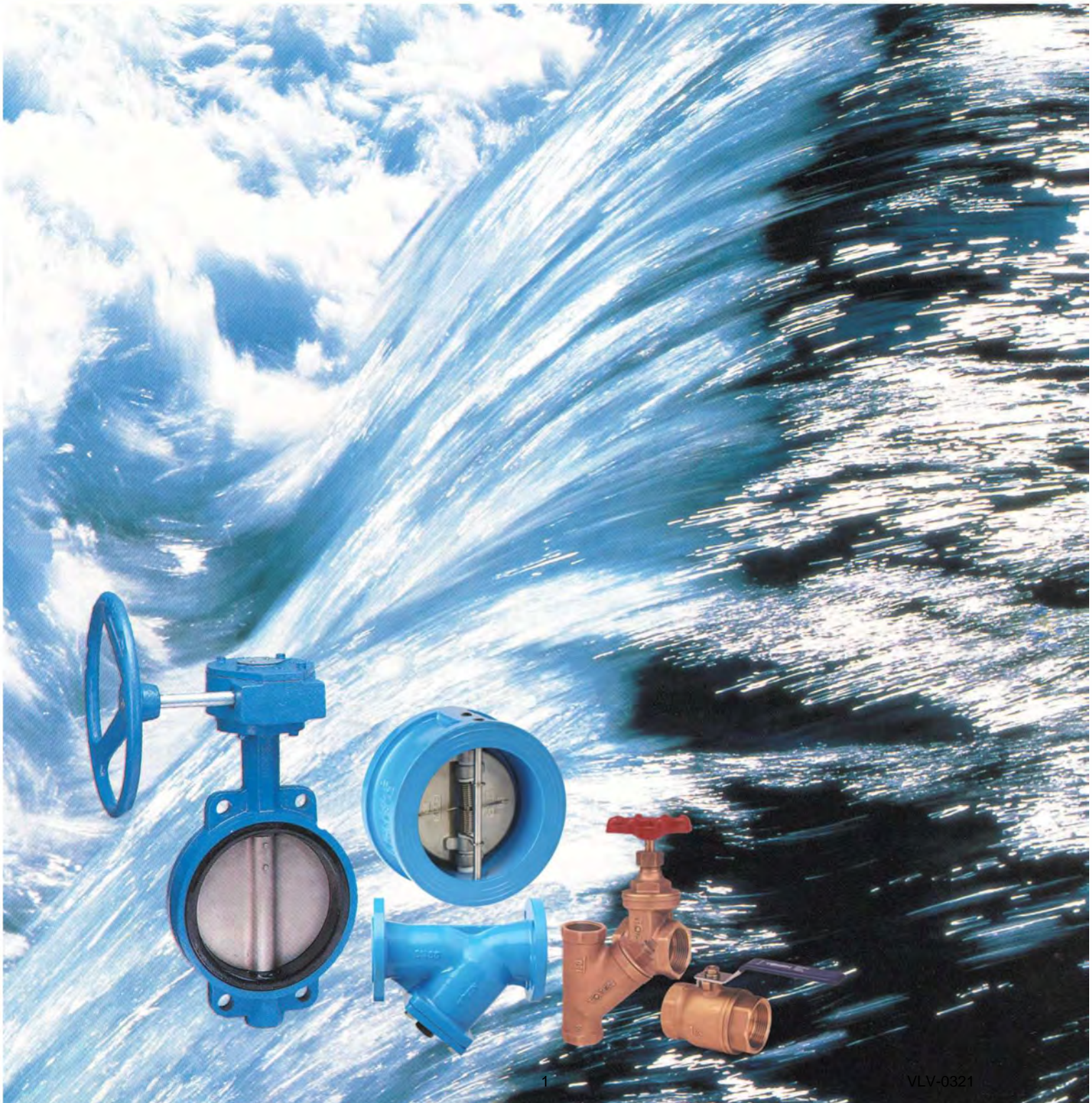


# VALVE

for General Application  
BUTTERFLY, CHECK, BALL, GATE, STRAINER



## WAFER TYPE BUTTERFLY VALVE

### SPECIFICATION

SUITABLE TO MULTI STANDARD  
FACE-TO-FACE DIMENSION TO BS 5155 / BS EN 558-1 Sr.20  
LEVER / WORM GEAR OPERATOR

### PRESSURE / TEMPERATURE RATINGS

Working Pressure	16 bar
Testing Pressure	Shell: 1.5 times Seat: 1.1 times
Working Temperature	-20°C to 110°C (EPDM Seat) -10°C to 80°C (NBR Seat)
Suitable Media	Water & Oil

### MATERIALS

Part	Material	BS / EN
Body	Cast Iron Ductile Iron	1691 GG25 1691 GGG50
Disc	Ductile Iron Aluminium Bronze Stainless Steel 304 Stainless Steel 316	EN-GJS-400 EN1982 CC491K BS970 304 S15 BS970 316 S15
Seat Ring	EPDM NBR	
Shaft	Stainless Steel 410	BS970 410 S21
Taper Pins	Stainless Steel 316	BS970 316 S15
O-Ring	NBR	
Bushing	PTFE	

### DIMENSIONS

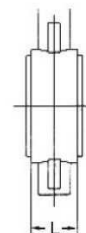
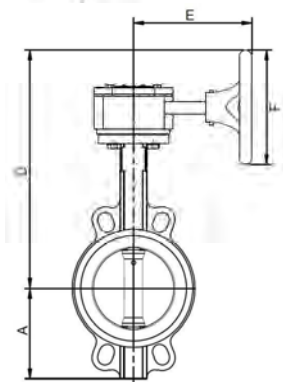
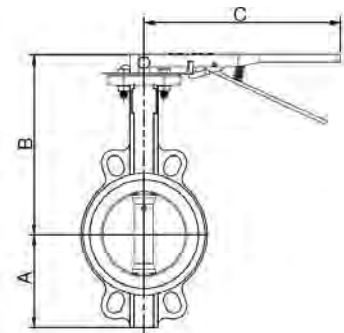
Unit: mm

Size	L	A	B	C	D	E	F
50	43	66	183	215	270	150	145
65	46	78	193	215	280	150	145
80	46	99	201	215	288	150	145
100	52	115	226	235	310	150	145
125	56	131	242	260	323	150	145
150	56	145	257	260	338	150	145
200	60	173	301	355	445	210	280
250	68	210	342	355	486	210	280
300	78	242	387	355	533	200	280
350	78	270	-	-	558	200	280
400	102	307	-	-	676	240	385
450	114	336	-	-	702	240	385

**BFV-W**

**PN16**

DN50~DN450





## WAFER TYPE BUTTERFLY VALVE

### SPECIFICATION

SUITABLE TO MULTI STANDARD  
FACE-TO-FACE DIMENSION TO BS 5155 / BS EN 558-1 Sr.20  
DOUBLE-STAGE WORM GEAR OPERATOR

### PRESSURE / TEMPERATURE RATINGS

Working Pressure	16 bar
Testing Pressure	Shell: 1.5 times Seat: 1.1 times
Working Temperature	-20°C to 110°C (EPDM Seat) -10°C to 80°C (NBR Seat)
Suitable Media	Water & Oil

### DIMENSIONS

Unit: mm

Size	L	A	D	E	F
500	127	373	733	260	280
600	154	429	877	300	385

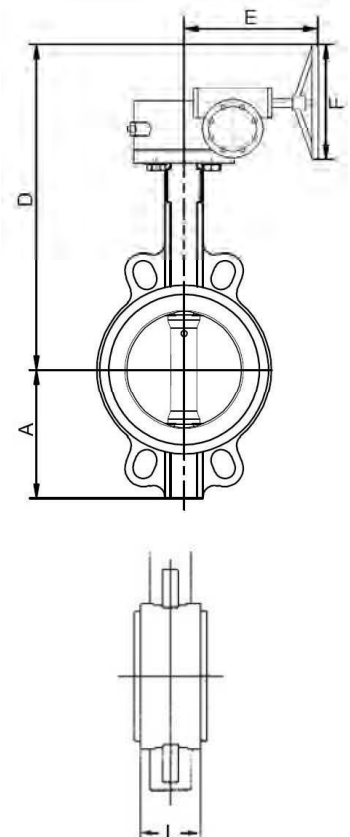
Note:

1. Size 50mm~500mm are suitable for JIS10K, PN10, PN16 & ANSI Class 125, size 600mm is suitable for PN16 & ANSI Class 125.
2. Size above 600mm are available upon request.
3. Actuator mounting flange conforms to ISO 5211 drilling.
4. The butterfly valve can be supplied with electric actuator.
5. Micro switch / limit switch box are available upon request.
6. Gear operated with chain wheel are available upon request.
7. Design and specifications are subject to change without prior notice.

**BFV-W**

**PN16**

DN500~DN600



## WAFER TYPE BUTTERFLY VALVE

### SPECIFICATION

FOR BS 4504 PN25 FLANGE MOUNTING  
FACE-TO-FACE DIMENSION TO BS 5155 / BS EN 558-1 Sr.20  
LEVER / WORM GEAR OPERATOR

### PRESSURE / TEMPERATURE RATINGS

Working Pressure	25 bar
Testing Pressure	Shell: 1.5 times Seat: 1.1 times
Working Temperature	-20°C to 110°C (EPDM Seat) -10°C to 80°C (NBR Seat)
Suitable Media	Water & Oil

### MATERIALS

Part	Material	BS / EN
Body	Ductile Iron	1691 GGG50
Disc	Ductile Iron Stainless Steel 304 Stainless Steel 316	EN-GJS-400 BS970 304 S15 BS970 316 S31
Seat Ring	EPDM NBR	
Shaft	Stainless Steel 431	BS970 431 S29
Taper Pins	Stainless Steel 316	BS970 316 S31
O-Ring	NBR	
Bushing	PTFE	

### DIMENSIONS

Unit: mm

Size	L	A	B	C	D	E	F
50	43	80	183	215	270	150	145
65	46	93	193	215	280	150	145
80	46	99	201	215	288	150	145
100	52	115	226	235	310	150	145
125	56	135	242	260	323	150	145
150	56	154	257	260	338	150	145
200	60	182	301	355	445	210	280
250	68	212	342	355	486	210	280
300	78	242	387	355	533	200	280
350	78	288	439	-	608	200	280
400	102	327	487	-	696	240	385

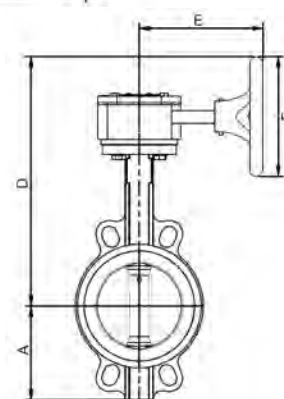
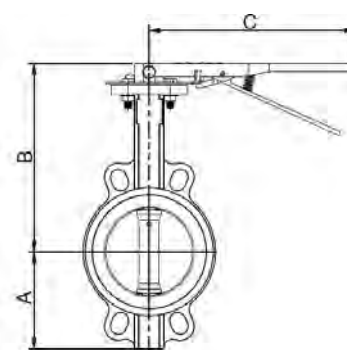
Note:

1. Actuator mounting flange conforms to ISO 5211 drilling.
2. The butterfly valve can be supplied with electric actuator.
3. Design and specifications are subject to change without prior notice.

## BFV-WB25

PN25

DN50~DN400



## LUG TYPE BUTTERFLY VALVE

### SPECIFICATION

FOR ANSI CLASS 125 FLANGE MOUNTING  
FACE-TO-FACE DIMENSION TO ISO 5752 / BS 5155 / BS EN 593  
LEVER / WORM GEAR OPERATOR

### PRESSURE / TEMPERATURE RATINGS

Working Pressure	16bar
Testing Pressure	Shell: 1.5 times Seat: 1.1 times
Working Temperature	-20°C to 110°C (EPDM Seat) -10°C to 80°C (NBR Seat)
Suitable Media	Water & Oil

### MATERIALS

Part	Material	ASTM
Body	Cast Iron Ductile Iron	A126 Class B A536 Gr.65-45-12
Disc	Ductile Iron Aluminium Bronze Stainless Steel 304 Stainless Steel 316	A536 Gr.65-45-12 B 148-97 C95400 A351 CF-8 A351 CF-8M
Seat Ring	EPDM NBR	
Shaft	Stainless Steel 410 Stainless Steel 431	S41000 S43100
O-Ring	NBR	
Bushing	PTFE	

### DIMENSIONS

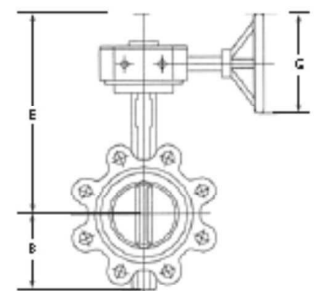
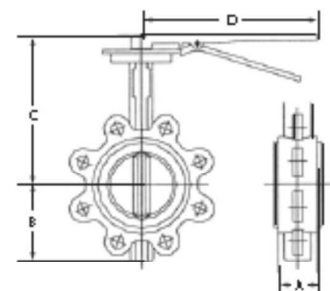
Unit: mm

Size	A	B	C	D	E	G
50	43	66	183	215	270	145
65	46	78	193	215	280	145
80	46	103	201	215	288	145
100	52	115	226	235	310	145
125	56	126	242	260	323	145
150	56	139	257	260	338	145
200	60	173	301	355	445	280
250	68	210	342	355	486	280
300	78	242	387	355	533	280
350	78	270	-	-	558	280
400	102	307	-	-	676	385
450	114	336	-	-	702	385

**BFV-LA**

**PN16**

DN50~DN450



## LUG TYPE BUTTERFLY VALVE

### SPECIFICATION

FOR ANSI CLASS 125 FLANGE MOUNTING  
FACE-TO-FACE DIMENSION TO ISO 5752 / BS 5155 / BS EN 593  
DOUBLE-STAGE WORM GEAR OPERATOR

### PRESSURE / TEMPERATURE RATINGS

Working Pressure	16bar
Testing Pressure	Shell: 1.5 times Seat: 1.1 times
Working Temperature	-20°C to 110°C (EPDM Seat) -10°C to 80°C (NBR Seat)
Suitable Media	Water & Oil

### DIMENSIONS

Unit: mm

Size	A	B	E	F	G
500	127	373	733	260	280
600	154	429	877	300	385

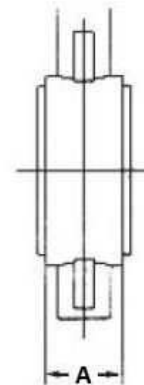
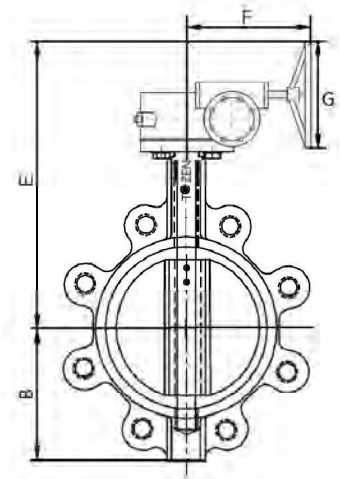
Note:

1. Actuator mounting flange conforms to ISO 5211 drilling.
2. The butterfly valve can be supplied with electric actuator.
3. Micro switch / limit switch box are available upon request.
4. Others flange standard available upon request.
5. Design and specifications are subject to change without prior notice.

