

RAMY DO FILTRÓW KARTONOWYCH

Andreae Filters are easy to install and remove.

Frame

Three simple elements constitute the Andreae filter frame :

1. A U-shaped beam as upper part of the frame. This U is placed upside down and prevents the filter from falling forward when the ventilation is turned off. Its function is also to seal the top of the filter.

- Dimensions :
Height 25 mm
Depth 70 mm
Length as required to close in width.

2. A L shaped beam as side and bottom parts of the frame. The bottom part is the support where the filter stands.

- Dimensions of the bottom part :
Height 25 mm
Depth 70 mm
Length as required.

3. The L-shaped side clips. The first and the last pleat of the filter are inserted behind these clips to maintain the filter and seal the exhaust wall properly. These clips are installed as shown in the drawing below.

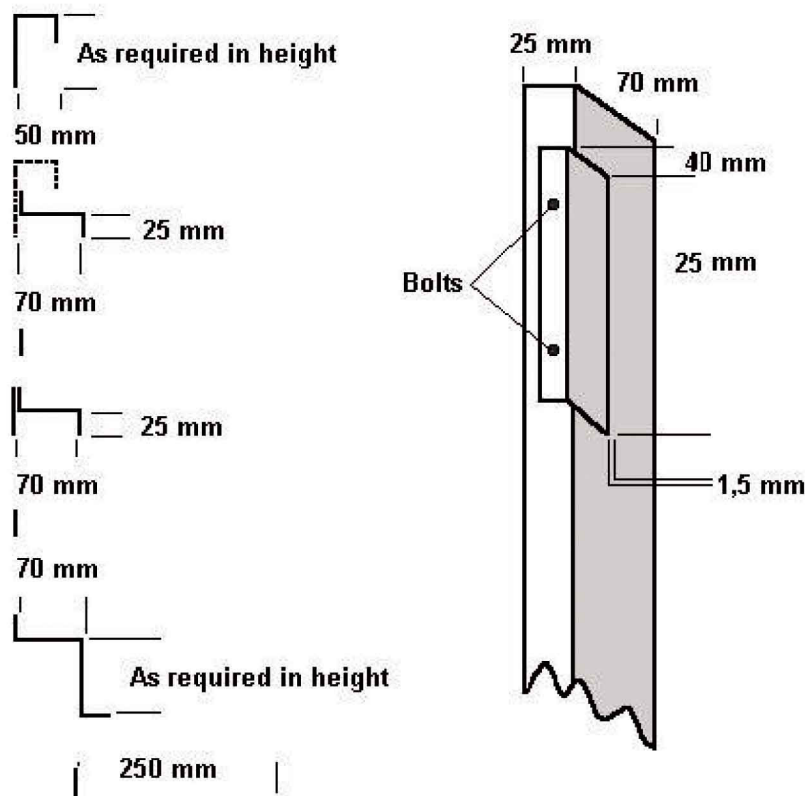


Fig.1 Insertion clips and example of frame parts

Parts

Regarding the choice of parts for the frame, we suggest two possible methods :

1. L shape profiles

The frame is built with the parts shown in fig.1 and 2.

These parts are cut to the booth size. Several layer of filters can be installed. Upper and lower spaces are filled with bent steel sheets.

This example of frame is a good solution when the Andreae filter is factory mounted in the paint booth.

