



# DUAL PLATE CHECK VALVES

**SERIES**  
915 | 916

**AWS**  
APPARATEBAU

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#### **Publisher**

AWS Apparatebau Arnold GmbH  
Zimmerbachstraße 51  
74676 Niedernhall - Waldzimmern

Tel.: +49 (0)7940 9308-200  
info@aws-apparatebau.de  
www.aws-apparatebau.de

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# 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
	<b>Standard design</b>	<b>Retainerless body</b>
<b>NOMINAL SIZES</b>	DN 50 – DN 900 2" - 36"	DN 50 – DN 600*1 2" - 24"*1
<b>FLANGE CONNECTION*2</b>	PN 10 / PN 16 / PN 25 / PN 40 Class 150	PN 10 / PN 16 / PN 25 / PN 40 Class 150 / Class 300 / Class 600
<b>OTHER BODY DESIGNS</b>	-	Lug type Flange type
<b>PRESSURE*3</b>	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
<b>TEMPERATURE RANGES</b>	-10 °C to +200 °C	-196 °C to +400 °C
<b>MATERIALS AVAILABLE*4</b>	Ductile iron	x
	Carbon steel	-
	Stainless steel	x
	Duplex	x
	Aluminium bronze	x
<b>SEALS AVAILABLE</b>	NBR, EPDM, FKM	NBR, EPDM, FKM, metal

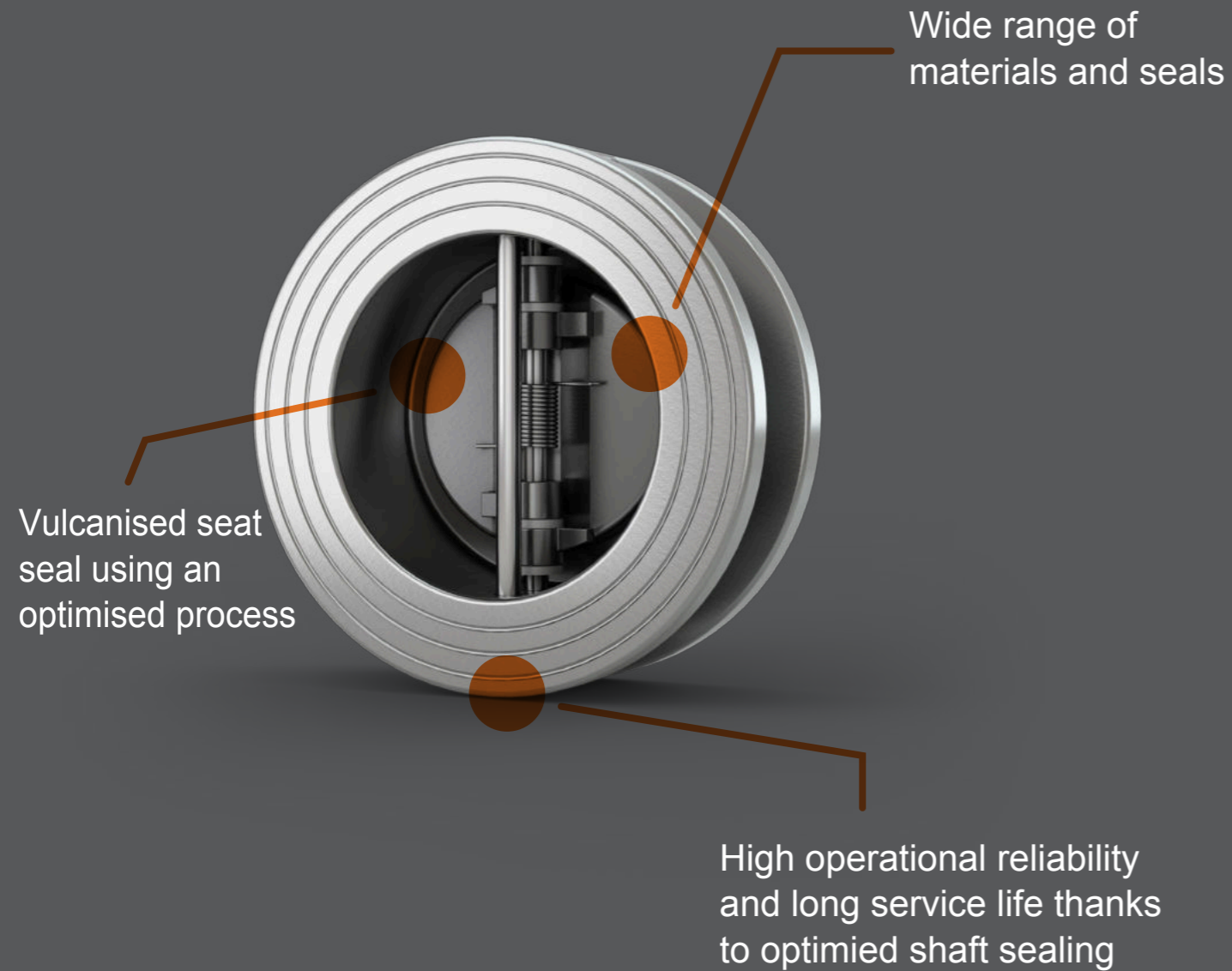
\*1 larger nominal sizes on request \*2 other flange connection dimensions on request \*3 higher pressures on request \*4 other materials on request

