

SHIELDTM
Trusted Worldwide

Valves

& SOLUTIONS

Engineered to Control the Flow





INTRODUCTION

SHIELD is a company created to cater to the infrastructure, fire protection and building services industries with a comprehensive range of products designed to be competitive and of assured quality.

We stay ahead of today's evolving market requirements by committing to a program of continued research and development.

We are able to maintain our high standards by ensuring that our worldwide manufacturing networks are the most advanced in the industry in Europe, Asia and America in terms of quality and delivery lead time. Our fully experienced and professional staff is there to provide engineering expertise and after sales service exactly when you need it.

Combine this with highly responsive and customer focused network of distribution centres around the world, you will find that customer satisfaction is what we excel at.

We are justifiably proud of our global client base. With offices and facilities in the UK and Middle East, we are able to comprehend the specific needs of your particular region.

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SHIELD VALVES

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Bronze Gate Valve

SD-GGV20/W

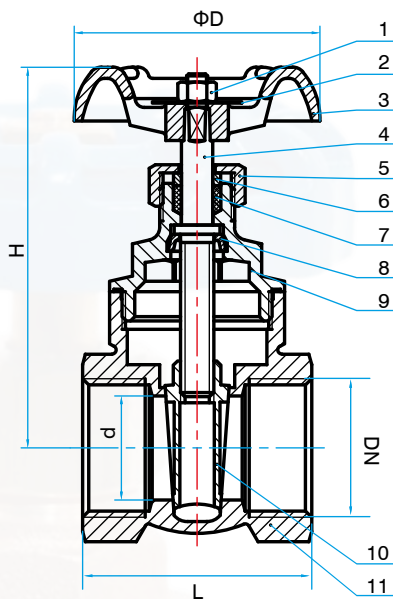
The SD-GGV20/W gate valve is manufactured to BS 5154 which can be used for heating plants, sanitary systems, plumbing services, waterworks, pneumatic systems and steam.

Technical Details:

Working Pressure	PN20
Working Temperature	-10°C ~ 170°C
Thread	BS 21 (B.S.P.T.)

Specifications:

No.	Part	Material
1	Hand-wheel Nut	Brass
2	Name Plate	Aluminium
3	Hand-wheel	Aluminium
4	Stem	DZR Brass
5	Packing Nut	Brass
6	Ring	Brass
7	Packing	PTFE
8	Stem Bush	DZR Brass
9	Bonnet	Bronze
10	Disc	Bronze
11	Body	Bronze



Bronze Gate Valve NRS

DN	ØD	H	L	d
15	52	78	43	13
20	60	88	49	19
25	65	103	54	25
32	70	116	62	32
40	78	133	65	38
50	92	156	75	50

NOTE: Dimensions are in mm

Brass Gate Valve

SD-9102

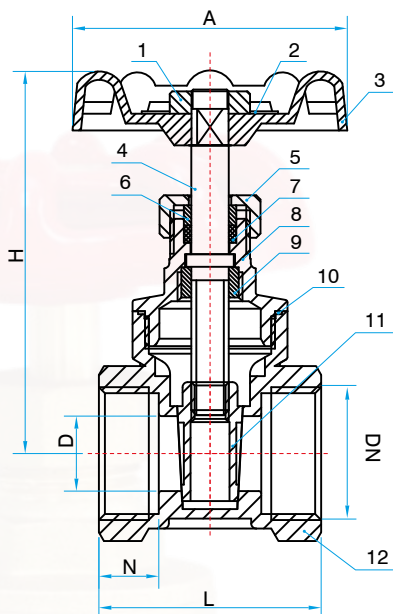
The SD-9102 gate valve manufactured as per international standards. It can be used for heating plants, sanitary systems, plumbing services & waterworks.

Technical Details:

Working Pressure	PN16
Working Temperature	-5°C ~ 85°C
Thread	BS 21 (B.S.P.T.)

Specifications:

No.	Part	Material
1	Hand Wheel Nut	Steel
2	Name Plate	Aluminium
3	Hand-wheel	Cast Iron
4	Stem	Brass
5	Packing Nut	Brass
6	Gland	Brass
7	Packing	PTFE
8	Bonnet	Brass
9	Locknut	Brass
10	Gasket	PTFE
11	Wedge Disc	Brass
12	Body	Brass



Brass Gate Valve NRS

DN	L	N	D	H	A
15	43	12	13	73	54
20	47	13	15	76	54
25	49	13	20	85	58
32	59	17	25	98	72
40	63	17	35	117	72
50	68	18	44	137	78

NOTE: Dimensions are in mm

Bronze Rising Stem Gate Valve

SD-GGV20 RS

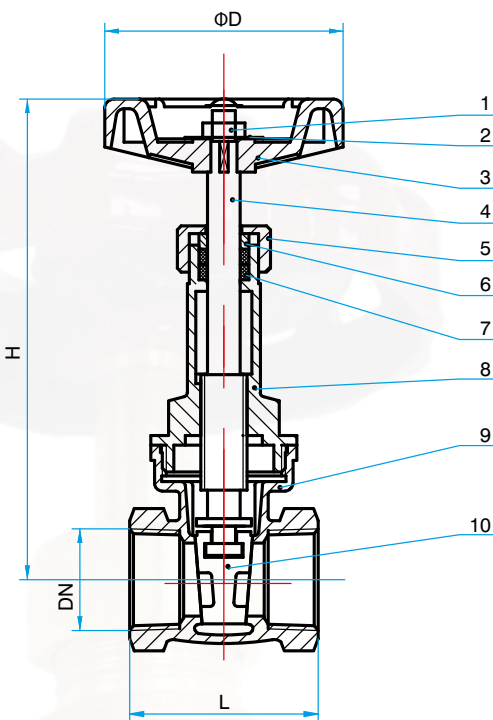
The SD-GGV20 RS gate valve is manufactured to BS 5154 which can be used for heating plants, sanitary systems, plumbing services, waterworks, pneumatic systems and steam.

Technical Details:

Working Pressure	PN20
Working Temperature	-10°C ~ 170°C
Thread	BS 21 (B.S.P.T.)

Specifications:

No.	Part	Material
1	Nut	Brass
2	Name Plate	Aluminium
3	Hand-wheel	Aluminium
4	Stem	DZR Brass
5	Packing Nut	Brass
6	Stem Bush	DZR Brass
7	Packing	PTFE
8	Bonnet	Bronze
9	Body	Bronze
10	Disc	Bronze



Bronze Rising Stem Gate Valve

DN	L	H	ΦD
15	43	112	55
20	49	125	63
25	54	143	70
32	62	170	70
40	65	198	80
50	75	233	90

NOTE: Dimensions are in mm

Bronze Lock Shield Gate Valve

SD-970 BSL

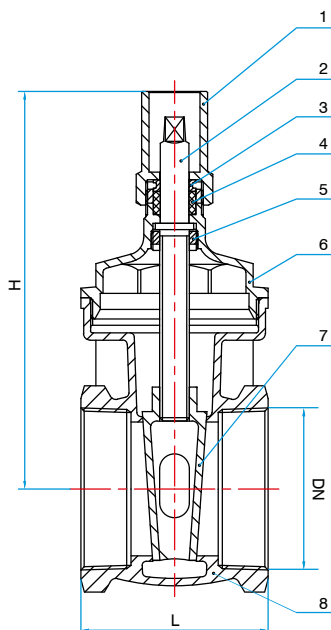
The SD-970 BSL gate valve is manufactured to BS 5154 which can be used for heating plants, sanitary systems, plumbing services, waterworks, pneumatic systems and steam. Lock shield gate valve used to restrict unauthorised adjustments.

Technical Details:

Working Pressure	PN20
Working Temperature	-10°C ~ 170°C
Thread	BS 21 (B.S.P.T.)

Specifications:

No.	Part	Material
1	Lock-shield	Brass
2	Stem	DZR Brass
3	Clamping Ring	Brass
4	Packing	PTFE
5	Stem Bush	DZR Brass
6	Bonnet	Bronze
7	Disc	Bronze
8	Body	Bronze



Bronze Gate Valve with Lock Shield

DN	L	H
15	43	78
20	49	86
25	54	105
32	62	116
40	65	133
50	75	155

NOTE: Dimensions are in mm

Gate Valve

Non-Rising Stem

SD-NRS16

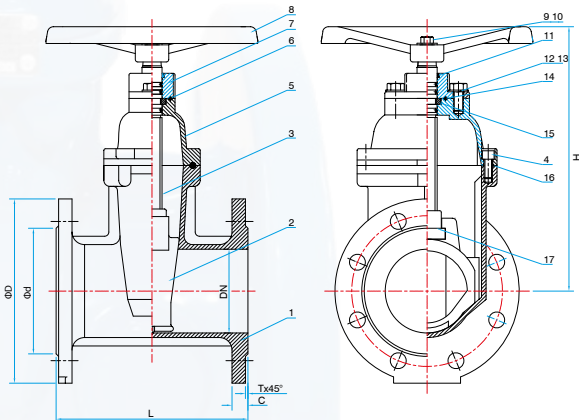
The SD-NRS16 gate valve is manufactured to BS 5163 which can be used for isolation the section of pipe work and equipment in HVAC applications and general commercial applications. The valve has a non-rising stem and operated by hand wheel.

Technical Details:

Working Pressure	PN16
Working Temperature	-10°C ~ 120°C
Flange & Drilling	BS EN 1092-2 PN16

Specifications:

No.	Part	Material
1	Body	Ductile Iron
2	Resilient Wedge Disc	Ductile Iron+EPDM
3	Stem	Stainless Steel
4	Bolt	Stainless Steel 316
5	Bonnet	Ductile Iron
6	O Ring	NBR
7	Gland	Ductile Iron
8	Hand-wheel	Ductile Iron
9	Bolt	Stainless Steel 316
10	Flat Washer	Stainless Steel 316
11	Ring Wiper	NBR
12	Bolt	Stainless Steel 316
13	Flat Washer	Stainless Steel 316
14	O Ring	NBR
15	Thrust Washer	Brass
16	Bonnet Gasket	EPDM
17	Wedge Nut	Brass



Ductile Iron Gate Valve NRS

DN	L	ØD	Ød	H	C	T	No. of Holes
50	178	165	99	218	19.0	3	4
65	190	185	118	232	19.0	3	4
80	203	200	132	281	19.0	3	8
100	229	220	156	316	19.0	3	8
125	254	250	184	367	19.0	3	8
150	267	285	211	420	19.0	3	8
200	292	340	266	490	20.0	3	12
250	330	405	319	628	22.0	3	12
300	356	460	370	723	24.5	4	12

NOTE:

- ▶ Dimensions are in mm
- ▶ PN25 rated valves are also available upon request.
- ▶ Available in all iron upon request.
- ▶ Available in AWWA upon request.

OS & Y Gate Valve

Rising Stem

SD-OS&Y

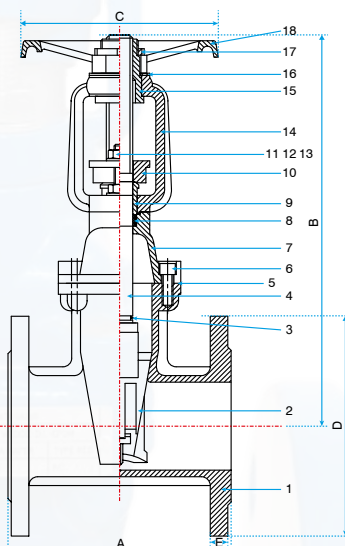
The SD-OS&Y gate valve is manufactured to BS 5163 which can be used for isolation the section of a pipe and equipment in HVAC application and general/commercial applications. Gate Valve with outside yoke and rising stem gives a class indication of valve status as a distance and designed with safety and quality in every detail.

Technical Details:

Working Pressure	PN16
Working Temperature	-10°C ~ 100°C
Flange & Drilling	BS EN 1092-2 PN16

Specifications:

No.	Part	Material
1	Body	Ductile Iron
2	Wedge Disc	Ductile Iron+ EPDM
3	O Ring	NBR / EPDM
4	Stem	Brass / Stainless Steel
5	Bonnet Gasket	EPDM
6	Nut	Steel
7	Bonnet	Ductile Iron
8	Sealing Filler	NBR / EPDM
9	Stem Bushing	Brass
10	Gland Flange	Ductile Iron
11	Washer	Steel
12	Threaded Rod	Steel
13	Nut	Steel
14	Yoke	Ductile Iron
15	Stem Nut	Brass
16	Washer	Brass
17	Locknut	Steel
18	Hand-wheel	Ductile Iron



Ductile Iron OS&Y Gate Valve

DN	A	B	C	D	E	No. of Holes
50	178	349	178	152	16	4
65	191	391	178	178	17	4
80	203	454	203	191	19	8
100	229	562	254	229	24	8
125	254	660	254	254	24	8
150	267	781	305	279	25	8
200	292	930	356	343	29	12
250	330	1184	406	406	30	12
300	356	1391	457	483	32	12
350	381	1640	508	533	32	16
400	406	1804	558	597	36	16
450	432	2090	610	635	40	20
500	457	2490	610	699	43	20
600	508	2960	762	813	48	20

NOTE:

- ▶ Dimensions are in mm
- ▶ PN25 rated valves are also available upon request.
- ▶ Available in all Iron upon request.
- ▶ Available in ANSI/AWWA standards upon request.

Bronze Ball Valve

SD-GBV25/W

The SD-GBV25/W Ball valve is manufactured to BS 5750 and ideal for potable water, commercial and industrial applications. These ball valves features a blow-out proof stem as well as a full port design which ensures minimal pressure drop.

Technical Details:

Working Pressure	PN20, PN25
Working Temperature	-20°C ~ 170°C
Thread	BS 21 (B.S.P.T.)

Specifications:

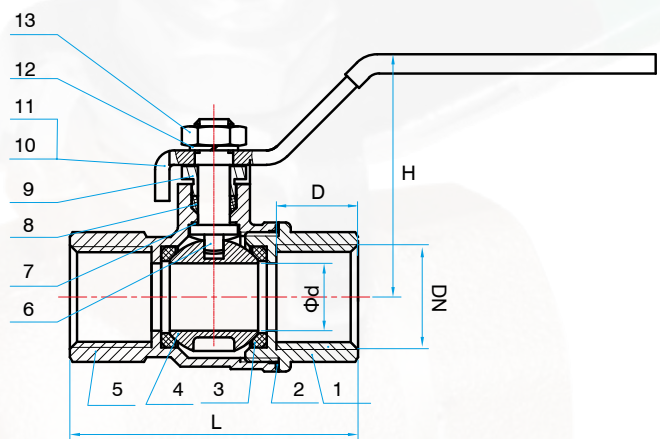
No.	Part	Material
1	Seat Retainer	Bronze
2	Gasket	PTFE
3	Seat	PTFE
4	Ball	Brass (Chromeplated)
5	Body	Bronze
6	Stem	Brass
7	Stem Gasket	PTFE
8	Packing	PTFE
9	Gland Nut	Brass
10	Lever	Steel
11	Lever Cover	PVC
12	Gasket	65Mn Steel
13	Lever Nut	Brass



Bronze Ball Valve

DN	D	H	L	Ød
15	95	44	53	14
20	110	51	61	19
25	110	55	71	24
32	140	65	85	31
40	140	70	92	38
50	160	83	114	49

NOTE:
 ▶ Dimensions are in mm
 ▶ Extended Stem shall be supplied upon request.



