

USERS MANUAL

Float valve	zFLO	Fig.272, 274	Edition: 08/2016 Date: 01.07.2016
--------------------	-------------	---------------------	--------------------------------------

CONTENTS

1. Product description
2. Requirement for maintenance staff
3. Transport and storage
4. Function
5. Application
6. Assembly
7. Maintenance
8. Service and repair
9. Reasons of operating disturbances and remedy
9. Warranty terms

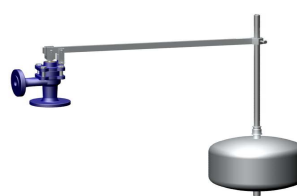


Fig.274

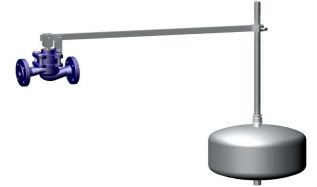
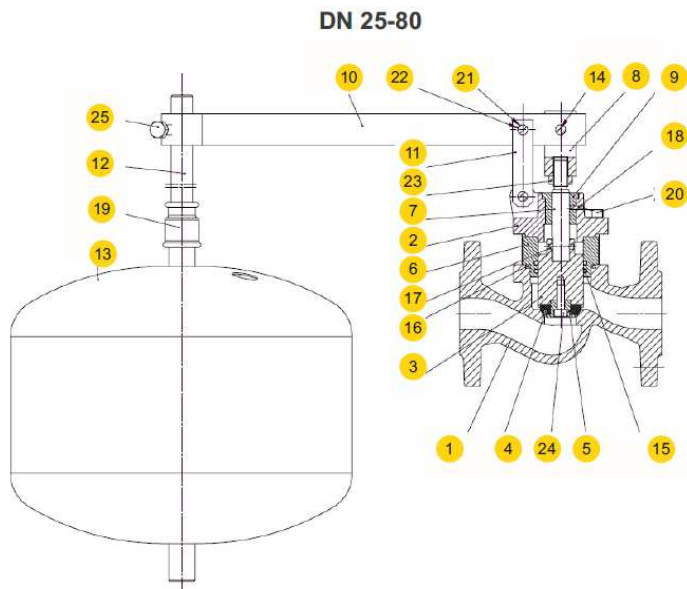