**BFV-LA**

**PN16**

DN500~DN600



## DOUBLE FLANGE BUTTERFLY VALVE (CONCENTRIC TYPE)

### SPECIFICATION

FLANGED TO BS 4504 PN16 OR ANSI150#  
FACE-TO-FACE DIMENSION TO BS 5155 / BS EN558-1 Sr. 20  
LEVER / WORM GEAR OPERATOR

### PRESSURE / TEMPERATURE RATINGS

Working Pressure	16 bar
Testing Pressure	Shell: 1.5 times Seat: 1.1 times
Working Temperature	-20°C to 110°C (EPDM Seat) -10°C to 80°C (NBR Seat)
Suitable Media	Water & Oil

### MATERIALS

Part	Material	BS
Body	Ductile Iron	400/17
Disc	Ductile Iron Aluminium Bronze Stainless Steel 304 Stainless Steel 316	400/17 1400 AB2 304 C15 316 C16
Seat Ring	EPDM NBR	
Shaft	Stainless Steel 410	410S21
Taper Pins	Stainless Steel 304	304S16
O-Ring	EPDM	
Bushing	PTFE	

### DIMENSIONS

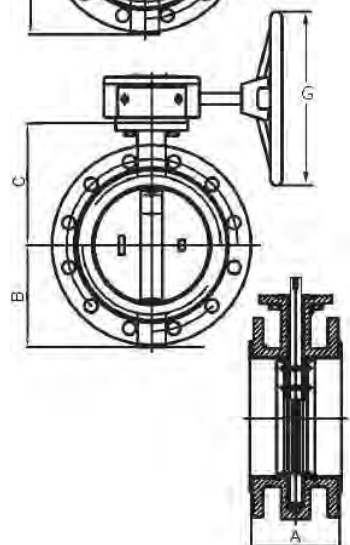
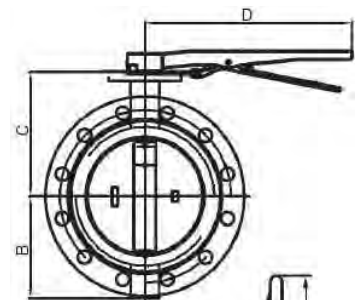
Unit: mm

Size	A	B	C	D	G
50	108	69	126	215	150
65	112	72	136	215	150
80	114	88	146	215	150
100	127	96	158	235	150
125	140	115	179	260	150
150	140	151	210	260	150
200	152	161	230	355	300
250	165	199	271	355	300
300	178	215	305	355	300
350	190	261	353	-	300
400	216	290	381	-	360
450	222	326	392	-	360

**BFV-DC**

**PN16**

DN50~DN450



## DOUBLE FLANGE BUTTERFLY VALVE (CONCENTRIC TYPE)

### SPECIFICATION

FLANGED TO BS 4504 PN16 OR ANSI150#  
FACE-TO-FACE DIMENSION TO BS 5155 / BS EN 558-1 Sr.20  
DOUBLE-STAGE WORM GEAR OPERATOR

### PRESSURE / TEMPERATURE RATINGS

Working Pressure	16 bar (DN500 ~ DN700) 10 bar (DN800 ~ DN1200)
Testing Pressure	Shell: 1.5 times Seat: 1.1 times
Working Temperature	-20°C to 110°C (EPDM Seat) -10°C to 80°C (NBR Seat)
Suitable Media	Water & Oil

### DIMENSIONS

Unit: mm

Size	A	B	C	G
500	229	358	441	360
600	267	413	509	360
700	292	521	568	360
750	308	530	580	360
800	318	568	641	360
900	330	612	692	450
1000	410	665	735	450
1100	450	743	830	450
1200	470	792	917	570

Note:

1. Actuator mounting flange conforms to ISO 5122 drilling.
2. The butterfly valve can be supplied with electric actuator.
3. Micro switch / limit switch box are available upon request.
4. Gear operated with chain wheel are available upon request.
5. Design and specifications are subject to change without prior notice.

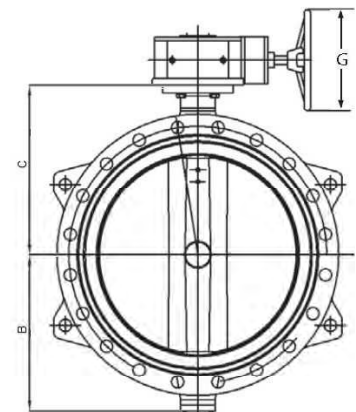
**BFV-DC**

**PN16**

DN500~DN700

**PN10**

DN800~DN1200





## LUG TYPE BUTTERFLY VALVE

### SPECIFICATION

FOR BS 4504 PN25 FLANGE MOUNTING  
FACE-TO-FACE DIMENSION TO ISO 5752 / BS 5155 / BS EN 593  
LEVER / WORM GEAR OPERATOR

### PRESSURE / TEMPERATURE RATINGS

Working Pressure	25 bar
Testing Pressure	Shell: 1.5 times Seat: 1.1 times
Working Temperature	-20°C to 110°C (EPDM Seat) -10°C to 80°C (NBR Seat)
Suitable Media	Water & Oil

### MATERIALS

Part	Material	BS / EN
Body	Ductile Iron	2789 Gr. 400
Disc	Ductile Iron Stainless Steel 304 Stainless Steel 316	ENGJS-400 BS970 304 S15 BS970 316 S31
Seat Ring	EPDM NBR	
Shaft	Stainless Steel 431	BS970 431 S29
Taper Pins	Stainless Steel 316	BS970 316 S31
O-Ring	NBR	
Bushing	PTFE	

### DIMENSIONS

Unit: mm

Size	A	B	C	D	E	G
50	43	80	183	215	270	145
65	46	93	172	215	280	145
80	46	99	201	215	288	145
100	52	115	226	235	310	145
125	56	135	242	260	323	145
150	56	154	257	260	338	145
200	60	182	301	355	445	280
250	68	212	342	355	486	280
300	78	242	387	355	533	280
350	78	270	-	-	558	280
400	102	307	-	-	676	385

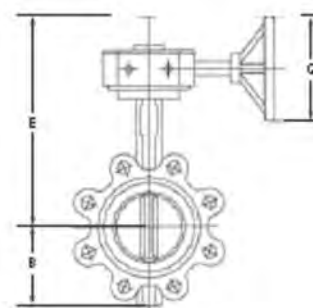
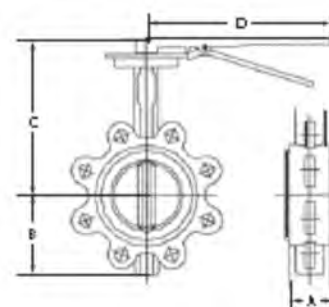
Note:

1. Actuator mounting flange conforms to ISO 5211 drilling.
2. The butterfly valve can be supplied with electric actuator.
3. Design and specifications are subject to change without prior notice.

## BFV-LB25

PN25

DN50~DN400



## Y TYPE STRAINER

### SPECIFICATION

BOLTED COVER WITH BLOW-OFF DRAIN PLUG  
STAINLESS STEEL PERFORATED SCREEN  
FACE TO FACE DIMENSION CONFORMS TO ANSI B16.10  
FLANGED END DRILLED TO ANSI B16.1

### PRESSURE / TEMPERATURE RATINGS

Working Pressure	240 psi
Testing Pressure	1.5 times
Working Temperature	-10°C to 120°C
Suitable Media	Water & Oil

### MATERIALS

Part	Material	ASTM
Body	Ductile Iron	A536 65-45-12
Cover	Ductile Iron	A536 65-45-12
Screen	Stainless Steel	A351-CF8
Blow-Off Plug	Stainless Steel	A351-CF8
Packing	EPDM	

### STANDARD SCREENS

Size (inch)	Hole Dia. (inch)	Opening (%)
2 ~ 6	0.059	23
8 ~ 12	0.118	33

### DIMENSIONS

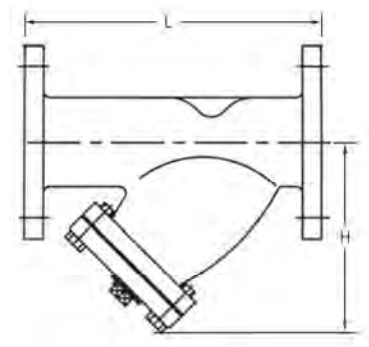
Unit: inch

Size	L	H	Plug Size
2	8.9	5.6	1/2
2½	10.7	6.4	1/2
3	11.5	6.9	1/2
4	13.6	8.3	1/2
5	16.5	9.8	1/2
6	18.5	11.4	1/2
8	21.4	15.2	3/4
10	26.0	17.2	3/4
12	30.0	20.2	3/4

Note:

- Design and specifications are subject to change without prior notice.

**CYS-A**  
**CLASS 125**  
2" ~ 14"



## DUCTILE IRON Y TYPE STRAINER

### SPECIFICATION

BOLTED COVER WITH BLOW-OFF DRAIN PLUG  
STAINLESS STEEL PERFORATED SCREEN  
FACE TO FACE DIMENSION CONFORMS TO BS EN 558-1 SR.1  
FLANGED END DRILLED TO BS EN1092-2 PN25

### PRESSURE / TEMPERATURE RATINGS

Working Pressure	25 bar
Testing Pressure	37.5 bar
Working Temperature	-10°C to 120°C
Suitable Media	Water & Oil

### MATERIALS

Part	Material	BS
Body	Ductile Iron	2789 Gr. 500/7
Cover	Ductile Iron	2789 Gr. 500/7
Screen	Stainless Steel	970 304S 15
Blow-Off Plug	Stainless Steel	970 304S 15
Packing	EPDM	

### STANDARD SCREENS

Size (mm)	Hole Dia. (mm)	Opening (%)
50 ~ 100	2.0	23
125 ~ 300	3.0	33

### DIMENSIONS

Unit: mm

Size	L	H	Plug Size
50	230	143	M12
65	290	162	M12
80	310	175	M12
100	350	210	M12
125	400	250	M16
150	480	290	M16
200	600	385	M18
250	730	438	M18
300	850	512	M18

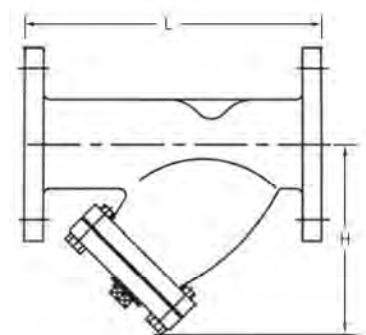
Note:

- Design and specifications are subject to change without prior notice.

**DYS-B25**

**PN25**

DN50~DN300



## WAFER TYPE DUAL DOOR CHECK VALVE

### SPECIFICATION

SUITABLE PN10/PN16, JIS10K & ANSI150 FLANGE MOUNTING  
FACE-TO-FACE DIMENSION TO EN 558-1 SR. 16

### PRESSURE / TEMPERATURE RATINGS

Working Pressure	16 bar
Testing Pressure	Shell: 1.5 times Seat: 1.1 times
Working Temperature	-10°C to 120°C (EPDM Seat) -10°C to 80°C (NBR Seat)
Suitable Media	Water & Oil

### MATERIALS

Part	Material	DIN / EN
Body	Cast Iron	1691 GG25
	Ductile Iron	1691 GGG50
Disc	Ductile Iron	1691 GGG50
	Aluminium Bronze	EN1982 CC491K
	Stainless Steel 304	SUS 304
	Stainless Steel 316	SUS 316
Seat Ring	EPDM	
	NBR	
Shaft	Stainless Steel 316	SUS 316
Spring	Stainless Steel 316	SUS 316
Bush	TEFLON	

### DIMENSIONS

Unit: mm

Size	L	A	B
50	43	65	101
65	46	80	121
80	64	94	131
100	64	117	156
125	70	145	187
150	76	170	217
200	89	224	267
250	114	265	329
300	114	310	375
350	127	360	420
400	140	410	483
450	152	450	538
500	152	505	593
600	178	624	697

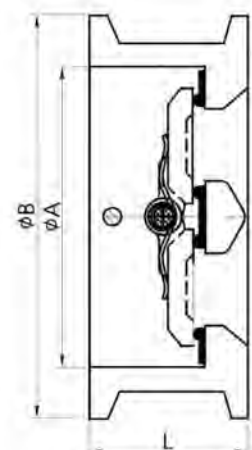
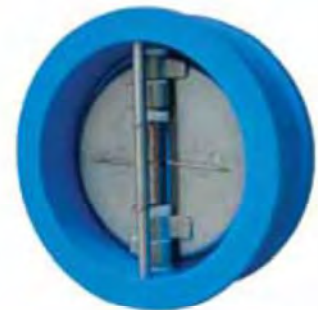
Note:

- Design and specifications are subject to change without prior notice.

**CDCV-W**

**PN16**

DN50~DN600





## WAFER TYPE DUAL DOOR CHECK VALVE

### SPECIFICATION

SUITABLE PN25 FLANGE MOUNTING  
FACE-TO-FACE DIMENSION TO EN 558-1 SR. 16

### PRESSURE / TEMPERATURE RATINGS

Working Pressure	25 bar
Testing Pressure	Shell: 1.5 times Seat: 1.1 times
Working Temperature	-10°C to 120°C (EPDM Seat) -10°C to 80°C (NBR Seat)
Suitable Media	Water & Oil

### MATERIALS

Part	Material	DIN / EN
Body	Ductile Iron	1691 GGG50
Disc	Ductile Iron Stainless Steel 304 Stainless Steel 316	1691 GGG50 SUS 304 SUS 316
Seat Ring	EPDM NBR	
Shaft	Stainless Steel 316	SUS 316
Spring	Stainless Steel 316	SUS 316
Bush	TEFLON	

### DIMENSIONS

Unit: mm

Size	L	A	B
50	43	65	107
65	46	80	127
80	64	94	142
100	64	117	168
125	70	145	194
150	76	170	224
200	89	224	284
250	114	265	343
300	114	310	400

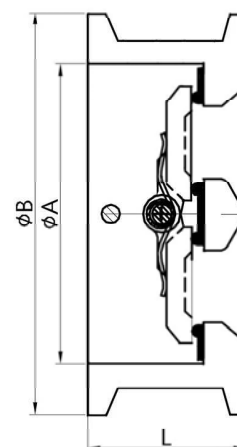
Note:

- Design and specifications are subject to change without prior notice.