Wafer Butterfly Valve

Lever Operated

SD-BVL125

The SD-BVL125 butterfly valve is designed in accordance with BS EN 593. A quarter turn rotary motion wafer style valve that is used to stop, regulate and start to flow with less pressure loss. Applicable for water supply, drainage and HVAC application.



Technical Details:

Working Pressure	PN16
Working Temperature	-10°C ~ 100°C
Flange & Drilling	BS EN 1092-2 PN16
Top Flange	ISO 5211

Specifications:

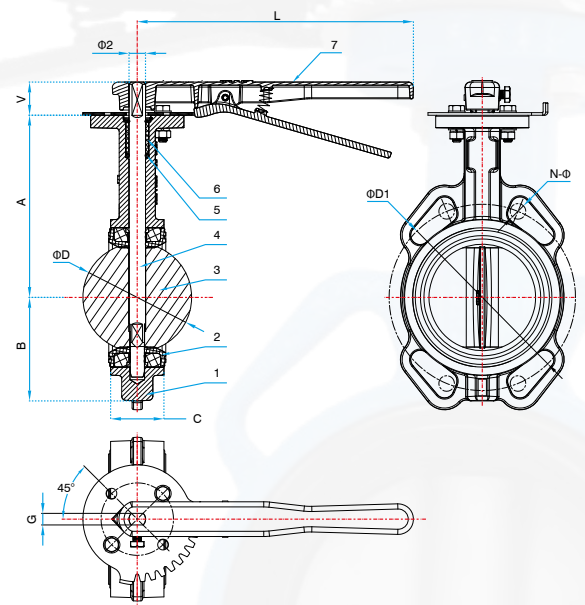
No.	Part	Material
1	Body	Ductile Iron
2	Seat	EPDM
3	Disk	Stainless Steel 304 / Aluminium Bronze
4	Stem	Stainless Steel 420
5	O Ring	NBR
6	Bushing	Nylon 1010
7	Lever	Ductile Iron

Ductile Iron Wafer Butterfly Valve - Lever Operated

DN	A	B	C	ΦD	ΦD1	V	Φ2	NΦ	G	L
50	140.5	64.5	43.0	53.9	125	32	14	4-Φ19	9.53	267
65	153.0	72.0	46.0	65.2	145	32	14	4-Φ19	9.53	267
80	157.5	86.0	46.0	79.7	160	32	14	8-Φ19	9.53	267
100	176.0	100.0	52.0	105.0	180	33	16	8-Φ19	11.14	267
125	191.0	112.0	56.0	130.0	210	32	16	8-Φ19	11.14	267
150	202.5	128.0	56.0	156.0	240	32	20	8-Φ23	12.7	267

NOTE:

- ▶ Dimensions are in mm
- ▶ PN25 rated valves are also available upon request.
- ▶ Available in ANSI/AWWA standards upon request.



Wafer Butterfly Valve

Lever Operated

SD-25-BVL

The SD-25-BVL butterfly valve is designed in accordance with BS EN 593. A quarter turn rotary motion wafer style valve that is used to stop, regulate and start to flow with less pressure loss. Applicable for water supply, drainage and HVAC application.

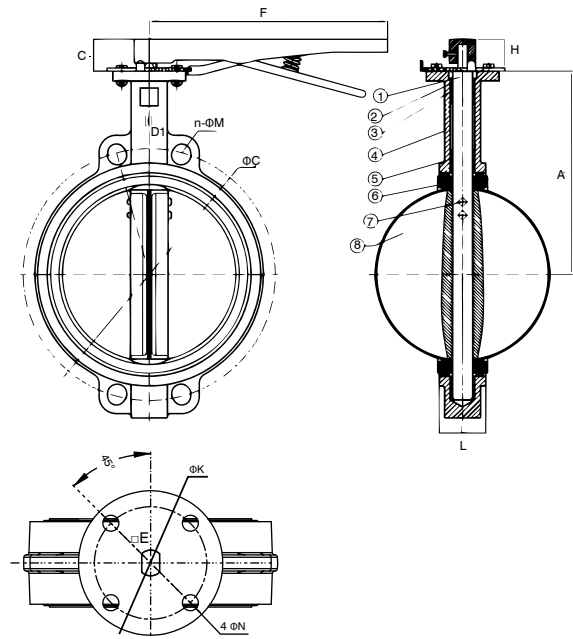


Technical Details:

Working Pressure	PN25
Working Temperature	-25°C~125°C
Flange & Drilling	BS EN 1092-2 PN25
Top Flange	ISO 5211

Specifications:

No.	Part	Material
1	Shaft	Stainless Steel 431
2	Short Bushing	PTFE
3	O'ring	EPDM
4	Body	Ductile Iron
5	Long Bushing	PTFE
6	Seat	EPDM
7	Pin	Stainless Steel 316
8	Disc	CF8 (Stainless Steel)



Wafer Butterfly Valve - Lever Operated

DN	H	L	ΦC	n-ΦM	A	C	F	E	ΦK	4-ΦN
50	28	43	125	4-Φ19	125	32	267	9	90	4-Φ10
65	28	46	145	8-Φ19	136	32	267	9	90	4-Φ10
80	28	46	160	8-Φ19	142	32	267	9	90	4-Φ10
100	28	52	190	8-Φ23	163	32	267	11	90	4-Φ10
125	28	56	220	8-Φ23	176	32	267	11	90	4-Φ10
150	28	56	250	8-Φ28	196	32	267	14	90	4-Φ10

NOTE: Dimensions are in mm

Lug Butterfly Valve

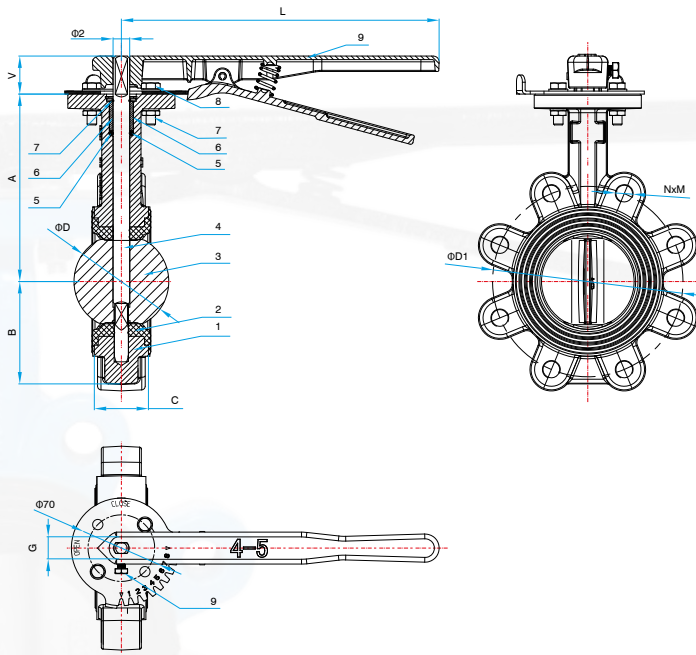
Lever Operated

SD-16BVLL

The SD-16BVLL butterfly valve designed in accordance with BS EN 593. A quarter turn rotary motion wafer style valve that is used to stop, regulate and start to flow with less pressure loss. Applicable for water supply, drainage and HVAC application.

Technical Details:

Working Pressure	PN16
Working Temperature	-10°C ~ 120°C
Flange & Drilling	BS EN 1092-2 PN16
Top Flange	ISO 5211



Specifications:

No.	Part	Material
1	Body	Ductile Iron
2	Seat	EPDM
3	Disc	Stainless Steel 304/Aluminium Bronze
4	Stem	Stainless Steel 420
5	O Ring	NBR
6	Bushing	Nylon 1010
7	Hex Nut	Stainless Steel 316
8	Hex Bolt	Stainless Steel 316
9	Lever	Ductile Iron

Ductile Iron Lug Butterfly Valve - Lever Operated

DN	A	B	C	ΦD	ΦD1	V	Φ2	NxM	G	L
50	140.5	64.5	43.0	53.9	125	32	14	4xM16	9.53	267
65	153.0	72.0	4.0	65.2	145	32	14	4xM16	9.53	267
80	157.5	86.0	46.0	79.7	160	32	14	8xM16	9.53	267
100	176.0	100.0	52.0	105.0	180	32	16	8xM16	11.14	267
125	191.0	112.0	56.0	130.0	210	32	16	8xM16	11.14	267
150	202.5	128.0	56.0	156.0	240	32	20	8xM20	12.7	267

NOTE:

- ▶ Dimensions are in mm
- ▶ PN25 rated valves are also available upon request.

Wafer Butterfly Valve

Gear Operated

SD-BVG16

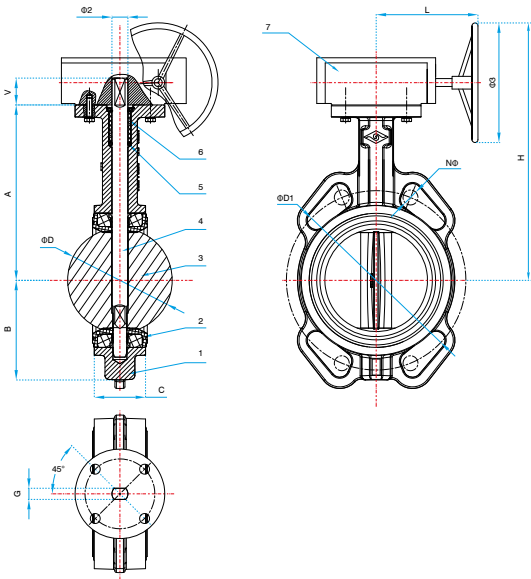
The SD-BVG16 designed in accordance with BS EN 593. A quarter turn rotary motion wafer style valve that is used to stop, regulate and start to flow with less pressure loss. Applicable for water supply, drainage and HVAC application.

Technical Details:

Working Pressure	PN16
Working Temperature	-10°C ~ 100°C
Flange & Drilling	BS 4504 (BS EN 1092-2 PN16)
Top Flange	ISO 5211

Specifications:

No.	Part	Material
1	Body	Ductile Iron
2	Seat	EPDM
3	Disc	Stainless Steel 304/ Aluminium Bronze
4	Stem	Stainless Steel 420
5	O Ring	NBR
6	Bushing	Nylon 1010
7	Gear	Ductile Iron



Ductile Iron Wafer Butterfly Valve - Gear Operated

DN	A	B	C	ΦD	ΦD1	V	Φ2	NΦ	G	L	Φ3	H
100	176.0	100	52	105.0	180	32	16	8-Φ19	11.14	158	150	283.0
125	191.0	112	56	130.0	210	32	16	8-Φ19	11.14	158	150	298.0
150	202.5	128	56	156.0	240	32	20	12-Φ23	12.7	158	150	309.5
200	243.5	162	60	206.7	295	45	26	12-Φ23	20.6	239	300	380.5
250	273.0	194	68	253.3	355	45	26	12-Φ28	20.6	239	300	410.0
300	311.0	223	78	301.9	410	45	28	12-Φ28	22.1	229	300	473.0

NOTE:

- ▶ Dimensions are in mm
- ▶ PN25 rated valves are also available upon request.
- ▶ Available in ANSI/AWWA standards upon request.

Wafer Butterfly Valve

Gear Operated

SD-BVG25

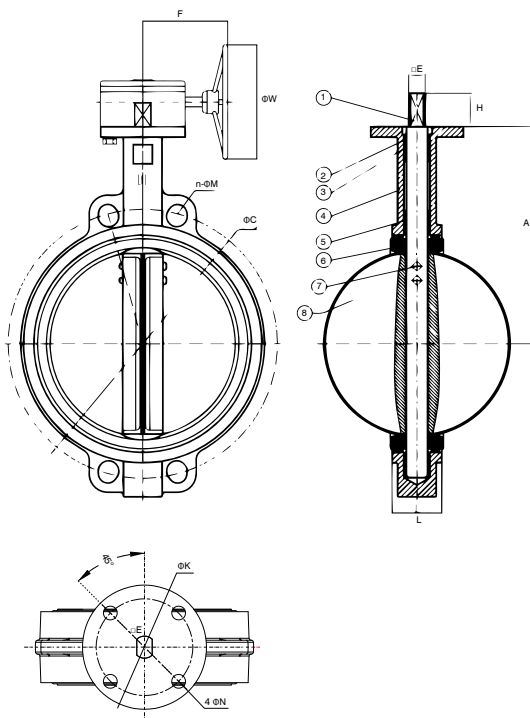
The SD-BVG25 designed gear operated in accordance with BS EN 593 is a quarter turn rotary motion wafer style valve that is used to stop, regulate and start to flow with less pressure loss. Applicable for water supply, drainage and HVAC application.

Technical Details:

Working Pressure	25 Bar
Working Temperature	-25°C~125°C
Flange & Drilling	BS EN 1092-2 PN25
Top Flange	ISO 5211

Specifications:

No.	Part	Material
1	Shaft	Stainless Steel 431
2	Short Bushing	PTFE
3	'O'ring	EPDM
4	Body	Ductile Iron
5	Long Bushing	PTFE
6	Seat	EPDM
7	Pin	Stainless Steel 316
8	Disc	CF8 (Stainless Steel)



Ductile Iron Wafer Butterfly Valve - Gear Operated

DN	H	L	ΦC	n-ΦM	A	F	ΦW	E	ΦK	4-ΦN
200	38	60	310	12-Φ28	228	250	300	17	125	4-Φ12
250	38	68	370	12-Φ31	258	250	300	22	125	4-Φ12
300	38	78	430	16-Φ31	292	250	300	22	125	4-Φ12

NOTE: Dimensions are in mm.

