



THE VALVE SPECIALISTS
OF SCANDINAVIA

Installation and operation manual

Dual plate check valve

Product no: 300702 and 301702



This manual is valid for the following product numbers:

Wafer type, multiflange (ISO PN6/10/16, ANSI150 and JIS 5K/10K). Body in ductile iron EN-JS1030 (GGG40), fully vulcanized liner			
Pressure rating	Sealing		
	NBR	EPDM	FKM
PN16	300702, 300902, 300802	301702, 301902, 301802	302702, 302902, 302802
PN10	300702, 300901, 300801	301701, 301901, 301801	302701, 302901, 302801

Wafer type, multiflange (ISO PN6/10/16, ANSI150 and JIS 5K/10K). Body in dedicated material,vulcanized inlay seal			
Pressure rating	Sealing		
	NBR	EPDM	FKM
PN16	315102, 315172, 315182, 315192	315102, 315172, 315182, 315192	315102, 315172, 315182, 315192
PN10	315101, 315171, 315181, 315191	315101, 315171, 315181, 315191	315101, 315171, 315181, 315191

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1. General information

This manual shall serve as an instruction for installation and operation of Meson dual plate check valves. For technical specifications please see valid data sheet found on Meson website (www.mesongroup.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.

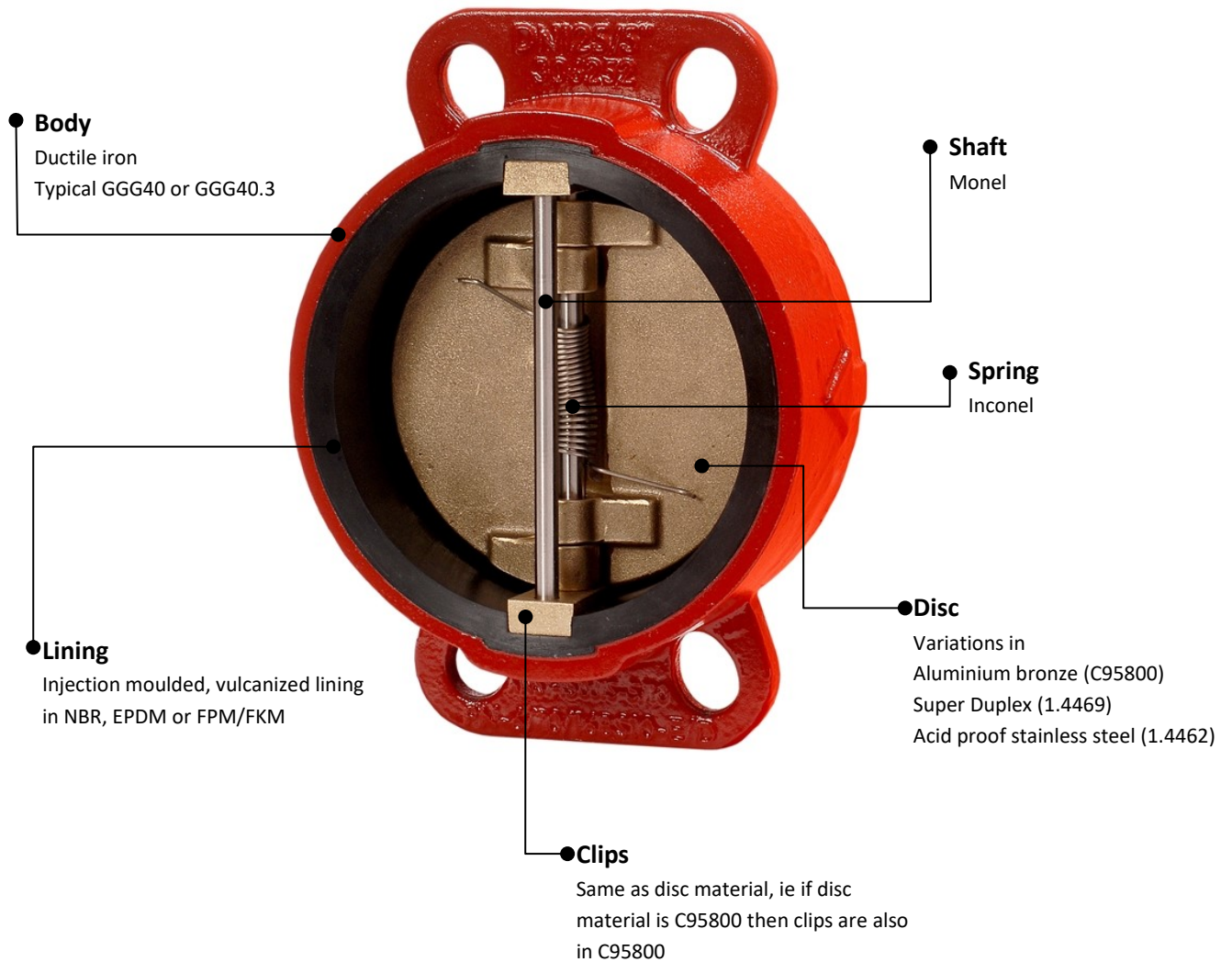
In case of problems which cannot be solved from information in this manual, Meson shall be contacted for support.

