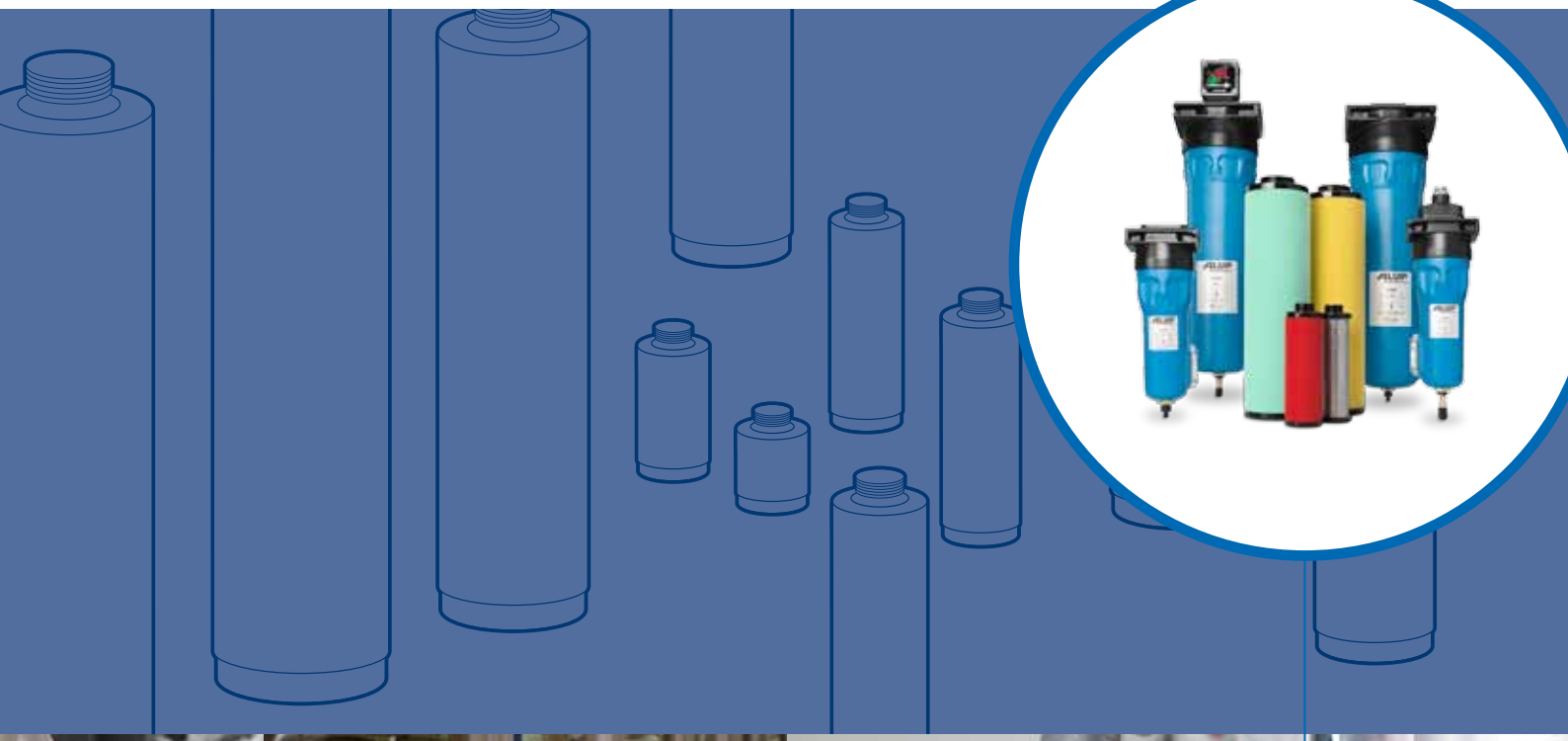
Line filters



LINE FILTERS 45-2430

ALUP Kompressoren

ALUP

Driven by technology. Designed by experience.

ALUP Kompressoren has over 90 years of industrial experience. It is our ambition to offer compressed air solutions that ensure we are first in choice for our customers. To reach this goal we continuously invest in our product development to make sure that we are always able to offer:

- High performance and excellent quality
- Integrated engineered solutions
- Full energy efficiency
- Total cost of ownership
- Environmental care

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The power of ALUP filters

In any compressed air net distribution it is a must to install one or more filters. As a result, an improved air quality is achieved which benefits your complete compressed air network, including the downstream dryers, air pipes and pneumatic tools. It is recommended to filter your air in different stages by using two or three filters. Using only a single filter could result in saturation of the filter and cause you to lose air pressure, suffer reduced air quality or end up prematurely replacing your elements.

