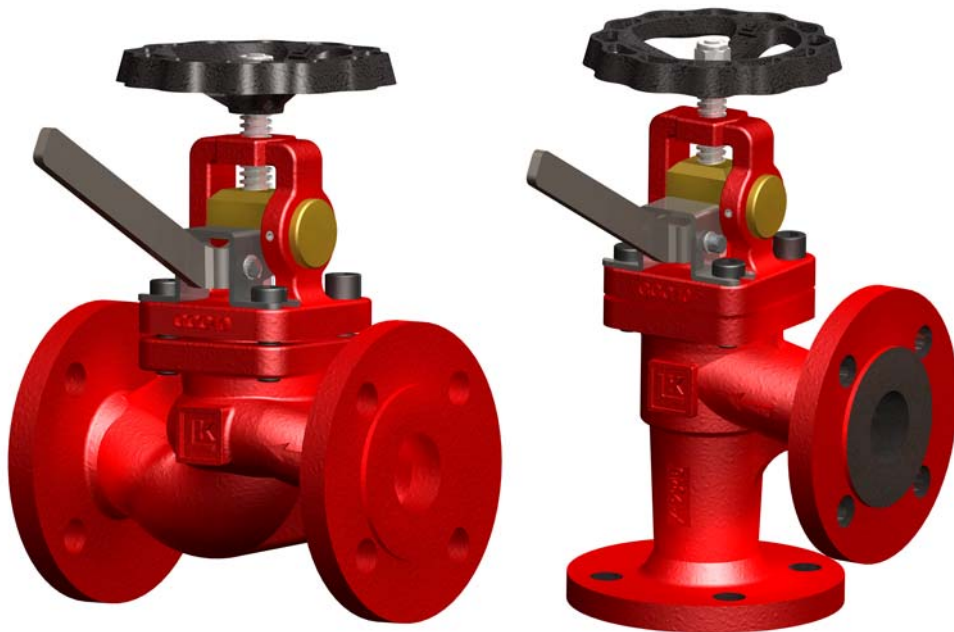


Installation and operating manual

Self closing valve

LK product no: 921002 and 921102



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1. General information

This manual gives instructions on installation of the Self closing valve together with maintenance instructions and shall 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 problems which cannot be solved from information in this manual the supplier of the valves shall be contacted.

The notes and warnings defined in following chapters must be followed as this information concerns your safety.

Note! Part numbering (..) in chapter 4.3.2 Part list are maintained and used as references through all chapters.

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 compliance.

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 valve and other equipment against external forces.

Valve hand wheels (11) and levers (12) are not designed to take external forces e.g. they must not be used for as climbing aids or as connection of lifting gear.

Lifting to be carried out by using suitable handling equipment.

Weights of valves to be taken from data sheet.

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

4. Description

4.1 Scope of applications

The valve is used for drain off media locally by hand.



Attention!

The applications and limitations given in this document and in the product data sheet must be followed.

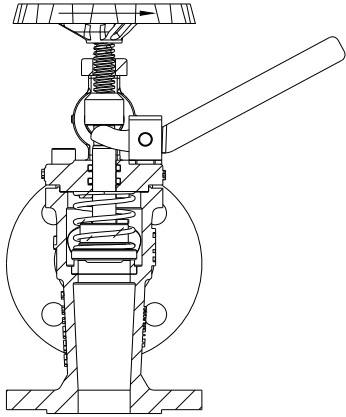
- The markings of the valves must be taken into account for each application.
- It is in the responsibility of the installer to ensure compliance to local rules and regulations.
- Please contact the supplier or the manufacturer if you have any questions regarding the application.

4.2 Operating principles

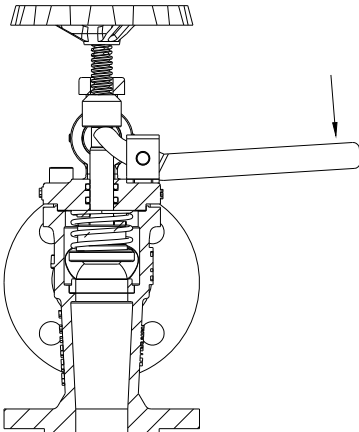
The Self Closing Valve is opened by means of a lever lifting up the disc from the seat in the valve body. Spring force will automatically close the valve when the hand lever is unengaged. The valve is permanently closed using the hand wheel (11).

- The valve is opened by pushing down the lever.
- The pre-compressed spring will instantly close the valve as soon as the force on the lever is removed.
- By turning the hand wheel in closing direction the disc will be secured in closed position.