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

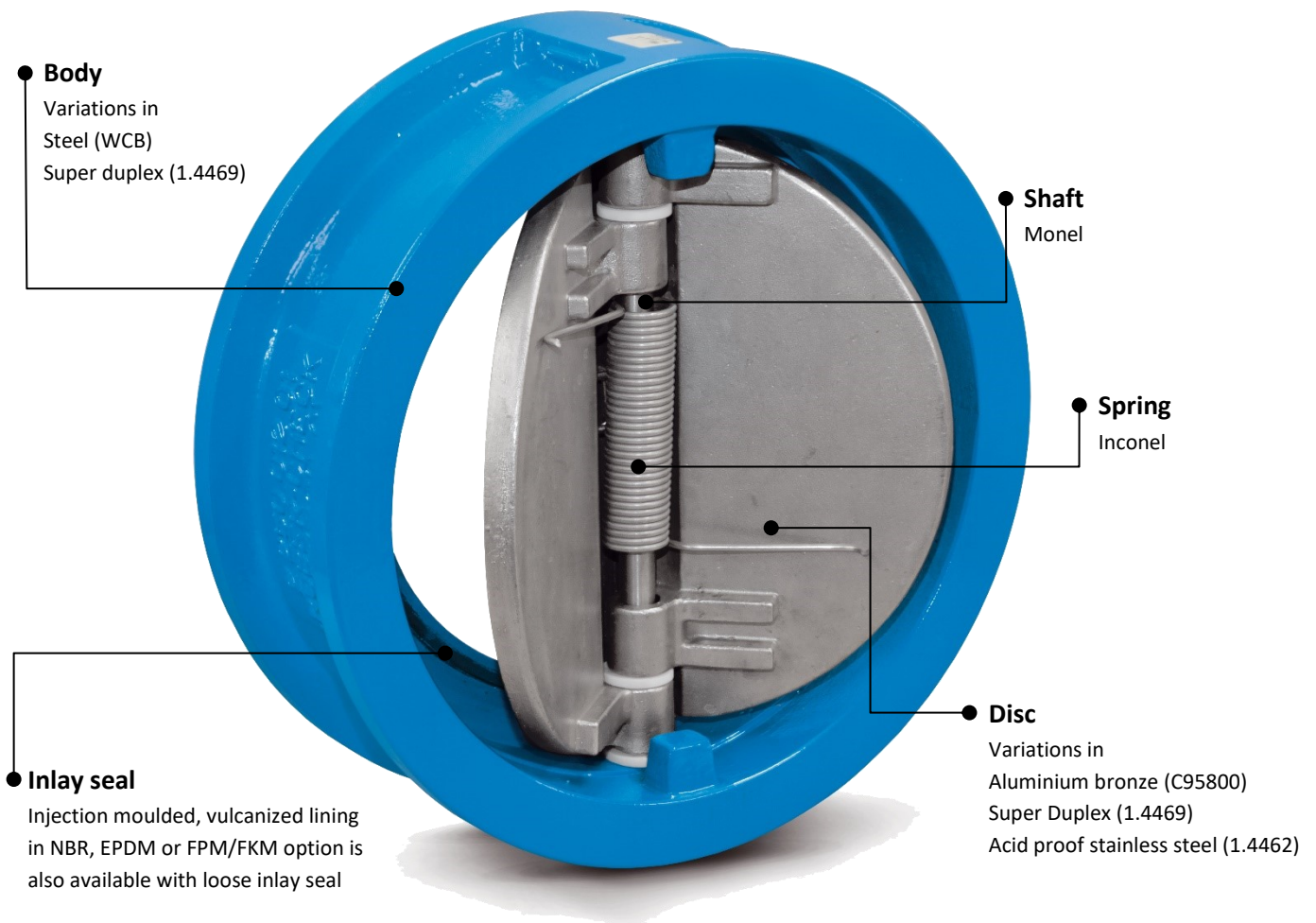
2. Valve parts

This section outlines the general structure of the valve.

