

**BELLOW VALVE zBEL**



Body material	Nominal pressure	Nominal diameter	Max. temperature
A Grey cast iron	C 16 bar	DN 15-250	300°C
C Nodular cast iron	C 16 bar D 25 bar	DN 15-200	350°C
F Cast steel	E 40 bar	DN 15-200	450°C
I Cast stainless steel	E 40 bar	DN 15-200	400°C



correspond to the pressure equipment directive 2014/68/UE marking CE for DN≥32

**FEATURES**

- high tightness (leakproofness class - A acc. EN -12266 - 1)
- compact settlement
- environment-friendly
- tests acc. EN - 12266 - 1
- flanges drilled according to EN 1092-2 for body material A, C, E
- flanges drilled according to EN 1092-1 for body material F, I
- face-to-face dimension according to EN 558 series 1
- non-rising handwheel
- ISO 15848-1 Class AH – TA-LUFT
- double wall bellows seal

**APPLICATION \***

\* not all of the applications are suitable for all of the executions  
 On the website [www.zetkama.com.pl](http://www.zetkama.com.pl) is a Chemical Resistance List, which specifies the parameters of work for a given medium.

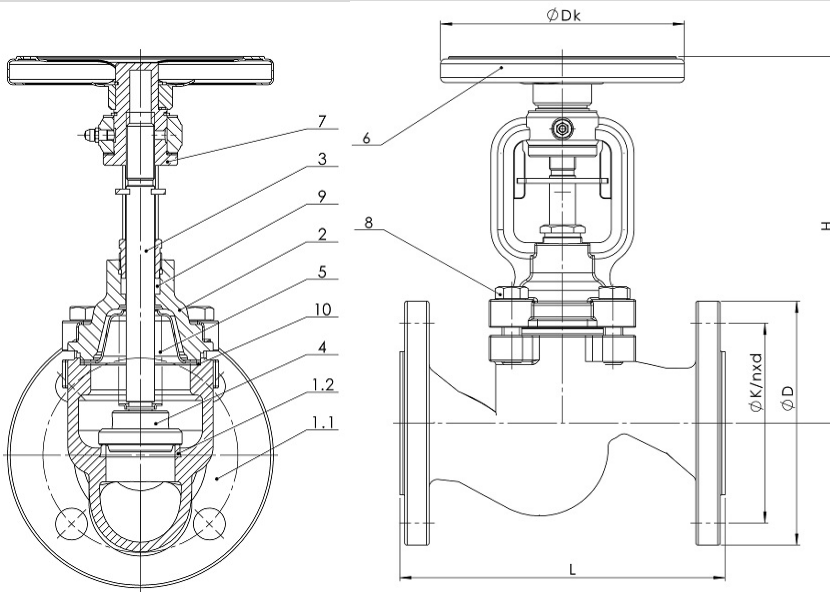
industries							
	INDUSTRY	SHIPBUILDING INDUSTRY	HEATING	REFRIGERATION AND AIR CONDITIONING	CHEMICAL INDUSTRY		
media							
	GLYCOL	INDUSTRIAL WATER	DIATHERMIC OIL	STEAM	COMPRESSED AIR	NEUTRAL FLUIDS	HYDROGEN

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FIG.234

**MATERIALS, DIMENSIONS**



	Body material	A	C
	Type	01; 04; 71	01; 04; 71
1.1	Body	EN – GJL-250 5.1301 (ex. JL1040)	EN – GJS-400 – 18-LT 5.3103 (ex.JS1025)
1.2	Seat ring	X12Cr13 1.4021	
2	Bonnet	EN – GJS-400 – 18-LT 5.3103 (ex.JS1025)	
3	Stem	X20Cr13 1.4021	
4	Disc	X20Cr13+QT 1.4021	
5	Bellow	X6CrNiMoTi-17-12-2	
6	Handwheel	Steel	
7	Sleeve	11SMnPb30	
8	Hexagon bolt	5.6	A2-70
9	Gland packing	Graphite	
10	Bonnet gasket	Graphite+ CrNiSt	
	Max. temperature	300°C	350°C

