VOKES AIR

Taking small steps together, always ahead, towards a better world

Compatex TMP & TMPC

For combustion air intake systems

APPLICATIONS

- Clean Air
- **Power Generation**
- Clean Room
- Industrial

KEY FACTS

- **Comprehensive, fully tested range**
  For assured performance
- **Large filter surface**
  Provides extremely long service life
- **Low pressure drop**
  Maximises turbine power output
- **Fits all commonly used filter frames**
  For ease of installation
- **Robust hollow profile plastic frame**
  Provides industry-leading burst resistance
- **Fully incinerable with recyclable materials**
  For simple, environmentally friendly disposal
- **Glass fibre paper medium**
  No fibre loss or shedding
- **Foamed one-piece PU-gasket with closed surface**
  Ensures optimum performance
- **Available in TMPC EPA grade**
  For ultimate protection and optimum performance of your turbine
- **Fully sealed TMPC version**
  Ideal for offshore and coastal application

Compatex TMP & TMPC

For combustion air intake systems

Compatex TMP & TMPC filters remove airborne particulate matter from combustion engine intake air, providing full protection from fouling, corrosion and erosion of the turbines key components. Compatex TMP & TMPC filters are most suitable for gas turbines, diesel engines, compressors and air conditioning units for power plants, offering lower pressure drop and extended life.

Compatex TMP & TMPC filters are available in seven efficiencies, two pleating densities and two designs. Used in combination with the prefilter range, they offer an optimised efficiency/life time relationship at the lowest pressure drop. When selecting a combination of prefilters and final filters, the following should be considered:

- Interaction between each of the filters' efficiencies
- Optimisation of dust holding capacity
- Minimisation of overall system pressure drop

▼ Compatex TMP-TMPC

EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com

Vokes Air participates in the ECC programme for Air Filters. Check ongoing validity of certificate: www.eurovent-certification.com or www.certiflash.com

Is cost important to you?

The overall cost of operating a system featuring combined filter stages is dependent upon the interaction of the filters within these stages. Changing the efficiency of the prefilter can have a dramatic impact upon the performance characteristics and overall operating costs.

A prefilter arrestance which is either too low or too high can increase the overall cost significantly, and the higher the efficiency of the final stage, the narrower this optimum performance window becomes (Fig. 2).

Based on this and extensive practical experience, our specialists are able to assist you in finding the correct balance – ensuring that your selection of pre and final filter combinations perform to an optimum level, through a solution tailored to your local environmental and operating conditions – high efficiency from the start and low pressure drop, reducing the energy consumption of the fan.

How we reduce your cost

The initial pressure drop of Compatex TMP & TMPC filter combinations is extremely low.

For example:

Prefilter	G3	G4	M5
Compatex TMP	F7	F8	F8
PD @ 3400 m³/h	115 Pa	135 Pa	140Pa
PD @ 4250 m³/h	165 Pa	185 Pa	195 Pa

These low pressure drops – a typical feature of Vokes Air filter systems – provide significantly higher engine power output. In addition, extremely high dust holding capacities ensure low maintenance and replacement cost.

Vokes Air filters are designed for a nominal air flow of 4250 m³/h (2500 cfm), and when compared with the traditional 3400 m³/h (2000 cfm) units, they offer a 20% space saving for a comparable life expectancy. When traditional units with an air flow of 3400 m³/h are exchanged, the Vokes Air filter combination typically provides double the life.

Tests confirm that dust holding capacity of the final filter is reduced with increasing arrestance of the prefilter.

