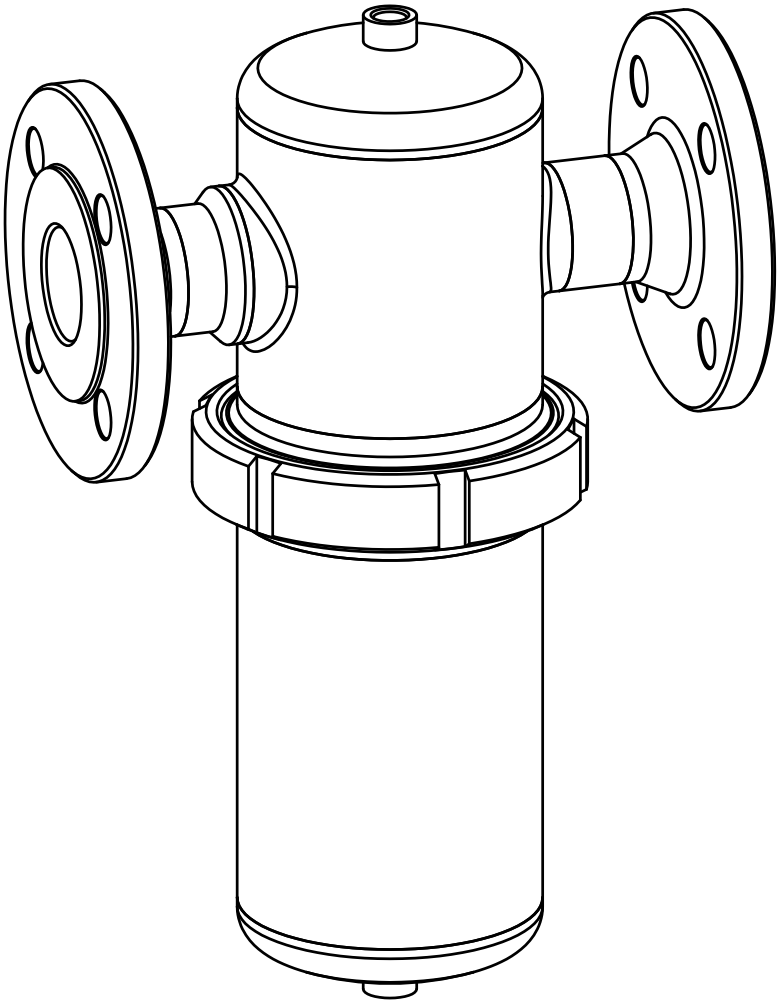
Installation and operating manual

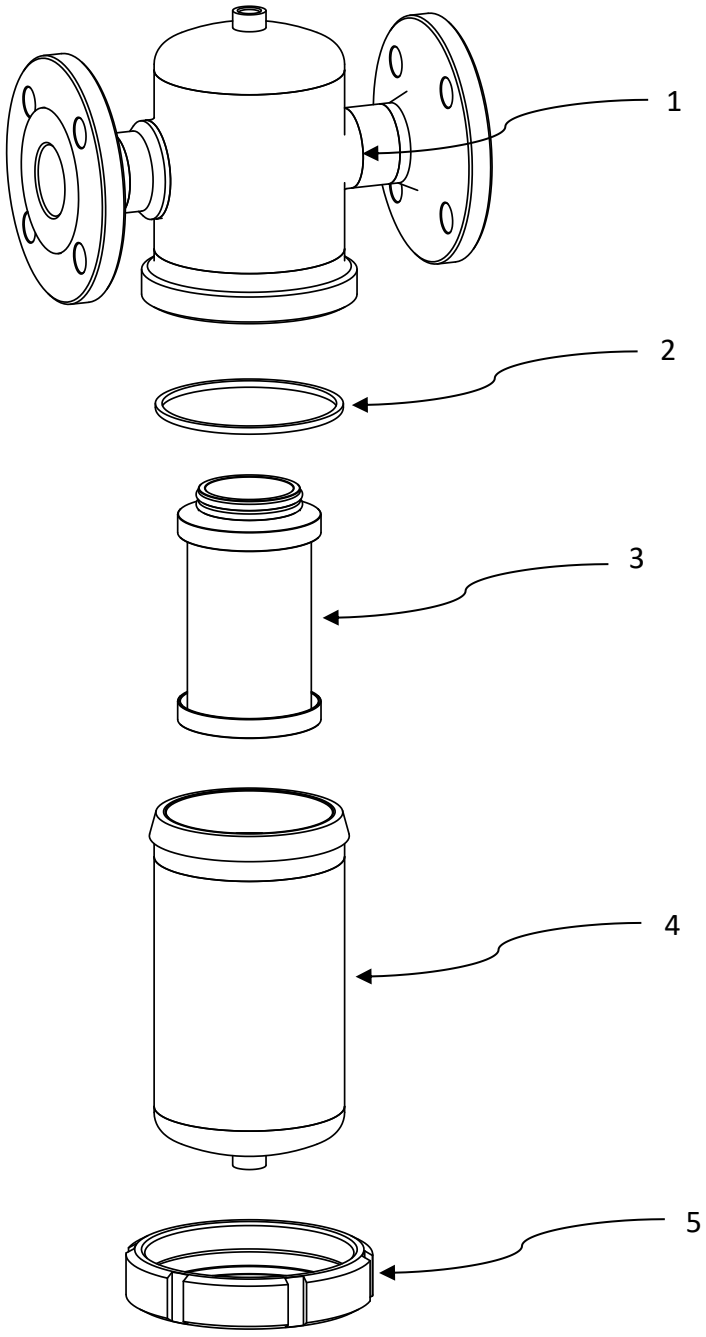
WFIf



Please read the following instructions carefully before installing filter housing unit into service. Trouble free and safe operating of the unit can only be guaranteed if recommendations and conditions stated in this manual are respected.

CE

Components

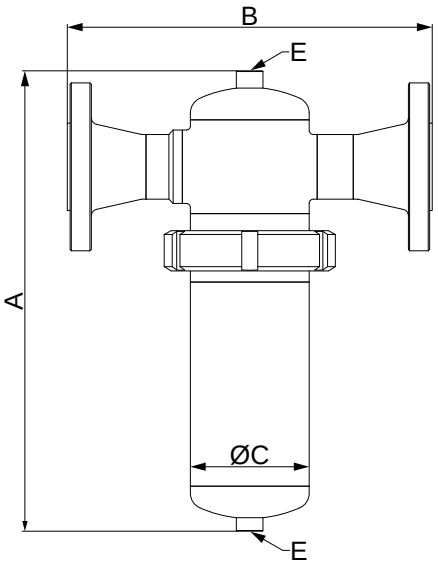


	Part
1	Filter head
2	Sealing
3	Filter element
4	Filter bowl
5	Nut

Technical data

FILTER HOUSING	PIPE SIZE-D [inch]	FILTER ELEMENT	OPERATING PRESSURE	FLOW CAPACITY		DIMENSIONS [mm]					VOLUME	WEIGHT
				[Nm³/h]	[scfm]	A	B	B*	C	E	[l]	[kg]
WFIF 010	DN15	1X0420	14	150	88	230	195	217	76,1	1/2"	0,84	3.5
WFIF 018	DN20	1X0520	14	225	132	263	201	219	76,1	1/2"	0,93	4,3
WFIF 030	DN25	1X0525	14	315	185	279	216	244	88,9	1/2"	1,4	5,7
