



Operating instructions and security regulations for putting into operation and maintenance of the non-return valve CSD and CVD.

Please read carefully!

Security note

Only qualified skilled workers are permitted to install the armature. This should be staff that is well acquainted with setting up, fitting, putting into operation, operating and maintain the equipment. The staff must have a qualification at their disposal which corresponds with their function and occupation, such as:

- Instruction and commitment for the observance of all regional and internal regulations and commitments regarding operation.
- Education in accordance with the standards of security engineering, in application and maintenance of adequate equipments of security and labour protection.
- Training in first aid etc.

Proper maintenance

Inset in pipes for prevention of return flow of the media within the permissible limits of pressure and temperature, observing the chemical and corrosive influences on the valve.

The media-resistance of the valve must be tested for operating conditions.



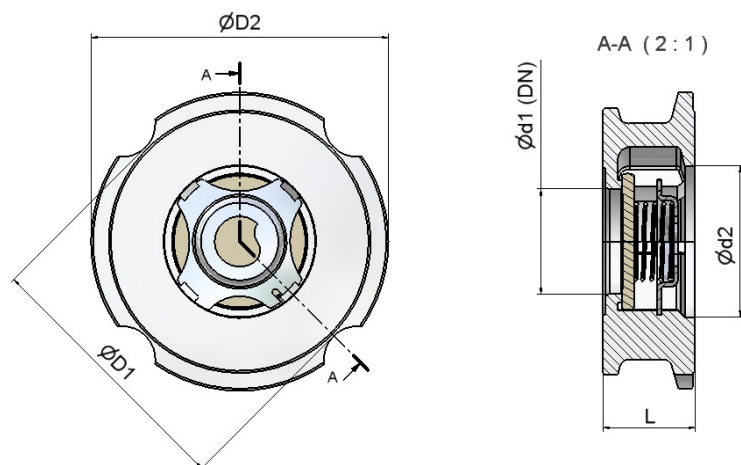
Danger notes

During operation the valve is under pressure!

If flange connections or screw plugs are loosened, hot water, steam, corroding liquids or toxic gases will escape. Serious scalds and burns on the whole body are possible! Serious contaminations are possible!

- Work for assembly or maintenance to be done in pressure less condition only.
- During operation, the valve will be hot or extremely cold.
- Work for assembly or maintenance to be done at room temperature only.
- Sharp-edged interior parts can cause cuts on hands. Wearing gloves for exchanging the valve is necessary!
- Further measurements, materials and fields of application can found in the correspondent Data Sheet.

Installation



Non return valve Type CSD and CVD for installation between flanges according to the drawings

- Installation between flanges according to DIN EN 1092-1 Form B1, PN 6/10/16/40 and ASA B16.5 Class 150/300 RF. The centring between the flanges is executed at the body integrated centre ring band by means of the flange connecting screws. The centring ØD1 is for the nominal pressure classification PN6 and ASA Class 150, ØD2 for PN 10-40 and ASA Class 300 interpreted. Installation between flanges of other norms on inquiry. The installation length corresponds to DIN EN 558-1, line 49. For special applications corresponding regulations have to be noted e.g. AD- Merkblätter (working group for pressure devices) or TRD-directives (technical rules for steam boilers).

Preparation for installation

- The assembly must be carried out according to the recognized rules of technology.
- The non-return valve assemble with two seals, a flange pair and at least two screws weld to the piping. Removing the non-return valve and seals and carry out the flange welding. The welding residue must be removed and the weld must be cleaned. The cleaned non-return valve can be reinstalled with the seals.

Note direction of flow (direction of arrow on valve body)!

- The installation position is optional.
- For oscillatory systems (e.g. compressors, diaphragm pumps etc.) please pay attention that the standard execution corresponds with the operation.
- A holding flange is required if the non-return valve shall be bolt between the flange of the outlet side and the piping flanges or if the non-return valve as ventilation, vacuum breaker, suck valve etc. must get connected to the individual flange.
- Non-return valves mustn't be disassembled.
- Using only original spare parts.
- Functional test.



Product classification according to article 9 of pressure devices 97/23/EC (DGRL)

Group 1 (Dangerous fluids)

Appendix II (Diagram 6)

Category with pressure limit PN 40 and ANSI 300 LBS	Exception according to article 3.3	I	II
Nominal DN	15-25	none	32-100
CE-Marking	no		CE1250
all types except CSD3364	all		all

Category with pressure limit PN 40 and ANSI 150 LBS	Exception according to article 3.3	I	II
Nominal DN	15-25	32-50	65-100
CE-Marking	no	CE1250	CE1250
Type CSD3364	all	all	all

**Technical data Non Return Valve Type CSD, DN 15 – 100 (PN40, ANSI 300 LBS)
Application limits according to DIN EN 1092-1 and AD-Merkblätter W10**

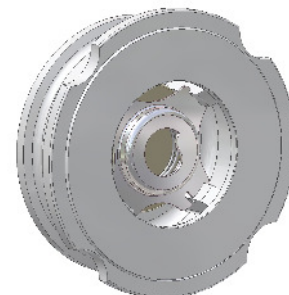
CSD2764M					
DN015-100					
t (°C)	-10	RT	150	250	400*
Ps (bar)	40	40	35.2	30.4	23.8

CSD6464M							
DN015-100							
t (°C)	-200	RT	100	200	300	400*	500**
Ps (bar)	40	40	37.9	31.8	27.6	25.7	24.3

* with Hastelloy C4 Spring ** with Nimonic spring

Application limits for soft sealing

Soft Sealing	Temperature Range	Code
EPDM	-50 up to 130°C	E
NBR	-30 up to 120°C	P
VITON	-20 up to 200°C	V
PTFE	-200 up to 200°C	T



Pressure and temperature limits for PTFE O-Rings

PTFE O-Ring								
DN 15-100								
t (°C)	-20	20	100	120	140	160	180	200
Ps (bar)		40	16	14	9	6	3	1

For further technical information please consult the corresponding datasheet.