## DDCV-WB25

### PN25

DN50~DN300



## CAST IRON SILENT CHECK VALVE (WAFER TYPE)

### SPECIFICATION

FOR ANSI B16.1 CLASS 125 FLANGE MOUNTING

### PRESSURE / TEMPERATURE RATINGS

Working Pressure	200 psi
Testing Pressure	Shell : 350 psi Seat : 220 psi
Working Temperature	14°F to 248°F (EPDM Seat) 14°F to 176°F (NBR Seat) 14°F to 302°F (Viton Seat)
Suitable Media	Water, Oil & Gas

### MATERIALS

Part	Material	ASTM
Body	Cast Iron	A126 Class B
Disc	Gunmetal	B62 C83600
	Stainless Steel	A351 CF8
Spring	Stainless Steel	AISI 304
Bushing	Gunmetal	B62 C83600
Seat	Gunmetal	B62 C83600
	Stainless Steel	A351 CF8
Seat O-ring	EPDM NBR Viton	

### DIMENSIONS

Size inch	L inch	D inch
2	2.6	4.3
2-1/2	2.9	5
3	3.1	5.8
4	4	7.4
5	4.6	8.4
6	5.5	9.8
8	6.5	13.4
10	8.5	16.1
12	11.3	16.3
14	13.8	18.8

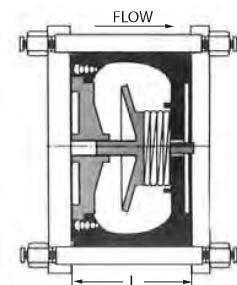
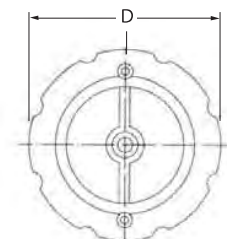
Note:

1. Other flange standards available upon request.
2. If used for gas application, please consult our sales office.
3. Design and specifications are subject to change without prior notice.

**CSCV-WA**

**Class 125**

2"~14"



## DUCTILE IRON SILENT CHECK VALVE (WAFER TYPE)

### SPECIFICATION

FOR ANSI B16.2 CLASS 250 FLANGE MOUNTING

### PRESSURE / TEMPERATURE RATINGS

Working Pressure	350 psi
Testing Pressure	Shell : 525 psi Seat : 385 psi
Working Temperature	-4°F to 230°F (EPDM Seat) 14°F to 176°F (NBR Seat)
Suitable Media	Water, Oil & Gas

### MATERIALS

Part	Material	ASTM
Body	Ductile Iron	A536 65-45-12
Disc	Gunmetal	B62 C83600
	Stainless Steel	AISI 304
Spring	Stainless Steel	AISI 304
Bushing	Gunmetal	B62 C83600
Seat	Gunmetal	B62 C83600
	Stainless Steel	AISI 304
Seat Ring	EPDM	
	NBR	

### DIMENSIONS

Size inch	L inch	D inch
2	2.6	4.3
2-1/2	2.9	5
3	3.1	5.9
4	4	6.6
5	4.6	8.4
6	5.5	9.8
8	6.5	13.4
10	8.3	16.1
12	11.3	16.3
14	13.8	18.8

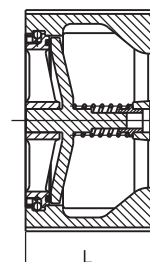
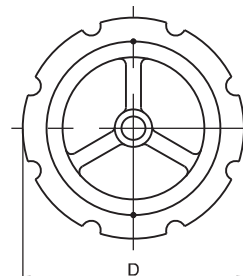
Note:

1. Other flange standards available upon request.
2. If used for gas application, please consult our sales office.
3. Design and specifications are subject to change without prior notice.

**DSCV-WA250**

**Class 250**

2"~14"



## SILENT CHECK VALVE

### SPECIFICATION

Flanged to ANSI 150

### PRESSURE / TEMPERATURE RATINGS

Working Pressure	16 bar
Testing Pressure	Shell: 1.5 times Seat: 1.1 times
Working Temperature	-20°C to 110°C (EPDM) -10°C to 80°C (NBR)
Suitable Media	Water & Oil

### MATERIALS

Part	Material	BS
Body	Ductile Iron	2789 Gr. 420/12
Disc	Stainless Steel 304	970 304S15
Seat	Bronze	1400 LG2
Seat Ring	EPDM / NBR	
Stem	Stainless Steel 304	970 304S15
Bushing	Bronze	1400 LG2
Spring	Stainless Steel 304	970 304S15

### DIMENSIONS

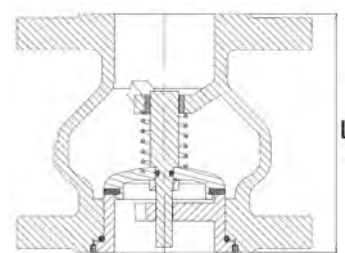
Unit: mm

Size	L	Size	L
50	133	250	303
65	140	300	362
80	152	350	400
100	185	400	448
125	216	450	476
150	229	500	524
200	257	600	610

Note:

1. JIS10K, PN10, PN16 flange standard are available upon request.
2. Design and specifications are subject to change without prior notice.

## CSCV-FA ANSI150





## SILENT CHECK VALVE

### SPECIFICATION

FLANGED TO BS EN 1092-2 PN16 / PN25  
CONFORMS TO BS EN 12334

### PRESSURE / TEMPERATURE RATINGS

	CSCV-FB Cast Iron Body	DSCV-FB25 Ductile Iron Body
Working Pressure	16 bar	25 bar
Testing Pressure	Shell : 24 bar Seat : 17.6 bar	Shell : 37.5 bar Seat : 27.5 bar
Working Temperature	-20°C to 110°C (EPDM) -10°C to 80°C (NBR)	
Suitable Media	Water, Oil & Gas	

### MATERIALS

Part	Material	BS
Body	Cast Iron	1452 Gr. 220
	Ductile Iron	2789 Gr. 420/12
Disc	Ductile Iron	2789 Gr. 420/12
	Gunmetal	1400 LG2
	Stainless Steel 304	970 304S15
Spring	Stainless Steel 304	970 304S15
Stem	Stainless Steel 410	970 410S21
Bushing	Gunmetal	1400 LG2
Seat	Ductile Iron	2789 Gr. 420/12
	Gunmetal	1400 LG2
	Stainless Steel 304	970 304S15
Seat Ring	EPDM / NBR	

### DIMENSIONS

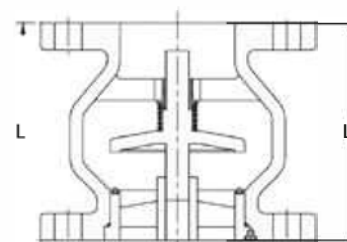
Size mm	L mm	Size mm	L mm
50	133	250	393
65	140	300	362
80	152	350	400
100	185	400	448
125	216	450	476
150	229	500	524
200	257	600	610

Note:

1. BS EN 12334 is equivalent to BS 5153
2. BS EN 1092-2 is equivalent to BS 4504 PN16
3. Other flange standards available upon request.
4. If used for gas application, please consult our sales office.
5. Design and specifications are subject to change without prior notice.

**CSCV-FB**  
**PN16**  
DN50-600

**DSCV-FB25**  
**PN25**  
DN 50-600



## SWING CHECK VALVE

### SPECIFICATION

FACE TO FACE DIMENSION CONFORMS TO ANSI B16.10  
FLANGED END DRILLED TO ANSI B16.1

### PRESSURE / TEMPERATURE RATINGS

Working Pressure	240 psi
Testing Pressure	Shell: 1.5 times Seat: 1.1 times
Working Temperature	-10°C to 120°C
Suitable Media	Water & Oil

### MATERIALS

Part	Material	ASTM
Body	Ductile Iron	A536 65-45-12
Disc	Ductile Iron	A536 65-45-12
Cover	Ductile Iron	A536 65-45-12
Seat Ring	Brass	B16 C36000
Disc Ring	Brass	B16 C36000

### DIMENSIONS

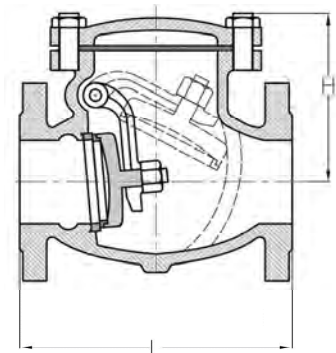
Unit: inch

Size	L	H
2	8.0	5.0
2½	8.5	5.9
3	9.5	6.5
4	11.5	7.0
5	13.0	8.1
6	14.0	8.7
8	19.5	9.8
10	24.5	12.0
12	27.5	15.9

Note:

- Design and specifications are subject to change without prior notice.

## CCV-A CLASS 125 2" ~ 12"



## BALL VALVE

### SPECIFICATION

FULL BORE • PTFE SEAT  
FACE-TO-FACE DIMENSION CONFORMS TO DIN 3202

### PRESSURE / TEMPERATURE RATINGS

Working Pressure	16 bar
Testing Pressure	Shell: 24 bar Seat: 17.6 bar
Working Temperature	-20°C to 150°C
Suitable Media	Water, Oil & Steam

### MATERIALS

Part	Material	DIN
Body	Cast Iron Ductile Iron	GG25 GGG50
Bonnet	Cast Iron Ductile Iron	GG25 GGG50
Ball	Stainless Steel 304	X5CrNi189
Seat	PTFE	
Shaft	Stainless Steel 410	X10Cr13
Lever	Ductile Iron	GGG50

### DIMENSIONS

Unit: mm

Size	L	H	W
50	150	115	245
65	170	135	290
80	180	155	320
100	190	170	340
125	325	195	700
150	350	240	700
200	400	295	700

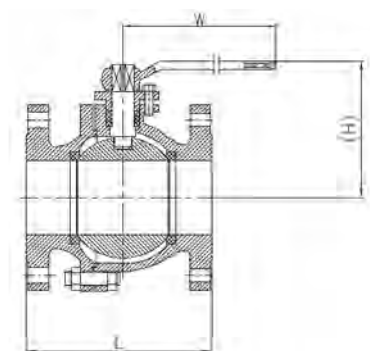
Note:

1. JIS10K, ANSI150# or PN10 flange standard are available upon request.
2. Design and specifications are subject to change without prior notice.

## CBV-D

### PN16

DN50~DN200



## RISING STEM GATE VALVE

### SPECIFICATION

RISING STEM, OUTSIDE SCREW AND YOKE  
FACE TO FACE DIMENSION CONFORMS TO ANSI B16.10  
FLANGED END DRILLED TO ANSI B16.1

### PRESSURE / TEMPERATURE RATINGS

Working Pressure	240 psi
Testing Pressure	Shell: 1.5 times Seat: 1.1 times
Working Temperature	-10°C to 150°C
Suitable Media	Water & Oil

### MATERIALS

Part	Material	ASTM
Body	Ductile Iron	A536 65-45-12
Bonnet	Ductile Iron	A536 65-45-12
Disc	Ductile Iron	A536 65-45-12
Seat	Brass	B16 C63000
Stem	Stainless Steel 420	AISI 420
Packing	Graphite	Non-Asbestos
Handwheel	Ductile Iron	A536 65-45-12

### DIMENSIONS

Unit: inch

Size	L	H	D
1½	6.5	12.0	6.3
2	7.0	12.8	6.3
2½	7.5	14.4	6.3
3	8.0	17.4	7.9
4	9.0	20.2	7.9
5	10.0	23.7	9.8
6	10.5	28.3	9.8
8	11.5	36.3	11.8
10	13.0	43.9	13.8
12	14.0	53.0	13.8
14	15.0	61.4	18.7
16	16.0	68.5	18.7

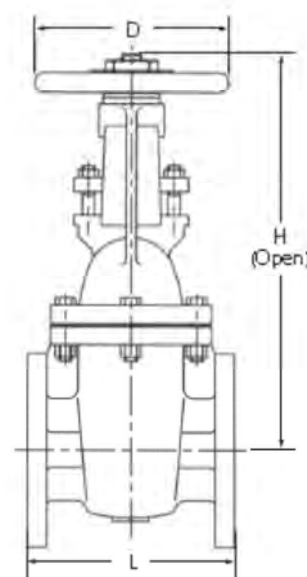
Note:

- Design and specifications are subject to change without prior notice.

## R-CGV-A

### Class 125

1½"~16"





## CAST IRON RISING STEM GATE VALVE

### SPECIFICATION

RISING STEM • OUTSIDE SCREW AND YOKE  
BS EN 1171 (BS 5150) • FLANGED TO BS EN 1092-2 PN25

### PRESSURE / TEMPERATURE RATINGS

Working Pressure	25 bar
Testing Pressure	Shell : 37.5 bar Seat : 27.5 bar
Working Temperature	-10°C to 120°C
Suitable Media	Water, Oil & Gas

### MATERIALS

Part	Material	BS
Body	Cast Iron	1452 Gr. 220
Bonnet	Cast Iron	1452 Gr. 220
Disc	Cast Iron	1452 Gr. 220
Seat Ring	Gunmetal	1400 LG 2
Stem	Brass Stainless Steel	2874 CZ 124 970 420S37
Packing	Graphite	Non-Asbestos
Handwheel	Cast Iron	1452 Gr. 220

### DIMENSIONS

Size mm	L mm	H (Open) mm	D mm
50	216	384	175
65	241	436	200
80	283	492	254
100	305	610	300
125	381	715	300
150	403	812	348
200	419	1019	400
250	457	1211	457
300	502	1386	457

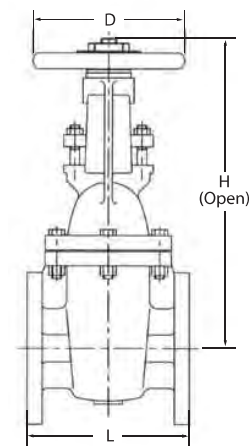
Note:

1. Other flange standards available upon request.
2. If used for gas application, please consult our sales office.
3. Design and specifications are subject to change without prior notice.