Lug Type Butterfly Valve

Gear Operated

SD-16BVGL

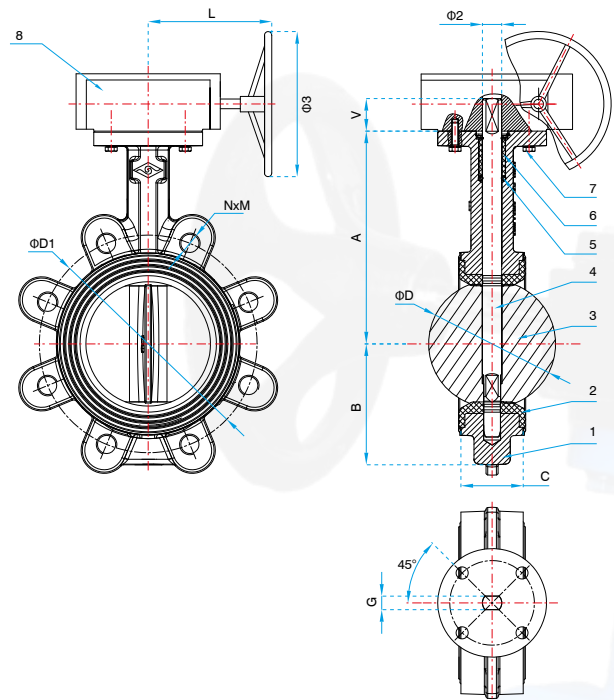
The SD-16BVGL designed in accordance with BS EN 593. A quarter turn rotary motion wafer style valve that is used to stop, regulate and start to flow with less pressure loss. Applicable for water supply, drainage and HVAC application.

Technical Details:

Working Pressure	PN16
Working Temperature	-10°C ~ 120°C
Flange & Drilling	BS EN 1092-2 PN16
Top Flange	ISO 5211

Specifications:

No.	Part	Material
1	Body	Ductile Iron
2	Seat	EPDM
3	Disc	Stainless Steel 304/Aluminium Bronze
4	Stem	Stainless Steel 420
5	O Ring	NBR
6	Bushing	Nylon 1010
7	Hex Nut	Stainless Steel 316
8	Gear Box	Ductile Iron



Ductile Iron Lug Butterfly Valve - Gear Operated

DN	A	B	C	ΦD	ΦD1	V	Φ2	NxM	G	L	Φ3
100	176.0	100	52	105.0	180	32	16	8xM16	11.14	158	150
125	191.0	112	56	130.0	210	32	16	8xM16	11.14	158	150
150	202.5	128	56	156.0	240	32	20	8xM20	12.7	158	150
200	243.5	162	60	206.7	295	45	26	12xM20	20.6	158	300
250	273.0	194	68	253.3	355	45	26	12xM24	20.6	158	300
300	311.0	223	78	301.9	410	45	28	12xM24	22.1	158	300

NOTE:

- ▶ Dimensions are in mm
- ▶ PN25 rated valves are also available upon request.

Double Flanged Butterfly Valve

Gear Operated

SD-16BVDF

The SD-16BVDF Butterfly Valve can be used for throttling or regulating flow as well as in a fully open and closed position. Concentric Butterfly Valve stem is centered in the middle of the disc and disc centered in the bore.

Technical Details:

Working Pressure	PN16
Working Temperature	-5°C ~ +85°C
Flange Standard	EN 1092-2 PN16
Top Flange	ISO 5211
Designed	EN 593
Face to Face	EN 558-1 Series 1B
Test Standard	EN 12266
Working Medium	Water, etc.
Coating	Electrostatically applied epoxy resin internally & externally 250 microns

Specifications:

No.	Part	Material
1	Stem	SS420/SS316
2	Washer	65Mn
3	O-Ring	EPDM/NBR
4	Body	Ductile Iron GGG40
5	Seat	EPDM/NBR
6	Disc	SS304/SS316
7	Gear Box	Cast Iron Body Hand Wheel Operator

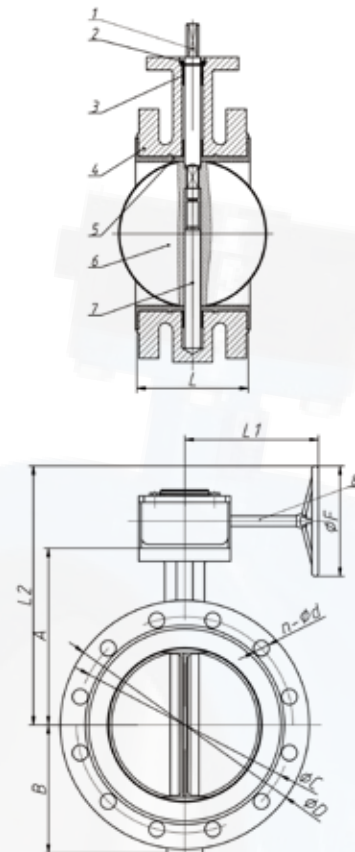


Double Flanged Butterfly Valve Concentric

DN	A	B	L	ΦC	ΦD	L1	L2	n-Φd	ΦF	Weight (kg)
50	131	83.25	108	125	165	155	220.5	4-M19	125	8.6
65	142	85	112	145	185	155	231.5	4-M19	125	10.5
80	155	92.5	114	160	200	155	244.5	8-M19	125	11.4
100	168	108.5	127	180	220	155	257.5	8-M19	125	14.6
125	184	121.5	140	210	250	155	273.5	8-M19	125	19.0
150	202	138	140	240	285	155	291.5	8-M23	125	22.5
200	241	161.5	152	295	340	170	369	8-M23	200	33.4
250	272	195	165	355	405	170	400	12-M23	200	46.3
300	308	222	178	410	460	170	436	12-M28	250	59.5
350	330	250	190	470	520	250	520.5	16-M28	300	90.6
400	375	292	216	525	580	292	565.5	16-M28	300	115.0
450	405	307	222	585	640	307	647	16-M31	400	161.0
500	450	342	229	650	715	342	692	20-M34	400	179.0
600	518	433	267	770	840	433	816	20-M37	500	257.0

NOTE:

- ▶ Dimensions are in mm
- ▶ PN25 rated valves are also available upon request.



Innovative & Ultra Compact Fan Coil Unit Valve Package



SHIELD provides fan coil unit valve package for maximum convenience and easy accessibility.

NOTE: Please contact us for more information.

Fan Coil Unit Valve Package

SD-VP/9717

Fan coil unit valve package is an innovative and ultra compact valve arrangement that minimize the time and space required to connect the system terminal to distribution pipe.

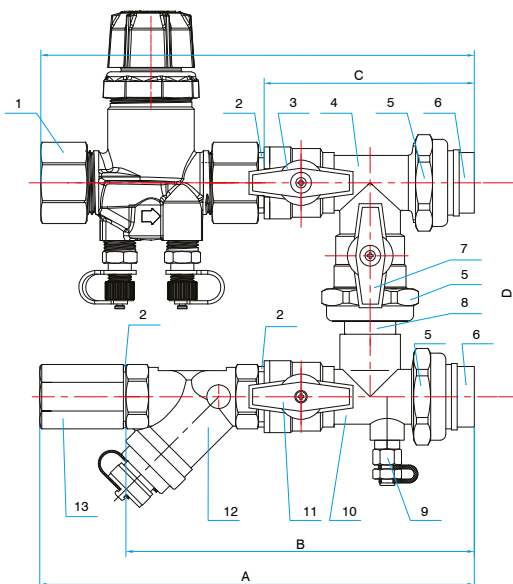
Valve package is a pre-assembled factory tested valve arrangement which gather in a unique item. All the components needed for terminal end unit such as strainer, bypass valve, balancing valve and draincock no need of assembly on site.

Specifications:

No.	Part	Material
1	Coupling	DZR Brass
2	Gasket	PTFE
3	Handle (RED)	Aluminium
4	Ball Valve	DZR Brass
5	Nut	DZR Brass
6	Female Nipple	DZR Brass
7	Handle (BLACK)	Aluminium
8	Connection Piece	DZR Brass
9	Test Points	DZR Brass
10	Ball Valve	DZR Brass
11	Handle (BLUE)	Aluminium
12	Strainer	DZR Brass
13	Bush	DZR Brass

Technical Details:

Working Pressure	PN25
Working Temperature	-10°C ~ 100°C
Thread	ISO 7 & ISO 228



BENEFITS:

- ▶ Compact design and easy installation and removal.
- ▶ Easy access to the isolation valves, strainers & drain plug PN25 rated.
- ▶ Reduced heat loss.
- ▶ Insulation cover: Expanded polypropylene material (EPP).

Fan Coil Unit Valve Package

DN	Dimensions				Silicon Rubber	Coupling	Bush
	A	B	C	D		(2 pcs)	(1 pcs)
15	203	170	105	100	Φ24 x Φ15 x 2.5	9101C-15 x 20-01	9101C-15 ~ 32-02
20	229	184	112	113	Φ30.5 x Φ24 x 2.5	9101C-20 x 25 ~ 25 x 32-1	9101C-15 ~ 32-02
25	271	210	128	130	Φ39 x Φ 30.5 x 2.5	9101C-20 x 25 ~ 25 x 32-01	9101C-15 ~ 32-02

Fixed Orifice Double Regulating Valve

SD-9951

The SD-9951 is designed in accordance with BS 7350. Fixed orifice double regulating valve offers an accuracy of $\pm 5\%$ on all settings for precise flow regulation. These are Y-pattern globe valves with characterised throttling disc tending towards equal percentage performance.

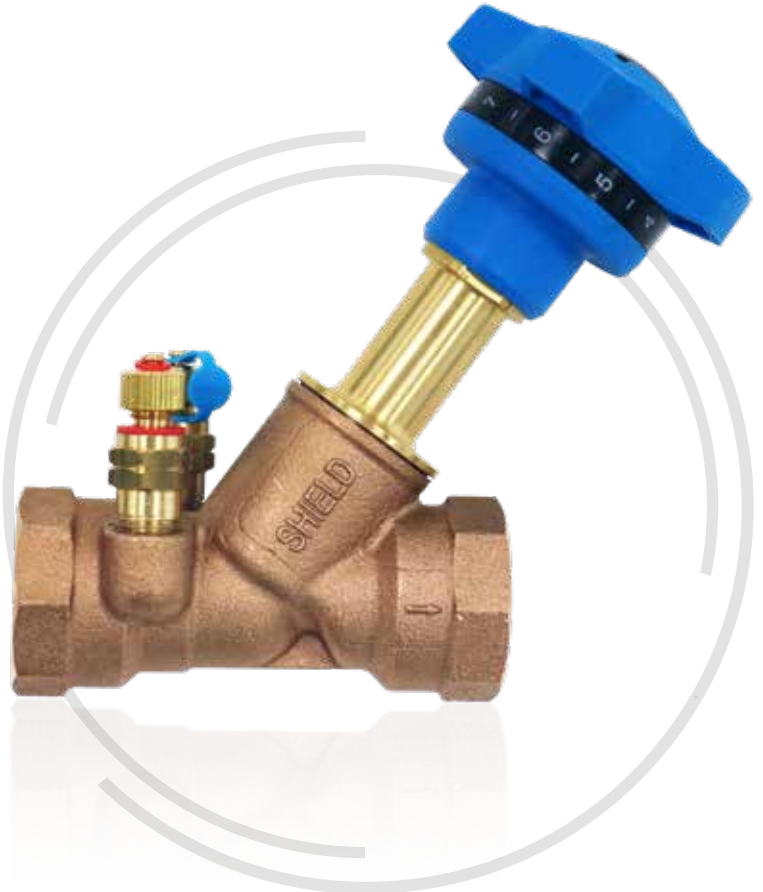
Fixed orifice double regulating feature allows valve opening to be set with an allen key. The operation of the valve is by using of microset hand wheel.

Technical Details:

Working Pressure	PN25
Working Temperature	-10°C ~ 120°C
Thread	BS21 (B.S.P.T.)

Specifications:

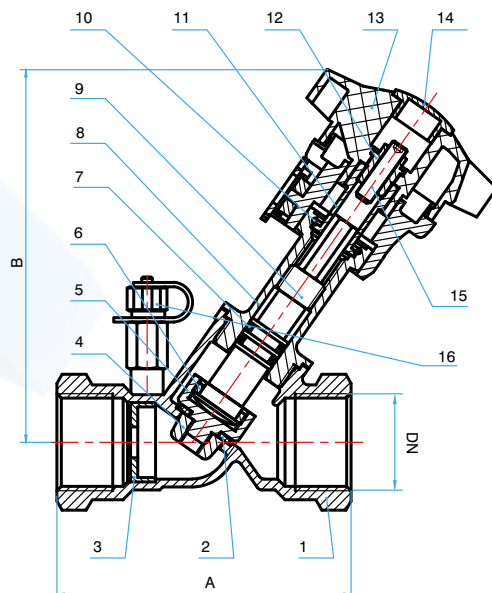
No.	Part	Material
1	Body	Bronze
2	Disc Face	PTFE 1" - 2"
		DZR Brass 1/2" - 3/4"
3	Orifice Plate	DZR Brass
4	Nut	DZR Brass
5	Disc	DZR Brass
6	Disc Retaining Ring	DZR Brass
7	O Ring	NBR
8	Bonnet	DZR Brass 1/2" - 1 1/4"
		Bronze 1 1/2" - 2"
9	Stem	DZR Brass
10	Retainer Ring	Stainless Steel 304
11	Sleeve	Brass
12	Screw	Brass
13	Hand-wheel	Polyamide
14	Cap	Polyamide
15	Screw	Stainless Steel 304
16	Test Point	DZR Brass



Fixed Orifice Double Regulating Valve

DN	A	B	Flow (kV)	Kvs
15	87	105	1.72	2.2
20	96	106	2.97	4.6
25	100	127	4.75	8.5
32	114	128	10.25	16.7
40	125	143	16.83	26.1
50	146	144	27.26	43.2

NOTE: Dimensions are in mm



Fixed Orifice Balancing Valve

SD-9746

Balancing valves SD 9746 perfectly combine with a regulating valve and flow measuring device all in one-piece body. This solution, thanks to its particular fixed orifice type measurement system, provides high accuracy flow balancing across all valve settings with an error margin within $\pm 5\%$ of the gauged value.

BENEFITS:

- ▶ Interception, measurements and regulation
- ▶ Integrated metering station
- ▶ Early reading of the preset by graduated scale
- ▶ Shutter with linear profile
- ▶ Preset mechanical memory
- ▶ Compact valve body

Technical Details:

Working Pressure	PN25
Working Temperature	-10°C ~ 120°C
Thread	ISO 228 (B.S.P.T.)



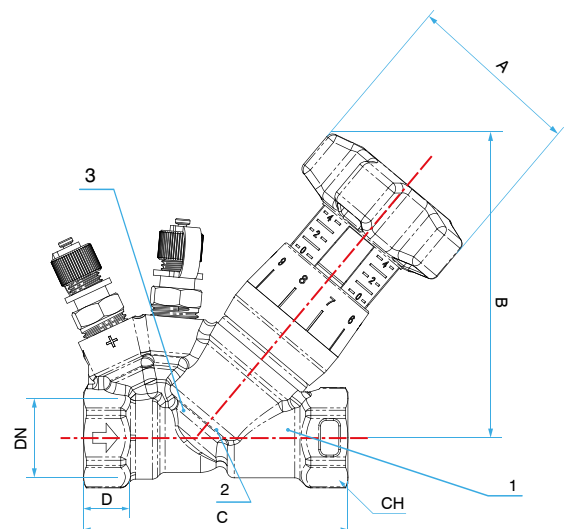
Specifications:

No.	Part	Material
1	Body	DZR Brass
2	Seat	EPDM
3	Disc	DZR Brass

Fixed Orifice Balancing Valve

DN	A	B	C	D	CH	Kv	Kvs
15	50	83	72.5	113.0	25	2.00	2.3
20	50	82	82.0	116.5	31	3.88	5.3
25	50	84	95	130.0	38	7.28	9.2
32	50	87	122	131.0	47	13.39	19.0
40	50	107	138	149.0	55	18.60	22.1
50	50	103	161	164.0	66	30.10	42.3

NOTE: Dimensions are in mm



Variable Orifice Balancing Valve

SD-9787

SD 9787 variable orifice balancing valves are suitable for both heating (LPHW) and cooling applications at working pressures up to 25 bar.

