

**Type K05**

DN 65 – 600  
PN 63 – 400

## Swing Check Valve

Butt-Welded, Flanged

### Data Sheet

Edition: EN 9 / 2015

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### Application

- Self-acting check valve
- **Fluids**  
Water, steam
- **Industry**  
Power engineering, chemical industry
- **Environments**  
Normal, tropical, explosive, seismic

### Technical description

- Valve body is die or free forgings
- Body seats are pressed in the body and seal welded
- Seat faces are hardfaced with Stellite
- Sealing ring is made from expanded graphite
- Body made of one piece or with the welded extension for larger diameters
- For the forged valves, the flanges are welded to the body or are part of the body

### Testing

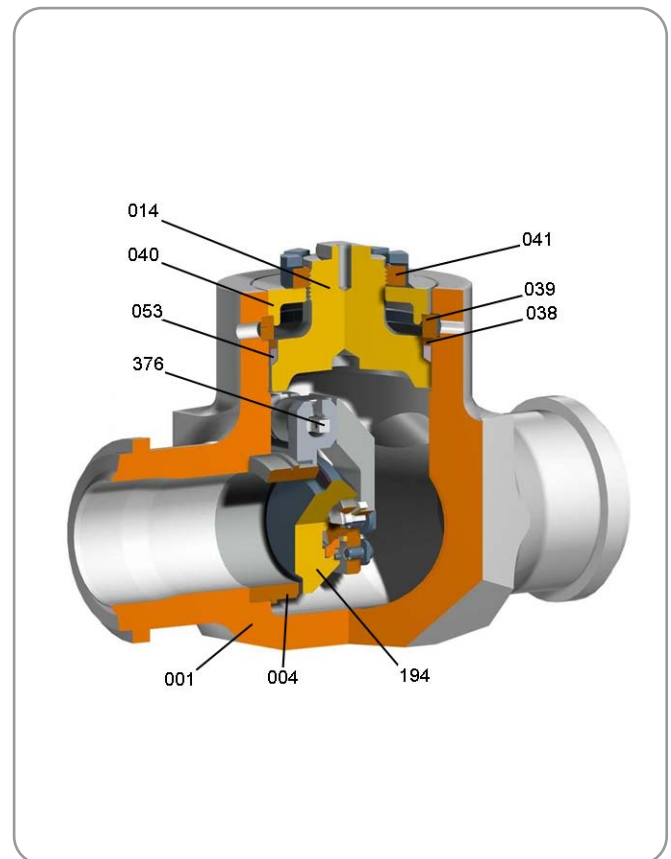
- Valves are pressure tested with water, steam or air for strength and tightness in accordance with working parameters and material according to EN 12266 – 1
- Minimum pressure for the strength test is 1,5 x PN

### Connection

- Butt-welded and flanged type according to ČSN, EN, DIN, ANSI, GOST

### Operation

- Self-acting



### Installation

- Valves can be installed in horizontal pipelines, with pressure seal cover upwards
- Direction of flow is under the disc

### Materials of main parts

Pos.	Name	Material										
		Non alloy		Low alloy steel				High alloy steel		Stainless steel		
001	<b>Body</b>	11 416	P250GH (C22.8)	15 128	14MoV6-3	16Mo3 (15Mo3)	13CrMoV4-5	11CrMo9-10 (10CrMo910)	15NiCuMoNb5-6-4	X10CrMoVNb9-1	X6CrNiTi18-10	08X18H10T
004	<b>Seat</b>											
005	<b>Flange</b>											
194	<b>Disc</b>											
014	<b>Pressure sealed</b>	11416		11CrMo9-10 (10CrMo910)								
039	<b>Segmented ring</b>											
038	<b>Retaining ring</b>											
040	<b>Cover</b>	11 416, P250GH		15 128, 42 2744, GS-17CrMo5-5, 10CrMo9-10, 11CrMo9-10								
041	<b>Nut</b>	11 600, E335										
053	<b>Sealing ring</b>	Expandovaný grafit										
376	<b>Pin</b>	X22CrMoV12-1										
	<b>Hardfacing</b>	Typ Stellite 6(C1111)										