Fig. 272

1. PRODUCT DESCRIPTION



Fig. 272



DN 100-200

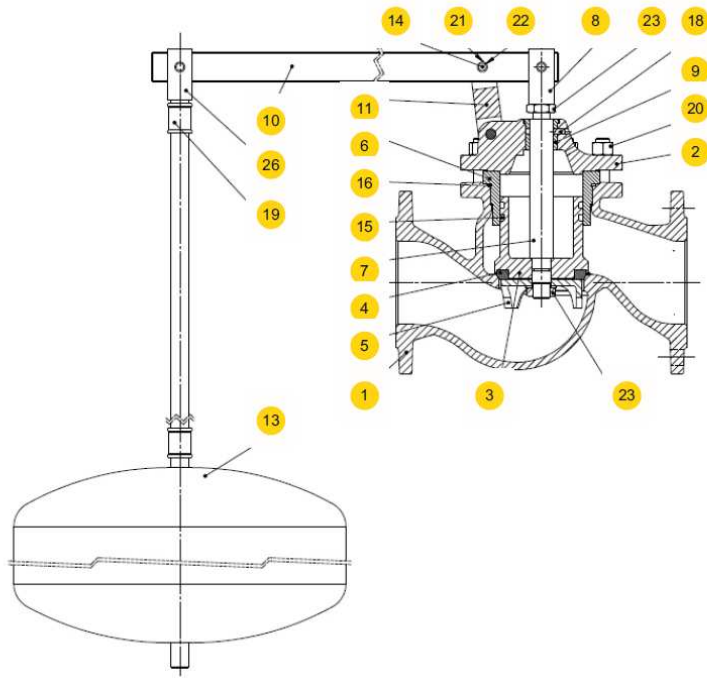
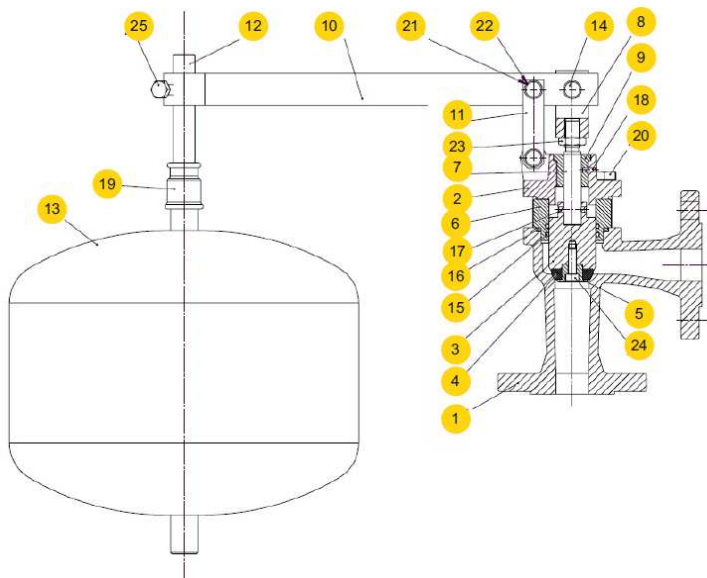
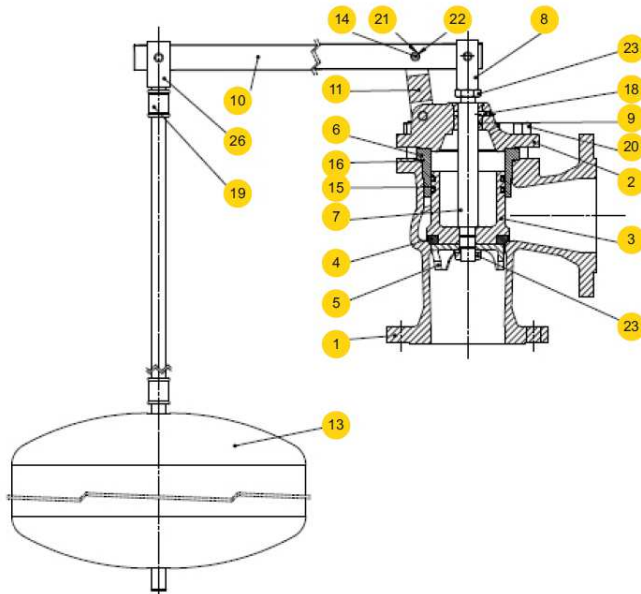