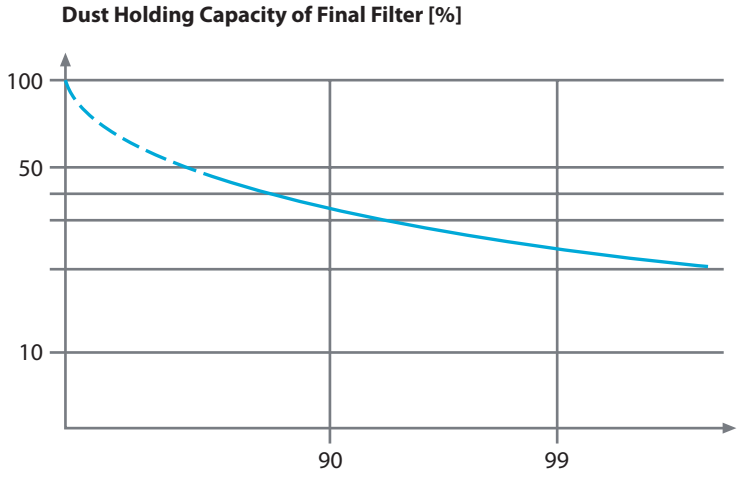


Fig. 1

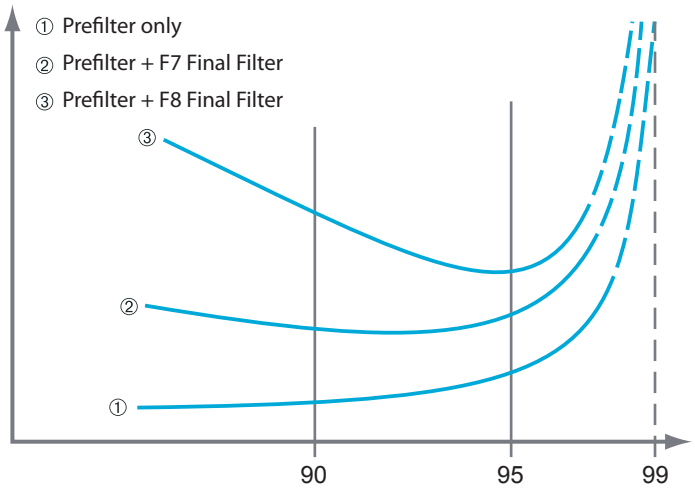
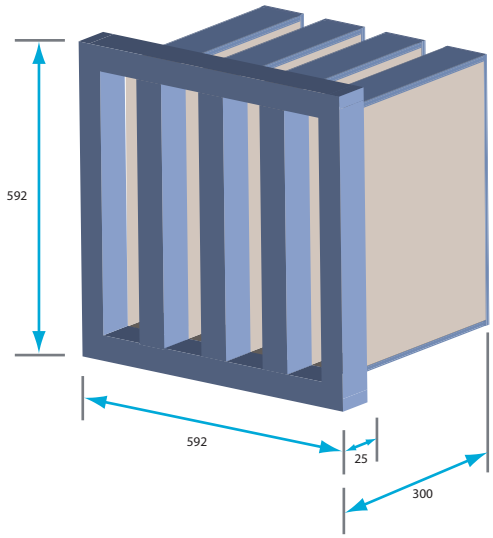
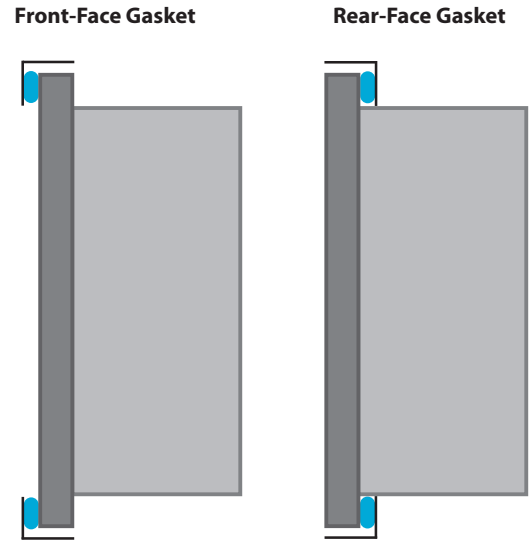


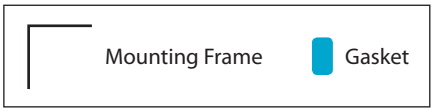
Fig. 2



▲ Dimensions TMP & TMPC (mm)



▲ Gasket Options for TMP & TMPC



Materials Specification		
Filter Media	Micro glass-fibre bonded to paper	
Filter Frame	Incinerable, halogen-free, recycled Polystrol	
Flammability Classification	Standard: On request:	• DIN 53438- K2/F2 • DIN 53438- K1/F1 • DIN 4102- B2 • UL 900, Class 2
Sealant	2-Component Polyurethane	
Gasket	Polyurethane, foamed in one piece, with closed surface	

Application Parameters	
Continuous Operating Temperature	< 70°C
Pressure Drop (PD):	
Recommended Final PD	450 Pa
Maximum Final PD	800 Pa
Burst PD Static (new filter)	> 5000 Pa
Burst PD Dynamic (new filter)	> 5000 Pa
Admissible Relative Humidity	< 100% (TMP) • ≤ 100% (TMPC)
Maximum Air Flow Rate	5000 m^3/h