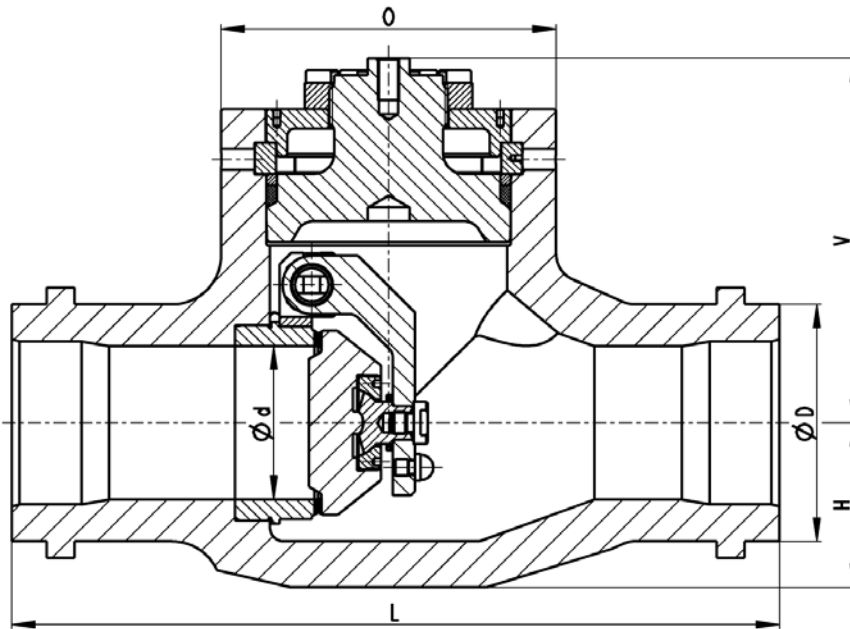
**Operating data**

Material of body	PN	Working pressure MPa / Working temperature °C											
		200	250	300	350	400	450	500	520	540	560	580	600
<b>P250GH (C22.8)</b> (W.Nr. 1.0460)	<b>63</b>	5,7	4,9	4,2	3,7	2,9	2,2	-	-	-	-	-	-
	<b>100</b>	9,0	7,8	6,7	5,8	4,6	3,5	-	-	-	-	-	-
	<b>160</b>	14,4	12,5	10,7	9,3	7,4	5,6	-	-	-	-	-	-
	<b>250</b>	22,5	19,6	16,7	14,5	11,6	8,7	-	-	-	-	-	-
	<b>320</b>	28,8	25,0	21,3	18,6	14,8	11,1	-	-	-	-	-	-
	<b>400</b>	35,9	31,3	26,7	23,2	18,6	13,9	-	-	-	-	-	-
<b>11416</b>	<b>63</b>	6,3	5,6	4,8	4,1	3,6	2,5	-	-	-	-	-	-
	<b>100</b>	10,0	8,8	7,7	6,6	5,7	4,0	-	-	-	-	-	-
	<b>160</b>	16,0	14,1	12,2	10,5	9,1	6,4	-	-	-	-	-	-
	<b>250</b>	24,9	22	19,1	16,4	14,2	10,0	-	-	-	-	-	-
	<b>320</b>	31,9	28,2	24,5	21,0	18,2	12,8	-	-	-	-	-	-
	<b>400</b>	39,9	35,2	30,6	26,2	22,7	16,0	-	-	-	-	-	-
<b>15NiCuMoNb5-6-4</b> (W.Nr. 1.6368)	<b>63</b>	6,3	6,3	6,3	6,3	6,3	6,3	-	-	-	-	-	-
	<b>100</b>	10,0	10,0	10,0	10,0	10,0	10,0	-	-	-	-	-	-
	<b>160</b>	16,0	16,0	16,0	16,0	16,0	16,0	-	-	-	-	-	-
	<b>250</b>	25,0	25,0	25,0	25,0	25,0	25,0	-	-	-	-	-	-
	<b>320</b>	32,0	32,0	32,0	32,0	32,0	32,0	-	-	-	-	-	-
	<b>400</b>	40,0	40,0	40,0	40,0	40,0	40,0	-	-	-	-	-	-
<b>16Mo3 (15Mo3)</b> (W.Nr. 1.5415)	<b>63</b>	6,3	6,0	5,3	5,1	4,9	4,7	3,4	2,2	-	-	-	-
	<b>100</b>	10,0	9,6	8,4	8,1	7,8	7,5	5,4	3,4	-	-	-	-
	<b>160</b>	16,0	15,3	13,4	13	12,5	12,1	8,6	5,5	-	-	-	-
	<b>250</b>	25,0	23,9	21,0	20,3	19,6	18,8	13,5	8,6	-	-	-	-
	<b>320</b>	32,0	30,6	26,9	26,0	25,0	24,1	17,3	10,9	-	-	-	-
	<b>400</b>	40,0	38,3	33,6	32,5	31,3	30,1	21,6	13,7	-	-	-	-
<b>13CrMo4-5</b> (W.Nr. 1.7335)	<b>63</b>	6,3	6,3	6,3	6,0	5,8	5,5	5,0	3,4	2,2	1,5	-	-
