SWING CHECK VALVES
WAFER TYPE

SERIES
920

AWS
APPARATEBAU

GENERAL DESCRIPTION
SWING CHECK VALVES WAFER TYPE

Description and intended purpose

AWS swing check valves wafer type are characterized by their simple and robust design. A key feature is their particularly narrow FTF length - a major advantage compared to other designs in many installation situations in piping systems in industrial and building services. They can be installed directly between flanges (PN 6 - PN 40 or Class 150 - Class 300).

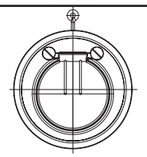
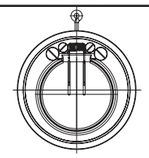
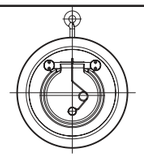
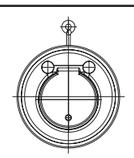
AWS swing check valves wafer type are maintenance-free.

Function

AWS swing check valves wafer type require a low opening pressure. The resulting opening force pushes the disc against its self-weight and, if necessary, also an additional spring, so that the medium can flow. If the inlet pressure drops or if the backpressure exceeds the inlet pressure, the valve closes and seals against the medium by means of the soft seat or the metal seat.

OVERVIEW MATRIX
SWING CHECK VALVES WAFER TYPE

DESCRIPTION

		ZRK	ZRKF	920	925.1
					
NOMINAL SIZES[*1]		DN 32 - DN 1000	DN 32 - DN 400	DN 32 - DN 600	DN 50 - DN 200
FLANGE CONNECTION[*2]		PN 6 / PN 10 / PN 16 / PN 25 / PN 40 Class 150 / Class 300 JIS 10K	PN 6 / PN 10 / PN 16 / PN 25 / PN 40 Class 150 / Class 300 JIS 10K	PN 6 / PN 10 Class 150 JIS 10K	PN 10
MAX. PRESSURE		16 to 50 bar[*3]	16 to 50 bar[*3]	10 bar	6 bar
TEMPERATURE RANGES		-273 °C to +500 °C	-200 °C to +450 °C	-20 °C to +120 °C	0 °C to +50 °C
MATERIALS AVAILABLE[*5]	Steel	x	x	-	-
	Stanless steel	x	x	-	-
	Alu-Bronze	x	x	-	-
	Superduplex	x	x	-	-
	PVC	-	-	x	x
	PP	-	-	x	-
	PVDF	-	-	x	-
SEALS AVAILABLE		Metal, NBR, EPDM, FKM, PTFE	Metal, NBR, EPDM, FKM, PTFE	NBR, EPDM, FKM, PTFE	EPDM

[*1] other nominal sizes on request
[*2] other flange connections on request
[*3] depending on nominal size and design
[*4] other materials on request

WHY CHOOSE AWS
SWING CHECK VALVES WAFER TYPE?

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.

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

HVAC

Shipbuilding

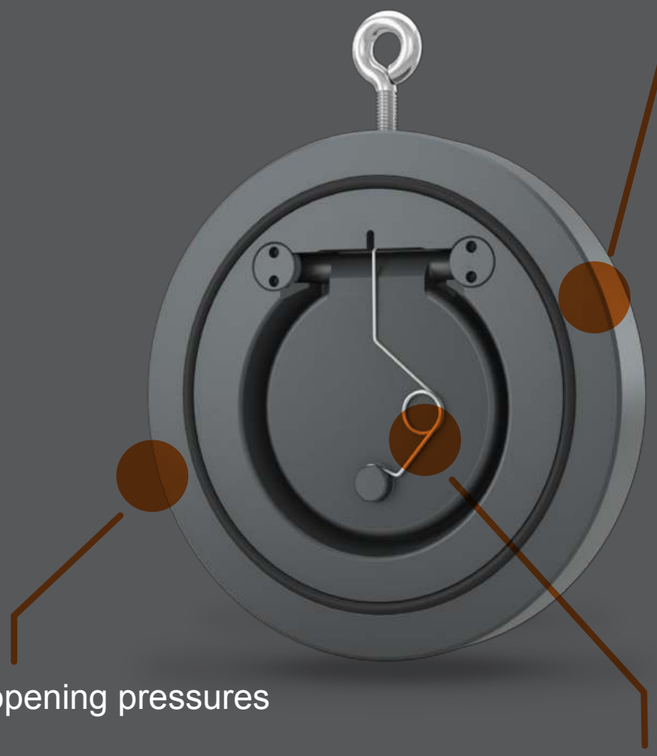
Water and waste water

Refineries

Industrial pipeline construction

Chemical and pharma industry

TECHNICAL DATA
SWING CHECK VALVE WAFER TYPE | SERIES 920



Choice of plastics allows maximum level of chemical resistance

Very low opening pressures

Available with or without return spring

Nominal sizes
DN 32 - DN 600
Flange connection
PN 6 / PN 10 | Class 150 | JIS 10K
Max. pressure
10 bar
Temperature range
-20 °C to +120 °C

