

**Primary characteristics**

These valves are available in carbon steel and alloy steel. The main characteristics of this valve type include:

- Direct welded sealing surfaces
- Spring loaded disc

**Design**

This valve type has bolted connection between body and bonnet. Springloaded disc with piston guide in bonnet. Flat sealing surfaces. The seats are direct welded and are available in Cr or Stellite®.

**Applications**

The valves in this data sheet are suitable for clean media like air, steam, condensate or other media which do not damage the included parts.

**CE-marked:** according to Pressure Equipment Directive PED 97/23/EG category III.



**Capacity (table 1)**

DN	Resistance factor, Z	Kv value
15	3,7	4,5
20	6,0	6
25	9,0	7
32	6,5	15
40	5,0	27
50	6,5	38
65	5,0	75
80	5,3	110
100	5,2	170

The specified resistance factors are applicable when the valves are fully opened. The Kv-values are specified in m3/h at a pressure drop of 1 bar over the valve. The relation between Kv and Cv is as follows:  
Kv=0,86 x Cv      Cv=1,16 x Kv

<b>Technical specification</b>	
<b>Range of sizes:</b>	DN15 - DN100
<b>Material:</b>	Carbon steel, Alloy steel
<b>Pressure ratings:</b>	PN25 - PN160
<b>Temperature range:</b>	-10 - 530°C see table 2
<b>Connections:</b>	Flanges according to EN1092-1 <sup>1)</sup> Welded ends according to EN12627
<b>Face-to-face:</b>	Flanges according to EN558-1 Welded ends according to EN12982
<b>Test pressure:</b>	According to EN12266 1,5 x PN    open valve 1,1 x PN    closed valve

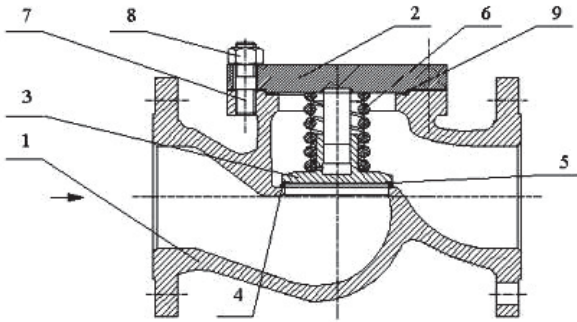
<sup>1)</sup> PN160 according to DIN2501, DIN2638, DIN2548

**Working pressure and temperatures (Table 2)** for material group 3E0 and 5E0 according to EN1092-1.

Body material	Pressure (bar) / temperature (°C)													
	PN	RT	50	100	150	200	250	300	350	400	450	500	520	530
Carbon steel 3E0	25/40	40,0	39,0	37,3	34,7	30,2	28,4	25,8	24,0	23,1				
Alloy steel 5E0		40,0	40,0	40,0	40,0	40,0	39,1	36,4	33,8	32,0	30,2	24,4	16,7	13,5
Carbon steel 3E0	63	63,0	61,4	58,8	54,6	47,6	44,8	40,6	37,8	36,4				
Alloy steel 5E0		63,0	63,0	63,0	63,0	63,0	61,6	57,4	53,2	50,4	47,6	38,4	26,3	21,8
Carbon steel 3E0	100	100,0	97,5	93,3	86,7	75,6	71,1	64,4	60,0	57,8				
Alloy steel 5E0		100,0	100,0	100,0	100,0	100,0	97,8	91,1	84,4	80,0	75,5	60,9	41,8	34,7
Carbon steel 3E0	160*	156,0	148,8	136,4	126,7	113,7	104,0	94,2	87,7	84,4				
Alloy steel 5E0		163,3	163,3	162,7	158,5	149,4	143,0	133,2	123,4	115,5	106,7	89,1	67,8	56,3

\* Calculated according to EN 12516-1, annex F

**Figure 1**



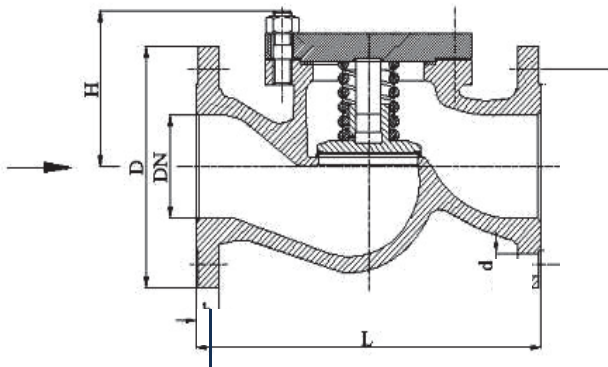
**Material specification (Table 3)**

Pos	Part	Dim	Carbon steel acc. 3E0	Alloy steel acc. 5E0
			-10°C till 400°C**	-10°C till 530°C
1	Body	DN15-25	1.0460 (3E0)	1.7335 (5E0)
		DN32-100	1.0619 (3E0)	1.7357 (5E0)
2	Bonnet	DN15-25	1.0460 (3E0)	1.7335 (5E0)
		DN32-100	1.0619 (3E0)	1.7357 (5E0)
3	Disc	DN15-50	1.4021	1.7335
		DN65-100	1.0619	1.7357
4	Sealing surface		13%Cr / Stellite®	Stellite®
5	Sealing surface disc	DN15-50	1.4021 tempered / Stellite®	Stellite®
		DN65-100	13%Cr / Stellite®	Stellite®
6	Spring		1.5024	1.8159
7	Screw		1.7225	1.7709
8	Nut		1.1191	1.7709
9*	Bonnet gasket		reinforced graphite	reinforced graphite

