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

USERS MANUAL			
Float valve	**zFLO**	**Fig.272, 274**	**Edition: 01/2023** **Date: 01.06.2023**

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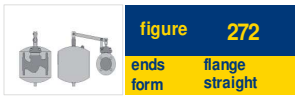
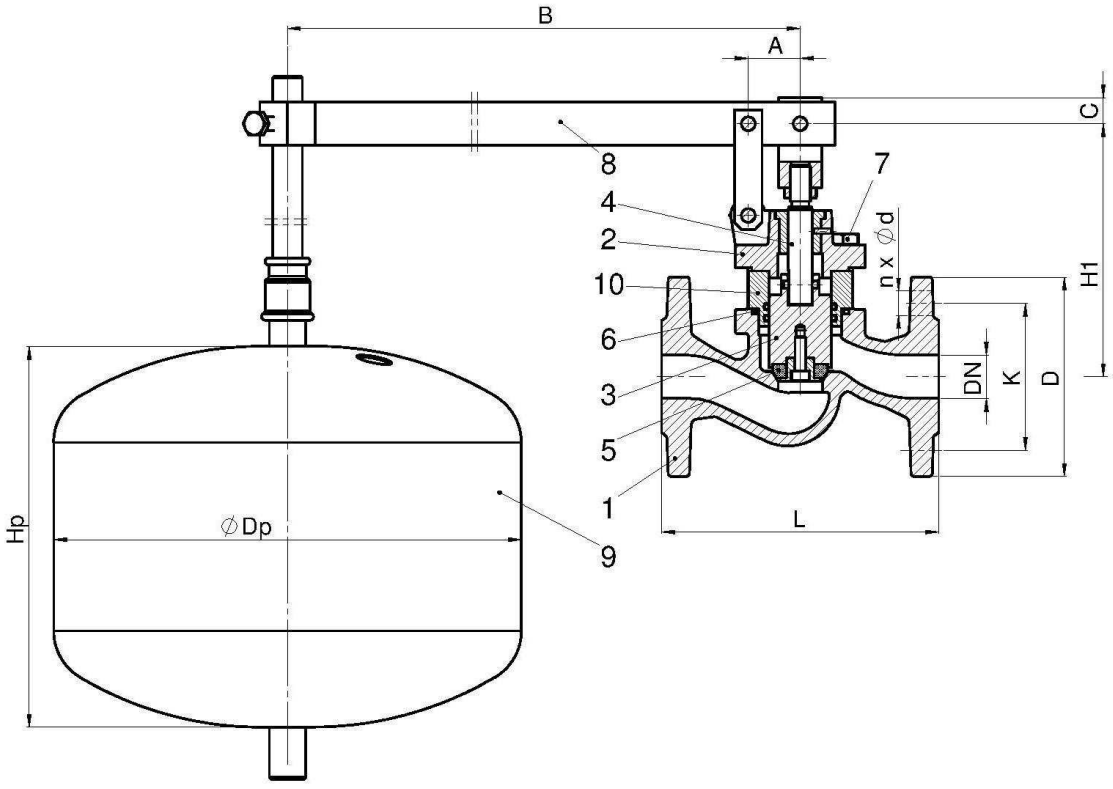
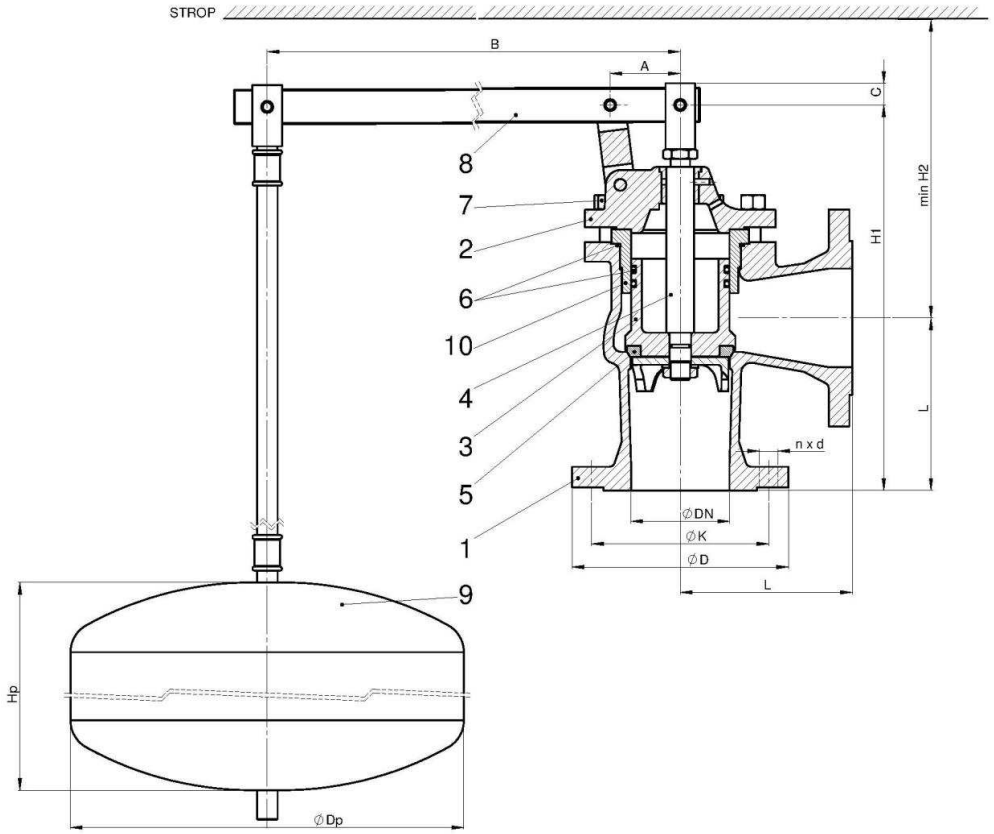
Fig.274 Fig. 272

