



CE 0036

ConVey-Schmid AG

Armaturentechnik

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:: Data sheet :: Chapter 5 :: Page 1 / 2 ::

:: Non Return Valve Type CSD :: I :: DN 15 - 100 :: I :: PN 6 - 40 :: I :: ANSI150/300 ::

Non Return Valve Type CSD DN 15 - 100

Designation	Material
Body	1.4408
Valve plate	1.4404
Spring holder	1.4401
Spring	1.4401
Soft sealing	see table

Technical Specifications

Classification of these products according to DGRL 97/23/EC, fluid group 1
 Installation with sealing between flanges according to
 DIN EN 1092-1 Form B1, PN 6-40 and ANSI B16.5 Class 150/ 300 RF
 Operational limits according to DIN EN 1092-1 and AD-Merkblätter W10
 Tightness according to DIN 3230/3, BN2 and BO3
 Overall lengths according to DIN EN 558-1, line 49
 Identification according to DIN EN 19
 Packed in separate card board boxes

Utilisation

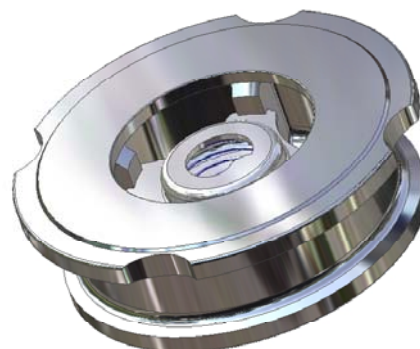
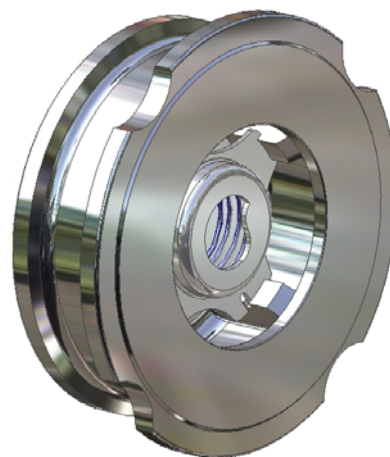
For liquids, gases and steams in all process technologies

Constructional features

Centre ring integrated on the body
 Guiding of valve plate by body ribs
 New planed spring cap for an optimal safety
 Serially adequate for PN 6-40 and ANSI Class 150/ 300

Special Types

Nimonic springs for temperatures above 300°C.
 Special springs for different opening pressures up to max. 400 mbar



Designation CSD- 64 64 - M - 100
 CSD- □□ - □□ - □ - □□□ → DN 15 - 100

Body			Valve plate			Soft sealing		
Material	Nr.	Code	Material	Nr.	Code	Material	Temperatur	Code
Austenit	1.4408	64	Austenit	1.4404	64	Metal-seated	-200 to 500°C	M
						EPDM	-50 to 130°C	E
						NBR	-30 to 120°C	P
						VITON	-20 to 200°C	V
						PTFE	-200 to 200°C	T



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:: Chapter 5 ::

:: Page 2 / 2 ::