Fig.274

DN 25-80



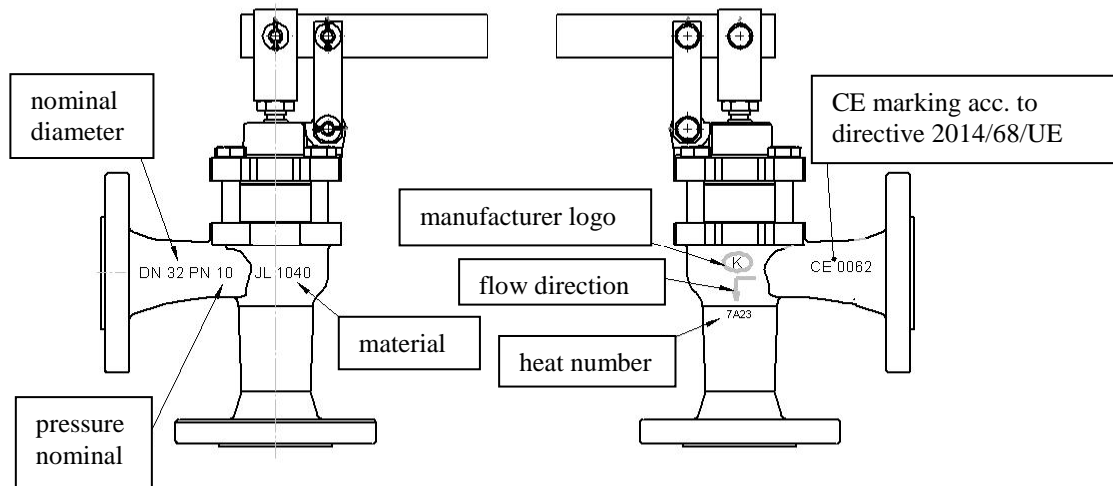
DN 100-200



body material		A	
type	16 (DN 25-80)	16 (DN 100-200)	
1	body	EN – GJL-250 5.1301 (ex.JL1040)	
2	cover	EN – GJL-250 5.1301 (ex.JL1040)	
3	disc	X20Cr13 1.4021	
4	disc gasket	EPDM	
5	gasket holder	X20Cr13 1.40021	
6	piston sleeve	CuZn39Pb	CuSn11 P.-C
7	stem	X20Cr13 1.4021	
8	stem fork	S235JR zinc galvanized	
9	stem sleeve	CuZn39Pb	
10	lever	S235JR zinc galvanized	
11	connector	S235JR zinc galvanized	
12	rod	S235JR zinc galvanized	-----
13	float	S235JR epoxide	
14	pin	X20Cr13 1.4021	
15,16	packing ring	EPDM	
17,18	straight pin	carbon steel	-----
19	reducer	malleable cast iron	
20	hexagon bolt	8.8 A2A	
21	washer	carbon steel zinc	
22	cotter pin	X5CrNi18-10 1.4301	
23	nut	8.8 A2A	
24	bolt	A2-70	-----
25	hexagon bolt	8.8 A2A	-----
26	float handle	-----	S235JR zinc
max. temperature		120°C	

Float valves 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 bonnet 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

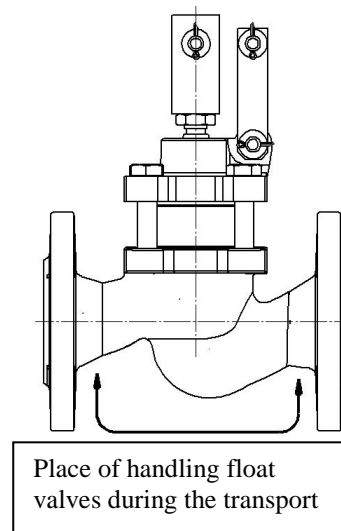
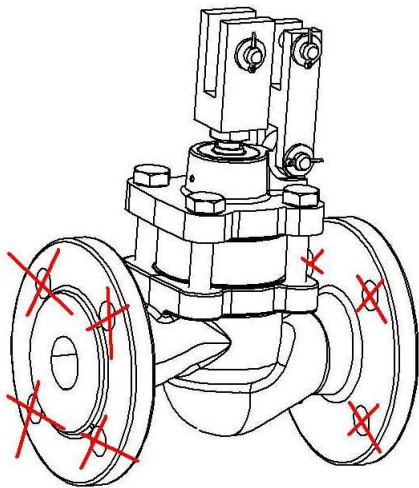
The staff assigned to assembly, operating and maintenance tasks should be qualified to carry out such jobs.

If during valve operation heat parts of the valve, for example handwheel, body or bonnet parts 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° to 65°C , and valves should be protected against external forces influence and destruction of painting layer as well. The aim of painting layer is to protect the valves against rust during transport and storage. Valves 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. The valves should be transported in such a way to avoid valve stem damage.

Float valves are supplied in separate parts : complete valve, lever, float bar and float.



It is not allowed to fit lifting devices to connecting holes.

4. FUNCTION

Float valves are designed for control of medium level in the tank during filling or emptying.

When established medium level in the tank is reached the valve shuts off and remains at this position until medium level falls down.

5. APPLICATION

- Industrial water
- Neutral fluids

The kind of working medium makes some materials to be used or to be prohibited for use. Valves were designed for normal working conditions. In the case that working conditions exceed these requirements (for example for aggressive or abrasive medium) user should ask manufacturer before placing an order.

When selecting the valve for specific medium, "List of Chemical Resistance" can be helpful. It can be found at manufacturer website near catalogue cards.

Working pressure should be adapted to maximum medium temperature according to the table as below.