# ... AND BECAUSE WE KNOW WHAT MATTERS IN YOUR INDUSTRY!



## TECHNICAL DATA

### DUAL PLATE CHECK VALVE | SERIES 915



#### Nominal sizes

DN 50 - 900 | 2" - 36"

#### Flange connection

PN 10 - 40 | Class 150

#### FTF (face-to-face) dimensions

DIN EN 558, Series 16 | API 594

#### Temperature range

-10 °C to +200 °C

## TECHNICAL DATA

### DUAL PLATE CHECK VALVE | SERIES 915



1. Body

2. Plates

3. Shafts

4. Spring

Design	Body	Plates	Shafts	Spring	Pressure range* <sup>1</sup>	Seal	Temperature	Leakage rate* <sup>4</sup>
1	EN-GJS-400-15* <sup>2</sup>	EN-GJS-400-15* <sup>3</sup>	1.4401	1.4571	FTF acc. to DIN EN 558: DN 50 - DN 250: 0 to max. 16 bar DN 300 - DN 900: 0 to max. 10 bar	NBR	-10 °C to +90 °C	A
2	EN-GJS-400-15* <sup>2</sup>	Aluminium bronze	1.4401	1.4571		EPDM* <sup>5</sup>	-10 °C to +120 °C	A
3	EN-GJS-400-15* <sup>2</sup>	1.4408	1.4401	1.4571	FTF acc. to API 594: 0 to max. 20 bar	FKM	-10 °C to +200 °C	A
4	1.4408	1.4408	1.4401	1.4571				
6	Aluminium bronze	Aluminium bronze	Aluminium bronze	Inconel 600				
7	1.4469	1.4469	Inconel 600	Inconel 600				

\*<sup>1</sup> max. allowable pressure is dependent on the temperature

\*<sup>2</sup> Epoxy-resin coated, with DVGW approval for coating

\*<sup>3</sup> nickel-plated

\*<sup>4</sup> acc. to EN 12266-1 / in order to achieve the specified leakage rate, a back pressure of at least 1 bar is required

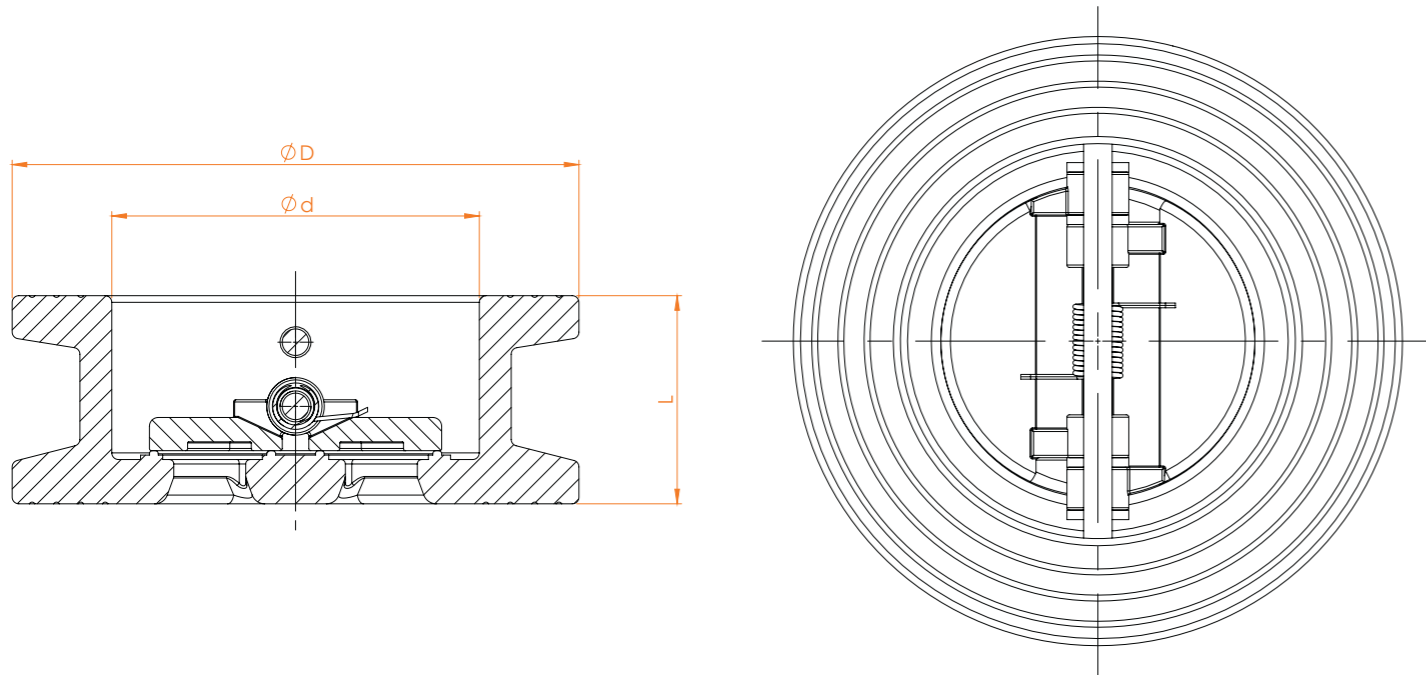
\*<sup>5</sup> approval for drinking water up to +85 °C in accordance with WRAS