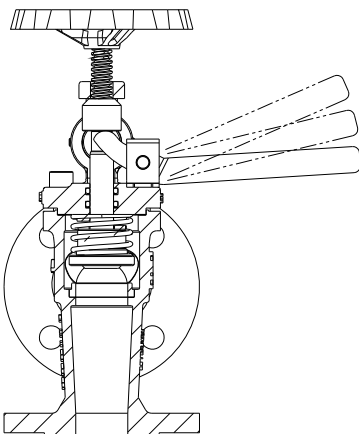
4.2.1 Open valve by hand lever



Turn the hand wheel (11) in opening direction (anti clockwise) until the shoulder of the stem is in close contact with the setting nut. The disc will remain in shut position.



Push down the hand lever (12). When the hand lever is in contact with the setting nut further movement of the lever will lift the disc stem with attached disc and open the valve.



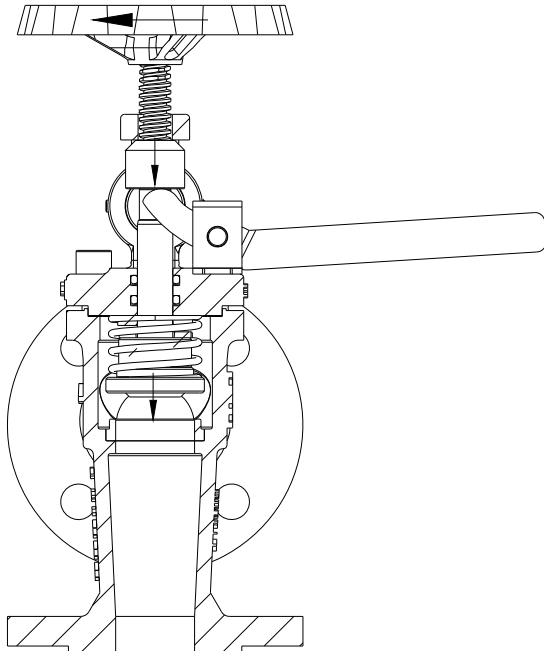
The valve will close by the spring force as soon as the hand lever is unengaged.



Attention!

Be aware of the fact that the valve stem with related components as hand wheel (11) will fall down very rapidly by spring force when the hand force on the lever is taken away.

4.2.2 Closing of valve by using the hand wheel



Turn the hand wheel in closing direction (clockwise). This will lift the setting nut into contact with the top of the bonnet and the disc is pressed against the seat of the valve housing.



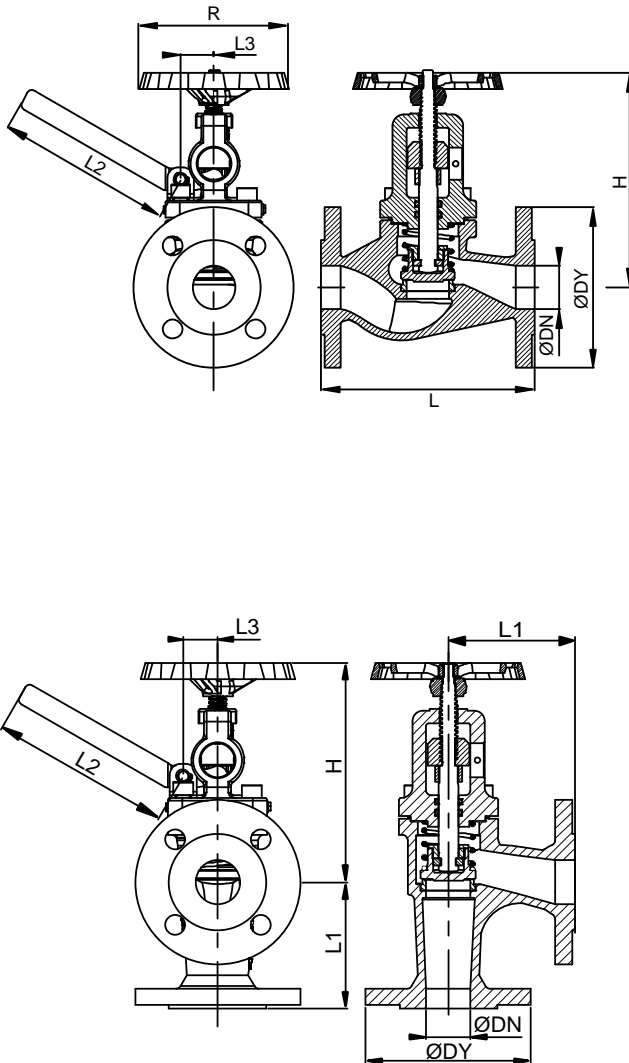
Attention!

