

Bellows seal globe valve BW

PN16 PN40 DN15-DN400

Body : 1.0619N /1.4408/2.4610

Maintenance-free

Design acc. :AD 2000 A4, ATEX 2014/34/EU, EN 13709

Face to face : EN558-1 G1

BW end : DIN 3239

Test acc. : EN12266-1

Temperature range :

-29°C~ +450°C(1.0619N)

-196°C~ +400°C(1.4408)

Witzenmann Bellows

circle 10 000

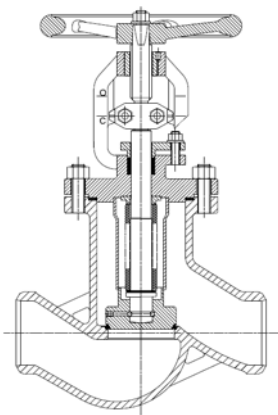


Fig.112i-BW

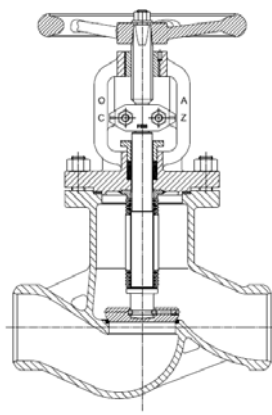


Fig.112c-BW

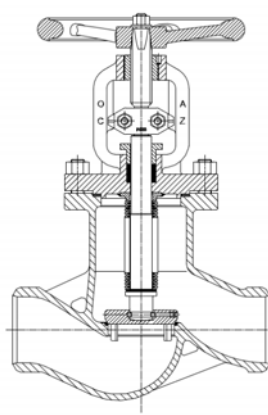
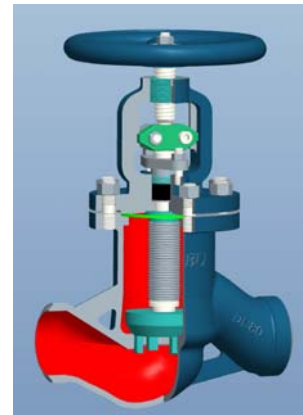


Fig.112c-g-BW



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.

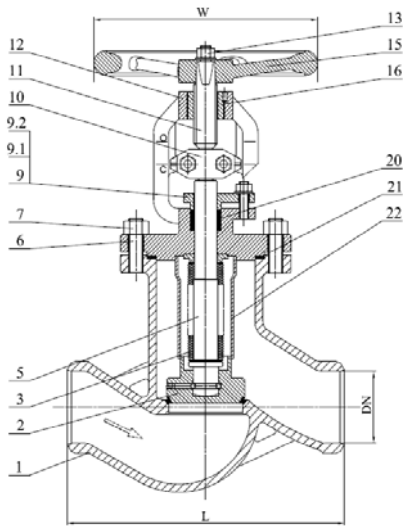
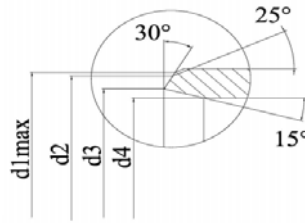


FIG.	Pressur	Material	Range
133.112i-BW	PN16	1.0619N	DN15-DN125
135.112i-BW	PN40	1.0619N	DN15-DN125
153.112i-BW	PN16	1.4408	DN15-DN125
155.112i-BW	PN40	1.4408	DN15-DN125
533.112i-BW	PN16	2.4610	DN15-DN125
535.112i-BW	PN40	2.4610	DN15-DN125



Design acc. :AD 2000 A4,
ATEX 2014/34/EU,
EN 13709
Face to face : EN558-1 Ser.1
BW end : DIN 3239
Test acc. : EN12266-1
Temperature range :
-29℃~ +450℃(1.0619N)
-196℃~ +400℃(1.4408)

