MODEL **RM**

ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

INSTALLATION, OPERATION & MAINTENANCE MANUAL

RM Tilting Disc Check Valve

SPAIN, UK, GERMANY, FRANCE, CANADA, USA, BRAZIL, CHILE, PERU, INDIA, CHINA
www.orbinox.com

MODEL **RM**

ORBINOX
VALVE SOLUTIONS IN MORE THAN 70 COUNTRIES

INSTALLATION, OPERATION & MAINTENANCE MANUAL
RM Tilting Disc Check Valve

0. INTRODUCTION

The RM model wafer valve is designed for general industrial service applications.

When applicable it can also comply with the following additional directives:

- Pressure Equipment Directive

It is the user's liability to verify the maximum working conditions (PS, TS), medium (gas or liquid), dangerousness group (1 or 2) and if the fluid is unstable to properly classify the valve according to the PED directive.

The RM valve may comply with other directives and certificates.

ORBINOX offers, supplies and certifies valves according to the information received from the customer. The customer is liable to make sure this information is accurate and according to specific working conditions requirements where the valve will be installed.

For EU Directives and other Certificates, please see the document: Directives & Certificates Compliance - Knife Gate Valves – IOM

The RM model non-return valve is a reliable metal-seated non-return valve with an oblique seating angle to provide rapid closure.

Non-return valves only allow the passage of fluid in a single direction. Should the fluid flow return, the valve prevents this by shutting under its' own weight.

The RM valve can also be supplied with a return spring to allow faster closure.

The RM is a "wafer" type valve and can be mounted between standard flanges according to the diameters shown in table 1.

Table 1

DN (mm)	Weight (kg)	Standard flanges			
		PN10	PN16	PN25	PN40
40	0,8	X	X	X	X
50	1	X	X	X	X
65	2	X	X	X	X
80	3	X	X	X	X
100	4,5	X	X	X	X
125	6,5	X	X	X	X
150	7,5	X	X	X	X
200	15	X	X	X	X
250	26,5	X	X	X	X
300	33,5	X	X	X	X
350	54	X	X	X	
400	65,5	X	X	X	
450	92	X	X	X	
500	110	X	X	X	
600	178	X	X	X	

1. INSTALLATION

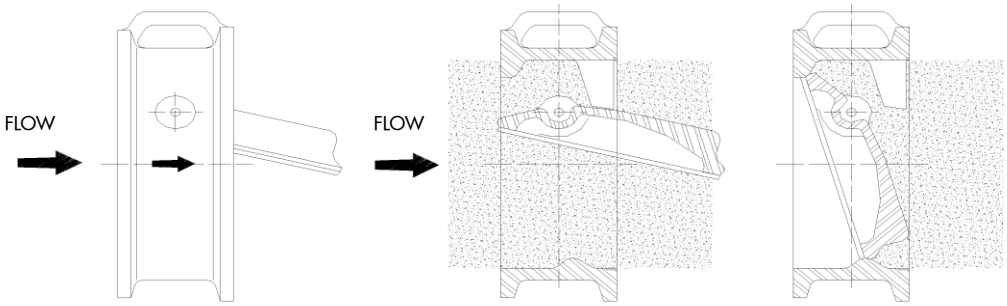
For EU Directives and other Certificates, please see the document: Directives & Certificates Compliance - Knife Gate Valves - IOM

In order to avoid personal injury or damage to property when handling and installing the valve, it is important to observe the following warnings:

- It is the User's responsibility to verify compatibility of valve parts materials with the internal fluid
- Qualified and trained personnel must carry out the handling and maintenance of the valve
- Use suitable Individual Protection Equipment (IPE) (gloves, safety footwear...)
- Disconnect all lines affecting the valve and put up a notice notifying that work is being carried out on the valve
- Isolate the valve completely from the process
- Release process pressure
- Drain the fluid from the valve

Before installation, inspect the valve body and components for any damage that may have occurred during shipping or storage. Make sure the internal cavities within the valve body are clean. Inspect the pipeline and mating flanges, making sure the pipe is free of foreign material and that the flanges are clean.

The RM valve only works in one direction, and therefore it is important to consider this during installation. The direction of flow is indicated by an arrow on the valve body.