**Technical data Non Return Valve Type CVD, DN015 – 100 (PN40, ANSI 300 LBS)
Application limits according to DIN EN 1092-1 and AD-Merkblätter W10**

CVD3364M					
DN015-100					
t (°C)	-60	RT	120	200	250
Ps (bar)	16	16	16	14	13

CVD6565M					
DN015-100					
t (°C)	-200	RT	150	300	500
Ps (bar)	40	40	32.7	25.7	22.8

CVD6767M			
DN015-100			
t (°C)	-100	RT	250
Ps (bar)	40	40	40

CVD6868M					
DN015-100					
t (°C)	-60	RT	150	300	400
Ps (bar)	40	40	34.4	27.6	24.3

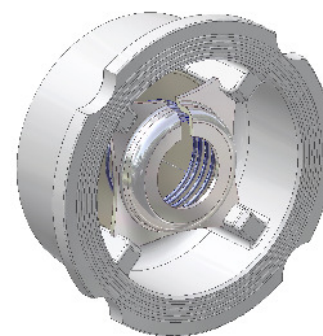
CVD9090M					
DN015-100					
t (°C)	-200	RT	120	200	300
Ps (bar)	40	40	40	23	14

CVD9494M					
DN015-100					
t (°C)	-200	RT	120	250	400
Ps (bar)	40	40	40	34	32

CVD9595M					
DN015-100					
t (°C)	-200	RT	120	250	400
Ps (bar)	40	40	40	34	32

Application limits for soft sealing

Soft Sealing	Temperature Range	Code
EPDM	-50 up to 130°C	E
NBR	-30 up to 120°C	P
VITON	-20 up to 200°C	V
PTFE	-200 up to 200°C	T



Pressure and temperature limits for PTFE O-Rings

PTFE O-Ring								
DN 15-100								
t (°C)	-20	20	100	120	140	160	180	200
Ps (bar)		40	16	14	9	6	3	1

For further technical information please consult the corresponding Data Sheet.



**Technical data Non Return Valve Type CSD and CVD, DN125 – 350 (PN40, ANSI 300 LBS)
Application limits according to DIN EN 1092-1 and AD-Merkblätter W10**

CSD2727M						
DN125-350						
t (°C)	-10	RT	150	200	300	400*
Ps (bar)	40	40	35.2	33.3	27.6	23.8

CSD2764M						
DN125-350						
t (°C)	-10	RT	150	200	300	400*
Ps (bar)	40	40	35.2	33.3	27.6	23.8

CSD6464						
DN125-350						
t (°C)	-200	RT	150	300	400*	500**
Ps (bar)	40	40	36.3	29.7	27.4	26.4

CSD3364M					
DN125-200					
t (°C)	-60	RT	120	200	250
Ps (bar)	16	16	16	14	13

* with Hastelloy C4 Spring ** with Nimonic spring

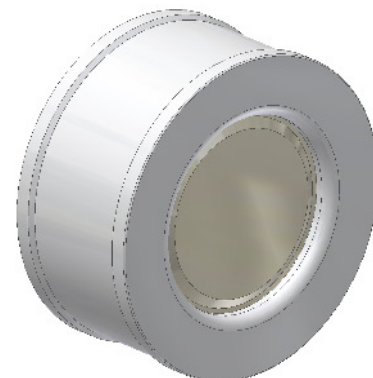
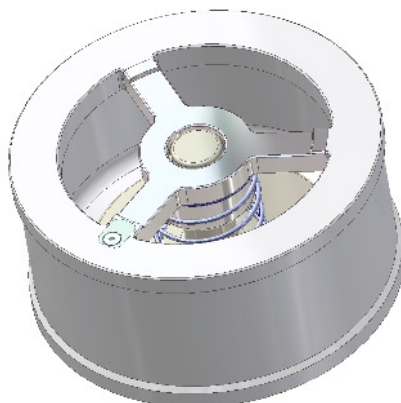
CSD6767M			
DN125-200			
t (°C)	-100	RT	250
Ps (bar)	40	40	40

Application limits for soft sealing

Soft Sealing	Temperature Range	Code
EPDM	-50 up to 130°C	E
NBR	-30 up to 120°C	P
VITON	-20 up to 200°C	V
PTFE	-200 up to 200°C	T

Pressure and temperature limits for PTFE O-Rings

PTFE O-Ring								
DN 15-100								
t (°C)	-20	20	100	120	140	160	180	200
Ps (bar)		40	16	14	9	6	3	1



For further technical information please consult the corresponding Data Sheet.