1. PRODUCT DESCRIPTION







		DN 25-80	DN 100-200
1	Body	EN-GJL-250	
2	Cover	EN-GJL-250	
3	Disc	X20Cr13	
4	Stem	X20Cr13	
5	Disc gasket	EPDM	
6	Rings	EPDM	
7	Hexagon bolt	8.8 A2A	
8	Float lever	S235JR cynk	
9	Float	S235JR epoksydowany	
10	Sleeve	CuZn39Pb2	CuSn11P-C

Fig. 272

DN	25	32	40	50	65	80	100	125	150	200
L(mm)	160	180	200	230	290	310	350	400	480	600
A(mm)	30	30	35	35	45	55	71	87	102	138
B(mm)	700	700	700	700	700	800	975	1190	1305	1590
C(mm)	15	15	15	15	15	15	25	25	25	25
H1(mm)	146	155	166	175	221	249	260	320	385	420
H2(mm)	225	235	245	260	310	335	360	425	500	545
Hp(mm)	220	220	200	200	250	250	300	300	300	400
Dp(mm)	270	270	350	350	400	400	400	500	500	500
Kvs(m^3/h)	13	18,3	29,2	39,8	72,8	99,3	158,3	243,1	327,6	579,9
Weight (kg)	9,5	10,7	17,0	20,0	26,0	32,5	47,0	69,0	98,0	149,0