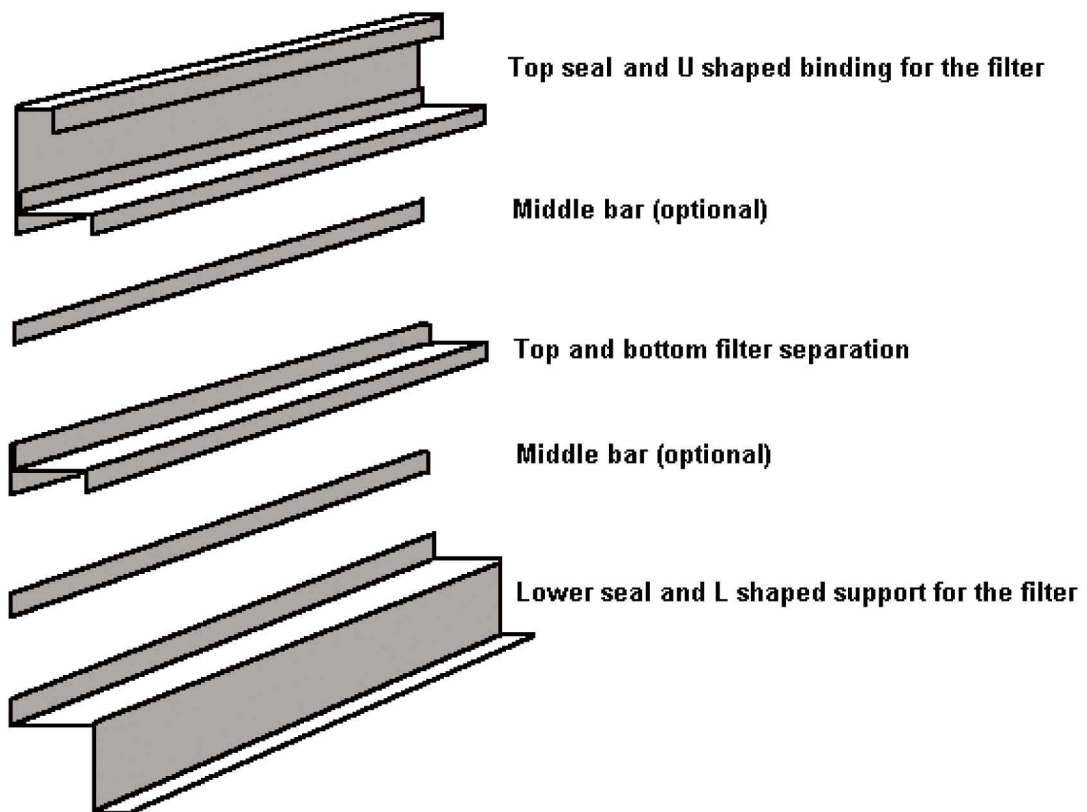
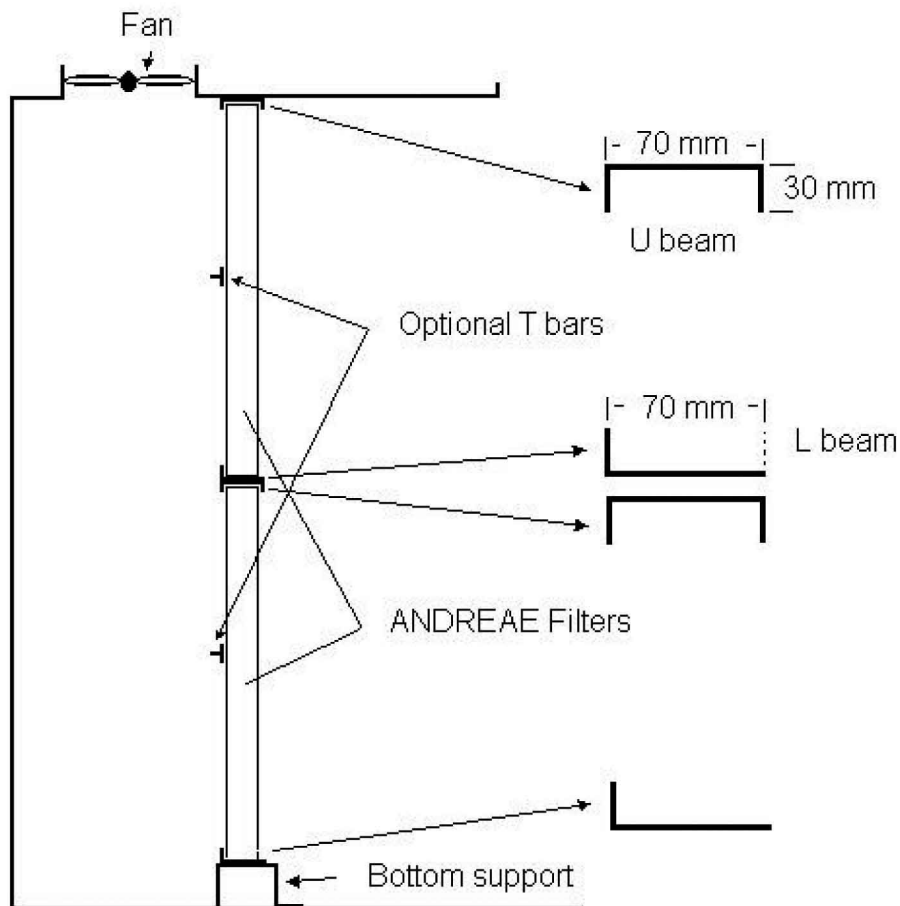