	<b>100</b>	10,0	10,0	10,0	9,6	9,3	8,7	7,9	5,4	3,5	2,3	-	-
	<b>160</b>	16,0	16,0	16,0	15,3	14,8	13,9	12,7	8,7	5,7	3,7	-	-
	<b>250</b>	25,0	25,0	25,0	23,9	23,2	21,7	19,9	13,6	8,8	5,8	-	-
	<b>320</b>	32,0	32,0	32,0	30,6	29,7	27,8	25,4	17,4	11,3	7,4	-	-
	<b>400</b>	40,0	40,0	40,0	38,3	37,1	34,8	31,8	21,8	14,1	9,3	-	-
<b>11CrMo9-10</b> (W.Nr. 1.7383)	<b>63</b>	6,3	6,3	6,3	6,3	6,3	6,0	4,9	3,8	2,8	2,1	1,6	1,2
	<b>100</b>	10,0	10,0	10,0	10,0	10,0	9,6	7,8	6,0	4,5	3,4	2,6	2,0
	<b>160</b>	16,0	16,0	16,0	16,0	16,0	15,3	12,5	9,6	7,2	5,4	4,1	3,2
	<b>250</b>	25,0	25,0	25,0	25,0	25,0	23,9	19,6	14,9	11,3	8,4	6,4	4,9
	<b>320</b>	32,0	32,0	32,0	32,0	32,0	30,6	25,0	19,1	14,5	10,8	8,2	6,3
	<b>400</b>	40,0	40,0	40,0	40,0	40,0	38,3	31,3	23,9	18,1	13,4	10,2	7,9
<b>10CrMo9-10</b> (W.Nr. 1.7380)	<b>63</b>	6,3	6,3	6,3	6,3	6,0	5,7	4,9	3,8	2,8	2,1	1,6	1,2
	<b>100</b>	10,0	10,0	10,0	10,0	9,6	9,0	7,8	6,0	4,5	3,4	2,6	2,0
	<b>160</b>	16,0	16,0	16,0	16,0	15,3	14,4	12,5	9,6	7,2	5,4	4,1	3,2
	<b>250</b>	25,0	25,0	25,0	25,0	23,9	22,5	19,6	14,9	11,3	8,4	6,4	4,9
	<b>320</b>	32,0	32,0	32,0	32,0	30,6	28,8	25,0	19,1	14,5	10,8	8,2	6,3
	<b>400</b>	40,0	40,0	40,0	40,0	38,3	35,9	31,3	23,9	18,1	13,4	10,2	7,9
<b>14MoV6-3</b> (W.Nr. 1.7715)	<b>63</b>	6,3	6,3	6,3	6,3	6,3	6,3	6,3	5,4	4,1	3,1	-	-
	<b>100</b>	10,0	10,0	10,0	10,0	10,0	10,0	10,0	8,6	6,6	5,0	-	-
	<b>160</b>	16,0	16,0	16,0	16,0	16,0	16,0	16,0	13,8	10,5	8,0	-	-
	<b>250</b>	25,0	25,0	25,0	25,0	25,0	25,0	25,0	21,6	16,4	12,5	-	-
	<b>320</b>	32,0	32,0	32,0	32,0	32,0	32,0	32,0	27,6	21,0	16,0	-	-
	<b>400</b>	40,0	40,0	40,0	40,0	40,0	40,0	40,0	34,6	26,2	19,9	-	-