Fig.274

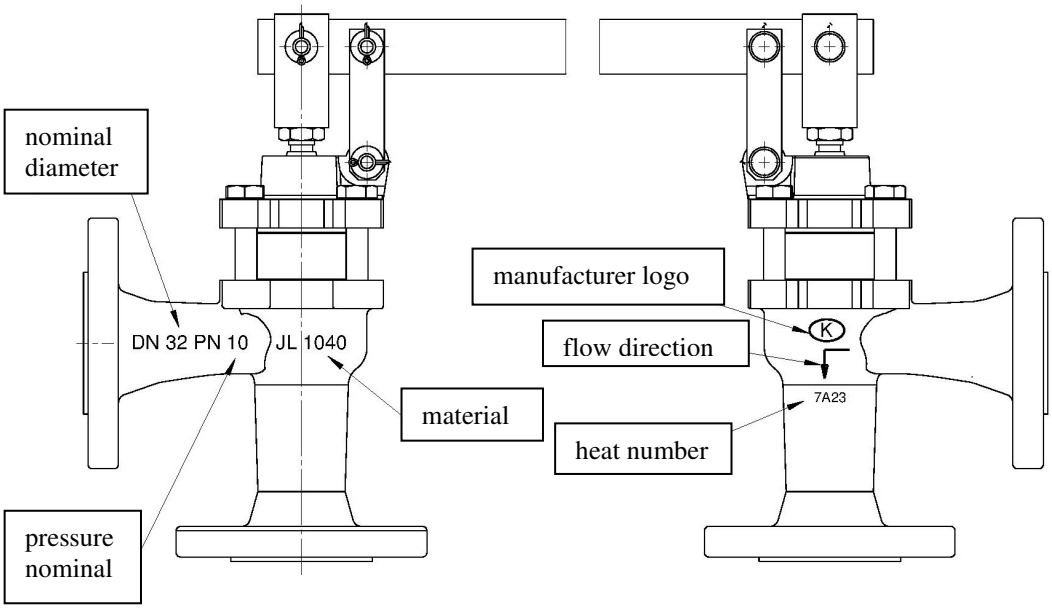
DN	25	32	40	50	65	80	100	125	150	200
L(mm)	100	105	115	125	145	155	175	200	225	275
A(mm)	30	30	35	35	45	55	71	87	102	138
B(mm)	700	700	700	700	700	800	975	1190	1305	1590
C(mm)	15	15	15	15	15	15	25	25	25	25
H1(mm)	236	244	262	277	341	352	395	480	550	620
H2(mm)	215	220	230	240	285	295	315	385	440	475
Hp(mm)	220	220	200	200	250	250	300	300	300	400
Dp(mm)	270	270	350	350	400	400	400	500	500	500
Kvs(m^3/h)	16,0	22,3	33,1	53,3	88,6	139,2	217,2	301,7	424,2	715,8
Weight (kg)	9,5	10,7	15,0	20,0	26,0	29,0	37,0	54,0	81,0	130,0

Flange dimensions PN10

DN	25	32	40	50	65	80	100	125	150	200
D(mm)	115	140	150	165	185	200	220	250	285	340
K(mm)	85	100	110	125	145	160	180	210	240	295
nxd	4x14	4x19	4x19	4x19	4x19	8x19	8x19	8x19	8x23	8x23

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,

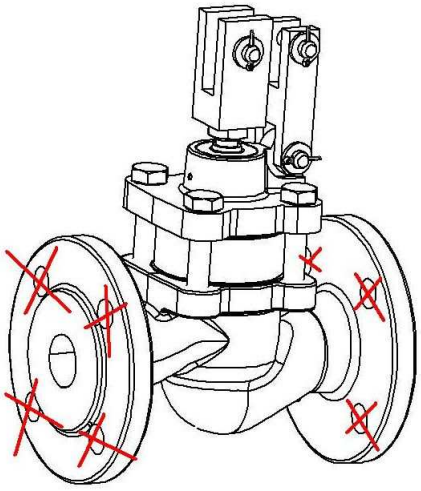


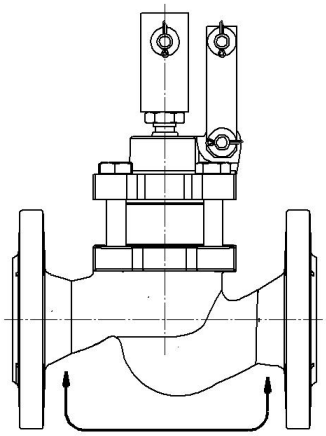
2. REQUIREMENTS FOR MAINTENANCE STAFF

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 -20^0 to 65^0C, 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.





Place of handling float valves during the transport

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 untill medium level falls down.

5. APPLICATION

- Industrial water
- Neutral fluids

The kind of working medium makes some materials to be use 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.

