

API SWING CHECK VALVES

C 09 4

APPLICATION

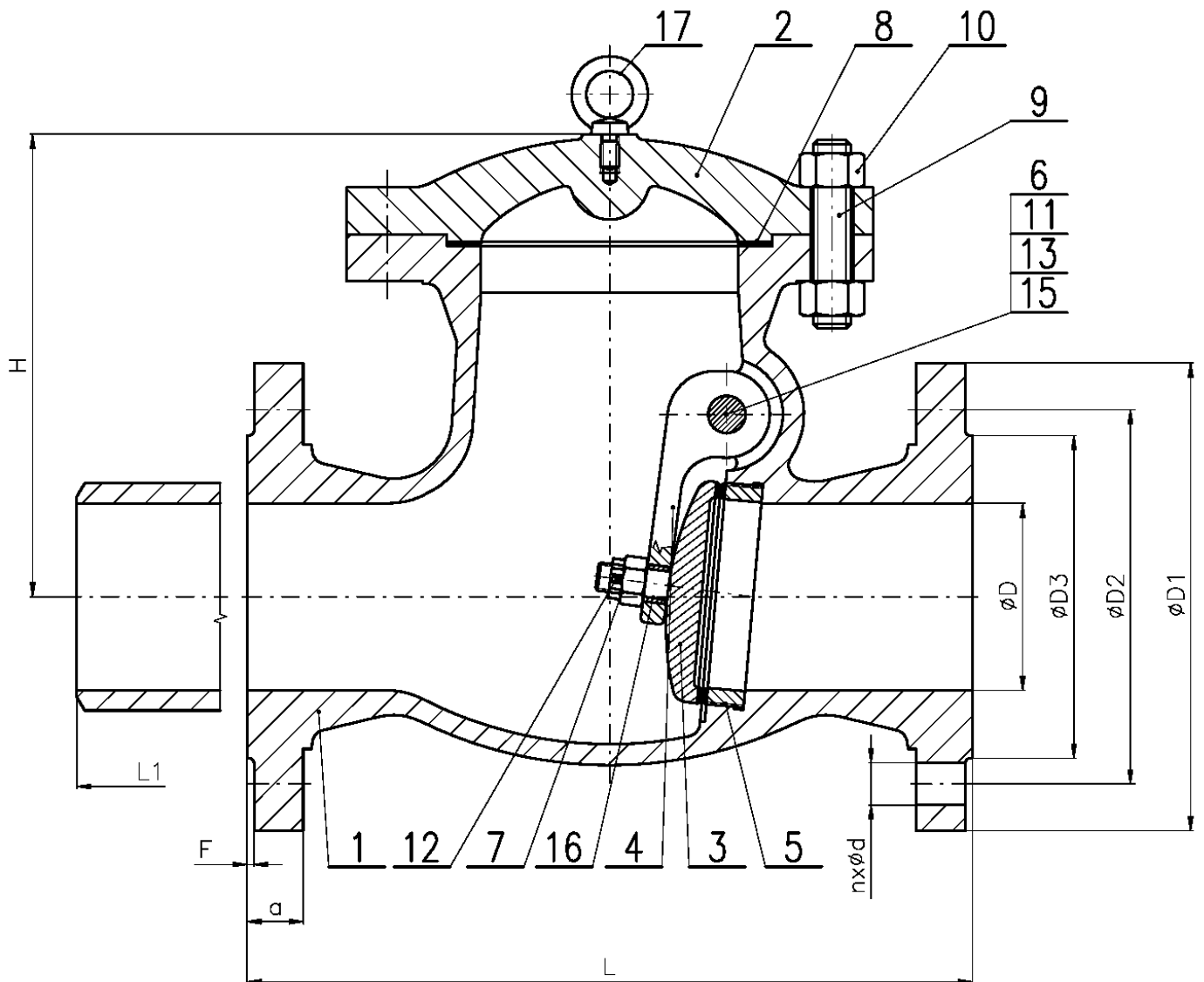
The steel flanged or welding-on swing check valves are piping valves automatically avoiding backward flowing of the operating medium. They are used for non-aggressive liquids, water, steam, oil, crude oil and crude oil products. Operating parameters comply with the ASME B 16.34 standard.