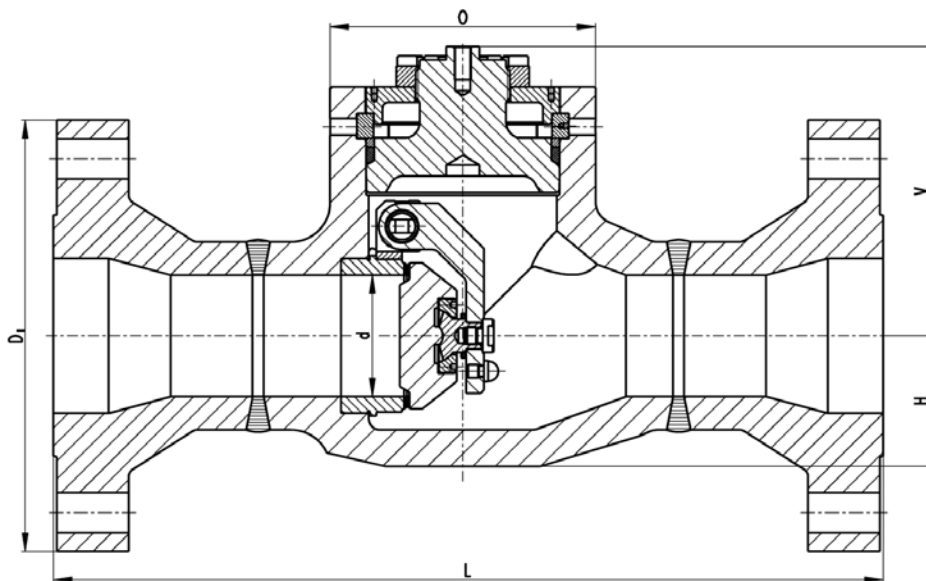
Material of body	PN	Working pressure MPa / Working temperature °C PN											
		200	250	300	350	400	450	500	520	540	560	580	600
<b>15128</b>	<b>63</b>	6,3	6,3	6,3	6,3	6,3	6,3	6,2	4,8	3,7	2,8	-	-
	<b>100</b>	10,0	10,0	10,0	10,0	10,0	10,0	9,8	7,6	5,9	4,5	-	-
	<b>160</b>	16,0	16,0	16,0	16,0	16,0	16,0	15,7	12,2	9,4	7,2	-	-
	<b>250</b>	25,0	25,0	25,0	25,0	25,0	25,0	24,5	19,0	14,6	11,3	-	-
	<b>320</b>	32,0	32,0	32,0	32,0	32,0	32,0	31,4	24,3	18,7	14,5	-	-
	<b>400</b>	40,0	40,0	40,0	40,0	40,0	40,0	39,2	30,4	23,4	18,1	-	-
<b>X10CrMoVNb9-1</b> (W.Nr. 1.4903)	<b>63</b>	6,3	6,3	6,3	6,3	6,3	6,3	6,3	6,3	6,3	5,5	4,4	3,4
	<b>100</b>	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	10,0	8,7	7,0	5,4
	<b>160</b>	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	16,0	13,9	11,1	8,7
	<b>250</b>	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	25,0	21,7	17,4	13,6
	<b>320</b>	32,0	32,0	32,0	32,0	32,0	32,0	32,0	32,0	32,0	27,8	22,3	17,4
	<b>400</b>	40,0	40,0	40,0	40,0	40,0	40,0	40,0	40,0	40,0	34,8	27,8	21,8

## Dimensions

Butt-welded type, PN 63 – 250, PN 30 – 400



Flanged type, PN 63 – 250



**Butt-welded type, PN 63 – 250, PN 30 – 400**

PN	DN/d	L mm	D mm	H mm	V mm	O mm	m kg
63 – 250	65/50	360	By ČSN, EN, DIN or by request of the customer	65	160	135	23
	65/55	360		65	160	135	23
	80/75	450		88	200	175	55
	100/75	450		88	200	175	53
	125/110	550		118	270	235	129
	150/110	550		118	270	235	126
	175/125	650		145	330	305	230
	175/150	650		150	335	305	250
	200/150	650		150	335	305	250
	225/175	700		175	377	360	357
	250/200	800		195	418	400	530
	275/200	850		195	418	400	613
	250/225	800		225	485	450	706
	275/225	850		225	485	450	733
	300/225	900		225	485	450	762
	300/250	1000		270	640	560	1320
350/275	1000	280		640	560	1465	
400/275	1000	280		640	560	1605	
320 – 400	65/50	360		80	300	180	55
	65/55	360		80	300	180	55
	80/55	360		80	300	180	54
	100/55	360		80	300	180	53
	80-100/75	450		-	-	-	-
	100-150/80	450		-	-	-	-
	125-150/100	500		-	-	-	-
	125-150/125	600		175	385	345	360
	175-200/125	600		175	385	345	365
	175-225/150	650		-	-	-	-
	200-250/175	650		-	-	-	-
	250-275/200	800		-	-	-	-
	250-300/225	900		-	-	-	-
	300/250	1000		-	-	-	-
	300/275	1000	-	-	-	-	
	350-400/300	1200	-	-	-	-	
	400/350	1400	-	-	-	-	
	450/350	1500	420	1070	860	5874	
	500/400	1500	-	-	-	-	
	550/450	*	-	-	-	-	
600/500	*	-	-	-	-		

