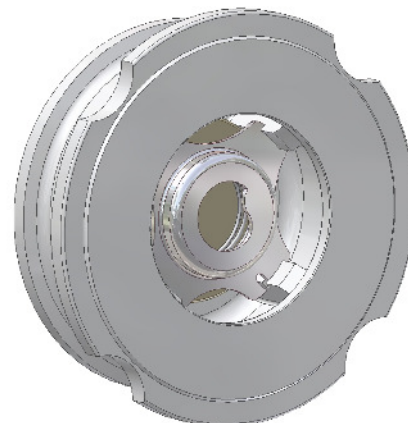




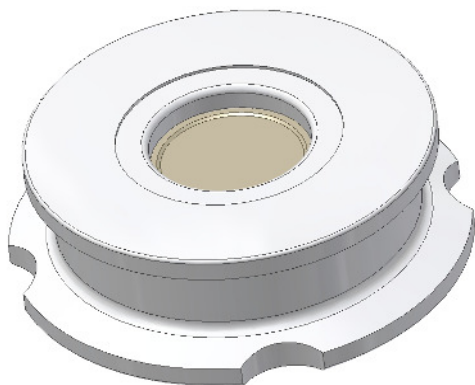
Non Return Valve Type CSD DN015 - 100

Designation	Material
Body	see table
Valve Plate	1.4404
Spring Cap	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
 Nominal pressure max. PN40
 Operational limits according to DIN EN 1092-1 and AD-Merkblätter W10
 Tightness according to DIN EN 12266-1, Leakage Rate D (Sealing M, T) and Leakage Rate A (Sealing E, P, V)
 Overall lengths according to DIN EN 558, line 49
 Standard spring applicable up to 300°C
 Identification according to DIN EN 19
 Packed in separate card board boxes



Utilisation

For liquids, gases and steams in all process technologies.
 Important: Must not used as a safety relief or vacuum valve!

Constructional Features

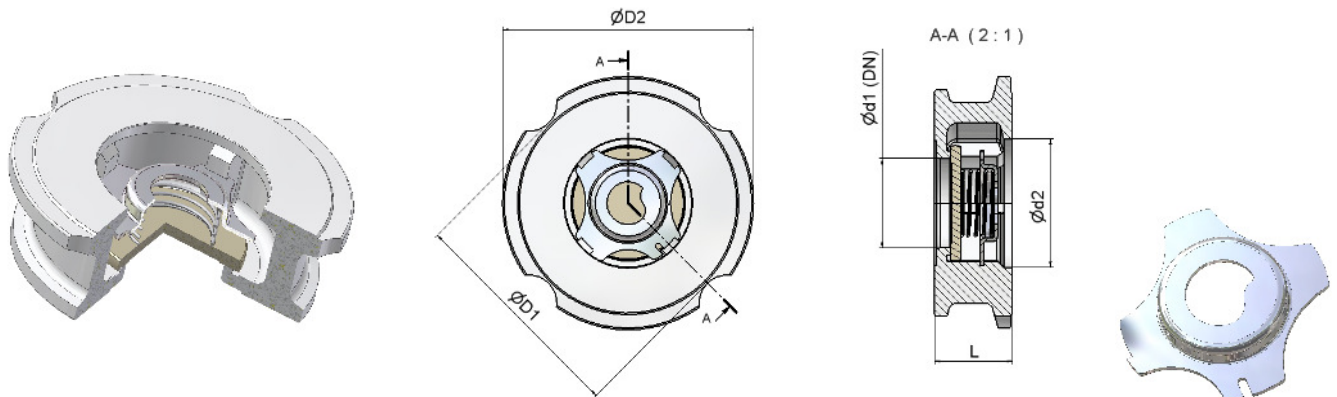
- Easy mounting and centering thanks to multiflangeable body design: PN6-40 and ANSI CL.150/300
- Wider sealing surface as a result of applying the newest casting technologies
- Long lifetime due to guided valve plate by casted body ribs
- Closed spring cap design for full safety

Special Types

- Hastelloy C4 springs (up to 400°C) and Nimonic (up to 500°C)
- Special springs for different opening pressures