WFIF 047	DN32	1X0725	14	420	247	343	235	267	88,9	1/2"	1,74	6,6
WFIF 070	DN40	1X0730	14	600	353	391	260	290	114,3	1/2"	3,4	8,0
WFIF 094	DN50	1X1030	14	900	530	444	270	304	114,3	1/2"	4,1	9,8
WFIF 150	DN50	1X1530	14	1260	742	571	270	304	114,3	1/2"	5,3	11,0
WFIF 175	DN65	1X2030	14	1680	989	752	295	340	139,7	1/2"	10,2	14,2
WFIF 200	DN80	1X3030	14	2400	1.413	978	306	340	139,7	1/2"	14	21,2
WFIF 240	DN80	1X3050	14	3600	2.119	1041	332	368	168,3	1/2"	21	22,9
WFIF 450	DN100	3X2030	10	5040	2.966	981	410	/	219,1	1"	36	55
WFIF 600	DN100	3X3030	10	6720	3.955	1288	410	456	219,1	1"	43	64
WFIF 900	DN150	4X3030	10	9600	5.650	1310	480	/	273,0	1"	77	87
WFIF 1200	DN150	6X3030	10	13440	7.910	1351	540	598	323,9	1"	104	110
WFIF 1800	DN200	8X3030	10	17280	10.171	1496	660	/	406,4	1"	180	200
WFIF 2000	DN200	10X3030	10	21120	12.431	1496	660	/	406,4	1"	180	200