**R-CGV-B25**

**PN25**

DN50~300



## IRON GATE VALVE

### SPECIFICATION

NON-RISING STEM, INSIDE SCREW  
DIN 3352 DESIGN, FLANGED TO DIN 2532/2533 PN10/16  
FACE-TO-FACE DIMENSION CONFORMS TO DIN3202 F4 SERIES

### PRESSURE / TEMPERATURE RATINGS

Working Pressure	16 bar
Testing Pressure	Shell: 24 bar Seat: 17.6 bar
Working Temperature	-10°C to 80°C
Suitable Media	Water & Oil

### MATERIALS

Part	Material	DIN
Body	Cast Iron (DN50~DN125)	1691 GG25
	Ductile Iron (DN50~DN300)	1693 GGG50
Bonnet	Cast Iron (DN50~DN125)	1691 GG25
	Ductile Iron (DN50~DN300)	1693 GGG50
Disc	Cast Iron (DN50~DN125)	1691 GG25
	Ductile Iron (DN50~DN300)	1693 GGG50
Seat Ring	Brass	17660 CuZn39Pb3
Stem	Stainless Steel	17440x20Cr13
Packing	Graphite	Non-Asbestos
Handwheel	Ductile Iron	1693 GGG50

### DIMENSIONS

Unit: mm

Size	L	H	D
50	150	254	150
65	170	273	150
80	180	330	210
100	190	375	210
125	200	423	250
150	210	494	250
200	230	550	300
250	250	652	320
300	270	772	350

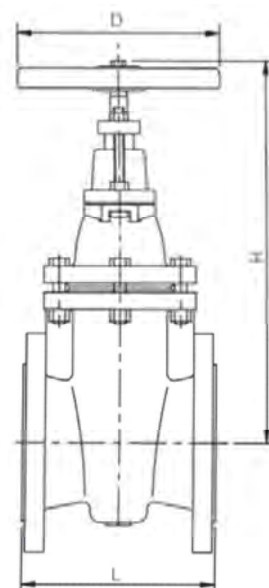
Note:

1. JIS10K, ANSI150# or PN10 flange standard are available upon request.
2. Design and specifications are subject to change without prior notice.

**IGV-D**

**PN16**

DN50~DN300



## CAST IRON GLOBE VALVE

### SPECIFICATION

RISING STEM • OUTSIDE SCREW AND YOKE  
MSS SP-85 • FLANGED TO ANSI CLASS 125

### PRESSURE / TEMPERATURE RATINGS

Working Pressure	200 psi
Testing Pressure	Shell : 350 psi Seat : 220 psi
Working Temperature	14°F to 248°F
Suitable Media	Water, Oil & Gas

### MATERIALS

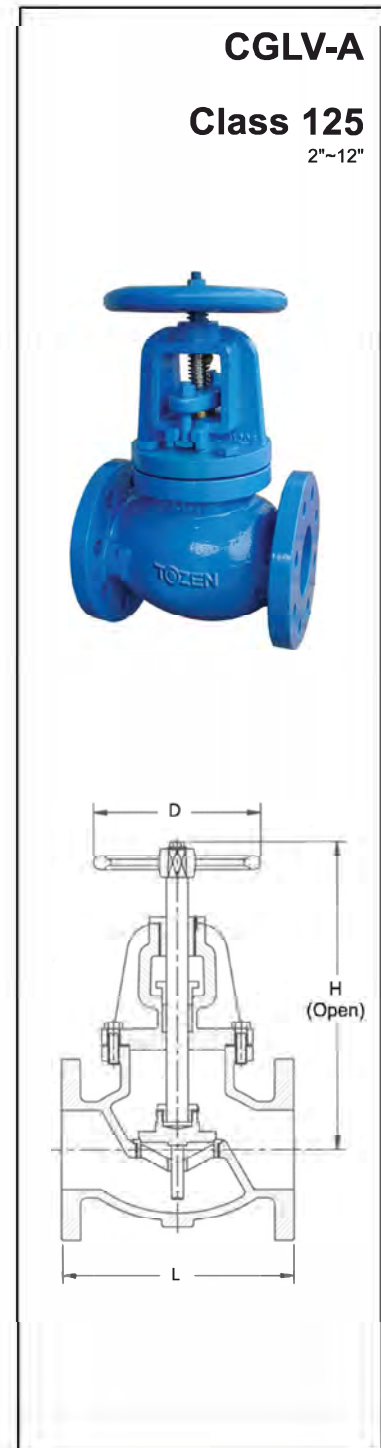
Part	Material	ASTM
Body	Cast Iron	A126 Class B
Bonnet	Cast Iron	A126 Class B
Disc	Gunmetal	B62 83600
Seat Ring	Gunmetal	B62 83600
Stem	Brass Stainless Steel	B16 C36000 AISI 420
Packing	Graphite	Non-Asbestos
Handwheel	Cast Iron	A126 Class B

### DIMENSIONS

Size inch	L inch	H (Open) inch	D inch
2	8	3.2	7
2-1/2	8.5	12.9	7
3	9.5	13.5	8
4	11.5	15.2	10
5	13	16.6	12
6	14	20	12
8	19.5	22.8	13.7
10	24.5	26.9	16
12	27.5	33.6	18

Note:

1. JIS B2239 10K and other flange standards available upon request.
2. If used for gas application, please consult our sales office.
3. Design and specifications are subject to change without prior notice.



## FOOT VALVE

### SPECIFICATION

FLANGED TO BS EN 1092-2 PN16

### PRESSURE / TEMPERATURE RATINGS

Working Pressure	16 bar
Testing Pressure	Shell: 1.5 times Seat: 1.1 times
Working Temperature	-20°C to 110°C (EPDM) -10°C to 80°C (NBR)
Suitable Media	Water & Oil

### MATERIALS

Part	Material
Body	Ductile Iron
Disc	Ductile Iron
Seat Ring	EPDM / NBR
Stem	Stainless Steel 410
Spring	Stainless Steel 304
Screen	Stainless Steel 304

### DIMENSIONS

Unit: mm

Size	H	OD
50	166	165
65	201	185
80	221	200
100	265	220
125	300	250
150	360	285
200	470	340
250	568	405
300	653	460
350	670	520
400	720	580

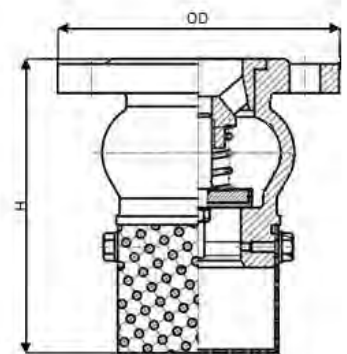
Note:

1. JIS10K, ANSI150# or PN10 flange standard are available upon request.
2. Design and specifications are subject to change without prior notice.

## DFV-B

### PN16

DN50~DN400





## CAST IRON AUTOMATIC AIR VENT

### SPECIFICATION

THREADED TO BS21

### PRESSURE / TEMPERATURE RATINGS

Working Pressure	16 bar
Testing Pressure	24 bar
Working Temperature	-10°C to 120°C
Suitable Media	Water

### MATERIALS

Part	Material	BS
Body	Cast Iron	1452 Gr. 220
Cover	Cast Iron	1452 Gr. 220
Level	Stainless Steel	970 304S15
Seat	Stainless Steel	970 304S15
Float	Stainless Steel	970 304S15
Float Arm	Stainless Steel	970 304S15
Orifice Button	Viton	

### DIMENSIONS

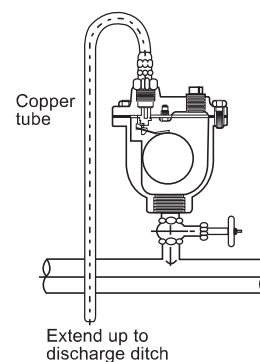
Size mm	Inlet mm	Outlet mm	Orifice mm
15	15	15	1.6
20	20	15	1.6
25	25	15	1.6

Note:

1. Other thread standards available upon request.
2. Design and specifications are subject to change without prior notice.

#### Installation Guide:

1. Air vent shall be installed vertically with allowance of within 5° from the horizontal pipe line.
2. Install a gate valve or ball valve at the inlet for maintenance purposes.
3. A copper tube to be connected from the outlet of the air vent up to drainage ditch, to prevent any leakage of the water, if any.
4. Insulate the air vent and gate valve / ball valve to prevent condensation.



## AUTOMATIC AIR VENT

### SPECIFICATION

THREADED TO BS 21 (ISO 7) / ASME B1.20.1

### PRESSURE / TEMPERATURE RATINGS

Model	CAAV-B Cast Iron	DAAV-B25 Ductile Iron
Working Pressure	16 bar	25 bar
Testing Pressure	24 bar	37.5 bar
Working Temperature	-10°C ~ 120°C	
Suitable Media	Water	

### MATERIALS

Part	Material	BS
Body	Cast Iron Ductile Iron	1452 Gr.220 2789 Gr. 420/12
Cover	Cast Iron Ductile Iron	1452 Gr.220 2789 Gr. 420/12
Level	Stainless Steel 304	970 304S15
Seat	Stainless Steel 304	970 304S15
Float	Stainless Steel 304	970 304S15
Float Arm	Stainless Steel 304	970 304S15
Orifice Button	Viton	

### DIMENSIONS

Size mm	Inlet mm	Outlet mm	Orifice Mm
15	15	15	1.6
20	20	15	1.6
25	25	15	1.6

Note:

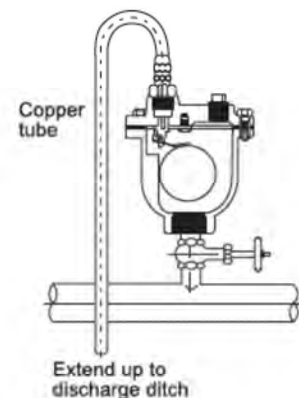
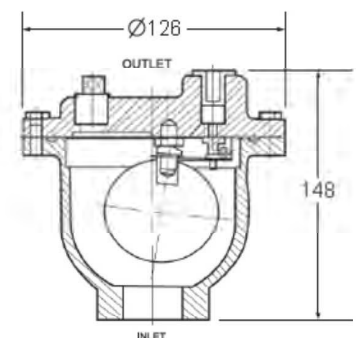
- Design and specifications are subject to change without prior notice.

Installation Guide:

- Air vent shall be installed vertically with allowance of within 5° from the horizontal pipe line.
- Install a gate valve or ball valve at the inlet for maintenance purposes.
- A copper tube to be connected from the outlet of the air vent up to drainage ditch, to prevent any leakage of the water, if any.
- Insulate the air vent and gate valve / ball valve to prevent condensation.

**CAAV-B**  
**PN16**

**DAAV-B25**  
**PN25**

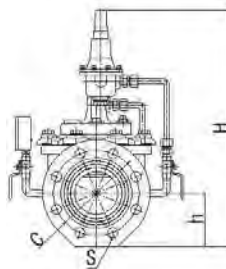
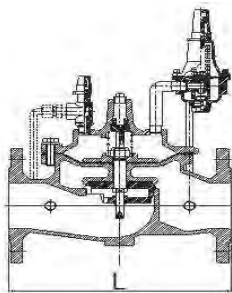
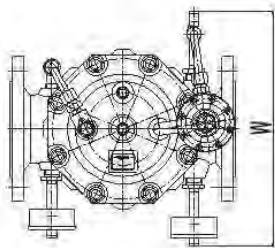


## PRESSURE REDUCING VALVE FOR LARGE CAPACITY

TOZEN PRV-CPR is a pilot-controlled hydraulic-operated pressure reducing valve suitable for various applications. TOZEN PRV-CPR valves reduce and maintain a lower constant downstream pressure disregard a higher and fluctuating upstream.

### SPECIFICATION

MODEL		PRV-CPR
Sizes (mm)		65~150
Application Fluid		Water, Warm Water
Fluid Temperature		5~60°C
Applicable Inlet Pressure		Under 1.6MPa
Max. Pressure Reduction Ratio		10 : 1
Flange Connection		ISO7005/EN1092/ BS4504-PN16 RF
Material	Body	FCD450
	Seat	SCS13A
	Diaphragm, Shield Ring	NBR



### DIMENSIONS

Unit: mm

Nominal size	L	H	h	W	C	S	weight (kg)
65	290	-432	92.5	-335	145	4-φ19	20.5
80	310	-442	100	-344	160	8-φ19	24
100	350	-476	110	-355	180	8-φ19	32.5
125	400	-511	125	-390	210	8-φ19	45
150	480	-586	145	-430	240	8-φ22	60.5

## PRV-CPR PN-16 DN65~DN150



**GDRV-101**

**FIXED ORIFICE  
DOUBLE REGULATING VALVE**



## PRODUCT DATA SHEET

### FIXED ORIFICE DOUBLE REGULATING VALVE

**Model : GDRV-101**

15mm (1/2") ~ 50mm (2")



### APPLICATION

Tozen Double Regulating Valves are installed and used in centralised heating and cooling systems to obtain design flow rates of each terminal units and balancing the circuits in the building.

### FUNCTION

- Balancing
- Measuring
- Pre-setting
- Isolating

### FEATURES

- Y-pattern globe design.
- Integral fixed orifice plate to form a fixed orifice flow measurement unit with regulation and isolation function.
- Accuracy of +/-5% at full open position of the valve.
- Equipped with 2 measuring nipples for differential pressure measurement.
- Microset handwheel adjustment with easily readable settings.
- Multi-turn adjustment range for maximum flow control.
- Double regulating feature allows valve opening to be set with allen key.
- Long neck for thermal insulation.
- Bronze body of PN25 pressure rating.
- Comply to BS 7350.

### SPECIFICATION

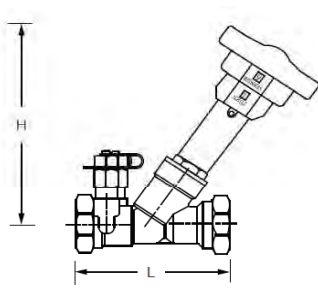
- Type : Fixed orifice
- Size range : 15mm ~ 50mm
- Max. working pressure : 25bar
- Testing pressure : 37.5bar (Shell)  
: 27.5bar (Seat)
- Working temperature : -10°C to 120°C
- Connection : BS 21 (ISO 7)  
: ANSI B1.20.1
- Standard : Comply to BS 7350



## MATERIALS

Part	Material	ASTM	EN
Body	Bronze	B62 B83600	EN1982 CC491K
Bonnet	DZR Brass	B453 C35330	EN12164 CW602N
Stem	DZR Brass	B453 C35330	EN12164 CW602N
Disc (15mm ~ 20mm)	DZR Brass	B453 C35330	EN12164 CW602N
Disc (25mm ~ 50mm)	DZR Brass + PTFE	B453 C35330	EN12164 CW602N
Orifice Insert	DZR Brass	B453 C35330	EN12164 CW602N
Measuring Nipples	DZR Brass	B453 C35330	EN12164 CW602N
O-Ring	EPDM	-	-
Handwheel	ABS	-	-

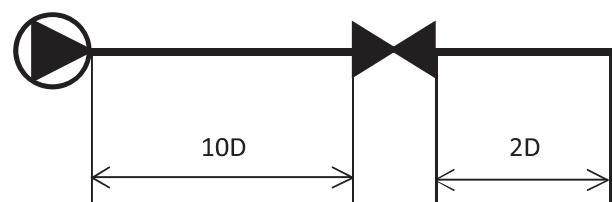
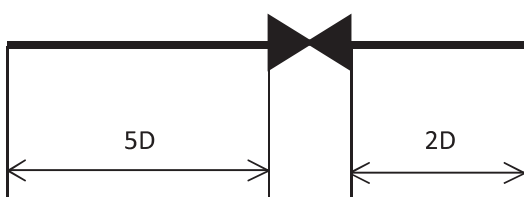
## DIMENSIONS & COEFFICIENTS

	Size (mm)	L (mm)	H (mm)	Weight (kg)	Kvs
	15	90	109	0.6	2.1
20	98	110	0.6	4.4	
25	105	125	0.8	9.1	
32	120	128	1.1	17.5	
40	130	145	1.4	26.3	
50	150	148	2.0	49.3	

Note: Kvs at fully open position.