#### Additional quality features:

- Approval for drinking water in accordance with WRAS for EPDM seal
- DVGW approval for epoxy coating (design 1 - 3)

# TECHNICAL DATA

## DUAL PLATE CHECK VALVE | SERIES 915



Nominal size	Ø D*6					Ø d	L		Kv value [m³/h]	Opening pressure [mbar]			Weight *7 [kg]
	PN 10	PN 16	PN 25	PN 40	Class 150		EN 558	API 594		↔	↑	↓	
DN 50	2"	107			101	70,5	43	60	63	~ 15	~ 20	~ 10	1,5
DN 65	2 1/2"	127			121	80	46	67	109	~ 15	~ 20	~ 10	2,3
DN 80	3"	142			134	98	64	73	172	~ 15	~ 20	~ 10	3,6
DN 100	4"	162	170		171	117	64	73	289	~ 15	~ 20	~ 10	4,4
DN 125	5"	192			192 (193)*8	145	70	83	476	~ 15	~ 20	~ 10	6,0
DN 150	6"	218	226		218 (219)*8	172	76	98	750	~ 15	~ 20	~ 10	8,6
DN 200	8"	273	285		273 (276)*8	221	89	127	1330	~ 15	~ 20	~ 10	15
DN 250	10"	328	345		340 (336)*8	275,5	114	146	2080	~ 15	~ 20	-	24
DN 300	12"	378	383	404	406	325,5	114	181	3676	~ 15	~ 20	-	35
DN 350	14"	438	444	458	448	361	127	184	5274	~ 15	~ 20	-	58
DN 400	16"	489	495	516	514 (511)*8	412	140	191	7306	~ 15	~ 30	-	75
DN 450	18"	539	555	566	546	468	152	203	9246	~ 15	~ 30	-	98
DN 500	20"	594	617	626	603	515	152	219	11410	~ 15	~ 30	-	125
DN 600	24"	695	734	734	-	714	178	222	17570	~ 15	~ 30	-	170
DN 700	28"	807	802	-	-	828	229	-	23920	~ 15	~ 40	-	250
DN 800	32"	917	912	-	-	936	241	-	31250	~ 15	~ 40	-	366
DN 900	36"	1016	1012	-	-	1044*9	241	368*9	39540	~ 15	~ 40	-	513