DN	15	20	25	32	40	50	65	80	100	125	150	200	250
L (mm)	130	150	160	180	200	230	290	310	350	400	480	600	730
Dk (mm)	125	125	125	125	150	150	175	200	250	300	400	500	600
H	178	178	193	201	224	228	270	295	325	380	427	569	645
K <sub>vs</sub> (m <sup>3</sup> /h)	01;04	5,9	7,4	13	18	30	41	79	115	181	225	364	725
	01;04	3,2	3,9	4,85	6,5	9,0	11	15,8	24,3	35	49	76	130,5
Weight (kg)	71	3,2	3,9	5,0	6,7	9,3	11,5	16,3	21,4	36	51,5	78	130,5

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KV [m<sup>3</sup>/h] FIG. 234-71 (A,C)

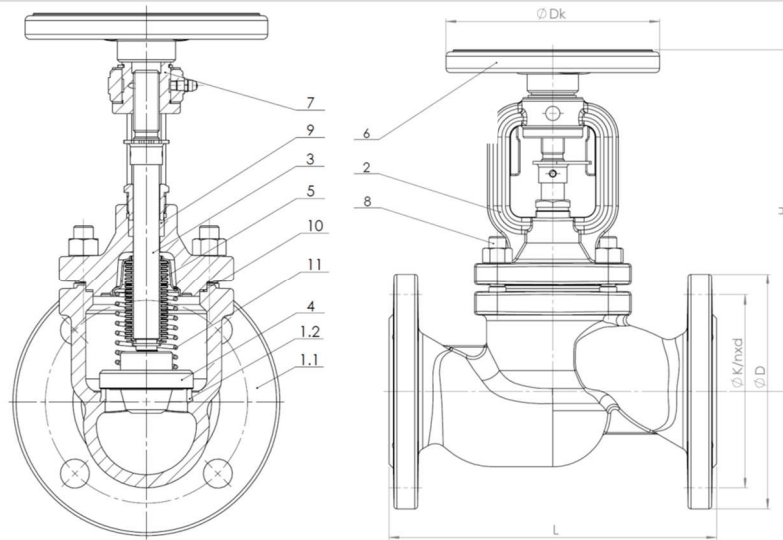
Turn	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150	DN 200
0,5	0,86	1,1	1,35	1,72	4,1	2,94	4,5	-	-	-	-	-
1	1,32	178	1,87	2,34	5,64	3,61	5,5	8,1	14,3	23	28	110
1,5	1,91	2,82	2,78	3,21	7,33	4,81	7,0	-	15,2	29,8	-	-
2	2,78	4,16	3,82	4,83	9,16	6,5	8,8	12,8	25,3	37	-	190
2,15	3,02	-	-	-	-	-	-	-	-	-	-	-
2,5		5,5	5,2	6,2	11,2	8,5	10,7	-	34,4	-	-	-
2,7		6,1	-	-	-	-	-	-	-	-	-	-
3			6,7	7,8	13,6	10,7	13,3	17,2	45,1	54,9	56	257
3,5			8	9,6	15,8	13,5	16,2	-	55	-	-	-
3,7			8,6	-	-	-	-	-	-	-	-	-
4				11,4	18,6	16,3	19,6	24,9	67	79,5	80	312
4,5				13,1	20,9	19,2	23,4	-	78,9	95,8	-	-
4,85				14	-	-	-	-	-	-	-	-
5					23,2	22,8	27,1	31,4	94,6	109	116	369
5,5						26,3	30,7	-	-	-	-	-
6						30,1	35,6	42,1	121,6	144,1	145	418
6,25						31,8	-	-	127,1	-	-	-
7							45,3	50,4		176	182	468
7,9							-	-		201,5	-	-
8							54,6	60,4			222	516
8,25							56,83	-			-	-
8,33								-			-	532
9								70,3			258	
9,4								-			273	
10								78,5				

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FIG.234

MATERIALS, DIMENSIONS



	Body material	F			
		01	04	31	71
1.1	Body	GP240GH			
1.2	Seat	G199 LSi			
2	Bonnet	GP240GH			
3	Stem	X20Cr13 1.4021			
4	Disc	Stop disc X20Cr13 +QT 1.4021	balancing disc X20Cr13 +QT 1.4021	SDNR X20Cr13 +QT 1.4021	throttling disc X20Cr13 +QT 1.4021
5	Bellow	X6CrNiMoTi17-12-2			
6	Handwheel	Steel			
7	Sleeve	11SMnPb30			
8	Stud bolt, nut	25CrMo4			
9	Gland packing	Graphite			
10	Bonnet gasket	Graphite			
11	Spring	-----	-----	X17CrNi16-2 1.4057	-----
<b>Max. temperature</b>		<b>450°C</b>			

