

Application

The check valves are self-acting valves which prevent a working medium from flowing back in a pipeline.

Working medium

Water, sea water, water steam, air, oil, oil products, other non-aggressive liquids group 1 and 2.

Working temperature

The working temperature is in dependence on material design in range from -50 °C to +570 °C.

Technical description

The check valves are made from cast steel with full port. The sealing surface of the disc bears on the overlay of seat (austenitic stainless steel). The disc with an arm rotates on hinge and is pushed to the seat by its own weight. Connection flanges are integral part of the body. The cover is connected with body by bolts with graphite gasket. They consist of a body, a cover, a seat, a disc and an arm. The allowed maximum working pressure in dependence on temperature is noted in pressure-temperature table.

Design configurations

- with lever
- with bypass
- with lever and bypass
- Design in accordance - for petroleum, oil and gas. Valve in the open position allows free mixing of the pressure, cleaning or measuring.

Operation

- self-acting



Testing

The swing check valves are tested acc. to EN 12 266-1, API 598 for strength and leakage of body and leakage of a cover.

Connection to piping

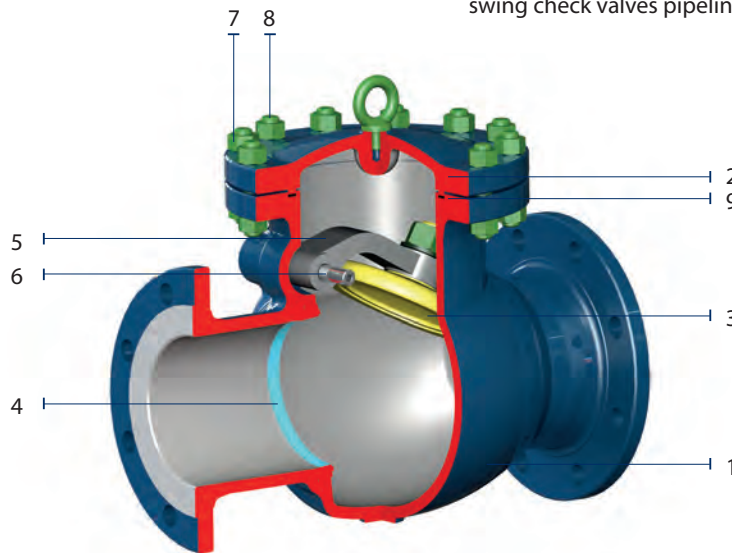
- **flanged ends** acc. to EN 1092-1 design B1 standard sealing surface (on customer's request DIN 2526 form C, form E). Face to face dimensions are acc. to EN 558.
- **welded ends** acc. to EN 12 627. Face to face dimensions are acc. to EN 12 982.

Installation

The check valves can be mounted into a horizontal (with top side bonnet) and a vertical piping so that the arrow on the valve stamped in the valve body corresponds to the flow direction of the working medium.

Advantages

- wide range of working parameters
- possibility to repair sealing surfaces without uninstallation of swing check valves pipeline.