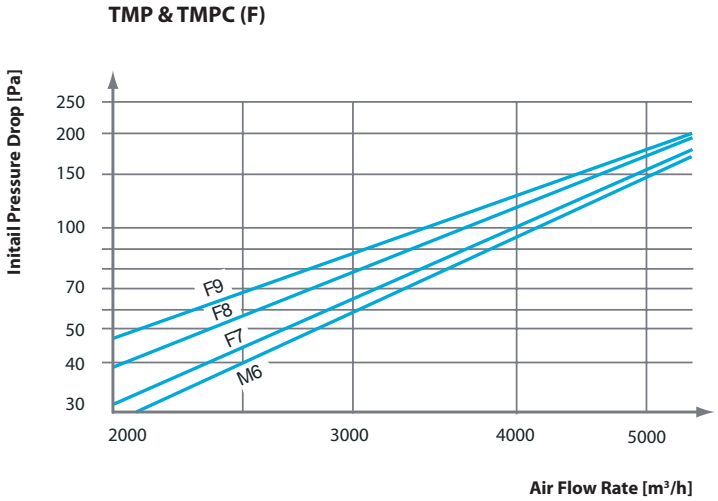
Compatex TMP and TMPC (F)

Fine Dust Filters

Compatex TMP and TMPC (F) fine dust filters are available in filter classes M6 to F9 to EN 779. The micro glass fibre paper is mini pleated, formed into mats and sealed into a plastic frame in a four-V arrangement. Unique hollow profiles create an extremely rigid and lightweight filter (5.3 kg only).

A maximum open face area results in an extremely low pressure drop and extended filter media areas provide exceptional dust holding capacities. The TMPC (F) is a fully potted version, equipped with conical cover plates for optimum water drainage.

Compatex TMP and TMPC (F) fine dust filters, with the standard dimensions 592 x 592 x 300 mm, are interchangeable with commonly used filters and will fit securely into most mounting frames.



TMP and TMPC (F)	Type	M6-610 [2]	F7-610	F8-610	F9-610
Air Flow Rate V_N (nominal service life)	m^3/h	4250	4250	4250	4250
Initial pressure drop at V_N	Pa	105	115	130	140
Air Flow Rate V_L (long service life)	m^3/h	3400	3400	3400	3400
Initial pressure drop at V_L	Pa	75	80	90	98
Filter Class as per EN 779	–	M6	F7	F8	F9
Efficiency, Atmospheric, Average [1]	%	60 – 80	80 – 90	90 – 95	> 95
Arrestance, Gravimetic, Average [1]	%	98	>99	>99	~100
Filter Media Area – Type N (normal)	m^2	20	20	20	20
ASHRAE Dust Holding Capacity [1]	g	750	624	596	564
SAE (AC-Fine) Dust Holding Capacity [1]	g	1750	1720	1544	1567
Filter Media Area – Type E (extended)	m^2	–	24	24	24
ASHRAE Dust Holding Capacity [1]	g	–	724	692	655
SAE (AC-Fine) Dust Holding Capacity [1]	g	–	1997	1792	1819
Energy Rating*	–	C	A	A	A

1) Tested to ASHRAE 52.2 and EN 779, for 3400 m^3/h (2000 cfm) up to 450 Pa final pressure drop 2) Available as TMP only

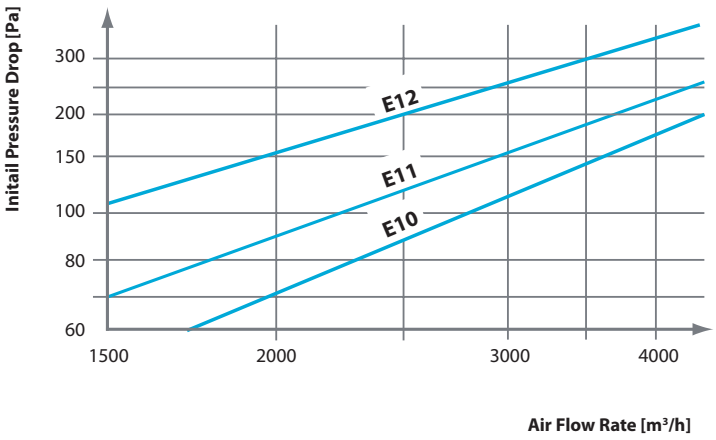
* Energy Rating – as is the case with many consumer goods, our M5 - F9 filters are rated according to their energy efficiency on a scale of A (the best) to G (the worst). These ratings are certified by Eurovent and in accordance with the 4/11 scheme.