Boost quality and productivity

- Purify the compressed air by eliminating oil-dust contaminants.
- Higher final product quality.
- Increase your overall productivity.

Save costs

- Prolong the life span of your operation process (machine/equipment etc.).
- Reduce potential downtime.
- Annual service intervals to ensure optimal operations.

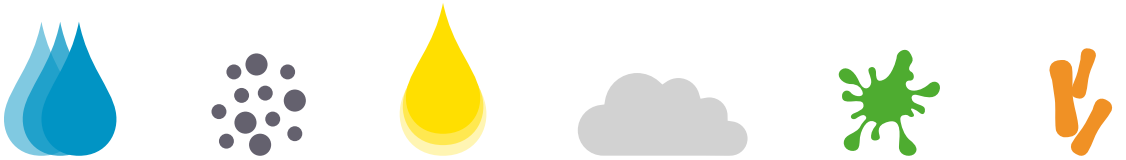
Easy operation and installation

- Compatible with any compressor technology.
- Can be installed quickly and into an existing network.
- Optional pressure drop device (indicator/gauge) to advise on cartridge replacement.
- Cartridge replacement in no time.
- No electrical supply needed.

How clean is your compressed air?

Atmospheric air naturally contains several impurities such as dust, various forms of hydrocarbons and water in the form of humidity. Once sucked into the compressor, these are compressed and delivered down the line along with oily particles. These polluting agents interact with each other and can generate abrasive and corrosive emulsions that can cause wear and corrosion in the downstream equipment. Quality Air Solutions remove these contaminations from the compressed air.

Protect your compressed air installation against:



Moisture | Particles | Oil | Hydrocarbons | Viruses | Bacteria

Risks you avoid:

Impurities in the compressed air can cause:

- Damage to the distribution lines increasing the leakage risk
- A considerable increase in maintenance costs
- A reduction in the efficiency and life span of the pneumatic devices
- Deterioration of the final product quality
- Limitations to the reliability of the production process and all its components
- Decrease of the overall profitability

Important guidelines when selecting purification equipment

1. Depending on the application, each point of use in the system may require a different compressed air quality.
2. Ensure that the purification equipment which is being chosen will actually provide the required air purity in accordance with the classifications from the ISO 8573-1:2010 table.
3. When comparing filters to one another, make sure they have been tested in accordance with the standards of ISO 8573 and ISO 12500 series.
4. Whenever you compare different filtration solutions, it is crucial to keep in mind that the filter performance is highly dependent on the inlet conditions.
5. When taking into account the operational cost of oil coalescence filters, only compare the initial saturated wet pressure loss. The reason for this is that dry pressure loss is not representative for performance in a normally wet compressed air system.
6. For dust filters on the other hand, one can expect the pressure drop to rise over time. A low starting pressure drop does not mean it will remain as such throughout the filter element's lifetime.
7. Consider the total cost of ownership for purification equipment (purchase, operational and maintenance costs).

