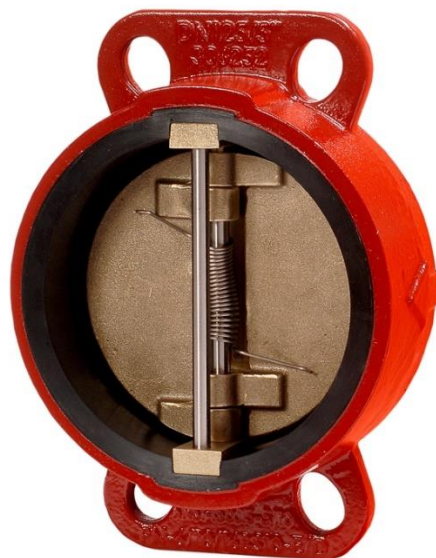


## **Installation and operation manual**

### **Dual plate check valve**

**LK product no: 300702 and 301702**



**This manual is valid for the following LK product numbers:**

Wafer type, multiflange (ISO PN6/10/16, ANSI150 and JIS 5K/10K). Body in ductile iron EN-JS1030 (GGG40)		
Pressure rating	Sealing	
	NBR	EPDM
PN16	300702	301702
PN10	300702	301702

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## 1. General information

This manual shall serve as an instruction for installation and operation of LK Valves dual plate check valves. For technical specifications please see valid data sheet found on LK Valves website ([www.lkvalves.com](http://www.lkvalves.com)).

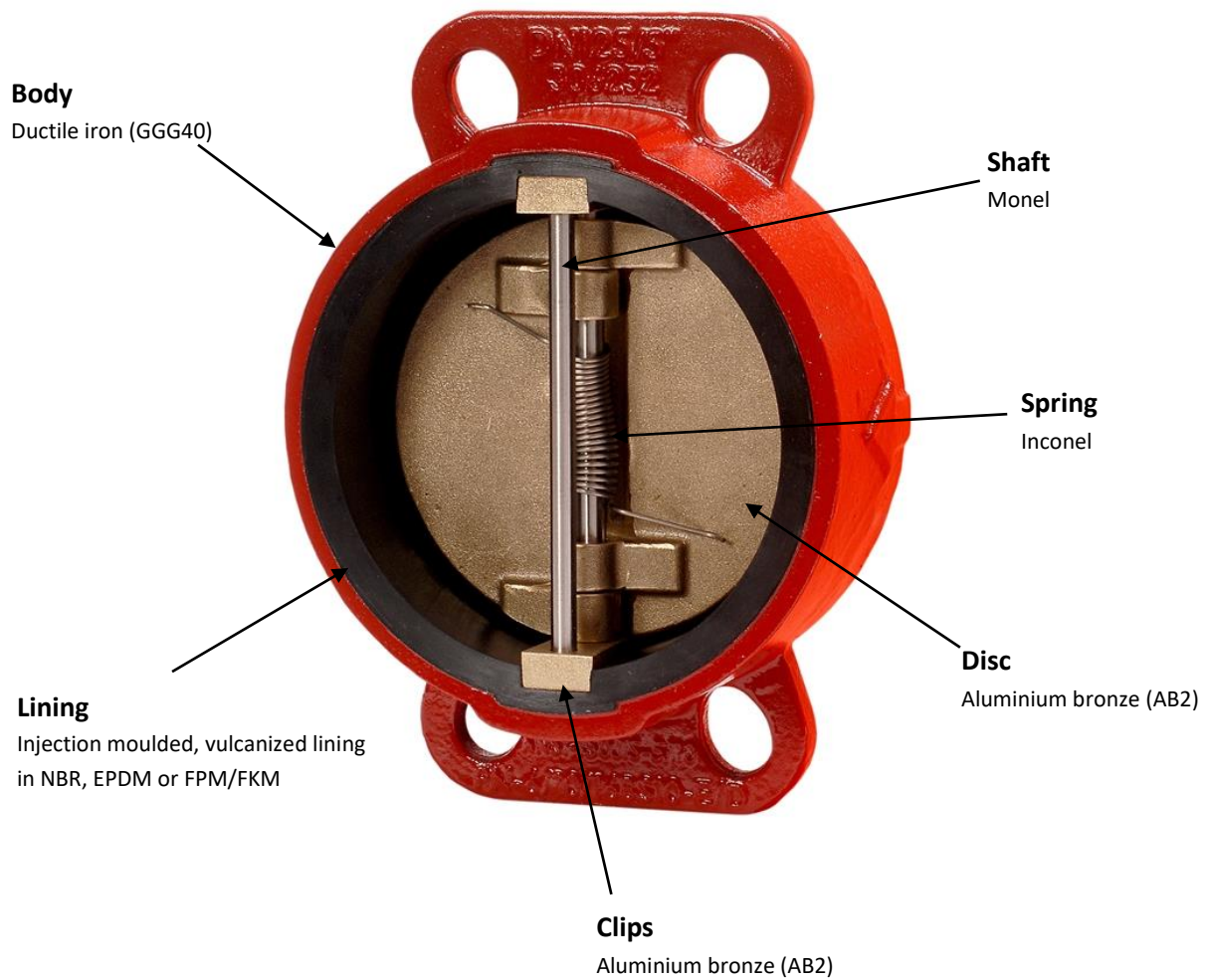
It is the responsibility of the installer to ensure that approved materials are used and that the installation and maintenance work meet applicable rules, regulations and requirements.