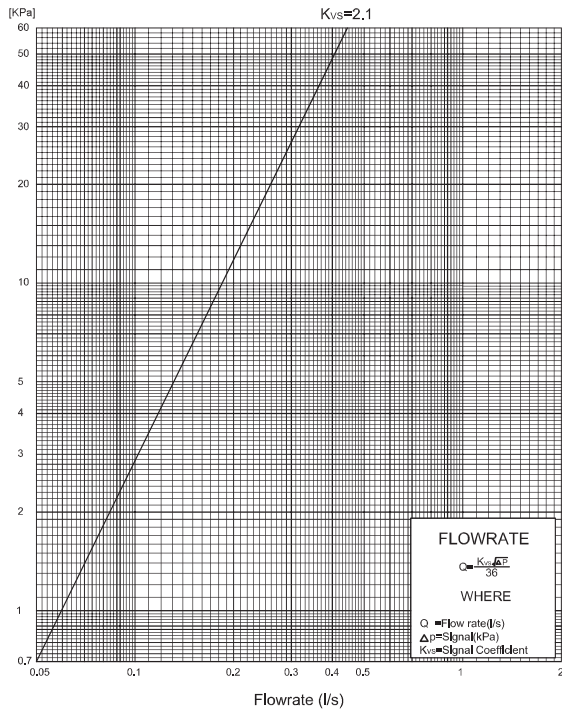
## Installation

- The Double Regulating Valve shall be installed with the arrow marking on the valve body in accord to the same flow direction in the pipe. It may be installed at any angle.
- Use adequate seal material to protect the thread on pipe side from leaking or rusting. For connection, use proper tool (spanner, etc) to screw correctly in accordance to thread standard. Do not connect by using wrench on valve side.
- Up and down stream from the valve is required to avoid turbulence which will affect the accuracy.

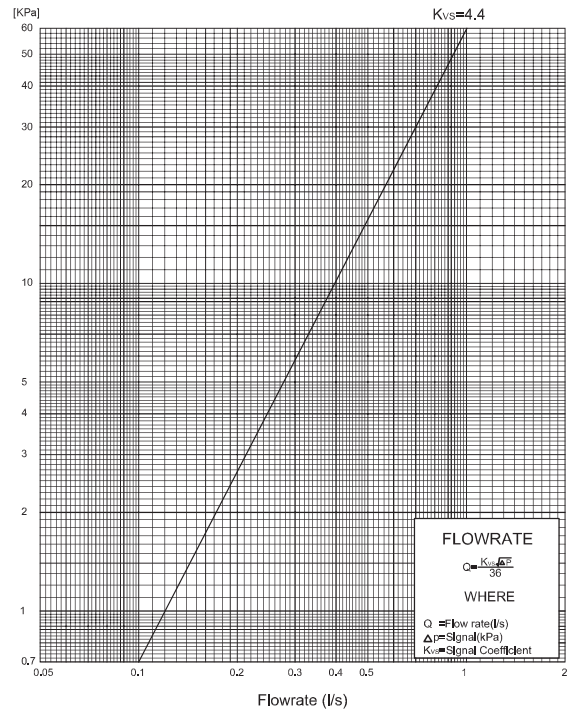


## FLOW MEASUREMENT GRAPHS

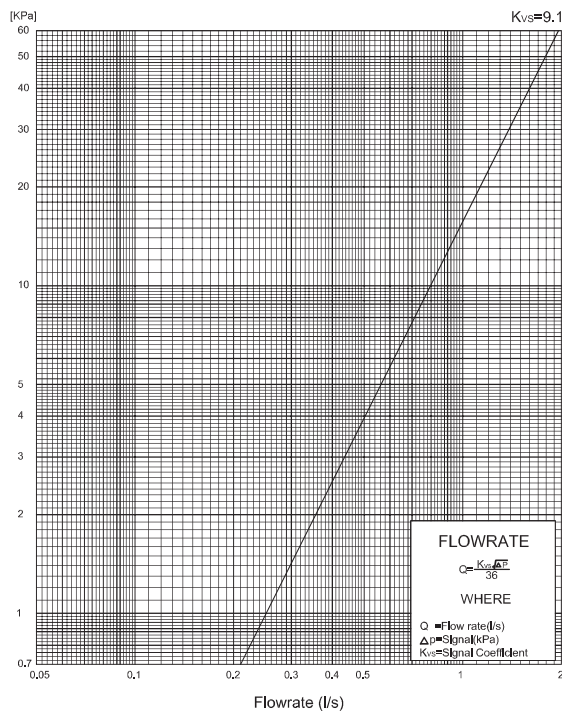
GDRV-101  
Diameter : 15mm



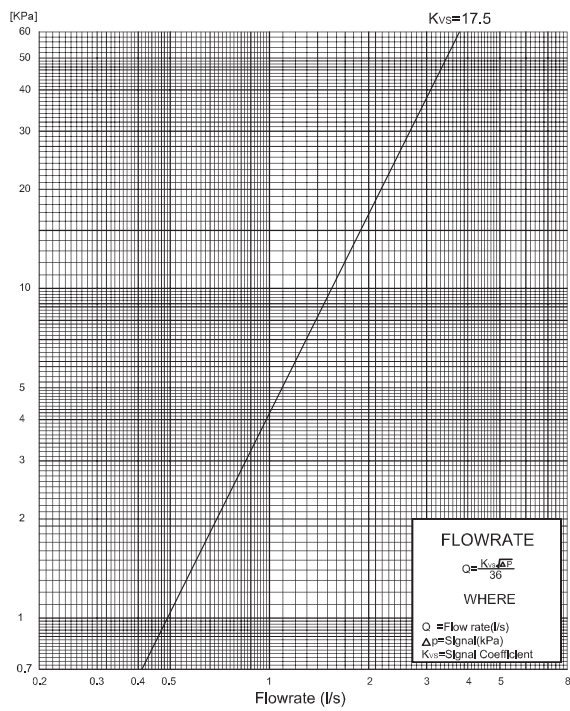
GDRV-101  
Diameter : 20mm



GDRV-101  
Diameter : 25mm

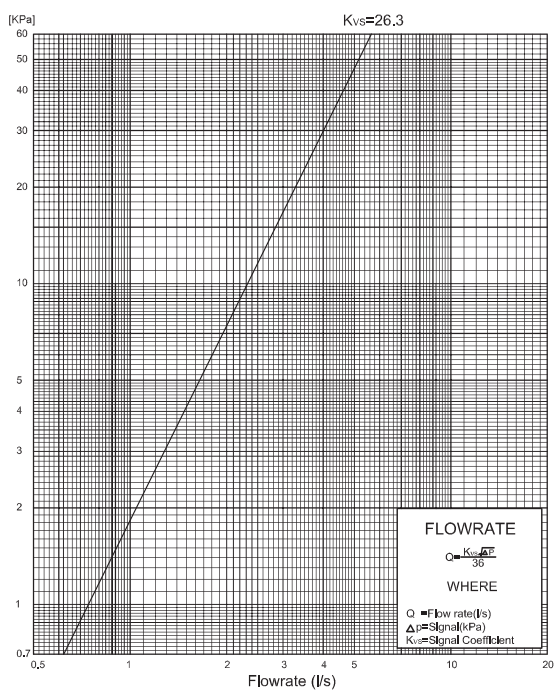


GDRV-101  
Diameter : 32mm

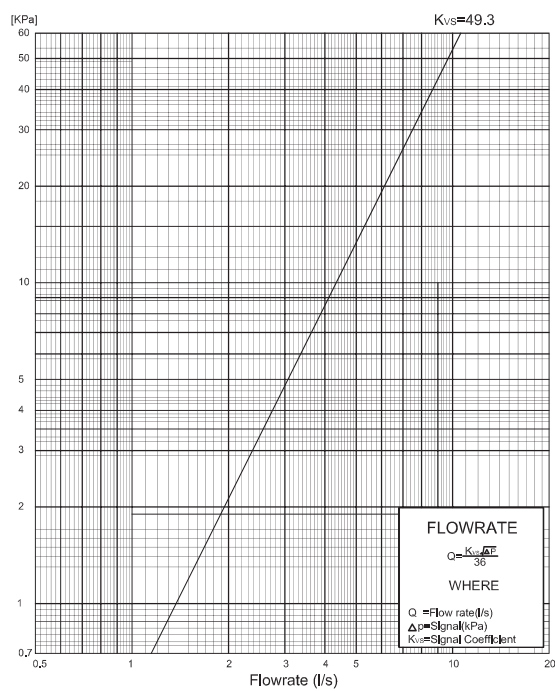


## FLOW MEASUREMENT GRAPHS

GDRV-101  
Diameter : 40mm



GDRV-101  
Diameter : 50mm



**DDRV-B**  
**DDRV-B25**

**FIXED ORIFICE  
DOUBLE REGULATING VALVE**



## PRODUCT DATA SHEET

### FIXED ORIFICE DOUBLE REGULATING VALVE

**Model : DDRV-B  
DDRV-B25**

65mm (2½") ~ 300mm (12")



### APPLICATION

Tozen Double Regulating Valves are installed and used in centralised heating and cooling systems to obtain design flow rates of each terminal units and balancing the circuits in the building.

### FUNCTION

- Balancing
- Measuring
- Pre-setting
- Isolating

### FEATURES

- Y-pattern globe design.
- Integral fixed orifice plate to form a fixed orifice flow measurement unit with regulation and isolation function.
- Accuracy of +/-5% at full open position of the valve.
- Equipped with 2 measuring nipples for differential pressure measurement.
- Microset handwheel adjustment with easily readable settings.
- Multi-turn adjustment range for maximum flow control.
- Double regulating feature allows valve opening to be set with allen key.
- Long neck for thermal insulation.
- Ductile iron body of PN16 & PN 25 pressure rating.
- Comply to BS 7350.

### SPECIFICATION

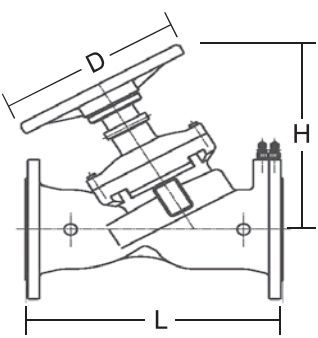
- Type : Fixed orifice
- Size range : 65mm ~ 300mm
- Max. working pressure : 16bar (DDRV-B)  
: 25bar (DDRV-B25)
- Testing pressure (Shell) : 24bar (DDRV-B)  
: 37.5bar (DDRV-B25)
- Testing pressure (Seat) : 17.6bar (DDRV-B)  
: 27.5bar (DDRV-B25)
- Working temperature : -10°C to 120°C
- Connection : EN1092-2 PN16/25  
(Other flange standard available upon request)
- Standard : Comply to BS 7350



## MATERIALS

Part	Material	ASTM	EN
Body	Ductile Iron	A536 65-45-12	EN-JS 1050
Bonnet	Ductile Iron	A536 65-45-12	EN-JS 1050
Stem	Stainless Steel 410	S41000	BS970 410S21
Disc	EPDM Coated Ductile Iron	A536 65-45-12	EN-JS 1050
Gland (65 - 150mm)	DZR Brass	B453 C35330	EN 12164 CW602N
Gland (200 - 300mm)	Ductile Iron	A536 65-45-12	EN-JS 1050
Gland Nut	DZR Brass	B453 C35330	EN 12164 CW602N
Measuring Nipples	DZR Brass	B453 C35330	EN 12164 CW602N
Handwheel	Ductile Iron	A536 65-45-12	EN-JS 1050
Orifice Insert	DZR Brass	B453 C35330	EN 12164 CW602N
Packing	EPDM	-	-

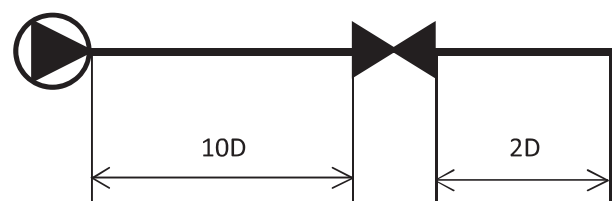
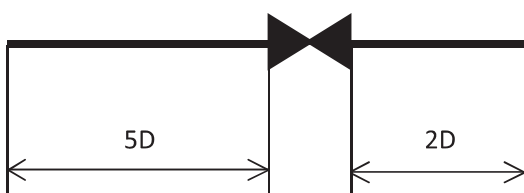
## DIMENSIONS & COEFFICIENTS

	Size (mm)	L (mm)	H (mm)	D (mm)	Weight (kg)	Kvs
		65	290	265	200	17
	80	310	270	200	20	131.24
	100	350	310	240	29	189.33
	125	400	340	290	40	354.73
	150	480	340	290	52	472.39
	200	600	537	350	113	735.55
	250	730	570	420	185	1153.21
	300	850	690	420	248	1712.62

Note: Kvs at fully open position.

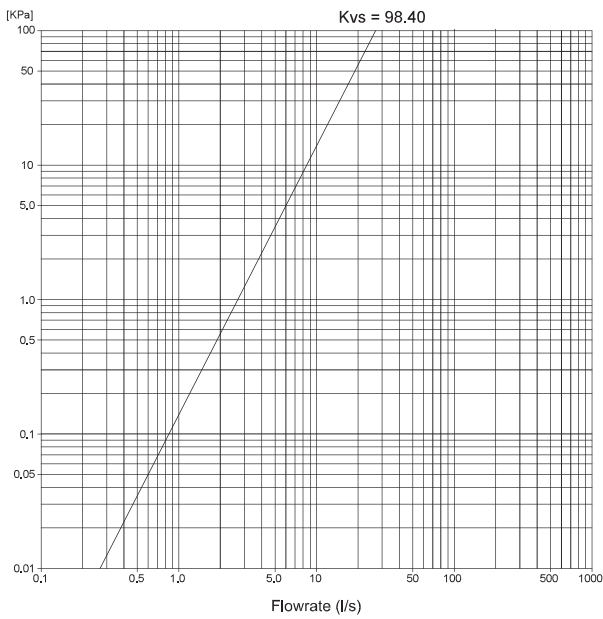
## Installation

- The Double Regulating Valve shall be installed with the arrow marking on the valve body in accord to the same flow direction in the pipe. It may be installed at any angle.
- The gasket must be assembled between the flanges when the valve is installed. It can ensure that the valve is concentric with the pipe and the exact measurement data can be read.
- Avoid welding with pipe while it is connected. Tighten flanges bolts alternately, diagonally and repeatedly with the same force.
- Up and down stream from the valve is required to avoid turbulence which will affect the accuracy.

