

Bellows seal globe valve Flange

Fig.146

1/2" -12" Class 150-300LBS

Body :A216 WCB/LCB/LCC ; A351 CF8M/ CF3M

Maintenance-free

Design acc. : BS 5352; MSS-SP-117; ASME B16.34

Face to face : ASME B16.10

Flange end : ASME B16.5

Test acc. : API 598

Temperature range :

-29℃~+450℃(WCB)

-196℃~+400℃(CF8M)

Witzenmann Bellows

circle 10 000

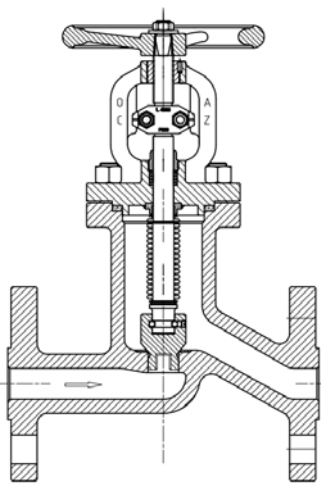


Fig.146c-g 1/2"-1 1/2"

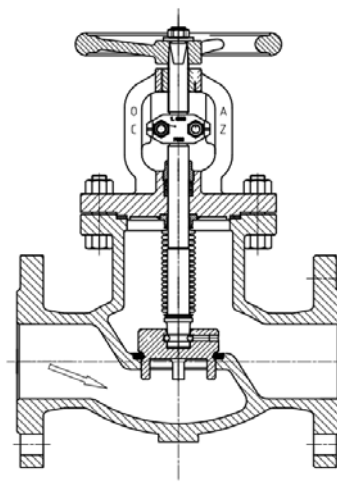
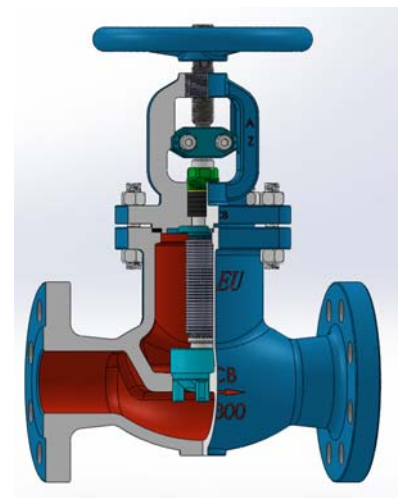


Fig.146c-g 2"-12"



Key features

Bellows seal globe valves designed for various applications with inflammable, explosive, volatile, toxic or aggressive characteristics to provide the highest fugitive emission protection.

Full safety sealing system with multiple-walled bellows, gland packing, metal back seat, and position indicator.

Two-part rising stem design separates the upper and lower stem from each other which prevents bellows from torsion.

Typical applications

Bellows seal globe valves provide the highest fugitive emission protection for use in chemical processing, including Phosgene and Fertilizer applications.

For various media with inflammable, explosive, volatile, toxic or aggressive characteristics, whose emission into the atmosphere must be prevented.

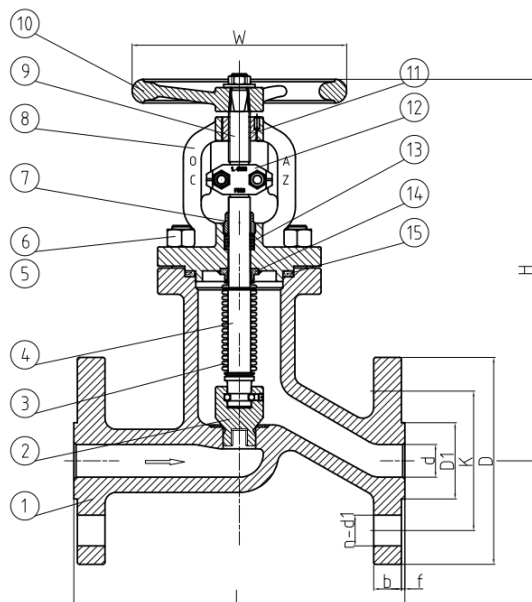


FIG.	Pressure	Material	Range
131.146c	150lb	WCB	1/2" - 1 1/2"
132.146c	300lb	WCB	1/2" - 1 1/2"
151.146c	150lb	CF8M	1/2" - 1 1/2"
152.146c	300lb	CF8M	1/2" - 1 1/2"

Design acc. :BS 5352/MSS-SP-117

ASME B16.34

Face to face : ASME B16.10

Flange end : ASME B16.5

Test acc. : API 598

Temperature range :

-29℃~ +450℃(WCB)

-196℃~ +400℃(CF8M)