Material acc. to EN

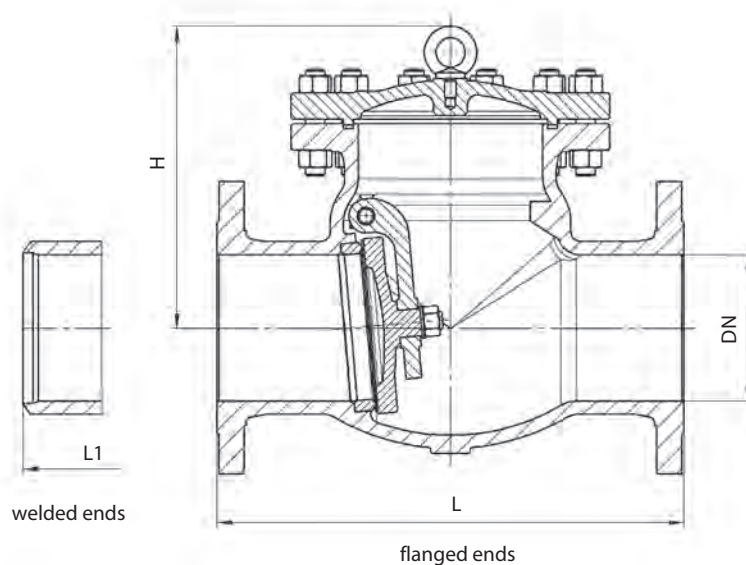
Position	Component	Carbon steel from -20 °C to 450 °C	Alloy steel from -10 °C to 570 °C	Carbon steel for low temperatures from -40 °C to 300 °C	Stainless steel from -50 °C to 550 °C
1	Body	1.0619	1.7357	1.6220	1.4408
2	Bonnet	1.0619	1.7357	1.6220	1.4408
3	Disc + overlay	1.0619 + 13Cr	1.7357 + Stellite 6	1.6220 + F304	1.4408
4	Seat ring + overlay	1.0460 + 13Cr	1.7335 + Stellite 6	1.0566 + Stellite 6	1.4408
5	Arm	1.0619	1.7357	1.6220	1.4408
6	Arm pin	1.4006	1.4301	1.4401	1.4401
7	Bonnet nut	1.1191*	1.7709*	1.7225*	1.4401*
8	Bonnet bolt	1.7218*	1.7709*	1.7225*	1.4401*
9	Bonnet sealing	Graphite with stainless steel insert			

* equivalent or acc. to customer's request



DN 50-600 • PN 16-100 • Tmax +570 °C
Body design: cast

Connection:  EN 1092-1 FLANGED ENDS
 EN 12 627 WELDED ENDS



PN 16-25

DN	PN 16					PN 25				
	L	L1	H	kg	kg 1*	L	L1	H	kg	kg 1*
50	230	230	160	21	19	230	230	160	22	19,8
65	290	290	175	28	25,2	290	290	175	29	26
80	310	310	185	38	34,2	310	310	185	38	34,5
100	350	350	220	58	52	350	350	220	61	55
125	400	400	248	92	83	400	400	248	96	86
150	480	460	276	130	117	480	480	276	132	119
200	500	500	350	210	189	550	550	350	213	192
250	600	600	410	294	265	650	650	410	297	268
300	700	700	430	367	330	750	750	430	372	335
350	800	800	518	410	369	850	850	518	415	373,5
400	900	900	560	461	415	950	950	560	480	432
500	1100	1100	618	850	765	1150	1150	618	920	828
600	1300	1300	660	1456	1311	1350	1350	660	1576	1410

PN 40-100

DN	PN 40					PN 63					PN 100				
	L	L1	H	kg	kg 1*	L	L1	H	kg	kg 1*	L	L1	H	kg	kg 1*
50	230	230	160	25	22,5	300	300	117	27	24,3	300	300	210	30	27
65	290	290	175	33	29,7	340	340	197	37	33,3	340	340	230	40	36
80	310	310	185	48	43,2	380	380	212	57	51,3	380	380	255	65	58
100	350	350	220	75	67,5	430	430	248	89	80,1	430	430	295	95	85
125	400	400	248	116	105	500	500	296	135	122	500	500	330	150	135
150	480	480	276	158	142	550	550	330	184	166	550	550	365	203	183
200	550	550	350	240	216	650	650	385	266	240	650	650	420	180	190
250	650	650	410	297	267	775	775	445	396	356	775	775	505	420	378
300	750	750	430	508	457	900	900	474	643	579	900	900	585	660	594
350	850	850	518	615	553,5	1025	1025	514	815	731	1025	1025	623	950	855
400	950	950	560	857	771	1150	1150	616	1234	1110	1150	1150	720	1390	1251
500	1150	1150	618	1492	1343	-	-	-	-	-	-	-	-	-	-
600	1350	1350	740	1892	1703	-	-	-	-	-	-	-	-	-	-

*for welded ends

Application

The check valves are self-acting valves which prevent a working medium from flowing back in a pipeline.