Compressed air according to ISO 8573-1:2010

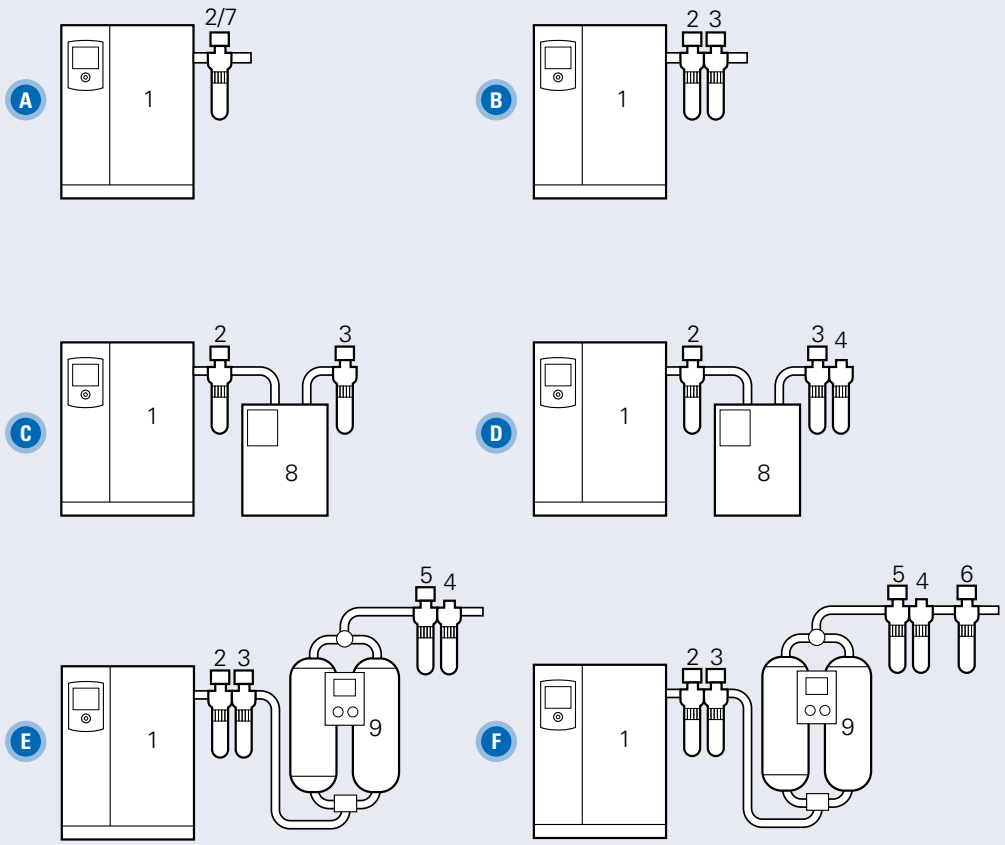
Depending on the customer's application, a certain air purity is required. These purity requirements have been categorized in air purity classes. The Purity classes are defined in the ISO 8573-1 standard, edition 2010. This table defines 7 purity classes ranging from 0 up to 6 following the rule: the lower the class, the higher the air quality.

	Solid particles			Water		Total oil*
	Number of particles per m^3			Pressure dewpoint		Concentration
PURITY CLASS	0,1 - 0,5 µm	0,5 - 1,0 µm	1,0 - 5,0 µm	°C	°F	mg/m^3
0	As specified by the equipment user or supplier and more stringent than Class 1.					
1	≤ 20000	≤ 400	≤ 10	≤ -70	≤ -94	≤ 0,01
2	≤ 400000	≤ 6000	≤ 100	≤ -40	≤ -40	≤ 0,1
3	-	≤ 90000	≤ 1000	≤ -20	≤ -4	≤ 1
4	-	-	≤ 10000	≤ 3	≤ 37,4	≤ 5
5	-	-	≤ 100000	≤ 7	≤ 44,6	-
6	≤ 5 mg/m^3			≤ 10	≤ 50	-

* *Liquid, aerosol and vapor.*

Your local sales representative can help you select the optimal purification equipment for your compressed air system.

Typical installations



- **A** General purpose protection
  (air purity to ISO 8573-1: G filter class 2:-:3 and P filter class 4:-:3)
- **B** General purpose protection and reduced oil concentration
  (air purity to ISO 8573-1: class 1:-:2)
- **C** High quality air with reduced dew point
  (air purity to ISO 8573-1: class 1:4:2)
- **D** High quality air with reduced dew point and oil concentration
  (air purity to ISO 8573-1: class 1:4:1)
- **E** High quality air with extremely low dew point
  (air purity to ISO 8573-1: class 2:2:1)
- **F** High quality air with extremely low dew point
  (air purity to ISO 8573-1: class 1:2:2)

- **1** Compressor with after cooler
- **2** G filter
- **3** C filter
- **4** V filter
- **5** S filter
- **6** D filter
- **7** P filter
- **8** Refrigerant dryer
- **9** Adsorption dryer

High filtration performance: full filter range

Allowing unclean or contaminated compressed air to enter your air network holds several risks. In almost all applications, this can cause a considerable decrease in performance as well as an increase in maintenance costs both related to actual repairs as well as a loss in productivity. ALUP's innovative filters are engineered to cost-effectively provide the best air quality and meet today's ever increasing quality demands. They are fully developed and tested according to ISO standards.

