

**VacClean™**

Contact Web Cleaning

# VacClean™

## Contact Web Cleaning

The Meech VacClean™ contact web cleaning system is an evolution of Meech's successful Tornado system, of which there are hundreds of installations globally.

VacClean systems incorporate an enhanced contact cleaning manifold with either an Air Handling Unit (AHU) or vacuum fan unit, depending on the installation environment and web width.

Meech engineers have created the VacClean manifold profile. The main design characteristics of the VacClean manifold are:

- Highly polished stainless steel faceplates which create turbulence to break the boundary layer
- The delta profile which is proven to have excellent airflow characteristics, ensuring that removed contamination is efficiently transferred to the system filter
- A compact web contact point that means VacClean can be installed in areas with restricted space
- Twin AC ionising bars, which are angled for an increased ionisation footprint, to neutralise static charges on the web on entry and exit to the manifold
- Brushes that aid break up of the boundary layer without contacting the web surface

For a combined manifold length up to 1,650mm/65" the VacClean is supplied with an AHU. The AHU provides the airflow and filtration for Meech web cleaning systems. The AHU is fabricated from stainless steel and is very compact, making it ideal for line side installation. Automatic airflow monitoring and control with the AHU allows optimum cleaning performance to be maintained as the integral filter becomes contaminated. The main labyrinth filter is an F8 grade washable media that is efficient to 90-95% at 0.4 micron, or 100% at 1 micron. The AHU can also be upgraded to include a H13 grade HEPA filter that is efficient to 99.99% at 0.3 micron.



Air Handling Unit (AHU)



A combined manifold length of 1,650mm/65" to 4,000mm/157" requires the VacClean 3-phase centrifugal vacuum fan unit, which includes an outlet silencer and 5 micron contamination collection bag (upgradable to 1 micron). If preferred, the vacuum fan unit is also available as an option for installations with a combined manifold length of under 1,650mm/65".

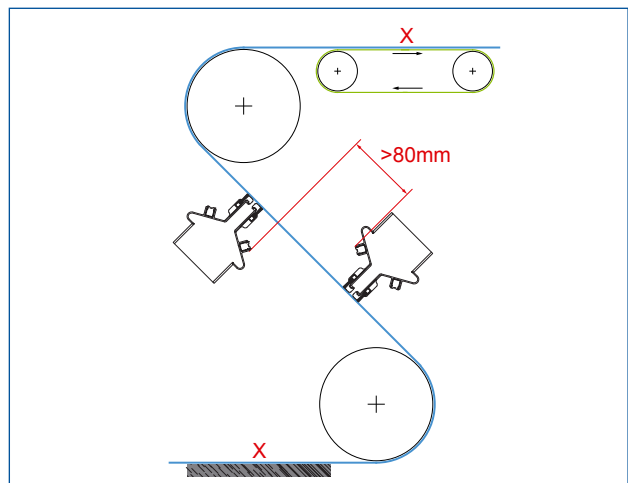
## Applications

VacClean can be used in a wide variety of applications where contact cleaning is required. Typical applications include:

- Printing
- Labelling
- Laminating
- Coating
- Slitting & winding
- Corrugating
- Food/medical packaging
- Paper making/converting
- Wood/furniture/flooring
- Automotive

## Installation

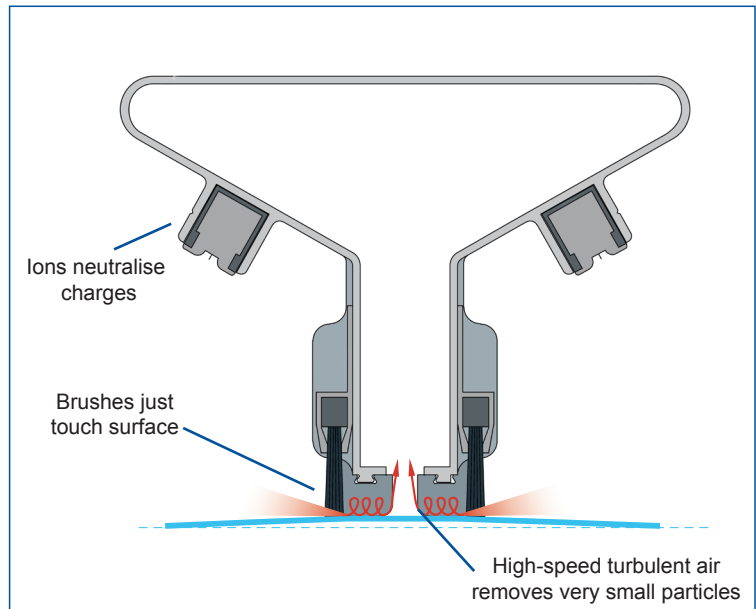
The VacClean manifold/s can be installed on a web travelling at any angle without jeopardising cleaning performance. The manifold/s should be installed between rollers (typically no closer than 100mm/4") in an area where the web remains under tension. If the system is double sided, the manifolds should be spaced by a minimum of 80mm/3". The web must be in free air, i.e. away from rollers, conveyors or the machine bed.



## Unique Design Benefits

The VacClean web cleaner manifold is constructed from extruded aluminium and stainless steel, providing a highly rigid and compact system that can be easily installed in most applications. Based on our unrivalled experience, we have included several unique features:

- Two vacuum control faceplates that give complete coverage of the web, create highly turbulent airflows and concentrate the vacuum to remove contaminants with a very high degree of efficiency.
- Face plates are cast from stainless steel with rounded edges and are highly polished to prevent marking of the web.
- Ionisation – The cleaning head incorporates two Meech anti-static bars. The first bar neutralises the web as it enters the web cleaner to release any dust held by an electrostatic charge. The second bar neutralises the web as it exits so that dust is not re-attracted to the web.