Material List

NO.	Part	Material		
		FIG.153.112i-BW/ 155.112i-BW	FIG.133.112i-BW / 135.112i-BW	FIG.533.112i-BW / 535.112i-BW
1	Body	1.4408/1.4409	1.0619N	2.4610
1.1	Body seal	1.4408/stellite 21	1.4370/1.4551	2.4610
2	Disk	1.4401	1.4021 QT	2.4610
2.1	Disk seal	Stellite 21 /stellite 6	1.4021 QT	2.4610 / Stellite 21
3	Bellows	1.4571	1.4571	2.4610
5	Low stem	1.4401	1.4401	2.4610
6	Bolts	A4-70 / A2-70	1.7225(GC)	A4-70 / A2-70
7	Nuts	A4-70 / A2-70 / A4-80	1.1181(YK)	A4-70 / A2-70 / A4-80
9	Packing gland	1.4408	1.0619N	1.4408
9.1	Gland bolt	A4-70 / A2-70	1.7225(GC)	A4-70 / A2-70
9.2	Gland nut	A4-70 / A2-70 / A4-80	1.1181(YK)	A4-70 / A2-70 / A4-80
10	Connecting block	1.4308	1.4308	1.4308
11	Up stem	1.4057	1.4057	1.4057
12	Bonnet	1.4408/1.4409	1.0619N	2.4610
13	Nut	A2-70	YK (1.1181)	A2-70
15	Handwheel	GGG40.3	GGG40.3	GGG40.3
16	Stem nut	1.4021 / D2 / Copper alloy	GGG40.3 / Copper alloy	1.4021 / D2 / Copper alloy
20	Packing	Graphite / PTFE	Graphite	Graphite
21	Body seal	Graphite +1.4401 / PTFE	Graphite +1.4301	Graphite +2.4610
22	Protecting cover	1.4401	1.4021	2.4610

Dimension List

PN	DN	L	d1max	d2	d3	d4	w	H	Hub	Kv(m ³ /h)	W.T.(kg)
16/40	15	130	24	23	17	15	120	228	6	4.0	5.4
	20	150	31	28	22	20	120	233	6	6.9	6.1
	25	160	37	34	28	25	140	238	8	10.8	7.8
	32	180	43	42	35	32	140	250	8	16.5	10.0
	40	200	54	50	43	40	160	285	15	28.0	13.0
	50	230	67	62	54	50	160	293	15	43.0	16.5
	65	290	83	78	70	65	220	313	15	72.0	28.0
	80	310	96	91	82	80	250	370	25	111.2	32.0
	100	350	121	116	106	100	250	390	25	170	56.3
	125	400	147	142	131	125	350	435	34	262	75.0

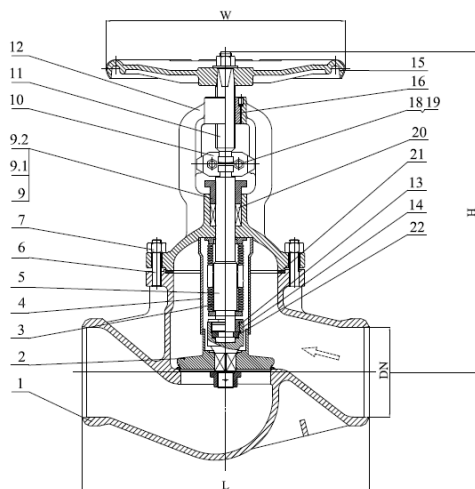
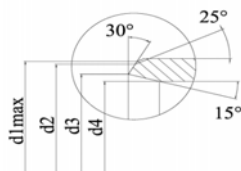


FIG.	Pressure	Material	Range
133.112i-BW	PN16	1.0619N	DN150-DN400
135.112i-BW	PN40	1.0619N	DN150-DN400
153.112i-BW	PN16	1.4408	DN150-DN400
155.112i-BW	PN40	1.4408	DN150-DN400
533.112i-BW	PN16	2.4610	DN150-DN400
535.112i-BW	PN40	2.4610	DN150-DN400



