

April 2019

IonRinse™

Ionising Air Rinsing system
for exceptional cleaning performance

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WHO WE ARE

Meech International manufactures five interrelated product ranges:

- Industrial static and dust control equipment
- Electronics and cleanroom (ESD/ESA) static control equipment
- Surface cleaning systems- IonWash™, IonRinse™, JetStream™
- Web cleaning systems- contact and non-contact
- Compressed air energy saving and vortex cooling products

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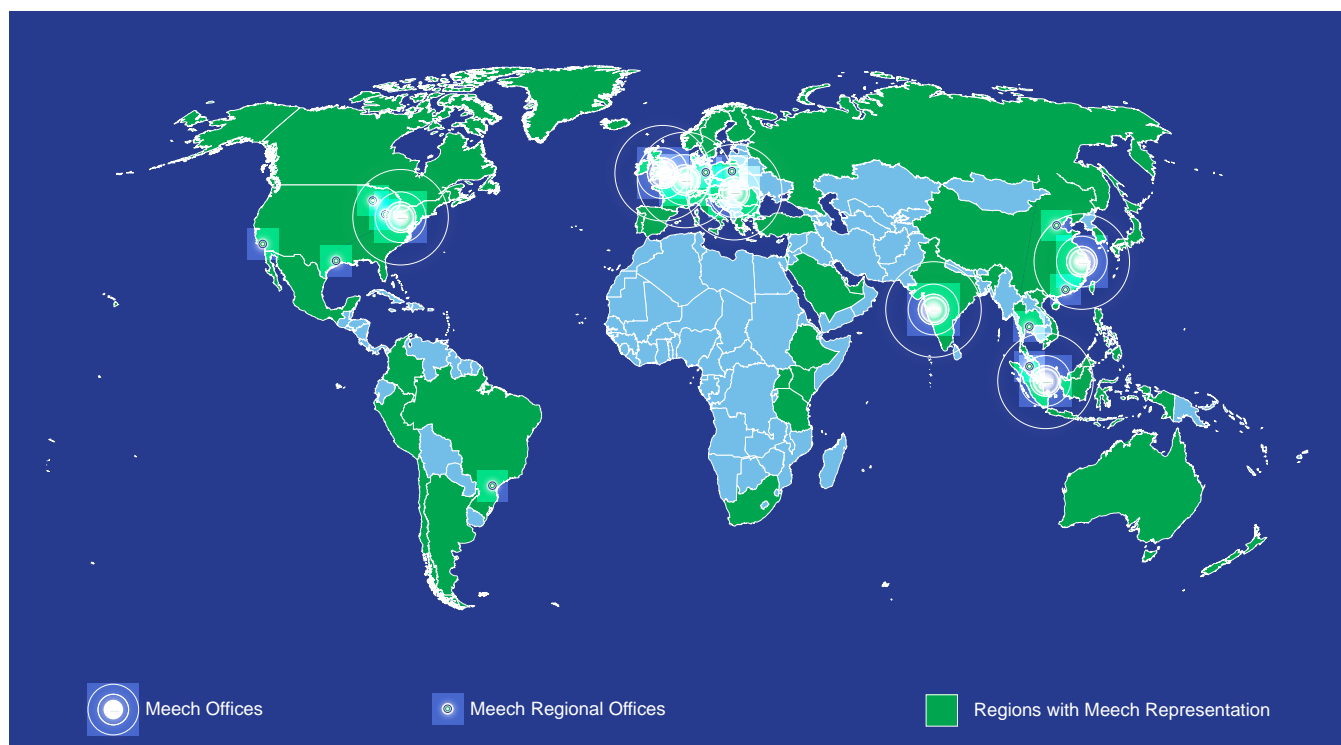


