

LVCS-1 type spring return check valve

Dimension range	DN 10 - 50 / NPS 3/8" - 2"
Pressure range	PN 16 - 400 / CLASS 150 - 2500
Temperature range	- 60°C - +550°C

A forged body check valve manufactured according to API 602 Standard with up to 50 mm nominal size, for wide pressure-, and temperature ranges. The piston type check valve is made with helical spring returning closing element. The valve can be installed only for one way streams. In case of back stream the valve closes due to spring force and the pressure of medium. The valve seat and the disc is welded with Stellite 6 for the purpose of excellent wearing resistance. The sealing of the bonnet is highly flexible spiral wound gasket. At higher pressures the sealing is made of stainless steel gasket ring. The check valves can be manufactured also with threaded valve seats on demand.

Materials:

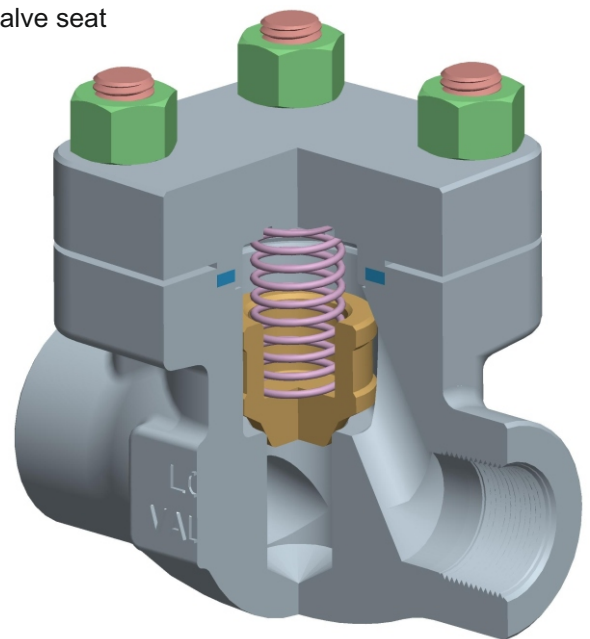
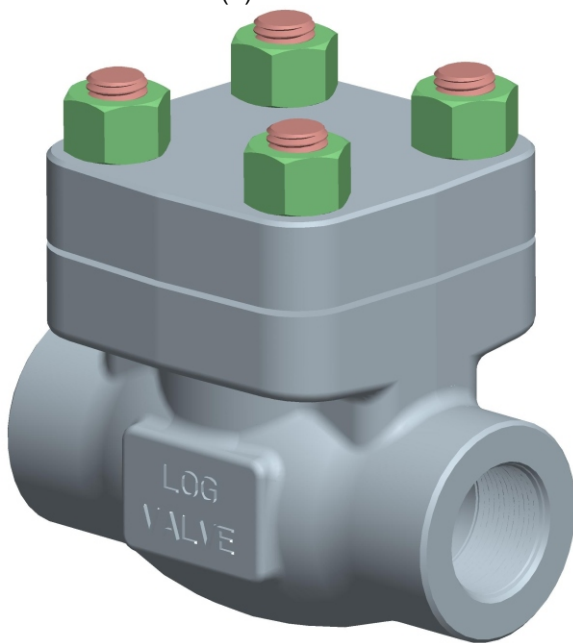
- ASTM A105
- ASTM A350 LF2
- ASTM A182 F11
- ASTM A182 F316(L)

Main features:

- Forged body
- Bolted bonnet
- Spring return disc closing on conical surface
- Flanged, threaded, butt welded, or socket welded ends

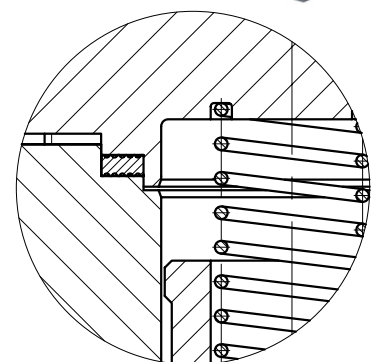
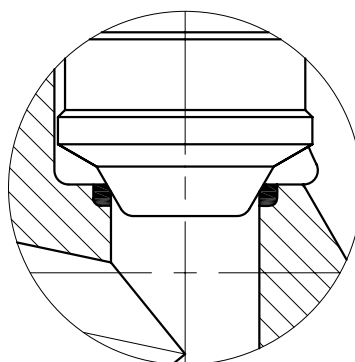
Design possibilities:

- Renewable valve seat



Design standards:

- Construction: API 602 / ISO 15761
- Face to face length: ASME B16.10; EN 558
- Socket welded type: ASME B16.11; DIN 3239
- Butt welded type: ASME B16.25; EN 12627
- Threaded type: ASME B1.20.1 NPT
- Flanged type: ASME B16.5; EN 1092-1; GOST 12815; GOST 12821
- Pressure test: API 602; EN 12266-1
- NACE design: NACE MR0175 / ISO 15156

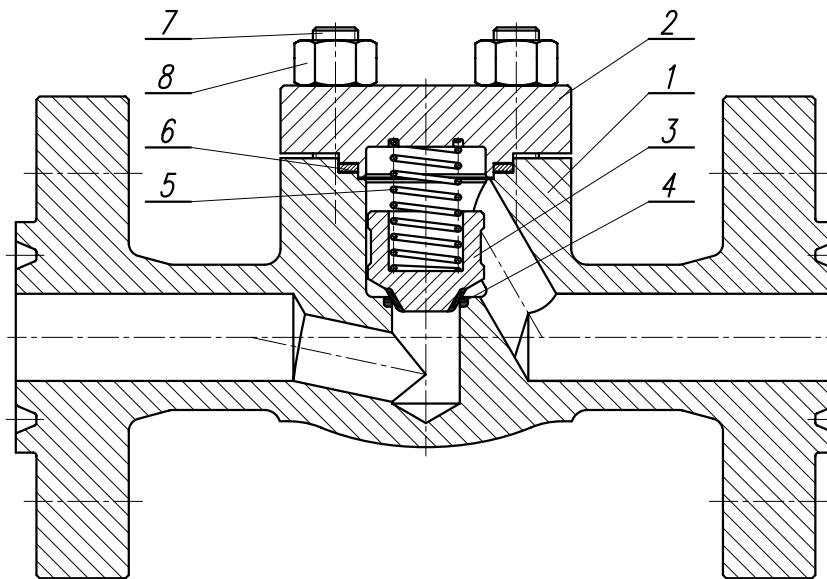


LVCS-1



List of the main components

LVCS-1 type spring return check valve



N°	Description	Standard design			NACE design	Corrosion-resistant design
		T= -29°C ~ +427°C	T= -46°C ~ +343°C	T= -20°C ~ +550°C	T= -46°C ~ +343°C	T= -60°C ~ +427°C
1	Body	ASTM A105	ASTM A350 LF2	ASTM A182 F11	ASTM A350 LF2	ASTM A182 F316(L)
2	Bonnet	ASTM A105	ASTM A350 LF2	ASTM A182 F11	ASTM A350 LF2	ASTM A182 F316(L)
3	Disc	ASTM A276 316L (+HF)	ASTM A276 316L (+HF)	ASTM A276 316L (+HF)	ASTM A276 316(L) (+HF)	ASTM A276 316(L) (+HF)
4	Valve seat	HF ASTM A276 316L (+HF)	HF ASTM A276 316L (+HF)	HF ASTM A276 316L (+HF)	HF ASTM A276 316(L) (+HF)	HF ASTM A276 316(L) (+HF)
5	Spring	ASTM A313 302	ASTM A313 302	ASTM A313 302	INCONEL X-750	ASTMA313 302
6	Body-bonnet packing	Spiral Wound 316L+Grafit	Spiral Wound 316L+Grafit	Spiral Wound 316L+Grafit	ASTM A276 316L	Spiral Wound 316L+Grafit
7	Bolt	ASTM A193 B7	ASTM A320 L7	ASTM A193 B16	ASTM A320 L7M	ASTM A193 B8M Cl.2
8	Nut	ASTM A194 2H	ASTM A194 Gr.7	ASTM A194 8M	ASTM A194 2HM	ASTM A194 8M

- HF = Stellite 6 welding-on (min. 350 HB)
- For other mediums, orders on material quality is based on temperature

Optional TRIM material combinations:

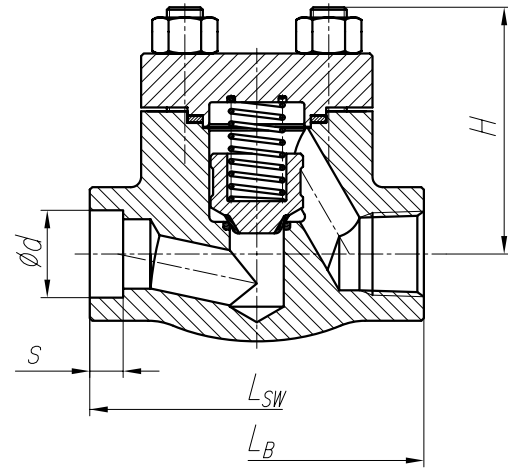
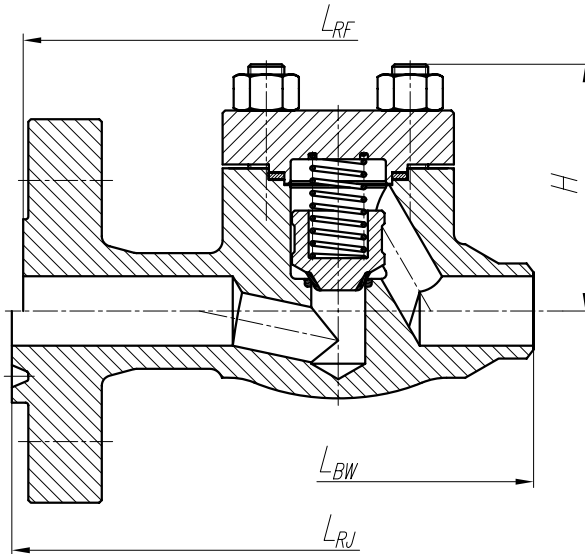
Trim number (API 602)	Sealing surface of closing component	Sealing surface of valve seat
1	410	410
5	Stellit 6	Stellit 6
8	410	Stellit 6
10	316	316
12	316	Stellit 6
16	Stellit 6	Stellit 6

LVCS-1



Chart of dimensions

LVCS-1 type spring return check valve ANSI



CLASS 150

NPS	L _{RF} * (mm)	L _{RJ} * (mm)	L _{BW} (mm)	H (mm)
1/2"	140	---	110	70
3/4"	152	---	120	80
1"	165	178	135	90
1 1/4"	178	191	150	100
1 1/2"	190	203	170	115
2"	216	232	210	140

* CLASS 300 face to face length

CLASS 300

NPS	L _{RF} (mm)	L _{RJ} (mm)	L _{BW} (mm)	H (mm)
1/2"	140	151	110	70
3/4"	152	165	120	80
1"	165	178	135	90
1 1/4"	178	191	150	100
1 1/2"	190	203	170	115
2"	216	232	210	140

CLASS 600

NPS	L _{RF} (mm)	L _{RJ} (mm)	L _{BW} (mm)	H (mm)
1/2"	165	163	110	74
3/4"	190	190	120	85
1"	216	216	135	96
1 1/4"	229	229	150	108
1 1/2"	241	241	170	120
2"	292	295	210	150

CLASS 900; CLASS 1500

NPS	L _{RF} (mm)	L _{RJ} (mm)	L _{BW} (mm)	H (mm)
1/2"	216	216	110	74
3/4"	229	229	120	85
1"	254	254	135	96
1 1/4"	279	279	150	108
1 1/2"	305	305	170	120
2"	368	371	210	150

CLASS 2500**

NPS	L _{RF} (mm)	L _{RJ} (mm)	L _{BW} (mm)	H (mm)
1/2"	264	264	150	108
3/4"	273	273	165	115
1"	308	308	175	126
1 1/4"	349	352	195	140
1 1/2"	384	387	230	165
2"	451	454	265	190