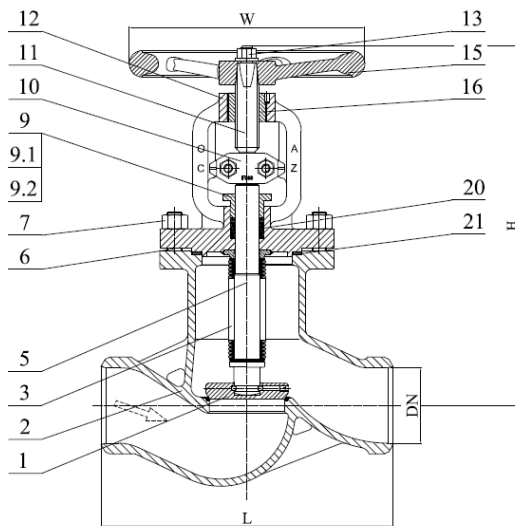
Design acc. : AD 2000 A4,
 ATEX 2014/34/EU, EN 13709,
 Face to face : EN558-1 Ser.1
 BW end : DIN 3239
 Test acc. : EN12266-1
 Temperature range :
 -29℃~ +450℃(1.0619N)
 -196℃~ +400℃(1.4408)

Material List

NO.	Part	Material		
		FIG.153.112i-BW / 155.112i-BW	FIG.133.112i-BW/ 135.112i-BW	FIG.533.112i-BW/ 535.112i-BW
1	Body	1.4408/1.4409	1.0619N	2.4610
1.1	Body seal	1.4408/stellite 21	1.4370/1.4551	2.4610
2	Disk	1.4401	1.0425	2.4610
2.1	Disk seal	Stellite 21/stellite 6	1.4009	2.4610 / Stellite 21
3	Bellows	1.4571	1.4571	2.4610
4	Protecting cover	1.4401	1.4021	2.4610
5	Low stem	1.4401	1.4401	2.4610
6	Bolts	A4-70 / A2-70	1.7225(GC)	A4-70 / A2-70
7	Nuts	A4-70 / A2-70 / A4-80	1.1181(YK)	A4-70 / A2-70 / A4-80
9	Packing gland	1.4408	1.0619N	2.4610
9.1	Gland bolt	A4-70 / A2-70	1.7225(GC)	A4-70 / A2-70
9.2	Gland nut	A4-70 / A2-70 / A4-80	1.1181(YK)	A4-70 / A2-70 / A4-80
10	Connecting block	1.4308	1.4308	1.4308
11	Up stem	1.4057	1.4057	1.4057
12	Bonnet	1.4408/1.4409	1.0619N	1.4408
13	Disc screw	1.4401	1.4006	2.4610
14	Secondary disc	1.4401	1.4021	2.4610
15	Handwheel	GGG40.3	GGG40.3	GGG40.3
16	Stem nut	1.4021 / D2 / Copper alloy	GGG40.3 / Copper alloy	1.4021 / D2 / Copper alloy
18	Nut	A2-70	35	A2-70
19	Bolts	A2-70	35	A2-70
20	Packing	Graphite / PTFE	Graphite	Graphite
21	Body seal	Graphite +1.4401 / PTFE	Graphite +1.4301	Graphite +2.4610
22	Folio ring	1.4401	1.4006	2.4610

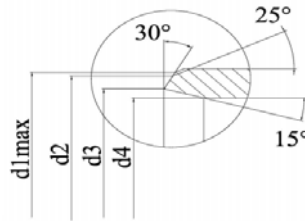
Dimension List

PN	DN	L	d1max	d2	d3	d4	w	H	Hub	Kv(m³/h)	W.T.(kg)
16/40	150	480	176	171	159	150	400	470	40	372	70
	200	600	228	222	207	200	460	560	51	680	163.5
	250	730	282	276	260	250	600	111	65	1013	195
	300	850	331	325	309	300	800	117	80	1446	350
	350	980	365	359	341	350	-	-	-	-	-
	400	1100	417	411	389	400	-	-	-	-	-