TECHNICAL DATA
SWING CHECK VALVE WAFER TYPE | SERIES 920

1. Body
2. Disc
3. Disc holder
4. Spring
5. Seals

Design	Body	Disc	Spring*1	Max. allowable pressure*2, 3		
4	PVC-U	PVC-U	1.4571, Hastelloy C4 (2.4610)	DN 32 - 125 10 bar	DN 150 - 200 6 bar	DN 250 - 600 5 bar
4.1	PVC-C	PVC-C	1.4571, Hastelloy C4 (2.4610)	DN 32 - 125 10 bar	DN 150 - 200 6 bar	DN 250 - 600 5 bar
5	PP-H	PP-H	1.4571, Hastelloy C4 (2.4610)	DN 32 - 65 8 bar	DN 80 - 200 6 bar	DN 250 - 600 5 bar
8	PVDF	PVDF	1.4571, Hastelloy C4 (2.4610)	DN 32 - 125 10 bar	DN 150 - 200 8 bar	DN 250 - 600 5 bar

*1 for the choice of the appropriate spring material, the chemical resistance against the media has to be regarded

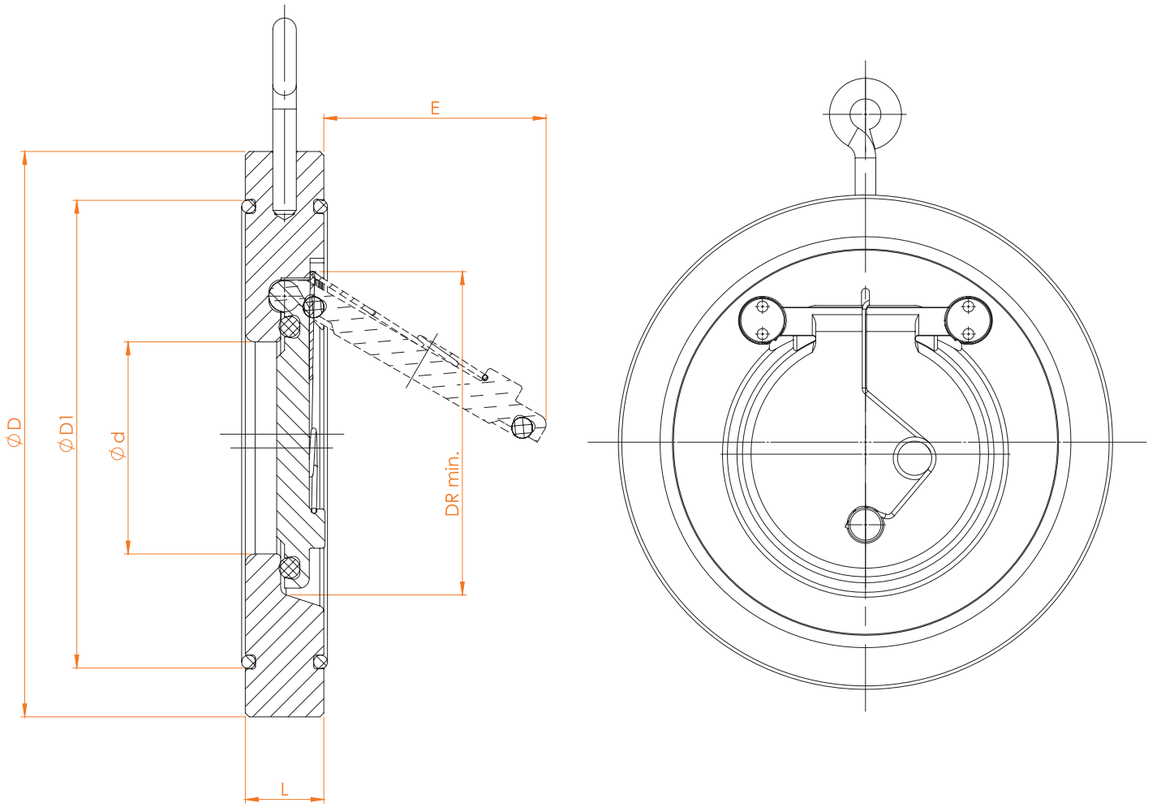
*2 max. allowable pressure is dependent on the temperature