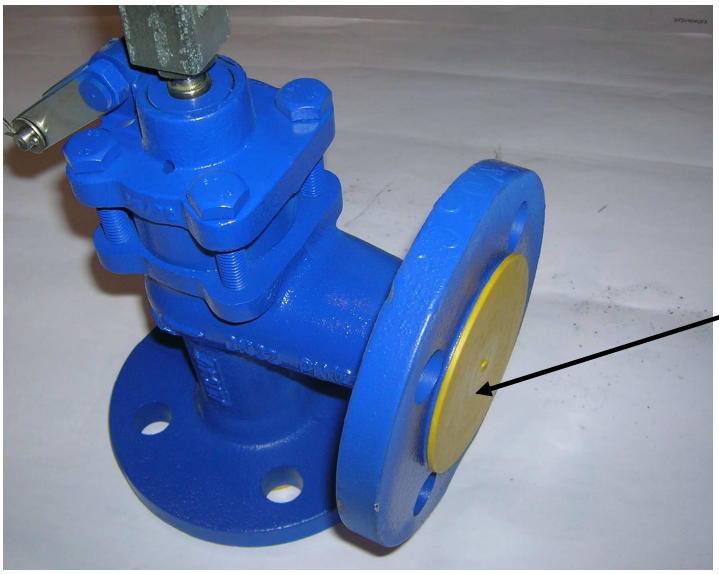
Float valve Fig. 272,274

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,

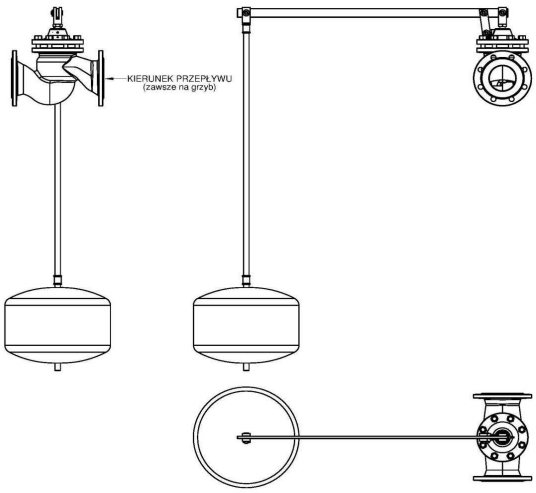
Installing a strainer before the valve increases the certainty of its correct operation functioning.

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.

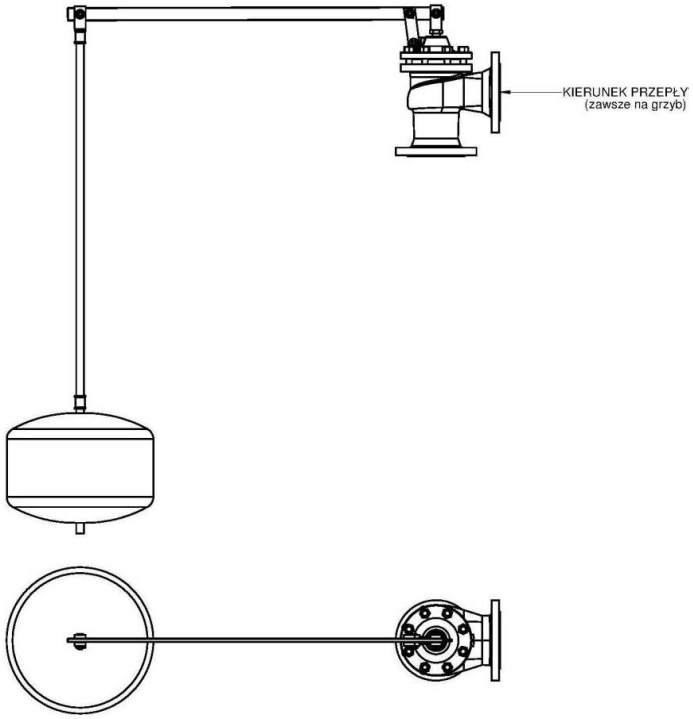
- after valve assembly in the pipeline fit the handle and float,

