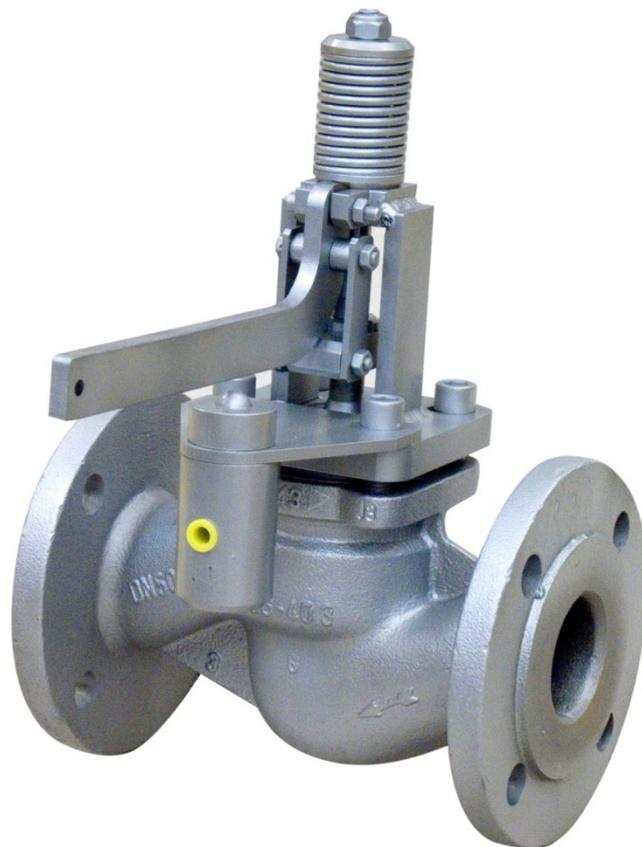


Installation and operating manual

Quick opening valve
LK product no: 911002



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1. General information

This manual gives instructions on installation of the Quick Opening Valves together with maintenance instructions and must be read carefully before installation is started.

It is in the responsibility of the installer to ensure that the work is carried out in a satisfactory manner, approved materials are used and that the installation meets applicable rules and regulations.

Regional safety requirements must be applied and observed both at installation and maintenance as well as in repair work. It is the installer/owners responsibility to define responsibility and competence of personnel for the installation and maintenance of the valves.

In case of any unforeseen problems that cannot be resolved from the information shown in this manual, the supplier of the valves shall be contacted.

The notes and warnings defined in the following chapters must be followed as this information concerns your safety. The manufacturer reserves the right to introduce technical modifications at any time.

2. Safety precautions

2.1 Significance of symbols



Warning of general danger.

2.2 Explanatory notes on safety information

In these Operating and Installation Instructions dangers, risks and items of safety information is highlighted to attract special attention.

Information marked with the above symbol and "ATTENTION!" describes practices, a failure to comply with which can result in serious injury or danger of death for users or third parties or in material damage to the system or the environment. It is vital to comply with these practices and to monitor the compliance accordingly.

All other information not specifically emphasized such as transport, installation, operating and maintenance instructions as well as technical data (in the operating instructions, product documentation and on the device itself) must also be complied with to the fullest extent in order to avoid faults which in turn can cause serious injury to persons or damage to property.

3. Storage and transport



Attention!

Protect the valve and other equipment against external forces.

Valve hand levers and release cylinders are not designed to take external forces. E.g. they must not be used as climbing aids or as connection lifting gear.

Lifting to be carried out by using suitable handling equipment.

Weights of the valves to be taken from data sheet.

- The valves are delivered with plastic protection covers in both flange ends and in the pipe connection to the release cylinder. The covers shall not be removed until the installation.
- If the covers have been removed inspect the internals carefully for dirt prior to installation.
- The valves must be stored indoor well protected from dust and moisture.
- Long time storage must be implemented indoors, in warm, dry conditions to avoid corrosion attack on unprotected areas inside the valve.
- Do not damage the external coating during transportation and storing.

4. Technical data

4.1 Function of quick opening valves

See drawing 17737103

The valve is a stop valve with an instant opening function. The valve is closed when the disc (1) is pressed against the seat by moving the hand lever (18) down. A link system (13) with an over-centre function together with spring washers (2) between the stem (4) and the bottom of the disc (1) locks the disc in the closed position.

The spring (21) connected to the top of the stem will lift the disc as soon as the link locking system is released.

