



Air Knife Systems

Blower-driven de-ionisation systems

Blower-powered de-ionisation air knives produce fast-moving ionised air which has the effect of neutralising static electricity and removing contaminants. These systems can be applied to cleaning plastic parts, mouldings, glass, automobiles and other large objects - removing the dust and eliminating the static electricity to prevent re-attraction.

In summary:

- Powerful ionisation kills the static charge holding the dust, allowing the fast blade of air to remove it for thorough cleaning
- The laminar airflow limits the recombination of ions in the air and so maximizes the static neutralisation performance
- Available in a wide range of lengths, de-ionisation air knives are simple to install, operate and maintain
- 'EX' bars available for applications in hazardous environments

Benefits and Advantages:

A de-ionization system typically consists of one or more ionized air knives connected to an external centrifugal blower.

- Cost effective - these systems will reduce running costs by up to 90% when compared to compressed air alternatives
- Quiet - lower pressure operation results in reduced expansion ratio and less turbulence
- Clean & Hygienic - blower produced air is clean and oil free. Filtered blower inlets prevent further particle contamination
- Safe - de-ionisation air knife systems generally generate less than 0.25psi and are more user-friendly than compressed air equivalents

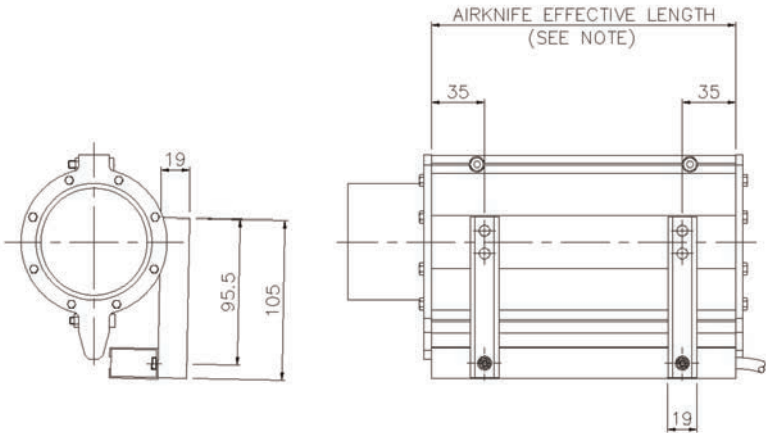
Eliminating Dust Contamination:

Dust contamination is a huge problem in many areas of industry, especially where the product needs to be painted, decorated or laminated. Rectifying dust problems can have very large associated costs, as is shown in the following example:

- A large automotive manufacturer calculated the cost of repainting a car at over £3000.00
- A dust contaminated bumper cost over £150.00 to repaint.
- A company who makes aircraft cockpits calculated the cost of dust included in the lamination could be as high as £35,000.00



Drawing 8: AK08 fitted with de-ionisation bar



Notes for outline drawing:

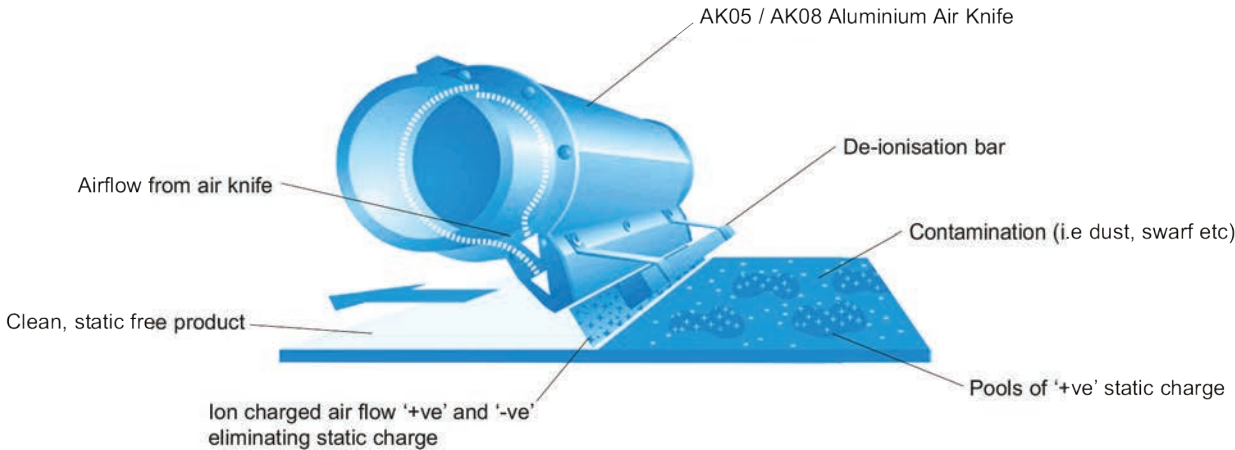
1. Air knife effective length up to 990, require 2 x mounting brackets
2. Air knife effective lengths from 1000mm to 1990mm require 3 x mounting brackets, plus a third placed at the centre
3. Air knife effective lengths from 2000mm to 3000mm require 4 x mounting brackets