Standard position of the levers in the valves Fig. 272



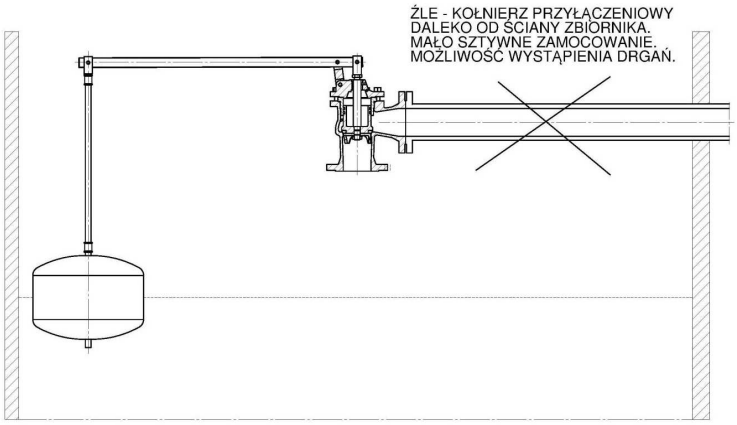
If necessary, the position of the float can be adjusted by turning the cover on the fixing screws.

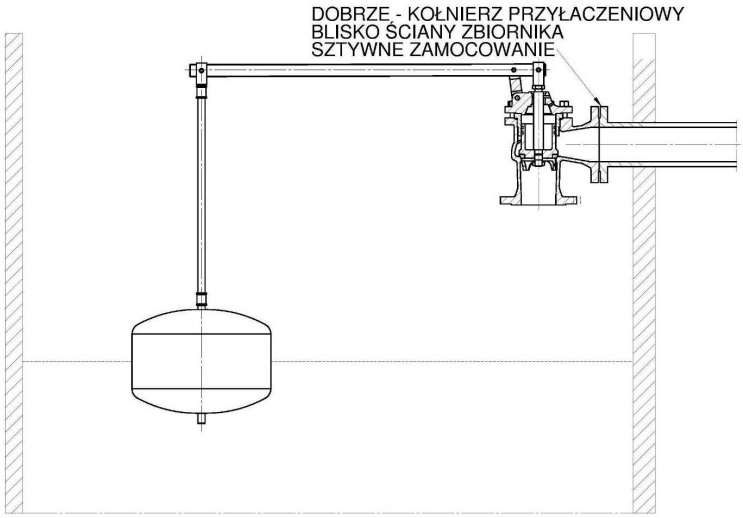
Standard position of the levers in the valves Fig. 274



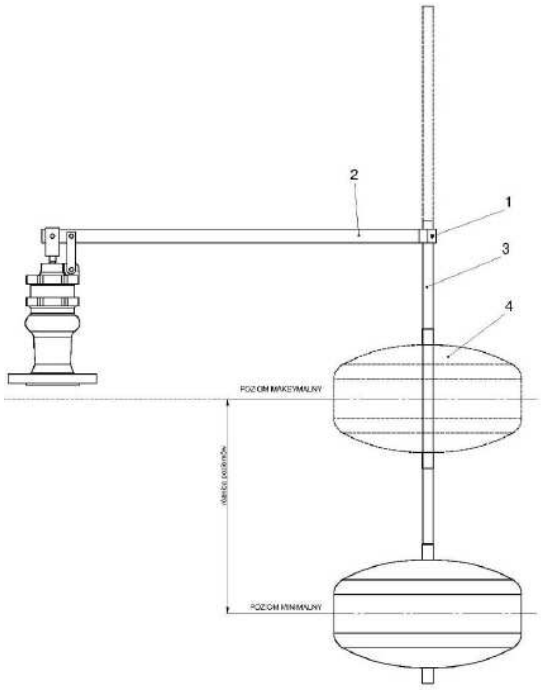
If necessary, the position of the float can be adjusted by turning the cover on the fixing screws.