The main features of SD 9787 balancing valves are as follows:

- ▶ A thread locking mechanism so that valve settings can be accurately locked enabling the valve to be closed and re-opened to its exact pre-set position.
- ▶ Allen key locking of valve positions.
- ▶ A valve position indicator scale which can be read from any angle.
- ▶ An EPDM lined valve plug providing tight shut-off for isolation purposes.



BENEFITS:

- ▶ Interception, measurements and regulation
- ▶ Early reading of the preset by graduated scale
- ▶ Shutter with linear profile
- ▶ Preset mechanical memory

Technical Details:

Working Pressure	PN 25
Working Temperature	-10°C ~ 120°C
Thread	BS 21 (B.S.P.T.)

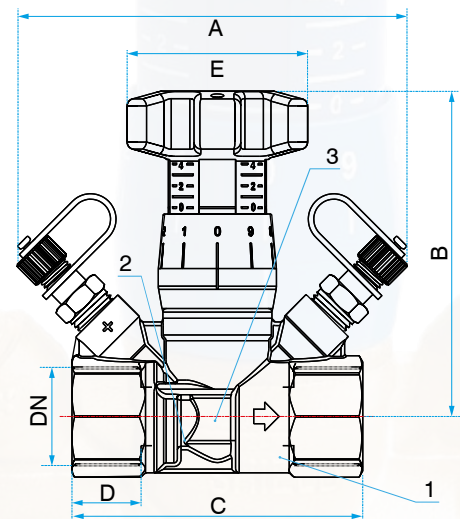
Specifications:

No.	Part	Material
1	Body	DZR Brass
2	Seat	EPDM
3	Disc	DZR Brass

Variable Orifice Balancing Valve

DN	A	B	C	D	E	Kvs
15	106	87.5	75	16	50	1.7
20	107	89.5	80	19	50	2.9
25	107	91.5	87	21	50	4.1
32	123	99	108	22.5	50	6.7
40	128	99	115	23	50	10.4
50	132	100	124	26.5	50	15.1

NOTE: Dimensions are in mm



2 Way Combination Valve/Pre-Setting

SD-9788NC/NO/PRO

SD 9788 balancing valves are suitable for both heating and cooling applications.

The main features of SD-9788NC pre-setting regulating valve are as follow:

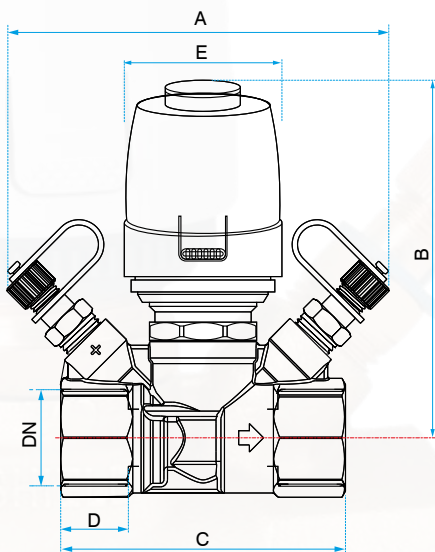
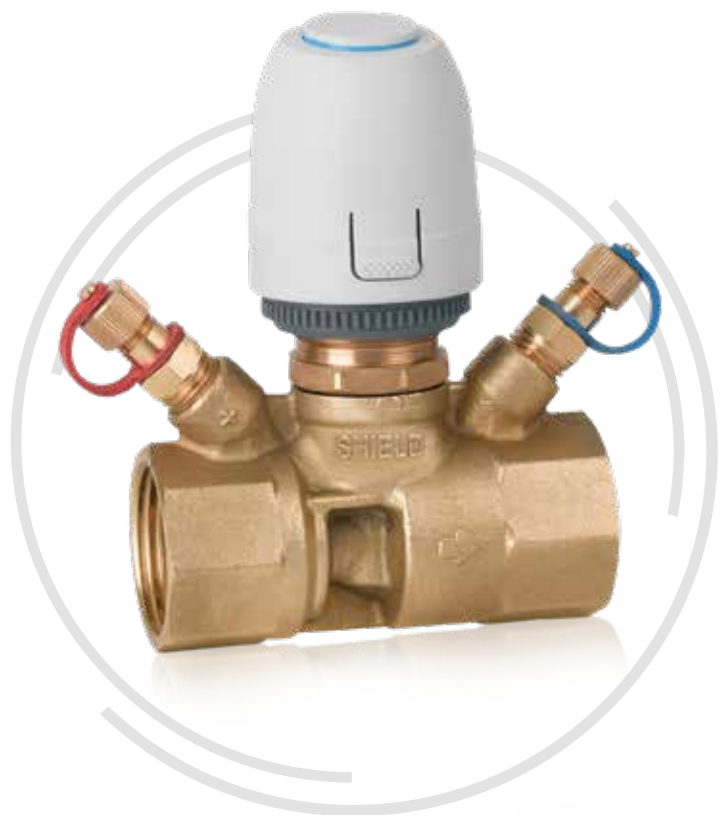
- ▶ Screw driver adjustable pre-setting.
- ▶ 11 positions flow pre-setting.
- ▶ Plastic cap enabling the valve to be closed and opened to pre-setted KV value.
- ▶ Designed to be upgraded with thermoelectric actuator (SD 9788-NC, NO, PRO).
- ▶ 0-10V Proportional actuator available up on request.
- ▶ An EPDM lined valve plug providing tight shut-off for isolation purposes. Pressure Class: PN25. Temperature: -10°C ÷ 120°C.

Technical Details:

Working Pressure	PN 25
Working Temperature	-10°C ~ 120°C

Specifications:

No.	Part	Material
1	Body	DZR Brass
2	Stem	Stainless Steel
3	Disc	Stainless Steel
Actuator		
4	Voltage	220v / 24v
5	Class of protection	IP 54 /II
6	Operating time	3min.



SD 9788NC/NO/PRO - Thermoelectric Actuated 2 Way Valve

DN	A	B	C	D	E	Kvs p=2.2	Kvs p=4
15	106	98	75	16	45	0.26 ÷ 1.70	0.07 ÷ 1.60
20	107	100	80	19	45	0.26 ÷ 2.90	0.07 ÷ 2.70
25	107	102	87	21	45	0.26 ÷ 3.50	0.07 ÷ 3.20

NOTE: Dimensions are in mm

Variable Orifice Flanged Balancing Valve

SD-93739

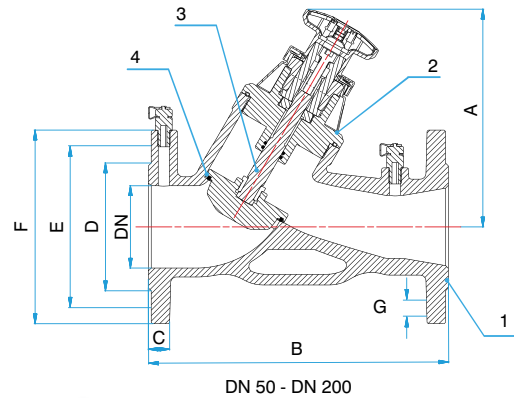
SD-93739 Series flanged balancing valves are designed according to BS7350 and used where an accurate flow measurement in big heating or cooling system is needed. The cast iron valves have flanges PN16 and a valve position storage device, enabling the opening and closing of the valve at the pre-set position.

Technical Details:

Working Pressure	PN 16
Working Temperature	-10°C ~ 120°C
Flanged & Drilling	BS EN1092-2 PN16

Specifications:

No.	Part	Material
1	Body	Cast Iron
2	Bonnet	Cast Iron
3	Stem	Stainless Steel
4	Disc	Ductile Iron+EPDM



Variable Orifice Balancing Valve

DN	A	B	C	D	E	F	G	No of Holes	Kvs
50	190	230	20	100	125	165	19	4	47.5
65	214	290	20	118	145	185	19	4	79.7
80	225	310	22	132	160	200	19	8	116.8
100	334	350	24	156	180	220	19	8	196.8
125	388	400	26	178	210	250	19	8	360.0
150	403	480	26	211	240	285	23	8	387.8
200	655	600	30	266	295	340	23	12	724.8
250	698	730	32	319	319	405	28	12	866.0
300	716	850	32	370	410	460	28	12	1474.6

NOTE: Dimensions are in mm

Variable Orifice Flange Balancing Valve

SD-93739

SD-93739 Series flanged balancing valves are designed according to BS7350 and used where an accurate flow measurement in big heating or cooling systems is needed. The Ductile Iron valves have flanges PN25 and a valve position storage device, enabling the opening and closing of the valve at the pre-set position. They are supplied with binder points.

Technical Details:

Working Pressure	PN 25
Working Temperature	-10°~100°C
Flanged & Drilling	BS EN1092-2 PN25

Specifications:

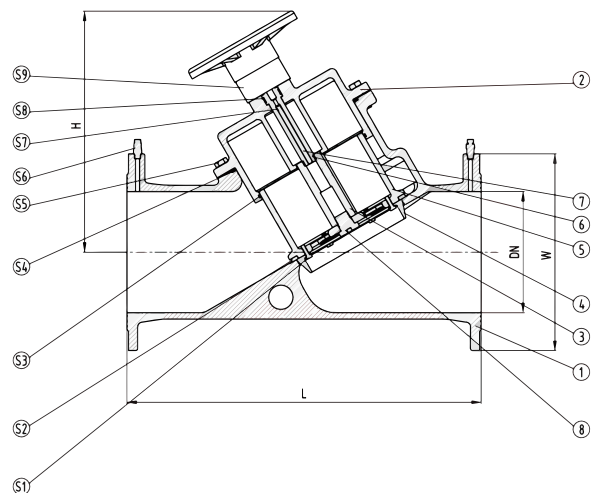
No.	Part	Material
1	Body	Ductile Iron
2	Bonnet	Ductile Iron
3	Stem Barrel	Ductile Iron
4	Disc	Ductile Iron+EPDM
5	Sleeve	Ductile Iron
6	Stem	Stainless Steel
7	Limit screw	Brass/SS304
8	Screw	SS304
S1	Bolt	SS304
S2	Sealing	EPDM
S3	'O'ring	EPDM
S4	'O'ring	EPDM
S5	Bolt	Carbon Steel
S6	Testing Point	Brass
S7	'O'ring	EPDM
S8	'O'ring	EPDM
S9	Hand Wheel	Nylon-66/DI



Variable Orifice Balancing Valve

DN	L	W	H
65	290	185	145
80	310	200	160
100	350	235	190
125	400	270	220
150	480	300	250
200	600	360	310
250	730	425	370
300	850	485	430
350	980	555	490
400	1100	620	550

NOTE: Dimensions are in mm



Fixed Orifice Flanged Balancing Valve

SD-93739

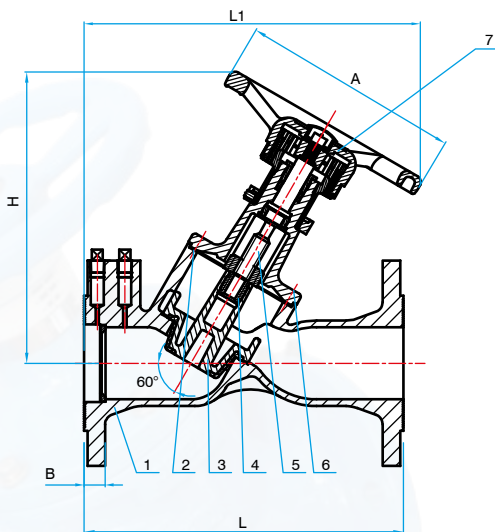
SD-93739 series is designed according to BS7350. Fixed orifice flanged balancing valves are used where an accurate flow measurement in big heating or cooling systems is needed. The ductile iron valves have flanges PN16 and a valve position storage device, enabling the opening and closing of the valve at the pre-set position.

Technical Details:

Working Pressure	PN16
Working Temperature	-10°C ~ 120°C
Flange & Drilling	EN 1092-2 PN16

Specifications:

No.	Part	Material
1	Body	Ductile Iron
2	Seal Gasket	EPDM
3	Disc	Ductile Iron+EPDM
4	Stem Nut	Brass
5	Stem	Stainless Steel
6	Cover	Ductile Iron
7	Hand Wheel	Ductile Iron



SD 93739, Fixed Orifice DRV Valve

DN	H	L	L1	B	A	No. of Holes
65	265	290	310	19.0	200	4
80	270	10	320	19.0	200	8
100	310	350	360	19.0	240	8
125	340	400	415	19.0	290	8
150	340	480	445	20.0	290	8
200	537	600	620	22.0	350	12
250	570	730	720	24.5	420	12
300	690	850	875	27.5	420	12

NOTE: Dimensions are in mm

Variable Orifice Flange Balancing Valve

SD-93739

SD-93739 Series flanged balancing valves are designed according to BS7350 and used where an accurate flow measurement in big heating or cooling systems is needed. The Ductile Iron valves have flanges PN16 and a valve position storage device, enabling the opening and closing of the valve at the pre-set position.