Do not use tools to increase the torque on the hand wheel (11).

4.3 Technical data

4.3.1 Dimensions

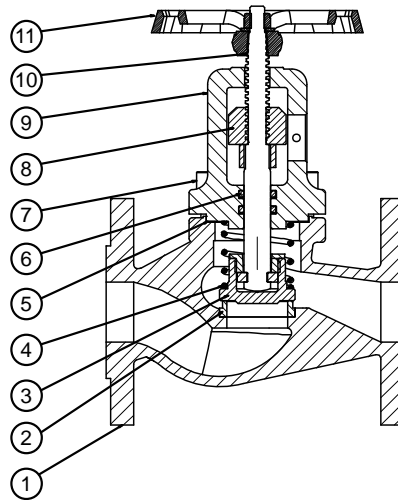
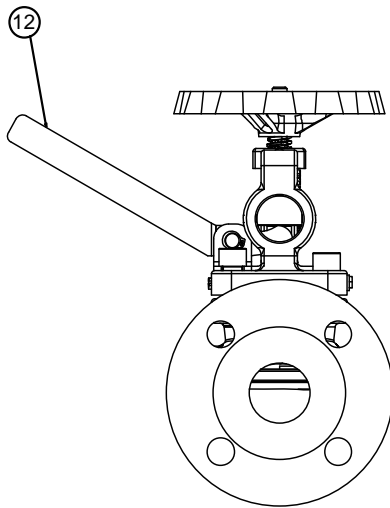
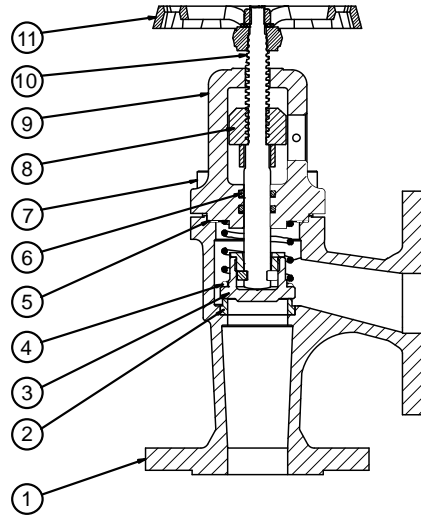
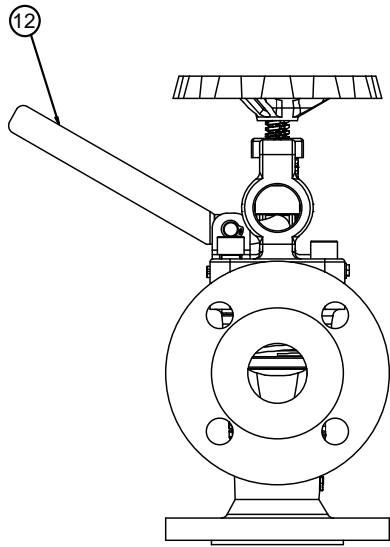
Dimensions (mm)



SIZE	PN	ØDY	L	L2	L3	H	R	Kg
DN15	16	95	130	137	24	185	120	4,3
DN20	16	105	150	137	24	185	120	5,0
DN25	16	115	160	137	26	195	120	5,8
DN32	16	140	180	137	26	194	120	7,4
DN40	16	150	200	165	31	217	140	10,2
DN50	16	165	230	165	34	217	140	12,2
DN65	16	185	290	233	40	254	140	17,3
DN80	16	200	310	233	47	259	160	24,2

SIZE	PN	ØDY	L1	L2	L3	H	R	Kg
DN15	16	95	90	137	24	185	120	4,3
DN20	16	105	95	137	24	185	120	5,0
DN25	16	115	100	137	26	195	120	5,8
DN32	16	140	105	137	26	194	120	7,4
DN40	16	150	115	165	31	217	140	10,2
DN50	16	165	125	165	34	217	140	12,5
DN65	16	185	145	233	40	254	140	16,9
DN80	16	200	155	233	47	259	160	22,3

4.3.2 Part list



No	Part
1	Valve body
2	Seat ring
3	Disc
4	Spring
5	Gasket
6	O-ring
7	Screw
8	Setting nut
9	Bonnet
10	Stem
11	Hand wheel
12	Lever

