

ECON DUPLEX FILTER

Fig. 1098



Scan for manual

Operating and Instruction Manual for Duplex filter: Fig. 1098

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1. ERIKS operating companies

ECON duplex filters are being delivered by several ERIKS operating companies on a worldwide basis. In this manual these will be referred to as 'ERIKS', the individual terms of delivery of the ERIKS operating company having executed the order are applicable.

2. Product description

The ECON duplex filters are designed according the information in our latest catalogue or see our website www.eriks.com and should be used in accordance with the applicable pressure-temperature rating as stated on this website. ECON strainers are provided with casted markings according to EN 19. The marking makes the identification of the strainers easier and contains:

- size (DN)
- pressure rating class
- body material marking
- heat numbers (when required)
- arrow, indicating the medium flow direction
- ECON logo

3. Requirements for maintenance staff

The staff assigned to assembly, operating and maintenance tasks should be qualified to carry out such jobs and in any circumstance, ensure personal safety

4. Transport and storage

During transport and storage the filters should always be protected against external forces, influence and destruction of the painting layer as well. The purpose of the painting layer is to protect the filter against rust, during transport and storage. The strainers should be stored in an unpolluted space and should also be protected against all atmospheric circumstances. There should be taken care of the temperature and humidity in the room, in order to prevent condensate formation.

5. Function

ECON duplex filters are used to protect other pipeline items downstream from damage due to debris and dirt in the system. The medium to be filtered flows through one of the two filter insert which is in operation and from the inside to the outside. The flow direction is marked on the body of the filter. The particles remain in the filter and can be removed with the filter insert. The filter is only suitable for use in a horizontal pipeline.



6. Application

ECON duplex filters are designed for standard operating conditions, where a constant flow through the filter is necessary and the filter can't be taken out of operation. The duplex filter has two insert filters from which one of the two can be switched into function and the other can be maintained at the same time.

The standard allowable differential pressure/clogging rate for the inserts is 1,0 bar and shall not be exceeded, this can lead to equipment damage.


For the use of extreme conditions e.g. aggressive or abrasive media, it is recommended to mention this at the ordering stage, to verify whether the filter is suitable. The installation designer is responsible for the filter selection, suitable for the working conditions. The filters are unsuitable, without written permission of an ERIKS company, to apply for hazardous media as referred into Regulation (EC) No 1272/2008.

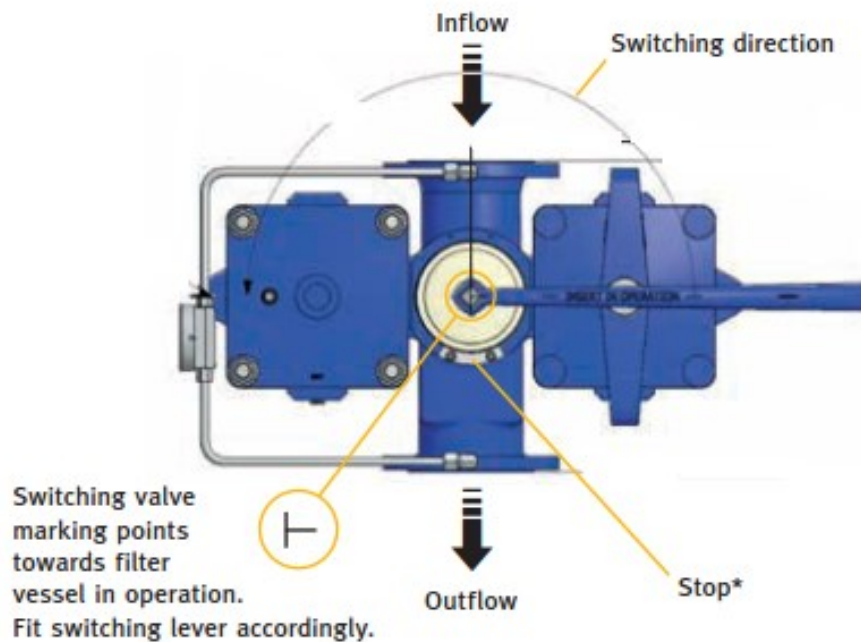
7. Installation

During the assembly of the ECON duplex filters, the following rules should be observed:

- the filters should be checked before installation if they have not any defects caused by transport and/or storage.
- make sure that the applied filters are suitable for the working conditions, medium used in the plant and the right system connections, according to pressure and temperature limits and that the insert is installed with the correct perforation/mesh.
- protective flange hole plugs must be removed
- duplex filters can only be used in liquid systems as MDO, oil, water and seawater and in a horizontal pipeline, with enough clear necessary space above the filter for removing the filter insert out of the filter.
- during fitting, the proper flow direction has to be considered.
- the filters must be stress free mounted between the flanges, supports must be arranged to prevent any additional stress, caused by the weight of the filter or the pipeline.
- bolted joints on the pipeline must not cause additional stress resulted from excessive tightening, user shall select proper bolts and gaskets according the working temperature, working pressure and medium.
- the standard allowable differential pressure/clogging rate for the inserts is 1,0 bar and shall not be exceeded, this can lead to equipment damage.