*3 Values are valid for pressure in flow direction; If pressure against the closed disc (back pressure) occurs, it has to be limited for some nominal sizes and designs. For further information, see data sheet.

Seal	Temperature				Leakage rate*4
	PVC-U	PVC-C	PP-H	PVDF	
NBR	0 °C to +60 °C	0 °C to +80 °C	0 °C to +90 °C	-20 °C to +100 °C	A
EPDM				-20 °C to +120 °C	
FKM				-20 °C to +120 °C	
PTFE				-20 °C to +120 °C	

*4 acc. to EN 12266-1

Seals for valves up to and including DN 300 comply with the following approvals / conformities:
NBR: DIN EN 549, BAM, REACH, RoHS etc.
EPDM: KTW UBA, DVGW W 270, WRAS, NSF, FDA, BfR XXI Kat. 4, ADI-free, 3A, USP Cl. 6, BAM, REACH, RohS etc.
FKM: DIN EN 549, ADI-free, REACH, RoHS etc.
PTFE: KTW UBA, DVGW W 270, WRAS, FDA, BfR, ADI-free, EU 10/2011, 3A, USP Cl. 6, REACH, RoHS etc.



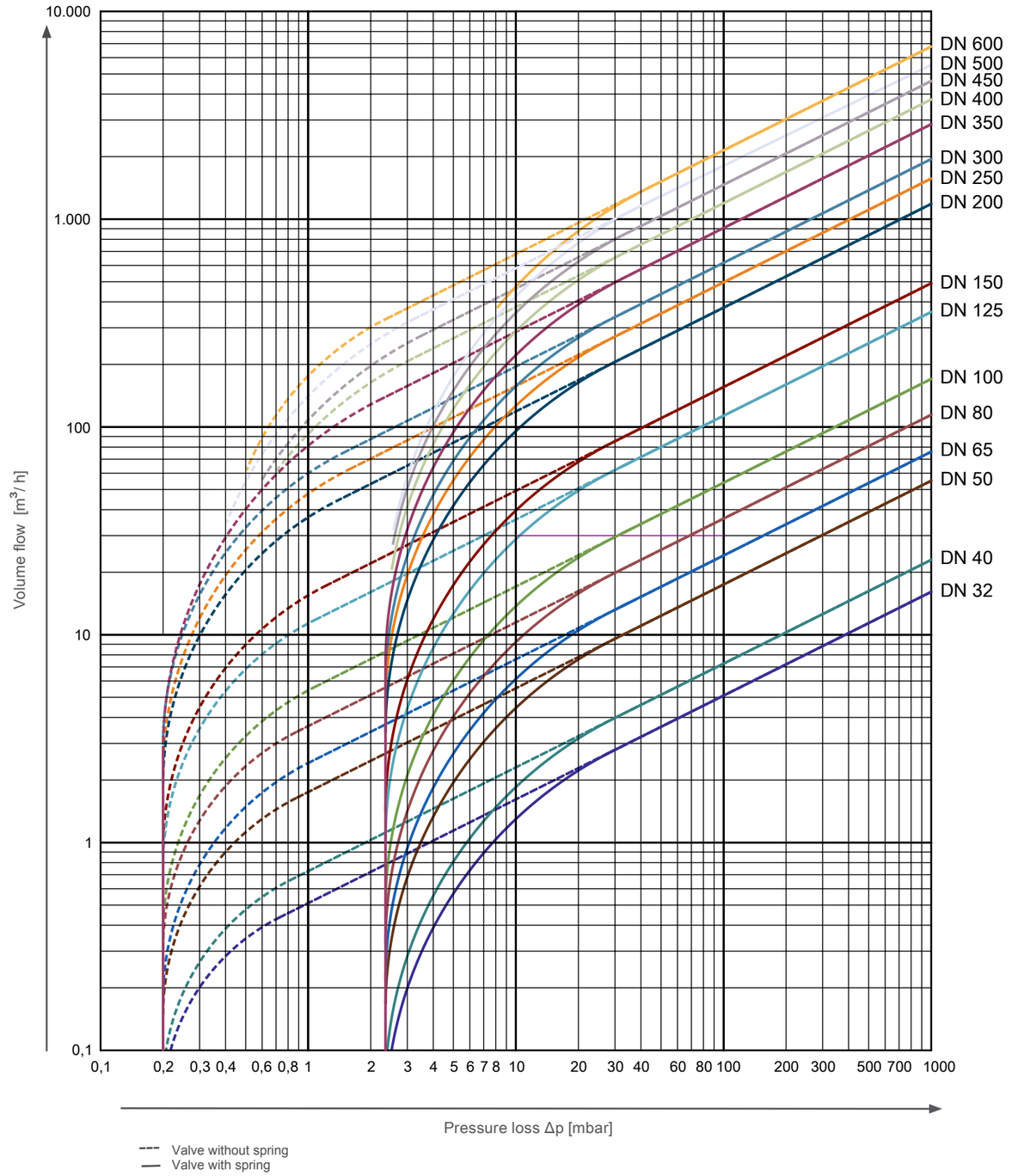
Nominal size	Ø D*5				L		Ø d	Ø D1	E	DR	Kv value	Opening pressure*6 [mbar]		Weight [kg]		
	PN 6	PN 10	ANSI 150	JIS 10K	without Spring	with Spring					[m³/h]	⟷	↑	PVC	PP-H	PVDF
DN 32	79	85	74	85	15	15	18	59	22	37	16,2	~ 0,2	~ 2	0,12	0,09	0,16
DN 40	89	95	83	91	16	16	22	72	25	43	22,2	~ 0,2	~ 2	0,16	0,11	0,19
DN 50	98	109	105	105	18	18	32	86	37	54	54	~ 0,2	~ 3	0,22	0,15	0,27
DN 65	118	129	124	124	20	20	40	105	50	70	75	~ 0,2	~ 3	0,33	0,22	0,42
DN 80	134	144	137	135	20	20	54	119	61	82	112	~ 0,2	~ 3	0,39	0,26	0,50
DN 100	154	164	175	160	23	23	70	146	77	106	172	~ 0,2	~ 3	0,57	0,37	0,72
DN 125	184	195	197	191	23	23	92	173	94	131	342	~ 0,2	~ 3	0,78	0,50	0,99
DN 150	209	220	222	220	26	26	105	197	100	159	490	~ 0,2	~ 3	1,1	0,72	1,4
