ZETKAMA Sp. z o.o.
ul. 3 Maja 12
PL 57-410 Ścinawka Średnia

USERS MANUAL

STRAINER zSTRA	Fig. 826	Edition: 1/2021 Date: 14.01.2021

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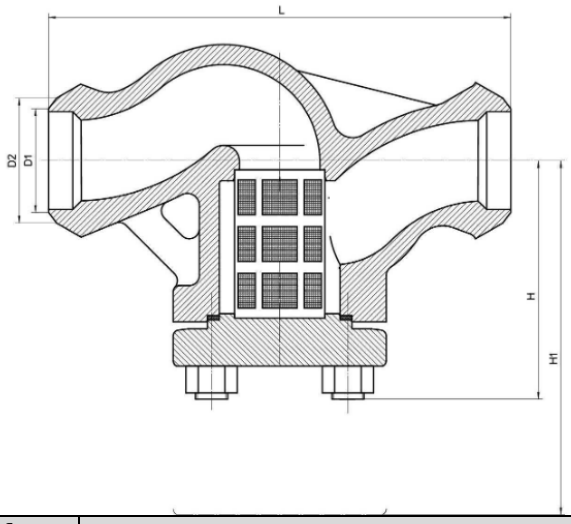
1. PRODUCT DESCRIPTION



	Body material	F
1	Body	GP240GH
2	Cover	P265GH
3	Screen	18-8 Cr-Ni
8	Cover gasket	Graphite
Max. temperature		450°C

Strainers are provided with casted marking according to requirements of PN-EN19 standard. The marking facilitates technical identification and contains:

- diameter nominal DN (mm),
- pressure nominal PN (bar),
- body and cover material marking,
- arrow indicating medium flow direction,
- manufacturer marking,
- heat number,
- CE marking, for valves subjected 2014/68/UE directive. CE marking starts from DN32

2. REQUIREMENTS FOR MAINTENANCE STAFF

The staff assigned to assembly, operating and maintenance tasks should be qualified to carry out such jobs. If during strainer operation heat parts of the strainer, for example cover or body could cause burn, user is obliged to protect them against touch.

3. TRANSPORT AND STORAGE

Transport and storage should be carried out at temperature from -20^0 to 65^0C, and strainers should be protected against external forces influence and destruction of painting layer as well. The aim of painting layer is to protect the strainers against rust during transport and storage. Strainers should be kept at unpolluted rooms and they should be also protected against influence of atmospheric conditions. There should be applied drying agent or heating at damp rooms in order to prevent condensate formation. Strainer weights are given at catalogue card.

4. FUNCTION

Strainers – wire mesh are designed for cleaning flowing medium. Their task is to protect against pollutions the most sensitive plant components such as pumps, control valves, flow and heat meters. Strainer holds solid particles which dimensions exceeds screen mesh. In order to remove magnetic pollutions from the medium it is recommended to use magnetic cartridge located in the centre of screen.

5. APPLICATION

- industry
- heating
- power engineering
- industrial water
- diathermic oil
- steam installations
- comressed air
- neutral fluids

The operating medium causes an order or prohibition of use of certain materials. Strainers are designed for normal conditions of use. In the case of operating conditions exceeding these requirements, e.g. for aggressive or abrasive agents, the user should ask the manufacturer before placing an order.

Corrosion allowance c2 = 1 mm was assumed in the valves

Working pressure should be adapted to the maximum temperature of the medium, in accordance with the table below.

			-10°C÷50°C	100°C	150°C	200°C	250°C	300°C	350°C	400°C	450°C
GP240GH	100	bar	100	92,8	88	83,3	76,1	69,0	64,2	59,5	32,8

The system designer, building contractor and user are responsible for the correct selection of a strainer to the working conditions, its arrangement and assembly.

The strainers have been designed for applications independent of external conditions. If there is a risk of corrosion caused by external conditions (weather, aggressive vapours, gases, etc.), special anti-corrosion protection or special design of the strainers is recommended.

6. ASSEMBLY

Installations should be designed so as to prevent the negative effects of water hammer.
This can be achieved by:
- reduction of the maximum pressure to the value permissible for the materials of the valves.
- determination of the maximum pressure increase at the moment of water hammer and selection of appropriate DN diameter of the pipeline.
- use of pumps with high inertia of rotors and regulation of pump revolutions.
- use of overflow chambers and water-air tanks, airing valves or safety valves.