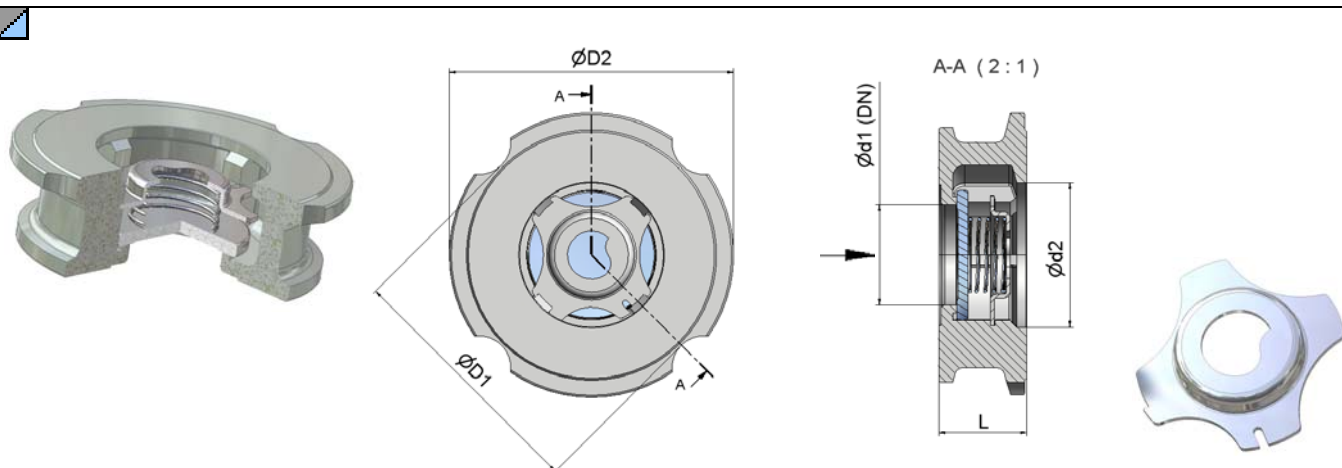
:: Non Return Valve Type CSD :: I

:: DN 15 - 100 :: I

:: PN 6 - 40 :: I

I

:: ANSI150/300 ::



DN (mm)	15	20	25	32	40	50	65	80	100
DN (zoll)	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
Ø d1	15	20	25	32	39	48	62	72.5	89
Ø d2	26	31	36	44	51.5	62	77.5	92	107
Ø D1	44	54	63.5	73	82.5	96	116	132	152
Ø D2	51	61	71	79.5	92	107	127	142	168
L	16	19	22	28	31.5	40	46	50	60
weight	0.1	0.2	0.3	0.5	0.7	1.1	1.6	3.0	3.5

Opening pressures (mbar)

ΔP ↑	25	25	25	27	28	29	30	31	33
ΔP →	20	20	20	20	20	20	20	20	20
ΔP ↓	15	15	15	13	12	11	10	9	7

Opening pressures without spring (mbar)

ΔP ↑	5	5	5	7	8	9	10	11	13
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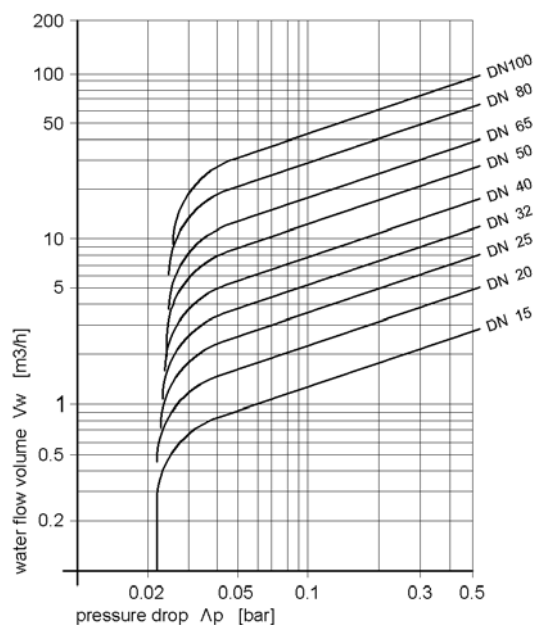
If lowest opening pressures are necessary, the valves without spring can be installed in vertical directions with direction of flow from bottom to top.

