

# Standards, Regulations and Recommendations

## EN 779:2012 Classification

Group	Filter Class	Final pressure drop (test) Pa	Average arrestance (Am) of synthetic dust %	Average efficiency (Em) for 0.4 µm particles %	Minimum efficiency <sup>2)</sup> for 0.4 µm particles %
Coarse	G1	250	50 ≤ Am ≤ 65	-	-
	G2	250	65 ≤ Am ≤ 80	-	-
	G3	250	80 ≤ Am ≤ 90	-	-
	G4	250	90 ≤ Am	-	-
Medium	M5	450	-	40 ≤ Em ≤ 60	-
	M6	450	-	60 ≤ Em ≤ 80	-
Fine	F7	450	-	80 ≤ Em ≤ 90	35
	F8	450	-	90 ≤ Em ≤ 95	55
	F9	450	-	95 ≤ Em	70

<sup>1</sup>The characteristics of atmospheric dust vary widely in comparison with those of the synthetic loading dust used in the tests. Because of this, the test results do not provide a basis for predicting other operational performance or service life. Loss of media charge or shredding of particles or fibers can also adversely affect efficiency.

<sup>2</sup>Minimum efficiency is the lowest of any of the following three values: initial efficiency, discharged efficiency, or efficiency throughout the test's loading procedure.

## Test Standard Correlations



The test standard correlations above are approximations based on results obtained on a sampling of products. Actual results on products may differ somewhat from these correlations, and a product tested to one standard that needs to meet the requirements of another standard should be tested in accordance with the specified standard.

## Supply (SUP) Air Categories

Category	Description	General Ventilation	Industrial Ventilation
SUP1	Refers to supply air with concentrations of particulate matter which fulfilled the WHO (2005) guidelines limit values multiplied by a factor x 0.25 (annual mean for PM2.5 ≤ 2.5 µg/m3 and PM10 ≤ 5 µg/m3).		Applications with high hygienic demands Hospitals, pharmaceuticals, electronic and optical industry, supply air to cleanrooms.
SUP2	Refers to supply air with concentrations of particulate matter which fulfilled the WHO (2005) guidelines limit values multiplied by a factor x 0.5 (annual mean for PM2.5 ≤ 5 µg/m3 and PM10 ≤ 10 µg/m3).	Rooms for permanent occupation Kindergartens, offices, hotels, residential buildings, meeting rooms, exhibition halls, conference halls, theaters, cinemas, concert halls.	Applications with medium hygienic demands Food and beverage production.
SUP3	Refers to supply air with concentrations of particulate matter which fulfilled the WHO (2005) guidelines limit values multiplied by a factor x 0.75 (annual mean for PM2.5 ≤ 7.5 µg/m3 and PM10 ≤ 15 µg/m3).	Rooms with temporary occupation Storage, shopping centers, washing rooms, server rooms, copier rooms.	Applications with basic hygienic demands Food and beverages production with a basic hygienic demand
SUP4	Refers to supply air with concentrations of particulate matter which fulfilled the WHO (2005) guidelines limit values multiplied by a factor x 1.0 (annual mean for PM2.5 ≤ 10 µg/m3 and PM10 ≤ 20 µg/m3).	Rooms with short-term occupation Restrooms, storage rooms stairways.	Applications without hygienic demands General production areas in the automotive industry.
SUP5	Refers to supply air with concentrations of particulate matter which fulfilled the WHO (2005) guidelines limit values multiplied by a factor x 1.5 (annual mean for PM2.5 ≤ 15 µg/m3 and PM10 ≤ 30 µg/m3).	Rooms without occupation Garage room, data centers, underground car parks.	Production areas of the heavy industry. Steel mill, smelters, welding plants.

## Selecting Filter Efficiency

Outdoor (ODA) Quality (µg/m3)	Supply Air Quality (SUP)					
	SUP1*	SUP2*	SUP3**	SUP4	SUP5	
PM2.5 µg/m3	PM2.5 ≤ 2.5 µg/m3 and PM10 ≤ 5 µg/m3	PM2.5 ≤ 5 µg/m3 and PM10 ≤ 10 µg/m3	PM2.5 ≤ 7.5 µg/m3 and PM10 ≤ 15 µg/m3	PM2.5 ≤ 10 µg/m3 and PM10 ≤ 20 µg/m3	PM2.5 ≤ 15 µg/m3 and PM10 ≤ 30 µg/m3	ePM10
ODA1	≤ 10	≤ 20	60%	60%	60%	50%
ODA2	≤ 15	≤ 30	80%	80%	80%	60%
ODA3	≥ 15	≥ 30	90%	90%	90%	80%

\* Minimum filtration requirements ISO PM1 50% refer to a final filter stage.  
 \*\* Minimum filtration requirements ISO PM2.5 50% refer to a final filter stage.

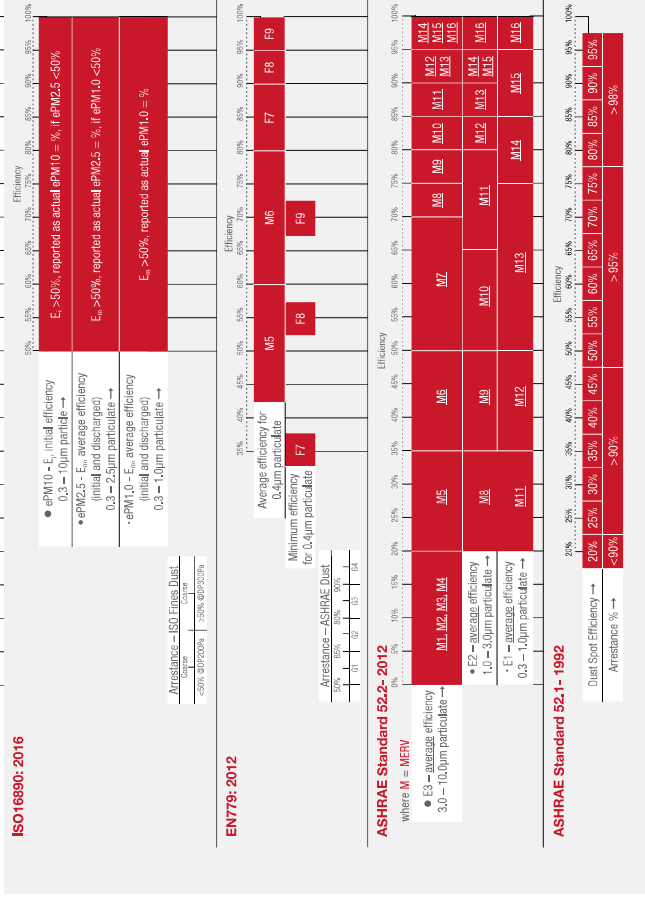
NOTE: Some countries (e.g. Sweden) may have national guidelines.

Test Duct and Discharge Chamber- ISO 16890



## HVAC Filter Designations

### The Evolution of Air Filter Standards — Efficiency and Arrestance



MEGApaclear™ Prefilter



DriPak™ NX Bag Filter



VanCee® VXL V-Bank Filter