Compatex TMPC (E)

EPA Filters

Compatex TMPC (E) filters are available in nominal efficiency rates of 90%, 97% and 99.9% for 0.3 µm DOP to US Mil. Std. 282 and in filter classes E10, E11 and E12 to EN 1822:2009 respectively. They are designed in the same way as the TMPC (F) filters, as described previously, but feature red vertical bars to enable instant identification of EPA grade filters.

Compatex TMPC (E) filters are designed to meet the requirements of the latest generations of ultra-efficient GT's which require protection from submicron particles. Compatex (E) filters are only available in the fully potted TMPC version with an extended filter media area (Type E) due to the more demanding requirements of the higher efficiencies.



TMPC (E)	Type	E10-610	E11-610	E12-610
Air Flow Rate V_N (normal service life)	m^3/h	3400	3400	3400
Initial pressure drop at V_N	Pa	140	180	295
Air Flow Rate V_L (long service life)	m^3/h	3000	3000	3000
Initial pressure drop at V_L	Pa	120	155	260
Filter Class as per EN 1822	–	E10	E11	E12
Initial Efficiency as per EN 1822:2009 (MPPS-DEHS test)	%	≥85	≥ 95	≥ 99.5
Initial Efficiency as per U.S Mil. Std. 282 (DOP test)	%	90	97	99.9
Filter Media Area – Type E (extended)	m^2	24	22	22
Recommended Class of Prefiltration[3] (EN 779)	-	F7	F8	F9

3) Depending on local environmental conditions - ask for Vokes Air's design assistance.

Compatex TMP-TMPC

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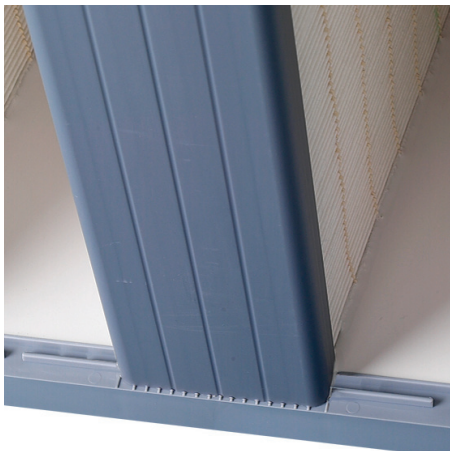
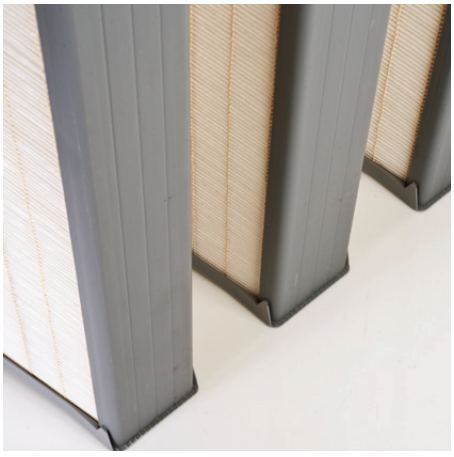
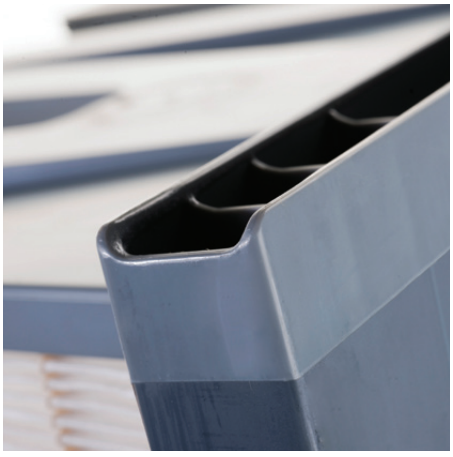


◀ The fully sealed Compatex TMPC

◀ Compatex TMPC filters installed at a gas turbine power station

▼ COMPATEX TMPC (F)





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