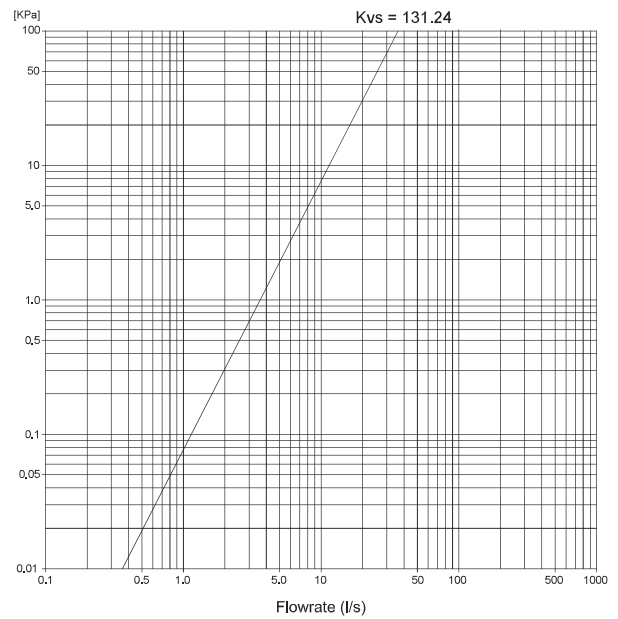


## FLOW MEASUREMENT GRAPHS

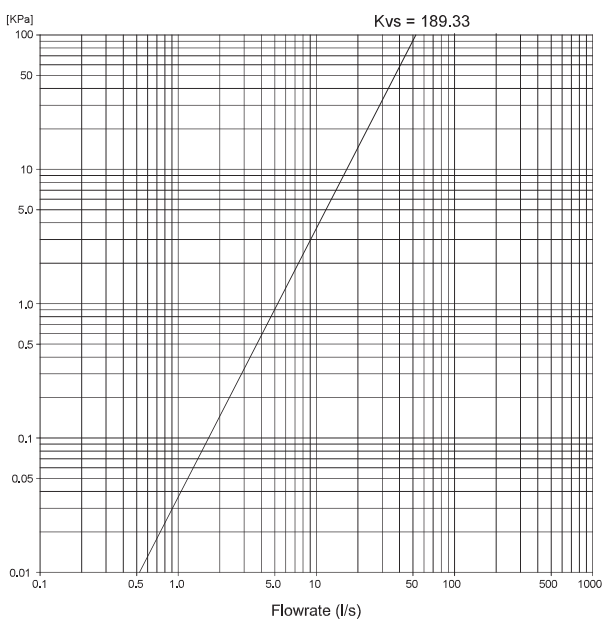
DDRV-B / DDRV-B25  
Diameter : 65mm



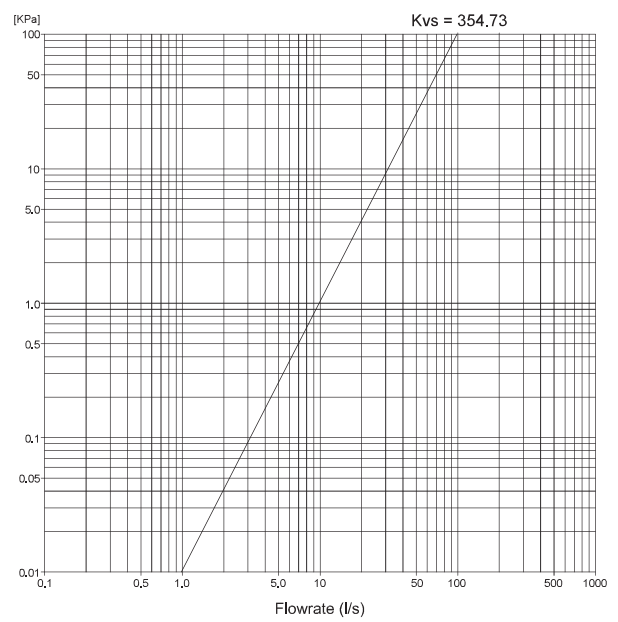
DDRV-B / DDRV-B25  
Diameter : 80mm



DDRV-B / DDRV-B25  
Diameter : 100mm

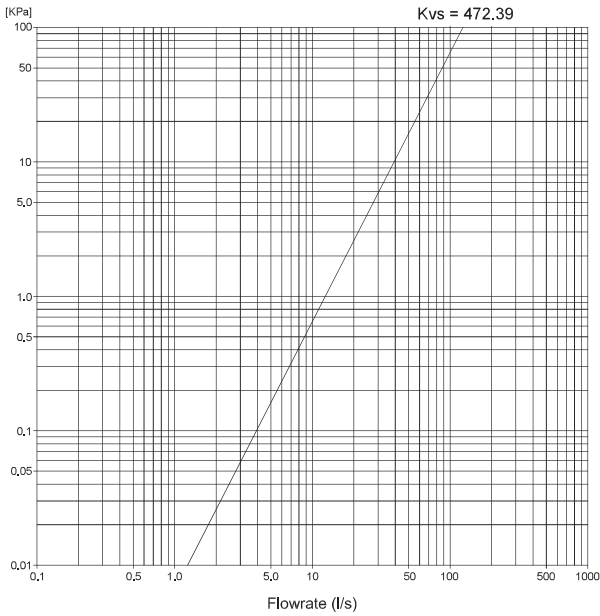


DDRV-B / DDRV-B25  
Diameter : 125mm

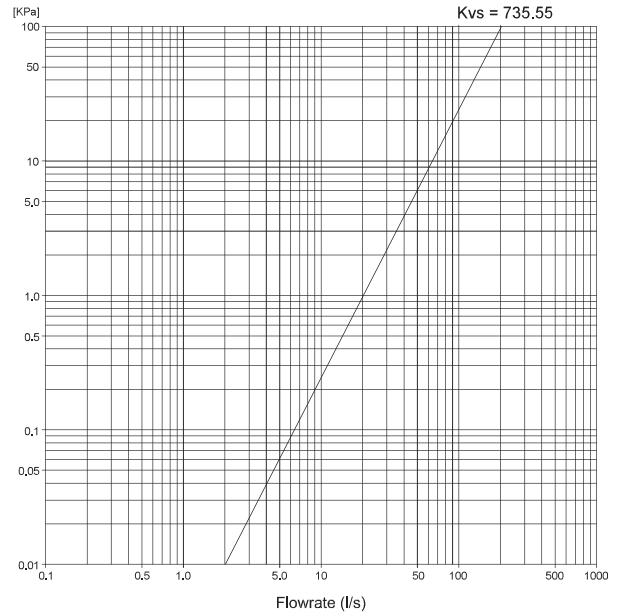


## FLOW MEASUREMENT GRAPHS

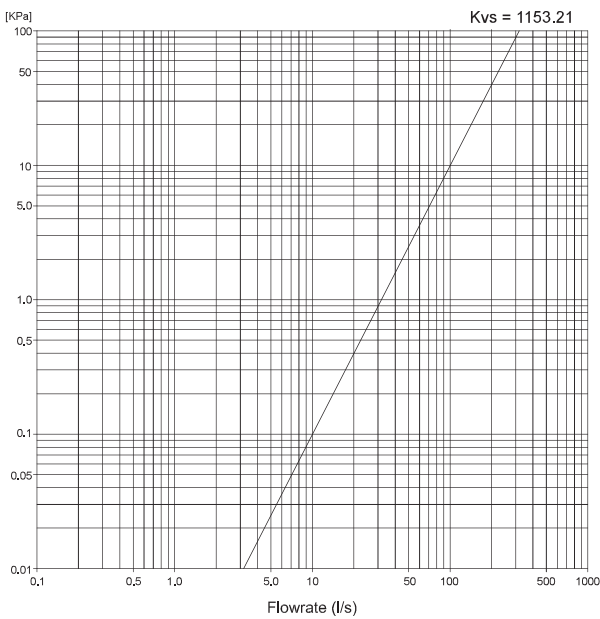
DDRV-B / DDRV-B25  
Diameter : 150mm



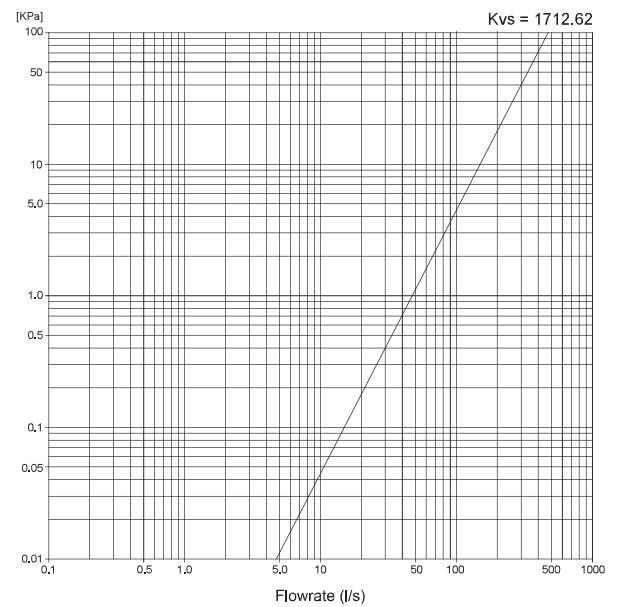
DDRV-B / DDRV-B25  
Diameter : 200mm



DDRV-B / DDRV-B25  
Diameter : 250mm



DDRV-B / DDRV-B25  
Diameter : 300mm



**TOZEN**  
A joint reliance

ELECTRONIC MANOMETER  
**TOCA6**

The TOZEN TOCA6 electronic manometer Unit has been developed in response to demand from discerning commissioning engineers requiring an improvement in measuring techniques for differential pressures measurements primarily on balancing valves in heating and air conditioning systems. The nine button design allows simple navigation of the easy-to follow menu system with all parameters visible on screen.



**TECHNICAL SPECIFICATION**

**Measurement accuracy  
Differential Pressure**

Range 0.3-1kPa — Accuracy  $\pm 0.03$ kPa  
Range 1-10kPa — Accuracy  $\pm 0.05$ kPa  
Range 10-250kPa — Accuracy  $\pm 0.5\%$  reading  
Hysteresis 0.2% span

**Static Pressure**

10 Bar Maximum with hoses supplied as standard  
High pressure options available

**Measurement Range**

0.1kPa to 250kPa

**Effective operating time**

20 hour with standard Alkaline PP3 battery

manometer



balancingvalve



## Structure



## DESCRIPTION

**TOZEN TOCA6** Manometer unit comprise the following

Hand held transducer and display unit in rubber protection sleeve.

Quick connect tubing set complete with manually operated isolation valves.

Quick connect angle pattern 3.3mm insertion probes units.

Toolkit

Instruction manual

Quick start instruction set and menu map, which has been set up with default valves for all the editable function and are listed.

## FUNCTIONS

**Flow/Pressure Display:** Shows valve type, Kvs value, hand-wheel setting (when use with variable orifice), differential pressure, flow, valve type, valve size. Flow and pressure are shown in large text format.

**Multi Display:** Shows valve type, Kvs value, handwheel setting (when use with variable orifice), design flow, target flow, differential pressure, flow, valve type, valve size.

**Pressure Display:** Large text differential pressure.

**Predictive Handwheel Position:** For adjusting variable orifice valves.

**Valve Storage:** Up to 100 storage locations are available for manually storing valve information on-site.

### Units

**Differential Pressure:** Pa, kPa, PSI, BAR, feet H<sub>2</sub>O, Inches H<sub>2</sub>O, mtrs H<sub>2</sub>O, mm H<sub>2</sub>O, cm H<sub>2</sub>O

**Flow :** l/s, l/M, l/h, USGPM, UKGPM

### Edit Functions

Design flow, target flow, specific gravity, Kvs, valve maker, valve group, valve model, valve size, handwheel position.



# NEUMAX<sup>®</sup>

## QT SERIES QUARTER TURN ELECTRIC ACTUATOR



## "NEUMAX" QT Series Quarter Turn Electric Actuator

'QT' series electric actuators are designed & engineered for robust, reliable and for high performance duty onto quarter turn valves. The unique reliable motor module, adjustable cam plate limit switch, self locking mechanism, precision gearing system and ball bearings, the auto declutching mechanism, light force load on the hand-wheel, the adaptor drive bushing and bottom ISO 5211 mounting dimension, are added advantages against others in the field of valve automation. CE approved. FM & UL pending.

### Features

1. **ENCLOSURE**  
Standard enclosure to water jet proof & water tight proof IP 67, NEMA 4 & 6.
2. **MOTOR**  
Squirrel cage motor is of encapsulated type, on high stall torque and low inherent force for seating & unseating of valves. All motors are integrated with build-in thermal protection.
3. **TERMINAL CONNECTION & WIRING**  
Terminal connections are of "WAGO" push on type, making wiring connection very easy & without fuss. Electrical wiring circuit is standardized for single & three phase voltage. Addition termination is available on request.
4. **INTERNAL COMPONENTS ARRANGEMENT**  
Internal mechanical and electrical components are designed in modular mounting arrangement, and can be easily removed for maintenance purposes. Addition optional accessories are also possible.
5. **LIMIT SWITCHES**  
A pair of limit switches are activated by means of simple, reliable & adjustable cam plates, mounted directly onto, and driven by center column. The unique cam plate design does not allow over travel of limit switches.
6. **TORQUE SWITCHES**  
Electric actuators on 100 Nm and above, are installed with torque switches for over-load protection.
7. **HEATER**  
For prevention of condensation due to weather & temperature changes, and also keeps internal components clean & dry, a 20 watt space heater is provided inside all the electric actuators.
8. **SELF LOCKING MECHANISM**  
Because of the worm gear design system, all the electric actuators are self locking.
9. **HANDWHEEL**  
Correct size of hand-wheel on the electric actuator ensure adequate strength for safe and efficient emergency operation.
10. **MANUAL OVER-RIDE**  
Engage by pulling the lever & turning the hand-wheel. Lever is auto declutch when power supply is switched on, and hand-wheel does not turn as extra safety feature.
11. **VISUAL POSITION INDICATOR**  
The visual position indicator is directly mounted onto the center drive column to provide the visual position of the valve.
12. **END STOPPERS**  
1 each for open & close position (adjustable), are for over travel protection.
13. **POTENTIOMETER - optional**  
Is available on request, is to provide & transmit remote indication of valve position.
14. **MOUNTING & ADAPTATION**  
Bottom flange mounting dimension conform to ISO 5211. A adaptor drive bushing is provided for every electric actuator, is removable and for machining to suite valve stem size.