Pressure drop diagram

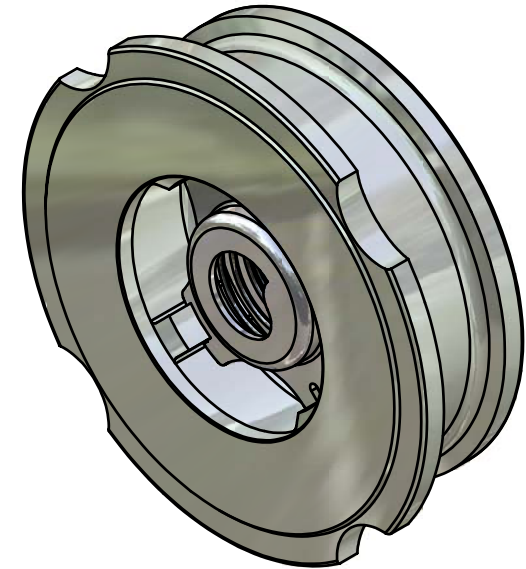
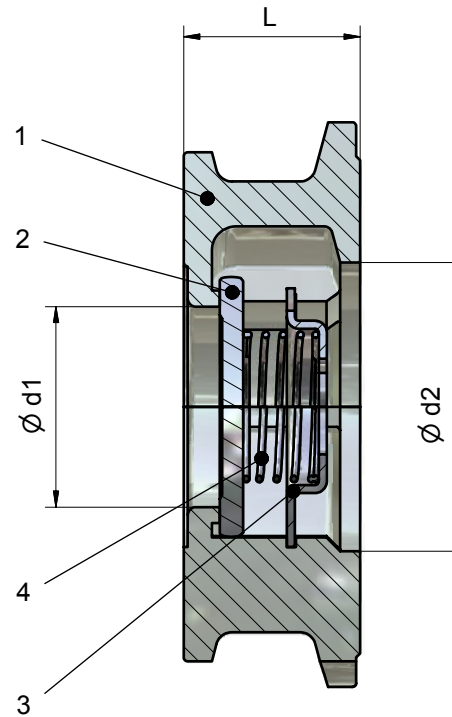
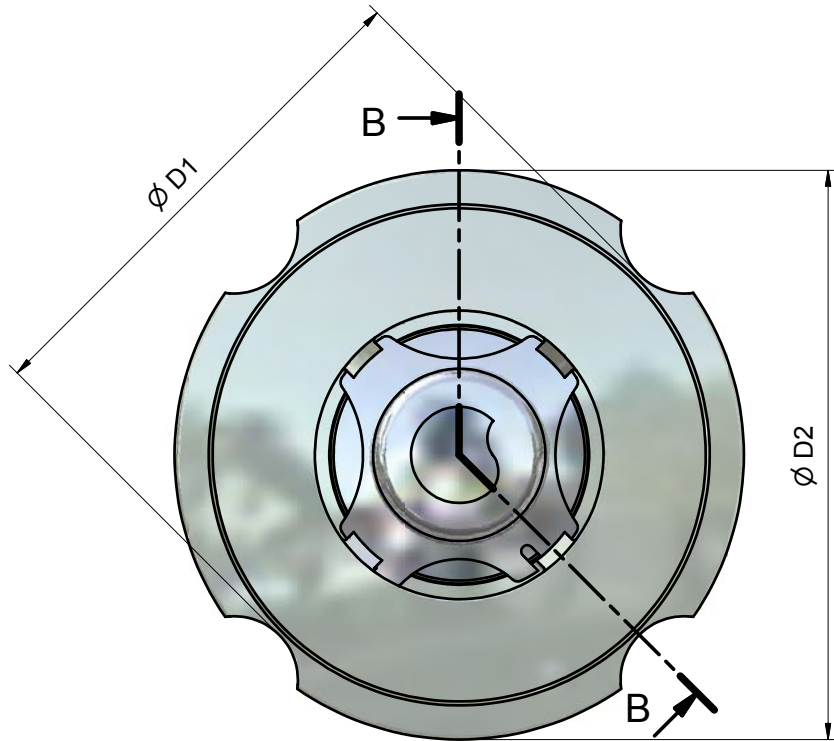
Pressure drop diagram for water at 20°C with opened valve and horizontal flow.
For calculating the pressure drop of the medium the equivalent water flow volume has to be calculated.

$$\dot{V}_w = \dot{V} \sqrt{\frac{\rho}{1000}}$$

- \dot{V}_w = Equivalent water flow volume in m³/h
- ρ = Density of the medium in kg/m³
- \dot{V} = Flow volume of the medium in m³/h (working condition)



B-B (1.50 : 1)



- Produkteinstufung gemäss DGRL 97/23/EG, Fluidgruppe 1
- Einbau mit Dichtung zwischen Flanschen nach DIN EN 1092-1, Form B1, PN 6-40 und ANSI B16.5 Class 150/ 300 RF
- Einsatzgrenzen nach DIN EN 1092-1 und AD-Merkblätter W10
- Dichtheit nach DIN 3230/3, BN2 und BO3
- Baulänge nach DIN EN 558-1, Grundreihe 49 (K4)
- Kennzeichnung nach DIN EN 19

