

Introduction

The following information and instructions are important for perfect installation and safe operation of the non return valve.

Prior to installation and initial use of the valve, the qualified staff in charge of installing and operating the valve has to be instructed according to this information.

Proper use

The non return valve series RF 6666 is exclusively intended for the prevention of medium backflow after installation in the pipeline. The permissible pressure / temperature limits have to be observed.

Nominal pressure:

DN 15 – DN 100: PN 6 – PN 40

DN 125 / DN 150: PN 10 / PN 16

Limits for metallic connection (RF 6666 M):

Working temperature	[°C]	20	100	150	200	250	300	350	400
Permissible working pressure DN 15 – DN 100 [bar]	40	35	32	30	29	28	27	26	
Permissible working pressure DN 125 / DN150 [bar]	16	14	13	12	11,5	11	10,5	10,5	

Maximum working temperature for soft sealings:

NBR (RF 6666 B): 110 °C

EPDM (RF 6666 E): 150 °C

FPM (RF 6666 V): 200 °C

FEP/FPM (RF 6666 T): 250 °C

The suitability of the product-related parts used and their chemical resistance properties have to be clarified before start-up of the plant.

The usual flow rate must not be exceeded.

Vibrations, water hammers and cavitation as well as abrasive components result in damage of the valve and affect its service life.

Valves must not be used to support the pipeline nor as a step-up.

Earthing the valve

If the non return valve is used in potentially explosive zones, the body of the valve must be connected effectively at site with the potential compensation cable before the valve is put into operation.

Transport and storage

The valve must be transported and stored dry and clean.

In humid rooms, a drying material or heating must be used to avoid condensation.

During transport and intermediate storage the non return valve should not be outside a temperature range of -15°C and +30°C.

The transport packaging protects the valve against soiling and damage. Impact and vibrations must be avoided.

Conditions for mounting the valve

The non return valve series RF 6666 is installed between pipeline flanges acc. to DIN 2501 or ANSI B16.5.

Pipelines always have to be run in such a way that damaging shear and bending stresses cannot act on the valve body.

The surfaces of the pipeline flanges between which the valve is installed have to be parallel to one another, the sealing surfaces must be clean and without damage. No cross marks may be visible.

Do not carry out welding work on the flanges and pipelines when the non return valve has been installed, as this could cause damage to the valve.

The non return valve is clamped between two pipeline flanges using two suitable seals.

Screws, nuts and seals are not included in the manufacturer's scope of supply.

Transport packaging

Transport packaging protects the interior of the valve from soiling and damage.

Do not remove the packaging until the valve is going to be installed.

Installation position

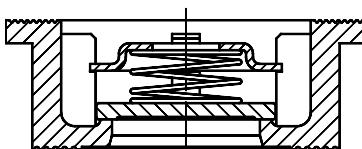
Basically the non return valve series RF 6666 can be installed in any position.

The valve must be installed in such a way that the medium flow is in the direction indicated by the arrow on the body.

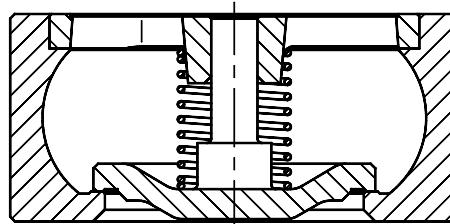
A minimum operating pressure is necessary for opening the valve.

Operation without spring is only possible in a vertical pipeline with upward flow.

DN 15 - DN 100



DN 125 / DN 150



Installation

- Prior to the mounting of the valve, flush the pipeline to remove all traces of soiling, welding residues, etc.
- Remove the transport packaging and check whether the flange connections are without damage and clean.
- Check whether the flange clearance is in accordance with the face-to-face dimension of the non return valve.
- Before mounting the valve, the flanges are to be sufficiently spread using a suitable tool.
- Insert the non return valve and the seals between the flanges.
- Insert the screws and nuts for flange connection.
- Centre the non return valve using the flange screws. The body eccentric ring (DN 15 to DN 100) or the outer diameter of the body (DN 125 / DN 150) of the valve are used for full centring.
- Remove the spreader and hand-tighten the screws.
- Check whether the non return valve, the seals and the counter-flanges are in true alignment.
- Tighten the flange screws crosswise using the stipulated torque.

The tightening torque depends on the seals chosen.

If no specifications are given, the following standard values can be used:

M12 = 52 Nm

M16 = 125 Nm

M20 = 240 Nm

M24 = 415 Nm

Initial operation

The non return valve has been tested for leakage using air or water. Residues of the test medium may still be on the contact surfaces of the valve. Possible reactions with the operating medium must be observed.

Prior to initial operation, the pipeline must be flushed effectively to eliminate soiling and to avoid damage to the sealing surfaces.

Since the non return valve is always closed during a system pressure test on pipeline sections, the testing pressure must not exceed the value $1,1 \times PN$.

Impermissible operation

Do not operate the valve in the cavitation area.

Do not exceed the pressure/temperature range.

Avoid all foreign particles on the sealing surfaces.

Removing the valve

Before removing the non return valve make sure that the pipe section is depressurised and evacuated.

In case of toxic, caustic and other outgassing media the pipe section must also be ventilated.

Safety classification is the responsibility of the system operator.

The non return valve is removed by loosening the flange screws and sufficient spreading of the mating flanges.

Disposal / repair of the valve

After having removed the valve it has to be disassembled and cleaned to prevent injuries caused by residues of the medium.

If the valve is returned to the manufacturer, a safety data sheet relating to the media must be included.

Subject to modifications without notice.

Edition: 2009-08-06