** with ring-joint body-bonnet packing

CLASS 800; CLASS 1500; CLASS 2500**

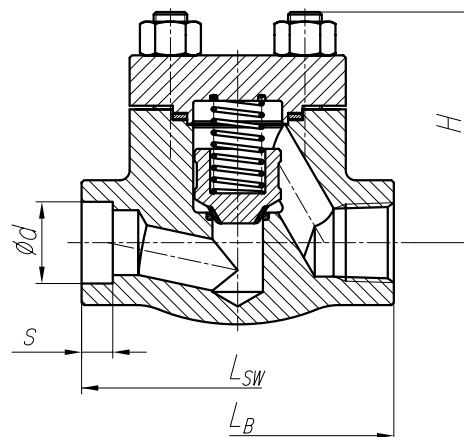
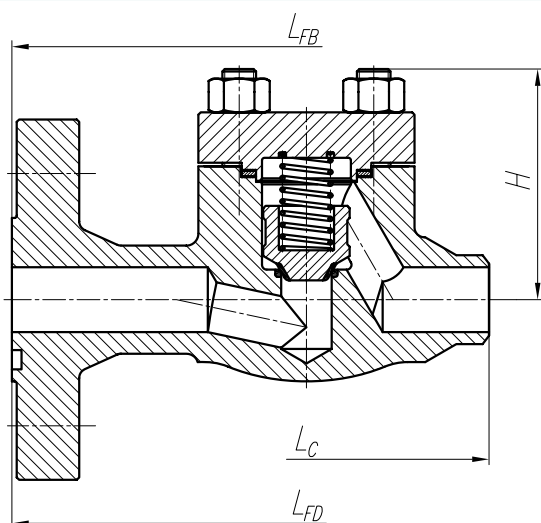
NPS	L _{sw} ; L _b (mm)		Ød (mm)	S _{min} (mm)	H (mm)	
	800 1500	2500			800 1500	2500
3/8"	90	110	17,6	10	74	95
1/2"	95	120	21,8	10	74	108
3/4"	115	145	27,2	13	85	115
1"	130	165	33,9	13	96	126
1 1/4"	150	200	42,7	13	108	140
1 1/2"	170	221	48,8	13	120	165
2"	210	250	61,2	16	150	190

LVCS-1



Chart of dimensions

LVCS-1 type spring return check valve EN


PN 16; PN 25; PN 40

DN	LFB; LFD (mm)	Lc (mm)	Lsw; Lb (mm)	Ød (mm)	S _{min} (mm)	H (mm)
10	130	---	90	17,6	10	70
15	130	110	95	21,8	10	70
20	150	120	115	27,2	13	80
25	160	135	130	33,9	13	90
32	180	150	150	42,7	13	100
40	200	170	170	48,8	13	115
50	230	210	210	61,2	16	140

PN 63

DN	LFB; LFD (mm)	Lc (mm)	Lsw; Lb (mm)	Ød (mm)	S _{min} (mm)	H (mm)
10	210	---	90	17,6	10	70
15	210	110	95	21,8	10	70
20	230	120	115	27,2	13	80
25	230	135	130	33,9	13	90
32	260	150	150	42,7	13	100
40	260	170	170	48,8	13	115
50	300	210	210	61,2	16	140

PN 100; PN 160

DN	LFB; LFD (mm)	Lc (mm)	Lsw; Lb (mm)	Ød (mm)	S _{min} (mm)	H (mm)
10	210	---	90	17,6	10	74
15	210	110	95	21,8	10	74
20	230	120	115	27,2	13	85
25	230	135	130	33,9	13	96
32	260	150	150	42,7	13	108
40	260	170	170	48,8	13	120
50	300	210	210	61,2	16	150

PN 250

DN	LFB; LFD (mm)	Lc (mm)	Lsw; Lb (mm)	Ød (mm)	S _{min} (mm)	H (mm)
10	230	---	90	17,6	10	74
15	230	110	95	21,8	10	74
20	---	120	115	27,2	13	85
25	260	135	130	33,9	13	96
32	---	150	150	42,7	13	108
40	300	170	170	48,8	13	120
50	350	210	210	61,2	16	150

PN 320; PN 400

DN	LFB; LFD (mm)	Lc (mm)	Lsw; Lb (mm)	Ød (mm)	S _{min} (mm)	H (mm)
10	230	---	110	17,6	10	95
15	230	150	120	21,8	10	108
20	---	165	145	27,2	13	115
25	260	175	165	33,9	13	126
32	---	195	200	42,7	13	140
40	300	230	221	48,8	13	165
50	350	265	250	61,2	16	190

LVCS-1