Material List

NO.	Part	Material	
		FIG.151.146c/152.146c	FIG.131.146c/132.146c
1	Body	CF8M/CF3M	A216 WCB/LCB/LCC
1.1	Body seal	CF8M/Stellite 21	ER410
2	Disk	A182 F316	A276 420
2.1	Disk seal	Stellite 21/stellite 6	ER420
3	Bellows	A276 316Ti	A276 316Ti
4	Low stem	A182 F316	A182 F316
5	Bolts	A193 B8M	A193 B7
6	Nuts	A194 8M	A194 2H
7	Packing bushing	A351 CF8M	A216 WCB
8	Bonnet	A351 CF8M /CF3M	A216 WCB /LCB /LCC
9	Up stem	A276 431	A276 431
10	Handwheel	A536 60-40-18	A536 60-40-18
11	Stem nut	A681 D2 /Copper alloy	A536 60-40-18 /Copper alloy
12	Connecting block	A351 CF8	A351 CF8
13	Packing	Graphite	Graphite
14	Connecting ring	A276 316L	A276 316L
15	Body seal gasket	Graphite+316/ PTFE	Graphite+304

Dimension List

Class	Size	d	L	D	K	D1	b	f	w	n	d1	H	Hub	W.T.(kg)
150lb	1/2"	15	108	90	60.3	34.9	9.6	2	120	4	16	232	6	
	3/4"	20	117	100	69.9	42.9	11.2	2	120	4	16	232	6	
	1"	25	127	110	79.4	50.8	12.7	2	140	4	16	245	8	
	1 1/4"	32	140	115	88.9	63.5	14.3	2	140	4	16	245	8	
	1 1/2"	40	165	125	98.4	73.0	15.9	2	160	4	16	295	15	
300lb	1/2"	15	152	95	66.7	34.9	12.7	2	120	4	16	232	6	6
	3/4"	20	178	115	82.6	42.9	14.3	2	120	4	19	232	6	9
	1"	25	203	125	88.9	50.8	15.9	2	140	4	19	245	8	15
	1 1/4"	32	216	135	98.4	63.5	17.5	2	140	4	19	245	8	18
	1 1/2"	40	229	155	114.3	73.0	19.1	2	160	4	22	295	15	21

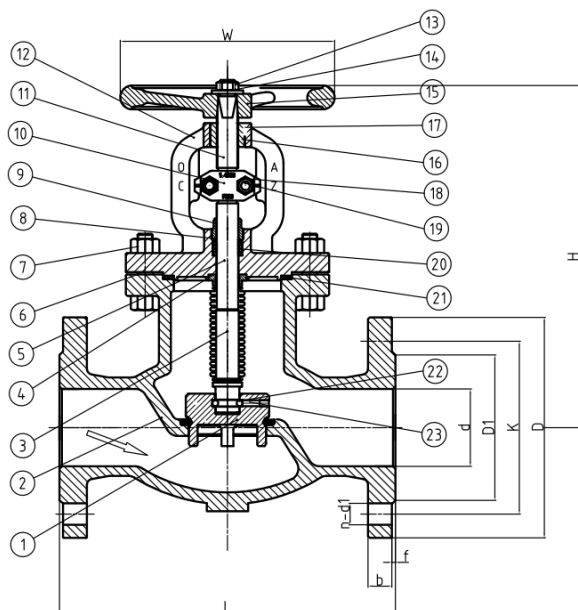


FIG.	Pressure	Material	Range
131.146c	150lb	WCB	2"-4"
132.146c	300lb	WCB	2"-4"
151.146c	150lb	CF8M	2"-4"
152.146c	300lb	CF8M	2"-4"

Design acc. :BS 5352/MSS-SP-117

ASME B16.34

Face to face : ASME B16.10

Flange end : ASME B16.5

Test acc. : API 598

Temperature range :

-29℃~ +450℃(WCB)

-196℃~ +400℃(CF8M)

Material List

NO.	Part	Material		NO.	Part	Material	
		FIG.151.146c / 152.146c	FIG.131.146c/ 132.146c			FIG.151.146c / 152.146c	FIG.131.146c / 132.146c
1	Disk	A182 F316	A276 420	12	Bonnet	A351 CF8M/ CF3M	A216 WCB/LCB /LCC
1.1	Disk Seal	Stellite 21/stellite 6	ER420	13	Nuts	A194 8A	A194 2H
2	Body	CF8M/CF3M	A216 WCB/LCB/LCC	14	Gasket	A276 304	A576-1045
2.1	Body Seal	CF8M/Stellite 21	ER410	15	Handwheel	A536 60-40-18	A536 60-40-18
3	Bellows	A276 316Ti	A276 316Ti	16	Stem nut	A681 D2 /Copper alloy	A536 60-40-18/Copper alloy
4	Connecting ring	A276 316L	A276 316L	17	Pin	A276 316	A576-1045
5	Low stem	A182 F316	A182 F316	18	Nuts	A194 8A	A194 2H
6	Bolts	A193 B8M	A193 B7	19	Bolts	A193 B8	A193 B7
7	Nuts	A194 8M	A194 2H	20	Packing	Graphite	Graphite
8	Gasket	A276 304	A276 304	21	Body seal gasket	Graphite+316/PTFE	Graphite+304
9	Packing bushing	A351 CF8M	A216 WCB	22	Ball bearing	A276 316	A276 316
10	Connecting block	A351 CF8	A351 CF8	23	Screw	A276 316	A276 316
11	Up stem	A276 431	A276 431				