The following rules must be observed during assembly of strainers:

- before assembly, determine whether the valves are not damaged during shipment or storage, make sure that the used strainers are suitable for working conditions and media in the given plant,
- remove plugs if there are any,
- check that the inside of the valves is free of foreign bodies,
- steam lines must be routed in such a way as to prevent the accumulation of water,
- protect the valves against spattering during work, e.g. welding, and the materials used against excessive temperature,

Pipeline where the strainers are fitted should be conducted and assembled in such a way that the strainer body is not subjected to bending moment and stretching forces.
To assembly the strainer in such a way that flow direction comply with an arrow placed on the body.

- the throat of the strainer housing with the filter cartridge must point downwards to prevent dirt from falling back into the duct,
- when there is a risk of water hammer due to the formation of condensate, the throat of the strainer housing should be installed horizontally,
- the pipeline designer should provide enough space to remove the screen from the strainer housing for cleaning,
- use expansion joints to reduce the impact of thermal expansion of pipelines,
- before starting the system, and in particular after repairs, flush the pipeline system.

The system designer, building contractor and user are responsible for the correct selection of a strainer to the working conditions, its arrangement and assembly.

Strainers made of GP240GH cast steel and operating at temperatures above 400°C due to material creep, cannot operate under these conditions for more than 100,000 hours.

7. MAINTENANCE

During maintenance following rules should be observed:

- startup process – sudden changes of pressure and temperature should be avoided when starting the plant,
- strainers – wire mesh filters do not contain moving parts and do not require any maintenance jobs with exception

of screen cleaning,

- strainer screens require regular cleaning – screen cleaning intervals should be established by user depending on the pollution grade of the medium,

Before taking up any service jobs make sure that medium supply to the pipeline was cut off, pressure was decreased to ambient pressure, medium was removed from the pipeline and plant was cooled down.

- cleaning or replacement the screen is possible when body – cover bolt nuts are unscrewed and screen is taken out of the strainer – remove screen impurities by strong water stream without using metal tools
- before strainer reassembly remember to replace body – cover gasket
- tighten hexagon nuts of cover bolts evenly and crosswise by torque wrench

In order to assure safety performance, each strainer (especially rarely used) should be surveyed on regular basis. Inspection frequency should be laid down by user, but not less than one time per month.

8. SERVICE AND REPAIR

All service and repair jobs should be carried out by authorized staff using suitable tools and original spare parts. Before disassembly of complete strainer from the pipeline or before service, the pipeline should be out of operation. During service and repair jobs:

- the pressure should be decreased to zero degrees and valve temperature to ambient temperature,
- personal health protectives in pursuance of existing threat should be used,
- after strainer disassembly it is necessary to replace flange connection gaskets between strainer and pipeline,
- tighten torques for body – cover bolts
- before strainer re-assembly in the pipeline it is necessary to check strainer operation and tightness of all connections. Tightness test should be carried out with water pressure of 1,5 nominal pressure of the valve.

9. REASONS OF OPERATING DISTURBANCES AND REMEDY

When seeking of strainer malfunction reasons safety rules should be strictly obeyed

Fault	**Possible reason**	**Remedy**
No flow	Flange dust caps were not removed	Remove dust caps on the flanges
Poor flow	Dirty screen	Clean or replace the screen
	Clogged pipeline	Check the pipeline

10. VALVE SERVICE DISCOUNTINUITY

All obsolete and dismantled valves must not be disposed with houshold waste. ZETKAMA valves are made of materials which can be re-used and should be delivered to designated recycling centres.

11. WARRANTY TERMS

ZETKAMA grants quality warranty with assurance for proper operation of its products, providing that assembly of them is done according to the users manual and they are operated according to technical conditions and parameters described in ZETKAMA's catalogue cards. Warranty period is 18 months starting from assembly date, however not longer than 24 months from the sales date.

Warranty claim does not cover assembly of foreign parts and design changes done by user as well as natural wear.

Immediately after detection the user should inform ZETKAMA about hidden defects of the product
A claim should be prepared in written form.

Address for correspondence :

ZETKAMA Sp. z o.o.
ul. 3 Maja 12
57-410 Ścinawka Średnia

Phone +48 74 86 52 111
Fax +48 74 86 52 101
Website: www.zetkama.com