Modulating Service with TCM



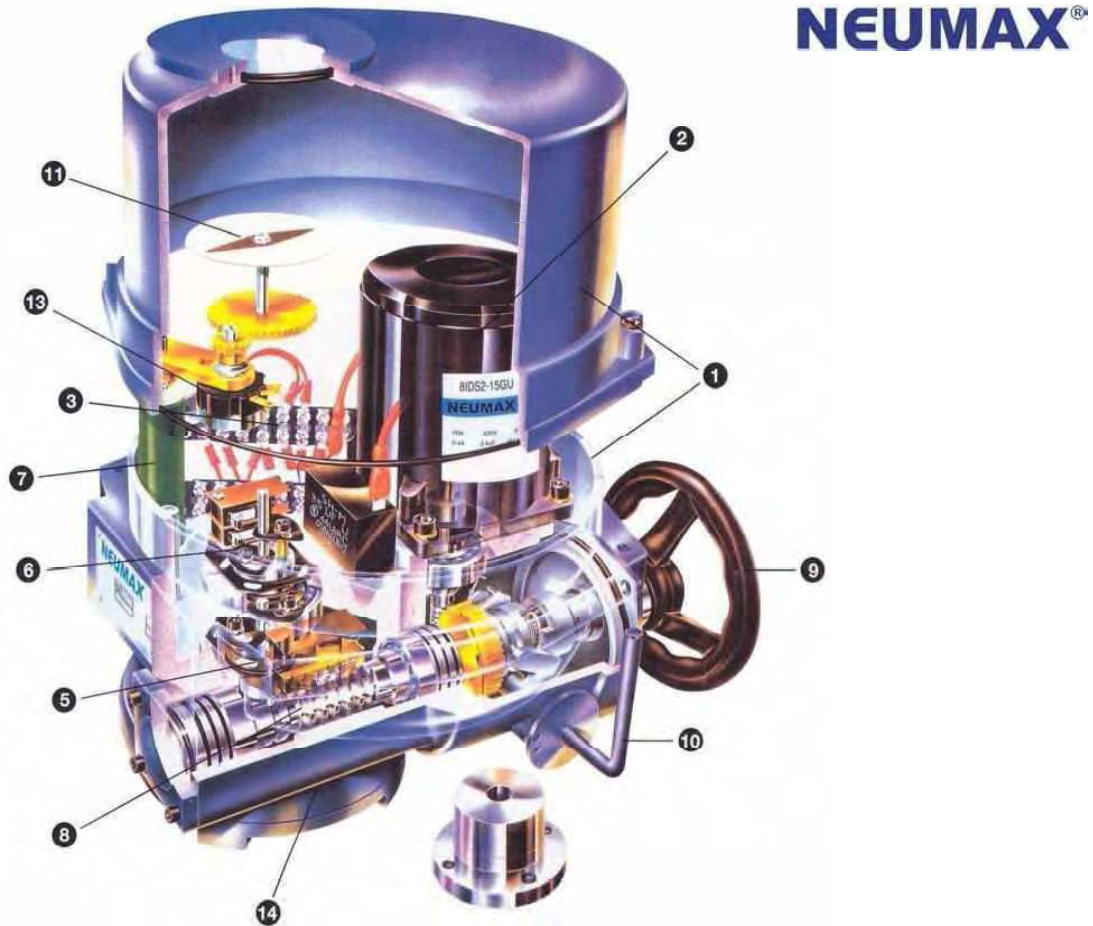
Actuator with Ball Valve for On/Off Service



## Application

For quarter turn valves automation used in heating & ventilation, air-conditioning, water treatment works, power generation, petrochemical plants, oil storage facilities, chemical plants, effluent treatment works, pulp & paper mills and shipbuilding industry.

## Structure



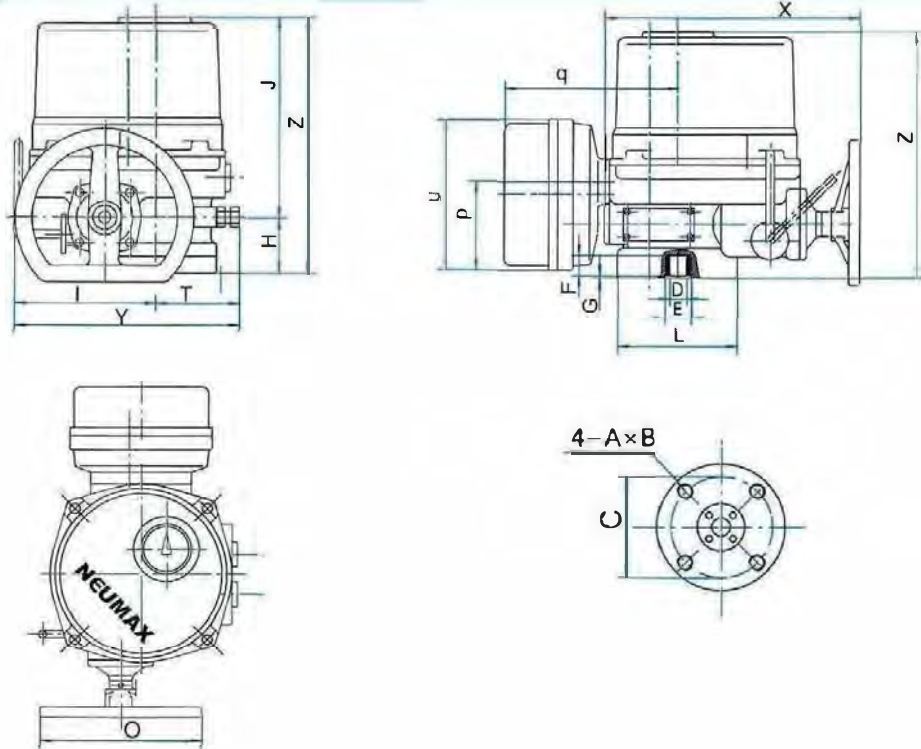
## • Performance

Type	Max Output Torque Kg-m	Operating Time 60/50 Hz. 90 Deg.	Max Stem Dia. mm	Motor 30 Min. Class F W	Rated Current (mA)				Number of Handle Turn	Weight (Kgs)
					1 Phase		3 Phase			
					110V	220V	380V	440V		
QT3*	3	14/17	14	10	650	300	N/A	N/A	8,5	6
QT4*	4	14/17	14	10	650	300	N/A	N/A	8,5	6
QT6*	6	14/17	22	15	1250	400	N/A	N/A	8,5	9
QT9*	9	14/17	22	25	1500	550	190	400	8,5	10
QT15	15	17/20	22	40	2000	900	280	400	10	12
QT19	19	17/20	22	40	2000	900	280	420	10	13
QT28	28	22/26	32	40	2000	900	280	450	12,75	17
QT38	38	22/26	32	60	2700	1250	400	450	12,75	18
QT50	50	22/26	32	90	3300	1600	600	450	12,75	19
QT60	60	24/29	42	120	5000	2400	800	500	14,5	22
QT80	80	24/29	42	180	5800	2800	1200	850	14,5	23
QT100	100	24/29	42	200	8000	3000	1300	900	14,5	25
QT150	150	75/90	50	180	5800	2800	1200	850	45	33
QT200	200	75/90	50	200	8000	3000	1300	900	45	35
QT250	250	75/90	50	200	8000	3000	1300	900	45	35

\* Without torque switches



QT3, QT4, QT6, QT9, QT15, QT19, QT28, QT38, QT50, QT60, QT80, QT100



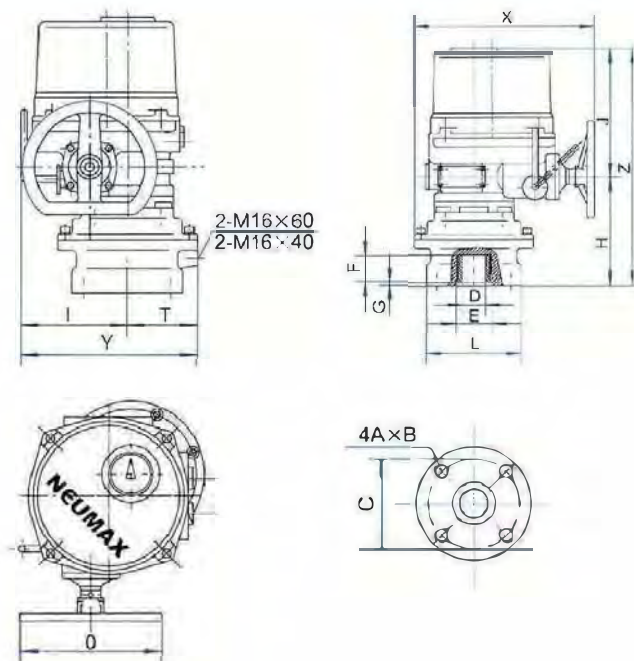
• Dimensions

Type	QT3	QT4	QT6	QT9	QT15	QT19	QT28	QT38	QT50	QT60	QT80	QT100
Flange ISO5211	F05	F05	F05	F07	F07	F07	F10	F10	F10	F10	F10	F10
	-	-	-	-	F10	F10	F12	F12	F12	F12	F12	F12
C	50	50	50	70	70 102	70 102	102 125	102 125	102 125	102 125	102 125	102 125
A	M6	M6	M8	M8	M8 M10	M8 M10	M10 M12	M10 M12	M10 M12	M10 M12	M10 M12	M10 M12
B	12	12	12	12	15	15	18	18	18	18 20	18 20	18 20
D (Max)	14	14	14	22	22	22	32	32	32	42	42	42
E	40	40	55	55	57	57	75	75	75	85	85	85
F	25	25	35	35	35	35	42	42	42	50	50	50
G	5	5	5	5	5	5	1.2	1.2	1.2	1	1	1
H	60	60	60	60	64	64	70	70	70	78	78	78
I	133	133	133	133	154	154	174	174	174	191	191	191
J	196	196	196	196	199	199	228	228	228	264	264	264
L	102	102	102	102	125	125	145	145	145	175	175	175
O	200	200	200	200	200	200	250	250	250	250	250	250
T	75	75	75	75	85	85	100	100	100	115	115	115
X	241	241	241	241	272	272	290	290	290	331	331	331
Y	208	208	208	208	239	239	274	274	274	306	306	306
Z	256	256	256	256	263	263	298	298	298	342	342	342
P	72	72	72	72	72	72	72	72	72	72	72	72
q	166	166	166	166	187	187	192	192	192	209	209	209
U	170	170	170	170	170	170	170	170	170	170	170	170

**QT150, QT200, QT250**

• Dimensions

Type	QT150	QT200	QT250
Flange	F16	F16	F16
ISO5211	F14	F14	F14
C	160	160	160
A	M20	M20	M20
B	30	30	30
D (Max)	50	50	50
E	95	95	95
F	60	60	60
G	4	4	4
H	241	241	241
I	191	191	191
J	264	264	264
L	210	210	210
O	250	250	250
T	132	132	132
X	357	357	357
Y	323	323	323
Z	505	505	505



**Note:** The sizes of adjustable box of QT150~QT250 is identical to sizes of QT60~QT100.

**Standard Specification**

Housing & Cover	Aluminium, Anodized
Enclosure	Watertight IP67, Nema4 and 6
Ambient Temp	-30°C to + 70°C
Power Supply (60Hz/50Hz)	110/220VAC, 1 Phase 380/440VAC, 3 Phase
Control Power	110/220VAC, 1 Phase, 60/50Hz
Torque Switches	2 x SPDT for QT15 and above
Limit Switches	2 x SPDT 15A
Stall Protection	Built-in Thermal Protection
Travel Angle	90° ± 5°
Indicator	Continuous Position Indicator
Manual Override	HAND/AUTO Dedutching Mechanism
Self Locking	Provide by means of Worm Gearing
End Stopper	External Adjustable Screws
Space Heater	20W for Anti-Condensation
Conduit Entries	Two G3/4"
Lubrication	MoS2 Lithium Base Grease
Materials	Steel, Aluminium Alloy, Al Bronze
External Coating	Dry Powder, Epoxy-Polyester Munsell No. FJ-002

**Optional Items**

ALS	Additional 2 x SPDT Auxiliary Limit Switches
EXT	Travel Angle 120°, 135°, 180°, 270°
LCB	Local Control Box (1) Local/Remote Selector Switch (2) Open/Stop/Close Selector Switch
POT	Potentiometer 1k Ohm
CPT	Current Position Transmitter Output: 4-20mA DC
PCM	Proportional Control Module Input signal: 4-20mA, 1-5V DC Output Signal: 4-20mA DC
EXP	Explosion & Water Proof Enclosure Exd II BT4 IP67

## DZR BRASS GATE VALVE

### SPECIFICATION

BS 5154, EN 12288  
SCREWED-IN BONNET • SOLID WEDGE DISC  
NON-RISING STEM • INTEGRAL SEAT • ASBESTOS FREE  
THREADED TO BS 21 (ISO 7) / ASME B1.20.1 OR NPT

### PRESSURE RATINGS

Working Pressure	20 bar C.W.P 9 bar at 180°C
Testing Pressure	Shell: 30 bar Hydrostatic Seat: 22 bar Hydrostatic or 6 bar Air
Working Temperature	-10° ~ 180°C
Suitable Media	Water & Oil

### MATERIALS

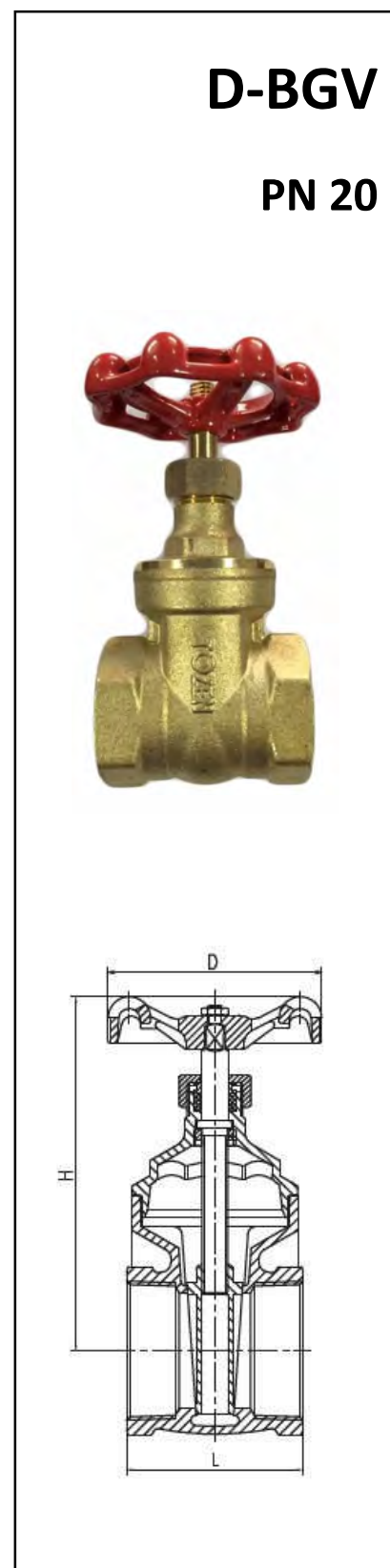
Part	Material	BS EN
Body	DZR Brass	12165 CW602N
Bonnet	DZR Brass	12165 CW602N
Disc	DZR Brass	12165 CW602N
Stem	DZR Brass	12165 CW602N
Packing	PTFE	
Packing Nut	Brass	12165 CW614N
Gland	Brass	12165 CW614N
Handwheel	Aluminium	

### DIMENSIONS

Size		L		H		D	
mm	inch	mm	inch	mm	inch	mm	inch
15	½	48.0	1.9	70.0	2.8	50.0	2.0
20	¾	50.5	2.0	81.0	3.2	60.0	2.4
25	1	58.0	2.3	98.5	3.9	70.0	2.8
32	1¼	63.5	2.5	118.5	4.7	80.0	3.2
40	1½	67.5	2.7	129.5	5.1	90.0	3.5
50	2	73.0	2.9	164.5	6.5	100.0	4.0

**Note:**

- Design and specifications are subject to change without prior notice.