DN	15	20	25	32	40	50	65	80	100	125	150	200
L (mm)	130	150	160	180	200	230	290	310	350	400	480	600
Dk (mm)	125	125	125	125	200	200	250	250	300	300	400	400
H (mm)	190	190	190	195	240	240	270	300	450	520	570	627
Kvs (m³/h)	6,0	8,7	15,5	25,3	28,8	46,5	76,4	113,2	180,2	238,7	358,2	552
Weight (kg)	4,3	5,1	6,0	7,6	11,5	13,7	20,1	27,5	44,0	65,5	110,0	172,5

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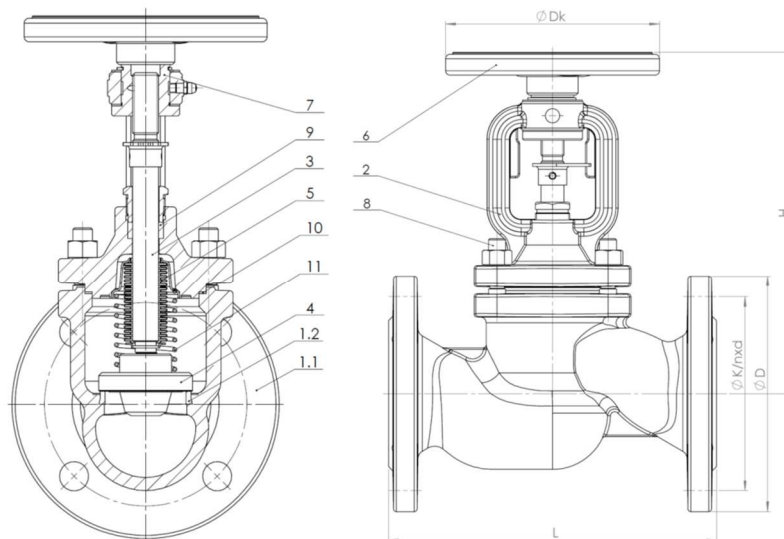
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FIG.234

MATERIALS, DIMENSIONS



Body material		I			
Type	01	04	31	71	
1.1	Body	G-X5CrNiMo19-11-2 1.4408			
1.2	Seat	G 19 9 L Si			
2	Bonnet	G-X5CrNiMo19-11-2 1.4408			
3	Stem	X6CrNiMoTi17-12-2 1.4571			
4	Disc	Stop disc X6CrNiMoTi17-12-2 1.4571	Balancing disc X6CrNiMoTi17-12-2 1.4571	SDNR X6CrNiMoTi17-12-2 1.4571	Throttling disc X20Cr13 +QT 1.4021
5	Bellow	X6CrNiMoTi17-12-2 1.4571			
6	Handwheel	Steel			
7	sleeve	11SMnPb30			
8	Bolt, nut	A4-70			
9	Gland packing	Graphite			
10	Bonnet gasket	Graphite			
11	Spring	----		X17CrNi16-2 1.4057	---
Max. temperature		400°C			

DN	15	20	25	32	40	50	65	80	100	125	150	200
L (mm)	130	150	160	180	200	230	290	310	350	400	480	600
Dk (mm)	125	125	125	125	200	200	250	250	300	300	400	400
H (mm)	190	190	190	195	240	240	270	300	450	520	570	627
K <sub>vs</sub> (m <sup>3</sup> /h)	6,0	8,7	15,5	25,3	28,8	46,5	76,4	113,2	180,2	238,7	358,2	552
Weight (kg)	3,8	4,9	5,7	7,4	10,7	13,1	19,5	25,7	43,9	64,8	95,0	152,0

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KV [m<sup>3</sup>/h] FIG. 234-71 (F, I)

