



Installation and operating manual

M-VAC – Medical vacuum filters



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



Technical data

Operation pressure range	20 - 2000 mbar (abs)	0,29 – 29 psi
Operating temperature range	1,5 – 65 °C	35 – 149 °F
Initial pressure drop	30 mbar	0,45 psi

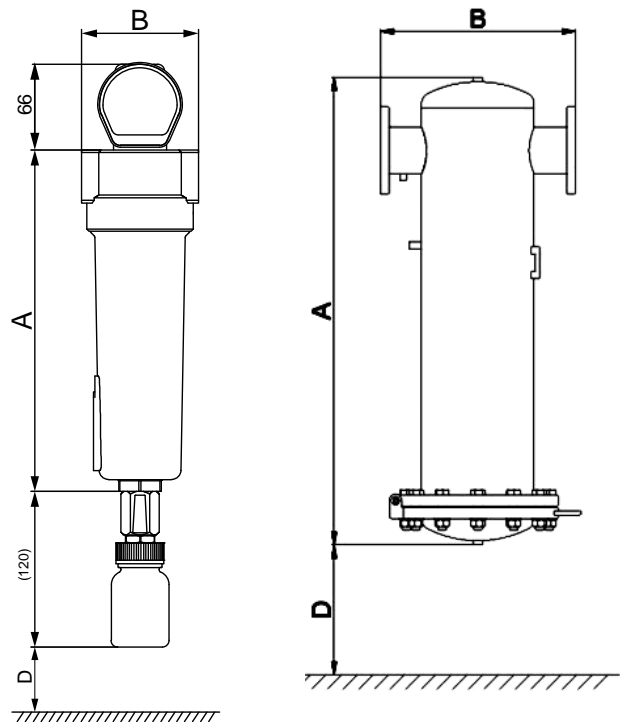
Materials

Housing material	Aluminum
Fittings, Screws	Brass, Brass-zinc plated, Steel
Cover	ABS
Sealing	NBR
Corrosion protection	Anodized
Outside protection	Powder paint coated (Epoxi-polyester base)
Lubricant	Shell cassida grease RLS 2
Filter media	Borosilicate micro fibers,
Drainage media	Polyester
Support (inner-outer)	Stainless Steel 1.4301
Bonding	Polyurethane
Endcaps	PA6 with 30% glass fibers
Sealing	NBR

Sizes

FILTER HOUSING	PIPE SIZE [inch]	FILTER ELEMENT	Capacity ⁽²⁾		DIMENSIONS [mm]			VOLUME [l]	WEIGHT [kg]
			[Nm ³ /h]	[scfm]	A	B	D		
M-VAC 0056	3/8"	06050 M-VAC	7,5	4	192	88	60	0,49	0,6
M-VAC 0076	1/2"	07050 M-VAC	9,8	6	192	88	60	0,49	0,6
M-VAC 0106	3/4"	14050 M-VAC	15,0	9	262	88	80	0,68	0,7
M-VAC 0186	1"	12075 M-VAC	24,8	15	264	125	100	1,57	1,2
M-VAC 0306	1"	22075 M-VAC	41,9	25	364	125	120	2,1	1,6
M-VAC 0476	1 1/2"	32075 M-VAC	63,8	38	464	125	140	2,7	1,9
M-VAC 0706	1 1/2"	50075 M-VAC	97,5	57	644	125	160	3,8	2,6
M-VAC 0946	2	51090 M-VAC	125,0	74	696	164	520	6,1	5,7
M-VAC 1506	2	76090 M-VAC	187,5	110	943	164	770	8,3	7,6
M-VAC 1756	2 1/2"	76090 M-VAC	210,0	124	943	164	770	8,4	7,3
M-VAC 2006	3"	51140 M-VAC	270,0	159	801	242	630	16,7	14,1
M-VAC 2406	3"	75140 M-VAC	345,0	203	998	242	780	21,3	16,7
M-VAC B240	DN80	76090 M-VAC (x1)	275,0	162	1170	450	650	39	61
M-VAC B300	DN100	76090 M-VAC (x2)	394,0	232	1340	560	650	103	115
M-VAC B450	DN125	76090 M-VAC (x3)	587,0	345	1360	560	650	104	123
M-VAC B600	DN150	76090 M-VAC (x4)	787,0	463	1425	620	650	133	151

⁽²⁾Free air capacity at atmospheric pressure



Safety instructions

- ❑ Depressurize the system before carrying out any work on the piping.
- ❑ Installation and maintenance work may only be carried out when filter is not under pressure.
- ❑ Installation and maintenance work may only be carried out by trained and experienced staff.
- ❑ Do not exceed max. operating pressure or operating temperature range (see data label).
- ❑ Use original spare parts only.
- ❑ Use filter for the appropriate purpose only.