Material List

FIG.	Pressur	Material	Range
133.112c-BW	PN16	1.0619N	DN15-DN125
135.112c-BW	PN40	1.0619N	DN15-DN125
153.112c-BW	PN16	1.4408	DN15-DN125
155.112c-BW	PN40	1.4408	DN15-DN125
533.112c-BW	PN16	2.4610	DN15-DN125
535.112c-BW	PN40	2.4610	DN15-DN125



Design acc. : AD 2000 A4,
ATEX 2014/34/EU, EN 13709
Face to face : EN558-1 Ser.1
BW end : DIN 3239
Test acc. : EN12266-1
Temperature range :
-29°C~+450°C(1.0619N)
-196°C~+400°C(1.4408)

NO.	Part	Material		
		FIG.153.112c-BW / 155.112c-BW	FIG.133.112c-BW / 135.112c-BW	FIG.533.112c-BW /535.112c-BW
1	Body	1.4408/1.4409	1.0619N	2.4610
1.1	Body seal	1.4408/stellite 21	1.4009/1.4551	2.4610
2	Disk	1.4401	1.4021 QT	2.4610
2.1	Disk seal	Stellite21 /stellite 6	1.4021 QT	2.4610 / Stellite 21
3	Bellow	1.4571	1.4571	2.4610
5	Low stem	1.4401	1.4401	2.4610
6	Bolts	A4-70 / A2-70	1.7225(GC)	A4-70 / A2-70
7	Nuts	A4-70 / A2-70 / A4-80	1.1181(YK)	A4-70 / A2-70 / A4-80
9	Packing gland	1.4408	1.0619N	1.4408
9.1	Gland bolt	A4-70 / A2-70	1.7225(GC)	A4-70 / A2-70
9.2	Gland nut	A4-70 / A2-70 / A4-80	1.1181(YK)	A4-70 / A2-70 / A4-80
10	Connecting block	1.4308	1.4308	1.4308
11	Up stem	1.4057	1.4057	1.4057
12	Bonnet	1.4408/1.4409	1.0619N	1.4408
13	Nut	A2-70	YK (1.1181)	A2-70
15	Handwheel	GGG40.3	GGG40.3	GGG40.3
16	Stem nut	1.4021 / D2 / Copper alloy	GGG40.3 / Copper alloy	1.4021 / D2 / Copper alloy
20	Packing	Graphite / PTFE	Graphite	Graphite
21	Body seal	Graphite +1.4401 / PTFE	Graphite +1.4301	Graphite +2.4610

Dimension List

PN	DN	L	d1max	d2	d3	d4	w	H	Hub	Kv(m³/h)	W.T.(kg)
16/40	15	130	24	23	17	15	120	228	6	4.0	5.4
	20	150	31	28	22	20	120	233	6	6.9	6.1
	25	160	37	34	28	25	140	238	8	10.8	7.8
	32	180	43	42	35	32	140	250	8	16.5	10.0
	40	200	54	50	43	40	160	285	15	28.0	13.0
	50	230	67	62	54	50	160	293	15	43.0	16.5
	65	290	83	78	70	65	220	313	15	72.0	28.0
	80	310	96	91	82	80	250	370	25	111.2	32.0
	100	350	121	116	106	100	250	390	25	170	56.3
	125	400	147	142	131	125	350	435	34	262	75.0

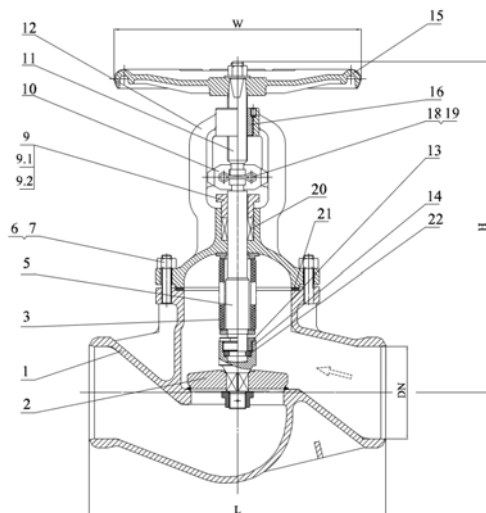
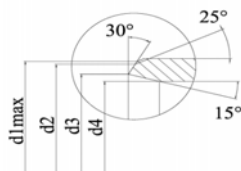