In case of problems which cannot be solved from information in this manual, LK Valves shall be contacted for support.

Note that most of the information in this manual concerns safety, so please read carefully before installation of the valve.

## 2. Valve parts

This section outlines the general structure of the valve.



### 3. Product marking

Each valve supplied by LK Valves is marked with information about the valve.

On the main body of the valve, the following information can be found.

**Diameter (DN):** Shows the DN rating in mm and inches. Please refer to the valid datasheet at LK Valves website for detailed description of the dimensions.

**Pressure class (PN):** This indicates the maximum working pressure of the system. It is very important that the valve is not installed in a system which operates at higher pressure than this.

**Material:** Shows material of the casted body.

**Serial number:** Each valve has a stamped serial number located at the bottom flange. This is used for traceability.

On the disc the following information can be found.

**Material:** Shows the material of the disc.

### 4. Storage and handling

#### 4.1 Storage

Store the valve indoors in a clean and dry place. Leave the valve in its original packaging. Corrosion that occurs during storage will significantly reduce the life span of the valve.

High temperature and direct sunlight will shorten the service life of the rubber liner. Optimal storage condition is in covered pallets with ambient temperature 5-20°C.

The valves are delivered in either a box or a plastic bag depending on the size of the valve.

#### **4.2 Lifting and handling**

It is very important to lift the valve the right way. Never lift the valve by grasping the shafts, doing so may cause damages to the valve. Always use the flanges to lift the valve. See attached pictures below on how to handle it correctly. Always follow the instructions given on the valve and its packaging.

Wrong handling.



Correct handling.



#### 4.2.1 Larger dual plate check valves

When handling larger dual plate check valves, it's important to note that these valves are too heavy to be lifted by hand. This applies mainly to DN400-DN600. To lift these valves, it's important always use a rope or a chain together with e.g. a hook certified for lifting. Securely place the lifting device through the two holes in the top flange of the valve. See picture below for an example of correct handling. Always consider center of gravity when lifting. Try to prevent tilting and rotational forces when lifting the valve.



Also consider the following advices to prevent damage to the valve:

**Scratch to the edge of the disc:** The edge of the dual plate check valve is hand polished and very easily scratched. If carelessly handled, the valve will leak at the position of the scratch.

**Scratches on the rubber liner:** Sharp objects might scratch the sealing surface inside the valve or on the flanges. If carelessly handled, the valve will leak at the position of the scratch.