We've got the world covered

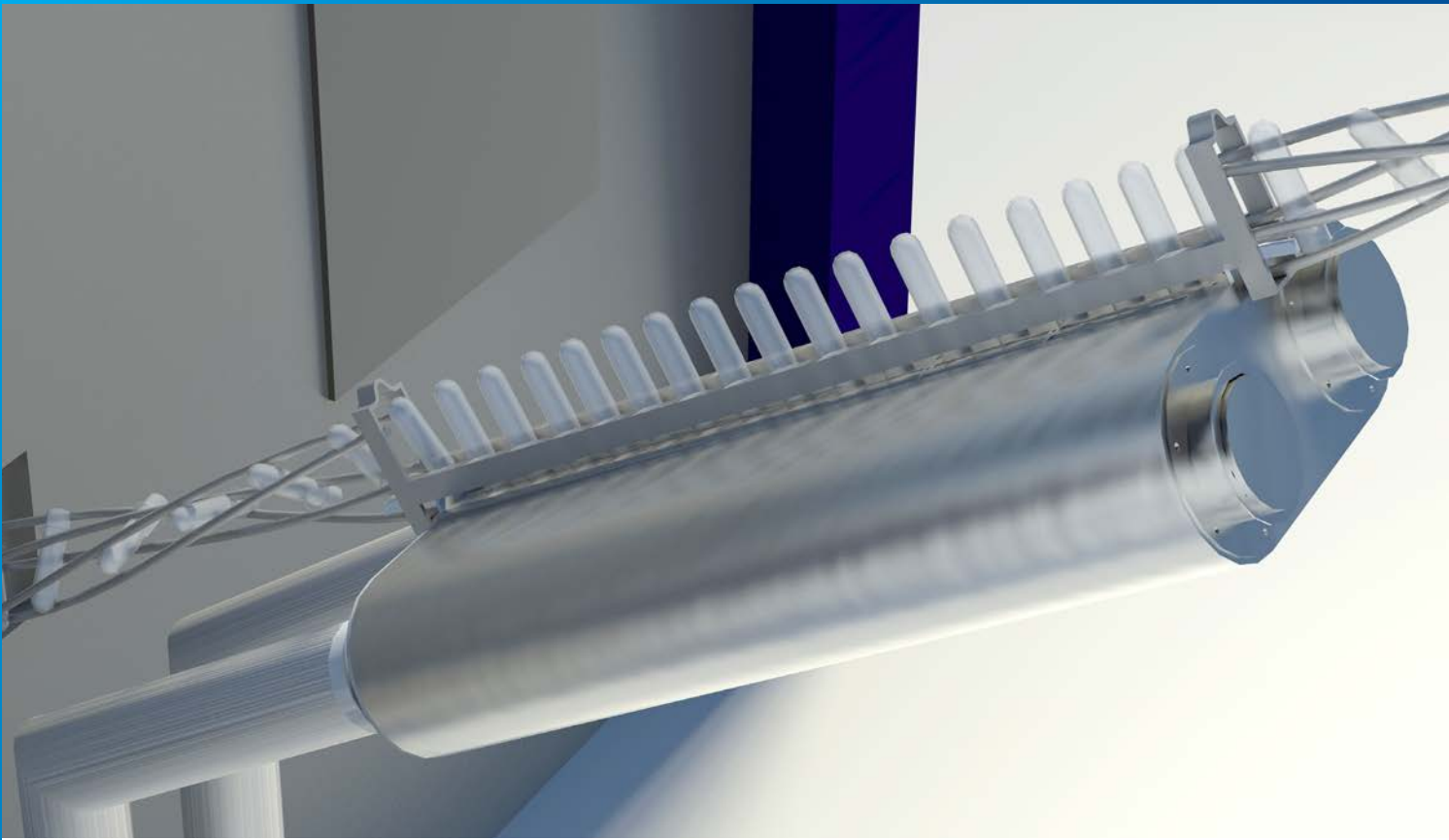
Wherever you are in the world, you'll find Meech hard at work, providing a wide range of businesses with technical expertise. From our headquarters and technical centre in the UK, our manufacturing subsidiary in the USA and sales offices in Belgium, Hungary, China, India and Singapore; we've got the world covered. In fact, our distribution network now covers over 50 countries, providing easy access to fully trained, carefully selected Meech distributors, who can provide in-depth support, wherever you are based.

Outstanding quality as standard

We always work to the highest possible quality standards in everything we do: manufacturing, customer support and technical know-how. Our quality management system is certified by BSI to ISO9001:2015. Products manufactured by Meech are appropriately certified to international standards. They carry markings including CE and UL/CSA (CUL), as well as ATEX and UL "EX" approvals. With so much to offer, it is no wonder our global user list has grown to in excess of 7,000 companies.