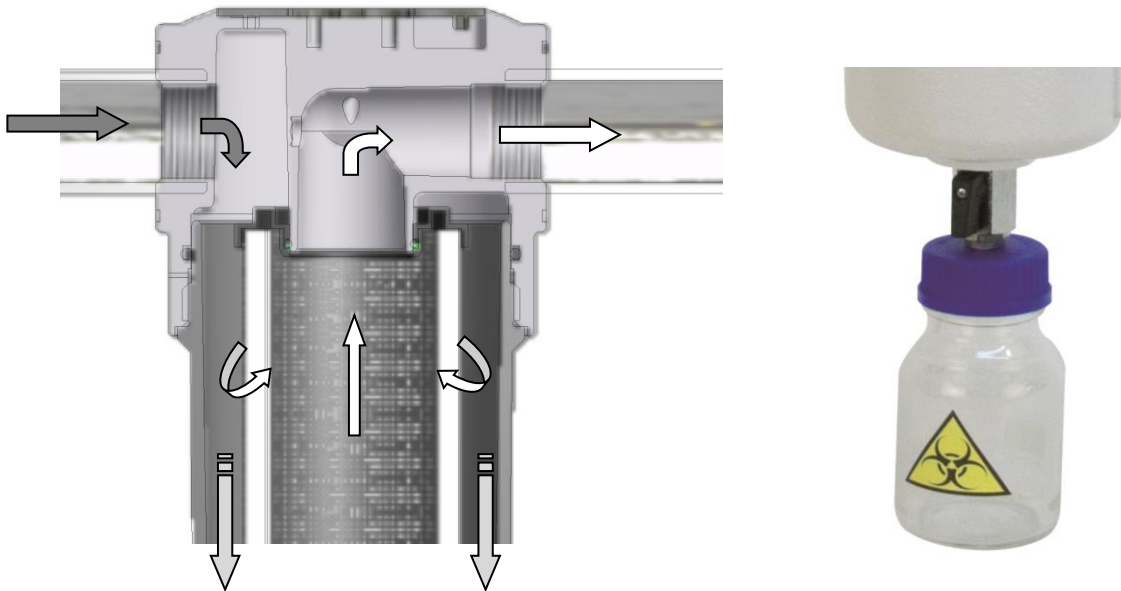
Appropriate use

M-VAC filters may only be used for its intended purpose. These filters are intended exclusively for the following purpose:

- ❑ Separation of bacterial and other contamination (solids and liquids) from operating media F group 2 as per Pressure equipment Directive 2014/68/EU on the suction side of vacuum pumps.

Any other form of use or one going beyond this shall be considered as inappropriate. We shall have no liability whatsoever for any damage incurred as a result.

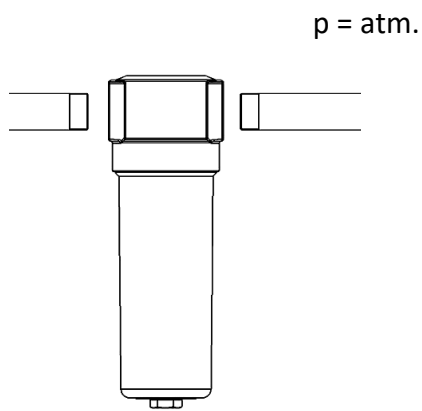
Operating



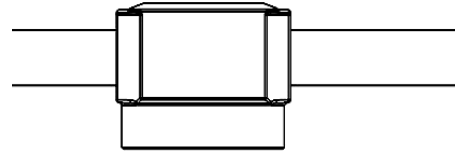
- ❑ M-VAC filters have been specifically developed for medical vacuum applications.
- ❑ These filters are optimised for high-efficient removal of bacterial and other contamination (solids and liquids) from the suction side of vacuum pumps preventing damage to the pump and the potential biological infection of the surrounding environment.
- ❑ Removed liquids are collected in a transparent flask which can be removed for sterilisation.
- ❑ The efficiency of the installed filter elements exceeds the 0,005% penetration specified in HTM 2022 for infectious disease units, when tested in accordance with BS 3928.

Installation

1

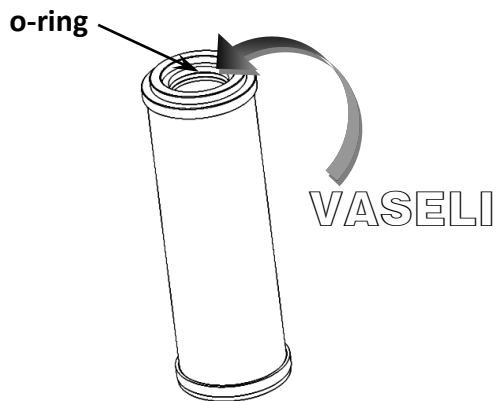


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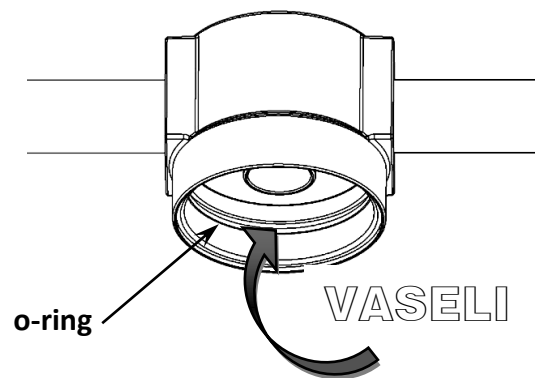


Depressurize the system before carrying out any work on the piping. Connect the filter head to the piping and check that the airflow corresponds to the direction of arrow positioned on the filter head cap.