Technical Details:

Working Pressure	PN16
Working Temperature	-10°~120°C
Flanged & Drilling	1092-2 PN16

Specifications:

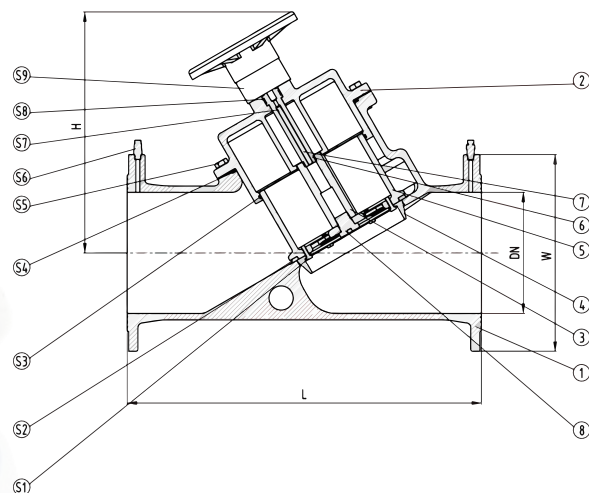
No.	Part	Material
1	Body	Ductile Iron
2	Bonnet	Ductile Iron
3	Stem Barrel	Ductile Iron
4	Disc	EPDM Coated Ductile Iron
5	Sleeve	Ductile Iron
6	Stem	Stainless Steel 410 & 431
7	Limit screw	Brass
8	Screw	SS304
S1	Bolt	SS304
S2	Sealing	NBR
S3	'O'ring	NBR
S4	'O'ring	NBR
S5	Bolt	Carbon Steel
S6	Testing Point	Brass
S7	'O'ring	NBR
S8	'O'ring	NBR
S9	Hand Wheel	Nylon-66



Variable Orifice Balancing Valve

DN	L	H	W
65	290	200	185
80	310	210	200
100	350	246	220
125	400	256	250
150	480	286	285
200	600	460	340
250	730	493	405
300	850	535	460
350	980	595	520
400	1100	635	580
450	1200	688	640
500	1250	745	715

NOTE: Dimensions are in mm



Pressure Independent Control Balancing Valve

SD-9777

SD-9777 balancing valve is designed for the automatic balancing of heating and cooling systems, regardless of fluctuating pressure conditions of the system.

Thanks to its unique design, SD-9777 balancing valve is able to perform three functions:

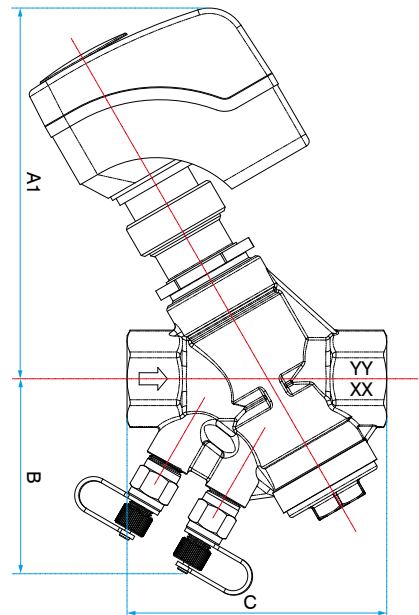
- ▶ REGULATION
Selection of required flow rate;
- ▶ CONTROL
Constant flow rate independent of pressure fluctuations;
- ▶ MODULATION
"Full authority" flow rate modulation.

Technical Details:

Working Pressure	PN25
Working Temperature	0°C ~ 120°C
Differential pressure	4 bar
High Flow	244 l/h ~ 8586 l/h
Low Flow	78 l/h ~ 1700 l/h

Specifications:

No.	Part	Material
1	Body	DZR Brass
2	Threads	ISO 228



SD-9777

DN	A1	B	C	Flow (l/h)	Flow (l/s)	Flow (gpm*)	Min DP (KPa)	Flow (l/h)	Flow (l/s)	Flow (gpm*)	Min DP (KPa)
				LOW FLOW				HIGH FLOW			
15	138	72	95.50	78 ÷ 625	0.022 ÷ 0.174	0.34 ÷ 2.75	16	244 ÷ 1724	0.068 ÷ 0.479	1.08 ÷ 7.59	18
20	138	72	96.50	131 ÷ 1050	0.036 ÷ 0.292	0.58 ÷ 4.62	16	292 ÷ 2039	0.081 ÷ 0.566	1.28 ÷ 8.98	22
25	138	72	102.50	231 ÷ 1722	0.064 ÷ 0.478	1.06 ÷ 7.58	16	292 ÷ 2039	0.081 ÷ 0.566	1.28 ÷ 8.98	22
32	144	76	128.00	-	-	-	-	465 ÷ 3056	0.129 ÷ 0.849	2.05 ÷ 13.45	18
40	219	87	144.00	-	-	-	-	2022 ÷ 7105	0.562 ÷ 1.974	8.90 ÷ 31.28	26
50	225	93	155.00	-	-	-	-	2204 ÷ 8586	0.612 ÷ 2.385	9.70 ÷ 37.8	32

NOTE: Dimensions are in mm

Pressure Independent Control Balancing Valve

The main features of SD-9777 are the following:

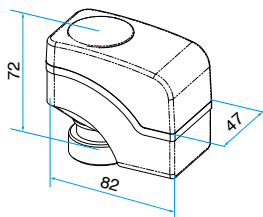
- ▶ Easy required flow rate selection using presetting dial;
- ▶ Automatic balancing in the event of fluctuating pressure conditions in system branches;
- ▶ Full modulation regardless of the presetting (flow rate setting)
- ▶ Flexibility if the system is modified after the first installation;
- ▶ Reduction of balancing costs, improved energy saving and high environmental comfort;
- ▶ Easy flushing procedure thanks to quick and simple removal of differential pressure control cartridge placed inside valve body;
- ▶ Reduced installation dimensions thanks to compact valve construction, which does not require inlet and outlet straight pipelines to stabilize the flow.

ELECTRIC ACTUATORS

- ▶ Their main features are the following:
- ▶ Maximum stroke: 5,5 mm;
- ▶ 3 positions or 0..10Vdc control signal;
- ▶ Swivel nut easy assembling;
- ▶ Manual operation by 3 mm hexagonal key;
- ▶ Short circuit resistance;
- ▶ Protection against polarity reversal.

ELECTRIC ACTUATORS DN15 ÷ DN32

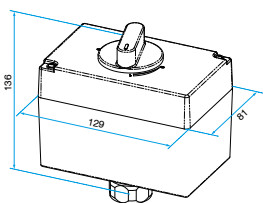
- ▶ SD EMV210/145: 24VAC - proportional;
- ▶ SD EMV210/146: 24VAC - 3 positions;
- ▶ SD EMV210/147: 230VAC - 3 positions.
- ▶ Maximum stroke: 5,5 mm;
- ▶ Manual operation by 3 mm hexagonal key;



Voltage	: 230VAC; 24VAC
Frequency	: 50/60 Hz
Manual operation	: 3mm hexagonal key
Cable length	: 1,5 m
Protection Class	: IP 40
Weight	: 350 Grms.
Actuating force	: 250N
Input impedance	: > 100 k Ohm (DC 0-10v)

ELECTRIC ACTUATORS DN40 ÷ DN50

- ▶ SD EMV210/148: 24VAC - proportional;
- ▶ SD EMV210/149: 24VAC - 3 positions;
- ▶ SD EMV210/150: 230VAC - 3 positions.
- ▶ Maximum stroke: 6,5 mm;
- ▶ Manual operation by adjusting handle;



Voltage	: 230VAC; 24VAC
Frequency	: 50/60 Hz
Manual operation	: adjusting handle
Cable length	: no cable
Protection Class	: IP 54
Weight	: 450 Grms.
Actuating force	: 400N
Input impedance	: > 100 k Ohm (DC 0-10v)

Pressure Independent Control Balancing Valve

TECHNICAL DATA:

SD-9777 range is available with two flow rates levels:

- ▶ “Low Flow”: flow rate from 78 l/h up to 1722 l/h
- ▶ “High Flow”: flow rate from 244 l/h up to 8586 l/h
- ▶ Working Pressure: PN25
- ▶ Working Temperature: from 0°C up to 120°C

SD-9777 is available in sizes from DN 15 up to DN 50 (up to DN 25 for “Low Flow” version only), with “CR - Corrosion Resistant” brass body.

SD-9777 series work properly within a differential pressure operating range between minimum values as specified in the below tables and a maximum value of 400 KPa.

INSTALLATION REMARKS:

- ▶ Before installation, make sure that required flow rate is within operating range of valve;
- ▶ Valve may be installed either in horizontal or vertical position with facing-up electric actuator;
- ▶ No minimum pipe length required either before or after the valve;
- ▶ Valve is supplied with a cap allowing (when screwed) the manual opening of the valve;
- ▶ After DPC cartridge removal and manual full opening of the valve, it is possible to flush the system branch where the valve is installed; when flushing process is over, reposition the DPC control cartridge.

BALANCING PROCESS:

- ▶ Totally open the valve by means of the presetting dial;
- ▶ Check the differential pressure, which shall be higher than the minimum value stated on relevant tables;
- ▶ Adjust the flow rate up to the required flow rate value. For each adjustment position, tables on the following pages show the relevant flow rate;
- ▶ Lock presetting dial position and assemble the electric actuator.

OPERATION PRINCIPLES:

REGULATIONS

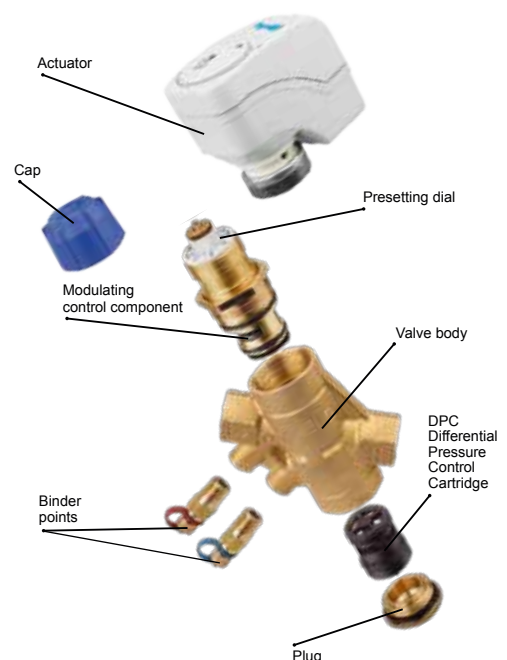
The presetting dial device shows an index scale ranging from a minimum value of 0,5 up to a maximum value of 4. Each point of this scale is corresponding to one flow rate listed in the tables of following pages. The inlet water goes through a modulating control component whose geometry can be modified by turning the presetting dial.

CONTROL

Two different pressures operate on the DPC cartridge. The first one is transmitted through the passage connecting the valve inlet to the lower section of “p+” cartridge. The second one is registered at valve outlet by the flow rate selecting device “pa”. In order to keep constant the difference between the mentioned pressures, the cartridge obturator operates by closing the water outlet bore to reach the pre set flow rate, regardless of fluctuating pressure conditions of the system.

MODULATION

The electrical actuator performs the modulating function changing the section of flow passage. When continuous modulation is carried out, the temperature is kept under control. SD-9777 keeps the same obturator stroke, regardless of the presetting dial position. With continuous modulation, control is excellent even with small flow opening. This eliminate on/off effect.



Pressure Independent Control Balancing Valve

SD-9776

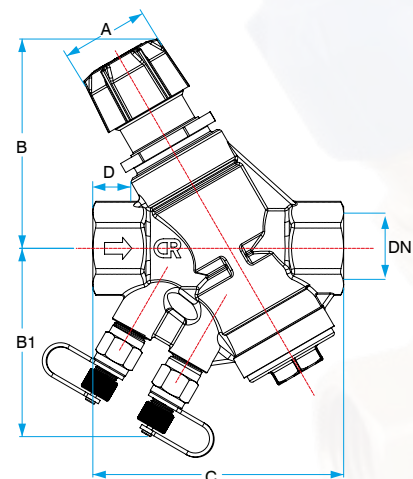
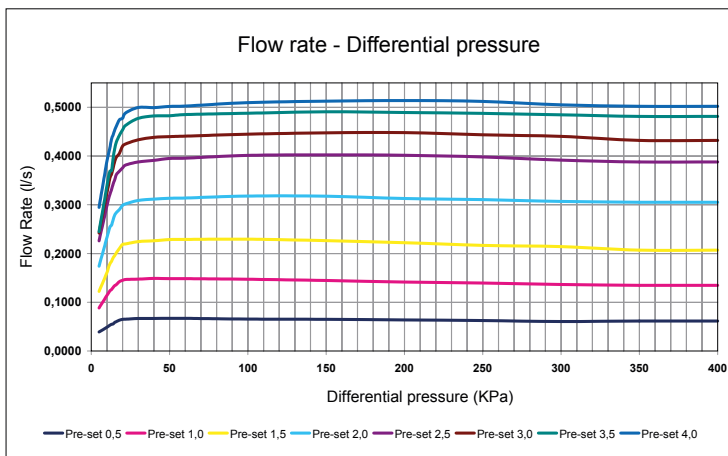
Pressure Independent Control Valve is a multi-functional valve combining the operation of 3 different valves in one convenient and compact unit. The PICV act as a differential pressure control valve, a regulation valve and a 2-port control valve.

Technical Details:

Working Pressure	PN 25
Working Temperature	0°C ~ 120°C
Differential Pressure	4 Bar
High Flow	224 l/h up to 8586 l/h
Low Flow	78 l/h up to 1700l/h

Specifications:

No.	Part	Material
1	Body	DZR Brass
2	Testing Point	DZR Brass
3	Threads	ISO 228



Pressure Independent Control Valve

DN	A	B	B1	C	D	Kvs (HF)
15	35	79	72	95.5	14	4.06
20	35	79	72	96.5	15	4.34
25	35	79	72	102.5	16	4.34
32	35	85	83	128.0	17	7.20
40	35	119	91	144.5	17	13.94
50	35	126	94	155.0	20	15.18

NOTE: Dimensions are in mm

Pressure Independent Control Valve

Three Functions Type PN16

SD-9000 Series

FEATURES & BENEFIT:

- ▶ Three function in one: Electric Adjustment + Pressure Independence + Static Balancing.
- ▶ A linear flow control can be realized.
- ▶ Uses the straight travel plug disc, lower torque.
- ▶ Adjustable Kvs, maximum flow can be controlled.
- ▶ Large rang of differential pressure control and exact flow control precision.
- ▶ Actuator with multiple input and output signal selection, convenient for conversion.
- ▶ The actuator can automatic calibrate stroke, high precision signal feedback.
- ▶ Block protection prevents the ball from jamming when the valve is not moved for a longer period of inactivity.
- ▶ Safe mode: the actuator will be power off automatically once the actuator shell was opened.
- ▶ All the terminal connector were removable.

Applicable Standards	
Flange Standard	EN 1092-2
Face to Face Standard	EN 558-1

Technical Details:

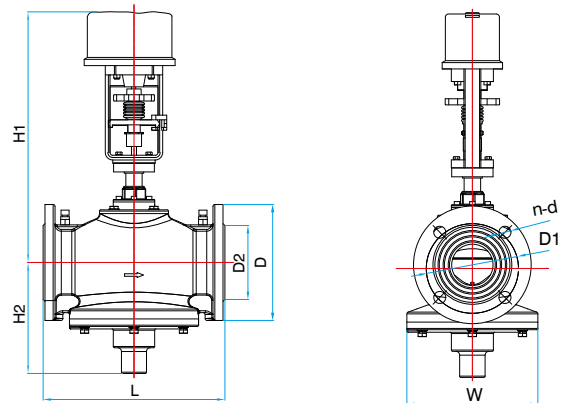
Working Pressure	PN16
Working Temperature	-5°~85°C
Suitable Medium	Water, Ethylene Glycol, etc.