- Valve installation in the tank





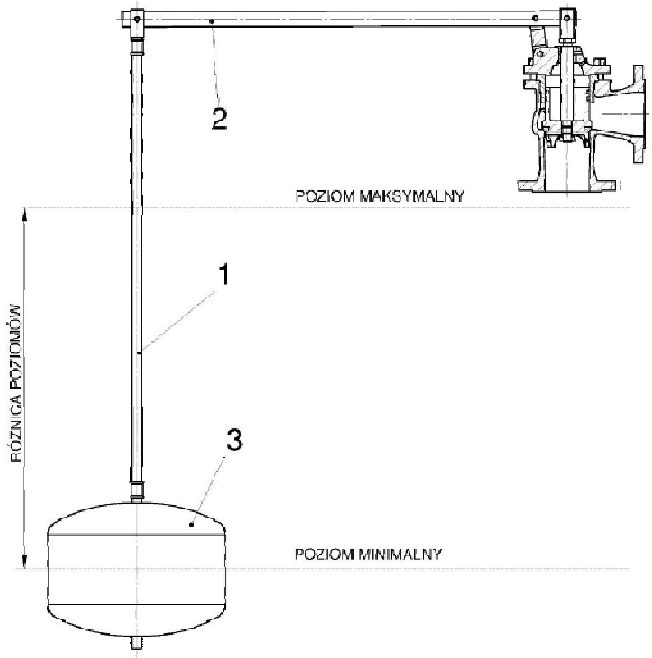
- Water level adjustment F.274 (DN25-80)



ASSUMPTIONS:
1. THE VALVE MUST NOT BE FLOODED WITH WATER.
2. THE FLOATER SUBMERGES IN THE WATER AT HALF OF ITS HEIGHT
REGULATION:
1. LOOSEN THE TWO SCREWS POS. 1 IN THE HEAD OF THE LEVER POS. 2
2. SHIFT OF THE BAR POS. 3 WITH FLOATER POS. 4 TO THE ESTIMATED LEVEL
3. TIGHTENING THE SCREWS POS. 1
4. PART OF THE ROD PROJECTING OVER THE LEVER CAN BE CUT OFF

4. CZĘŚĆ PRĘTA WYSTAJĄCĄ PONAD DŹWIGNIĘ MOŻNA ODCIĄĆ.

Water level adjustment F.274 (DN100-200)



ASSUMPTIONS:
1. THE VALVE MUST NOT BE FLOODED WITH WATER.
2. THE FLOATER SUBMERGES IN THE WATER AT HALF OF ITS HEIGHT
REGULATION:
1. ADJUSTMENT OF THE FLOAT POS.3 TO THE DESIRED LEVEL IS MADE BY SHORTENING THE LENGTH OF THE TUBE POS. 1
2. THE MANUFACTURER PROVIDES 1M TUBE AND COUPLINGS.

