

Viledon Filters Create a Climate of Confidence



viledon®

Freudenberg

High indoor air quality is not a matter of course ...



Recently, indoor climate control systems have become the focus of increasing interest, since among the causes cited for Sick Building Syndrome are poorly maintained and hygienically inadequate HVAC (Heating, Ventilating and Air-Conditioning) systems. To protect the health of the staff concerned, and also for reasons of production-specific or technological conditions, tougher requirements have to be applied for the performance capabilities of air filters in HVAC systems. The air filters used have to ensure that the content of dusts, bacteria, moulds, and biological constituents in the intake air to rooms does not exceed that of the local outside air in any category. Care must thus be taken to ensure that the air filters cannot themselves become sources of air constituents deleterious to health and fragrance.

The dust concentration in the atmosphere, like the different particles it comprises, depends on the meteorological situation and specific local conditions, such as emission sources. One cubic meter of outside air, for example, may have between 10 and 80 billion particles in suspension. The proportion of potentially allergy-triggering pollens, most of which are larger than 10 µm, is often as much as several thousand per cubic meter during the spring months. High all-year round coarse-dust loadings are encountered in heavy-industry regions and in rural districts featuring high concentrations of natural particles and seasonal peaks due to agriculture and airborne pollen.

In large conurbations, especially, the outside air is heavily polluted with fine dusts from industrial facilities, road traffic and other combustion processes. The substances include soot, exhaust gas aerosols, abraded particles, vapours, etc. In addition, the outside air also contains micro-organisms like bacteria, spores and moulds in a size category of approx. 1 µm.

Under these environmental conditions, high-quality fine filtration is essential for supplying people in air-conditioned rooms with clean „healthy“ air to breathe.



Viledon Compact Eco pocket filters for a good climate

Viledon Compact Eco pocket filters have been developed specifically for indoor climate control and meet all hygiene requirements for HVAC systems. They offer high operational dependability over lifetimes of at least 1 year in the prefilter stage and not less than 2 years in the second filter stage, given the volume flow of 3.600 m³/h (per 1/1 filter element) usual in indoor climate control applications and average on-site conditions¹⁾.

To extend the lifetime of downstream fine filters, an effective prefilter stage will often be required.

The EP 45 Coarse Filter offers stable arrestance of coarse dusts and is particularly well suited as a prefilter upstream of fine filters. Its high dust holding capacity at a low pressure drop ensures long useful lifetimes.

The EP 50 Fine Filter provides an optimum combination of high arrestance, high dust holding capacity, low pressure drop and required useful lifetime.

The EP 90 Fine Filter ensures high room air quality by very good arrestance of fine dusts and micro-organisms, with a low pressure drop.

The filter media of the EP 45 and EP 50 filters are progressively structured, i.e. layers of differing fiber diameters are arranged in line, with the density increasing towards the clean-air

... but a matter of confidence.

side. The EP 90 filter medium has a 3-layer progressive structure, with a high-arrestance microfibre layer being surrounded by a prefilter layer and a support layer. This ensures an optimum of filter performance and dust holding capacity.

In the case that old single-stage filter systems are to be operated with Filter Class F7 to EN 779, we advise using the Viledon MaxiPleat cassette filters Type MX 85.

Under critical on-site conditions, such as abrasive or sticky dusts, high volume flows, and if process safety does not permit any compromises, the field-proven Viledon Compact or MaxiPleat filters satisfy even the toughest of requirements for operational reliability and cost-efficiency.

Viledon filters are manufactured in our own plants using sophisticated, often patented processes, and over decades of use have proved their distinctive excellence of quality, their cost-efficiency and their operational dependability. Numerous customers appreciate not only our innovative vigor and global presence, but also our professional applications engineering consultancy on the spot. Our Quality Manage-

ment System to ISO 9001, plus our Environmental Management System to ISO 14001, guarantee the consistently high performance and environmental compatibility of all our products.

Viledon Compact Eco pocket filters: The design features at a glance

- ▶ Very good filtration characteristics, thanks to the progressive and 3-layer progressive structure of the nonwoven filter media made of synthetic-organic fibers and microfibers
- ▶ High functional reliability due to leakproof-welded filter pockets foamed into the PUR front frame
- ▶ The microbiologically inactive filters offer no nutrient medium for the growth of microorganisms
- ▶ No risk of glassfiber breaks and shedding, since there is no glassfiber content at all
- ▶ Corrosion-free, moisture-resistant up to 100% relative humidity, self-extinguishing to DIN 53438 and disposal-friendly
- ▶ Eco-friendly, containing no PVC or halogens
- ▶ Simple and safe to install, suitable for all commonly used support frames.