Opening of the valve can be done in different ways:

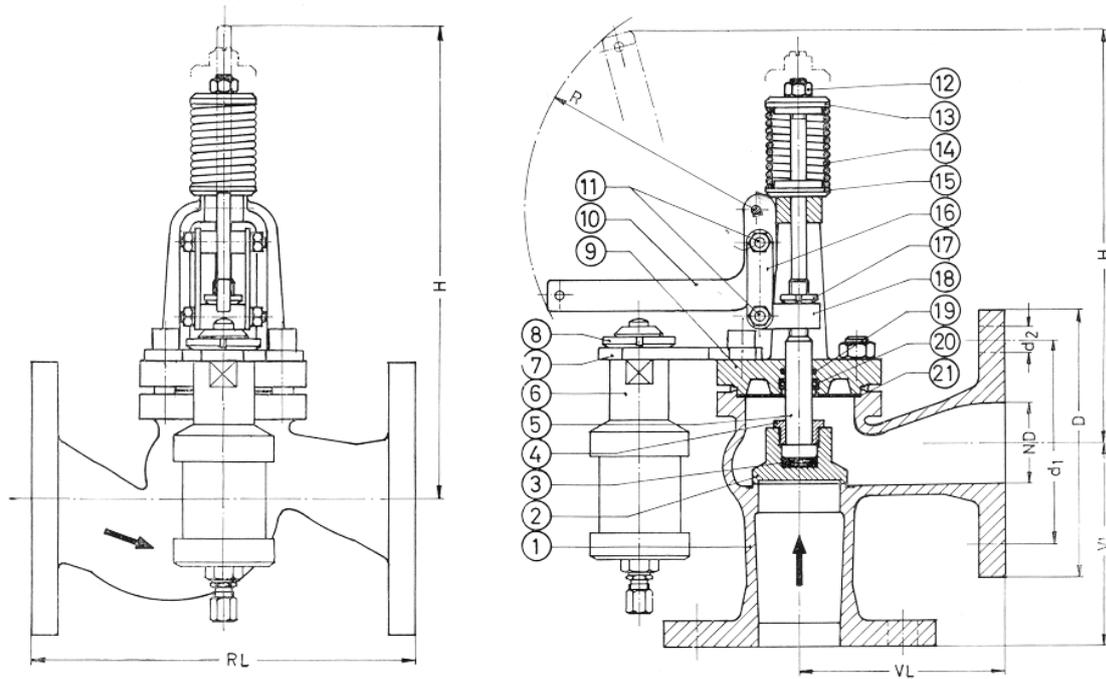
- Hydraulic remote control. The piston in the hydraulic cylinder lifts up the valve hand lever (18).
- Pneumatic control, the same function but pneumatically controlled.
- Mechanical by hand or wire directly on the hand lever.

4.2 Max pressure below disc Table 17702902

Size	Pressure below disc (Bar)	Seat test pressure below disc (Bar)
15	15	16
20	15	16
25	15	16
32	11	12
40	11	12
50	9	10
65	9	10
80	7	8
100	6	7