Obroty kółka	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150	DN 200
0,5	0,34	1,05	1,46	1,77	4,1	3,7	5,3	5,2	10,6	15,7	11,1	48
1	0,83	2,03	1,83	2,38	5,9	4,5	5,6	6,9	16,6	22,6	36,5	70
1,5	1,95	3,07	2,98	3,66	7,9	5,5	6,0	8,4	24,9	28,7	48	85
2	2,87	4,55	4,3	5,1	9,6	7,6	7,8	10,0	36,3	37,1	56	96
2,5	3,7	5,8	6,0	6,9	11,5	9,8	9,9	12,4	50	50	64	106
3	4,3	6,5	7,5	9,0	13,9	11,9	12,7	14,7	65	66	72	117
3,5			8,9	10,7	16,0	14,9	15,7	17,5	82	86	80	127
4			10,3	12,7	18,9	18,0	19,2	20,8	100	105	92	138
4,5			11,0	13,7	21,6	22,8	22,7	24,3	117	128	107	161
5					24,4	26,5	26,4	28,1	133	152	133	181
5,5					27,0	30,1	30,9	32,4	146	174	164	225
6					29,5	33,6	35,7	37,2		195	199	263
6,5					31,4	37,4	41	43		212	235	321
7					32,5	40,0	46	49		225	269	367
7,5							52	55			301	419
8							57	62			329	460
8,5							62	68				493
9							67	75				515
9,5												532

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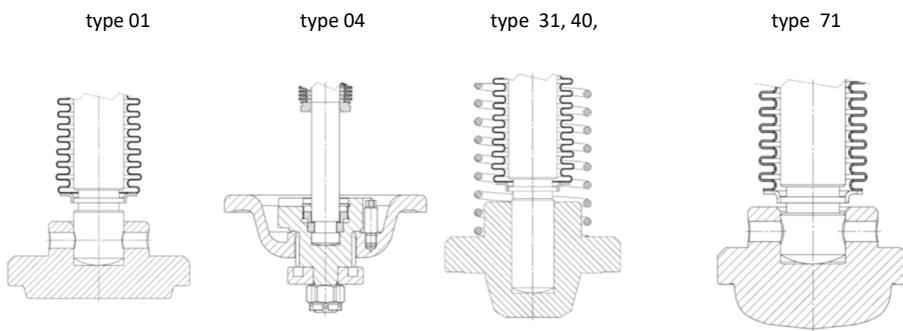
**PRESSURE-TEMPERATURE RATINGS**

PN		---	-10°±120°C	150°C	200°C	250°C	300°C	350°C	400°C	450°C		
EN-GJL-250	16	bar	---	16	14,4	12,8	11,2	9,6	---	---		
EN-GJS-400-18 LT	16		---	16	15,5	14,7	13,9	12,8	11,2	---		
	25		---	25	24,3	23	21,8	20	17,5	---		
<b>Acc. EN 1092-1</b>			<b>-40°÷&lt;-10°C</b>	<b>-10°±50°C</b>	<b>100°C</b>	<b>150°C</b>	<b>200°C</b>	<b>250°C</b>	<b>300°C</b>	<b>350°C</b>	<b>400°C</b>	<b>450°C</b>
GP240GH	40	bar	30	40	37,1	35,2	33,3	30,4	27,6	25,7	23,8	13,1
<b>Acc. EN 1092-1</b>			---	<b>-60°÷&lt;-10°C</b>	<b>-10°C±100°C</b>	<b>150°C</b>	<b>200°C</b>	<b>250°C</b>	<b>300°C</b>	<b>350°C</b>	<b>400°C</b>	<b>450°C</b>
G-X5CrNiMo19-11-2	40		---	40	40	36,3	33,7	31,8	29,7	28,5	27,4	---