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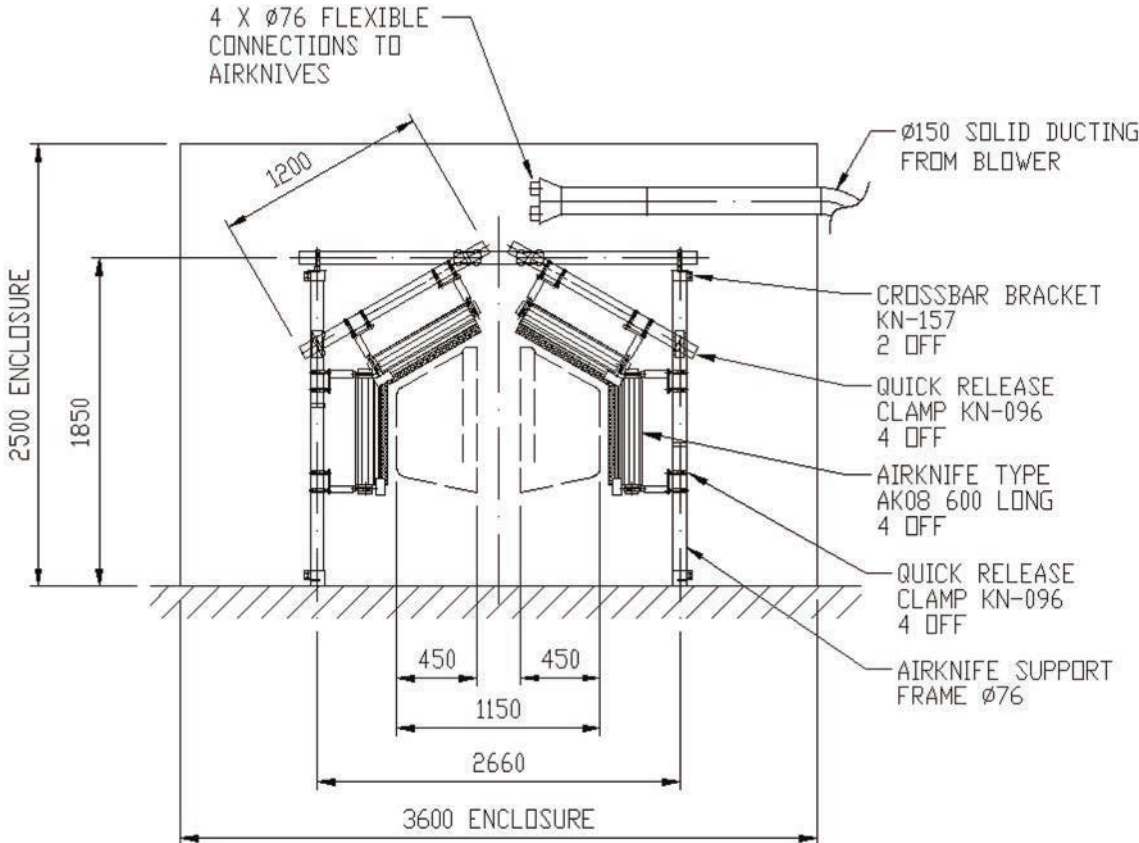
How they work

ACI de-ionisation air knife systems work by producing an electrical field that causes air molecules in the vicinity of the de-ionisation bar to break into positive and negative air ions. These ions are then picked up by the air stream produced by the air knife system and propelled into the work area where they are attracted to and neutralise charged surfaces and materials.



Note - air knives can be positioned above and below conveyed product if required

Drawing I0: De-ionisation system example



Ref: Airknives(4)2014V2