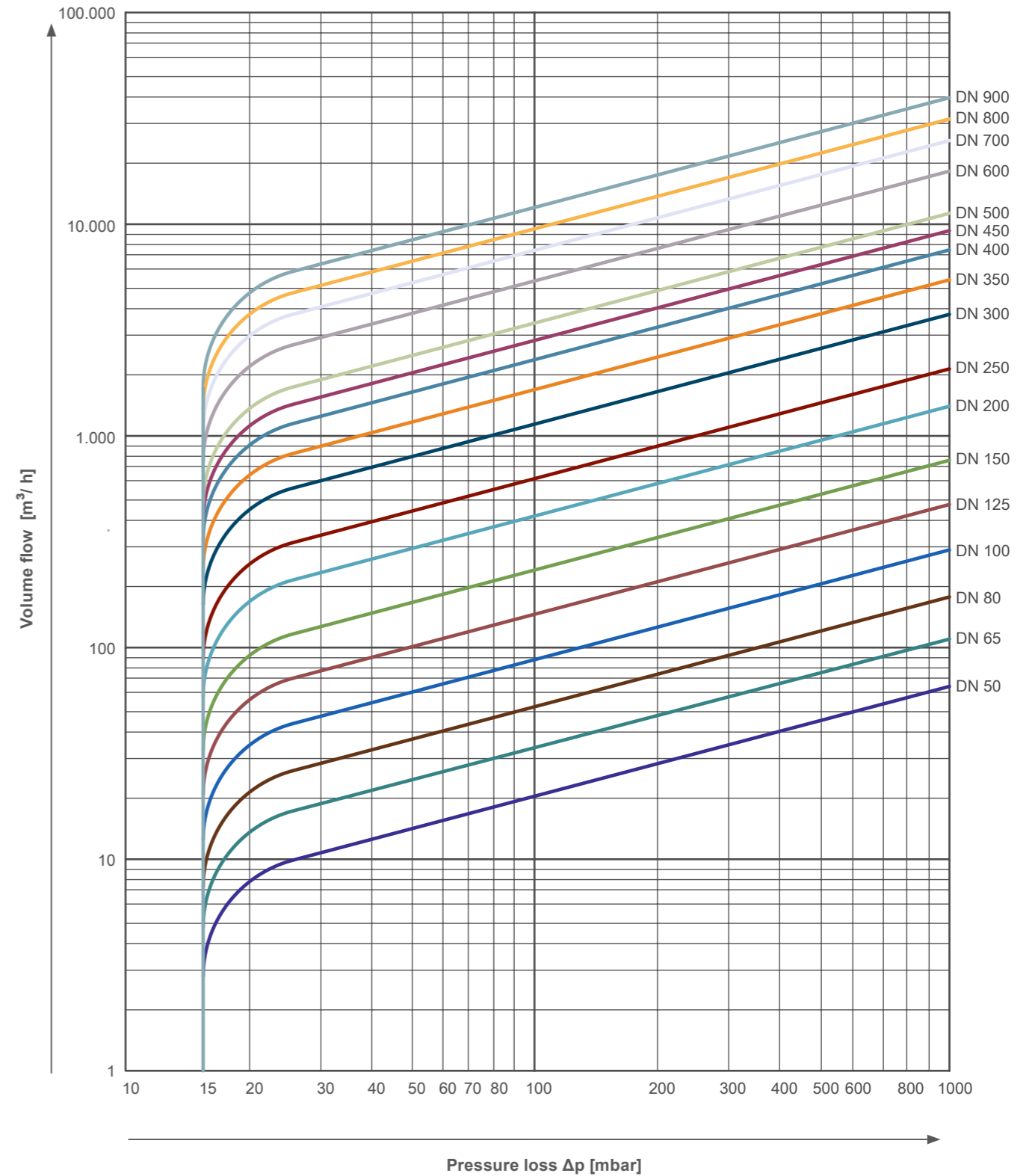
\*6 flange centering rings can be used to achieve the flange connection dimensions  
 \*7 weight refers to valve suitable for PN 10 flanges and may vary slightly, depending on the design  
 \*8 value in brackets: dimension for valve with FTF dimension in accordance with API 594  
 \*9 DN 900 with flange connection dimension and FTF dimension in accordance with Class 125

# TECHNICAL DATA

## DUAL PLATE CHECK VALVE | SERIES 915

### Pressure-Loss Diagram Type 915

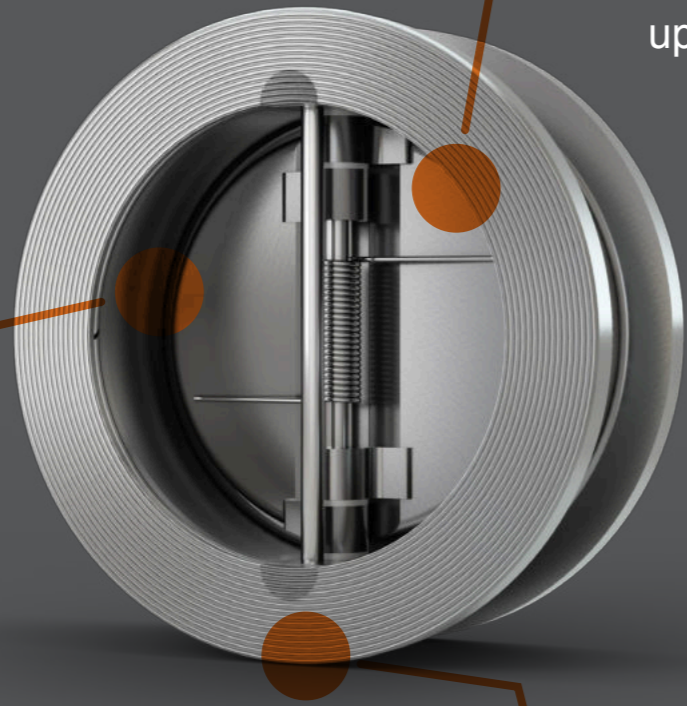
The diagram figures apply to water at a temperature of 20 °C. At the opening of the valve, the curves apply to operation in horizontal pipelines. For calculations for other fluids or temperatures, please contact us.