2.1 Vulcanized liner in metal body



2.2 Vulcanized inlay seal in fully metal casted body



3. Product marking

Each valve supplied by Meson 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 Meson 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.

Additional: There may also be attached an name plat with serial number for traceability, this is an product specific information plate.

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 may be delivered in a box, a plastic bag or directly in an pallet 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 to 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 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.

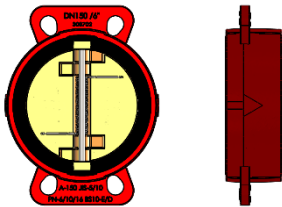
Forces applied to the valve: Avoid bumping the valve into hard object as they might cause damages to the valve.

5. Installation

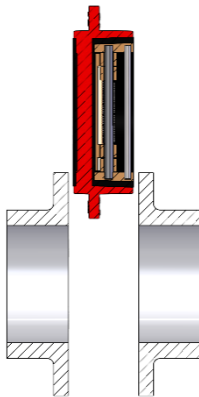
The valve shall never be installed where service conditions could exceed the valve ratings concerning pressure, temperature or operating media. Failure to comply with this warning may result in personal injury or property damage.

5.1 Installation procedure

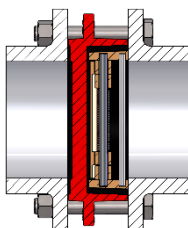
1. Check the valve to make sure the pressure and valve materials are correct for the application.
2. Make sure the pipe line has enough support to prevent vibrations and load weight from damaging the valve.
3. Make sure pipes are aligned.
4. Make sure pipe flanges and valve sealings are clean from any 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.



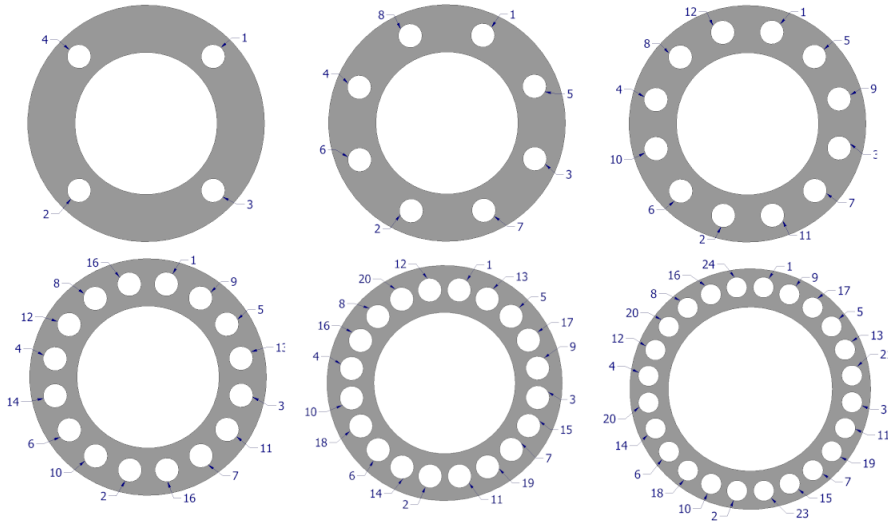
6. Spread the flanges enough to allow the dual plate check valve to fit.
Tip! For valves without flanged bolt holes it is useful to add in two bolts on the bottom of the pipe flanges, this way the valve will rest on the bolts while the other bolts are inserted.



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.

