ALUP Kompressoren

Compressed Air Filters

PF/DF/MF/SF/AF

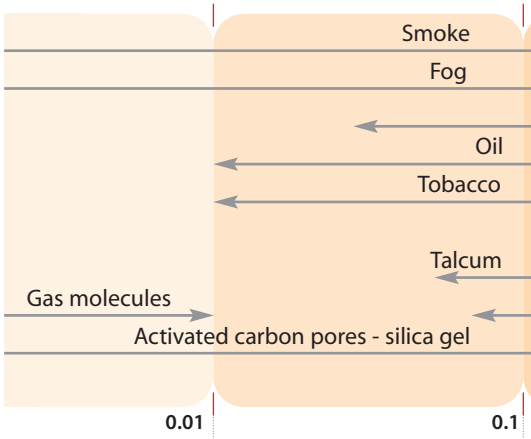
ALUP Filter For Compressed Air Purity

Compressed air quality is related directly to the operating conditions of your compressor. Most compressor intake filters will remove particles larger than 2µm. Particles smaller than this will pass through the filter and will mix with the residual oil and water to form a contamination which can result in corrosion within the compressed air system.

Filtration Choice Is Dependant

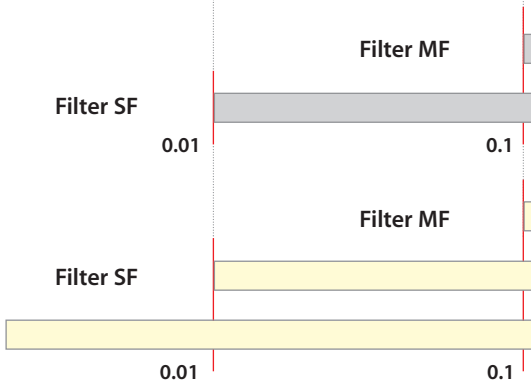
The choice offiltration grade will be decided by the quality of the air required by your application or process.

Example of particles size and pollutants.



Filtration grade of solid particles.

Residual oil filtration grade.

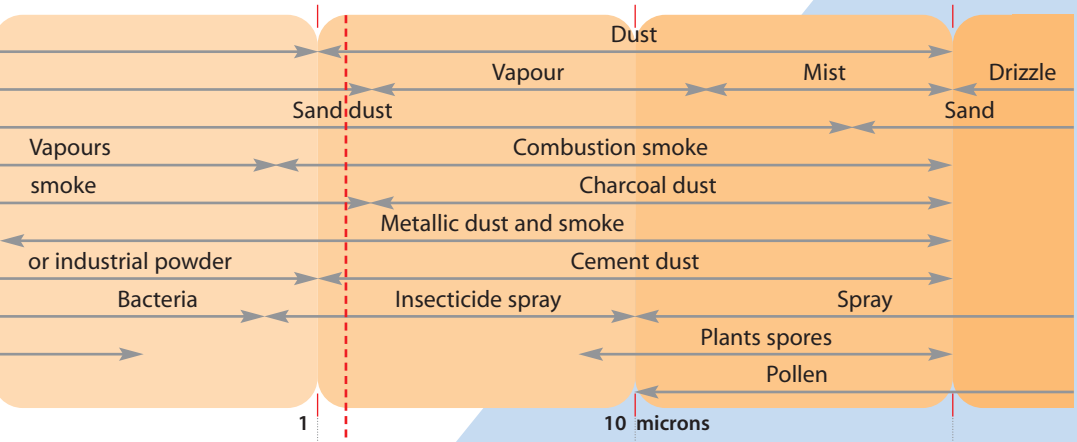


This contamination will cause downstream equipment to have an increased failure rate which will result in higher maintenance costs.

Contamination of raw material and processes (e.g. painting or pneumatic handling) can result in reduced quality of output goods and high product-spoilage.