3

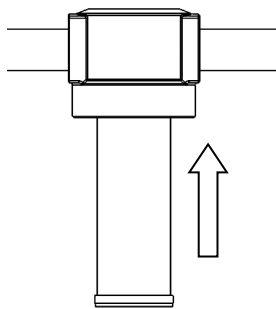


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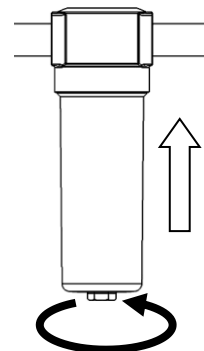


Lubricate the O-ring and the sealing surfaces of the filter head and filter cartridge.

5



6



Fit the filter cartridge on the filter head simply by pressing, tightness is ensured by one O-ring. (Models 0946 to 2406: Fit the filter cartridge on the filter head centring the filter bottom hole with screwed rod. Tight the hexagonal nut and fix the element.) Fit the filter bowl and tight it accurately.

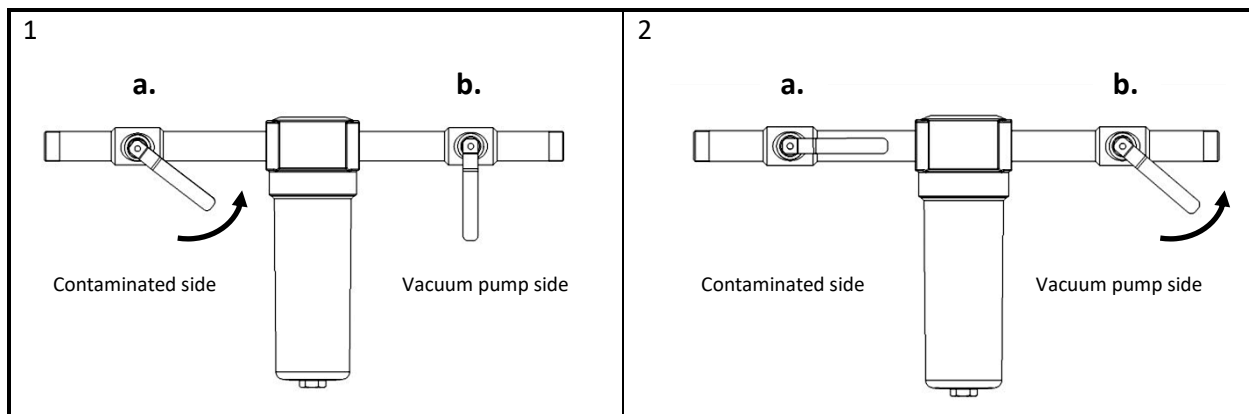
Starting up

Before initial commissioning

- ❑ Filters must always be installed in a vertical position with sufficient space around. The minimum distance (D in the technical data table) has to be assured under the filter bowl, which is necessary for filter cartridge changing.
- ❑ All the screwed connections of the pressure vessel must be done up to the required and max. permissible tightening torque for the screws and bolts.
- ❑ Make a visual check! There must be no external damage visible.
- ❑ Your unit can be equipped with various components. Note the permissible working pressures and permissible temperatures for the components. You can find information in the relevant operating instructions and also from the type plate of your unit or its components.
- ❑ Make a check for leaks!

Initial commissioning

- ❑ First slowly open the (a) valve.
- ❑ Slowly apply pressure to the system by opening the (b) valve.



Maintenance

Service:

Replace filter element every 6 months or follow the instructions for specific filter element. Change the sealing when you disassemble filter housing. Once per year make a visual check of filter housing and make sure there is no visual damage. Flask can be sterilised at 140°C.

Attention

Before beginning maintenance work take the filter out of operation and depressurize the unit.



Warranty exclusion

The guarantee shall be void if:

- ❑ The installation and operating manual was not followed with respect to installation, 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.
- ❑ Unauthorized constructional changes were made to the unit or if the unit has been opened/disassembled by an unauthorized person.

OMEGA AIR d.o.o. Ljubljana

Cesta Dolomitskega odreda 10

SI-1000 Ljubljana, Slovenia

Tel.: +386 (0)1 200 68 00

Fax.: +386 (0)1 200 68 50

E-mail: info@omega-air.si

www.omega-air.si

