

ECOCLEAN®



Compressed Air Filters

ECOCLEAN®

Product range



Compressed Air Filters threaded connection	Compressed Air Filters flanged connection	Compressed Air Filters Cartridge filters with threaded connection	
up to 1500 m ³ /h, 2 1/2"	up to 11200 m ³ /h, DN200	CAK Activated carbon cartridge (<i>Removal of oil vapour and odours</i>)	
Filter stages	Filter stages	MSK Molecular sieve cartridge (<i>Removal of moisture</i>)	
VF25 (25 microns)	VF25 (25 microns)	HC Hopcalite catalyst cartridge (<i>Removal of carbon monoxide CO</i>)	
FF5 (5 microns)	FF5 (5 microns)		
MFO (1 micron)	MFO (1 micron)		
SMA (0,01 micron)	SMA (0,01 micron)		
CA (activated carbon)	CA (activated carbon)		



Water Separators WS threaded connection	Medical Sterile Filters threaded connection	Vacuum Pump Protection Filters threaded connection	Vacuum Pump Exhaust Filters threaded connection	Medical Vacuum Filters threaded connection
up to 1500 m ³ /h, 2 1/2"	up to 1500 m ³ /h, 2 1/2"	up to 350 m ³ /h, 2 1/2"	up to 350 m ³ /h, 2 1/2"	up to 215 m ³ /h, 2 1/2"
	Filter stage	Filter stage	Filter stages	Filter stage
	SE (0,01 micron)	MFO (1 micron)	MFO (1 micron)	VMS
			SMA (0,01 micron)	
			CA (activated carbon)	



High-pressure filters 50 bar FHP threaded connection	Sterile stainless steel filters FES threaded connection		Stainless steel Process Filters FPF threaded connection
VF15 (15 microns)	S (0,01 Mikron)	Sterile filter (Nomex)	ES (25 microns)
FF3 (3 microns)	ENS (20 Mikron)	Industrial filter (Inox with fabric)	BS (15 microns)
MFO (1 micron)	ESS (25 Mikron)	Industrial filter (sintered metal)	SM (0,01 micron)
SMA (0,01 micron)	SMS (0,01 Mikron)	Industrial filter (borosilicate)	
CA (activated carbon)			
			Sintered metal
			Sintered bronze
			Borosilicate

Customizing

Customizing means adapting a standard product to the specific requirements or specifications of the customer.

In the field of **ECOCLEAN®** compressed air filtration we can offer our customers the following possibilities for effectively putting their individual sales strategy into practice and differentiating themselves clearly from their particular competition:



Units can be painted in all RAL colours



Label on the filter with the customer's own logo, product designation and part number.



Label on the cardboard packaging with colour logo and customer part number.

ISO 8573.1 air quality classifications of ECOCLEAN® filters

SMA type	MFO type	FF5 type	VF25 type	CA type
max. particle Ø [microns]	max. particle Ø [microns]	max. particle Ø [microns]	max. particle Ø [microns]	max. particle Ø [microns]
40 15 5 1 0,1	40 15 5 1 0,1	40 15 5 1 0,1	40 15 5 1 0,1	40 15 5 1 0,1
5 K 4 A 3 S 2 E 1	5 K 4 A 3 S 2 E 1	5 K 4 A 3 S 2 E 1	5 K 4 A 3 S 2 E 1	5 K 4 A 3 S 2 E 1
25 5 1 0,1 0,01	25 5 1 0,1 0,01	25 5 1 0,1 0,01	25 5 1 0,1 0,01	25 5 1 0,1 0,01
max. residual oil content [mg/m³]	max. residual oil content [mg/m³]	max. residual oil content [mg/m³]	max. residual oil content [mg/m³]	max. residual oil content [mg/m³]

Type	Capacity* m³/h	Dimensions (mm)				Connection	Element	Quantity
		A	B	C	D			
F25	35	90	21	220	110	¼"	FE3711	1
F50	52	90	21	220	110	⅜"	FE3711	1
F70	110	90	21	281	160	½"	FE5111	1
F90	216	130	40	332	260	¾"	FE7111	1
F110	300	130	40	478	310	1"	FE7311	1
F120	540	130	40	482	390	1¼"	FE7411	1
F130	725	130	40	545	435	1½"	FE7411	1
F140	800	184	51	704	490	2"	FE8501	1
F160	1150	184	51	704	560	2"	FE8601	1
F170	1500	250	74	620	440	2½"	FE8701	1
F065-01	1400	360	162	841	550	DN 65	FE8601	1
F100-02	2800	550	245	1115	550	DN 100	FE8601	2
F100-03	4200	550	245	1115	550	DN 100	FE8601	3
F150-04	5600	620	276	1237	550	DN 150	FE8601	4
F150-06	8400	800	300	1270	680	DN 150	FE8601	6
F200-08	11200	800	328	1275	680	DN 200	FE8601	8