Reg. No. 1420

Freudenberg Vliesstoffe KG
Filter Division
Weinheim/Germany

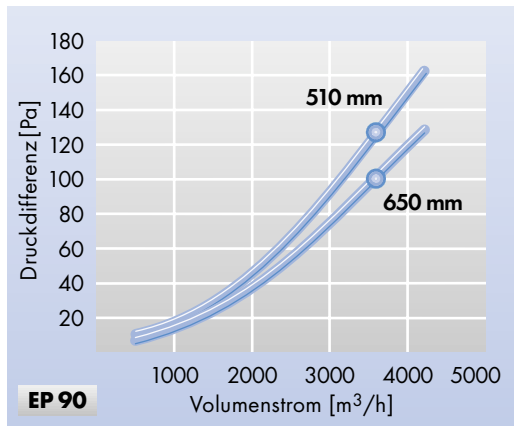
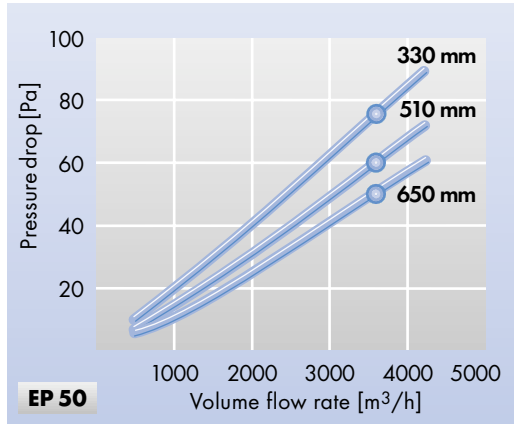
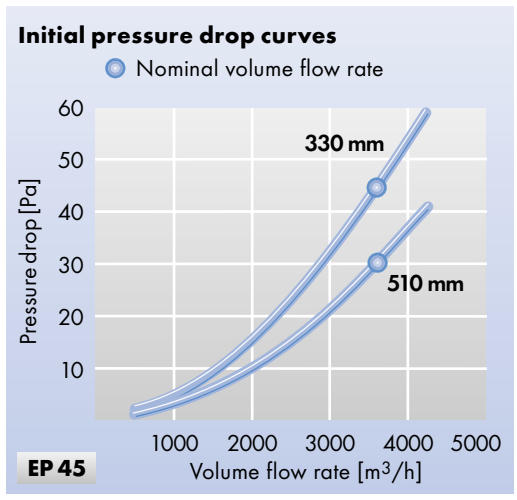
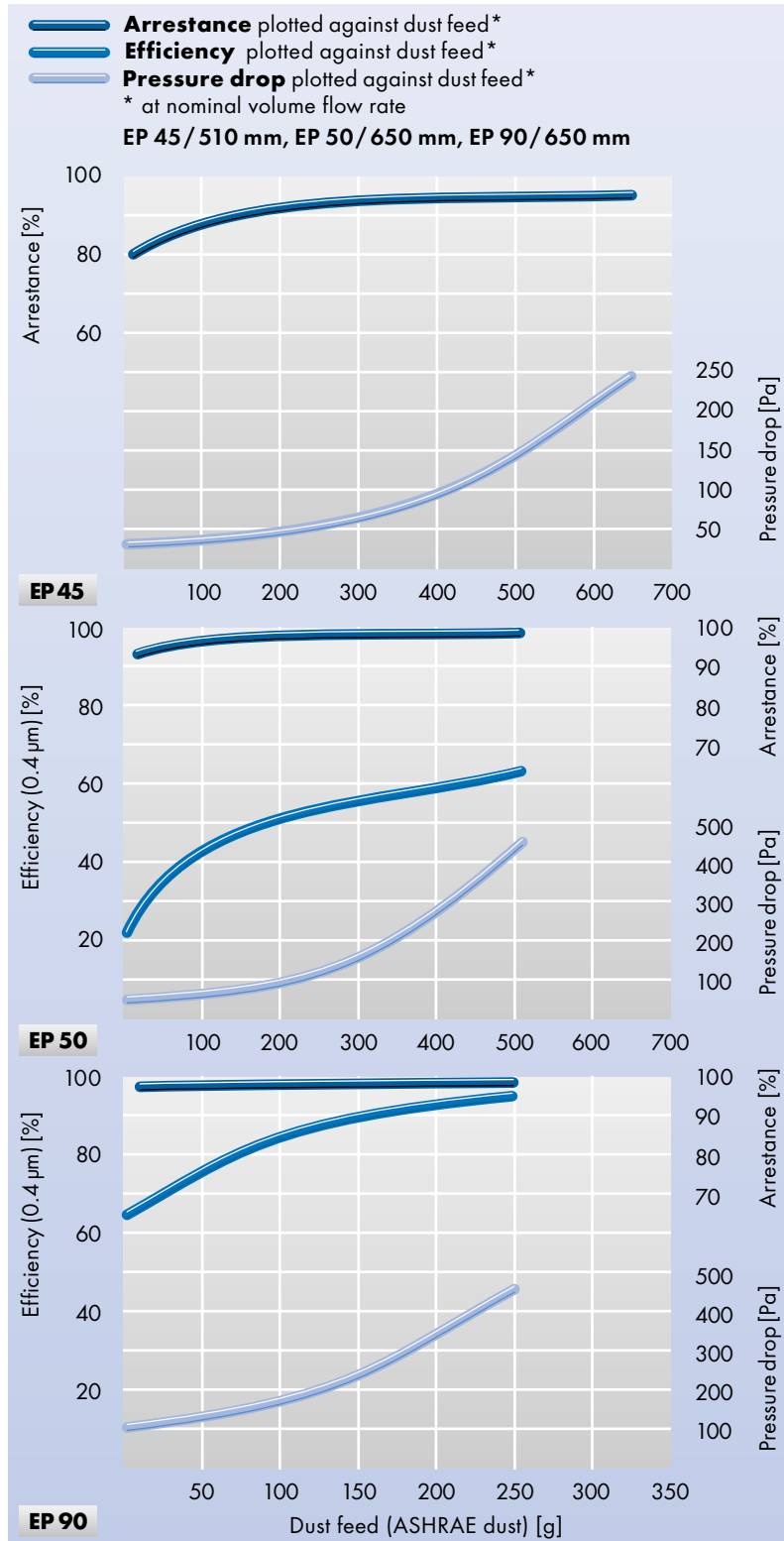