Dimension List

Class	Size	d	L	D	K	D1	b	f	w	n	d1	H	Hub	W.T.(kg)
150lb	2"	50	203	150	120.7	92.1	17.5	2	160	4	19	295	15	
	2 1/2"	65	216	180	139.7	104.8	20.7	2	220	4	19	310	15	
	3"	80	241	190	152.4	127.0	22.3	2	250	4	19	374	25	
	4"	100	292	230	190.5	157.2	22.3	2	250	8	19	377	25	
300lb	2"	50	267	165	127.0	92.1	20.7	2	160	8	19	295	15	28
	2 1/2"	65	292	190	149.2	104.8	23.9	2	220	8	19	310	15	48
	3"	80	318	210	168.3	127.0	27	2	250	8	22	374	25	56
	4"	100	356	255	200.0	157.2	30.2	2	250	8	22	377	25	82

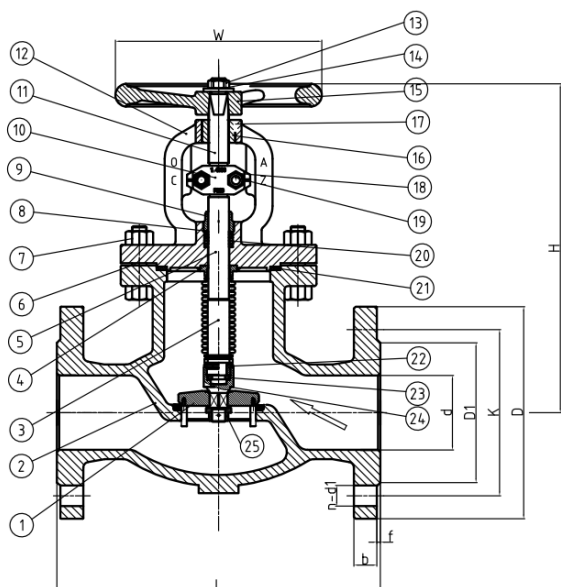


FIG.	Pressure	Material	Range
131.146c	150lb	WCB	6"-12"
132.146c	300lb	WCB	6"-12"
151.146c	150lb	CF8M	6"-12"
152.146c	300lb	CF8M	6"-12"

Design acc. :BS 5352/MSS-SP-117

ASME B16.34

Face to face : ASME B16.10

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Test acc. : API 598

Temperature range :

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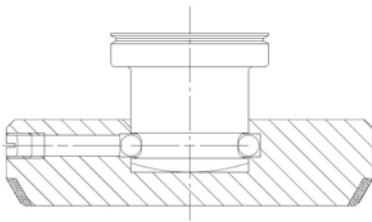
Material List

NO.	Part	Material		NO.	Part	Material	
		FIG.151.146c / 152.146c	FIG.131.146c / 132.146c			FIG.151.146c / 152.146c	FIG.131.146c / 132.146c
1	Disk	A182 F316	A276 420	13	Nuts	A194 8A	A194 2H
1.1	Disk Seal	Stellite 21/stellite 6	ER420	14	Gasket	A276 304	A576-1045
2	Body	A351 CF8M/CF3M	A216 WCB/LCB/LCC	15	Handwheel	A536 60-40-18	A536 60-40-18
2.1	Body Seal	CF8M/Stellite 21	ER410	16	Stem nut	A681 D2 /Copper alloy	A536 60-40-18 /Copper alloy
3	Bellows	A276 316Ti	A276 316Ti	17	Pin	A276 316	A576-1045
4	Connecting ring	A276 316L	A276 316L	18	Nuts	A194 8A	A194 2H
5	Low stem	A182 F316	A182 F316	19	Bolts	A193 B8	A193 B7
6	Bolts	A193 B8M	A193 B7	20	Packing	Graphite	Graphite
7	Nuts	A194 8M	A194 2H	21	Body seal gasket	Graphite+316 / PTFE	Graphite+304
8	Gasket	A276 304	A276 304	22	Disc screw	A276 316	A276 410
9	Packing bushing	A351 CF8M	A216 WCB	23	Split ring	A276 316	A276 410
10	Connecting block	A351 CF8	A351 CF8	24	Secondary disc	A276 316	A276 420
11	Up stem	A276 431	A276 431	25	Nut	A276 316	A276 410
12	Bonnet	A351 CF8M/CF3M	A216 WCB/LCB/LCC				