## TECHNICAL DATA

### DUAL PLATE CHECK VALVE | SERIES 916

High-quality industrial design for even the most demanding applications



Various pressure ranges available, up to max. 100 bar

Retainerless body with no external sealing points



#### Nominal sizes

DN 50 - DN 600 | 2" - 24"

#### Flange connection

PN 10 - 40 | Class 150 - 600

#### FTF (face-to-face) dimensions

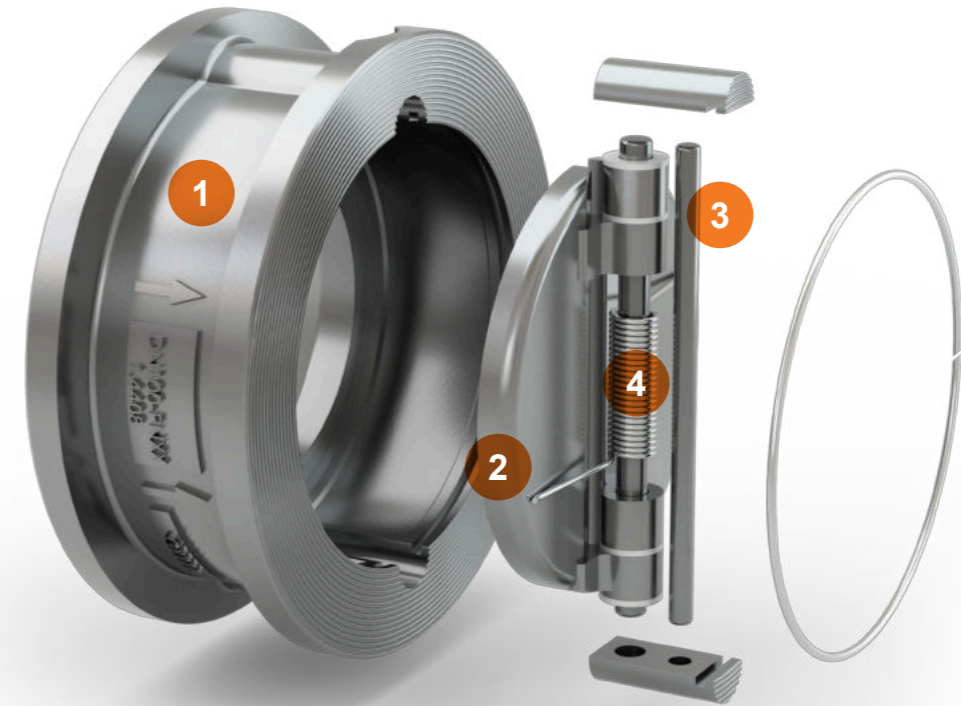
DIN EN 558, Series 16 | API 594

#### Temperature range

-196 °C to +400 °C

## TECHNICAL DATA

### DUAL PLATE CHECK VALVE | SERIES 916



1. Body

2. Plates

3. Shafts

4. Spring

Design	Body	Plates	Shafts	Spring* <sup>1</sup>	Pressure range* <sup>2</sup>
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* <sup>4</sup> PN 25 / 40: 0 to max. 40 bar
5.1	1.0619* <sup>3</sup> A216 WCB* <sup>3</sup>	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