Working medium

Water, sea water, water steam, air, oil, oil products, other non-aggressive liquids group 1 and 2.

Working temperature

The working temperature is in dependence on material design in range from -50 °C to +595 °C.

Technical description

The check valves are made from cast steel with full port. The sealing surface of the disc bears on the overlay of seat (austenitic stainless steel). The disc with an arm rotates on hinge and is pushed to the seat by its own weight. Connection flanges are integral part of the body. The cover is connected with body by bolts with graphite gasket. They consist of a body, a cover, a seat, a disc and an arm. The allowed maximum working pressure in dependence on temperature is noted in pressure-temperature table.

Design configurations

- with lever
- with bypass
- with lever and bypass
- Design in accordance - for petroleum, oil and gas. Valve in the open position allows free mixing of the pressure, cleaning or measuring

Operation

- self-acting



Testing

The swing check valves are tested acc. to API 598, EN 12 266-1 for strength and leakage of body and leakage of a cover.

Connection to piping

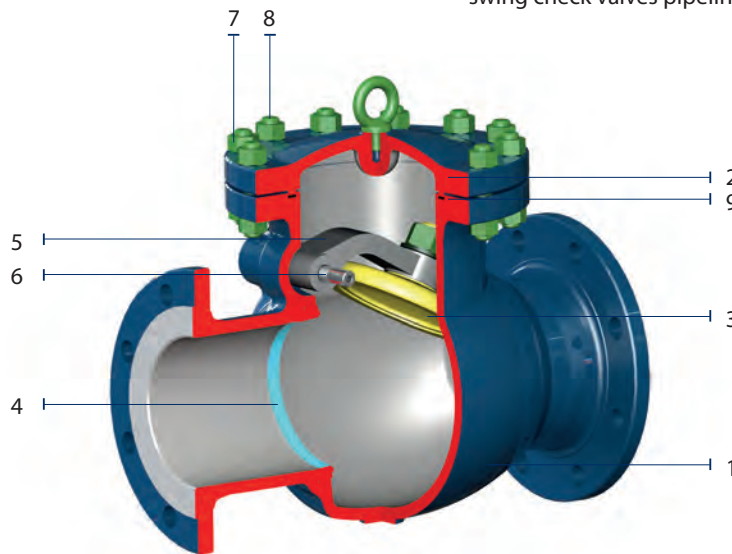
- flanged acc. to ASME B16.5, ASME B16.25
- welded acc. to ASME B16.25

Installation

The check valves can be mounted into a horizontal (with top side bonnet) and a vertical piping so that the arrow on the valve stamped in the valve body corresponds to the flow direction of the working medium.

Advantages

- wide range of working parameters
- possibility to repair sealing surfaces without uninstallation of swing check valves pipeline.