4.3 Dimensions

The upper part is turned 90°

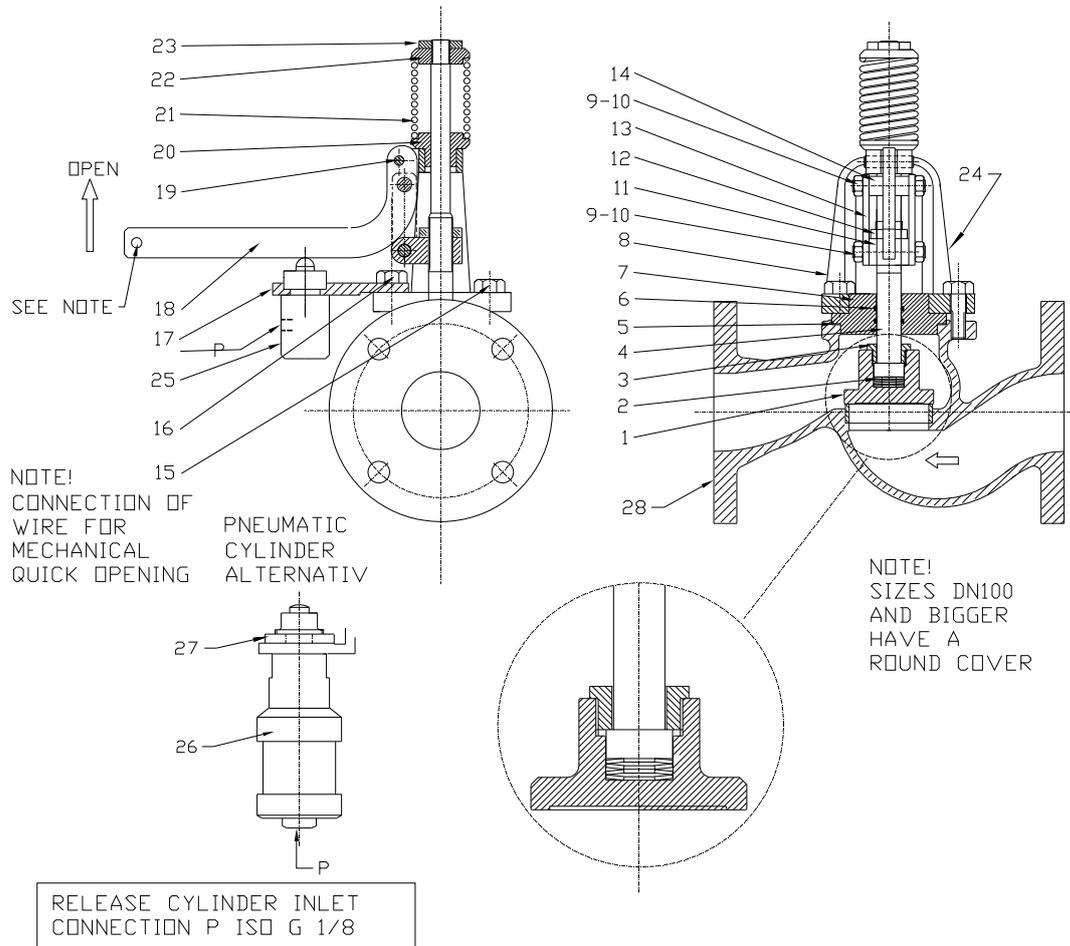


Nom. Diam.	Flanges ISO PN 10 - 16				Radius R	Straight valve			Angle valve		
	Drilling					Face to Face	Centre to Top	Weight appr.	Centre to Face	Centre to Top	Weight appr.
	DN	D	d1	d2		no. of holes	RL	ca. H	in KG	VL	ca. H
15	95	65	14	4	205	130	260	5,1			
20	105	75	14	4	205	150	260	5,3	95	230	5,0
25	115	85	14	4	205	160	290	6,2	100	260	5,8
32	140	100	18	4	205	180	300	7,8	105	270	7,3
40	150	110	18	4	205	200	315	10,2	115	285	9,8
50	165	125	18	4	205	230	325	12,5	125	295	11,8
65	185	145	18	4	240	290	420	19,5	145	390	17,0
80	200	160	18	8	240	310	450	24,5	155	415	23,0
100	220	180	18	8	240	350	485	32,0	175	440	29,0

4.4 List of Components drawing 17737103

Item	Qty	Designation
1	1	Disc
2	4	Spring Washer
3	1	Disc Nut
4	1	Stem
5	1	Gasket
6	2	O-ring
7	1	O-ring Housing
8	1	Bonnet
9	2	Bolt
10	4	Nut
11	1	Connecting Part
12	1	Nut
13	2	Link
14	2	Spacer
15	2	Screw
16	2	Screw
17	1	Cylinder Holder
18	1	Hand Lever
19	1	Pin
20	1	Lower Spring Holder
21	1	Spring
22	1	Upper Spring Holder
23	1	Nut
24	1	Identification / manuf. Number
25	1	Cylinder Hydraulic design
26	1	Cylinder Pneumatic design
27	1	Nut
28	1	Valve Housing

5. Assembly drawing 17737103



6. Mounting instruction – See drawing 17737103

- The quick opening valve must be placed in the pipeline so that direction of flow from tank or similar corresponds with the arrow on the valve housing i.e. flow from below the disc to above it.
- If needed the bonnet can be turned to enable the hand lever to be placed on the other side of the valve. Loosen the four screws (16, 15) holding the bonnet (8) including the quick opening mechanism. Do not damage the gasket (5). Tighten the screws carefully again.
- The valve shall be installed with enough space around the hand lever to enable the lever to be raised fully when opening of valve.
- The maximum pressure below disc according table 17702902 shall always be considered before installation.
- Install the piping for the remote control and connect it to the release cylinder (When included).
- Hydraulic systems shall be vented from air. This is achieved more easily if the pipe is drawn with even inclination up to the transmitter.
- When using a mechanical opening device, install the wire system. Draw the wire so its weight is not tending to pull the hand lever unwanted.
- Make a function test.



Attention!

Be aware of the fact that the hand lever is moving up very rapidly by spring force at the opening of the valve which can cause injury.

Also avoid injury by always secure the release system when work is carried out on the valve. When testing the remote release system, stay away from the moving parts of the valve..



Attention!

- Remove protecting covers for valve flanges.
- Protect valve from dirt during the whole installation procedure.
- Check for dirt and foreign particles in valves and pipelines.
- Note installation positions with reference to flow and marking arrow on the valve.
- Use counter flanges and screws with correct dimensions only.
- Centre gaskets between flanges.
- Avoid damaging forces on valve when pipeline is installed.
- Valve hand levers and actuators are not designed to take external forces e.g. they must not be used for climbing aids or connection of lifting gear.
- Lifting to be carried out by using suitable equipment.
- Weights of equipment to be taken from data sheet.

7. Maintenance

Make regular function tests. Check for leakage from the stem seals. The test must be carried out in the open position when the media is in contact with the seal.

If the pressure between seat and disc has to be readjusted, contact LK Valves for instructions.

8. Spare parts

When ordering spare parts, the manufacturing number shall be given. The manufacturing number sign is located on the bonnet of the valve and on the body of the impulse transmitter. If the manufacturing sign is unreadable or removed the valve size and type of valve must be given. Drawing or spare part list reference is also very useful.

9. Contact info

Your Quick opening valves are designed and manufactured by:

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