Fig.2 L-shape profiles

Easy booth installation of the ANDREAE filter

1. Cross section : booth and frames

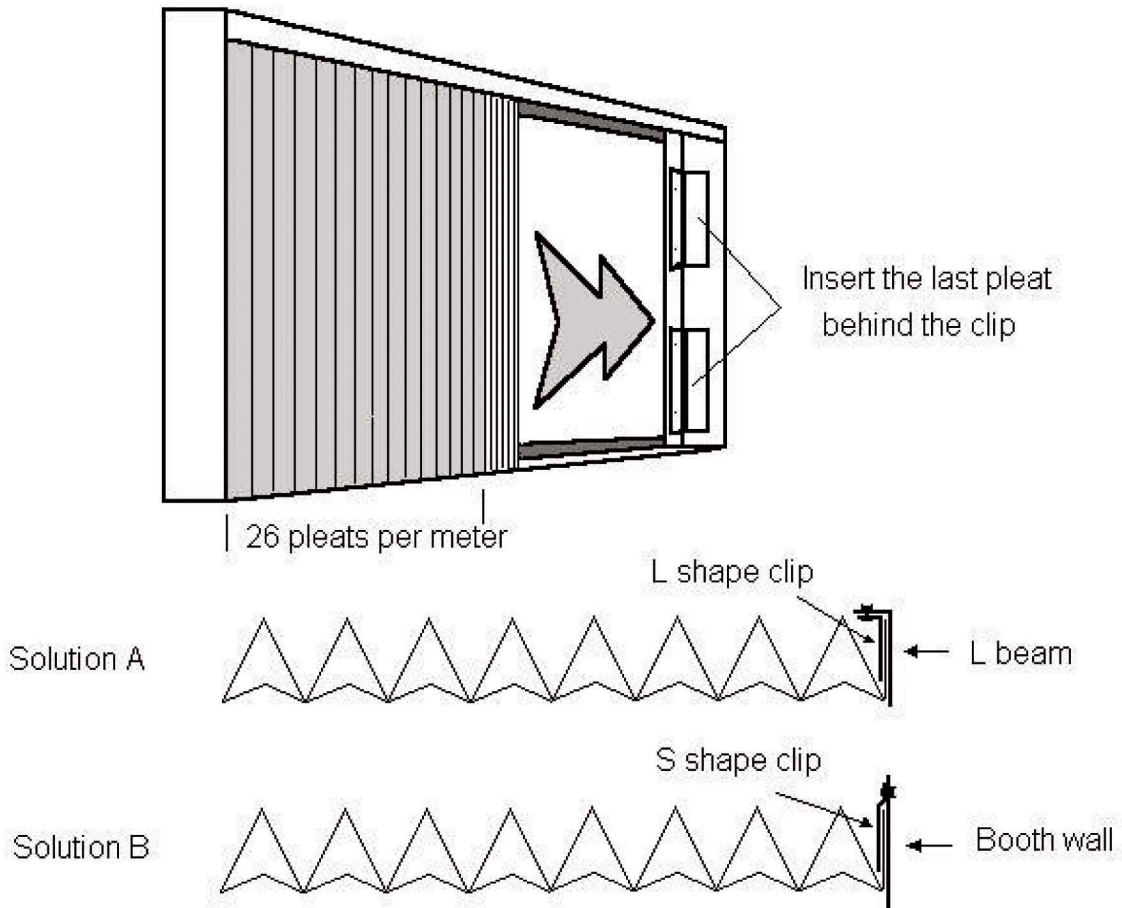


The ANDREAE filters are held on top by an inverted U beam and at the bottom by a L beam. If the booth has several rows of filters, each row is installed on the same beams.

In case of need, an optional T bar may be installed mid-height as additional support.

N.B. No grid is necessary. Therefore, the access to the exhaust plenum is open and there is no need for a side door.