Material acc. to ASTM

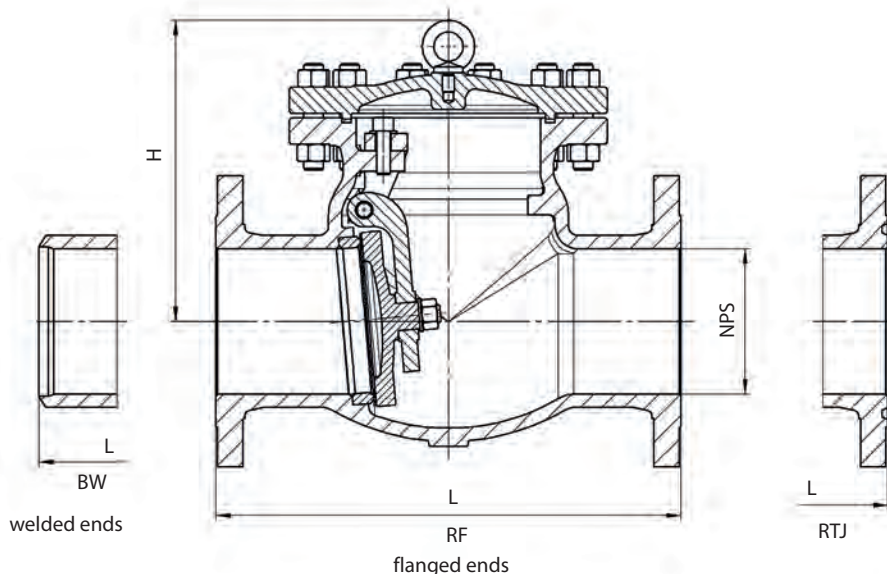
Position	Component	Carbon steel from -29 °C to 425 °C	Alloy steel from -29 °C to 595 °C	Carbon steel for low temperatures from -46 °C to 345 °C	Stainless steel from -50 °C to 538 °C
1	Body	A216 WCB	A217 WC6	A352 LCC	A351 CF8M
2	Bonnet	A216 WCB	A217 WC6	A352 LCC	A351 CF8M
3	Disc + overlay	A216 WCB + 13Cr	A217 WC6 + Stellite 6	A352 LCC + F304	A351 CF8M
4	Seat ring + overlay	A105 + 13Cr	A182 F11 + Stellite 6	A350 LF2 + Stellite 6	A351 CF8M
5	Arm	A216 WCB	A217 WC6	A352 LCC	A351 CF8M
6	Arm pin	A276 420	A182 F304	A182 F316	A182 F316
7	Bonnet nut	A194 2H*	A194 4*	A194 7M*	A194 8M*
8	Bonnet bolt	A193 B7*	A193 B16*	A320 L7M*	A193 B8M*
9	Bonnet sealing	Graphite with stainless steel insert			

* equivalent or acc. to customer's request



NPS 2-30 • Class 150-600 • Tmax +595 °C

Connection: ☉ ASME B16.5 FLANGED ENDS
 ☉ ASME B16.25 WELDED ENDS



Class 150-600

NPS	DN	Class 150				Class 300					Class 600				
		L		H	kg	L			H	kg	L			H	kg
		RF	BW			RF	RTJ	BW			RF	RTJ	BW		
2	50	203	203	132	15	267	283	267	144	20	292	295	292	170	28
2 1/2	65	216	216	147	20	292	308	292	169	35	330	333	330	178	40
3	80	241	241	176	27	318	333	318	210	40	356	359	356	246	68
4	100	292	292	198	45	356	371	356	260	61	432	435	432	290	117
5	125	330	330	255	58	400	416	400	295	80	508	511	508	320	155
6	150	356	356	320	69	445	460	445	326	130	559	562	559	360	192
8	200	495	495	380	131	533	549	533	380	190	660	664	660	430	340
10	250	622	622	440	219	622	638	622	440	296	787	791	787	502	515
12	300	699	699	480	321	711	727	711	520	450	838	841	838	554	750
14	350	787	787	530	380	838	854	838	540	640	889	892	889	595	890
16	400	864	864	580	560	864	879	864	588	850	991	994	991	680	1303
18	450	978	978	618	630	978	994	978	670	1030	1092	1095	1092	778	1800
20	500	978	978	657	770	1016	1035	1016	720	1330	1194	1200	1194	970	2150
24	600	1295	1295	760	960	1346	1368	1346	850	1950	1397	1407	1397	1100	3200
26	650	1295	1295	840	1250	1346	1372	1346	920	2300	-	-	-	-	-
28	700	1448	1448	920	1580	1499	1524	1499	1150	2600	-	-	-	-	-
30	750	1524	1524	980	1950	1594	1619	1594	1260	3200	-	-	-	-	-