Performance Parameters:

DN	Differential Pressure Range	Minimum Flow	Maximum Flow	Valve Stroke
	KPa			m ³ /h
65	30 ~ 400	3.5	16.0	15
80	30 ~ 400	4.0	27.0	15
100	30 ~ 400	9.0	41.0	15
125	30 ~ 400	15.0	50.0	30
150	30 ~ 400	20.0	80.0	30

Material Description	
Body	Ductile Iron
Bonnet	Ductile Iron
Seat	Stainless Steel 304
Disc	Stainless Steel 304
Stem	Stainless Steel 304
Scale Bar	Brass
Adjusting Nut	Brass
Diaphragm	EPDM+ Stainless Steel 304
Spring	Stainless Steel 304



PICV Series

DN	L	H1	H2	W	D	D1	D2	n-d
65	290	399	177	206	185	145	118	4-19
80	310	399	177	206	200	160	132	8-19
100	350	403	177	206	220	180	156	8-19

NOTE: Dimensions are in mm

Pressure Independent Control Valve

Three Functions Type PN16

ACTUATOR:

Technical Details:

Working electric voltage	AC24V
Power	4.2VA
Closing torque	850N
Maximum stroke	20mm
Input signal	0(2)~10V, 0(4)~20mA
Feedback signal	0~10V
Work temperature	0~50°C
Protection grade	IP54

Safe Model:



Knob (1) not inserted = manual mode

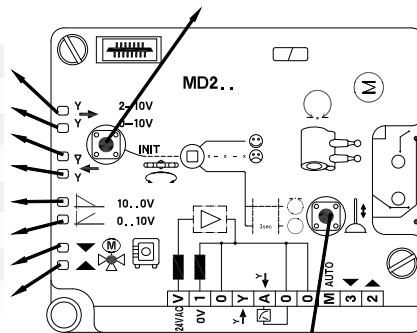
Knob (1) inserted = automatic mode

For safety reasons, the actuator automatically switches to manual mode when the cover is removed. To allow the commissioning technician to test functionality, the actuator can be switched to automatic mode using the included solenoid switch.

Remove the actuator cover and then insert the knob (1) into the PCB (2).

FUNCTION SWITCH:

2~10V, 4~20mA
0~10V, 0~20mA
10~0V Feedback signal inversion
0~10V Signal feedback
Reaction (down full)
Positive effect (up full)
Two-way valve settings
Three-way valve settings

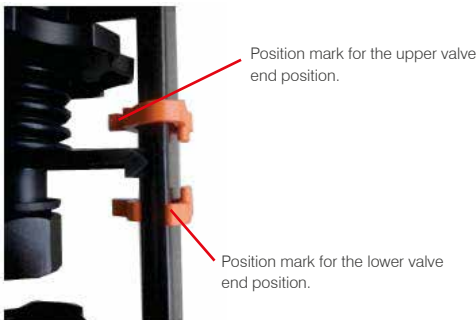


The valve block protection switch: to prevent the valve be blocked after a longer period of inactivity.

Technical Specification

Technical Specification	
Body	Ductile Iron
Bonnet	Ductile Iron
Seat	Stainless Steel 304
Disc	Stainless Steel 304
Stem	Stainless Steel 304
Scale Bar	Brass
Adjusting Nut	Brass
Diaphragm	EPDM + Stainless Steel 304
Spring	Stainless Steel 304

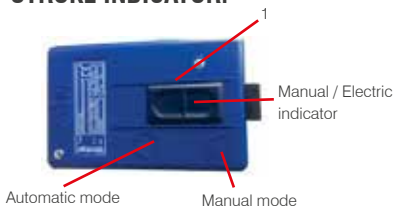
STROKE INDICATOR:



Position mark for the upper valve end position.

Position mark for the lower valve end position.

STROKE INDICATOR:



Automatic mode

Manual mode

Manual / Electric indicator



Electric actuator have manual function and automatic function. When manual mode is activated, the extended slide indicator allows this status to be recognized even in poorly lit areas. Now the actuator can be set to the desired valve position on the hand-wheel. After manual mode is switched off, the actuator resumes automatic positioning.

NOTE: Dimensions are in mm

SHIELD reserves the right to change the contents without notice.

Pressure Independent Control Valve

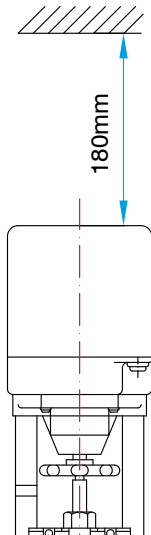
Three Functions Type PN16

Actuator:

Technical Details:

Working electric voltage	AC24V
Power	10.6VA
Closing torque	2200N
Maximum stroke	30mm
Input signal	0(2)~10V, 0(4)~20mA
Feedback signal	0~10V
Work temperature	0~50°C
Protection grade	IP54

Installation Space:



Stroke Indicator:



Installation Space:



Rotate "manual/ automatic transform switch"
The actuator is in manual mode, by rotating the handle, and then can manual operates the valves on/off.

Hand / Electric switch

Handle

Flow Measurement Device

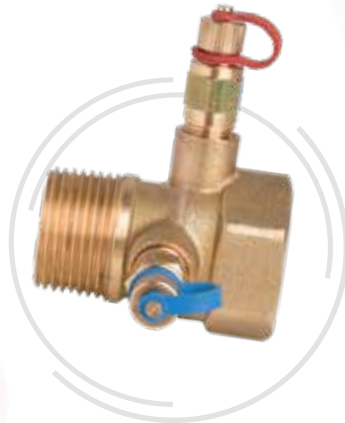
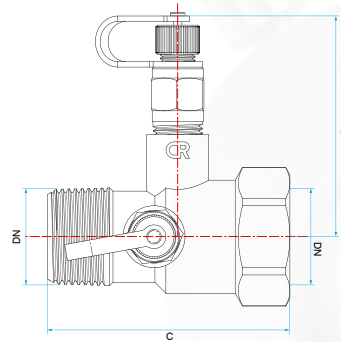
SD-9721, SD-93723

SD-9721, SD-93723 an orifice type flow measurement device permitting high accuracy flow measurement to within $\pm 5\%$ regardless of valve setting. A perfect installation of the balancing valves and flow measurement joint SD-9721, SD-93723 must be made in accordance with the distance stated in the drawing in order to regularize the flow and permit an accurate flow measurement.

SD-9721

DN	A	C	Kvs
½" L	58.50	66.50	0.47
½" M	58.50	66.50	0.98
½" S	58.50	66.50	1.80
¾"	61.50	66.50	4.10
1"	64.50	63.50	7.50
1¼"	69.50	71.00	16.60
1½"	72.50	71.00	23.00
2"	78.50	79.50	47.40

NOTE: Dimensions are in mm



SD-9728C

Insulating case for balancing valves



SD-9728

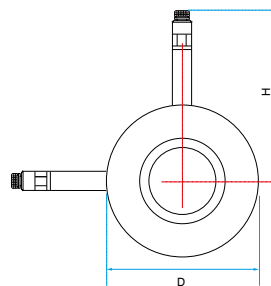
Insulating case for balancing valves



SD-93723

DN	D	H	Flanges thickness	Kvs
50	108	149	18	70.50
65	127	159	18	104.50
80	142	166	18	120.00
100	162	176	18	226.30
125	192	191	18	330.30
150	218	204	18	527.60
200	273	232	18	746.00
250	329	260	18	1118.30
300	384	287	18	1765.20
350	444	317	20	1966.80
400	496	343	23	2482.60

NOTE: Dimensions are in mm



SD-9729

Measuring needle



SD-9723

Binder points



World Class

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Customised fluid applications

SHIELD provides superior fluid management solutions with a range of high quality plumbing innovations that guarantee high performance and efficiency, less downtime, low operating cost and readily available technical assistance.

NOTE: Please contact us for more information.

Bronze Globe Valve

Metal to Metal Seating

SD-GV20

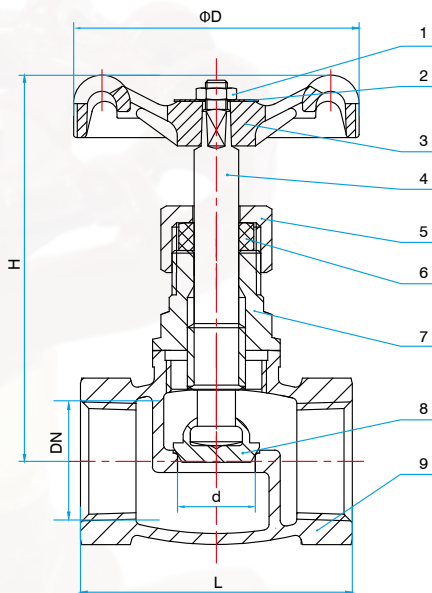
The SD-GV20 Globe Valve is manufactured in BS5154. An economical bronze globe valve with a PTFE valve disc and a non-return design, preventing reverse flow when in the open position. Suitable for isolation duty providing a leak tight shut-off.

Technical Details:

Working Pressure	PN20
Working Temperature	-10°C ~ 170°C
Thread	BS21 (B.S.P.T.)

Specifications:

No.	Part	Material
1	Hand-wheel Nut	Stainless Steel
2	Name Plate	Aluminium
3	Hand-wheel	Aluminium
4	Stem	DZR Brass
5	Packing Nut	Brass
6	Packing	PTFE
7	Bonnet	Bronze
8	Disc	Bronze
9	Body	Bronze



Bronze Globe Valve

DN	d	L	H	ØD
15	14	52	70	60
20	19	63	82	65
25	24	76	92	70
32	32	84	108	78
40	38	98	120	92
50	48	116	140	103

NOTE: Dimensions are in mm

Globe Valve

SD-16GV

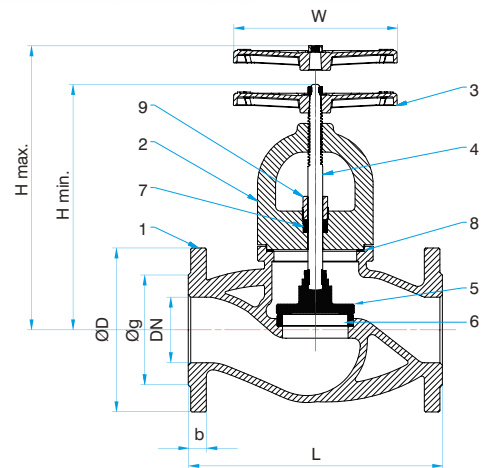
The SD-16GV Globe valve is manufactured to BS 5163. A type of valve used for regulating flow in a pipeline consisting of movable disc element and stationary ring seat in a generally spherical body.

Technical Details:

Working Pressure	PN16
Working Temperature	10°C ~ 120°C
Flange & Drilling	BS EN 1092-2, PN16

Specifications:

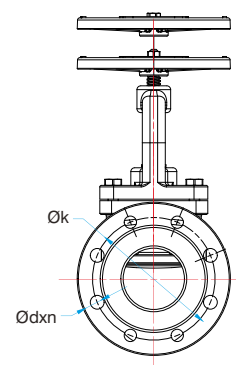
No.	Part	Material
1	Body	Cast Iron
2	Bonnet	Cast Iron
3	Hand-wheel	Cast Iron
4	Stem	Stainless Steel 420
5	Disc	Stainless Steel 420 (15~50) Cast Iron (65~300mm)
6	Seat	Stainless Steel 420
7	Packing	Graphite
8	Gasket	EPDM
9	Packing Gland	Forced Brass



Globe Valve

DN	L	H _{min}	H _{max}	W	ØD	Øk	Øg	b	Ødxn
50	230	245	310	160	165	125	99	20	19x4
65	290	265	310	200	185	145	118	20	19x4
80	310	290	345	200	200	160	132	22	19x8
100	350	310	395	250	220	180	156	24	19x8
125	400	365	455	315	250	210	184	26	19x8
150	480	425	535	315	285	240	211	26	23x8
200	600	570	680	400	340	295	266	30	23x12
250	730	730	800	500	405	355	319	32	28x12
300	850	850	870	500	460	410	370	32	28x12

NOTE: Dimensions are in mm



Bronze Swing Check Valve

SD-GCV20/W

The SD-GCV20/W valve is manufactured in accordance with BS 5154 PN20 which can be used for heating, cooling, sanitary, pneumatic systems, waterworks, autoclaves, pumps. It is suitable for installation either in vertical or horizontal pipelines to allow unidirectional flow.

Technical Details:

Working Pressure	PN20
Working Temperature	-10°C ~ 80°C
Thread	BS 21 (B.S.P.T.)

Specifications:

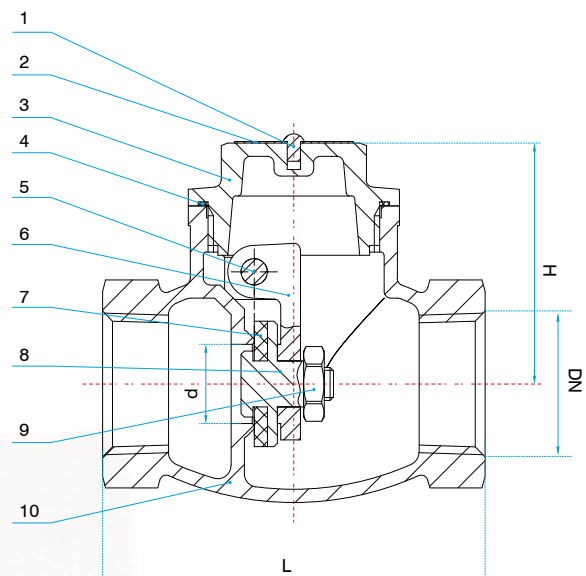
No.	Part	Material
1	Drive Screw	Copper
2	Name Plate	Aluminium
3	Cap	Bronze
4	Packing	PTFE
5	Hinge Pin	Stainless Steel 304
6	Hinge	Bronze
7	Disc	NBR
8	Disc Holder	Bronze
9	Hinge Nut	Stainless Steel 304
10	Body	Bronze



Bronze Swing Check Valve

DN	L	H	d
15	58	37	12.0
20	66	43	18.0
25	76	49	24.0
32	88	57.5	30.6
40	108	63	37.0
50	133.5	72	48.6

NOTE: Dimensions are in mm



Spring Loaded Non-Return Valve

SD-930

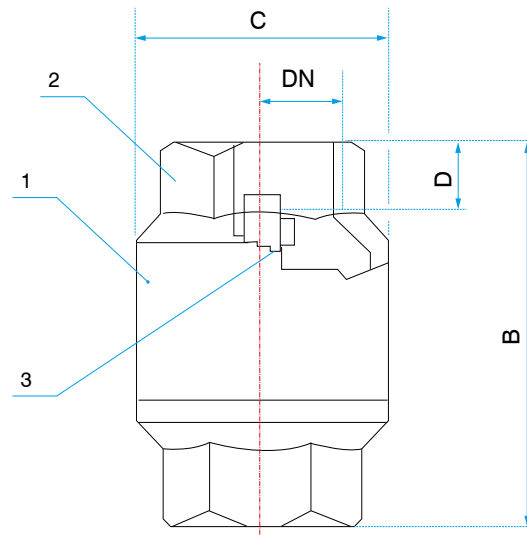
The SD-930 valve is manufactured in accordance with BS 5154/B - PN20 and EN ISO 9001 which can be used for heating, sanitary, pneumatic systems, waterworks, autoclaves & pumps. It is suitable for installation either in vertical or horizontal pipelines to allow in one direction.

