



DUAL PLATE CHECK VALVES

SERIES
916

AWS
APPARATEBAU

GENERAL DESCRIPTION

DUAL PLATE CHECK VALVES



Description and intended purpose

AWS dual plate check valves impress with their simple design and short overall lengths (in accordance with DIN EN 558 series 16 or API 594). They also feature particularly high flow rates thanks to their low flow resistance. They can be installed directly between flanges (PN 10 - PN 40 or Class 150 - Class 600).

AWS dual plate check valves are maintenance-free.

Function

AWS dual plate check valves require only a low opening pressure. The resulting opening pressure and, if necessary, the weight of the plates (depending on the installation position), forces the plates against a spring, thus releasing the medium. If the inlet pressure drops or the outlet pressure exceeds the inlet pressure, the valve closes and seals against the medium by means of a vulcanised seal in the body or by means of the metal seat.

WHY CHOOSE AWS

DUAL PLATE CHECK VALVES?

IN BRIEF:

Many years of experience in the production of check valves

In-house assembly department with maximum flexibility and expertise

Advice and technical design via in-house design and engineering team

High availability ensuring short delivery times of standard articles

QUALITY AND TESTING AT AWS:

Own test benches for pressure and leak tests in accordance with EN 12266-1, API 598 and other common standards

Experience and routine in the preparation of works and acceptance test certificates in accordance with DIN EN 10204 (2.2, 3.1 or 3.2 certificate)

Regular auditing of processes and quality mechanisms by TÜV Süd, discerning customers and other external bodies

In-house spectral analyses for metallic materials

Additional quality assurance measures (external and internal), for example corrosion testing, dye penetrant testing, X-ray testing, preparation of QCPs, etc.

OVERVIEW MATRIX

DUAL PLATE CHECK VALVES

DESCRIPTION

	915		916	
	Standard design		Retainerless body	
NOMINAL SIZES	DN 50 – DN 900 2" - 36"		DN 50 – DN 600*1 2" - 24"*1	
FLANGE CONNECTION*2	PN 10 / PN 16 / PN 25 / PN 40 Class 150		PN 10 / PN 16 / PN 25 / PN 40 Class 150 / Class 300 / Class 600	
OTHER BODY DESIGNS	-		Lug type Flange type	
PRESSURE*3	FTF dimensions in accordance with DIN EN 558: max. 16 bar FTF dimensions in accordance with API 594: max. 20 bar		Different pressure ranges, up to max. 100 bar	
TEMPERATURE RANGES	-10 °C to +200 °C		-196 °C to +400 °C	
MATERIALS AVAILABLE*4	Ductile iron	x	-	-
	Carbon steel	-	x	x
	Stainless steel	x	x	x
	Duplex	x	x	x
	Aluminium bronze	x	-	-
SEALS AVAILABLE	NBR, EPDM, FKM		NBR, EPDM, FKM, metal	