IONRINSE : AN INTRODUCTION



Specialists in Ionised Air Rinsing

As more and more companies look for energy efficient systems to replace older, less efficient technologies, the need for systems like the Meech IonRinse becomes increasingly important.

Developed by Meech, working with distributors and end users within the food and beverage industry; the IonRinse combines powerful DC ionisation, a custom designed airflow system and high quality inline filtration, to provide the ultimate in ionised air rinsing.

Designed as an energy efficient alternative to pre-fill water rinse systems, the IonRinse offers significant energy savings and improved sustainability over traditional industrial pre-fill water rinsing systems.

Ideal for industrial preform, container and can-rinsing and cleaning, the IonRinse out-performs water-based cleaning systems in many areas; notably in the energy savings and sustainability it offers customers.

Benefits of IonRinse

Energy savings and sustainability are hot topics in all industries, not least food and beverage. Due to this, traditional pre-fill water rinse systems are becoming far less attractive as ionised air rinsing systems develop further. Meech has engineered the next stage of energy efficient, sustainable ionised air rinsing which offers the following advantages:

- Improved cleaning quality
- No water costs
- No water / chemical residue
- No compressed air costs
- No chemical costs
- No effluent costs
- Fully integrated control system
- Minimal maintenance requirements
- Very compact and easily installed
- Easy integration into existing blower in feed formats
- Common twist units for a wide variety of pre-forms

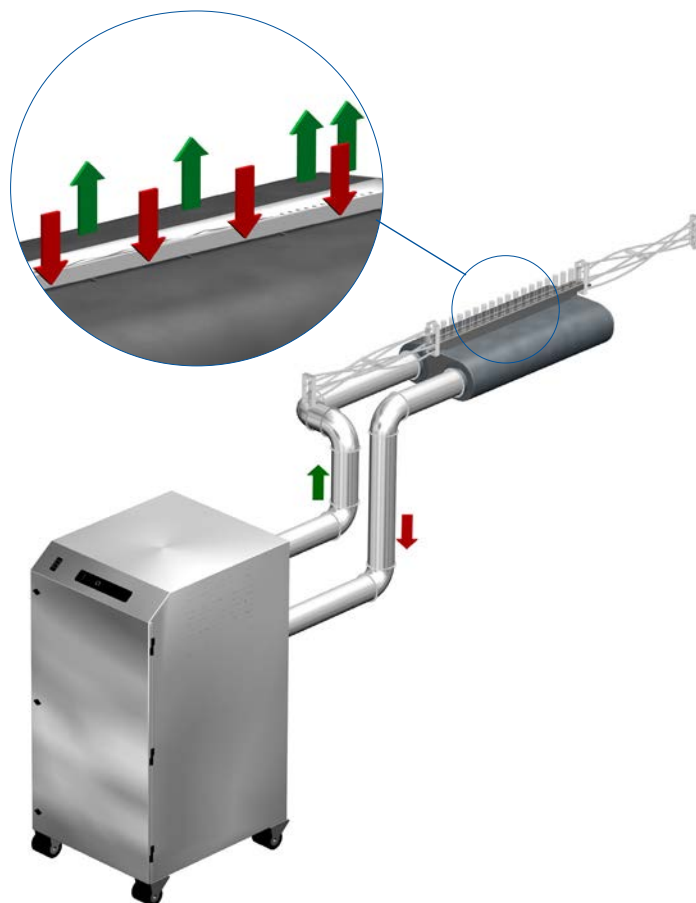
How IonRinse Works

High velocity, filtered ionised air exits the IonRinse head unit via the airflow distributor and enters the container. The control of the airflow coupled with the neutralisation of static charges frees contamination from the container inner walls, which is caught by the vacuum airflow and extracted to the inline filter unit.

The blow and vacuum airflows are provided by the Air Handling Unit (AHUv3).

Cleaning performance is maximised with the container fully inverted (opening facing down) as it travels over the IonRinse head.