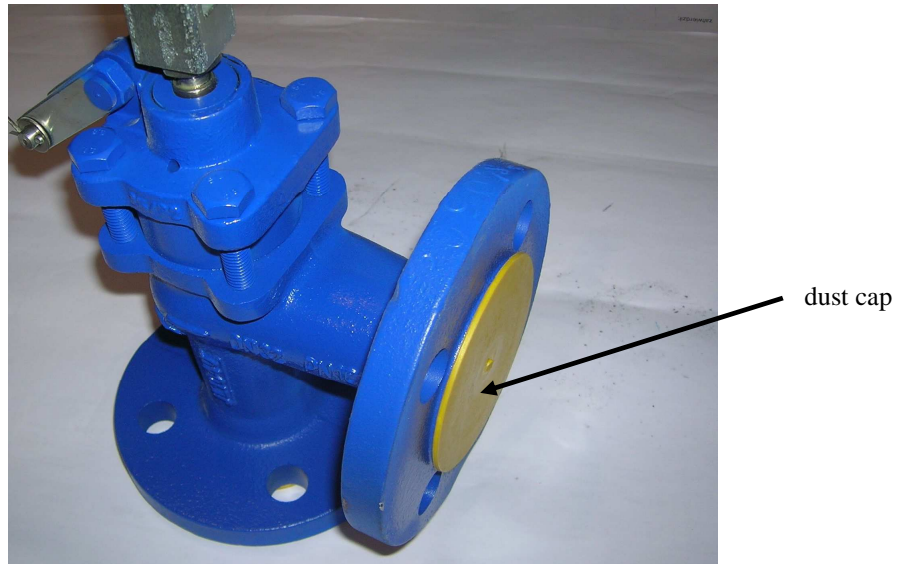
Float valve Fig. 272,274

Acc to EN 1092-2		Temperature [° C]
Material	PN	from -10 up to 90
EN-GJL250	10	10 bar

6. ASSEMBLY

During the assembly of balancing valves following rules should be observed :

- to evaluate before an assembly if the valves were not damaged during the transport or storage,
- to make sure that applied valves are suitable for working conditions and medium used in the plant,
- to take off dust caps if the valves are provided with them,



- to check if the valve body is free of solid particles,
- to protect the valves during welding jobs,



Zamontowanie osadnika – filtra siatkowego przed zaworem zwiększa pewność jego poprawnego funkcjonowania.

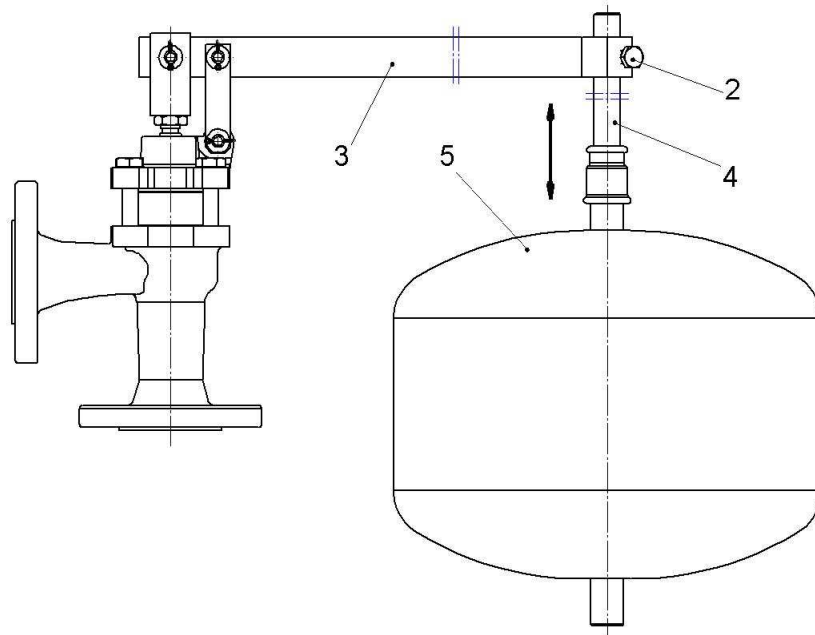


Bolted joints on the pipeline must not cause additional stress resulted from excessive tightening, and fastener materials must comply with working conditions of the plant.



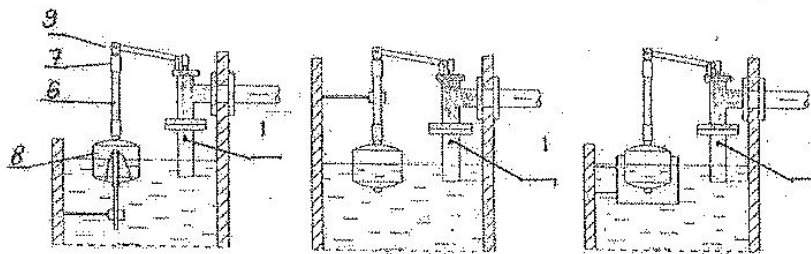
Valve should be assembled in such way that medium flow direction comply with an arrow on the body. Remember that for float valves medium flow must be on the disc.