## BRONZE GATE VALVE

### SPECIFICATION

MSS SP-80  
SCREWED-IN BONNET • SOLID WEDGE DISC  
NON-RISING STEM • INTEGRAL SEAT • ASBESTOS FREE  
THREADED TO BS 21 (ISO 7) / ASME B1.20.1 OR NPT

### PRESSURE RATINGS

Working Pressure	25 bar C.W.P. 10.3 bar Saturated Steam
Testing Pressure	Shell: 37.5 bar Hydrostatic Seat: 27.5 bar Hydrostatic 80psi (5.5 bar) Air
Working Temperature	-10°C ~ 180°C
Suitable Media	Water & Oil

### MATERIALS

Part	Material	ASTM
Body	Bronze	C83600
Bonnet	Bronze (for size 15A~25A) Brass (for size 32A~100A)	C83600 C37700
Disc	Bronze	C83600
Stem	Brass	C37700
Packing	PTFE	
Packing Nut	Brass	C36000
Gland	Brass	C36000
Handwheel	Aluminium	

### DIMENSIONS

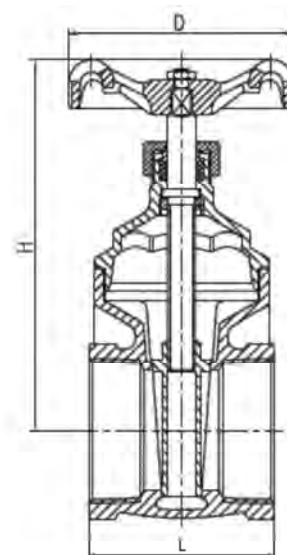
Size		L		H		D	
mm	inch	mm	inch	mm	Inch	Mm	inch
15	½	48.0	1.9	72.5	2.9	60.0	2.4
20	¾	50.5	2.0	84.5	3.2	70.0	2.8
25	1	59.5	2.3	99.0	3.9	70.0	2.8
32	1¼	65.5	2.6	117.0	4.6	80.0	3.2
40	1½	70.5	2.8	131.0	5.2	90.0	3.5
50	2	75.0	2.9	164.0	6.5	100.0	4.0

Note:

- Design and specifications are subject to change without prior notice.

**GGV**

**Class 150**



## BRONZE RISING STEM GATE VALVE

### SPECIFICATION

MSS SP-80  
SCREWED-IN BONNET • SOLID WEDGE DISC  
RISING STEM • INTEGRAL SEAT • ASBESTOS FREE  
THREADED TO BS 21 (ISO 7) / ASME B1.20.1 OR NPT

### PRESSURE RATINGS

Working Pressure	300 psi (20.7 bar) C.W.P. 150 psi (10.3 bar) Saturated Steam
Testing Pressure	Shell: 450 psi (31 bar) Hydrostatic Seat: 330 psi (22.7 bar) Hydrostatic 80psi (5.5 bar) Air
Working Temperature	-10°C ~ 180°C
Suitable Media	Water & Oil

### MATERIALS

Part	Material	ASTM
Body	Bronze	C83600
Bonnet	Bronze	C83600
Disc	Bronze	C83600
Stem	Brass	C37700
Packing	PTFE	
Packing Nut	Brass	C37700
Gland	Brass	C37700
Handwheel	Aluminium	

### DIMENSIONS

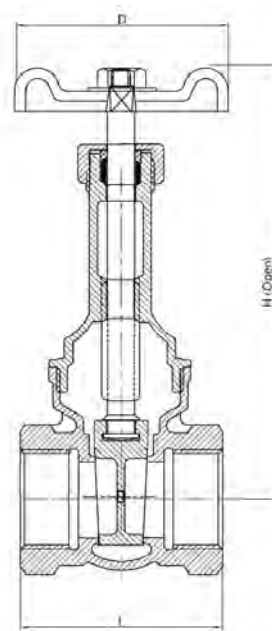
Size		L		H		D	
mm	inch	mm	inch	mm	Inch	Mm	inch
15	½	48.0	1.9	100.5	4.0	51.0	2.0
20	¾	50.5	2.0	124.5	4.9	64.0	2.5
25	1	59.5	2.3	147.5	5.8	67.0	2.6
32	1¼	65.5	2.6	168.0	6.6	76.0	3.0
40	1½	68.5	2.7	188.5	7.4	89.0	3.5
50	2	75.0	2.9	233.0	9.2	102.0	4.0

Note:

- Design and specifications are subject to change without prior notice.

## R-GGV

### Class 150



## BRONZE Y TYPE STRAINER

### SPECIFICATION

Y-PATTERN BODY • SCREWED CAP  
STAINLESS STEEL SCREEN • ASBESTOS FREE  
THREADED TO BS 21 (ISO 7) / ASME B1.20.1 OR NPT

### PRESSURE / TEMPERATURE RATINGS

Working Pressure	25 bar C.W.P 10.3 bar Saturated Steam
Testing Pressure	37.5 bar Hydrostatic 80psi (5.5 bar) Air
Working Temperature	-10°C ~ 180°C
Suitable Media	Water & Oil

### MATERIALS

Part	Material	ASTM
Body	Bronze (Gunmetal)	B62 C83600
Cap	Bronze (Gunmetal)	B62 C83600
Screen	Stainless Steel	AISI 304
Gasket	Non-Asbestos Sheet	

### STANDARD SCREENS

Size		Hole Diameter		Opening
mm	inch	mm	inch	(%)
15 ~ 50	½ ~ 2	1.31 x 0.76	0.05 x 0.03	35

### DIMENSIONS

Size		L		H	
mm	inch	mm	inch	mm	inch
15	½	52.0	2.0	40.5	1.6
20	¾	66.5	2.6	48.0	1.9
25	1	81.5	3.2	57.0	2.2
32	1¼	93.0	3.7	73.6	2.9
40	1½	108.0	4.3	76.0	3.0
50	2	125.0	4.9	94.0	3.7

Note:

- Design and specifications are subject to change without prior notice.



## DZR BRASS Y TYPE STRAINER

### SPECIFICATION

Y-PATTERN BODY • SCREWED CAP  
STAINLESS STEEL SCREEN • ASBESTOS FREE  
THREADED TO BS 21 (ISO 7) / ASME B1.20.1 OR NPT

### PRESSURE / TEMPERATURE RATINGS

Working Pressure	20 bar C.W.P
Testing Pressure	30 bar Hydrostatic 6 bar Air
Working Temperature	-10°C ~ 180°C
Suitable Media	Water & Oil

### MATERIALS

Part	Material	ASTM
Body	DZR Brass	B62 C35330
Cap	DZR Brass	B62 C35330
Screen	Stainless Steel	AISI 304
Gasket	Non-Asbestos Sheet	

### STANDARD SCREENS

Size		Hole Diameter		Opening
mm	inch	mm	inch	(%)
15 ~ 50	½ ~ 2	1.31 x 0.76	0.05 x 0.03	35

### DIMENSIONS

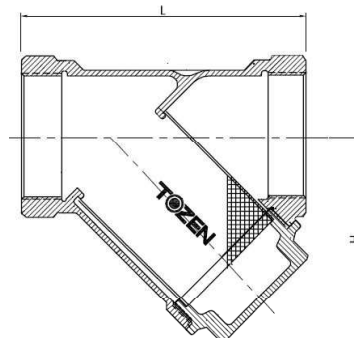
Size		L		H	
mm	inch	mm	inch	mm	inch
15	½	55.5	2.2	37.0	1.5
20	¾	66.5	2.6	47.0	1.9
25	1	81.0	3.2	55.0	2.2
32	1¼	96.0	3.8	71.0	2.8
40	1½	111.0	4.4	78.0	3.1
50	2	128.0	5.0	95.5	3.8

Note:

- Design and specifications are subject to change without prior notice.

**D-BYS**

**PN20**



## BRONZE BALL VALVE

### SPECIFICATION

MSS SP-110  
SCREWED BODY CAP • FULL BORE  
BLOW-OUT PROOF STEM • PTFE SEAT  
THREADED TO BS 21 (ISO 7) / ASME B1.20.1 OR NPT

### PRESSURE RATINGS

Working Pressure	42 bar C.W.P 10.3 bar @ 186°C
Testing Pressure	Shell: 62 bar Hydrostatic Seat: 45.5 bar Hydrostatic 80psi (5.5 bar) Air
Working Temperature	-10°C ~ 180°C
Suitable Media	Water & Oil

### MATERIALS

Part	Material	ASTM
Body	Bronze (Gunmetal)	C83600
Cap	Bronze (Gunmetal)	C83600
Ball	Hard Chromed Brass	C37700
Seat	PTFE	
Stem	Brass	C37700
Seal	PTFE	
Gland	Brass	C36000
Handle	Steel	

### DIMENSIONS

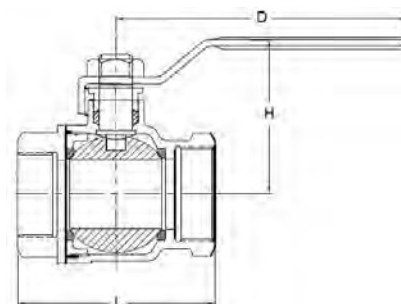
Size		L		H		D	
mm	inch	mm	Inch	mm	inch	mm	inch
10	3/8	45.8	1.8	49.0	1.9	87.0	3.4
15	1/2	54.4	2.1	49.0	1.9	96.0	3.8
20	3/4	62.8	2.5	53.0	2.1	96.0	3.8
25	1	77.0	3.0	66.5	2.6	127.0	5.0
32	1-1/4	85.6	3.4	72.5	2.9	127.0	5.0
40	1-1/2	94.1	3.7	79.0	3.1	142.0	5.6
50	2	110.8	4.4	88.5	3.5	165.0	6.5

Note:

1. Design and specifications are subject to change without prior notice.

**GBV**

**Type 600**



## BRONZE SWING CHECK VALVE

### SPECIFICATION

MSS SP-80  
SCREWED CAP • SWING TYPE DISC • INTEGRAL SEAT  
THREADED TO BS 21 (ISO 7) / ASME B1.20.1 OR NPT

### PRESSURE RATINGS

Working Pressure	300 psi (20.7 bar) C.W.P. 150 psi (10.3 bar) Saturated Steam
Testing Pressure	Shell: 450 psi (31 bar) Hydrostatic Seat: 330 psi (22.7 bar) Hydrostatic 80psi (5.5 bar) Air
Working Temperature	-10°C ~ 180°C
Suitable Media	Water & Oil

### MATERIALS

Part	Material	ASTM
Body	Bronze	C83600
Cap	Bronze	C83600
Disc	Bronze	C83600
Hanger	Bronze	C83600
Disc Nut	Brass	C36000
Plug Nut	Brass	C36000

### DIMENSIONS

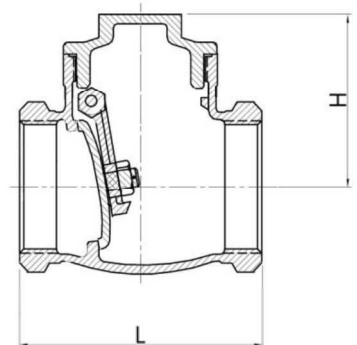
Size		L		H	
mm	inch	mm	inch	mm	Inch
15	½	48.5	1.9	30.5	1.2
20	¾	55.5	2.2	38.5	1.5
25	1	71.5	2.8	43.5	1.7
32	1¼	82.2	3.2	51.0	2.0
40	1½	88.5	3.5	60.5	2.4
50	2	109.0	4.3	76.5	3.0

Note:

1. Design and specifications are subject to change without prior notice.

**GSCV**

**Class 150**





## BRONZE GLOBE VALVE

### SPECIFICATION

MSS SP-80  
SCREWED-IN BONNET SWIVEL DISC  
RISING STEM ASBESTOS FREE  
THREADED TO BS 21 (ISO 7) / ASME B1.20.1  
SIZE RANGE : 15 MM(1/2") – 50 mm (2")

### PRESSURE RATINGS

Working Pressure	300 psi (20.7 bar) WOG Non-Shock 150 psi (10.3 bar) Saturated Steam
Testing Pressure	Shell: 450 psi (31 bar) Hydrostatic Seat: 330 psi (22.7 bar) Hydrostatic 80psi (5.5 bar) Air

### MATERIALS

Part	Material	ASTM	BS
Body	Bronze(Gunmetal)	B62 C83600	1400 LG2
Bonnet	Bronze(Gunmetal)	B62 C83600	1400 LG2
Disc	Bronze(Gunmetal)	B62 C83600	1400 LG2
Stem	Brass Rod	B124 C38800	2874 CZ122
Packing	PTFE		
Packing Nut	Brass Rod	B124 C38800	2874 CZ122
Gland	Brass Rod	B124 C38800	2874 CZ122
Handwheel	Cast Iron	A48 No.35	1452 Gr.260

### DIMENSIONS

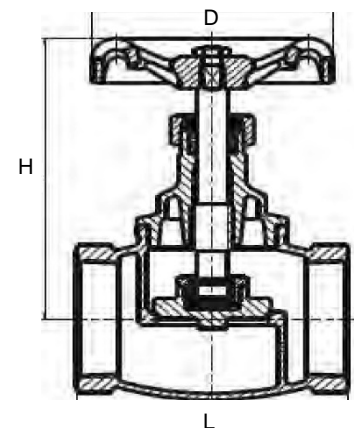
Size		L		H		L	
mm	inch	mm	inch	mm	inch	mm	inch
15	1/2	52	2.0	70	2.8	60	2.4
20	3/4	63	2.5	82	3.2	65	2.6
25	1	76	3.0	92	3.6	70	2.8
32	1-1/4	84	3.3	108	4.3	78	3.1
40	1-1/2	98	3.9	120	4.7	92	3.6
50	2	116	4.6	140	5.5	103	4.1

Note:

1. If used for gas application, please consult our sales office
2. Design and specifications are subject to change without prior notice.

## GGLV

## Class 150





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