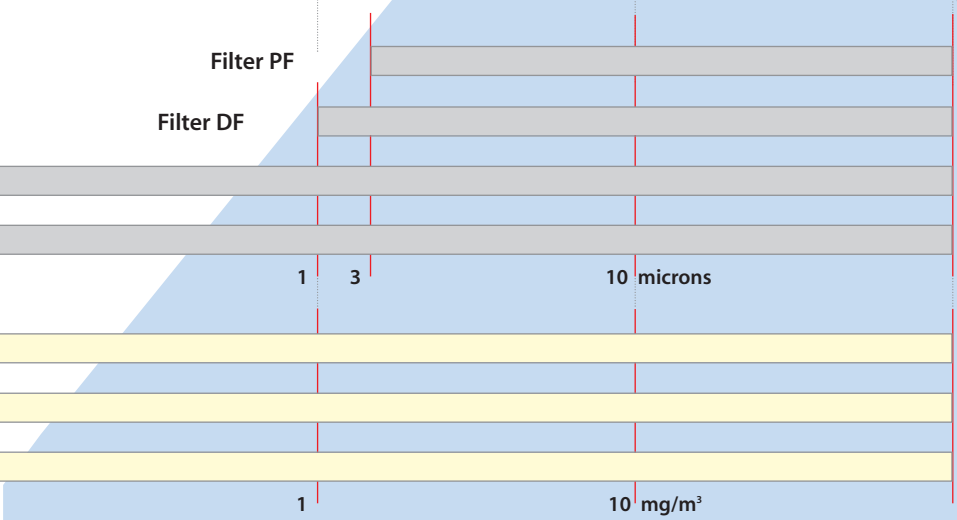
To protect your equipment and to ensure total quality, ALUP offers a complete range of compressed air filtration equipment. Using our specialist knowledge, we can ensure that you receive the most comprehensive solution to guarantee that you get superior air quality for the minimum operating cost.

On The Type Of Contamination



A large number of pollutants are found in compressed air. The bulk of this contamination is in the form of oil vapour which requires a submicronic filter grade (0.01 µm) to effectively remove it.

Filtration grade of the air inlet filter in our ALUP screw compressors.



CLASS ISO 8573-1	
3	Dust protecting filter for solid particles of 3 µm and above.
2	Dust protecting filter for solid particles of 1 µm and above
1	Micronic filter for particles of 0.1 µm and above
<1	Sub micronic filter for particles of 0.01 µm and above
2	Coalescence filter
1	High efficiency coalescence filter
<1	Activated carbon filter that eliminates hydrocarbon odours

A Complete Range Of Filters

ALUP filters can treat both solid and liquid contamination in the compressed air. Their simple design guara-ntees constant air quality for the lifetime of the filter element.

High efficiency filter with low pressure drop reduces the energy consumption of the compressor and therefore safes both, environment and operating cost of your compressed air station.

Optional pressure drop gauge that indicates when the filter is ready for change.

Safety device that indicates presence of pressure during filter element exchange.

Cast aluminium anti-corrosion filter body.

Robust element construction for high endurance in heavy working condition.

Quick cartridge exchange with integrated seals.

Float drain with safety manual drain device (size 60-2400).

Filter AF

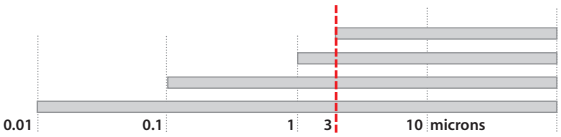
Oil filtration: 0.005 mg/m³

Activated carbon filter

Filtration media is made of microfibre glass impregnated with activated carbon that not only captures oil vapour but also hydrocarbon odours.
The AF filter must always be preceded by the MF or SF filter.

Filter PF

Solid filtration: 3 µm

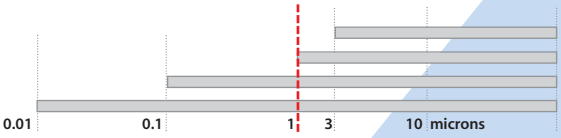


Pre-filter

Solid particles are removed by several layers of filtration media: acrile fibres/cellulose and polyester nonwoven fabric.
Due to this characteristic, this is the ideal first protection stage of the compressed air system.

Filter DF

Solid filtration: 1 µm

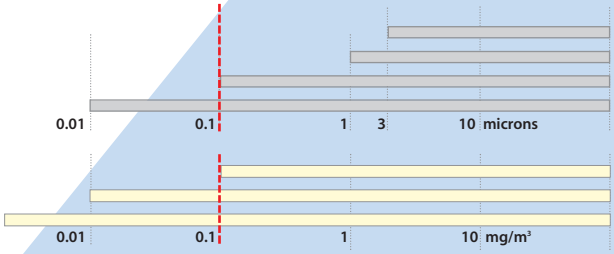


Dust filter

Has the same features as the MF filter, the only difference being the greater degree of filtration, which changes the flow direction.
It is indicated as an additional filtration after the PF pre-filter or as a pre-filter to the SF series.

Filter MF

Solid filtration: 0.1 µm
Oil filtration: 0.1 mg/m³

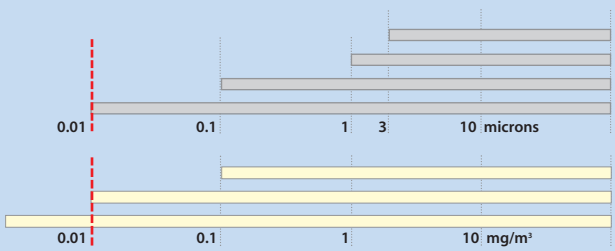


Coalescence filter

Several layers of filtration media made from oleophobic microfibre glass capture solid particles and oil vapour. Small oil droplets are coalesced to form larger droplets that then migrate to the bottom of the filter under the influence of gravity, where they can be discharged through the drain.

