

	<b>INSTRUCTIONS FOR INSTALLATION AND SERVICE</b>	<b>FP 110, FP 210 FP 220, FP 230</b>
	<b>STRAINERS - FLANGED</b>	
	PM - 079/22/02/GB	

### 1. Description

Flanged strainers FP 110, 210, 220, 230 are designed to clean process media from mechanical impurities. The strainers are distinguished by a robust design of screen element made of stainless steel with possibility of draining without necessity of bonnet dismantling.

### 2. Application

The strainers are designed for applications in heating and other industries especially in hot-water or steam circuits. The wide range of diameters enables usage in most of the common applications.

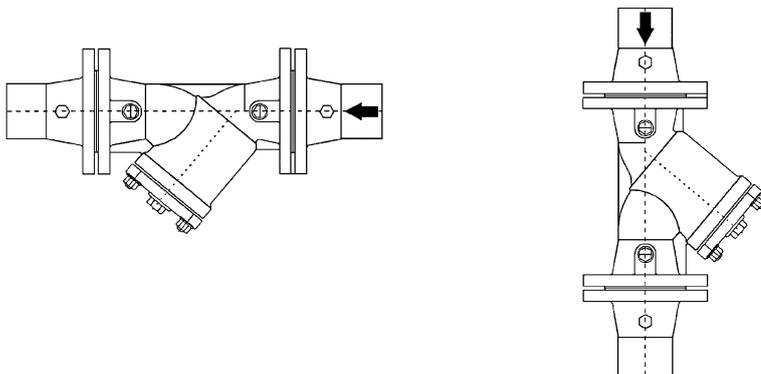
### 3. Operating medium

The strainers are suitable for water, steam, air and other media compatible with material of body and screen.

### 4. Installation and maintenance of strainer

Before installation of strainer into pipeline, the flange protection caps must be removed. The flow direction is determined by the arrows on the strainer body.

Mounting position of the strainer in the horizontal pipeline is with the bonnet downward for liquids, and bonnet sideways for steam and gases (to avoid floatation). In the vertical pipeline, only top-down flow direction is allowed.



The period for strainer draining and screen element cleaning depends on the pollution of medium. The screen element must be cleaned when the pipeline is put into operation (usually just before commissioning), at the beginning of the operation after long period of inactivity (start of heating season) and always when the increased pressure loss or noise occurs at the strainer. The pressure must be released from the pipeline prior any activity!

Cleaning is carried out either by removing the drain plug (i. e. purging) or by removing the strainer bonnet and cleaning of the strainer screen (i. e. complete cleaning). Subsequently, removed part (plug or bonnet) is mounted back and tightened by recommended torque.

#### Bonnet nut torques

Thread	Tightening torque
M8	15 - 20Nm
M10	35 - 45Nm
M12	65 - 75Nm
M16	80 - 100Nm
M20	120 - 140Nm
M24	350 - 400Nm

#### Plug torques for FP 110, 210 and 220 (stainless steel gasket)

Thread	Tightening torque
G 3/8"	30 - 40Nm
G 3/4"	80 - 100Nm
G 1"	100 - 120Nm
G 1½"	200 - 250Nm

Plug torques for FP 230 (no gasket, plug with sealing edge)

Thread	Tightening torque
G 3/8"	15 - 20Nm
G 3/4"	35 - 40Nm
G 1"	50 - 60Nm
G 1½"	100 - 120Nm

Due to high torques it is necessary to use ring spanner for loosening and tightening of nuts and plugs. All threads have to be properly lubricated before reassembly. Manufacturer recommends thread lubricant Molykote P-37. It is feasible to use lubricant of similar properties.

### 5. Spare parts

The spare parts are not included in the delivery of strainers and have to be ordered separately. When the spare parts are ordered, following data must be written: type of the strainer, nominal diameter DN, strainer serial number, name of the spare part.

Manufacturer recommends to use new seals during reassembly of drain plug or strainer bonnet.

Recommend spare parts for 3 and 5 years of operation:

	Parts for 3 years of operation	Additional parts for 5years of operation *)
<b>FP110</b> <b>FP210</b> <b>FP220</b>	- bonnet gasket - drain plug gasket	- screen element - drain plug
<b>FP230</b>	- bonnet gasket	- screen element - drain plug

The personnel carrying out the maintenance work shall be knowledgeable about the product and educated in workplace safety regulations.

### 5. Guarantee conditions

The manufacturer provides a 24 month warranty for this product starting with the date of dispatch from the factory.

When the failure is detected, the activities according to the point a), b) or c) should be done.

a) Send the strainer to the address of LDM servis, spol. s r. o., where the valve will be inspected and replaced or repaired.

b) Report the malfunction to the local service company which can lend you a spare strainer. Send the strainer over to our service company where it will be repaired or replaced with new one.

c) Request service work directly at site.

In case the claim is found relevant, the manufacturer shall pay the cost of repair and transportation cost for sending the strainer back to the customer. If the customer requests the service work directly at site, he shall be bound to pay the travel cost of the service personnel. If the claim is not found relevant, he is bound to pay all the cost incurred.

The manufacturer does not guarantee the proper function of the product under any other conditions than those stipulated in this instructions for installation and maintenance of the product. Any other service conditions shall be consulted with the manufacturer.

### 6. Waste disposal

Packaging material and the strainer shall be disposed of in the common way such as by handing over to a specialized enterprise for disposal (body and metal parts - metal waste, other non-metal parts - communal waste).



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