*bezogen auf 1 bar (abs.) und 20°C bei 7 bar ü Betriebsdruck | Maximaler Betriebsdruck: F25 – F130: 16 bar ü, F140 – F170: 12 bar ü, F065-01 – F200-08: 16 bar ü

ECOCLEAN®

Compressed Air Filters



KSI ECOCLEAN® Compressed Air Filters - the reliable, energy saving, environment-friendly and easy-to-service way to filter compressed air and gases

Modern production methods make ever increasing demands on the quality of compressed air. However, the ambient air taken in and compressed by the compressor is heavily contaminated by impurities. Moreover, depending on the compressor type, the delivered air will contain oil, which is conveyed with the compressed air in fine aerosols, together with impurities from the compressed air network, e.g. rust and scale. The function of a compressed air filter is to remove these impurities, thereby preventing any damage to the downstream devices. In addition, any condensate formed must be separated out of the compressed air network.

The ECOCLEAN® philosophy of KSI

As an experienced manufacturer in the field of compressed air and condensate systems, KSI has developed its compressed air filters in response to the key requirements of the market. For most operators of compressed air systems, there are two absolute “knock-out criteria” for their choice of pressure filter: firstly, absolute failure safety is essential, in order to prevent any breakdown in the provision of correctly conditioned compressed air to the production process. Secondly, this reliability must be available at an economical price. With the ECOCLEAN® range of compressed air filters, KSI has now created a product that unites these two seemingly mutually exclusive criteria.



validated and certified
class 1 according to
ISO 8573



Economy

The three cost factors in the operation of a compressed air system are:

1. Energy costs
(accounting for an average of approx. 80%)
2. Investment costs (15%)
3. Maintenance costs (5%)

- 1 The differential pressure display shows the most economical time to replace the filter element.
- 2 A compressed air filter can have a positive effect on the main cost factor - energy costs - by optimizing the compressed air flow. Optimum air flow is obtained by the curved path of the filter's compressed air inlet. This design reduces resistance by up to 75% compared to the conventional 90° angle. Energy-efficient

Energy-efficient features of ECOCLEAN® filter elements

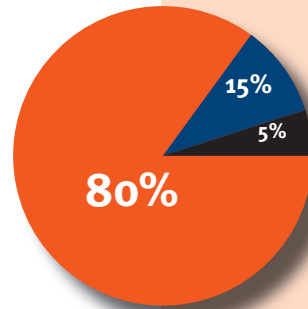
The Spirax stainless steel cylinder used for the inner and outer support jacket

- 3 has specially formed and arranged openings, resulting in up to 40% lower differential pressure than in conventional support cylinders.

The overall filtration area is increased by winding the filter medium up to 8 times.

- 4 This system replaces surface filtration by depth filtration, thereby slowing the build-up of differential pressure and increasing efficiency through improved absorbency.

The investment costs are reduced, because ECOCLEAN® compressed air filters are 30% cheaper than comparable compressed air filters on the market.



Reliability / Quality

A The filter housing is made of cast aluminium, with a chrome-based protective coating on both the inside and outside surfaces and an additional powder coating on the outside. The housing is therefore fully protected against corrosion.