B = flange connection EN 1092-1/11 PN16
B* = flange connection ANSI B16.5 WN Cl 150
Flow capacity at 7 bar(g), 20°C



MATERIALS

Housing material	Stainless steel
Sealing	FKM
Housing finishes	Polished down to grade Ra1.6
Lubricant	(Optional Shell cassida grease RLS 2)

CORRECTION FACTORS

To calculate the correct capacity of a given filter based on actual operating conditions, multiply the nominal flow capacity by the appropriate correction factor(s).
CORRECTED CAPACITY = NOMINAL FLOW CAPACITY x C_{OP}

[bar]	2	3	4	5	6	7	8	9	10	11	12	13	14
[psi]	29	44	58	72	87	100	115	130	145	160	174	189	203
C_{OP}	0,38	0,5	0,63	0,75	0,88	1	1,13	1,25	1,38	1,50	1,63	1,75	1,88

Operating temperature	-20 / + 150 °C *	-4 / + 302 °F *
Operating pressure	0 – 14 bar(g)	0 – 203 psi

* Actual operating temperature depends on sealing material and type of filter element.

PRESSURE EQUIPMENT DIRECTIVE PED 2014/68/EU (Fluid group 1)

WFIf 010 - 047	Article 4.3
WFIf 070	Category 1, Module A
WFIf 094 - 200	Category 2, Module H
WFIf 240- 900	Category 3, Module H
WFIf 1200- 2000	Category 4, Module H1

PRESSURE EQUIPMENT DIRECTIVE PED 2014/68/EU (Fluid group 2)

WFIF 010 - 070	Article 4.3
WFIF 094 - 200	Category 1, Module A
WFIF 240 - 600	Category 2, Module H
WFIF 900- 2000	Category 3, Module H

There is Technical datasheet available. For additional technical specification, contact manufacturer.

Safety instructions

The relevant safety at work and accident prevention regulations, plus operating instructions, shall apply for operating the filter. The filter has been constructed in accordance with the generally recognized rules of engineering. It complies with the requirements of directive 2014/68/EU concerning pressure equipment.

Ensure that installation complies with local laws for operation and routine testing of pressure equipment at the place of installation.

Operator/user of the filter should make himself familiar with the function, installation and start-up of the unit. All the safety information is always intended to ensure your personal safety.

- Do not exceed max. operating pressure or operating temperature range (see data label).
- The permissible working temperatures and pressures for ad-on parts and filter elements are given under Technical data for those ad-ons. Maximum temperature and pressure for assembled system is the lowest of any individual part.
- It is necessary to ensure that the unit is equipped with the corresponding safety and test devices to prevent the permissible operating parameters from being exceeded.
- Filter has been designed for a primarily static pressure. Rapid changes of pressure are not allowed.
- The medium used may not have any corrosive components that could attack the materials of the filter in a way that is not permitted. Do not use the filter in hazardous areas with potentially explosive atmospheres.
- All installation and maintenance work on the filter may only be carried out by trained and experienced specialists.
- It is forbidden to carry out any kind of work on the filter and piping, including welding and constructional changes, etc.
- A pressure gauge, which shows the operational pressure, must be installed in the unit, respectively in the pipeline.
- Depressurize the system before carrying out the installation work. The unit must be installed vertically in the piping.
- Ensure that filter is installed without any stresses.
- Use original spare parts only.
- Use the device for appropriate purpose only.
- There shouldn’t be any tension between filter and installation. Filter shouldn’t be subject to any stress, vibration or other influence that could cause damage to the unit.