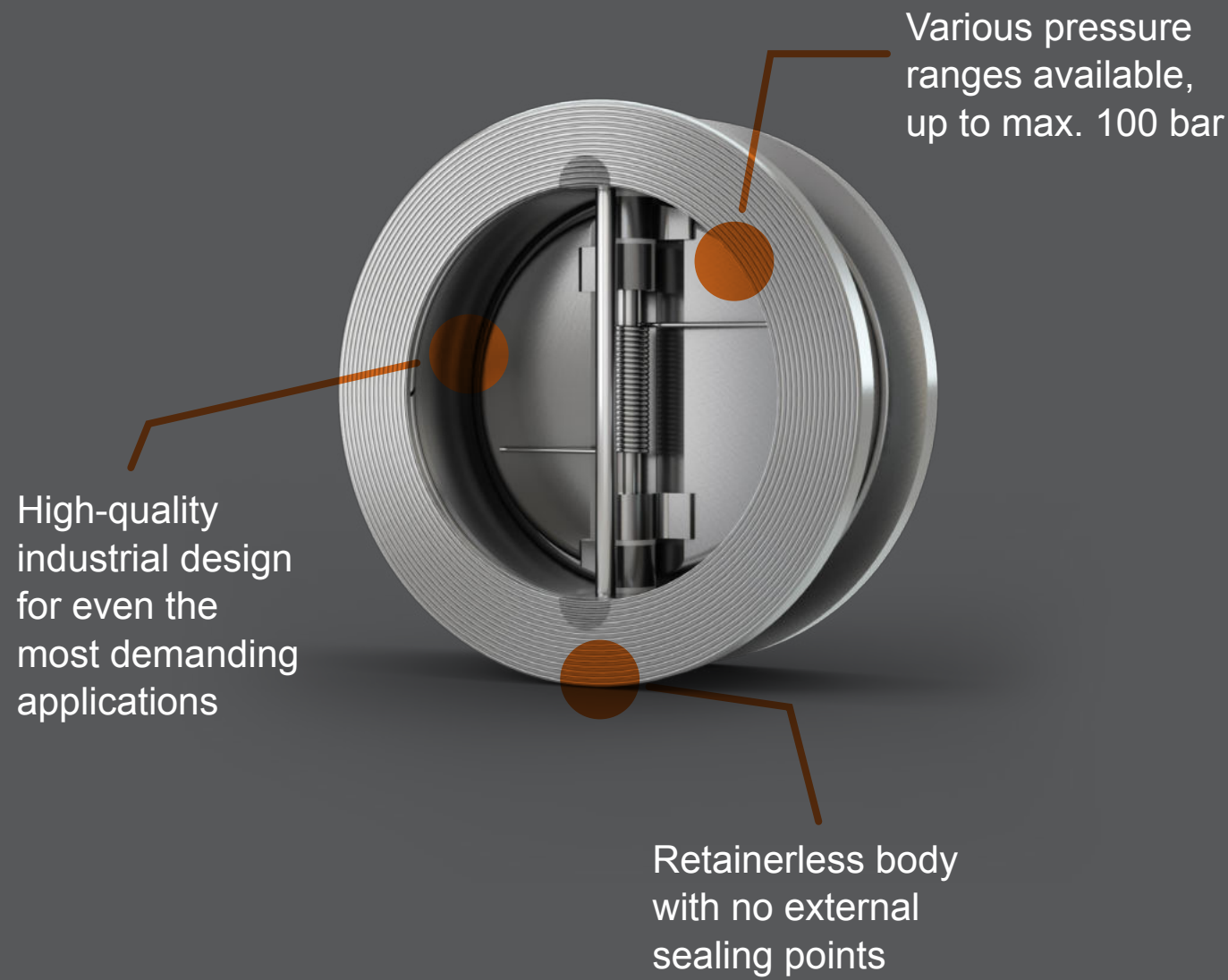
*1 larger nominal sizes on request *2 other flange connection dimensions on request *3 higher pressures on request *4 other materials on request

... AND BECAUSE WE KNOW

WHAT MATTERS IN YOUR INDUSTRY!