If required, Meech can provide the container handling system and arrange installation as part of the overall offer.



Further System Enhancements

In addition to the IonRinse head and blow, vacuum and filter unit, the system can be enhanced to suit the requirements of the individual installation. Typical enhancements include:

- Infeed and outfeed twists
- Enclosures to house the head unit
- Framework and brackets
- Installation: mechanical and electrical
- After sales inspection and maintenance contracts



THE IONRINSE SYSTEM

The IonRinse Head

The IonRinse head has been developed to provide maximum performance with virtually no maintenance. It has the following features:

Feature	Benefit
Stainless steel construction	High quality and suitable for use in wash-down environments
Teflon airflow distributor	Customised to suit the container and line speed to ensure maximum performance. Teflon material allows the container to run in contact with the surface
DC Ionising Bar	Built in 929IPS Ionising Bar to enhance contamination removal
Large plenums	Help ensure even airflows along both the air distribution and vacuum slots
Constant vacuum along length	Designed to catch the maximum level of removed contamination
Drop-down access panel	Easy maintenance; the ionising bars drop out of the head unit mounted to the access panel
Selectable handing	The air inlet and vacuum ducts can be connected at either end of the head unit to suit the installation space available





Air Handling Unit

The AHUv3 is designed to make installation and setup as simple as possible. It incorporates the following features:

Feature	Benefit
Stainless steel construction	High quality and suitable for use in wash-down environments
Automatic pressure monitoring	Performance is maintained automatically
Variable flow control	Performance can be optimised to suit the process
HEPA and bag filtration	Excellent level of filtration- Bag ,Efficiency F8 ,90-95% @ 0.4µ. HEPA, Efficiency H14, 99.997% @ 0.3µ.
Contacts for auto start/stop	Can be linked to run with the line giving further energy savings
Contacts for filter condition status	Filter status can be linked to line monitoring system
Touch-screen control	Fully touch-screen controlled, allowing a clear graphical display of the system settings and status, whilst also making initial setup very fast
Wall or floor mounts	Can suit all installation areas

The Meech AHUv3 range is integral to the IonRinse system.

The following table shows which AHUv3 model is required with each system, by head size:

AHUv3	IonRinse
AHUv3 3-Pump	700 mm
AHUv3 6-Pump	1000 mm

IONRINSE INDUSTRIES



Developed for Industry

Cleaning of containers historically used to be carried out with water washing systems. Costs of running water processing plants and the requirement for drying the containers, or minimising the risk of contamination by any residual water, required industries to look for alternatives.

The IonRinse has been driven as a result of feedback from our network of food and beverage industry contacts. The initial research led to two main requirements: “energy saving” and “sustainable”.

Energy savings and sustainability are hot topics in all industries, not least food and beverage. Due to this, traditional pre-fill water rinse systems are becoming far less attractive. At the same time, ionised air rinsing systems are being developed further and now offer a viable alternative.

Meech has engineered the next stage of energy efficient, sustainable ionised air rinsing which offers many advantages to the food and beverage, medical and pharmaceutical industries.

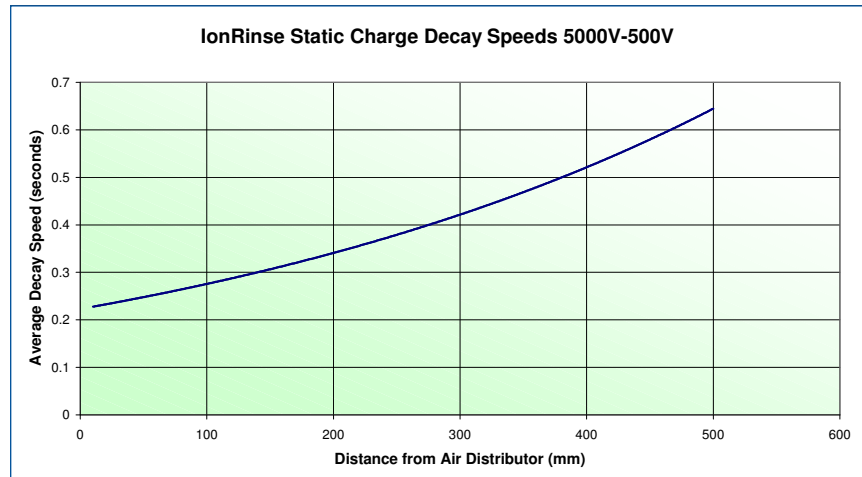
The Meech fan-driven IonRinse method provides cleaning without the high costs involved in purifying water prior to its disposal back into the water system.