Appropriate use

WFIf series filters are intended for applications in process industry, where the risk for corrosion of compressed air system components is very high. This appliance must be used only for the purpose for which it was specifically designed. All other uses are to be considered incorrect.

Specifically:

- filter is not intended for human breathing without proper additional equipment.

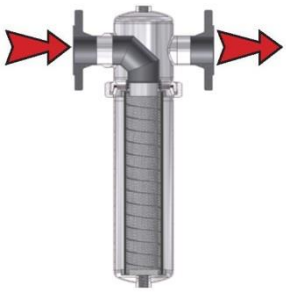
Warning: internal corrosion can seriously reduce the safety of installation: check it during changing the cartridge.

The manufacturer will under no circumstances be responsible for any damage resulting from improper, incorrect or unreasonable use.

Use genuine spare parts only. Any damage or malfunction caused by the use of ungenuine parts is not covered by Warranty or Product Liability.

Installation

1



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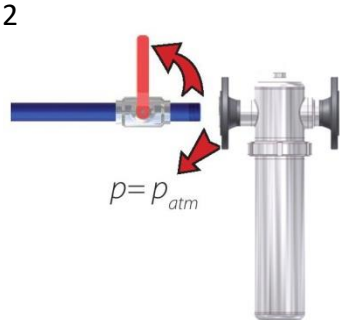

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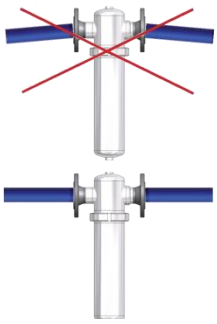

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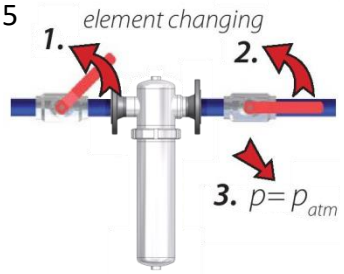

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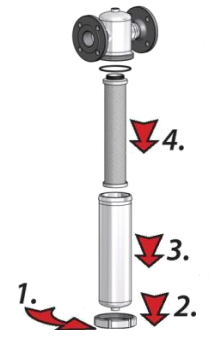

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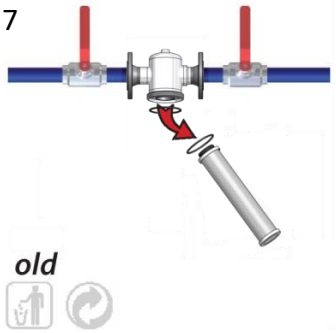

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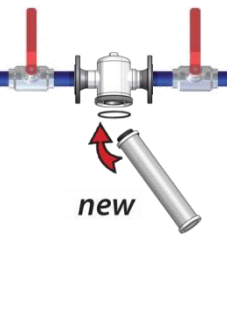

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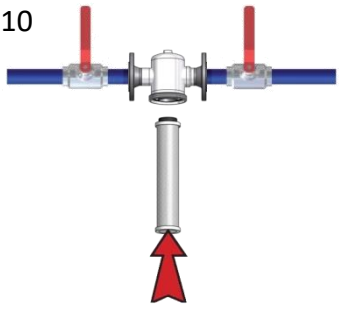