DN 200	264	275	279	271	34	34	154	255	152	207	1128	~ 0,2	~ 4	2,1	1,4	2,7
DN 250	319	330	340	334	40	40	192	312	180	260	1500	~ 0,2	~ 4	3,5	2,2	4,4
DN 300	375	380	410	380	45	45	227	363	215	309	1914	~ 0,2	~ 4	5,1	3,2	6,5
DN 350	425	440	451	424	49	49	266	416	245	341	2800	~ 0,2	~ 5	7,7	5,0	9,8
DN 400	475	491	514	487	65	65	310	467	285	392	3700	~ 0,3	~ 7	12,6	8,1	16,1
DN 450	530	541	549	541	68	78	350	520	330	443	4500	~ 0,3	~ 8	17,7	11,2	22,5
DN 500	580	596	606	596	78	87	400	550	385	493	5450	~ 0,3	~ 8	23,5	15,0	30,2
DN 600	681	698	718	698	97	109	486	659	470	595	6800	~ 0,4	~ 11	39,9	25,4	50,8

*5 in order to realise the flange connection diameters, flange center-rings may be used
*6 values for design without spring; opening pressure for valves with spring is approx. 2 mbar higher

TECHNICAL DATA
SWING CHECK VALVE WAFER TYPE | SERIES 920

Pressure-Loss Diagram Type 920

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
SWING CHECK VALVES WAFER TYPE

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.

With mounting holes

Lug type body

With manual override

With attached ground cable

Reinforced design with holding plates

Disc with integrated pressure relief valve

Oher special options:

- Cleaned free of oil and grease
- Cleaned free of silicone
- Cleaned free of PWIS
- Seals with additional approvals which go beyond the standard
- With seal that is glued in for vacuum applications
- Other materials on request
- Other flange dimensions on request
- Other special options on request

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