



**01 - 09.8**  
07.09.GB

CHECK VALVES  
**ZV 116 and ZV 216**





# ZV 116

# ZV 216

Check valves

**DN 15 - 300**  
**PN 16 and 25**

**Check valves ZV x16 are self-acting shut-off valves for application at long-lasting and maintenance-free operation. Valves meet the ČSN EN 12334 (03/2002).**

Valves in execution ZV x16 P are closed by back pressure with spring with weight of plug assistance, Opening overpressure is 0,05 - 0,1 bar. Valves in execution ZV x16 T are closed by back pressure only with weight of plug assistance.

## Application

The valve is designed for application as self-acting reverse shut-off valve. In the valve is not warranted 100% of tightness in closed position, therefore in the case of higher tightness request is necessary to install into pipeline the shut off valve. The valves are especially designed for applications in hot-water and steam circuits in power plants, heating plants, heat exchange stations, heat transferring stations and common heating applications.

## Process media

The valves ZV x16 are suitable to use for water, steam and other liquids and gases which are compatible with used material of the valve body and inner parts.

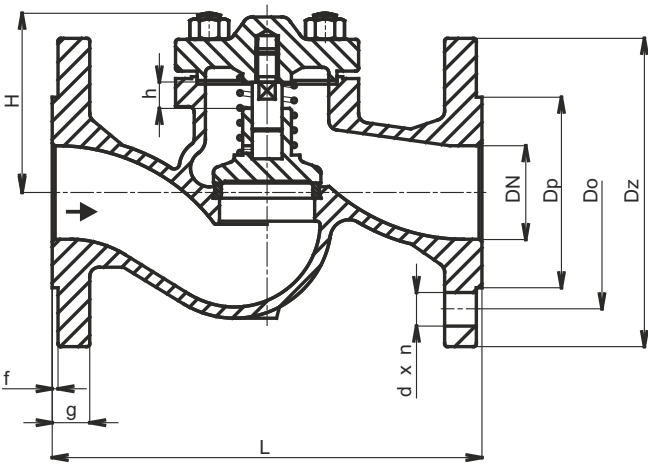
## Installation

The valves are designed for mounting in a horizontal pipeline by the bonnet upwards, flow direction is always to under the plug and is determined by the arrow on the body.

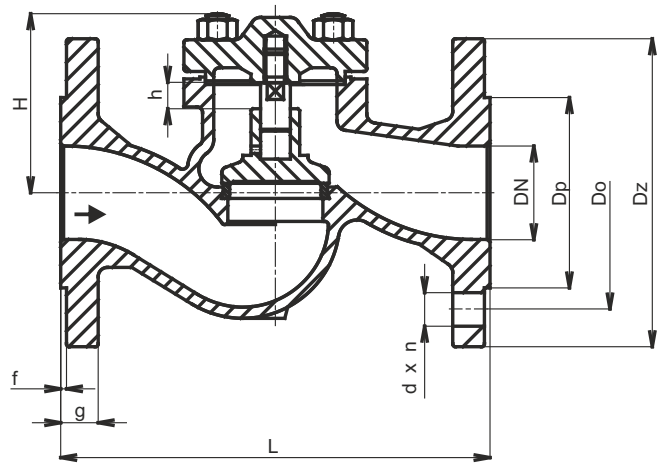
Technical data		
Series	ZV 116	ZV 216
Type of valve	Check valve	
Nominal size range	DN 15 to 300	DN 15 to 200
Nominal pressure	PN 16	PN 25
Body material	Grey cast iron EN-JL1040	Nodular cast iron EN-JS1025
Plug material	Stainless steel 1.4028	
Seat material	Stainless steel 1.4006	
Stem material	Stainless steel 1.4021	
Spring material	Stainless steel 1.4057	
Sealing material	Graphite	
Operating temperature range	+2°C to +300°C	+2°C to +350°C
Connection	Flanges Type B1 (raised-faised) acc. to ČSN-EN 1092-2, Face to face dimensions acc. to ČSN-EN 558, serie 1	
Type of plug	Disc	
Kvs values	5,9 to 1460 m <sup>3</sup> /h	
Leakage rate	Acc. to ČSN-EN 12334 (03/2002)	

