Fusion** switches back into teach in Pulsed mode until a dominant polarity is sensed again

When compared to the 50% + 50% - output of conventional static neutralization systems, **iONstream Fusion`s** capacity to neutralize charge is infinitely greater.

For the vast majority of applications where a matter of volts residual charge is acceptable **AUTO^{DC}** is the normal operating mode of choice.

For applications where zero residual charge is required **iONstream Fusion** can be run in **TRUE^{DC} Sensor** mode.



For operation in True DC mode the **iONstream Fusion** bar is linked in with an external **iONsense** Electrostatic Fieldsensor which is placed after the neutralizing bar. The sensor then reacts to the true residual charge value it sees and decides if the bar should operate in Pulsed DC, Auto DC or True DC mode to keep the material within the customer specified residual charge range.

When operating in True DC mode only the correct polarity generator is active and the redundant polarity generator is inactive. The **iONstream Fusion** bar then generates a constant stream of neutralizing ions with the correct polarity.

Simple physics tells us that if you try to give a material the same polarity as it already has it will be repelled.

This is why residual charge can be seen when using a static neutralizing system which outputs positive then negative ions. In the case of a conventional Pulsed DC system 50% of the time the bar is trying to give the material the incorrect polarity ions resulting in a residual charge through inefficient neutralization.

iONstream Fusion, when operating in True DC mode, follows the simple rules of physics and has the ability to achieve a zero volt residual charge because it is only outputting the exact polarity ions the material requires.

Another recent development from Hildebrand has been the launch of a new web cleaning system called Xs **Xstream** Economy.

Xstream Economy is a lower cost version of the existing **Xstream** non contact web cleaning range. It is designed for narrower web widths up to 1800mm where superior web cleaning efficiency is required but with a lower level of machine integration and intelligence resulting in a lower system cost.

Xstream Economy utilises Hildebrand's aerodynamic profile cleaning head which is located in close proximity above a back up path roller with sufficient material wrap angle.

Wrapping the material around a path roller ensure web stability and eliminates web flutter, commonly a problem found with alternative design systems which operate on a flat web span. Also by wrapping the material around a path roller the substrate surface is opened and exposes the loosely attached particles for easier removal.

The system utilises a vacuum blower which helps generate an air flow velocity of up to 60 meters per second at the cleaning nozzle. The 60 m/s air velocity **Xstream** generates is far higher than a flat web span system which commonly only generates 15m/s. In a direct comparison test of **Xstream** and a conventional flat web span system, 3 times the quantity of particles were removed by **Xstream** over the same time span. The removed particles are then transported to a filtration system. System operating pressure is monitored by manometers which indicate when a pressure drop has occurred and the filter requires cleaning.

Xstream Economy works in conjunction with Hildebrand **iONstream Fusion** for most filmic applications, to ensure there is no electrostatic bond of the particles to the material.

In applications where light contact is allowed with the material, such as cleaning paper prior to printing, an optional agitation brush can be fitted.



Xstream Economy 2Cleaning Heads



Xstream Filter System example for big quantities