- Brushes – The boundary layer associated with a moving web isolates small particles on the surface from external air flows. The brushes on the VacClean destroy this layer to enable effective removal of the smallest particles.

## VacClean Specifications

The VacClean manifold is constructed from anodised extruded aluminium making it highly rigid and suitable for single manifolds to span web widths up to 3,900mm/153". Manifolds can be joined to span wider webs.

The following table shows the size differences in relation to type of extraction unit.

Extraction Model	Single or Double Sided	Min Web Width	Max Web Width
AHU	Single	150mm/6"	1650mm/65"
AHU	Double	150mm/6"	750mm/30"
Vacuum Fan	Single	150mm/6"	4000mm/157"
Vacuum Fan	Double	150mm/6"	4000mm/157"

## Filtration

Excellent filtration is paramount in any web cleaning system. The VacClean range has the following filtration levels as standard:

- VacClean with AHU - F8 media efficient to 90-95% at 0.4micron, washable filter. Can be upgraded to a HEPA filter.
- VacClean with Vacuum Fan - 5 micron as standard (can be upgraded to 1micron), washable filter.

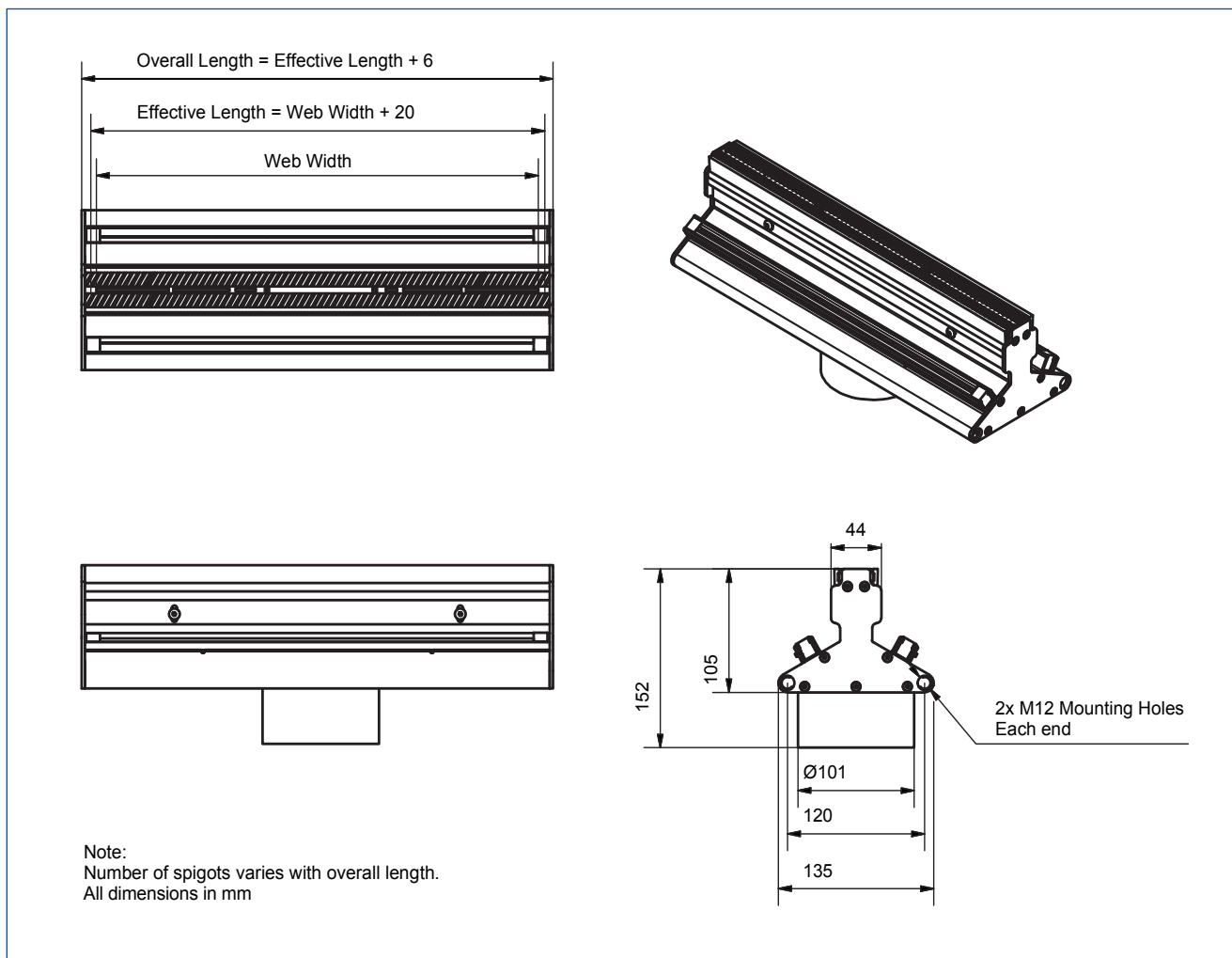
## Options

VacClean systems can be manufactured to include a range of options including:

- Vacuum fan pre filters to allow fan discharge air to be exhausted to atmosphere.
- Cyclonic dust collection unit.
- Acoustic enclosures to provide very low vacuum fan noise levels.

# VacClean Sizing and General Assembly

The VacClean manifold is shown in the drawing below.



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