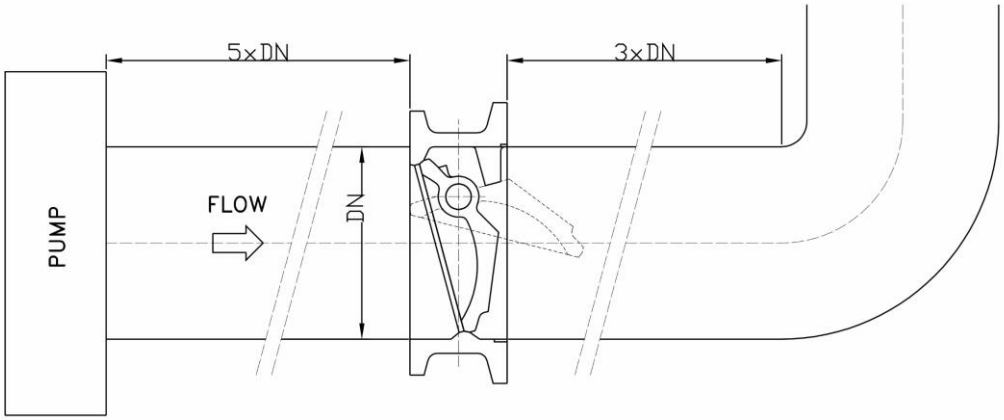


The valve should be mounted between two parallel flanges. It is essential that the valve is centred correctly between them to let the disc move freely. The valve is correctly centred when the distances between the external diameter of the flanges and the external diameter of the valve are the same through any diameter of the body valve.

It is necessary to place a suitable gasket between the valve body and the pipe flange.

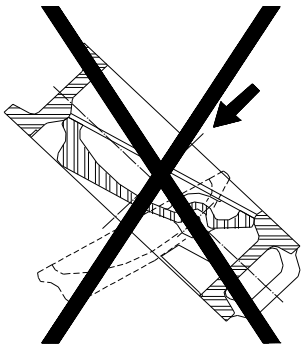
With diameters greater than DN 400 it is advisable to use "spools" which facilitate installation and possible future maintenance of the valve.

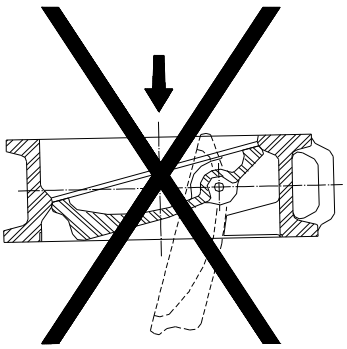
It is necessary to keep a minimum distance of five pipe diameter (DN) lengths of straight pipe from the downstream side of tees, fittings, increasers or pumps and three pipe diameter (DN) lengths from elbow, valve or accessory (see following diagram).



The position of the disc is also of vital to valve operation. Make sure that the axis of rotation of the disc is in a horizontal plane, regardless of the pipe position.

Valves installed in vertical lines must also be accurately centred. In all conventional applications, the valve must open upwards with respect to the direction of flow.





Weight of the RM standard valve:

DN (mm) : kg				
DN 40: 0,8	DN 100: 4,5	DN 250: 26,5	DN 450: 92	DN 750: 310
DN 50: 1	DN 125: 6,5	DN 300: 33,5	DN 500: 110	DN 800: 385
DN 65: 2	DN 150: 7,5	DN 350: 54	DN 600: 178	DN 900: 445
DN 80: 3	DN 200: 15	DN 400: 65,5	DN 700: 245	

2. OPERATION

The RM non-return valve has an obliquely angled, metal-metal seat. Open, it only allows the passage of fluid in a single direction. Should the fluid flow return, the valve closes under its' own weight.

3. MAINTENANCE

For EU Directives and other Certificates, please see the document: Directives & Certificates Compliance - Knife Gate Valves - IOM

The valve must not undergo any modifications without a previous agreement with ORBINOX. ORBINOX shall not be liable for any damages that may arise due to the use of non original parts or components

To avoid personal injury or damage to property from the release of process fluid:

- Those in charge of handling and maintenance of the valve must be qualified and trained in valve operations.
- Use appropriate personal protection equipment (gloves, safety shoes, etc).
- Shut off all operating lines to the valve and place a warning sign.
- Isolate the valve completely from the process.
- Release process pressure.
- Drain the process fluid from the valve.