TECHNICAL DATA
DUAL PLATE CHECK VALVE | SERIES 916



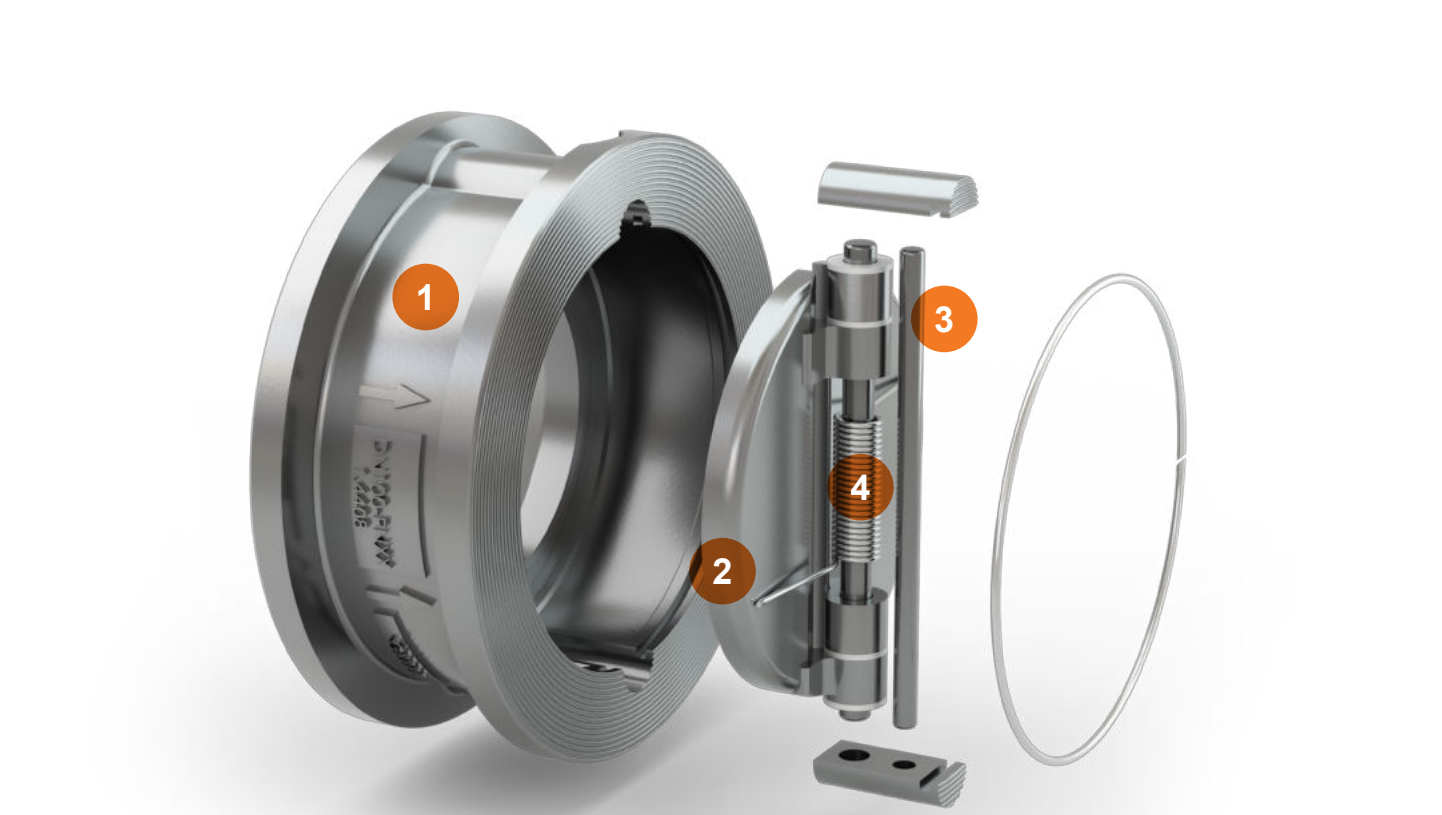
Nominal sizes
DN 50 - DN 600 | 2" - 24"

Flange connection
PN 10 - 40 | Class 150 - 600

FTF (face-to-face) dimensions
DIN EN 558, Series 16 | API 594

Temperature range
-196 °C to +400 °C

TECHNICAL DATA
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- 1. Body
- 2. Plates
- 3. Shafts
- 4. Spring

Design	Body	Plates	Shafts	Spring*1	Pressure range*2
4	1.4408 A351 CF8M	1.4408 A351 CF8M	1.4401 AISI 316	1.4401 AISI 316	PN 10 / 16: 0 to max. 16 bar*4 PN 25 / 40: 0 to max. 40 bar
5.1	1.0619*3 A216 WCB*3	1.4308 A351 CF8	1.4301 AISI 304	1.4401 AISI 316	Class 150: 0 to max. 20 bar Class 300: 0 to max. 50 bar
7	1.4469 A890 GR 5A	1.4469 A890 GR 5A	1.4410 A182 F53	Inconel X-750	Class 600: 0 to max. 100 bar

*1 for metal seated design: spring made of Inconel X-750

*2 max. allowable pressure is dependent on the temperature

*3 Epoxy-resin coated

*4 for DN 50 to DN 80: pressure range = 0 to max. 40 bar

Seal	Design	Temperature	Leakage rate*2
Metal seated	4	-196 °C to +400 °C	G
	5.1	-10 °C to +300 °C	
	7	-10 °C to +250 °C	
NBR*6,7	-	-25 °C to +90 °C	A
EPDM*6,7	-	-50 °C to +120 °C	A
FKM*6	-	-25 °C to +200 °C	A