\*<sup>1</sup> for metal seated design: spring made of Inconel X-750

\*<sup>2</sup> max. allowable pressure is dependent on the temperature

\*<sup>3</sup> Epoxy-resin coated

\*<sup>4</sup> for DN 50 to DN 80: pressure range = 0 to max. 40 bar

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

\*<sup>5</sup> acc. to EN 12266-1

\*<sup>6</sup> low temperature limit for design 5.1 and 7: -10 °C

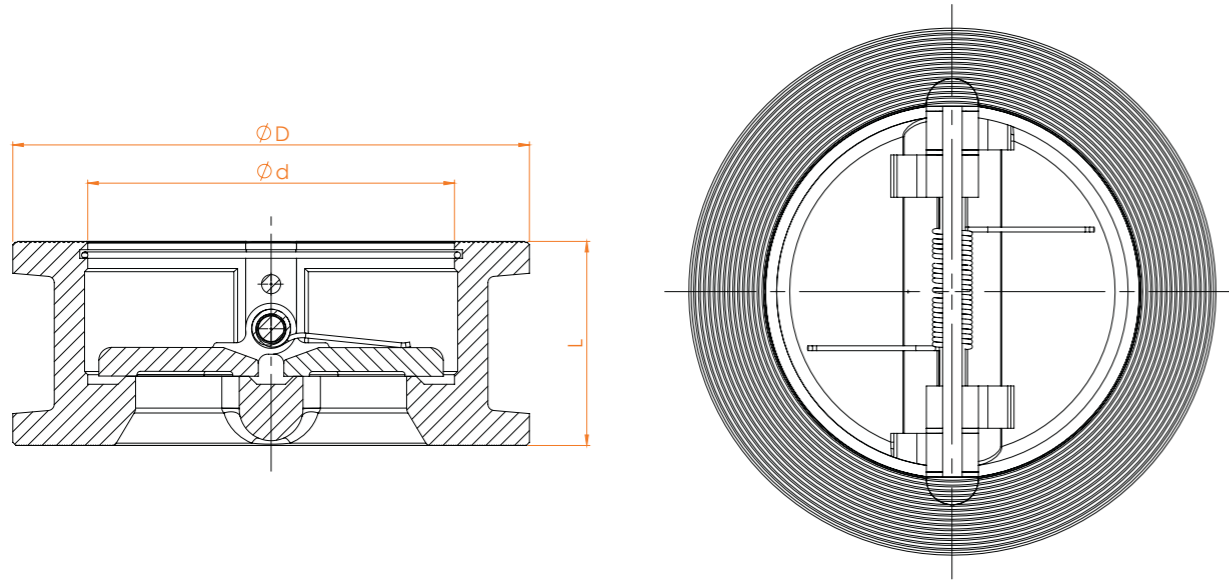
\*<sup>7</sup> seal with NSF® approval

#### Additional quality features:

- Approval in accordance with NSF for NBR and EPDM seal

# TECHNICAL DATA

## DUAL PLATE CHECK VALVE | SERIES 916



Nominal size	Ø D				Ø d	L	Kv value [m³/h]	Opening pressure [mbar]			Weight*8 [kg]
	PN 10	PN 16	PN 25	PN 40				←→	↑	↓	
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 [m³/h]	Opening pressure [mbar]*10			Weight*11 [kg]
Inch	mm	Class 150	Class 300	Class 600		Class 150	Class 300	Class 600		←→	↑	↓	
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			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

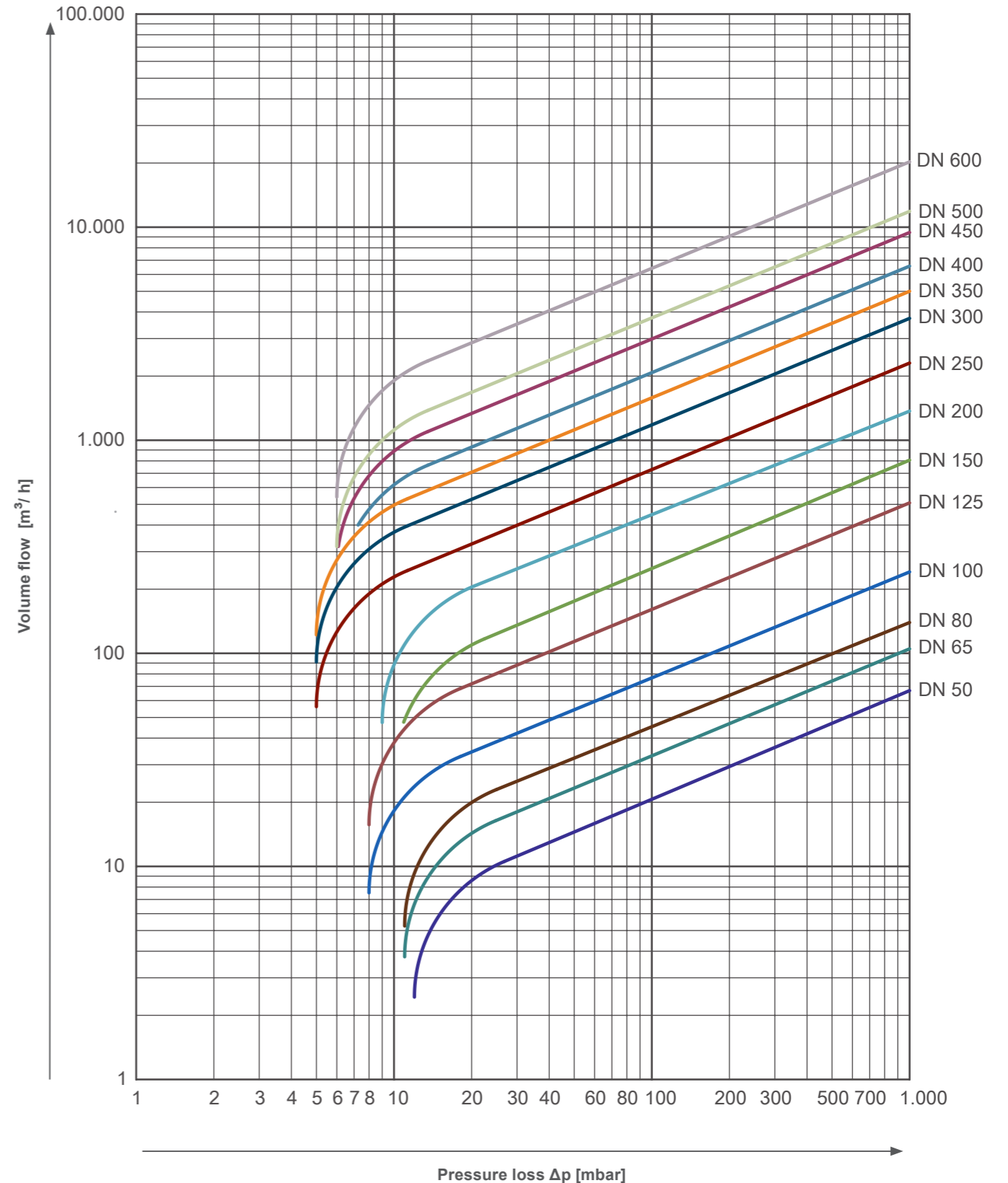
\*10 opening pressure applies to Class 150 \*11 weight refers to valve suitable for Class 150 flanges and may vary slightly, depending on the design