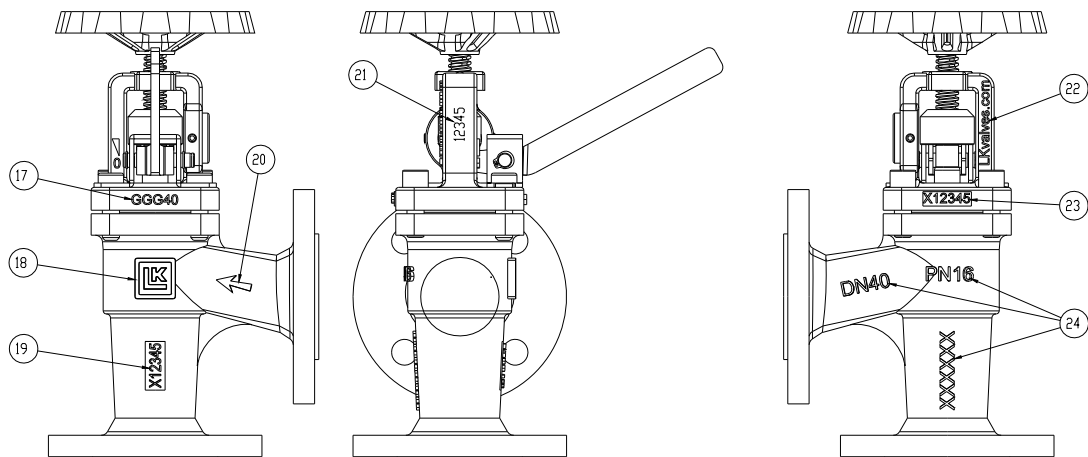
4.4 Marking

The Self Closing Valve is identified by reading the individual serial number engraved on the valve bonnet (9).

The valve castings can be traced by size and the casting identification marks on the valve body (1).

All Self Closing Valves have the following markings:

17. Material on bonnet
18. Manufacturers logo on valve body
19. Manufacturers casting identification on valve body.
20. Flow direction mark on valve body.
21. Serial number engraved on the valve bonnet.
22. LK Valves web site.
23. Manufacturers casting identification on bonnet.
24. Size, pressure class and material on valve body.



5. Installation

5.1 General notes for installation

- Installation/construction companies or operators are responsible for positioning and installing the valves and related operating systems.
- Following points shall be taken into account at installation work.



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 (20) on valve.
- Use only mating flanges and screws with correct dimensions.
- Centre gaskets between flanges.
- Avoid damaging forces on valve when pipeline is installed.
- Valve hand wheels and levers are not designed to take external forces e.g. they must not be used for as climbing aids or as connection of lifting gear.
- Lifting to be carried out by using suitable handling equipment.
- Weights of equipment to be taken from data sheet.
- Installation of the valve with stem vertical and hand wheel at top is preferred. Contact LK Valves if other installation positions are required.
- Keep stem threads and shaft free from paint

5.2 Installing the self closing valve

5.2.1 Change direction of valve bonnet (7)

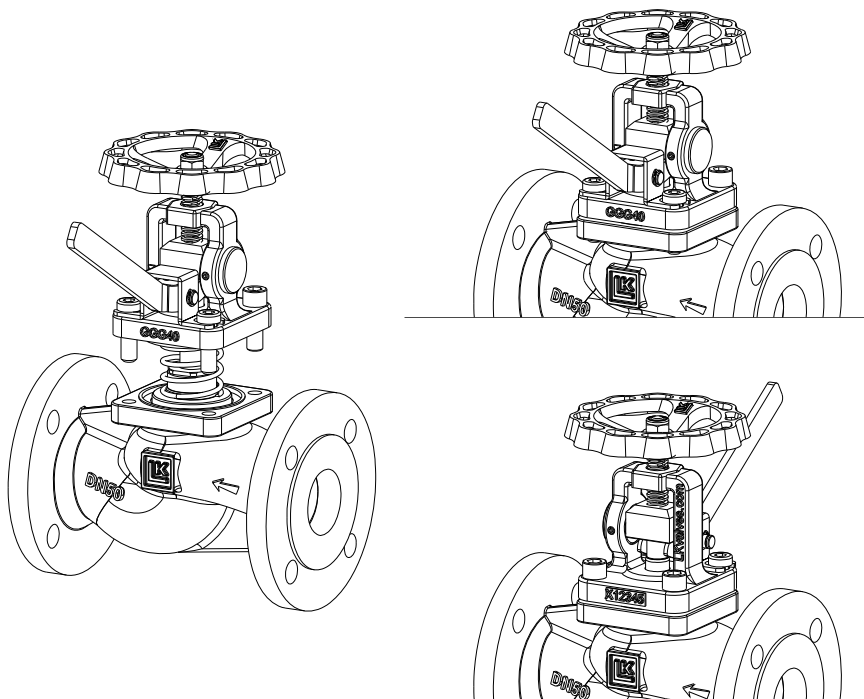
The direction of the hand lever (12) can be turned 180° to suit installation in ship.