- after valve assembly in the pipeline fit the bar and float,
- during pipeline painting valve stem, bar, pins and float should be protected,
- valves should be assembled in such way that stem and float axis are in vertical position
- float valve should be placed above medium level in order to enable it to affect the float position,
- for valves size from DN25 up to DN80 adjustment of distance between the float and medium level is carried out in the following manner : slacken two bolts(2) at lever head (3), move the bar (4) together with float (5) till established level then tighten the bolts(2) –as on the drawing below,



- for valves size from DN100 up to DN200 adjustment of distance between the float and medium level is carried out in the following manner : fit additional pipe (6) and suitable fitting (7) (G11/2" for DN 100-125, G3/4" for DN 150-200) between the float (8) and float clamp (9) - see the drawing below; valve manufacturer do not supply pipe and fitting –it is available on the market,

Examples of float guidance in a tank for valve size from DN100 up to DN200



- valve float for sizes DN 100-200 should be guided in the tank; example solutions are shown on the drawing as above; float guidance is done by the customer on his own ,
- avoid situation when medium inlet to the tank creates waves on its surface; it may cause float vibration and noisy valve operation because of that, in this case it is worth to assembly outlet pipe in such way that medium flows out below its level – remember to make vent hole in the inlet pipe, it must be located above medium level (item. 1 on above drawing),
- before plant startup, especially after repairs carried out, flash out the pipeline through entirely open valve,



EPDM sealing used in the valve are not suitable for contact with oil and grease.



Hole in a bonnet is designed to vent the space under valve piston, in any case it must be not plugged or used for different purposes.



The responsibility for correct selection of the valve to the operating conditions, distribution and installation is borne by system designer, contractor and user.

7. MAINTENANCE

During maintenance following rules should be observed:

- startup process – sudden changes of pressure and temperature should be avoided when starting the plant,
- valves work automatically and require no maintenance during operation



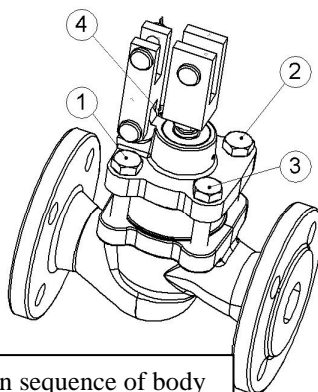
In order to assure safety performance, each valve (especially rarely used) should be surveyed on regular basis. Inspection frequency should be laid down by user, but not less than one time per month.

8. SERVICE AND REPAIR



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.

- All service and repair jobs should be carried out by authorized staff using suitable tools and original spare parts.
- Before disassembly of complete valve from the pipeline or before service, the pipeline should be out of operation
- During service and repair jobs personal health protectives in pursuance of existing threat should be used,
- After valve disassembly it is necessary to replace flange connection gaskets between valve and pipeline
- Everytime when valve bonnet was disassembled sealing surface should be cleaned. During assembly it should be applied new gasket of the same type as previously used
- Tightening of bonnet bolted connections should be done when the valve is in open position,
- The bolts should be tighten evenly and crosswise by torque wrench



Tighten sequence of body
– bonnet bolts

- Tighten torques

Screw	Torque
M10	20 – 35 Nm
M12	60 – 70 Nm
M16	100 -125 Nm

- before valves re-assembly in the pipeline it is necessary to check valve 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 valve malfunction reasons safety rules should be strictly obeyed

Fault	Possible reason	Remedy
No flow	Dust caps were not removed	Remove dust caps on the flanges
Poor flow	Clogged pipeline	Check the pipeline
Difficult control of the valve	Dry stem or pins	Grease stem and pins
Seat leakage	Damaged seat	Replace the valve
	Damaged disc sealing	Replace disc sealing
	Medium polluted with solid particles	Clean the valve. Fit a strainer before the valve.
	Damaged float	Replace valve float
Broken connecting flange	Bolts tighten unevenly	Replace the valve with new one

10. 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 and mechanical damages.

- 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