FIG.	Pressure	Material	Range
133.112c-BW	PN16	1.0619N	DN150-DN400
135.112c-BW	PN40	1.0619N	DN150-DN400
153.112c-BW	PN16	1.4408	DN150-DN400
155.112c-BW	PN40	1.4408	DN150-DN400
533.112c-BW	PN16	2.4610	DN150-DN400
535.112c-BW	PN40	2.4610	DN150-DN400

Design acc. : AD 2000 A4,
 ATEX 2014/34/EU, EN 13709
 Face to face : EN558-1 Ser.1
 BW end : DIN 3239
 Test acc. : EN12266-1
 Temperature range :
 -29℃~ +450℃(1.0619N)
 -196℃~ +400℃(1.4408)



Material List

NO.	Part	Material		
		FIG.153.112c-g-BW/ 155.112c-g-BW	FIG.133.112c-g-BW/ 135.112c-g-BW	FIG.533.112c-g-BW/ 535.112c-g-BW
1	Body	1.4408/1.4409	1.0619N	2.4610
1.1	Body seal	1.4408/stellite 21	1.4370/1.4551	2.4610
2	Disk	1.4401	1.0425	2.4610
2.1	Disk seal	Stellite 21/stellite 6	1.4009	2.4610 / Stellite 21
3	Bellows	1.4571	1.4571	2.4610
5	Low stem	1.4401	1.4401	2.4610
6	Bolts	A4-70 / A2-70	1.7225(GC)	A4-70 / A2-70
7	Nuts	A4-70 / A2-70 / A4-80	1.1181(YK)	A4-70 / A2-70 / A4-80
9	Packing gland	1.4408	1.0619N	1.4408
9.1	Gland bolt	A4-70 / A2-70	1.7225(GC)	A4-70 / A2-70
9.2	Gland nut	A4-70 / A2-70 / A4-80	1.1181(YK)	A4-70 / A2-70 / A4-80
10	Connecting block	1.4308	1.4308	1.4308
11	Up stem	1.4057	1.4057	1.4057
12	Bonnet	1.4408/1.4409	1.0619N	2.4610
13	Disc screw	1.4401	1.4006	2.4610
14	Secondary disc	1.4401	1.4021	2.4610
15	Handwheel	GGG40.3	GGG40.3	GGG40.3
16	Stem nut	1.4021 / D2 / Copper alloy	GGG40.3 / Copper alloy	1.4021 / D2 / Copper alloy
18	Nut	A2-70	35	A2-70
19	Bolts	A2-70	35	A2-70
20	Packing	Graphite / PTFE	Graphite	Graphite
21	Body seal	Graphite +1.4401 / PTFE	Graphite +1.4301	Graphite +2.4610
22	Folio ring	1.4401	1.4006	2.4610

Dimension List

PN	DN	L	d1max	d2	d3	d4	w	H	Hub	Kv(m³/h)	W.T.(kg)
16/40	150	480	176	171	159	150	400	470	40	372	70
	200	600	228	222	207	200	460	560	51	680	163.5
	250	730	282	276	260	250	600	1116	65	1013	195
	300	850	331	325	309	300	800	1176	80	1446	350
	350	980	365	359	341	350	-	-	-	-	-
	400	1100	417	411	389	400	-	-	-	-	-