# TECHNICAL DATA

## DUAL PLATE CHECK VALVE | SERIES 916

### Pressure-Loss Diagram Type 916

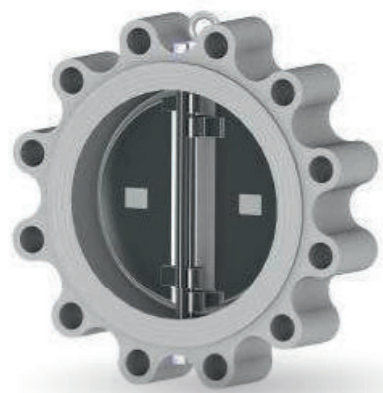
The diagram values are valid for water at a temperature of 20 °C and for valves with face-to-face dimensions in accordance with DIN EN 558, suitable for flanges in accordance with PN 10 – PN 40. At the opening of the valve, the curves apply to operation in horizontal pipelines. For calculations for other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



# SPECIAL OPTIONS

## DUAL PLATE CHECK VALVES

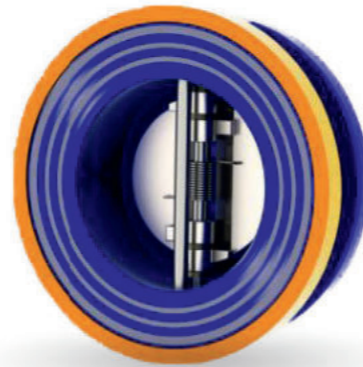
With our many years of experience, and our understanding of the demands of the market and the constantly rising expectations of our customers, we always strive to develop and implement solutions that go well beyond the standard. Here are just a few examples of special designs that we have created either 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.



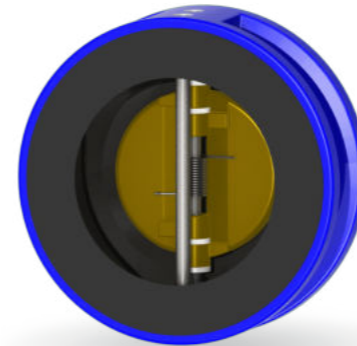
**Other body designs**  
Lug type



Flange type



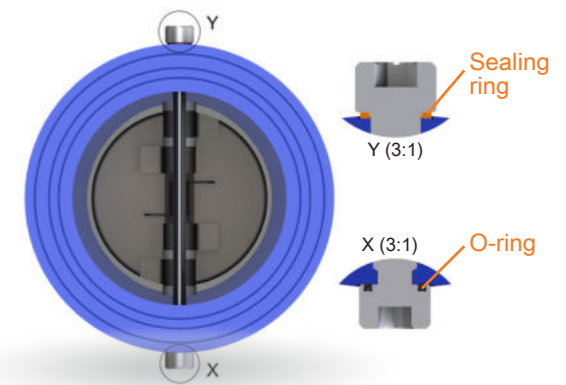
**Flange centering ring**  
for special flange dimensions