**Forces applied to the valve:** Avoid bumping the valve into hard object as they might cause damages to the valve.

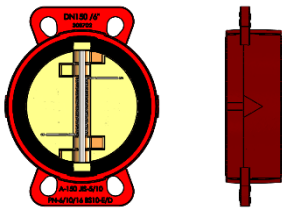


## 5. Installation

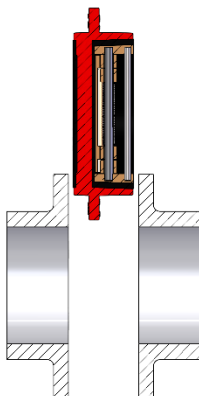
The valve shall never be installed where service conditions could exceed the valve ratings concerning pressure, temperature or operating media. Failure to comply with this warning may result in personal injury or property damage.

### 5.1 Installation procedure

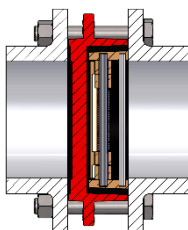
1. Check the valve to make sure the pressure and valve materials are correct for the application.
2. Make sure the pipe line has enough support to prevent vibrations and load weight from damaging the valve.
3. Make sure pipes are aligned.
4. Make sure pipe flanges and valve sealings are clean from any debris.
5. Before installing the valve, it is important to know the flow direction. The flow direction shall be the same direction as the arrow that can be found on the side of the valve. If the valve is installed in the wrong direction the flow will stop.



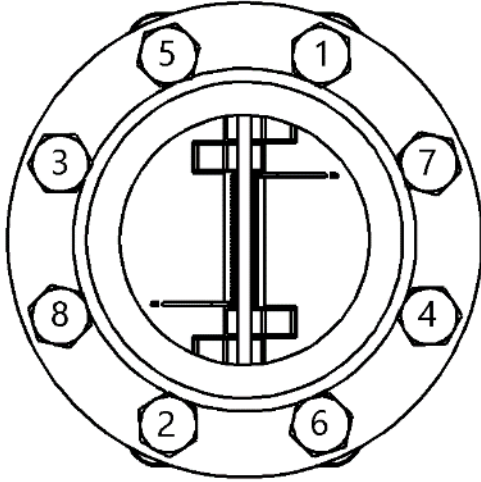
6. Spread the flanges enough to allow the dual plate check valve to fit.



7. Fix the valve with the bolts without tightening them.



8. Use crosswise bolt tightening to ensure a fixed installation. Other bolt tightening sequences may affect the installation. Bolt torque is given in chapter 8.



## 6. Maintenance and repair

LK Valves dual plate check valves are designed to be maintenance free, but to guarantee the function it is important for the valve to be in regular use to avoid the disc to stick in the seating.

Recommended frequency of use is at least once a week.

If a valve for any reason is removed from the pipe, it needs to be inspected before re-installation. If the lining or disc is damaged due to wear and tear or for other reasons, a replacement is necessary.

## 7. Removing the valve

Prior to any replacement, the valves must be dismantled from the pipe system as follows.

- Depressurize the system on both sides of the valve.
- Drain the system on both sides of the valve.
- Allow the system to cooldown.
- Clean the piping system in case of dangerous media.
- Loosen the bolts.
- Remove the dual plate check valve from the pipe.

Before re-installation of the valve please look through the installation instructions.

## 8. Bolt torque

Thread size	8.8	10.9	12.9
M5	5,7	8,1	9,7
M6	9,8	14	17
M8	24	33	40
M10	47	65	79
M12	81	114	136
M16	197	277	333
M20	385	541	649
M24	665	935	1120
M27	970	1370	1620
M30	1310	1840	2210
M36	2280	3210	3850

## 9. Contact information

These butterfly valves are designed and manufactured by LK Valves AB with head office in Sweden where you will also get technical and commercial support.

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