Technical Details:

Working Pressure	PN20
Working Temperature	-20°C ~ 110°C
Thread	ISO 228

Specifications:

No.	Part	Material
1	Body	Brass
2	End Connector	Brass
3	Spring	Stainless Steel



Spring Loaded Non-Return Valve

DN	B	C	D	Kv
15	55	35	12	3.7
20	62	42	13	7.0
25	72	50	14	13.0
32	82	60	16	21.0
40	96	70	18	25.0
50	109	83	20	38.0
65	129	103	25	108.0
80	141	123	25	192.0
100	146	160	26	264.0

NOTE: Dimensions are in mm

Check Valve Swing Type

SD-CV16

The SD-CV16 swing check valve is manufactured according to BS EN 12334. It has a disc that swings about a hinge pin and low head loss characteristics when fully open. Suitable for installation in vertical or horizontal pipeline to allow unidirectional flow.

Technical Details:

Working Pressure	PN16
Working Temperature	-10°C ~ 100°C
Flange	BS EN1092-2PN16

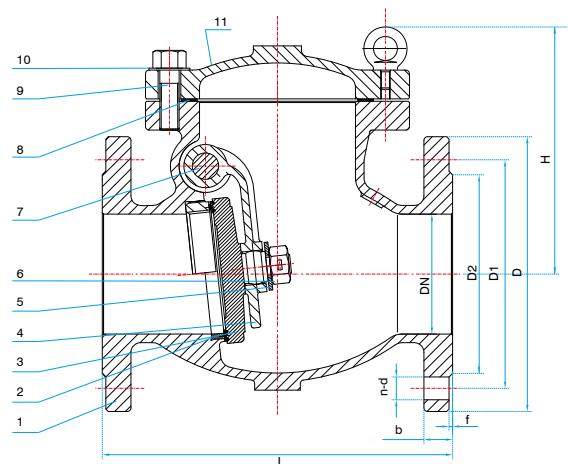
Specifications:

No.	Part	Material
1	Body	Ductile Iron
2	Seat Ring	Brass
3	Disc	Ductile Iron
4	Hinge	Ductile Iron
5	Washer	Stainless Steel 13CR
6	Nut	Stainless Steel 316
7	Hinge Pin	Stainless Steel 13CR
8	Bonnet Gasket	EPDM
9	Bolts	Stainless Steel 316
10	Washer	Stainless Steel 316
11	Bonnet	Ductile Iron



Check Valve Swing Type

DN	PN	L	D	D1	D2	b	n-d	f	H
50	16	203	165	125	99	19.0	4-19	3	146
65	16	216	185	145	118	19.0	4-19	3	155
80	16	241	200	160	132	19.0	8-19	3	173
100	16	292	220	180	156	19.0	8-19	3	180
125	16	330	250	210	184	19.0	8-19	3	212
150	16	356	285	240	211	19.0	8-23	3	260
200	16	495	340	295	266	20.0	12-23	3	290
250	16	622	405	355	319	22.0	12-28	3	339
300	16	698	460	410	370	24.5	12-28	4	376



NOTE:

- ▶ Dimensions are in mm
- ▶ PN25 rated valves are also available upon request.
- ▶ Available in all iron upon request.
- ▶ Available in AWWA standard upon request.

Dual Door Wafer Check Valve

SD-16CV-W

The SD-16CV-W Check valve is manufactured to BS EN 12334. Dual Door Check valve is a compact body usually a wafer design. It has a hinge pin which two opposing D-shaped disc rotate and torsion spring wraps down the hinge pin. Suitable for mounting in both horizontal and vertical pipeline.

Technical Details:

Working Pressure	PN16
Working Temperature	-20°C ~ 120° C
Mounting Flange	BS EN 1092-2

Specifications:

No.	Part	Material
1	Body	Ductile Iron
2	Disc	Stainless Steel 304
3	Stem	Stainless Steel 304
4	Spring	Stainless Steel 316
5	Rubber Seat	EPDM

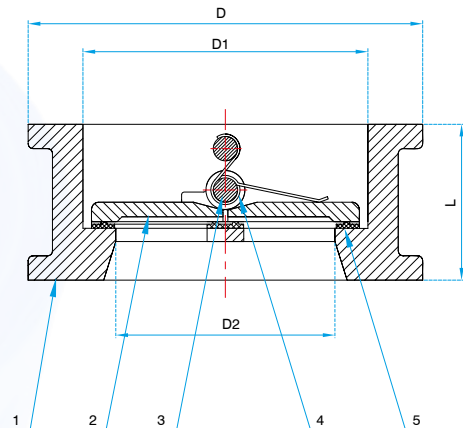


Dual Door Wafer Check Valve

DN	L	D	D1	D2
50	54	107	64	46
65	54	127	78	60
80	57	142	94	70
100	64	162	117	84
125	70	192	145	115
150	76	218	170	134
200	95	273	224	184
250	108	328	265	220
300	143	378	310	260
350	184	438	360	302
400	194	489	410	350

NOTE:

- ▶ Dimensions are in mm
- ▶ PN25 rated valves are also available upon request.



Check Valve Wafer Type

SD-25CV-W

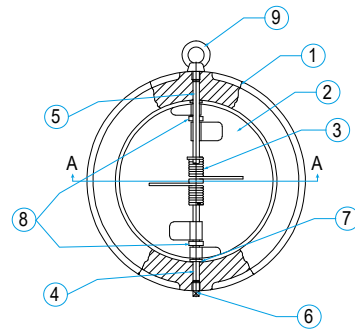
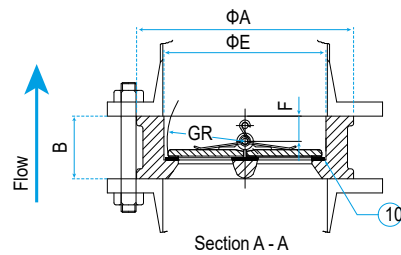
The SD-25CV-W Check valve is manufactured to BS EN 12334. Dual Door Check Valve is a compact body usually a wafer design and has a hinge pin which two opposing D-shaped disc rotate and torsion spring which wraps down the hinge pin. It is suitable for mounting in both horizontal and vertical pipeline.

Technical Details:

Working Pressure	PN25
Working Temperature	-20 to 120°C
Mounting Flange	BS EN 1092-2

Specifications:

No.	Part	Material
1	Body	Ductile Iron
2	Plate	SS304
3	Spring	SS304
4	Hinge Pin	SS410
5	Stop Pin	SS410
6	Plug	Stainless Steel
7	Body Bearing	PTFE
8	Spring Bearing	PTFE
9	Eye Bolt	Carbon Steel
10	Body Seat	EPDM



Dual Door Wafer Check Valve

DN	A	E	B	GR	F
100	162	117	64	52.8	27
125	192	145	70	65.7	30
150	218	171	76	78.6	31
200	273	224	89	104	33
250	328	265	114	127	50
300	378	310	114	148	43
350	438	360	127	172	45
400	488	410	140	197	52

NOTE: Dimensions are in mm.

Controlled Flow Solution for diversified projects



SHIELD provides complete valves solution for various projects and applications.

NOTE: Please contact us for more information.

Bronze Strainer

SD-GYS20/W

The SD-GYS20/W strainer is manufactured in accordance with BS 5154 PN20 and can be used for filtering heating, sanitary, pneumatic systems, water works and saturated steam.

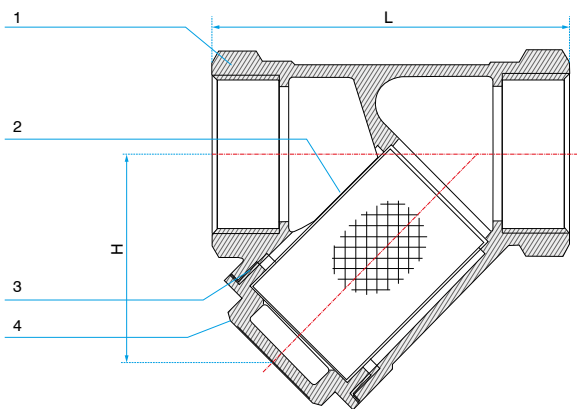
SHIELD Y-pattern strainers are used to filter foreign matter (contaminations/solids) which represents in every pipeline and can build up to cause blockage. It protects the pump suction inlets and pipeline equipment against faulty operation, thus preventing costly shutdown and protecting expensive pipeline equipment from being damaged.

Technical Details:

Working Pressure	PN20
Working Temperature	-20°C ~ 170°C
Thread	BS 21 (B.S.P.T.)

Specifications:

No.	Part	Material
1	Body	Bronze
2	Screen	Stainless Steel
3	Gasket	PTFE
4	Cap	Bronze



Bronze Strainer

DN	L	H
15	58	33
20	70	41
25	88	49
32	96	56
40	107	62
50	126	80

NOTE: Dimensions are in mm

Meshes of Strainer

DN	Diameter of Hole	Thickness	Free area percentage	Meshes/cm ²	Material
DN15	0.7	0.4	50%	60	Stainless Steel
DN20	0.7	0.4	50%	60	
DN25	0.7	0.4	50%	60	
DN32	1.4	0.4	46%	28	
DN40	1.4	0.4	46%	28	
DN50	1.4	0.4	46%	28	

NOTE:

- ▶ Dimensions are in mm.
- ▶ Mesh & Perforations can be resized upon request.
- ▶ Pressure drop chart can be provided upon request.

SD-YS16

The SD-YS16 is manufactured in accordance with BS 4504. SHIELD Y-pattern strainers are used to filter foreign matter (contaminations/solids) which represents in every pipeline and can build up to cause blockage. It protects the pump suction inlets and pipeline equipment against faulty operation, thus preventing costly shutdown and protecting expensive pipeline equipment from being damaged.

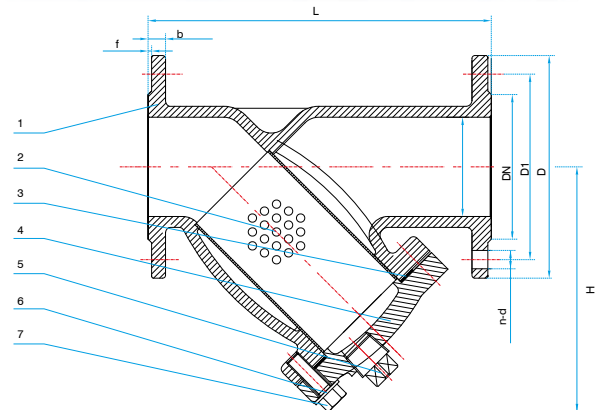


Technical Details:

Working Pressure	PN16
Working Temperature	0°C ~ 80°C
Flange & Drilling	BS EN 1092-2 (PN16)

Specifications:

No.	Part	Material
1	Body	Ductile Iron
2	Screen	Stainless Steel 316
3	Cover	Ductile Iron
4	Gasket	EPDM
5	Plug	Malleable Iron (Galvanized)
6	Bolt	Stainless Steel 316
7	Flat Washer	Stainless Steel 316



Y-Strainer

DN	PN	L	D	D1	b	n-φd	f	H	Dia. Hole
50	16	230	165	125	19.0	4-φ19	3	140.0	1.5
65	16	290	185	145	19.0	4-φ19	3	175.0	1.5
80	16	310	200	160	19.0	8-φ19	3	198.0	1.5
100	16	350	220	180	19.0	8-φ19	3	229.0	1.5
125	16	400	250	210	19.0	8-φ19	3	287.0	1.5
150	16	480	285	240	19.0	8-φ23	3	304.0	1.5
200	16	600	340	295	20.0	12-φ23	3	370.5	1.5
250	16	730	405	355	22.0	12-φ28	3	469.0	1.5
300	16	850	460	410	24.5	12-φ28	4	540.0	1.5

NOTE:

- ▶ Dimensions are in mm
- ▶ Mesh & Perforations can be resized upon request.
- ▶ Pressure drop chart can be provided upon request.
- ▶ PN25 rated valves are also available upon request.
- ▶ Available in AWWA standard upon request.

Brass Foot Valve

SD-GFV10

A foot valve end strainer is a non-return valve designed to be put on end of a hose to suction lift out of tanks. The strainer prevents larger solids from entering without restricting the fluid flow.

Technical Details:

Working Pressure	PN10
Working Temperature	10°C - 110°C
Thread	ISO 228

Specifications:

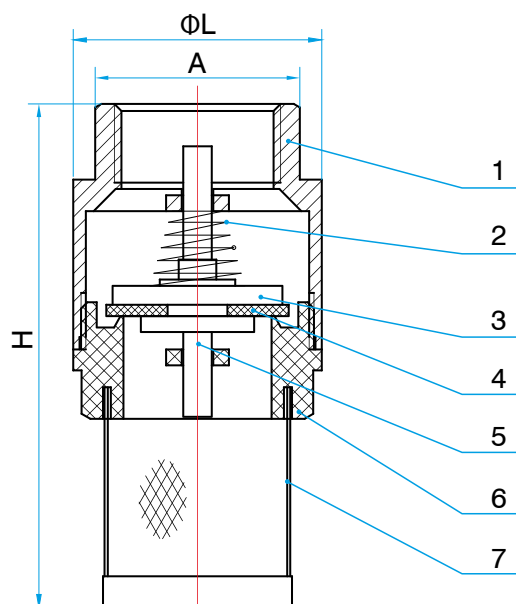
No.	Part	Material
1	Body	Brass
2	Spring	Stainless Steel 304
3	Disc	Brass
4	Rubber	Nitrile Rubber
5	Stem	Brass
6	Bonnet	ABS (Terpolymer)
7	Mesh	Stainless Steel 304



Brass Foot Valve

DN	ØL	H	A
15	33.5	70	24.0
20	41.0	80	30.9
25	45.5	93	37.2
32	56.0	98	46.0
40	83.5	112	52.1
50	81.0	137	65.7
65	97.0	153	79.7
80	112.0	177	94.8
100	142.5	180	110.7

NOTE: Dimensions are in mm



Pressure Reducing Valve

SD-91430K

KITEMARK Approved



The pressure reducing valves series SD-91430 are suitable for reduction and control of pressure in plants. It can be installed in both vertical and horizontal direction.

