

# Particulate Air Filters for general ventilation – Standardised dimensions



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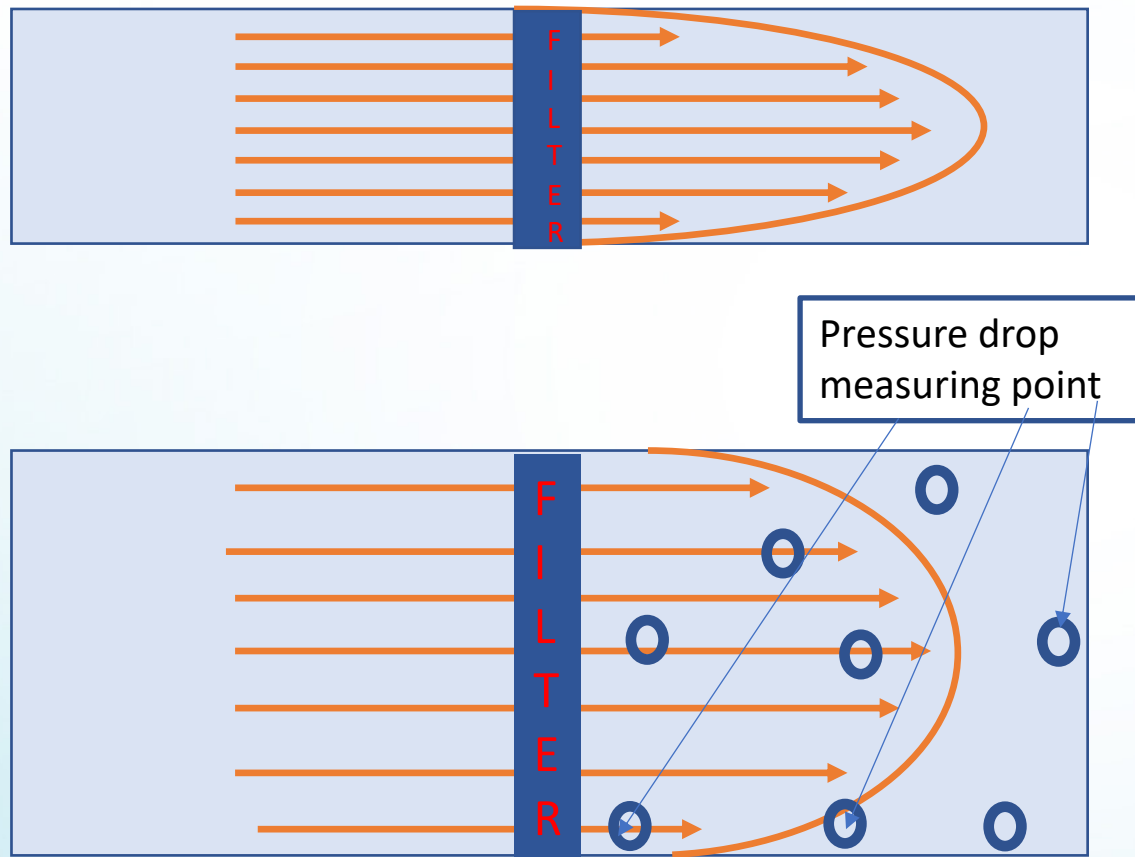
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# General criterion for selection of filters

## Indian HVAC industry perspective

- Air Flow
- Pressure Drop – Initial / Final / Average
- Filtration efficiency (Particulate / PM<sub>x</sub>)
- Type of filter element (Mat / Cassette / Pocket / Cartridge)
- Cost (TCO / Opex / Capex)
- Size of individual filter elements (xxxxx???)

# Impact of shape and size of filters



- Low width of filter has higher net friction effect on the edges. Thus, the pressure drop gets affected depending the on the point of measurement.
- The dust loading pattern on the filter is dependent on the flow pattern (laminar or turbulent flow)
- Filter Efficiency can be defined only for a fixed airflow for a fixed size of filter.

# Most common shapes and sizes





# Standardisation of physical shape and sizes – DIN EN 15805

		September 2010
	DIN EN 15805	<u>DIN</u>
ICS 91.140.30	See start of validity	
<b>Particulate air filters for general ventilation – Standardised dimensions English translation of DIN EN 15805:2010-09</b>		

# Standardisation of physical shape and sizes – DIN EN 15805

## 4 Face dimensions

The face dimensions are indicated in Table 1. Permissible tolerances for holding frame dimensions are + 0 mm and - 2 mm. Permissible tolerances for filter face dimensions (header dimensions) are + 3 mm and - 2 mm.

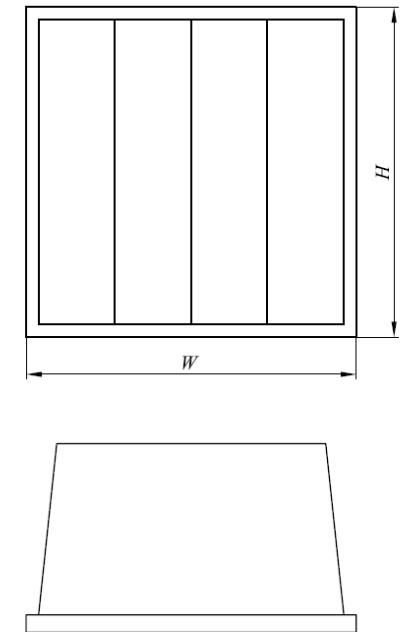
Table 1 — Face dimensions

Holding frame dimensions (Nominal dimensions) <sup>a</sup>		Filter face dimensions (Header dimensions)	
Width mm	Height mm	Width mm	Height mm
610	610	592	592
508	610	490	592
305	610	287	592
610	305	592	287
508	305	490	287
305	305	287	287

<sup>a</sup> Holding frame nominal dimensions are reported for information only. Actual holding frame dimensions shall be adapted to match the header dimensions defined in this standard.

The header frames dimensions shall be 18 mm smaller than the external dimensions of the corresponding holding frames.

For side access systems, the filter channel shall be designed to accommodate filter dimensions and tolerances defined in this standard.



### Key

W width of the overall filter  
H height of the overall filter

Figure 1 — Face dimensions of the air filter

DIN EN 15805 Doc

# Advantages of DIN EN 15805 standardisation

- Low inventory
- Reduced downtime of systems due to inter-changeability
- One fits All – perfectly achieved
- Ease of availability with any and every supplier
- Lower cost due to standardisation
- Off-the-Shelf and hence much faster delivery
- Standard / Universal filter mounting arrangement
- Accurate efficiency, pressure drop, dust holding capacity and energy efficiency of the filters



# THANK YOU

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