*5 acc. to EN 12266-1

*6 low temperature limit for design 5.1 and 7: -10 °C

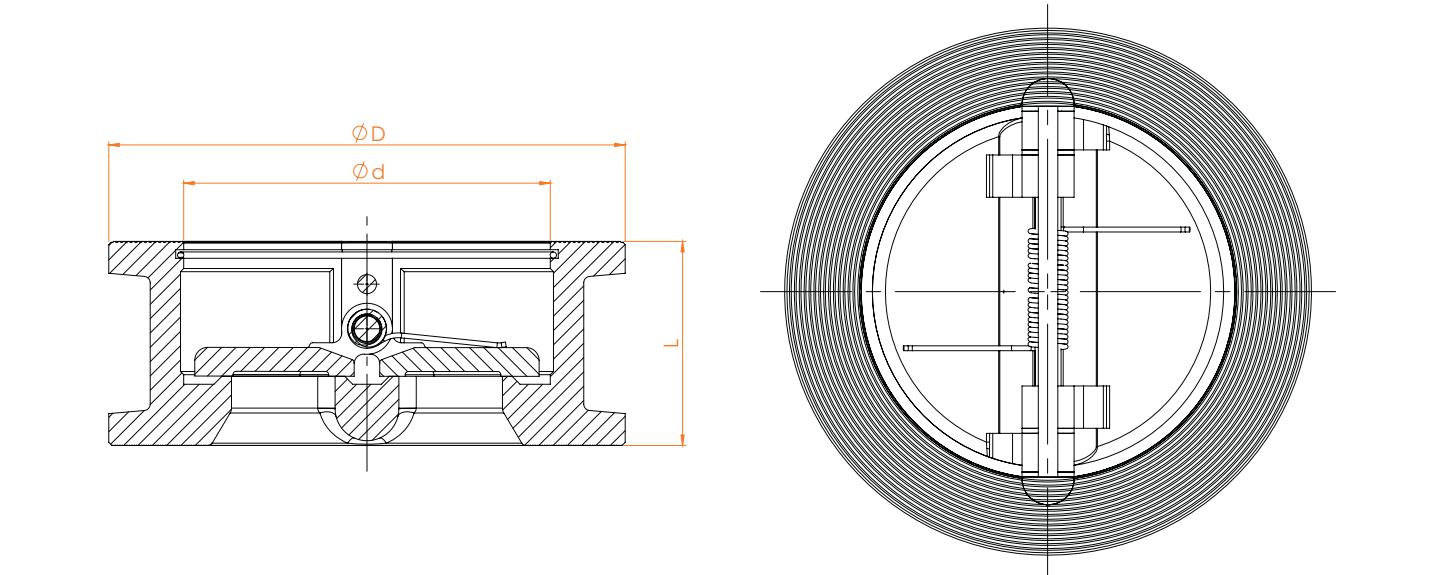
*7 seal with NSF® approval

Additional quality features:

- Approval in accordance with NSF for NBR and EPDM seal

TECHNICAL DATA

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Nominal size	Ø D				Ø d	L	Kv value	Opening pressure [mbar]			Weight*8
	PN 10	PN 16	PN 25	PN 40				↔	↑	↓	
						EN 558	[m³/h]				[kg]
DN 50	107				62	43	67	~ 12	~ 21	~ 2	2
DN 65	127				75	46	107	~ 11	~ 17	~ 3	3
DN 80	142				90	64	148	~ 11	~ 21	~ 1	4
DN 100	162		168		115	64	246	~ 8	~ 20	-	5
DN 125	192		194		141	70	509	~ 8	~ 16	-	8
DN 150	218		224		170	76	807	~ 10	~ 20	-	12
DN 200	273		284		219	89	1454	~ 9	~ 19	-	17
DN 250	328		340		272	114	2348	~ 5	~ 17 (19)*9	-	28
DN 300	378		400		322	114	3760	~ 5	~ 18 (20)*9	-	36
DN 350	438		457		356	127	5003	~ 5	~ 17 (20)*9	-	53
DN 400	489		514		406	140	6585	~ 6	~ 20 (22)*9	-	77
DN 450	539		564		457	152	9456	~ 6	~ 20 (25)*9	-	98
DN 500	594		624		508	152	12468	~ 6	~ 22 (27)*9	-	124
DN 600	695		731		610	178	20322	~ 6	~ 24 (29)*9	-	192