ATTENTION: THE FLOATER REQUIRES GUIDANCE, WHICH IS PERFORMED BY THE CUSTOMER

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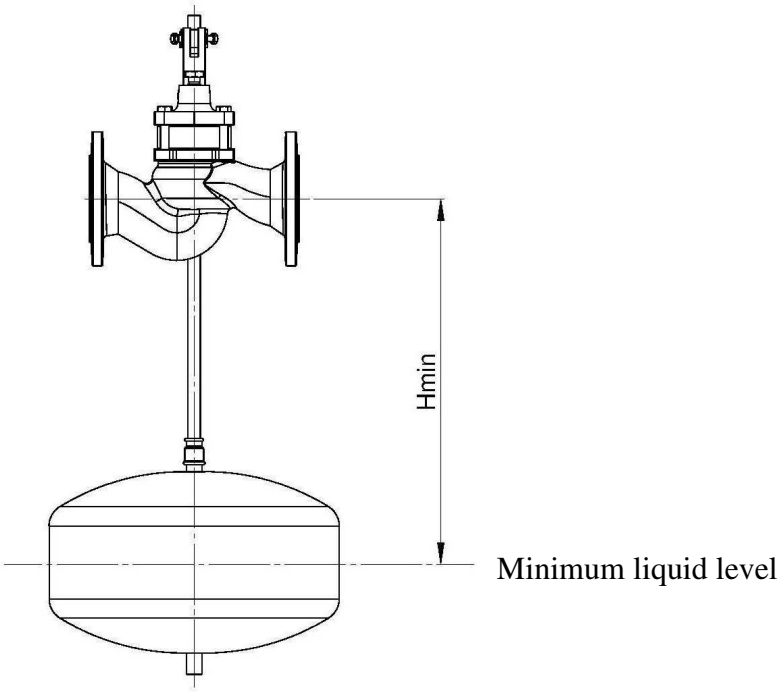
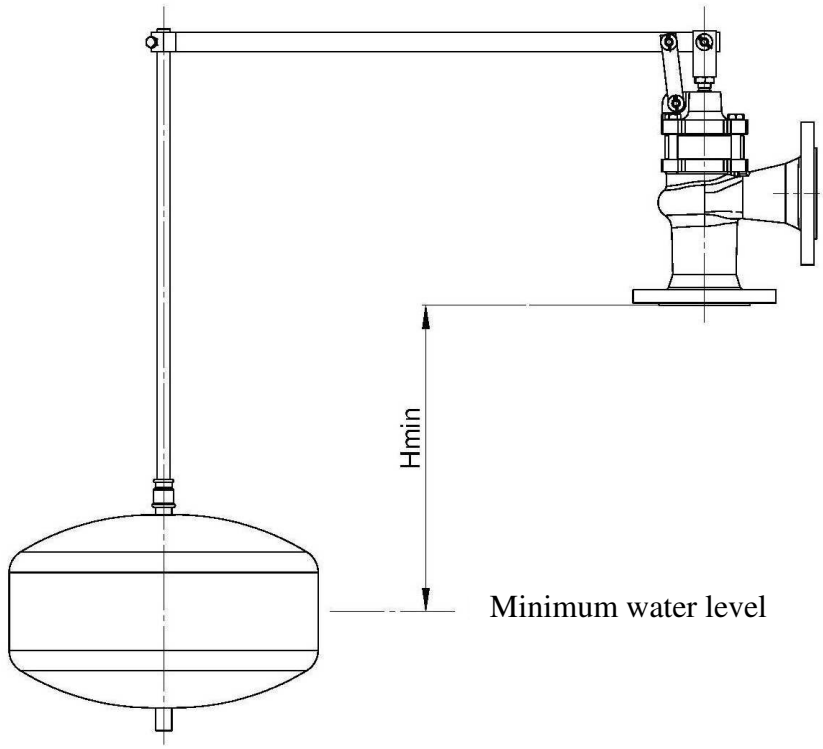
- Water level adjustment F.272



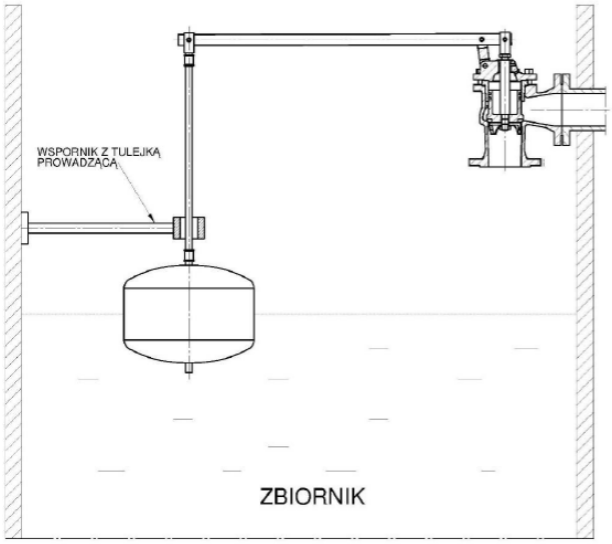
DN	25	32	40	50	65	80	100	125	150	200
Hmin	560	545	490	520	500	530	980	920	865	910