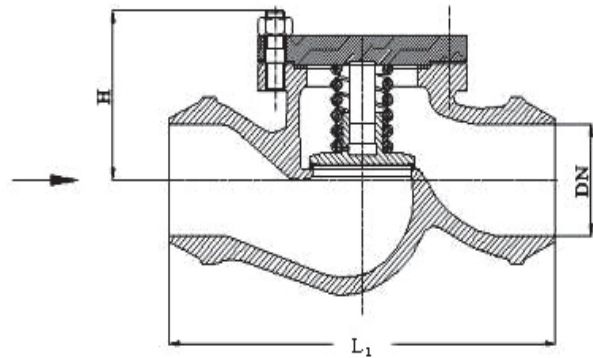
\*Recommended spare parts

\*\*over 350°C is Stellite® recommended

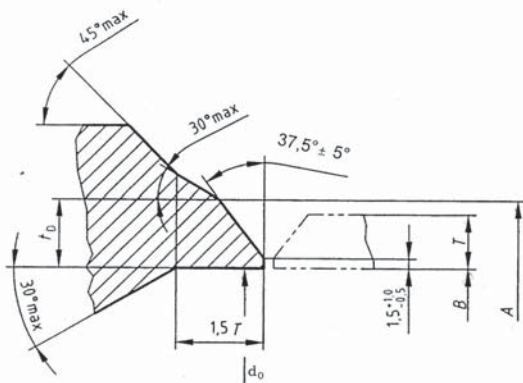
**Figure 2**



**Figure 3**



**Figure 4**



$t_0 \leq T \times 1,5$  according to EN12627:1999

**PN25/40 (Table 4)**

DN	Flanged			Welded ends				H
	D mm	L mm	Vikt kg	L <sub>1</sub> mm	Mass kg	A mm	d <sub>0</sub> mm	
15	95	130	4	130	2,3	22	16	80
20	105	150	4,5	130	2,4	28	21,1	80
25	115	160	5	130	2,6	35	27,2	80
32	140	180	7,5	160	3,8	44	36,2	105
40	150	200	10	180	6	50	42,2	105
50	165	230	12,5	210	7,2	62	53,3	117
65	185	290	19	290	12	77	68,3	125
80	200	310	31	310	22,5	91	81,4	136
100	235	350	42	350	31	117	106,2	170

**PN63 (Table 5)**

DN	Flanged			Welded ends				H
	D mm	L mm	Mass kg	L <sub>1</sub> mm	Mass kg	A mm	d <sub>0</sub> mm	
15-25	Se PN160							
32	155	260	13,5	180	8,2	44	30	110
40	170	260	15	210	9	50	41,3	110
50	180	300	24,4	250	15	62	53,3	143
65	205	340	36	340	24	77	67,4	173
80	215	380	57	380	43	91	80,2	192
100	250	430	91	430	73	117	105	235

**PN100 (Table 6)**

DN	Flanged			Welded ends				H
	D mm	L mm	Mass kg	L <sub>1</sub> mm	Mass kg	A mm	d <sub>0</sub> mm	
15-25	Se PN160							
32	155	260	13,5	Se PN160				110
40	170	260	15	Se PN160				110
50	195	300	25	Se PN160				143
65	220	340	37	Se PN160				173
80	230	380	58	Se PN160				192
100	265	430	94	Se PN160				235

**PN160 (Table 7)**

DN	Flanged			Welded ends				H
	D mm	L mm	Mass kg	L <sub>1</sub> mm	Mass kg	A mm	d <sub>0</sub> mm	
15	105	210	5,1	150	2,5	22	16	80
20	130	230	6,5	150	2,7	28	20,2	80
25	140	230	7,7	160	3	35	26,3	80
32	155	260	13,5	180	8,2	44	30	110
40	170	260	15	210	9	50	39,2	110
50	195	300	25	250	15	62	50	143
65	220	340	37	340	24	77	62	173
80	230	380	58	380	43	91	72,1	192
100	265	430	94	430	73	117	93	235

Product code

Example

Code      51   7   6   9   0 -   0015  
                  1   2   3   4   5                          6

**1. Valve type**

51 Globe check valve

**2. Material**

6 Body in carbon steel \* (DN32-100)

7 Forged steel \*\* (DN15-25)

**3. Pressure class**

6 PN25/40

7 PN63 Flanged and welded ends  
 DN15-25 choose PN160,

8 PN100 Flanged DN15-25 choose PN160  
 welded DN15-100 choose PN160

9 PN160

**4. Generation**

9 Generation No.

**5. Version**

**Seat mtr.**

**Body mtr.**

0= Flanged 13Cr 3E0

1= Welded ends 13Cr 3E0

4= Flanged Stellite 3E0

5= Welded ends Stellite 3E0

8= Flanged Stellite 5E0

9= Welded ends Stellite 5E0

**6. Dimension**

**DN**

0015 15

0020 20

0025 25

0032 32

0040 40

0050 50

0065 65

0080 80

0100 100

\* 3E0= EN 1.0619 (carbon steel)  
 5E0= EN 1.7357 (alloy steel)

\*\* 3E0= EN 1.0460 (carbon steel)  
 5E0= EN 1.7335 (alloy steel)



**V&A**

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