2. Side clips

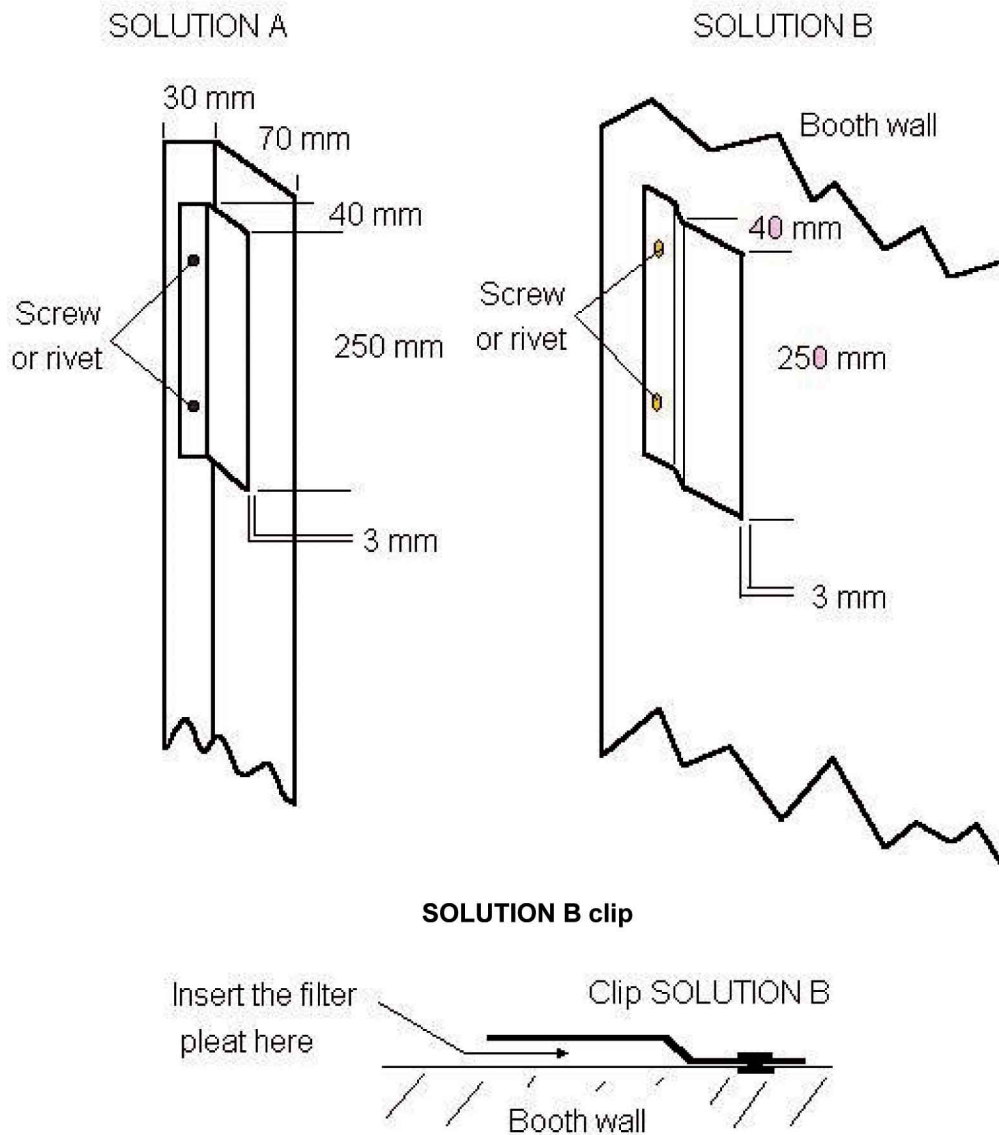


Two solutions are proposed. SOLUTION A features L shaped clips attached on a vertical L bar.

- It is recommended to install the clip with a 3 mm spacing from the L bar for easy insertion of the first and last pleats of the filter.
- Clips should be 250 mm high and 40 mm deep.
- Clips should not be installed less than 150 mm from the upper U beam.

In the SOLUTION B, the S clip is directly fastened to the booth wall.

- The spacing to insert the first and last pleats is also 3 mm.
- Other installation requirements as in SOLUTION A.



4. Water-wash spray booth converted to ANDREAE filter

Water-wash spray booths can be easily converted to the ANDREAE filter.

- Remove the existing baffles, pumps and other equipment for water handling.
- Install the ANDREAE filters frames where the waterfall was located.
- Tune the fan as to have a front air speed of 0.5 to 1.0 m/s. Usually, the fan of the water-wash booth is oversized. Therefore, by changing the pulley, the fan can be tuned down. This brings savings on energy and heat losses.