Note: \*) Larger nominal dimensions and pressures are manufactured on demand

**Flanged type, PN 63 – 250**

PN	DN/d	D <sub>1</sub> mm	d mm	H mm	V mm	O mm	L <sub>1</sub> mm	m kg
63	65/55	205	55	65	160	135	290	35
100		220					290	40
160		220					360	47
250		230					425	53
63	80/75	215	75	88	200	175	310	69
100		230					310	75
160		230					390	83
250		235					470	91
63	100/75	250	75	88	200	175	350	73
100		265					350	83
160		265					450	93
250		300					550	108
63	125/110	295	110	118	270	235	400	159
100		315					400	175
160		315					525	193
250		340					650	210
63	150/110	345	110	118	270	235	450	168
100		355					450	190
160		355					600	198
250		390					750	246
63	200/150	415	150	150	335	305	550	323
100		430					550	361
160		430					750	400
250		485					950	460
63	250/200	470	200	195	418	400	650	630
100		505					650	710
160		515					900	783
250		585					1150	906
63	300/225	530	225	225	485	450	750	632
100		585					750	762
160		585					1050	868
250		690					1350	*
63	300/250	530	250	270	640	560	750	*
100		585					750	*
160		585					1050	*
250		690					1350	*

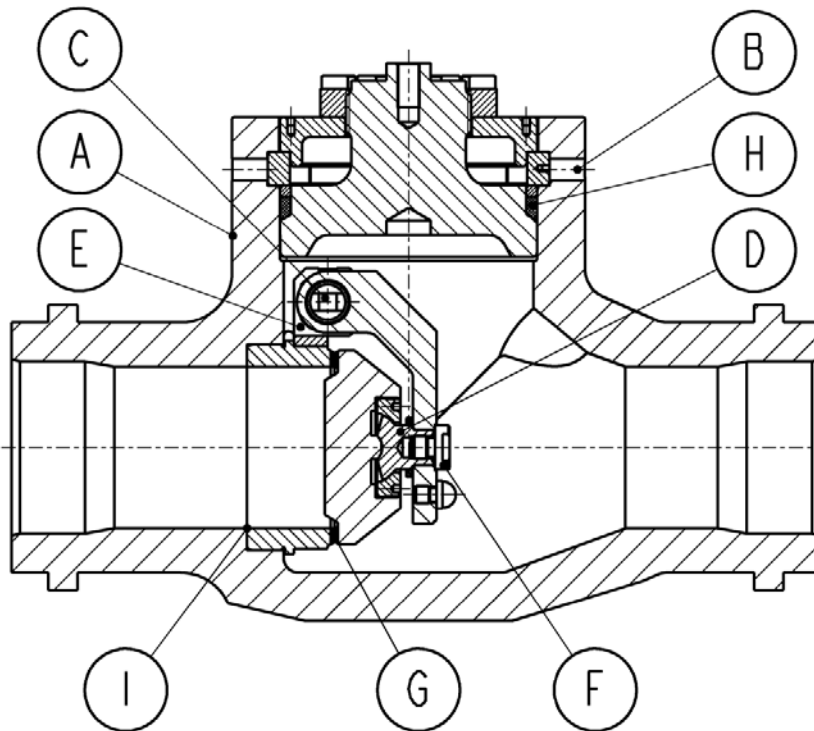
Notes: Connection dimensions of flange types according to ČSN EN 1092-1.

Other flange type upon request.

\*) upon request



## Advantages of construction



<b>A</b>	<b>Decreased forged body without sealing weld:</b> Decrease the weight, exclude the defectoscopy of weld
<b>B</b>	<b>Vents in the body in the place of segmented ring:</b> Facilitate the dismounting of segmented ring
<b>C</b>	<b>Pin of sling inside the body:</b> Does not go through the body, does not influence external sealing
<b>D</b>	<b>Connection „shoulder – disc“:</b> Enables inclining. Perfect contact of sealing surfaces of closure
<b>E</b>	<b>Hang of shoulder:</b> Places in seat, does not influence external sealing
<b>F</b>	<b>Connection „shoulder of the disc – pin“:</b> Simple, reliable: easy mounting and dismounting
<b>G</b>	<b>Seat faces are hardfaced with Stellite:</b> Long-term life time, resistance against wearing-out
<b>H</b>	<b>Sealing ring – expanded graphite:</b> Reliable sealing, ecology
<b>I</b>	<b>Seat placed in body:</b> Put with overlap, connected by sealing weld