*8 weight refers to valve suitable for PN 10/16 flanges and may vary slightly, depending on the design *9 value in brackets: opening pressure for PN 25/40

Nominal size		Ø D			Ø d	L			Kv value	Opening pressure [mbar]*10			Weight*11
Inch	mm	Class 150	Class 300	Class 600		Class 150	Class 300	Class 600		↔	↑	↓	
									[m³/h]				[kg]
2"	50	105	111		62	60			57	~ 12	~ 34	~ 2	3
2 1/2"	65	124	130		75	67			88	~ 11	~ 33	~ 3	4
3"	80	137	149		90	73			139	~ 13	~ 42	~ 1	6
4"	100	175	181	194	115	73		79	231	~ 11	~ 39	-	8
5"	125	197	216	241	141	86		105	459	~ 9	~ 31	-	10
6"	150	222	251	267	170	98		137	711	~ 6	~ 29	-	16
8"	200	279	308	321	219	127		165	1217	~ 7	~ 34	-	32
10"	250	340	362	400	272	146		213	2075	~ 5	~ 31	-	47
12"	300	410	422	457	322	181		229	2984	~ 7	~ 37	-	84
14"	350	451	486	492	356	184	222	273	4156	~ 6	~ 30	-	97
16"	400	514	540	565	406	191	232	305	5178	~ 6	~ 35	-	159
18"	450	549	597	613	457	203	264	362	7852	~ 5	~ 33	-	185
20"	500	606	654	683	508	219	292	368	9969	~ 3	~ 32	-	234
24"	600	718	775	791	610	222	318	438	16138	~ 4	~ 42	-	394

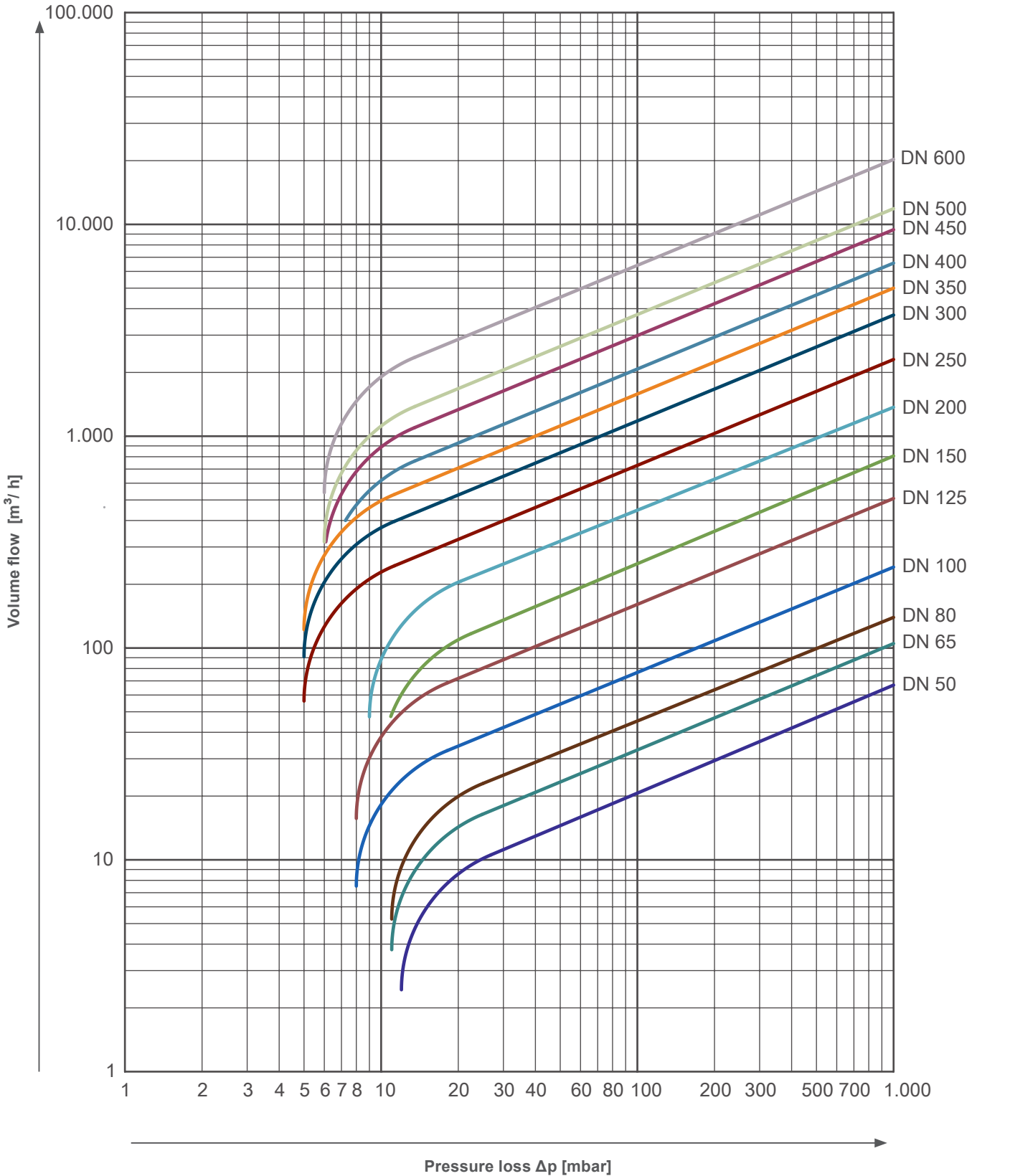
*10 opening pressure applies to Class 150 *11 weight refers to valve suitable for Class 150 flanges and may vary slightly, depending on the design