Filter SF

Solid filtration: 0.01 µm
Oil filtration: 0.01 mg/m³

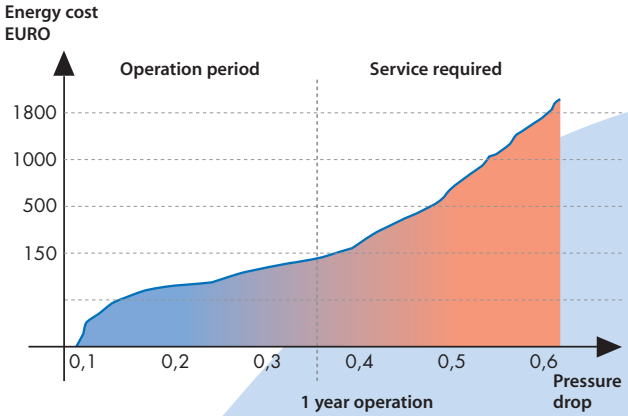


High efficiency coalescence filter

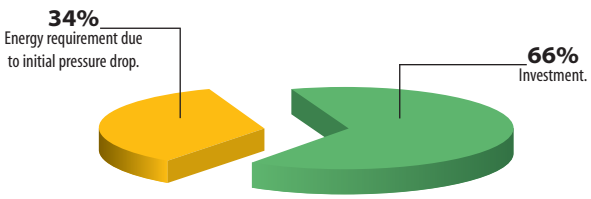
The filter SF uses an ultra high efficiency filter media to guarantee the removal of oil mist vapours.
It is similar to the MF filter, the only difference being the degree of filtration.
To avoid a reduction of the cartridge lifetime, we suggest to install before a MF coalescence filter.

Low Pressure Drop For Minimum Energy Cost

The operating cost of your filtration system rises significantly as the pressure drop across the filters increases.
An additional pressure drop of 0.1bar will increase the energy consumption by 0.7% of the compressor. Regular maintenance is the key to keeping this pressure drop low. Delay in changing filter elements can result in high pressure drop and significantly increased energy costs. Note that maintenance is not only related to running hours; parameters such as compressed air temperature, air demand etc. have an impact on the filter element lifespan.

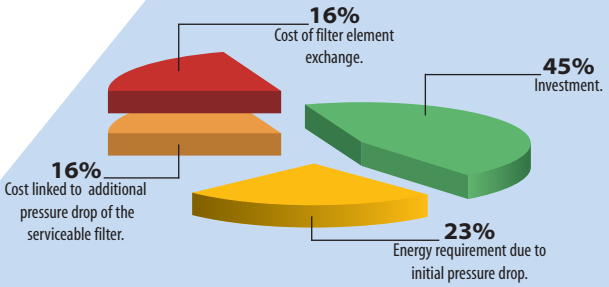


New filter operation cost.



After a year of operation, the energy cost of overcoming the pressure drop can exceed the cost of a replacement filter cartridge.

Cost of a filter before maintenance.



Regular replacement of the filter cartridge guarantees the safety and quality of your compressed air.

Filter Range Options

Pressure drop indicator

Indication of the pressure drop is essential to precisely define when maintenance is required (not available for the type AF).

Pressure indicator with 360° visibility, that indicates when the delta pressure threshold is reached.

Pressure gauge, calibrated to display the increase of the pressure drop along the lifetime of the filter element. It is also available for the version: **MB voltage – free contact gauge** for a remote alarm.

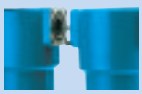
Pressure gauge with LED that lights when the pressure drop limit is reached. The information is saved until the filter element exchange for a constant control satisfies the most stringent filtration requirements.

Aluminium pressure gauge for the direct reading of the status of cartridge efficiency.

Installation tools

Tools are available to make installation easy.

Wall mounting kit for easy installation of the filter within your compressed air installation.
SMALL: from size 60 up to 120
MEDIUM: from size 200 up to 800



Connection kit for two or three filters: to minimise the number of connections between filters and to avoid leakage.
SMALL: from size 60 up to 120
MEDIUM: from size 200 up to 800

Drain with timer, lets you adjust the frequency and duration of purge.

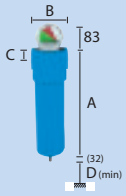
Condensate drain

Reliability of condensate elimination is important to avoid risk of filter element damage. As standard, filters size 60-2400 are equipped with an internal float drain.

Our electronic level detection drain eliminates condensate and guarantees no compressed air loss. Several sizes are available depending on the capacity to be treated.
A maintenance indicator is integrated.