Application for different operating conditions should be discussed with the manufacturer.

Ambient temperature ranges from -13 °F to +122 °F (-25 °C to +50 °C).

Characteristics of operating conditions for materials:

Dependence of pressure on temperature according to ASME B 16.34.



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TECHNICAL DESCRIPTION

The flanged and welding-on swing check valves with non-contracted flow consist of the body, lid, plate and arm. The seat is screwed or welded. The plate, fitting to the sealing surface, is embedded in the arm revolving on the pin in the special hinge. The connecting flanges for flanged design are cast together with the body as one piece.

The main and connecting dimensions for the standard design are mentioned in the table.

Basic standards for design

Basic design.....	ASME B 16.34
Building length	ASME B 16.10
Flange dimensions.....	ASME B 16.5
Welding-on end dimensions	ASME B 16.25
Testing	API 598
Dependence of max. permissible pressure on temperature	ASME B 16.34

CONTROL

Control is self-acting. The swing check valves can be mounted both to the horizontal and the vertical pipelines. The swing check valve disc in the vertical pipeline should be overhead and flow direction is from below upwards.

SEALIS – MATERIAL CONFIGURATION

Pos.	Designation	Class	Material
8	Lid sealing	150, 300	Spiral graphite sealing
		600	RTJ rings
			Soft low-carbon steel
13	Plug sealing	150 - 600	AISI 316, AISI 321

TRIM – MATERIALS ACCORDING TO API 600

Pos.	Designation	TRIM č.				
		1	5	8	11	12
3a	Plate sealing surface	13 Cr Hard facing	Stellite 6	13 Cr Hard facing	Monel Hard facing	316 Hard facing
5a	Seat sealing surface	13 Cr Hard facing	Stellite 6	Stellite 6	Stellite 6	Stellite 6
6	Pin	A 182 F 6a	A 182 F 6a	A 182 F 6a	Monel	A 182 F 316

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STANDARD MATERIAL SPECIFICATION S (*)

Pos.		WCB	LCC	WC6	WC9	C5	C12	CF8	CF8M	
1	Body	A 216 WCB	A 352 LCC	A 217 WC6	A 217 WC9	A 217 C5	A 217 C12	A 351 CF8	A 351 CF8M	
2	Lid	A 216 WCB	A 352 LCC	A 217 WC6	A 217 WC9	A 217 C5	A 217 C12	A 351 CF8	A 351 CF8M	
3	Plate	A 276 410 T	A 182 F316	A 182 F9 + Hard facing	A 217 WC9 + Hard facing	A 182 F9 + Hard facing	A 182 F9 + Hard facing	A 351 CF8+ Hard facing	A 351 CF8M+ Hard facing	
		A 216 WCB + Hard facing								
		A 182 F 316 A105 + Hard facing	A 352 LCC + Hard facing	A 217 WC6+ Hard facing		A 217 C5 + Hard facing	A 217 C12 + Hard facing			
4	Arm	A 216 WCB	A 352 LCC	A 217 WC6	A 217 WC9	A 217 C5	A 217 C12	A 351 CF8	A 351 CF8M	
5	Seat	A 106 B + Hard facing	A 350 LF2 + Hard facing	A 182 F5 + Hard facing	A 182 F5 + Hard facing	A 182 F5 + Hard facing	A 182 F5 + Hard facing	316, 304	316, 304	
7	Nut	AISI 316								
9	Screw	A 193 B7	A 320 L7M	A 193 B7	A 193 B7	A 193 B7	A 193 B7	A 193 B8	A 193 B8	
		A 193 B7M								
10	Nut	A 194 2H	A 194 7M	A 194 2H	A 194 7	A 194 2H	A 194 2H	A 194 8	A 194 8	
		A 194 2HM								
11	Plug	AISI 1035	A 276 430	A 276 430	A 276 430	A 276 430	A 276 430	316, 304	316, 304	
		A 276 430								
12	Rivet	AISI 304								
14	Label	AISI 304								
15, 16	Arm bushing	0,5 % C – 15 % Cr								
17	Screw	A 105						Stainless steel		

(*) – body material according to customer's demands.

