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1. ERIKS operating companies

ECON strainers 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 strainers 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 in the catalogue or 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)
- CE marking when applicable
- 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 should the strainers 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 strainer against rust, during transport and storage (when painted). 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 strainers are used to protect other pipeline items from damage due to debris and dirt in the system. Suitable for use in horizontal and vertical pipelines with a downward flow.

6. Application

ECON strainers are for general use. Strainers are used for cleaning flowing mediums to protect the installation. The strainers are designed for standard operating conditions. 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 strainer is suitable. The installation designer is responsible for the strainer selection, suitable for the working conditions. The strainers 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 strainers, the following rules should be observed:

- the strainers should be checked before installation if they have not any defects caused by transport and/or storage.
- make sure that the applied strainers are suitable for the working conditions, medium used in the plant and the right system connections, according to pressure and temperature limits.
- protective hole plugs must be removed
- strainers can be fitted on liquid or steam/gas systems in either horizontal pipework or vertical pipework where the flow is downward. In a horizontal line on steam/gases the strainer pocket should be in the horizontal plane as this reduces the possibility of water hammer. On liquid systems the strainer pocket should point downwards.
- during fitting, the proper flow direction has to be considered.
- the strainers must be stress free mounted between the flanges, supports must be arranged to prevent any additional stress, caused by the weight of the strainer 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 strainers with butt or socket weld ends should be assembled in the pipeline in correct position, during the welding process, contamination of the pipeline should be absolutely avoided.
- by strainers with threaded ends make sure the wire ends of the pipe and the strainer according to the same standard, and also free from pollution. Clamp the strainer only on the hex clamping surfaces at the connection ports during assembly.
- steam line systems should be designed to prevent water accumulation.
- bolted joints on the pipeline must not cause additional stress resulted from excessive tightening, user shall select proper bolts, gaskets according the working temperature, working pressure and medium.

8. Maintenance

Before starting any service jobs, make sure that the medium supply to the pipeline is cut off, pressure was decreased to ambient pressure, the pipeline is completely cleaned and ventilated and the plant is cooled down. 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 strainer 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.

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 strainer 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 strainer 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	Strainer clogged	Clean/replace screen
	Piping system clogged	Check piping system
Leakage between body and cap/cover	Cover bolts loose, or cap is loose	Proper tighten bonnet nuts, or tighten cap
	Bonnet gasket failure	Replace bonnet 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 valve is not used, or use proper isolation

11. Removal

All dismantled and rejected strainers cannot be disposed with household waste. The strainers 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.