Components

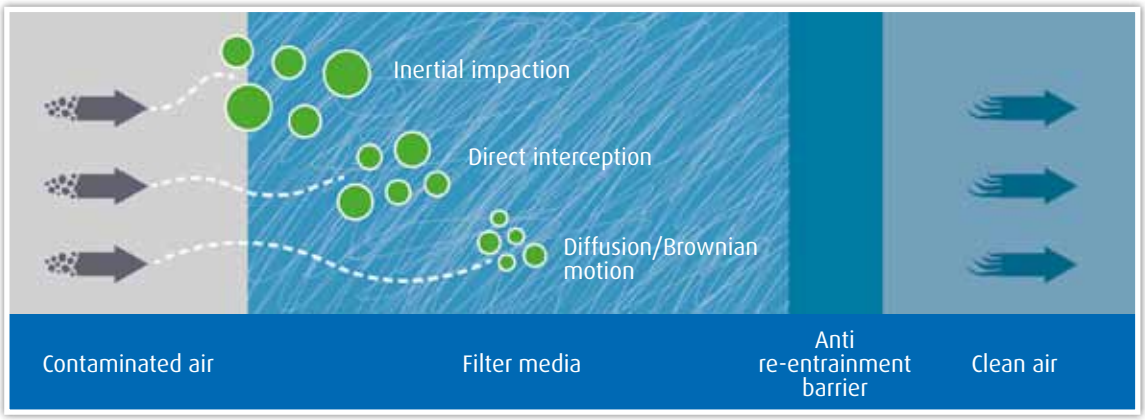
1. Double O-rings guarantee proper sealing to reduce leakage risks and increase energy savings.
2. Increased user friendliness and reliability via push-on element.
3. Protection paper avoids direct contact between filter media and stainless steel filter core.
4. Enhanced glass fiber media ensure high filter efficiency, low pressure drop, and guaranteed lifetime performance. For oil coalescence filters, multiple layers are wrapped around each other to avoid the risk of early oil breakthrough
5. Enhanced high-performance stainless steel filter cores ensure ultimate strength and low risk of implosion.
6. Oil coalescence filters: double drainage layer (outer protection paper and foam) has a large drainage capacity which is ideal for variable speed compressors. Moreover, the polyurethane foam avoids oil re-entrainment.
   Dust filters: open foam acts as a pre-filter for the largest dust particles, which prolongs the filter lifetime.
7. Epoxy sealed caps for reliable filtration.
8. Internal ribs support the element and facilitate the route of oil droplets.

Most reliable housing

Components

1. Enjoy a reduced pressure drop and increased savings thanks to the unique head design.
2. A venting hole will give an audible alarm if the filter is dismantled under pressure.
3. Removing the filter bowl is an easy job as the external ribs allow for a firm grip on the filter.
4. No need to worry about corrosion. The die cast aluminum housing with special anodized treatment protects our filters both on the inside and the outside.
5. Easy monitoring via sight glass.
6. Smooth draining of the filter ensures a reliable performance. This is guaranteed by our high performance automatic drain (G – C – P) and manual drain (V – S – D).

For optimal filtration, ALUP filters apply a triple filtration function: inertial impaction, direct interception and diffusion.



Filter range overview

G FILTER RANGE

Coalescing filters for general purpose protection, removing solid particles, liquid water and oil aerosol.
Total Mass Efficiency: 99%.
For optimum filtration, a G filter should be preceded by a water separator.

S FILTER RANGE

Particulate filters for dust protection. Count Efficiency: 99,81 % at Most Penetrating Particle Size (MPPS = 0,1 micron).
An S filter should be preceded by a dryer at all times.

C FILTER RANGE

High-efficiency coalescing filters, removing solid particles, liquid water and oil aerosol.
Total Mass Efficiency: 99,9 %.
For optimum filtration, a C filter should be preceded by a G filter at all times.

D FILTER RANGE

High-efficiency particulate filters for dust protection. Count Efficiency: 99,97 % at Most Penetrating Particle Size (MPPS = 0,06 micron).
A D filter should be preceded by an S filter at all times and is commonly fitted after an adsorption dryer.

V FILTER RANGE

Activated carbon filter for removal of oil vapour an hydrocarbon odors with a maximum remaining oil content of 0,003 mg/m^3 (0,003 ppm).
1000 hour lifetime.

P FILTER RANGE

Coalescing and particulate general purpose pre-filter. Removes solid particles, dust, liquid and oil aerosol.
Total Mass Efficiency: 90%.