BUILDING DIMENSIONS

Class 150

NPS	ØD	ØD1	ØD2	ØD3	a	f	n	Ød	L=L1	H	kg
2"	51	152	121	92	16	2	4	19	203	160	14,4
2 1/2"	63,5	178	139,7	105	18	2	4	19	216	180	21,5
3"	76	190	152	127	19	2	4	19	241	210	24,4
4"	102	229	190,5	157	24	2	8	19	292	215	44
6"	152	280	241,3	216	26	2	8	22	356	265	70,5
8"	203	343	298,5	270	29	2	8	22	495	312	111
10"	254	406	362	324	31	2	12	25	622	352	218
12"	305	483	431,8	381	32	2	12	25	698	402	269
14"	337	533	476,3	413	35	2	12	28	787	405	352
16"	387	597	539,8	470	37	2	16	28	864	455	482
18"	438	635	577,8	533	40	2	16	32	978	500	574
20"	489	698	635	584	43	2	20	32	978	525	704
24"	591	813	749,5	692	48	2	20	35	1295	650	1080

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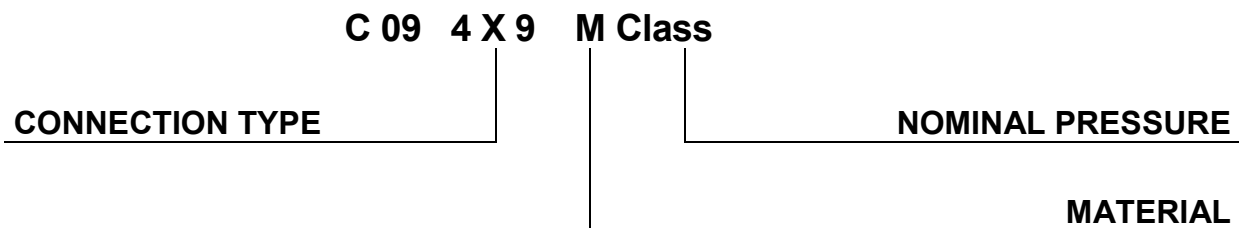
Class 300

NPS	ØD	ØD1	ØD2	ØD3	a	f	n	Ød	L=L1	H	kg
2"	51	165	127	92	23	2	8	19	267	160	19,3
2 1/2"	63,5	191	149	105	25,5	2	8	22	292	195	30
3"	76	210	168,5	127	29	2	8	22	318	210	37,8
4"	102	254	200	157	32	2	8	22	356	215	58,8
6"	152	318	270	216	37	2	12	22	445	300	108,5
8"	203	381	330,2	270	42	2	12	25	533	332	181,5
10"	254	444	387,4	324	48	2	16	28	622	362	272
12"	305	521	450,9	381	51	2	16	32	711	427	387
14"	337	584	51,4	413	54	2	20	32	838	447	465
16"	387	648	571,5	470	58	2	20	35	864	540	775
18"	432	711	628,5	533	61	2	24	35	978	590	805
20"	483	775	686	584	64	2	24	35	1016	640	1255
24"	584	914	813	692	70	2	24	41	1346	922	1902

Class 600

NPS	ØD	ØD1	ØD2	ØD3	a	f	n	Ød	L=L1	H	kg
2"	51	165	127	92	33	7	8	19	292	195	28
2 1/2"	64	191	149	105	36	7	8	22	330	215	45
3"	76	210	168,5	127	39	7	8	22	356	240	49
4"	102	273	216	157	46	7	8	25	432	275	94,5
6"	152	356	292,1	216	55	7	12	28	559	310	240
8"	200	419	349,3	270	63	7	12	32	660	370	337
10"	248	508	431,8	324	71	7	16	35	787	426	588
12"	298	559	489	381	74	7	20	35	838	505	748
14"	327	604	527	413	77	7	20	38	889	560	913
16"	375	686	603	470	84	7	20	41	991	650	1025

TYPE DESIGNATION



X –CONNECTION TYPE

- 1 FLANGED
- 2 WELDING-ON
- 8 COMBINED

M – BODY MATERIAL

- 0 STAINLESS STEEL
- 2 ALLOY STEEL
- 5 CARBON STEEL