

1. Description of Product

The technical data of the order are binding for the type of design. Modifications can only be considered if they are specified to us in time before starting production. Every JLSO Flow Switch is checked for completeness, performance, and tightness before leaving the factory. In case of non-compliance with these operating instructions, we cannot be made liable for any damages or troubles resulting thereof. We reserve the right to technical modifications as against the data and representations contained in these operating instructions in case this should be necessary for improving the Flow Switches.

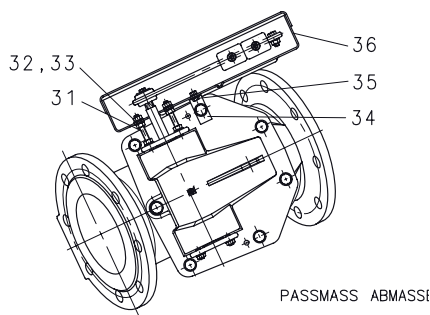
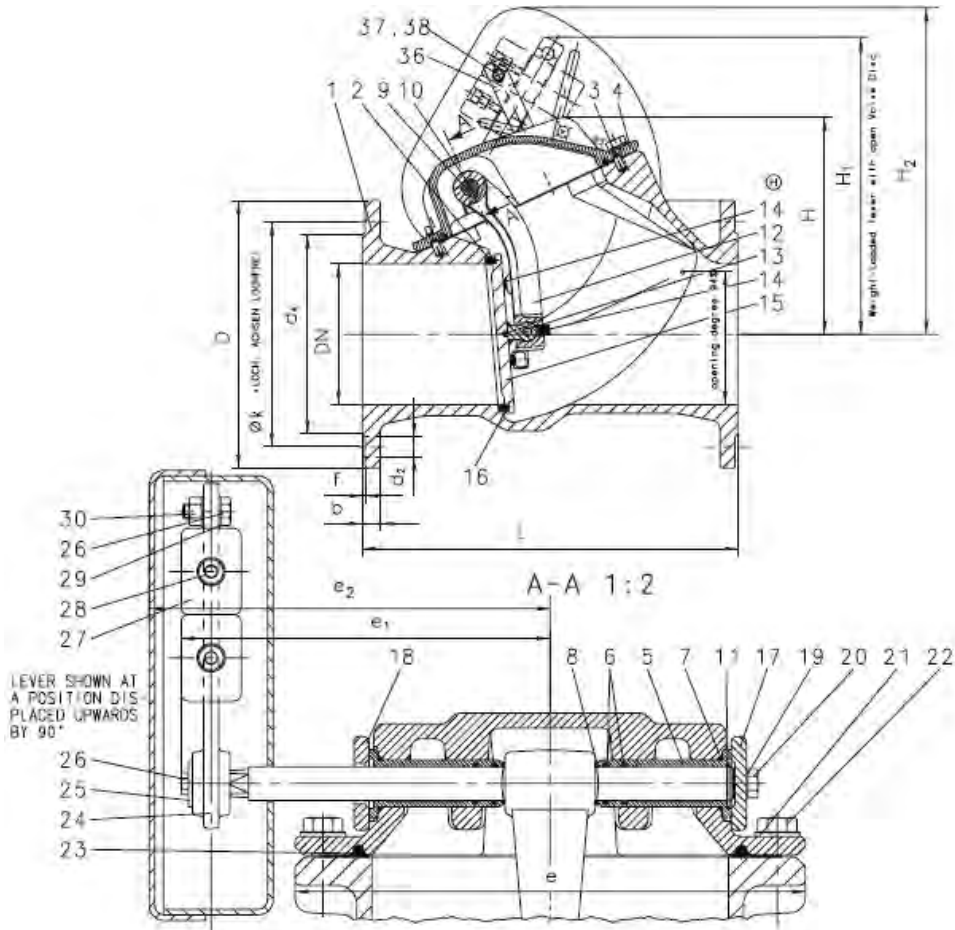


Nominal size DN	Pressure rating PN	testing pressure		operating pressure max. temperature 70° C
		body	int. comp.	
50 - 300	16	24	16	16
80, 200 - 300	10	15	10	10