Technical data		EP 45	EP 50	EP 90
Filter Class to EN 779		G 4	F 5	F 7
Dimensions of 1/1 element W x H	mm	592 x 592	592 x 592	592 x 592
Depth	mm	330 / 510	330 / 510 / 650	510 / 650
Nominal volume flow rate	m ³ /h	3,600	3,600	3,600
Initial pressure drop	Pa	45 / 30	75 / 60 / 50	125 / 100
Recommended final pressure drop	Pa	250	300	300
Average arrestance	%	90 / 92	95 / 96 / 98	> 99 / > 99
Average efficiency (0.4 µm)	%	---	45 / 48 / 50	83 / 85
Average fractional efficiency for 1 µm	%	---	60 / 63 / 65	93 / 95
Filtering area	m ²	2.0 / 3.0	2.0 / 3.0 / 3.8	4.8 / 5.6
Dust holding capacity	g	400 / 600	250 / 400 / 500	200 / 250
Thermal stability, temporary peaks	°C	70 80	70 80	70 80
Moisture resistance, rel. humidity	%	100	100	100

The filter elements are also available in the subsizes 5/6 (492x592 mm), 1/2 (289x592 mm) and 1/4 (289x289 mm).

¹⁾ Corresponds to an annual average figure of approx. 15 µg/m³ for PM10 dusts (≤ 10 µm) in accordance with the German Federal Environment Agency (www.Umweltbundesamt.de).

Technical filter test data to EN 779



The figures given are mean values, with tolerances due to the normal production variations. The accuracy of the data given when applied to individual cases requires our express written confirmation. Subject to technical alterations. You will find instructions on how to handle and dispose of loaded filters in our information on product safety and eco-compatibility.

Freudenberg Vliesstoffe KG · Filter Division
 D - 69465 Weinheim
 Tel. +49 (0) 62 01/80-62 64 · Fax +49 (0) 62 01/88-62 99
 Email: filter-service@freudenberg-nw.com · www.viledon-filter.com