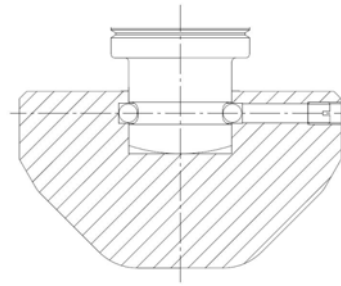
Dimension List

Class	Size	d	L	D	K	D1	b	f	w	n	d1	H	Hub	W.T.(kg)
150lbs	6"	150	406	280	241.3	215.9	23.9	2	400	8	22	544	40	
	8"	200	495	345	298.5	269.9	27.0	2	460	8	22		51	
	10"	250	622	405	362.0	323.8	28.6	2	600	12	26		65	
	12"	300	698	485	431.8	381.0	30.2	2	800	12	26		80	
300lbs	6"	150	444	320	269.9	215.9	35.0	2	400	12	22	544	40	
	8"	200	559	380	330.2	269.9	39.7	2	460	12	26		51	
	10"	250	622	445	387.4	323.8	46.1	2	600	16	29		65	
	12"	300	711	520	450.8	381.0	49.3	2	800	16	32		80	

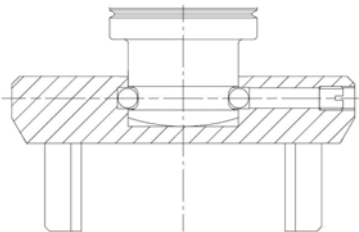
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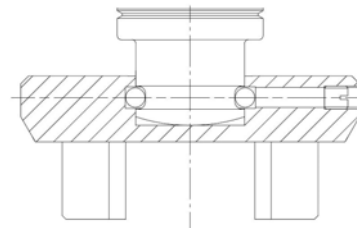
Isolation plug with marginal seat



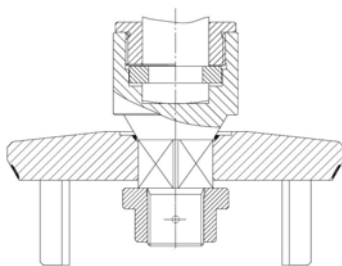
Regulating plug with marginal seat



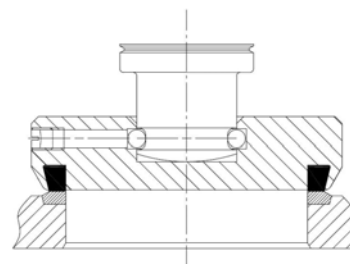
V-port plug with marginal seat



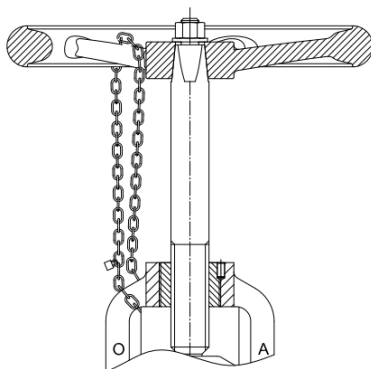
V-port regulating plug with marginal seat



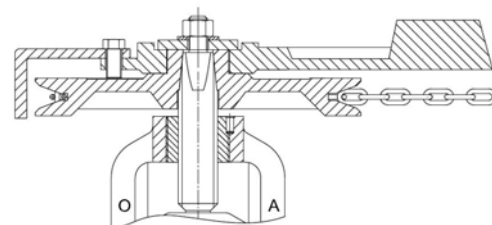
Balancing plug



Plug with soft seat
Max.Operating temperature 200℃ at PTFE



Extended stem and Locking device



Chain wheel

Pressure-temperature limit rating table

Body Material	Nominal Pressure(class)	Temperature(℃)	Pressure(barg)
WCB	150lb	-10	19.6
		100	17.7
		150	15.8
		200	13.8
		250	12.1
		300	10.2
		350	8.4
		400	6.5
WCB	300lb	-10	51.1
		100	46.6
		150	45.1
		200	43.8
		250	41.9
		300	39.8
		350	37.6
		400	34.7
CF8M	150lb	-10	19.0
		100	16.2
		150	14.8
		200	13.7
		250	12.1
		300	10.2
		350	8.4
		400	6.5
CF8M	300lb	-10	49.6
		100	42.2
		150	38.5
		200	35.7
		250	33.4
		300	31.6
		350	30.3
		400	29.4