Untighten the screws (7) holding the bonnet (9). Note that the spring force then will lift the bonnet.

Turn the bonnet (9) including hand lever and the screws (14) without damage valve seat or the gasket (5) between valve body (1) and bonnet (9).

Fit the screws (7) and tighten again

Check the gasket for leakage and that the hand lever can be operated.



5.3 Putting the valve into operation



Attention!

- Before the valve is put into operation check that it is the right valve in its right position (material, pressure, temperature and direction of flow).
- Residues in piping and valves (dirt, weld beads, etc.) inevitable lead to leakage.
- Check valve operation.
- Be aware of the fact that the valve stem (10) with related components as hand wheel (11) will fall down very rapidly by spring force at closing of the valve which can cause injury.
- Regional safety instruction must be adhered to.
- Touching valves operating at high media temperatures $>50^{\circ}\text{C}$ can cause injury.
- Affix warning notice or protective insulation as appropriate.

Before putting a new plant into operation or restarting after repairs or modifications, always make sure that:

- All works has been completed for the valves and other depending systems.
- Valve is set in correct position for its operation.

6. Maintenance instruction

The valve is maintenance free but we recommend following to be checked at regular intervals

- When valves can be opened without disturbing the proper function of the system use the hand lever and check the opening function.
- Check also closing by hand wheel.
- Clean the area around the stem (10) from dirt coming in contact with the stem and check for leakage between bonnet (9) and stem (10) or damage on stem surface.

7. Repair

7.1 Dismantling of the self closing valve



Attention!

The following points must be observed before dismantling the valve:

- Pressure less pipe system.
- Medium and valve must be cool.
- Plant must be drained.
- Cleansing piping system in case of dangerous media.

7.2 Putting self closing valves into operation after repair



Attention!

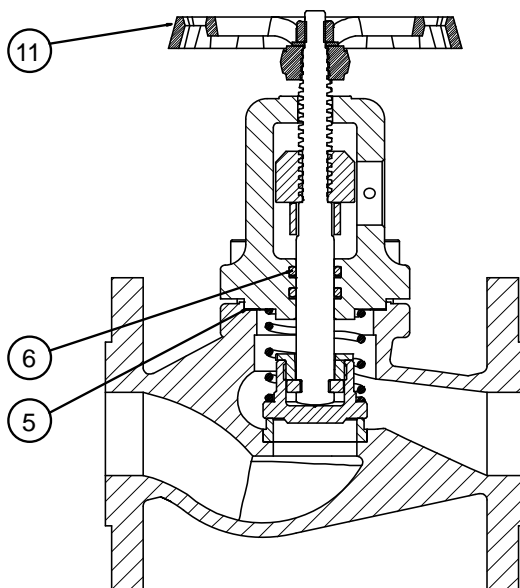
- Before the valve is put into operation, check that it is the right valve in its right position (material, pressure, temperature and direction of flow).
- Residues in piping and valves (dirt, weld beads, etc.) inevitable lead to leakage.
- Check remote control system function and operation directly on valve.
- Be aware of the fact that the valve stem with related components as hand wheel (11) will fall down very rapidly by spring force at closing of the valve which can cause injury.
- Regional safety instruction must be adhered to.
- Touching valves operating at high media temperatures $>50^{\circ}\text{C}$ can cause injury.
- Affix warning notice or protective insulation as appropriate.

Before putting a new plant into operation or restarting after repairs or modifications, always make sure that:

- All works has been completed for the valves and other depending systems.
- Valve is in correct position for its operation.

7.3 Repair kit self closing valve

The repair and service kit contains O-rings (pos. 6) and gasket (pos. 5).



SIZE	Spare part kit: LK art. no. Contains two pcs o-rings (6) & one gasket (5)	Hand wheel (11) LK art. no.
DN15	75643	80487
DN20	75643	80487
DN25	75644	80487
DN32	75644	80487
DN40	75645	80488
DN50	75646	80488
DN65	75647	80488
DN80	75648	80489

8. Contacts

Your Self Closing Valves are designed and manufactured by:

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SWEDEN

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