TECHNICAL DATA

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Pressure-Loss Diagram Type 916

The diagram values are valid for water at a temperature of 20 °C and for valves with face-to-face dimensions in accordance with DIN EN 558, suitable for flanges in accordance with PN 10 – PN 40. At the opening of the valve, the curves apply to operation in horizontal pipelines. For calculations for other fluids or temperatures, please contact us.



SPECIAL OPTIONS

DUAL PLATE CHECK VALVES

With our many years of experience, and our understanding of the demands of the market and the constantly rising expectations of our customers, we always strive to develop and implement solutions that go well beyond the standard. Here are just a few examples of special designs that we have created either in-house, based on our standard models, or with the help of our long-standing pool of partners. Here we adhere to the criteria of technical and economic feasibility combined with a healthy dose of pragmatism.



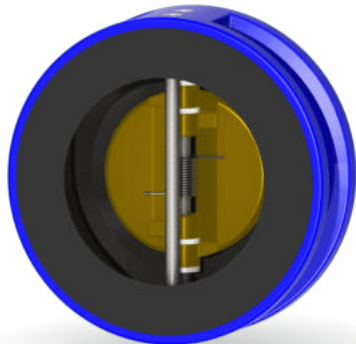
Other body designs
Lug type



Flange type



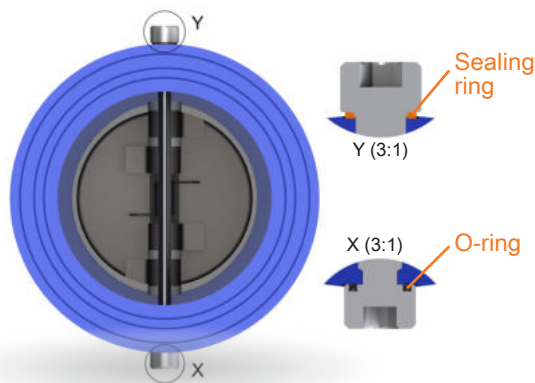
Flange centering ring
for special flange dimensions



Rubberlined
body
for increased
corrosion
resistance



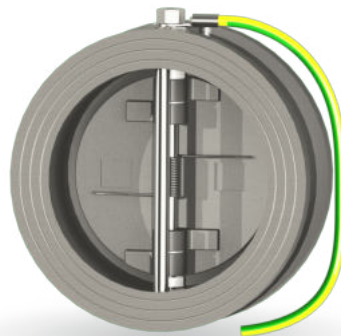
Spacer ring
for special FTF
dimensions and
flange sealing
surfaces



Screw seal
Sealing ring, O-ring

Other special options:

- Reduced opening pressure
- Cleaned free of oil and grease
- Cleaned free of silicone (type 916)
- Outer diameter suitable for JIS flanges
- Optimized seal for higher seat tightness at low back pressure (Type 915)
- Other materials on request
- Larger nominal sizes on request
- Higher pressures on request
- Other special options on request



With attached
ground cable



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