B A tie-rod fastens the filter element securely in the specified position

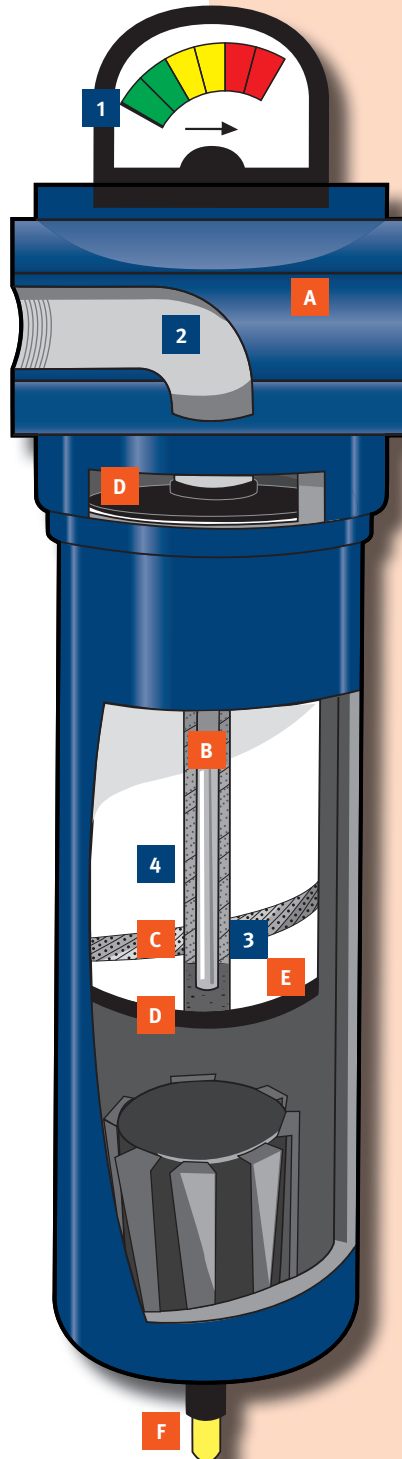
Failure-safe features of ECOCLEAN® filter elements

C The use of Spirax stainless cylinders for the inner and outer support jacket increases overall robustness.

D The end caps of the filter elements are made of plastic. This provides a barrier against corrosion ("blooming") and the resulting formation of bacteria. The end caps are fastened with a special adhesive that is resistant to chemicals.

E A drainage layer made of needled felt prevents potential swelling of the outer medium, thereby preventing cracking, which would otherwise cause a loss of filter efficiency. In addition, the felt is silicone-free, resistant to temperatures up to 120°C and has high resistance to chemicals and mechanical stress.

F Any condensate formed is removed by a standard-fitted D150 automatic condensate drain (from F140 upwards: D200). The condensate drain can also be used to relieve pressure.



Easy to service and maintain, with hexagon nut flats on the housing

Standard Version & Options



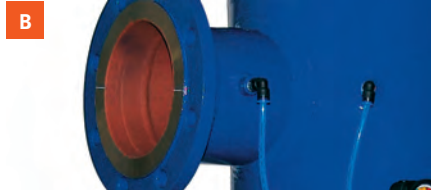
A Standard



B Differential pressure gauge [Option]
(Indicates the best time to replace the element)



A Threaded connection (1/4" to 2 1/2")



B Flanged connection (DN 65 - DN 200)



Filter elements

Typ VF25:

Particle size 25 microns
Max. residual oil at 20°:
10 mg/m³
Maximum temperature: 120°C

Typ MFO

Particle size 1 micron
Max. residual oil at 20°:
0,1 mg/m³
Maximum temperature: 120°C

Typ FF5

Particle size 5 microns
Max. residual oil at 20°:
5 mg/m³
Maximum temperature: 120°C

Typ SMA

Particle size 0,01 micron
Max. residual oil at 20°:
0,01 mg/m³
Maximum temperature: 120°C

Typ CA (Aktivkohle)

Max. residual oil content at
20°C : 0,003 mg/m³
Maximum temperature: 25°C

Cartridges



CAK Activated carbon cartridge

Max. residual oil content at 20°C: 0,003 mg/m³
Maximum temperature: 50°C, 25°C recomm.

MSK Molecular sieve cartridge

Pressure dewpoint reduction to -40°C
Maximum temperature: 50°C, 25°C recomm

HC Hopcalite catalyst cartridge

for removing carbon monoxide (CO)
Maximum temperature: 50°C, 25°C recomm.

Options



Filter combination comprising several **ECOCLEAN®** filters. Direct connection without intermediate components, fitted with a plain seal. Prevents additional differential pressure. Also available as installation kit for retrofitting.

(available for filters F25-F130)



Wall-mounting kit for simple installation in the building or on machines/enclosures.

(available for filters F25-F130)

Condensate Drains



1 Automatic drain D150, standard for threaded filters F25 – F130



2 Automatic drain D200, standard for threaded filters F 140 – F 170 and for all flanged filters



3 **KONDRAIN® N1** level-controlled condensate drain (available as option for **ECOCLEAN®** standard filters, also supplied as standard for **ECOCLEAN®** F...KN1)



4 AM12 manual drain, standard in CA activated carbon filters and in all cartridge filters