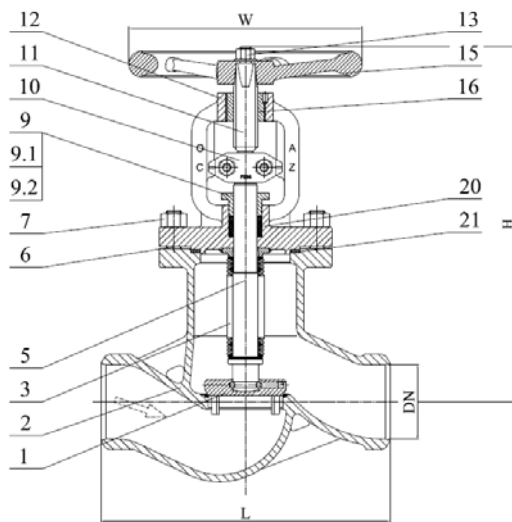
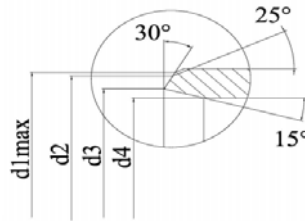


FIG.	Pressur	Material	Range
133.112c-g-BW	PN16	1.0619N	DN15-DN125
135.112c-g-BW	PN40	1.0619N	DN15-DN125
153.112c-g-BW	PN16	1.4408	DN15-DN125
155.112c-g-BW	PN40	1.4408	DN15-DN125
533.112c-g-BW	PN16	1.4408	DN15-DN125
535.112c-g-BW	PN40	1.4408	DN15-DN125



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Temperature range :
-29℃~ +450℃(1.0619N)
-196℃~ +400℃(1.4408)

Material List

NO.	Part	Material		
		FIG.153.112c-g-BW/ 155.112c-g-BW	FIG.133.112c-g-BW/ 135.112c-g-BW	FIG.533.112c-g-BW/ 535.112c-g-BW
1	Body	1.4408/1.4409	1.0619N	2.4610
1.1	Body seal	1.4408/stellite 21	1.4370/1.4551	2.4610
2	Disk	1.4401	1.4021 QT	2.4610
2.1	Disk seal	Stellite 21 /stellite 6	1.4021 QT	2.4610 / Stellite 21
3	Bellows	1.4571	1.4571	2.4610
5	Low stem	1.4401	1.4401	2.4610
6	Bolts	A4-70 / A2-70	1.7225(GC)	A4-70 / A2-70
7	Nuts	A4-70 / A2-70 / A4-80	1.1181(YK)	A4-70 / A2-70 / A4-80
9	Packing gland	1.4408	1.0619N	1.4408
9.1	Gland bolt	A4-70 / A2-70	1.7225(GC)	A4-70 / A2-70
9.2	Gland nut	A4-70 / A2-70 / A4-80	1.1181(YK)	A4-70 / A2-70 / A4-80
10	Connecting block	1.4308	1.4308	1.4308
11	Up stem	1.4057	1.4057	1.4057
12	Bonnet	1.4408/1.4409	1.0619N	1.0619N
13	Nut	A2-70	YK (1.1181)	A2-70
15	Handwheel	GGG40.3	GGG40.3	GGG40.3
16	Stem nut	1.4021 / D2 / Copper alloy	GGG40.3 / Copper alloy	1.4021 / D2 / Copper alloy
20	Packing	Graphite / PTFE	Graphite	Graphite
21	Body seal	Graphite +1.4401 / PTFE	Graphite +1.4301	Graphite +2.4610

Dimension List

PN	DN	L	d1max	d2	d3	d4	w	H	Hub	Kv(m ³ /h)	W.T.(kg)
16/40	15	130	24	23	17	15	120	228	6	3.8	5.4
	20	150	31	28	22	20	120	233	6	6.6	6.1
	25	160	37	34	28	25	140	238	8	10.3	7.8
	32	180	43	42	35	32	140	250	8	15.7	10.0
	40	200	54	50	43	40	160	285	15	26.6	13.0
	50	230	67	62	54	50	160	293	15	39.6	16.5
	65	290	83	78	70	65	220	313	15	64.8	28.0
	80	310	96	91	82	80	250	370	25	100.3	32.0
	100	350	121	116	106	100	250	390	25	144.5	56.3
	125	400	147	142	131	125	350	435	34	222.7	75.0