- Product classification according to DGRL 97/23/EC
- Placement between flanges according to DIN EN 1092-1, Form B1, PN 6-40 and ANSI B16.5 Class 150/ 300 RF
- Operational limits according to DIN EN 1092-1 and AD-Merkblätter W10
- Tightness according to DIN 3230/3, BN2 und BO3
- Overall length according to DIN EN 558-1, line 49 (K4)
- Identification according to DIN EN 19

Size DN	DN	Ø d1	Ø d2	Ø D1, PN6, ANSI150	Ø D2, PN40, ANSI300	L
15	½"	15	26	44	51	16
20	¾"	20	31	54	61	19
25	1"	25	36	63.5	71	22
32	1 ¼"	32	44	73	79.5	28
40	1 ½"	39	51.5	82.5	92	31.5
50	2"	48	62	96	107	40
65	2 ½"	62	77.5	116	127	46
80	3"	72.5	92	132	142	50
100	4"	89	107	152	168	60

Stückliste				
POSI	ANZA	BAUTEILNUMM	BEZEICHNUNG	MAT
4	1	csdfe__-025	CSD-Spring	1.4401
3	1	csdfk__-025	CSD-Spring Holder	1.4401
2	1	csdvp__-025	CSD-Valve Plate DN 15-100	1.4404
1	1	csdge__-025	CSD-Body DN 15-100	1.4408

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ConVey-Schmid Armaturentechnik		Benennung		Zeichnungs-Nr.	
		Non Return Valve Type CSD, Kapitel/ Chapter 5		csd-__m-025.iam	





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

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 be seen in chapter 5 of the product file.



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:: Operating Instructions ::

:: Chapter 5 ::

:: Page 2 / 3 ::

:: Non Return Valves Type CSD :: I

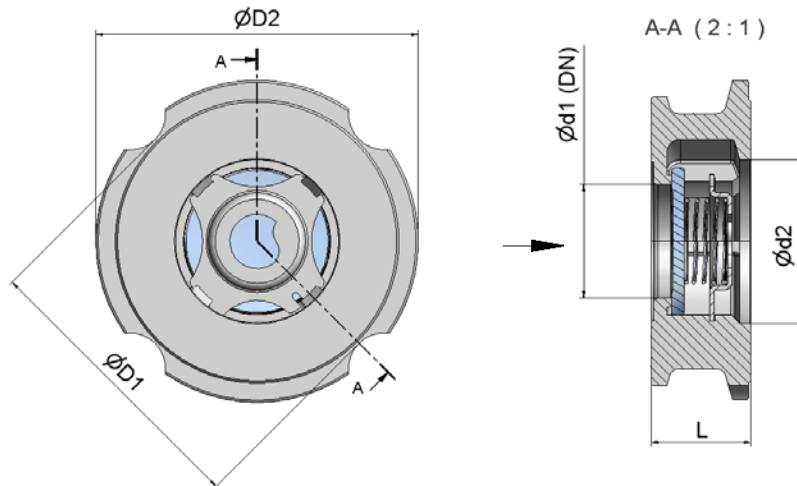
:: DN 15 - 100 :: I

:: PN 6 - 40 :: I

I

:: ASA 150/300 ::

Installation



Non return valve Type CSD for installation between flanges according to the drawings chapter 5

- 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.



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:: Operating Instructions :: Chapter 5 :: Page 3 / 3 ::

:: Non Return Valves Type CSD :: I :: DN 15 - 100 :: I :: PN 6 - 40 :: I :: ASA 150/300 ::

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
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Technical data Non Return Valve Type CSD-6464M- DN 15 – 100 (PN40, ANSI 300 LBS)

Application limits according to DIN EN 1092-1 and AD-Merkblätter W10

CSD-6464M-							
DN 15-100							
t (°C)	-200	RT	100	200	300	400	500
Ps (bar)	40	36.4	31.1	25.8	22.6	20.4	19.6

Applications limits for soft sealing

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