Operating instructions for startup.

- check whether all screws and locks have been tightened properly.
- check the position of the switching lever (there is a covered  on the switching valve, which defines the direction of flow and/or shows "in operation" on the filter pot. The handle must be fitted accordingly.
- open the venting device fitted in the top-cover of each single filter till the fluid discharges.
- close the venting device
- the filter is now ready for operation.



*Switching direction of the switching lever can be changed by changing the stop.

8. **Maintenance**

Before starting any service jobs, make sure that the medium supply to the filter part which has to be cleaned is out of operation and check the lever position. Always keep safety instructions in mind and take all personal safety precautions.

During maintenance, the following rules should be observed:

- always keep personal safety precautions in mind and always use appropriate protection e.g. clothing, masks, gloves etc.
- be alert that the temperature still can be very high or low and can cause burns.
- check the filter on all possible leaking possibilities.
- check if all bolts and nuts, are still fastened.
- the thickness of the body must be checked to ensure safety operation at an interval of at least three months.

During cleaning the following steps have to be taken:

- as soon as the operating filter half is dirty (increasing differential pressure on the indicator or decreasing operating pressure in the system), the clean filter half is put into operation by gradual switching the plug valve.
- turn the venting device open of the filter part which has to be cleaned
- loosen the cover bolts and lift off the cover
- drain the filter through the drain unit to a level that is at least below the filter insert support.
- pull the filter insert upwards and out of the filter housing. The filter insert can now be cleaned by careful blowing it out or blasting it with compressed air, steam, or water. If necessary the filter insert must be soaked and cleaned in a suitable cleaning space. In some circumstances optimum cleaning is achieved by means of ultrasound. For all cleaning types ensure that the filter mesh is not damaged.
- when assembling the filter insert in the reverse sequence, check the sealing elements for wear and replace them if necessary.



Important. The duplex filter with switching valve has a permissible leakage rate, the leakage rate of the duplex filter at delivery condition at max. design pressure (P_{design}) is approx. 20% of the content of the filter in approx. 30 minutes.



Please do not leave the opened filter unattended and if required, keep an already cleaned reserve filter insert ready for replacement.



Important information for switchover plug valve
For media having corrosion effect on the material of the filter, switching must be actuated regularly (at least 2-3 times) per week.
Alternative to the standard switching valves in EN-GJS-500-7 switching valves in bronze or standard coated with Magna Coat are also available.

9. Service and repair

All service and repair jobs should be carried out by authorized staff, using suitable tools and user shall use original gasket, bolt and nut of the same size and material as the original one.

- welding (repair) and drilling of the duplex filter is forbidden.
- it is forbidden to replace the bolt, nut or packing when the strainer is under pressure.
- tighten the hexagon nuts evenly crosswise in the there for standard order.
- after replacement of the gasket, bolts or nuts, it is necessary to check the strainer operation and tightness of all connections. A tightness test should be carried out.
- after installation, the filter should be checked and maintained periodically at least every 3 months, depending on the medium.

10. Troubleshooting

It is essential that the safety regulations are observed when identifying the fault.

Problem	Possible cause	Corrective measures
No flow	Flange dust caps were not removed	Remove dust caps
Little flow	Filter insert clogged	Clean/replace filter insert
	Piping system clogged	Check piping system
Leakage between body and cover	Cover bolts loose	Proper tighten cover nuts
	Cover gasket failure	Replace cover gasket
Body and/or cover broken and leaking	Water hammer	Careful operation to prevent suddenly stopping pumping and rapidly shutting
	Broken because of freezing	Drain the water in the winter, when the filter is not used, or use proper isolation

11. Removal

All dismantled and rejected duplex filters cannot be disposed with household waste. The duplex filters are made of materials which can be re-used and should be delivered to designated recycling centres.