Options for the full range

All the accessories and options you need:

- Pressure gauge.
- Voltage free contact mounted on the differential pressure gauge to give remote indication of the cartridge replacement.

- Pressure indicator.
- Serial connection kit allows easy mounting of filters in series.
- Wall mounting kit to simplify the installation.

- Quick coupling for easy connection to fix an intelligent drain with no loss of compressed air.

A complete range

The quality of air required throughout a typical compressed air system varies. Offering an extensive filter range, ALUP can always match your precise requirements, ensuring that all types of contamination are avoided and sosts are reduced to an absolute minimum.

	S	D	G	C	P	V
Filter type	Solid particles	Solid particles	Oil aerosol and solid particles	Oil aerosol and solid particles	Oil aerosol and solid particles	Oil vapor
Test method	ISO 12500-3	ISO 12500-3	ISO 12500-1 ISO 8573-2	ISO 12500-1 ISO 8573-2	ISO 12500-1 ISO 12500-3 ISO 8573-2	ISO 8573-5
Inlet oil concentration (mg/m^3)	NA	NA	10	10	10	0,01
Count efficiency (% at MPPS)	MPPS: 0,1 µm 99,81	MPPS: 0,06 µm 99,97	NA	NA	MPPS: 0,1 µm 89,45	NA
Count efficiency (% at 1 µm)	99,97	99,999	NA	NA	94,19	NA
Count efficiency (% at 0,01 µm)	99,87	99,992	NA	NA	93,63	NA
Maximum oil carry-over (mg/m^3)	NA	NA	0,1	0,01	1	0,003
Dry pressure drop (mbar)	120	140	NA	NA	85	160
Wet pressure drop (mbar)*	NA	NA	205	240	115	NA
Wet pressure drop (mbar), in typical compressor installation	NA	NA	185	200	NA	NA
Element service	After 4000 operating hours or 1 year or pressure drop > 350 mbar	After 4000 operating hours or 1 year or pressure drop > 350 mbar	After 4000 operating hours or 1 year	After 4000 operating hours or 1 year	After 4000 operating hours or 1 year	After 1000 operating hours (at 20°C) or 1 year
Precede with	-	S	Water separator	G	-	G and C

** Inlet oil concentration = 10 mg/m^3*

Technical specifications

	Nominal capacity*			Maximum pressure		Connections/ port thread	Dimensions			Free space for cartridge replacement	Weight
							A	B	C	D	
Type	l/min	m³/h	cfm	bar	psi	G	mm	mm	mm	mm	kg
FILTER 45	720	43	25	16	232	3/8 "	90	21	228	75	1
FILTER 90	1500	90	53	16	232	1/2"	90	21	228	75	1,1
FILTER 125	2100	126	74	16	232	1/2"	90	21	283	75	1,3
FILTER 180	3000	180	106	16	232	3/4"	110	27,5	303	75	1,9
FILTER 180	3000	180	106	16	232	1"	110	27,5	303	75	1,9
FILTER 290	4800	288	170	16	232	1"	110	27,5	343	75	2,1
FILTER 505	8400	504	297	16	232	1 1/2"	140	34	449	100	4,2
FILTER 685	11400	684	403	16	232	1 1/2"	140	34	532	100	4,5
FILTER 935	15600	936	551	16	232	1 1/2"	140	34	532	100	4,6
FILTER 1295	21600	1296	763	16	232	2"	179	50	618	150	6,9
FILTER 1295	21600	1296	763	16	232	2 1/2"	179	50	618	150	6,9
FILTER 1890	31500	1890	1112	16	232	3"	210	57	720	200	11
FILTER 2430	40500	2430	1430	16	232	3"	210	57	890	200	12,6

**Reference conditions:*
Pressure 7 bar (102 psi).
Maximum operating temperature of 66°C and 35°C (only for V series).
Minimum operating temperature of 1°C.

For other compressed air inlet pressures, multiply the filter capacity by the following correction factors:

Inlet pressure (bar)	1	2	3	4	5	6	**7**	8	10	12	14	16
Inlet pressure (psig)	15	29	44	58	72.5	87	**102**	116	145	174	203	232
Correction factor	0,38	0,53	0,65	0,75	0,83	0,92	**1**	1,06	1,2	1,31	1,41	1,5

ALUP Kompressoren

DRIVEN BY TECHNOLOGY DESIGNED BY EXPERIENCE

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Your authorized distributor

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