**FLANGE DIMENSIONS ACC. PN-EN 1092-1/-2**

DN		15	20	25	32	40	50	65	80	100	125	150	200	250	300
PN16	D (mm)	95	105	115	140	150	165	185	200	220	250	285	340	405	----
	K (mm)	65	75	85	100	110	125	145	160	180	210	240	295	355	----
	nxd (mm)	4x14	4x14	4x14	4x19	4x19	4x19	4x19	8x19	8x19	8x19	8x23	12x23	12x28	----
PN25	D (mm)	95	105	115	140	150	165	185	200	235	270	300	360	----	----
	K (mm)	65	75	85	100	110	125	145	160	190	220	250	310	----	----
	nxd (mm)	4x14	4x14	4x14	4x19	4x19	4x19	8x19	8x19	8x23	8x28	8x28	12x28	----	----
PN40	D (mm)	95	105	115	140	150	165	185	200	235	270	300	375	----	----
	K (mm)	65	75	85	100	110	125	145	160	190	220	250	320	----	----
	nxd (mm)	4x14	4x14	4x14	4x18	4x18	4x18	8x18	8x18	8x22	8x26	8x26	12x30	----	----

**DISC**



Other type of valves on request:

- stellited seat
- hardened disc
- other

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FIG.234



TYPE

Figure	Body material	Nominal diameter	Nominal pressure	Type
234	A Grey cast iron EN-GJL-250	15-150 mm	C 16 bar	01 stem connected with bellow; stem, disc, bellow and seat ring - stainless steel
		200-250 mm	C 16 bar	04 stem connected with bellow; stem, balancing disc; bellow and seat ring - stainless steel
		15-200 mm	C 16 bar	71 stem connected with bellow; stem, throttling disc; bellow and seat ring - stainless steel
234	C Nodular cast iron EN-GJS-400-18-LT	15-150 mm	C 16 bar	01 stem connected with bellow; stem, disc, bellow and seat ring - stainless steel
		200 mm	C 16 bar	04 stem connected with bellow; stem, balancing disc; bellow and seat ring - stainless steel
		15-200 mm	C 16 bar	71 stem connected with bellow; stem, throttling disc; bellow and seat ring - stainless steel
		15-150 mm	D 25 bar	01 stem connected with bellow; stem, disc, bellow and seat ring - stainless steel
		200 mm	D 25 bar	04 stem connected with bellow; stem, balancing disc; bellow and seat ring - stainless steel
234	F cast steel GP240GH 1.0619	15-100 mm	E 40 bar	01 stem connected with bellow; stem, disc, bellow and seat ring - stainless steel
		125-200 mm	E 40 bar	04 stem connected with bellow; stem, balancing disc; bellow and seat ring - stainless steel
		15-200 mm	E 40 bar	31 stem connected with bellow, SDNR with spring; stem, SDNR, spring, bellow – stainless steel
		15-200 mm	E 40 bar	71 stem connected with bellow; stem, throttling disc; bellow and seat ring - stainless steel
234	I cast stainless steel G-X5CrNiMo19-11-2	15-100 mm	E 40 bar	01 stem connected with bellow; stem, disc, bellow and seat ring - stainless steel
		125-200 mm	E 40 bar	04 stem connected with bellow; stem, balancing disc; bellow and seat ring - stainless steel
		15-200 mm	E 40 bar	31 stem connected with bellow, SDNR with spring; stem, SDNR, spring, bellow – stainless steel
		15-200 mm	E 40 bar	71 stem connected with bellow; stem, throttling disc; bellow and seat ring - stainless steel
		15-100 mm	E 40 bar	01-H stem connected with bellow; stem, disc, bellow and seat ring - stainless steel, type for hydrogen
		125-200 mm	E 40 bar	04-H stem connected with bellow; stem, balancing disc; bellow and seat ring - stainless steel, type for hydrogen
		15-200 mm	E 40 bar	31-H stem connected with bellow, SDNR with spring; stem, SDNR, spring, bellow – stainless steel, type for hydrogen
15-200 mm	E 40 bar	71-H stem connected with bellow; stem, throttling disc; bellow and seat ring - stainless steel, type for hydrogen		

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FIG.234

**ORDERING**

Figure	Body material	Nominal diameter	Nominal pressure	Type
234	A Grey cast iron EN-GJL-250	15-150 mm	C 16 bar	01 stem connected with bellow; stem, disc, bellow and seat ring - stainless steel

Order example acc. index

234 A 050 C 01

Bellow sealed stop valves, ends flanged, form straight  
 Grey cast iron EN-GJL-250  
 Nominal diameter (mm)  
 Nominal pressure PN 16  
 Stem connected with bellow; stem, disc and seat ring stainless steel

234 A 050 C 01

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