### Dimensions and weights for the ZV x16

DN	PN 16					PN 25					PN 16, PN 25						
	Dz [mm]	Dp [mm]	Do [mm]	d [mm]	n	g [mm]	Dz [mm]	Dp [mm]	Do [mm]	d [mm]	n	g [mm]	H [mm]	L [mm]	h [mm]	f [mm]	m [kg]
15	95	46	65			14	95	46	65			14	56	130	5		3
20	105	56	75	14		16	105	56	75	14		16	56	150	8		4
25	115	65	85			16	115	65	85			16	67	160	8	2	4.5
32	140	76	100		4	18	140	76	100		4	18	76	180	8		7.5
40	150	84	110			18	150	84	110			19	89	200	11		8
50	165	99	125			20	165	99	125			19	96	230	14		13.5
65	185	118	145	19		20	185	118	145			19	104	290	17		17
80	200	132	160			22	200	132	160	19		19	124	310	21		28
100	220	156	180			24	235	156	190		8	19	161	350	25	3	40
125	250	184	210		8	26	270	184	220			19	174	400	32		71
150	285	211	240			26	300	211	250			20	197	480	38		95
200	340	266	295		23	30	360	274	310		12	22	248	600	50		221
250	405	319	355			32	---	---	---	---	---	---	333	730	65		95
300	460	370	410		12	32	---	---	---	---	---	---	375	800	95	4	221



ZV x16 P



ZV x16 T

## The valve complete specification No. for ordering ZV x16

		XX	XXX	XXX	XX	/	XXX	-	XXX
<b>1. Valve</b>	Check valve, direct	ZV							
<b>2. Type</b>	Check valve made of grey cast iron		116						
	Check valve made of nodular cast iron		216						
<b>3. Function</b>	Check valve with spring			P					
	Check valve without spring			T					
<b>4. Connection</b>	Raised-raised flange			1					
<b>5. Material body</b>	Grey cast iron EN-JL1040		116	3					
	Nodular cast iron EN-JS1025		216	4					
<b>6. Nominal pressure PN</b>	PN 16		116		16				
	PN 25		216		25				
<b>7. Max. temperature °C</b>	300°C		116				300		
	350°C		216				350		
<b>8. Nominal size DN</b>	DN 15 to 300		116						XXX
	DN 15 to 200		216						XXX

Ordering example: ZV 216 P14 25/350-065

## Kvs, differential pressure values and loss coefficient z (zeta)

DN	Kvs [m <sup>3</sup> /h]	z	$\Delta p_{\max}$ MPa	
			PN 16	PN 25
15	5.9	2.3	1.60	2.50
20	7.4	4.7	1.60	2.50
25	13.0	3.7	1.60	2.50
32	18.0	5.2	1.60	2.50
40	30.0	4.5	1.60	2.50
50	41.0	5.9	1.60	2.50
65	79.0	4.6	1.60	2.50
80	115.0	4.9	1.60	2.50
100	181.0	4.9	1.60	2.50
125	225.0	7.7	1.60	2.50
150	364.0	6.1	1.60	2.10
200	690.0	5.4	1.40	1.40
250	1010.0	6.1	1.60	---
300	1460.0	6.1	1.60	---

## Max. permissible pressure values [MPa]

Material	PN	Temperature [°C]					
		120	150	200	250	300	350
Grey cast iron EN-JL1040 (EN-GJL-250)	16	1,60	1,44	1,28	1,12	0,96	---
Nodular cast iron EN-JS1025 (EN-GJS-400-18-LT)	25	2,50	2,43	2,30	2,18	2,00	1,75



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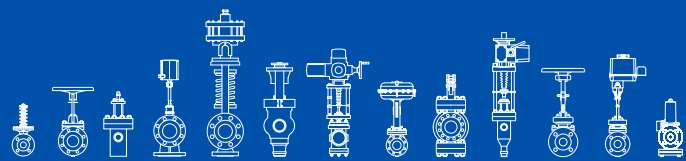
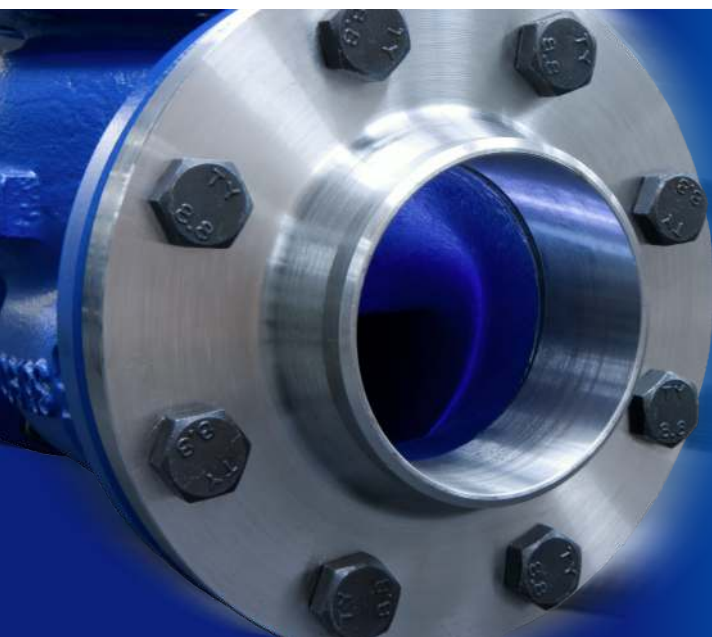
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