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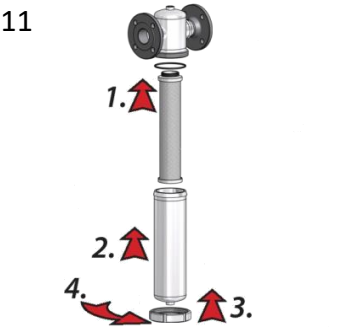

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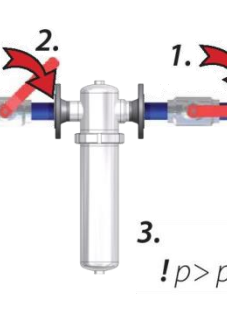
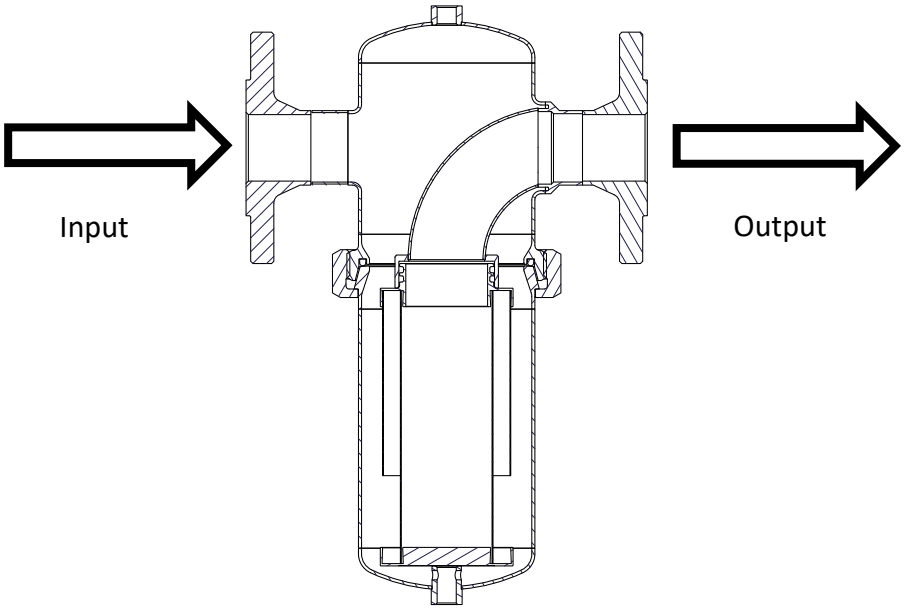


For oil removal, coalescing filter element must be installed. Flow direction inside-out must be provided.

For bulk water vapour cyclonic separator must be installed. Flow direction outside-in must be provided as shown in the picture. General arrangement is filter head on top and filter bowl on bottom.



Cyclonic separator

Maintenance

Filter elements are subject to wear. In order to maintain system efficiency, optimal performance and best air quality, these rules of proper maintenance should be followed:

- PI, PN25 and PN5 filter element can be cleaned with ultrasonic bath or with back flushing. Intervals of cleaning depend on application. If necessary replace filter element with new one.
- Replace PP, PR, PM, PS filter at least element every 12 months or when pressure drop reaches 350 [mbar].
- Replace PA filter element at least every 6 months.
- The housing O-ring can be damaged during filter element change. To prevent air leakage and malfunction replace housing O-ring if necessary. For replacement contact manufacturer.
- Damaged components are to be replaced by new ones. If a marked degree of damage is found, the entire filter is to be replaced.
- Filter has been designed for a life of 10 years in normal operating environment. After 10 years periodical checks of filter integrity are strongly recommended for safe operation.
- Carry out a check for leaks once the maintenance work has been finished.

Warranty exclusion

The guarantee shall be void if:

- The operating instructions were not followed with respect to initial commissioning and maintenance.
- The unit was not operated properly and appropriately.
- The unit was operated when it was clearly defective.
- Non-original spare parts or replacement parts were used.
- The unit was not operated within the permissible technical parameters.
- Unauthorised constructional changes were made to the unit or if parts of the unit that may not be opened were dismantled.

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