1.1. Parts list

ITEM	DESCRIPTION	QTY.	E / V	ITEM	DESCRIPTION	QTY.	E / V
1	BODY	1		21	WASHER	*)	
2	SEAT RING	1		22	HEXAGON SCREW	*)	
3	CLOSE-TOLERANCE GROOVED PIN	2		23	ROUND SEALING RING	1	V1
4	BODY COVER	1		24	LEVER	1	
5	BUSH	2	E2	25	WASHER	1	
6	O-RING	4	V1	26	HEXAGON SCREW	2	
7	O-RING	2	V1	27	WEIGHT	*)	
8	DISTANCE RING	2	V1	28	CYLINDRICAL SCREW	*)	
9	SHAFT	1	E2	29	WASHER	1	
10	PARALLEL KEY	1	E2	30	HEXAGON NUT	1	
11	LOCKING RING	1	E2	31	THREADED BOLT B	2	
12	LEVER	1	E1	32	HEXAGON NUT	3	
13	CLOSE-TOLERANCE GROOVED PIN	2	E1	33	WASHER	3	
14	BUFFER	*)	E1	34	RETAINING PLATE	1	
15	VALVE DISC	1	E1	35	HEXAGON SCREW	1	
16	O-RING	1	E1	36	PROTECTIVE GUARD COMPL.	1	
17	SHAFT LID	1		37	HEXAGON NUT	1	
18	BLIND FLANGE	1		38	WASHER	1	
19	WASHER	*)					
20	HEXAGON SCREW	*)					

Flow Switch with weight-loaded lever DN 80 - 300



300	16	700	408	500	570	455	24.5	28	367	490	355	420	4	410	12
	10							23							
250	16	600	383	490	545	400	22	28	319	490	355	420	3	355	12
	10							23							
200	16	500	297	391	470	340	20	23	264	364	265	291	3	295	12
	10													8	
150	16	400	231	317	416	285	19	23	209	283	195	215	3	240	8
125	16	350	219	317	416	250	19	19	183	283	195	215	3	210	8
100	16	300	196	264	298	220	19	19	153	221	170	187	3	180	8
80	16	260	141	264	298	200	19	19	133	221	170	187	3	160	8
65	16	240	105	218	260	185	19	19	122	148	131	150	3	145	4
50	16	200	105	226	260	165	19	19	102	148	131	150	3	125	4
DN	PN	L	H	H ₁	H ₂	D	b	d ₂	d ₄	e	e ₁	e ₂	f	Øk	ØE

1.2 Mode Operation

- 1.2.1 These Flow Switches work according to the principle of a free-swinging check valve. This disc is supported on the lever and in the body cover. The check valves of standard type are equipped with internal shaft or shaft protruding on one side (square connection). For horizontal pipelines, the weight-loaded lever is mounted on the left, viewed in the medium's flow direction. For other installations, for example with vertical piping, the weight-loaded lever must be rearranged on the shaft. In this case, the flow direction must be from below upwards. The disc is opened by the flow. Against this opening torque acts a torque resulting from the weight of the valve hinge and the disc and in case from the outside weight-loaded lever. This closing torque initiates the closing movement in case of flow failure.
- When the valve is equipped with external weight-loaded lever, the closing torque can be decreased within certain limits by moving the counterweight towards the shaft. But in any case it must be ensured that the disc shuts the valve even without back pressure.

1.3 Transport

Transport has to be carried out carefully. Inexpert handling may cause damages to the valve. Prior to mounting, such damages are to be repaired in an appropriate manner. Armatures too heavy to be handled manually have to be transported by means of lifting gears suitable for the weight involved, e.g. broad belts. They have to be placed around the body, e.g. between the two connecting flanges. Armatures with eyebolts or lugs have to be suspended at these devices in an appropriate manner.

It is not allowed to attach the lifting gears to the lever or to the flange holes which would be contrary to the relevant safety regulations.

DN	50	65	80	100	125	150	200	250	300	
Aprox. Weight	10	12	21	24	40	46	75	148	169	with internal shaft
kg	12	14	23	27	43	50	80	154	175	with weight-loaded lever

1.4 Installation into the pipeline

Remove all packing material from the armature. Prior to installation, check the pipeline for impurities and foreign matters and clean it if necessary.

For armatures with an arrow showing the flow direction, this direction must be observed.