IonRinse has been purposely designed to improve rinsing performance of all types of containers before filling, including:

- Bottles
- Preforms
- Jars
- Cans
- Blown containers

Static Charge Decay

To effectively rinse a container, the system needs to have powerful ionisation to break any static bond holding contamination to the surface. The rate at which a static charge can be reduced is measured as a decay speed and this is evaluated using the industry standard of 5000 – 500 volts. The IonRinse system includes a powerful DC ionising bar which neutralises both +ve and -ve polarity static charges at speeds of less than 0.3 seconds at typical installation distances of less than 100mm from air distributor to container opening.

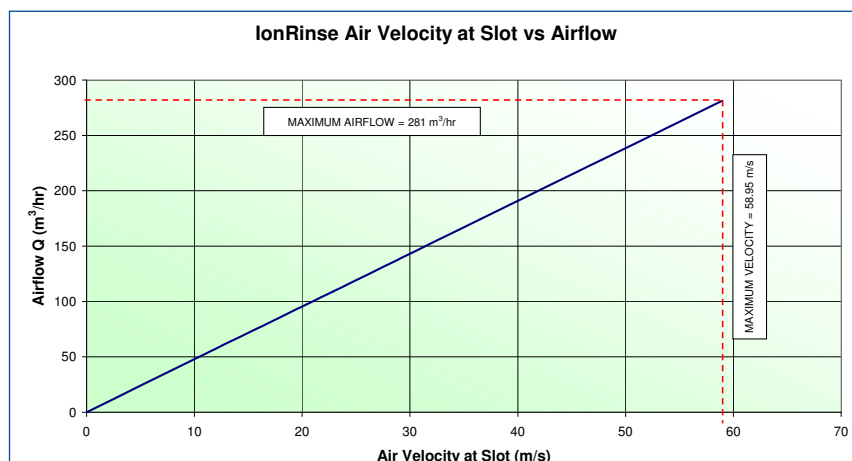
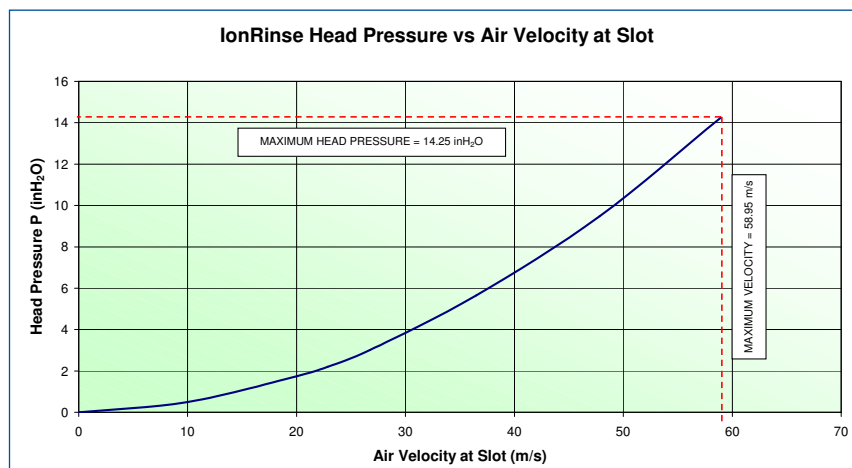


Notes:

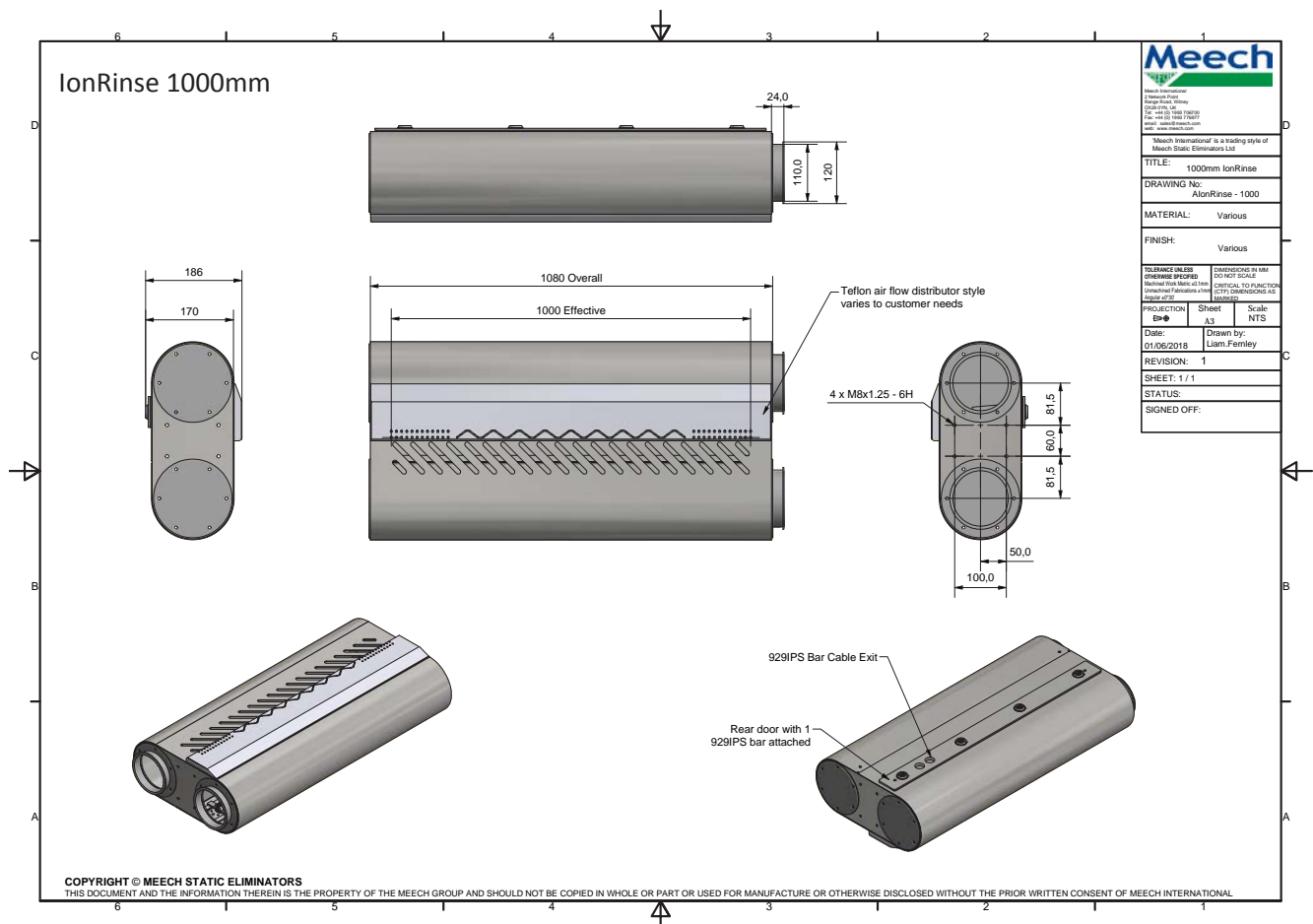
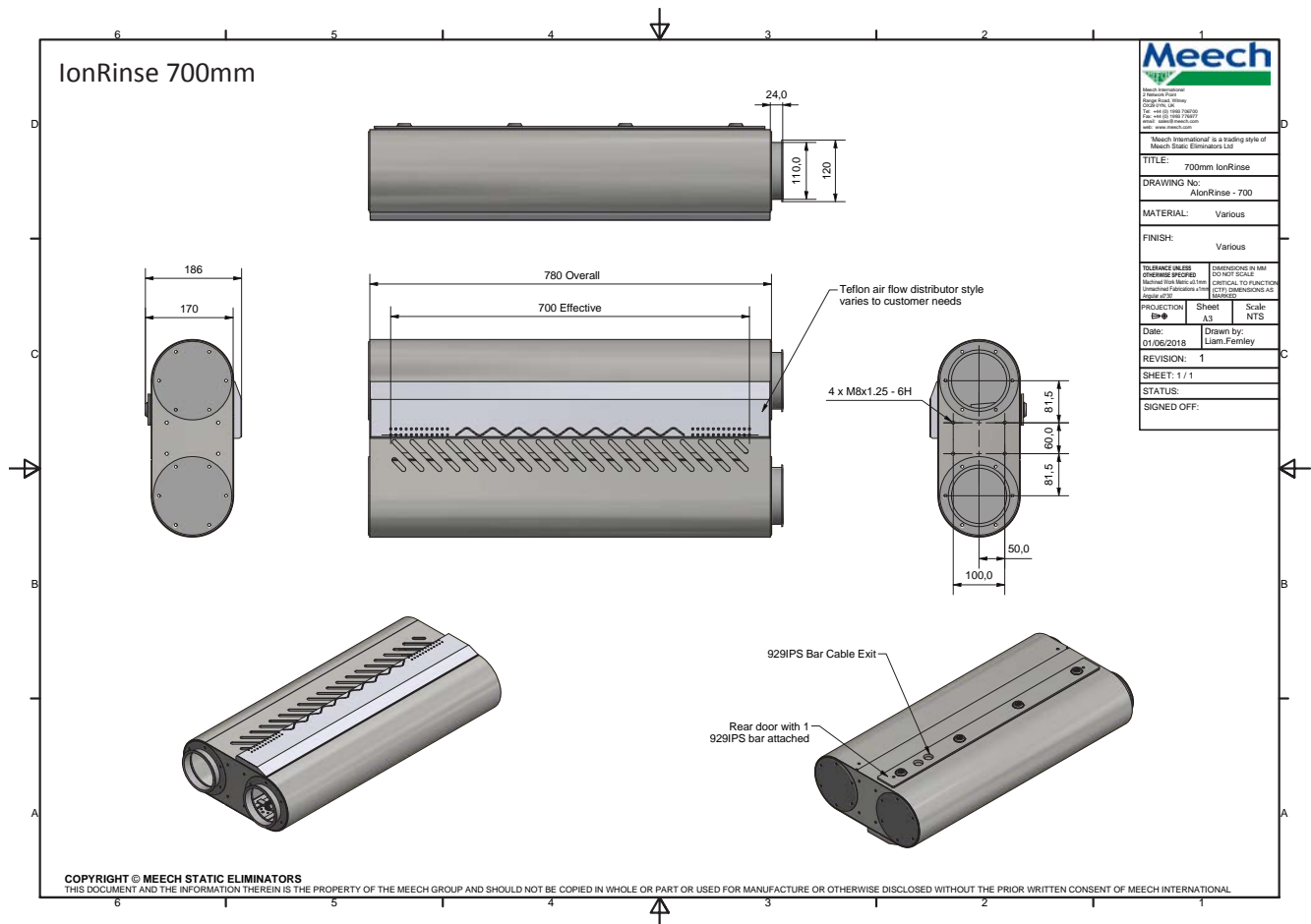
- i) The decay test of 5000V-500V is an industry standard for industrial ionisation.
- ii) The average decay speed is the average of 5000V-500V tests for both +ve and -ve polarities.
- iii) The decay speeds were measured at the maximum air velocity from the blow, vacuum and filtration unit.