Designation **CSD- 64 64 - M - 100**
 CSD- □□ - □□ - □ - □□□ → DN015 - 100

Body			Valve plate			Soft sealing		
Material	Nr.	Code	Material	Nr.	Code	Material	Temperatur	Code
Steel	1.0619	27	Austenit	1.4404	64	Metal-seated	-200 to 500°C	M
Austenit	1.4408	64				EPDM	-50 to 130°C	E
						NBR	-30 to 120°C	P
						VITON	-20 to 200°C	V
						PTFE	-200 to 200°C	T



DN (mm)	015	020	025	032	040	050	065	080	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	162/168
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)

po ↑	24	23	23	23	24	24	25	27	27
po →	20	20	20	20	20	20	20	20	20
po ↓	16	17	17	17	16	16	15	13	13

Opening pressures without spring (mbar)

po ↑	4	3	3	3	4	4	5	7	7
------	---	---	---	---	---	---	---	---	---

K_v-Value (m³/h)

	4	7	12	19	27	45	68	88	133
--	---	---	----	----	----	----	----	----	-----

If lowest opening pressures are necessary, the valves without spring can be installed in vertical directions with direction of flow from bottom to top.

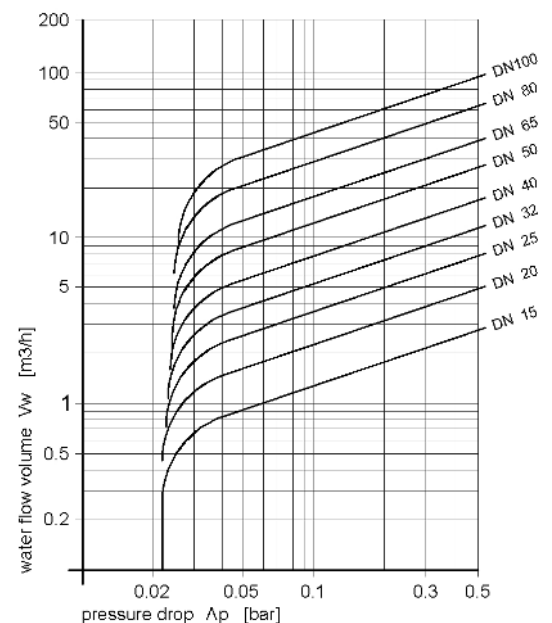
Pressure drop diagram

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.

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

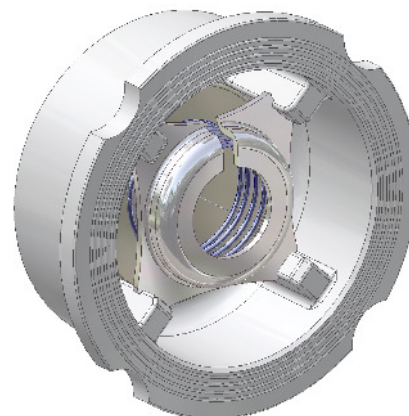
- \dot{V}_w = Equivalent water flow volume in m³/h
- ρ = Density of the medium in kg/m³ (in use)
- \dot{v} = Flow volume of the medium in m³/h (in use)





Non Return Valve Type CVD DN015 - 100

Designation	Material
Body	see table
Valve plate	see table
Spring cap	1.4401
Spring	1.4401
Soft sealing	see table



Technical specifications

Placement between flange according to DIN EN 1092-1, PN 6-40

Nominal pressure max. PN40

Overall lengths according to DIN EN 558, Gr. 49

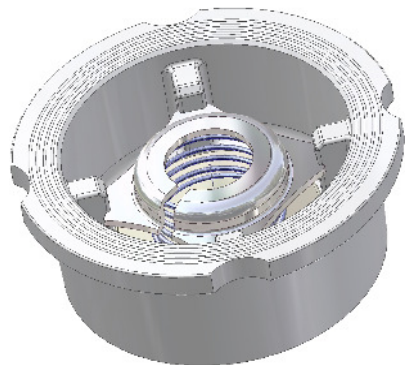
Tightness according to DIN EN 12266-1, Leakage Rate D (Sealing M, T) and Leakage Rate A (Sealing E, P, V)

Operational limits according to DIN EN 1092-1

Identification according to DIN EN 19

Standard spring applicable up to 300°C

Packed in separate card board boxes



Utilisation

For liquids, gases and steams in all process technology.