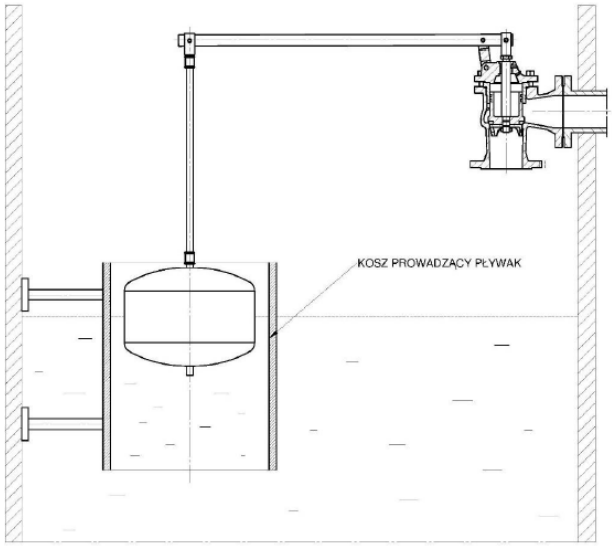
- Water level adjustment F.274



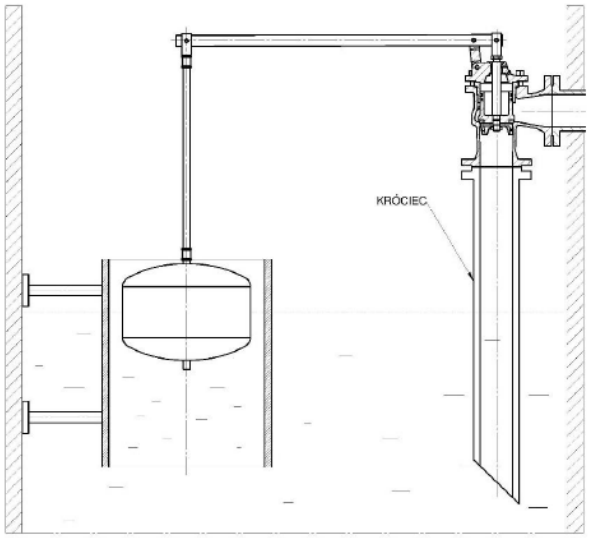
DN	25	32	40	50	65	80	100	125	150	200
Hmin	485	480	450	435	395	440	850	760	700	700

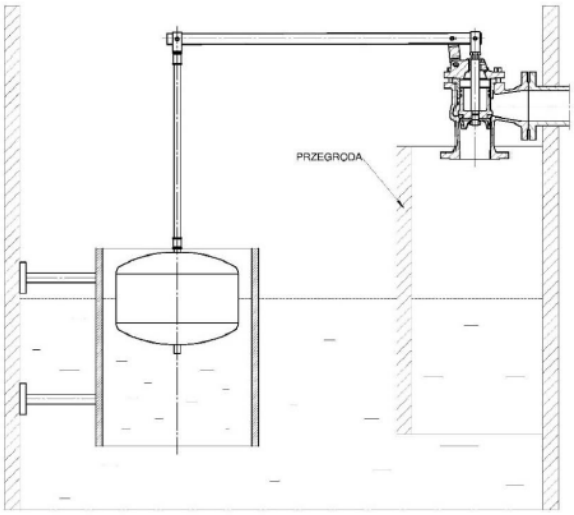
- Leading the float





- Wave prevention





- Select the valve according to the required flow, not the connection pipe diameter
- Provide a straight section of 10 x DN upstream of the valve to eliminate interference flow
- The axis of the float and the stem should be in a vertical position
- Valves should work on water and neutral media installations
- Do not shorten the lever length
- Protect the valve stem, lever, pins and float when painting the pipeline

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:

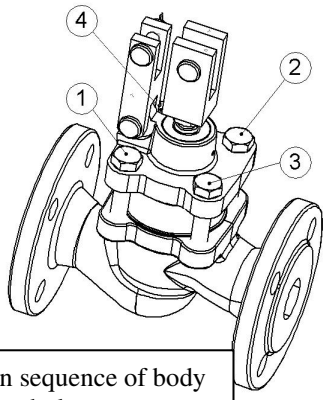
- startup process – sudden changes of pressure and temperature should be avoided when starting the plant,
- valves work automaticaly and require no maintenance during operation

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
Difficulte 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. VALVE SERVICE DISCOUNTINUITY

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

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 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