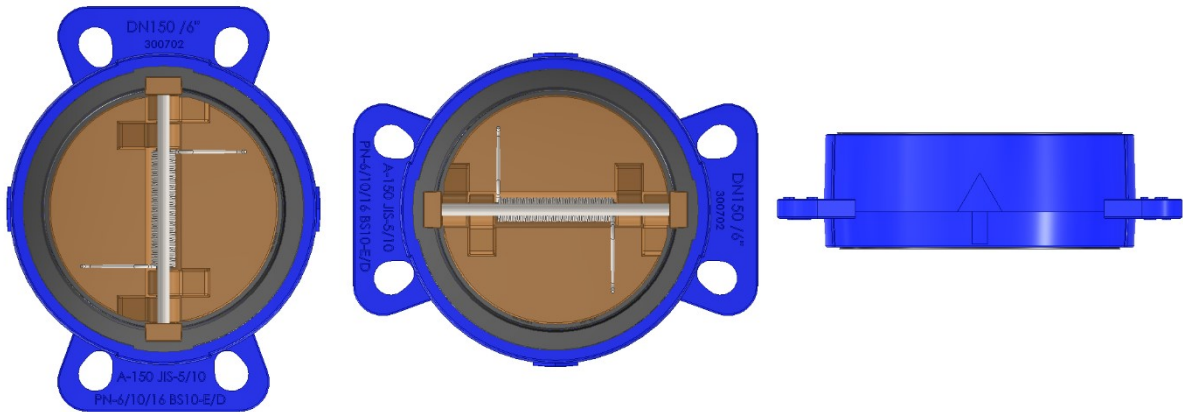


5.2 Installation positions

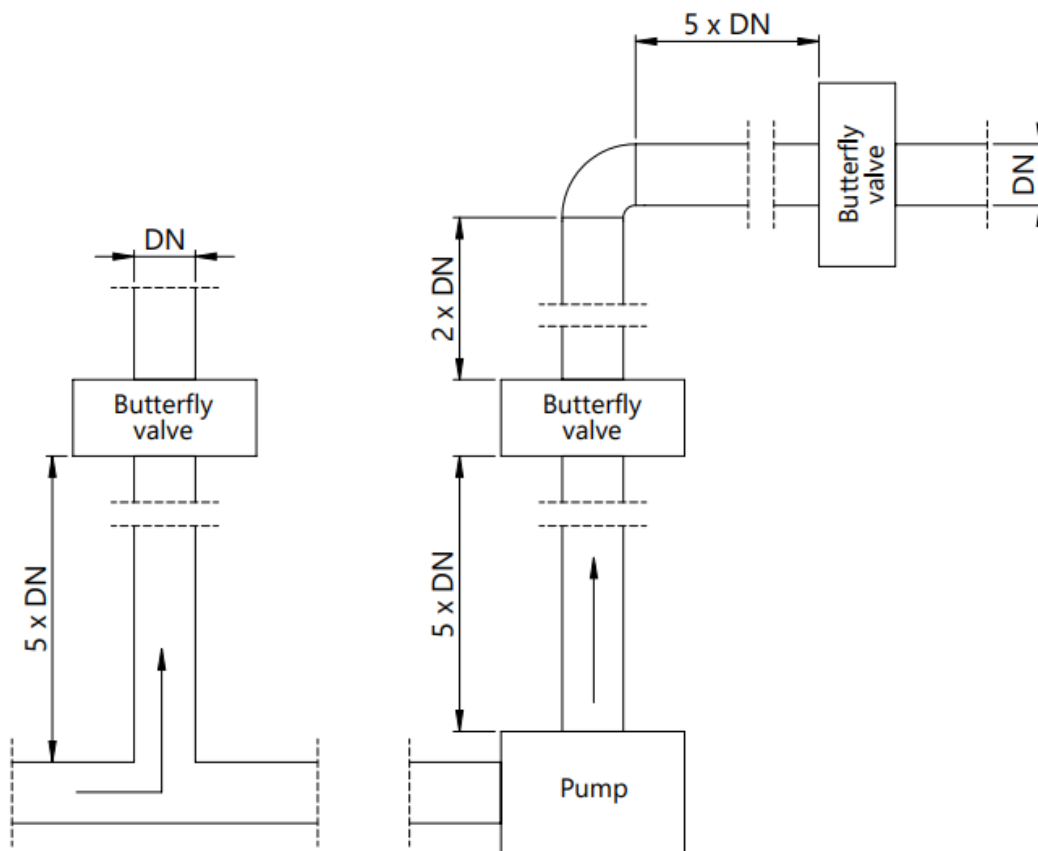
The valves can be installed in any of the position shown in the image figure below.

Do bear in mind that installing the valve with the stem in vertical position will have the valve collect debris at the bottom location of the valve due to no flushing possible of the valve.

Do not install the valve with the flow direction pointing downwards as this will affect the sealing effect of the valve.



The valves should be installed at a distance of at least five times the DN size of the valve away from tees, elbows or pumps, as shown in the figure below.



6. Maintenance and repair

Meson 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 Meson AB with head office in Sweden where you will also get technical and commercial support.

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