Technical Specifications

	Air treatment capacity in m³/h at stated operating pressure(1)			Max. operation pressure		Inlet and outlet Connections	Dimensions mm					Weight	N. of cartridges
	7 bar	10 bar	12 bar	bar	psi	"G	A	B	C	D	E	kg	
60	60	83	99	16	232	1/2"	187	88	20	60	-	0,7	1
80	80	110	132	16	232	1/2"	187	88	20	60	-	0,7	1
120	120	166	198	16	232	1/2"	257	88	20	80	-	0,8	1
200	200	276	330	16	232	1"	263	125	32	100	-	1,8	1
340	340	469	561	16	232	1"	363	125	32	120	-	2,5	1
510	510	704	842	16	232	1½"	461	125	32	140	-	2,5	1
800	800	1104	1320	16	232	1½"	640	125	32	160	-	3,2	1
1000	1000	1380	1650	16	232	2"	684	163	42	520	-	5,1	1
1500	1500	2070	2475	16	232	2"	935	163	42	770	-	7,1	1
2400	2400	3312	3960	16	232	3"	1000	240	58	780	-	14	1



(1) The air treatment capacity of any model is a function of the operating pressure (7 bar and temperature 20°C).
A float drain is delivered on filters size 60-2400.
Maximum operating temperature of 66°C for series MF – SF – DF – PF ; 35°C for series AF.
Minimum operating temperature: 1°C.

Product designation:

size | (FAD in m³/h)

PF
DF
MF
SF
AF

Pre filter
Solid filtration : 3 µm

Dust filter
Solid filtration : 1 µm

Coalescence filter
Solid filtration : 0.1 µm
Oil filtration : 0.1 mg/m³

High eff. coalescence filter
Solid filtration : 0.01 µm
Oil filtration : 0.01 mg/m³

Activated carbon filter
Oil filtration : 0.005 mg/m³

Correction factor depending on operating pressure:

1 bar	2 bar	3 bar	4 bar	5 bar	6 bar	7 bar	8 bar
0.25	0.38	0.52	0.63	0.75	0.88	**1.00**	1.13
9 bar	**10 bar**	**11 bar**	**12 bar**	**13 bar**	**14 bar**	**15 bar**	**16 bar**
1.26	1.38	1.52	1.65	1.76	1.87	2.00	2.14

Initial pressure drop of the element (bar)

	PF	DF	MF	SF	AF
Dry element	0.04	0.08	0.08	0.09	0.12

Example of compressed air installation

APPLICATION			
Dry air, without oil	Dry air, without oil and hydrocarbon odours	Very dry air, without oil	Very dry air, without oil and hydrocarbon odours
RECOMMENDED EQUIPMENT			
ADQ refrigeration dryer		**AD adsorption dryer**	
ADQ MF SF	ADQ MF SF AF	AD MF SF DF	AD MF SF DF AF
AIR QUALITY CLASS: ISO 8573-1			
1.4.1	<1.4.1	2.2.1 and 2.1.1	<2.2.1 and <2.1.1

Products, Concepts, Solutions

Built on the needs of the customer

For almost 100 years, we at ALUP have produced quality air compressors.

With our innovative system concepts we offer customised solutions for almost all applications.

Our endeavour lies not only in supplying compressors, we offer ourselves as a competent system provider, who is able to offer solutions to all users of compressed air.

That does not only apply to the consultation and installation phase of your new compressor(s), but naturally continues in all areas of service, maintenance and visualisation.

Made by Experience!

Screw compressors

- constant speed
  2.2 – 500 kW
  4 – 13 bar
- variable speed controlled and direct drive
  5.5 – 260 kW
  4 – 13 bar
- oil-free, with water injection
  11 – 55 kW
  4 – 13 bar

Piston compressors

- oil-free, up to 10 bar
  0.75 – 12 kW
- for normal pressure up to 10 bar
  1.5 – 15 kW
- for medium pressure up to 15 bar
  1.5 – 15 kW
- for high pressure up to 40 bar
  2.2 – 45 kW
- as a booster for an input pressure up to 15 bar and an output pressure up to 40 bar
  2.2 – 30 kW

Blower

- at constant and variable speed
  0.1 – 250 kW
  50 – 1000 mbar

Turbo compressors

- upon request

Complete accessories

- refrigeration dryers
  0.27 – 100 m^3/min
- desiccant dryers
  0.08 – 145 m^3/min
- activated carbon adsorbers
  0.08 – 145 m^3/min
- filters, all particle sizes
  0.5 – 225 m^3/min
- complete condensate management up to 120 m^3/min

Control, regulate, monitor

- lead-lag control
- consumption-dependant control
- visualisation (we bring your compressed air to the PC)
- tele-monitoring (the hotline of your compressed air station)

Your specialist

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ORIGINAL PART

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