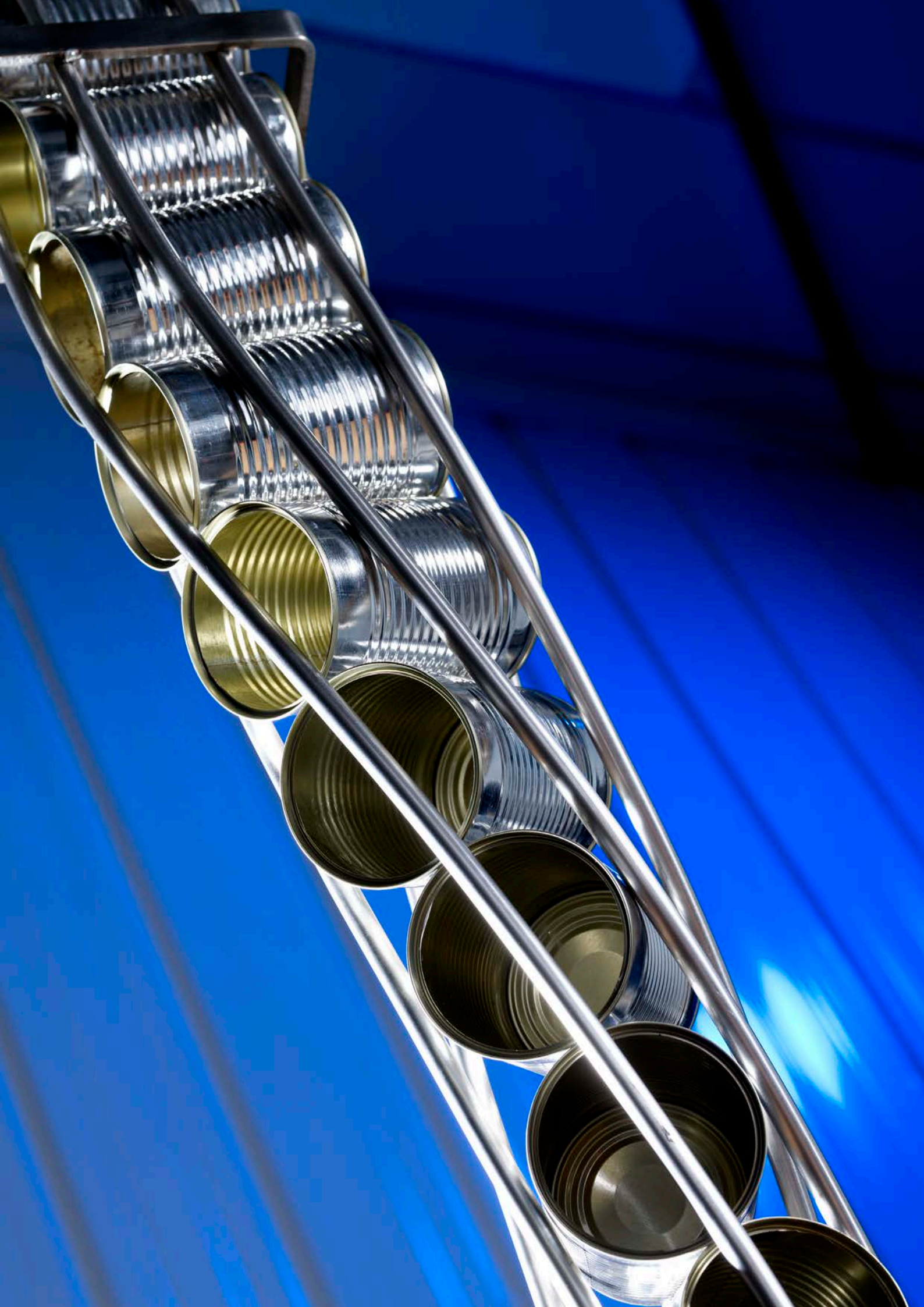
Airflow Characteristics

The air volume and velocity of the IonRinse is fully adjustable to allow accurate setup for each application, as our experience shows that different containers require different airflow characteristics to achieve maximum rinsing performance.



TECHNICAL DRAWINGS





All you need, from the best in the business

Meech is also a leading provider of:

- Industrial Static Control Systems – Eliminating unwanted static or creating a controlled static charge in industrial processes can increase productivity, reduce waste and enhance quality.
- Web Cleaning Systems – Typically used within the printing and packaging industries to remove contamination, improve print quality and increase productivity.
- MAT Air Technology Equipment- Industrial compressed air products that are energy efficient, reduce noise levels, cut costs and provide efficient cooling.
- Surface Cleaning Systems- IonWash, IonRinse and JetStream Air Knife Systems – Energy efficient 3D surface cleaning systems that are used for contamination and surface moisture removal.

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