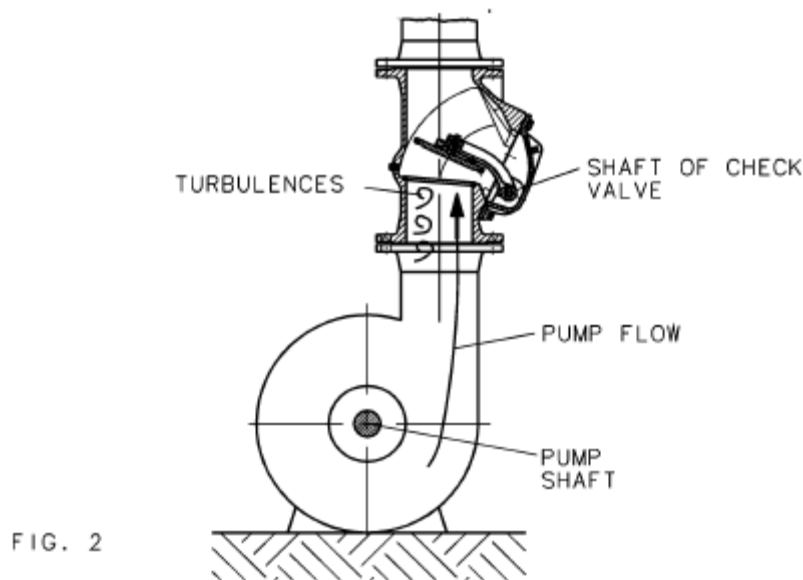
It is important that all around the Flow Switch there is free access for maintenance. During installation of the Flow Switch, the distance between the pipe flanges should exceed the valve face-to-face dimension by at least 20 mm. Thus, the raised faces will not be damaged and the gaskets can be inserted. Gaskets to DIN 2690 are

recommended for use as flange gaskets (consider resistance to flow medium and temperature).

The mating pipe flanges must be plain-parallel and concentric.

Tighten the connecting bolts evenly (without distortion) and crosswise by means of the bolts. **The pipeline mustn't by any means be pulled up to the Flow Switch. They shall not be installed directly upstream or downstream of pipe components such as bends, valves, etc.,** since due to the flow the valve disc might be disturbed and then doesn't open at all or only partially. The asymmetric flow - due to the flow rotation caused by the diversions in the pump body - should entrain the valve disc even when the valve is fully open. Figure 2 show recommendable installation positions directly downstream of the pumps. The valves can be installed in horizontal pipelines as well as in vertical pipelines (in this case, upward flow direction). When the valve is equipped with lever and weight, sufficient space for lever movement has to be ensured. Under normal operating conditions the weight-loaded lever should be horizontal in closed position of the valve disc.

Prior to filling the pipeline with water, the valve disc has to be checked for smooth operation: move the valve on the lever over the whole pivoting range. Don't let the weight-loaded lever drop!



1.5 Maintenance

Flow Switches are equipped with maintenance-free plain bearings and maintenance-free shaft sealing.

Under pressureless condition the mobile parts are accessible after dismantling the cover and the blind flanges. Clean these parts if they are dirty.

When the blind flange and / or shaft lid is screwed off, the bearing bushes can be removed from the cover. Then the O-rings of the shaft sealing can be checked and changed, if necessary.

The precision seal in the valve disc is accessible and can be replaced after removing the cover.

Assembly is done in reverse order.

Spare parts include elastomer O-rings and shaft sealing.

JLSO Flow Switches are maintenance-free.

They should be checked regularly in connection with maintenance work at the corresponding.

All feed, main and supply lines should be checked once a year as a rule.

The following features have to be checked:

Corrosion on visible parts, if necessary repair or replace them.

Easy movement of the obturator, if necessary dismantle, clean and lubricate and/or replace the components which are involved in the movement.

Performance (visual) of the internal parts of the Flow Switch by having water flow through the body during a short period

Tightness of the shaft passage and the precise seal on the body disc.

Recommended lubricant:

KLÜBER USBB 312) Messrs. Klüber Lubrication, Munich

*) free from silicone, with approval by DVGW-KTW, approved for potable water

For effecting above mentioned work and the maintenance work which is to be done regularly, we recommend to conclude a maintenance contract with our company. This contract ensures that all work will be carried out by well-experienced experts.