Important: Must not used as a safety relief or vacuum valve!

Constructional Features

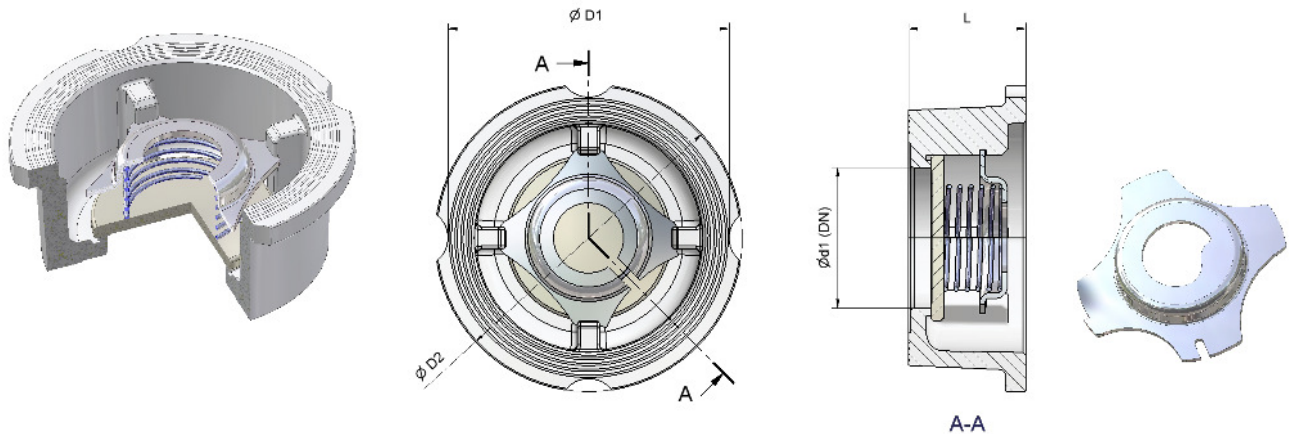
- Easy mounting and centering thanks to multiflangeable body design: PN6-40
- Wider sealing surface as a result of applying the newest casting technologies
- Long lifetime due to guided valve plate by casted body ribs
- Closed spring cap design for full safety

Special Types

- Hastelloy C4 springs (up to 400°C) and Nimonic (up to 500°C)
- Special springs for different opening pressures

Designation: CVD- 33 64 - M - 100
CVD- □□ - □□ - □ - □□□ → DN015 - 100

Body			Valve plate			Soft sealing		
Material	Nr.	Code	Material	Nr.	Code	Material	Temperatur	Code
Bronze	2.1050	33	Austenit	1.4404	64	Metal-seated	-200 up to 500°C	M
Austenit Mo-free	1.4301	65	Austenit Mo-free	1.4301	65	EPDM	-50 up to 130°C	E
Duplex Superduplex	1.4462 1.4410	67	Duplex Superduplex	1.4462 1.4410	67	NBR	-30 bis 120°C	P
Uranus	1.4539	68	Uranus	1.4539	68	VITON	-20 up to 200°C	V
Titanium	3.7035	90	Titanium	3.7035	90	PTFE	-200 up to 200°C	T
Hastelloy B	2.4600	94	Hastelloy B	2.4600	94			
Hastelloy C	2.4819	95	Hastelloy C	2.4819	95	Depending on pressure and medium		



DN (mm)	015	020	025	032	040	050	065	080	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	89
Ø D1	43	53	63	75	86	96	116	133	154
Ø D2	50	60	70	81	91	105	126	148	164/170
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)

p _o ↑	24	23	23	23	24	24	25	27	27
p _o →	20	20	20	20	20	20	20	20	20
p _o ↓	16	17	17	17	16	16	15	13	13

Opening pressures without spring (mbar)

p _o ↑	4	3	3	3	4	4	5	7	7
------------------	---	---	---	---	---	---	---	---	---

K_v-Value (m³/h)

	4	7	12	19	27	45	68	88	133
--	---	---	----	----	----	----	----	----	-----

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 diagramm

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 kg/m³ (in use)
- \dot{V} = Flow volume of the medium in m³/h (in use)