**Rubberlined body**  
for increased corrosion resistance



**Spacer ring**  
for special FTF dimensions and flange sealing surfaces

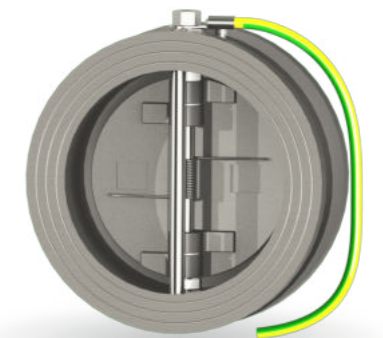


**Screw seal**  
Sealing ring, O-ring

**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**



# TYPE CODE

## DUAL PLATE CHECK VALVES

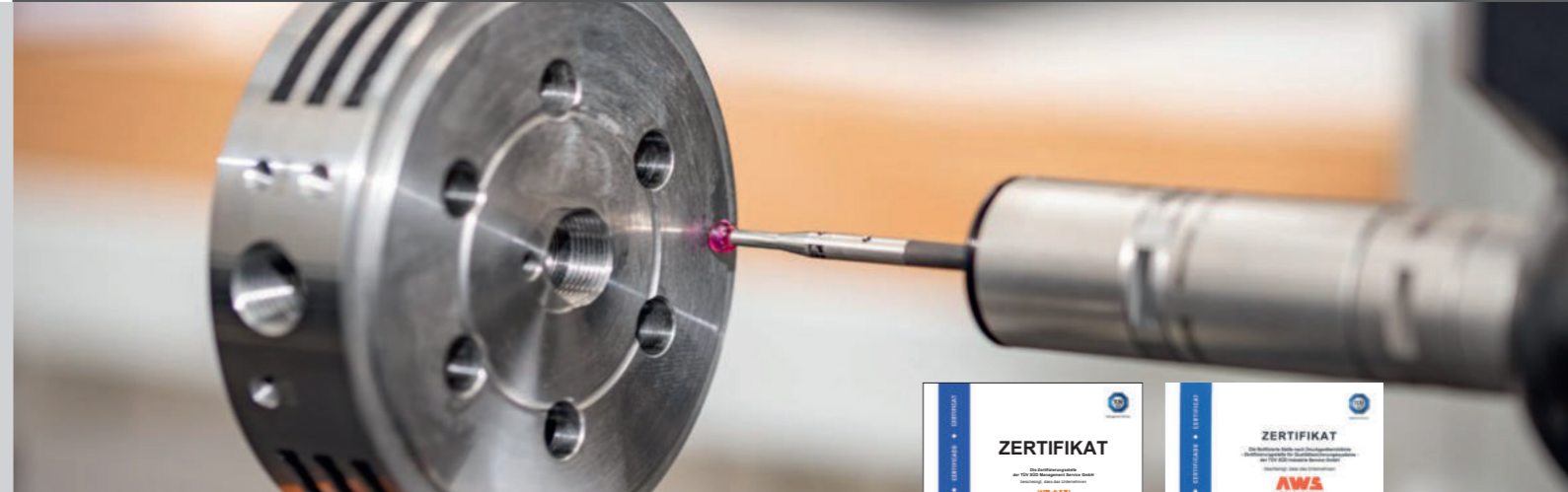
# QUALITY

## AT AWS



**Order example** **DF-RSK 915 / 100 / 1 / N / F1**

Type of valve	Dual Plate Check Valve
Type	915
Nominal size	DN 100
Body / Plates	EN-GJS-400-15
Seal	NBR
Spring	Stainless steel 1.4571 (F1)



Type	DN		Material					Seal
	Nominal size	Design	Body	Plates	Shafts	Spring		
915	50 - 900	1	EN-GJS-400-15*1	EN-GJS-400-15*2	1.4401	1.4571 (F1)	NBR (N) EPDM (E) FKM (F)	
		2	EN-GJS-400-15*1	Aluminium bronze	1.4401	1.4571 (F1)		
		3	EN-GJS-400-15*1	1.4408	1.4401	1.4571 (F1)		
		4	1.4408	1.4408	1.4401	1.4571 (F1)		
		6	Aluminium bronze	Aluminium bronze	Aluminium bronze	Inconel 600 (F4)		
		7	1.4469	1.4469	Inconel 600	Inconel 600 (F4)		

Type	DN		Material					Seal
	Nominal size	Design	Body	Plates	Shafts	Spring		
916	40 - 600	4	1.4408	1.4408	1.4401	1.4401 (F1)*3	Metal seated (M)	
		5.1	1.0619*1	1.4308	1.4301	1.4401 (F1)*3	NBR (N) EPDM (E)	
		7	1.4469	1.4469	1.4410	Inconel X-750 (F9)	FKM (F)	

\*1 Epoxy-resin coated

\*2 nickel-plated

\*3 for metal seated design: spring made of Inconel X-750

### Certified

Our more than 40-year company history is characterised by our constant striving for the highest quality. As a modern and future-oriented group of companies, we have further optimised our flexible response to changing market conditions and customer requirements by introducing and applying a comprehensive quality management system.

For many years now, we have been certified in accordance with ISO 9001 and – in the field of valves – also in accordance with the Pressure Equipment Directive 2014/68/EU. Systematic quality checks are conducted throughout the entire process chain, from the receipt of the goods to the delivery of the products. Not least during the final inspection, state-of-the-art measuring methods (including 3D measuring machines and surface measuring devices for roughness, waviness and profile measurement) as well as pressure, tightness and vacuum tests both ensure and document that the required quality has been achieved.

# AWS PRODUCT OVERVIEW

EVERYTHING FROM A SINGLE SOURCE!



AWS Apparatebau has a wide and advanced product range. With many decades of experience as a manufacturer of check valves and in the field of valve technology, we are able to provide you with solutions for a variety of applications.

Industries that rely on our products include:

- Building technology
- Shipbuilding
- Chemistry and refining
- Water, waste water, water treatment, desalination
- Food and beverage industry
- Vacuum technology
- Aviation industry





AWS Apparatebau Arnold GmbH  
Zimmerbachstraße 51  
74676 Niedernhall - Waldzimmern  
Tel.: +49 (0)7940 9308-200  
info@aws-apparatebau.de  
www.aws-apparatebau.de