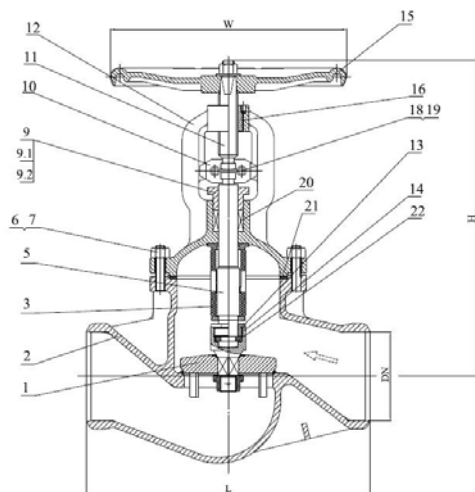
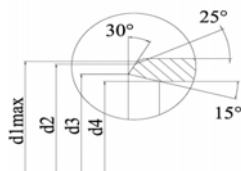


FIG.	Pressure	Material	Range
133.112c-g-BW	PN16	1.0619N	DN150-DN400
135.112c-g-BW	PN40	1.0619N	DN150-DN400
153.112c-g-BW	PN16	1.4408	DN150-DN400
155.112c-g-BW	PN40	1.4408	DN150-DN400
533.112c-g-BW	PN16	2.4610	DN150-DN400
535.112c-g-BW	PN40	2.4610	DN150-DN400

Design acc. :AD 2000 A4,
 ATEX 2014/34/EU, EN 13709
 Face to face : EN558-1 Ser.1
 BW end : DIN 3239
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 Temperature range :
 -29℃~ +450℃(1.0619N)
 -196℃~ +400℃(1.4408)



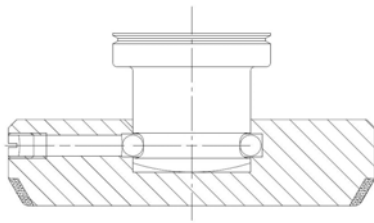
Material List

NO.	Part	Material		
		FIG.153.112c-g-BW/ 155.112c-g-BW	FIG.133.112c-g-BW/ 135.112c-g-BW	FIG.133.112c-g-BW/ 135.112c-g-BW
1	Body	1.4408/1.4409	1.0619N	2.4610
1.1	Body seal	1.4408/stellite 21	1.4370/1.4551	2.4610
2	Disk	1.4401	1.0425	2.4610
2.1	Disk seal	Stellite 21/stellite 6	1.4009	2.4610 / Stellite 21
3	Bellows	1.4571	1.4571	2.4610
5	Low stem	1.4401	1.4401	2.4610
6	Bolts	A4-70 / A2-70	1.7225(GC)	A4-70 / A2-70
7	Nuts	A4-70 / A2-70 / A4-80	1.1181(YK)	A4-70 / A2-70 / A4-80
9	Packing gland	1.4408	1.0619N	1.4408
9.1	Gland bolt	A4-70 / A2-70	1.7225(GC)	A4-70 / A2-70
9.2	Gland nut	A4-70 / A2-70 / A4-80	1.1181(YK)	A4-70 / A2-70 / A4-80
10	Connecting block	1.4308	1.4308	1.4308
11	Up stem	1.4057	1.4057	1.4057
12	Bonnet	1.4408/1.4409	1.0619N	2.4610
13	Disc screw	1.4401	1.4006	2.4610
14	Secondary disc	1.4401	1.4021	2.4610
15	Handwheel	GGG40.3	GGG40.3	GGG40.3
16	Stem nut	1.4021 / D2 / Copper alloy	GGG40.3 / Copper alloy	1.4021 / D2 / Copper alloy
18	Nut	A2-70	C35	A2-70
19	Bolts	A2-70	C35	A2-70
20	Packing	Graphite / PTFE	Graphite	Graphite
21	Body seal	Graphite +1.4401 / PTFE	Graphite +1.4301	Graphite +2.4610
22	Folio ring	1.4401	1.4006	2.4610