Due to the robust design of the RM non-return valve, it requires practically no maintenance if properly installed. It is advisable, however, to check operation periodically.

4. STORAGE

- For long storage periods keep the valves indoors in a safe and dry place and protect it from any impact and or vibrations

- Storing temperatures: -10ºC to +40ºC

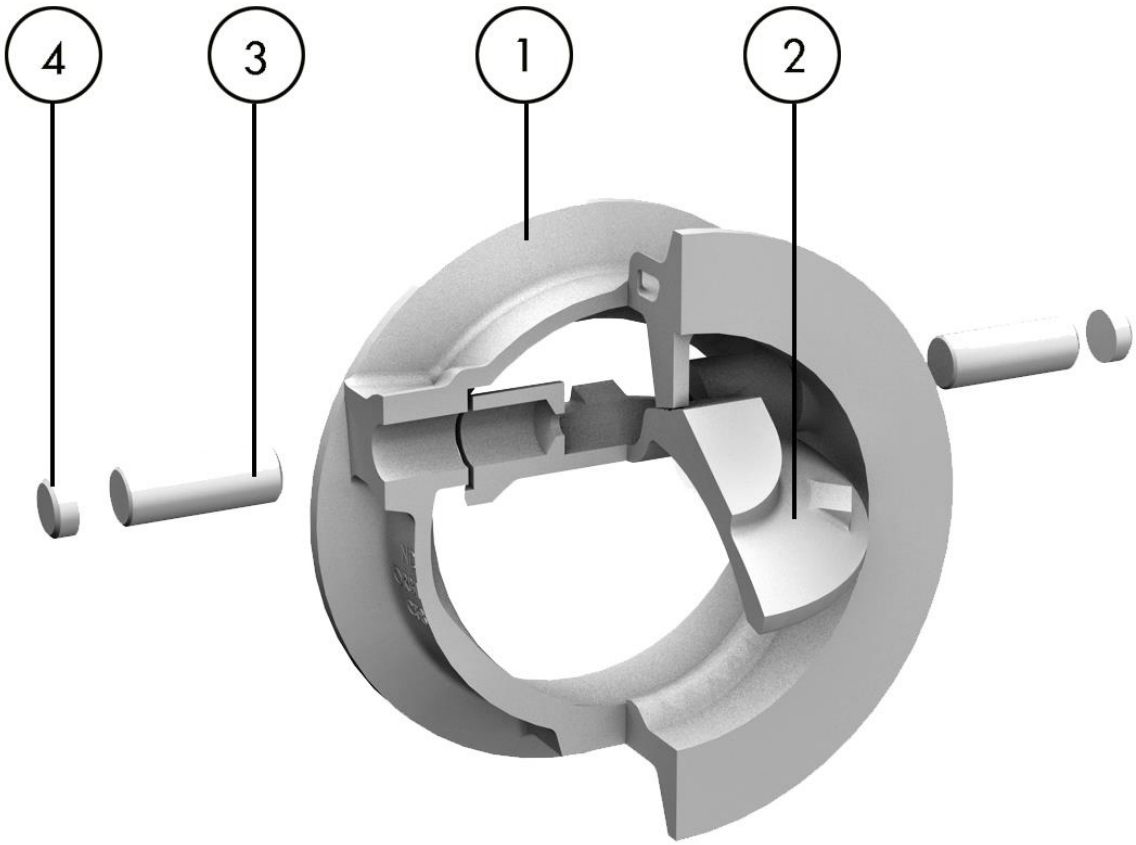
5. ENVIRONMENTAL CONSIDERATIONS

- The packaging is made from environmentally friendly materials. Dispose of the packaging through the available recycling channels

- The valve is designed and manufactured with materials that can be recycled by specialised recycling firms. Once the life of the product is expired, you have to consider a proper disposal of the product in order to prevent any negative impact on the environment and allows for the recycling of valuable commodities

- Please follow the local environmental rules in your country for proper disposal

6. PARTS LIST & DRAWINGS



1. VALVE BODY
2. DISC
3. SHAFT
4. END CAP