General warning:

General note for products which may be used for seawater:

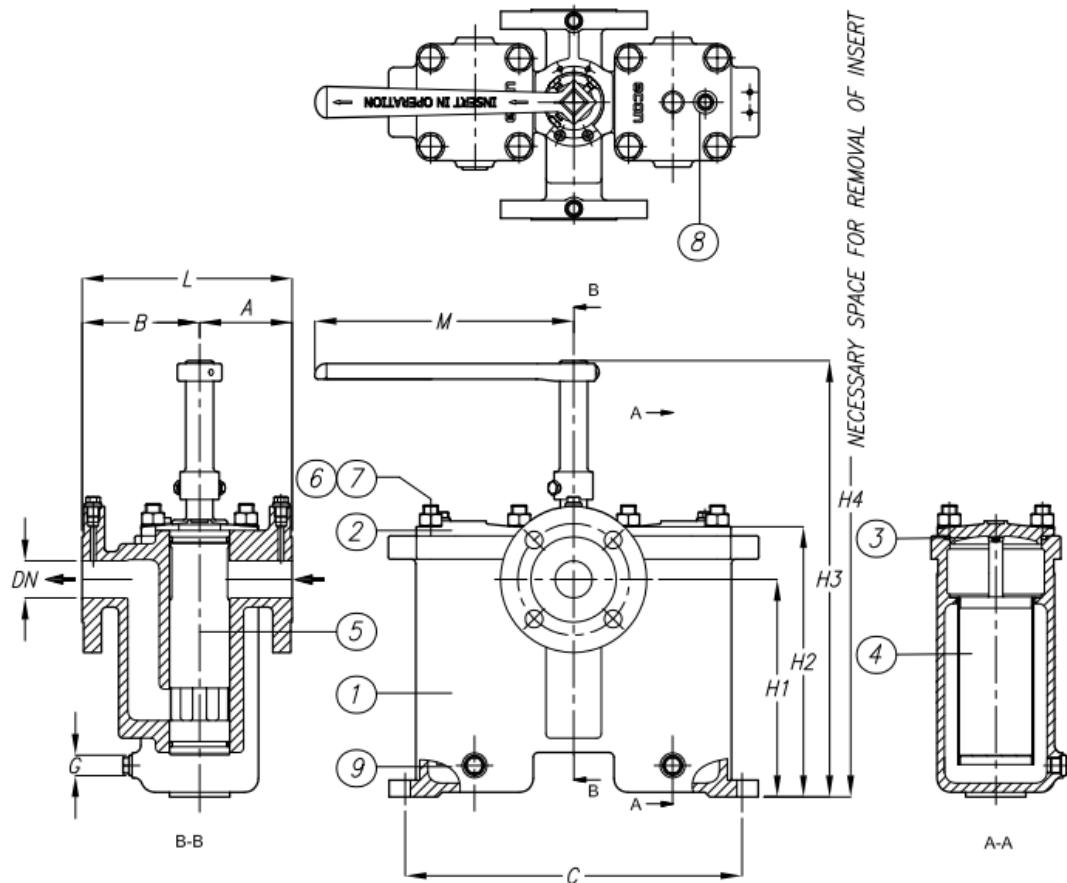
Although our products can be used in seawater systems it should always be noted that, in case of installation in a piping system made of materials which are frequently used because of their excellent seawater resistance (e.g. Cunifer), large potential differences may occur possibly causing corrosion which could permanently damage the proper functioning and integrity of our product.

A combination of different materials should always be mentioned prior to the purchase of our products in order for us to give the best possible advice on a safe functioning.

General note for cast iron products:

Cast iron can be used for various applications, such as listed in our catalogue. It should however always be observed, that frost (in combination with non drained products) may permanently damage the proper functioning and integrity of our product.

BUCKET FILTER DUPLEX TYPE, NODULAR CAST IRON, ECON FIG. 1098
FLANGE CONNECTION PN16



DN	L	A	B	C	H1	H2	H3	H4	M	SCREEN CM ²	G	KG
20	175	80	95	290	185	242	420	450	300	270	3/8"	22
25	175	80	95	290	185	242	420	450	300	270	3/8"	22
32	230	100	130	364	235	298	480	550	300	440	3/8"	38
40	230	100	130	364	235	298	480	550	300	440	3/8"	38
50	230	100	130	364	235	298	480	550	300	440	3/8"	38
65	315	125	190	504	267	328	600	650	500	740	3/8"	70
80	315	125	190	504	267	328	600	650	500	740	3/8"	70
100	395	175	220	655	385	478	720	900	500	1350	3/8"	175
125	395	175	220	655	385	478	720	900	500	1350	3/8"	175
150	540	230	310	800	505	648	795	1200	500	2034	3/8"	300

POS	NAME	MATERIAL
1	BODY	EN-GJS-500-7
2	COVER	EN-GJS-500-7
3	COVER SEAL	NBR
4	STRAINER INSERT	1.4401
5	SWITCHING VALVE	EN-GJS-500-7
6	STUD	8.8 GALVANISED
7	NUT	8.8 GALVANISED
8	VENTILATION PLUG	SS316
9	DRAIN PLUG	SS316

DN20 - DN150 PN16

DATE:
04-03-2010

REV.DATE:
02-02-2017

econ[®]

DRAWN:

JL

CHECKED:

CH

DWG. Nr.:

1098

REV.:

A