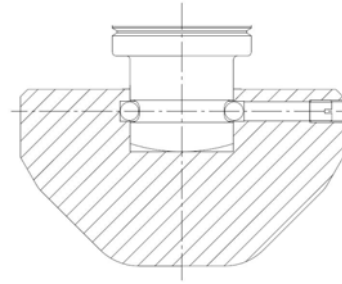
Dimension List

PN	DN	L	d1max	d2	d3	d4	w	H	Hub	Kv(m³/h)	W.T.(kg)
16/40	150	480	176	171	159	150	400	470	40	316.2	70
	200	600	228	222	207	200	460	560	51	578	163.5
	250	730	282	276	260	250	600	111	65	861	195
	300	850	331	325	309	300	800	117	80	1229.1	350
	350	980	365	359	341	350	-	-	-	-	-
	400	1100	417	411	389	400	-	-	-	-	-

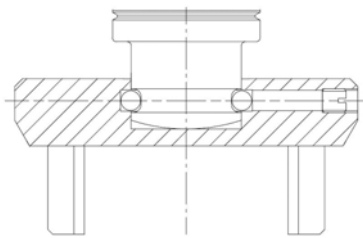
Available



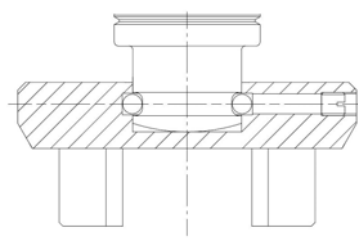
Isolation plug with marginal seat



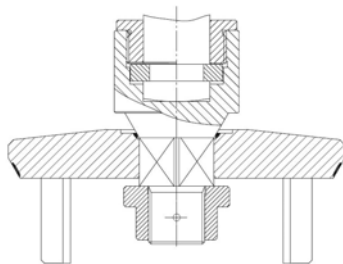
Regulating plug with marginal seat



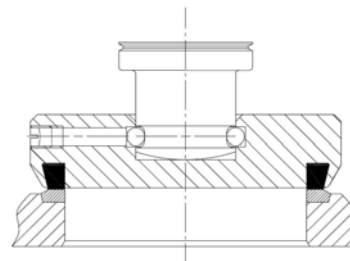
V-port plug with marginal seat



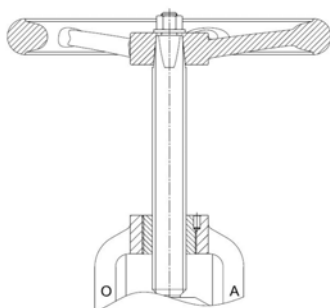
V-port regulating plug with marginal seat



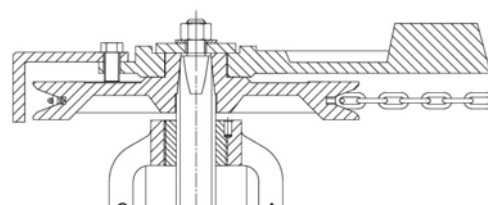
Balancing plug



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



Extended stem



Chain wheel

Pressure-temperature limit rating table

Body Material	Nominal Pressure(PN)	Temperature(℃)	Pressure(barg)
1.0619N	16	-10	16
		100	14.8
		150	14
		200	13.3
		250	12.1
		300	11
		350	10.2
		400	9.5
1.0619N	40	-10	40
		100	37.1
		150	35.2
		200	33.3
		250	30.4
		300	27.6
		350	25.7
		400	23.8
1.4408	16	-10	16
		100	16
		150	14.5
		200	13.4
		250	12.7
		300	11.8
		350	11.4
		400	10.9
1.4408	40	-10	40
		100	40
		150	36.3
		200	33.7
		250	31.8
		300	29.7
		350	28.5
		400	27.4
2.4610	16	-10	16
		100	16
		150	14
		200	12
		250	9.6
		300	8.2
		350	6.7
		400	5.2
2.4610	40	-10	40
		100	40
		150	34
		200	30
		250	28
		300	26
		350	25
		400	22