Technical Details:

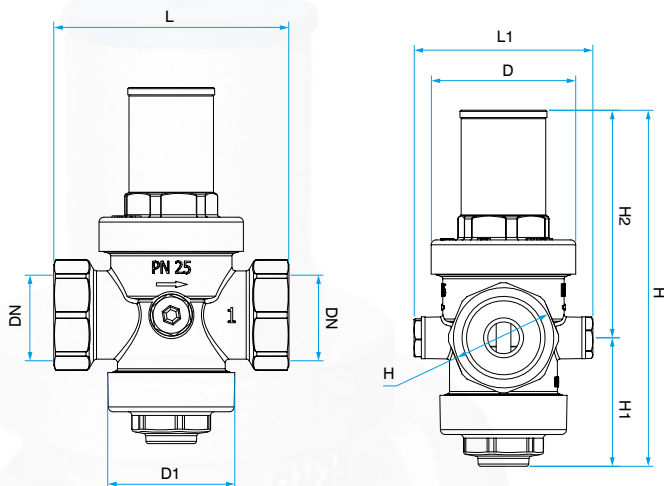
Working Pressure	PN25
Working Temperature	0°C ~ 80°C, 0°C ~ 130°C*
Max inlet pressure	25 bar
Field of action (outlet pressure)	1 - 5, 5 bar
PS value set during test	3 bar
Outlet PS Tolerance	± 10%
Max temperature of use	0°C (excluding ice), 130°C*
Thread	ISO 228/1
Gauge of connection	BS EN 10226- Rp1/4" (ex ISO 7/1)
Suitable fluids	Water, Glycolate Solutions (glycol 50%), Compressed Air (no oil mist)
Test	Kitemark approved in compliance with the limits defined by EN 15671

* Only for sizes 3" & 4".

Specifications:

No.	Part	Material
1	Body	Nickel Plated Brass alloy
2	Inner Parts	Brass alloy
3	Seat	Stainless Steel
4	'O'rings	NBR 70 SH VITON 70 SH*
5	Thread	ISO 228

* SD-91430-K Body Material Brass alloy is also available upon request.



Pressure Reducing Valve

DN	D	D1	L	L1	H	H1	H2
15	Ø48	Ø44	69	63	114	42	72
20	Ø48	Ø44	82	63	114	42	72
25	Ø59	Ø52	96	73	145.5	52.5	93

NOTE: Dimensions are in mm

Pressure Reducing Valve

SD-91430N

The pressure reducing valves series SD-91430 are suitable for reduction and control of pressure in plants. It can be installed in both vertical and horizontal direction.

Technical Details:

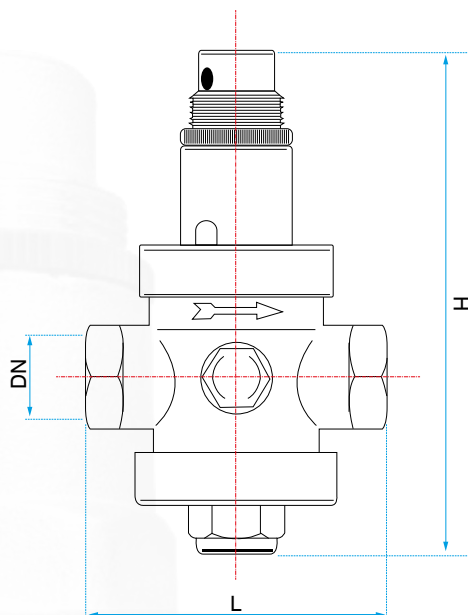
Working Pressure	PN25
Working Temperature	0 to 80°C, 0 to 130°C*
Max inlet Pressure:	25 bar
Field of Action (outlet pressure)	0,5 - 6 bar (1,5 - 6 bar)*
Max Temperature	80°C, 130°C*
Thread	ISO 228/1
Tested According to Rules	DIN EN 1567
Suitable Fluids	Water & Air*, Diesel Oil
Reduction rate	10:1

* Only for sizes 3" & 4".

Specifications:

No.	Part	Material
1	Body	Nickel Plated Brass alloy
2	Inner Parts	Brass alloy
3	Seat	Stainless Steel
4	'O'rings	NBR 70sh VITON 70 SH*
5	Threads	ISO 228

* SD-91430-N Body Material Brass alloy is also available upon request.



Pressure Reducing Valve

DN	H	L
15	120	75
20	150	85
25	160	89
32	220	125
40	220	130
50	250	138
65	260	145
80	285	177
100	310	190

NOTE: Dimensions are in mm

Bronze Pressure Reducing Valve

SD-PRV20/W:

The pressure reducing valves series SD-PRV20/W is designed to provide a constant outlet pressure despite varying inlet pressure.

- The outlet pressure is adjustable between 1 to 4 bar.
- The inlet pressure must be higher than the designed pressure.
- This direct acting PRV can be installed in horizontal and vertical direction.

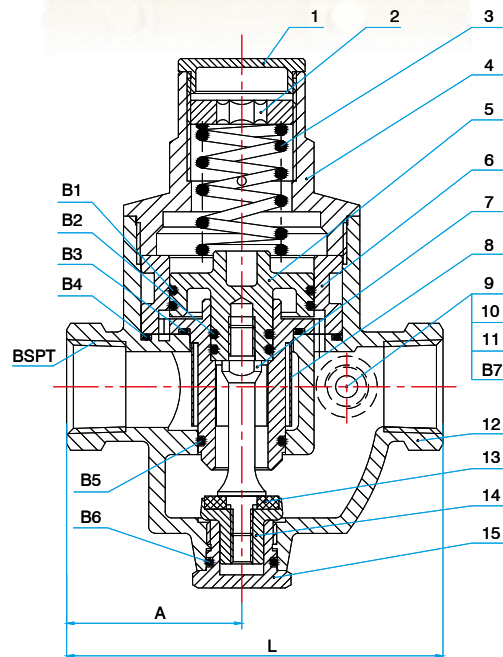


Technical Details:

Working Pressure	PN20
Working Temperature	0°C ~ 70°C
Thread	BS 21 (B.S.P.T.)
Outlet Pressure	1 ~ 4 bar

Specifications:

No.	Part	Material
1	Tap Lid	Bronze
2	Adjusting Screw	Bronze
3	Spring	65Mn Steel
4	Bonnet	Bronze
5	Core	Bronze
6	Core Seat	Brass
7	Connection Piece	Bronze
8	Mesh	Stainless Steel 304
9	Male Plug	Bronze
10	Gauge	Bronze
11	Gasket	NBR
12	Body	Bronze
13	Gasket	NBR
14	Disc	Bronze
15	Bottom Lid	Bronze
B1~B7	O Ring	NBR



Bronze Pressure Reducing Valve:

DN	L	A	A
15	89	41.5	41.5
20	92	43.0	43.0
25	98	46.0	46.0

NOTE: Dimensions are in mm

Bronze Pressure Reducing Valve

SD-PRV20/W

The pressure reducing valves series SD-PRV20/W is designed to provide a constant outlet pressure despite varying inlet pressure.

- The outlet pressure is adjustable between 1 to 5 bar.
- The inlet pressure must be higher than the designed pressure.
- This direct acting PRV can be installed in horizontal and vertical direction.

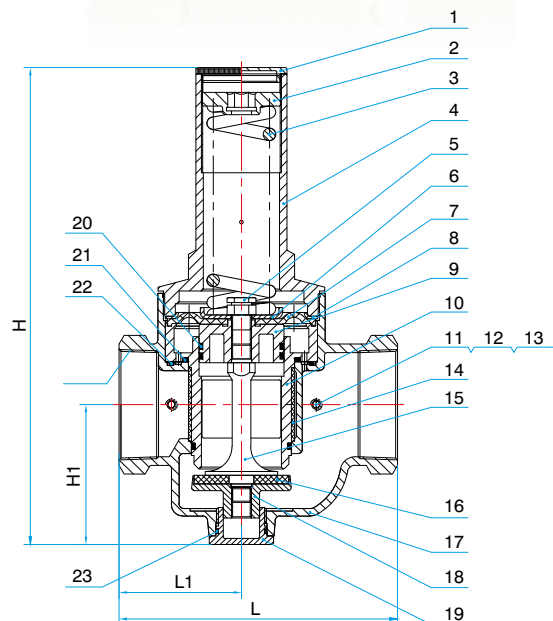


Technical Details:

Working Pressure	PN20
Working Temperature	0°C ~ 70°C
Thread	BS 21 (B.S.P.T.)
Outlet Pressure	1 ~ 5 bar

Specifications:

No.	Part	Material
1	Tap Lid	Bronze
2	Adjusting Screw	Bronze
3	Spring	65Mn Steel
4	Bonnet	Bronze
5	Forcing Screw	Bronze
6	Press Plate	Stainless Steel
7	Diaphragm	EPDM+Fibre
8	Gasket	Stainless Steel 304
9	Core	Bronze
10	Core Seat	Brass
11	Male Plug	Bronze
12	O Ring	NBR
13	Gauge	Brass
14	Mesh	Stainless Steel 304
15	Connection Piece	Bronze
16	Gasket	NBR
17	Body	Bronze
18	Disc	Bronze
19	Bottom Lid	Bronze
20~23	O Ring	NBR



Bronze Pressure Reducing Valve

DN	L	L1	H	H1
32	126	55.5	192	62
40	126	55.5	192	62
50	168	72.0	272	85
65	174	75.5	272	85
80	225	98.5	385	113
100	230	104.5	385	130

NOTE: Dimensions are in mm

Brass Automatic Air Vent

SD-BAV16

The SD-BAV16 valve is used for heating, sanitary, pneumatic systems & waterworks. Suitable for installation in horizontal pipelines.

The evacuation of a consistent air flow is through a pipeline (e.g. during loading/pressurization of the plant) and degassing which discharges air trapped or formed in the pipeline while functioning.

This valve has a paramount importance in climatisation networks and systems, evacuating and discharging trapped air in water pipes for service under pressure. Further, it reduced space requirements which make the valve ideal use inside a modern heat generators where air must be evacuated from the circulation pumps in order to prevent unwanted cavitation phenomena.

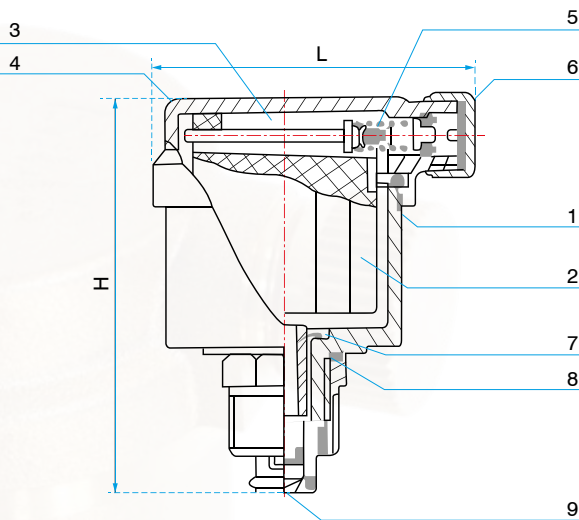
Technical Details:

Working Pressure	PN16
Working Temperature	-10°C ~ 70°C
Thread	BS 21 (B.S.P.T.)



Specifications:

No.	Part	Material
1	Body	Brass
2	Floater	Polythene
3	Stem	Brass
4	Cap	Brass
5	Spring	Stainless Steel
6	Air Cap	Brass
7	Floater Bar	Brass
8	O Ring	NBR
9	Disc	Brass



Brass Automatic Air Vent

DN	H	L
15	76	50
20	76	50
25	76	50

NOTE: Dimensions are in mm

Air Release Valve

SD-AV16 HD

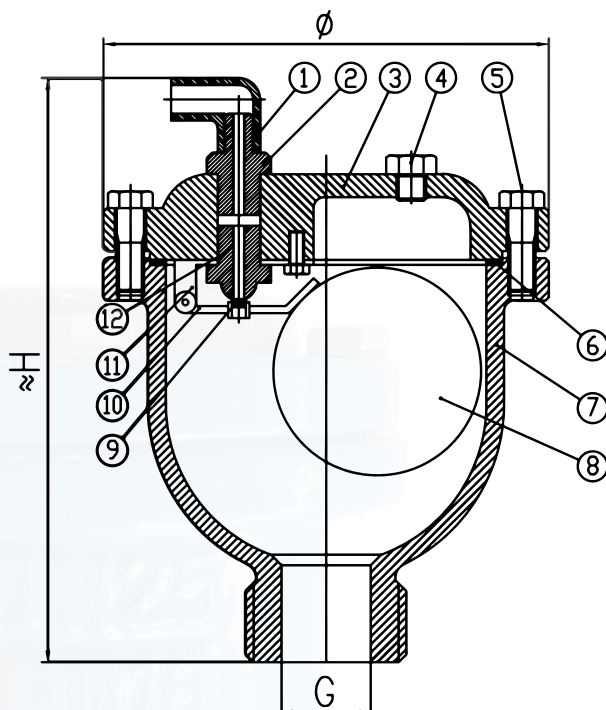
The SD-AV16 HD air release valve function to release air pockets that collect each high point of a full pressured pipe line. Air Release Valves are essential for pipeline efficiency and water hammer protection.

Technical Details:

Working Pressure	PN16
Working Temperature	0°C ~ 85°C
Thread	ISO 228

Specifications:

No.	Part	Material
1	Elbow	Nylon
2	Joints	Brass
3	Bonnet	Ductile Iron GGG40
4	Pipe Plug	Brass
5	Bolt	Zinc Coated Steel
6	Gasket	P.T.F.E
7	Body	Ductile Iron GGG40
8	Float	SS304
9	Seal Head	NBR Rubber
10	Lever	SS304
11	Lever Bracket	SS304
12	Air Escape Cock	Brass



Air Release Valve

DN	Dimensions		
	G	Ø	H
15	1/2"	135	138
20	3/4"	135	138
25	1"	135	138

NOTE: Dimensions are in mm

Drain Valve

SD-DC16

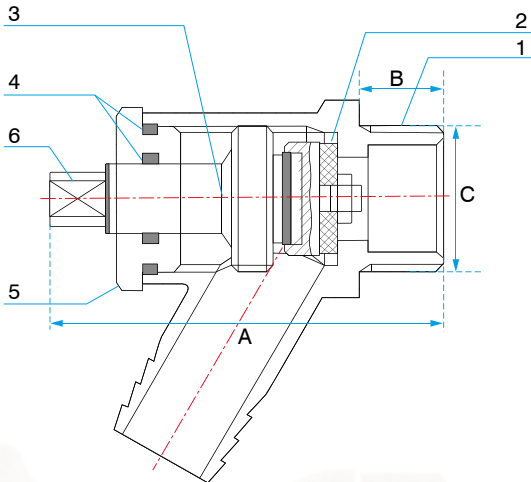
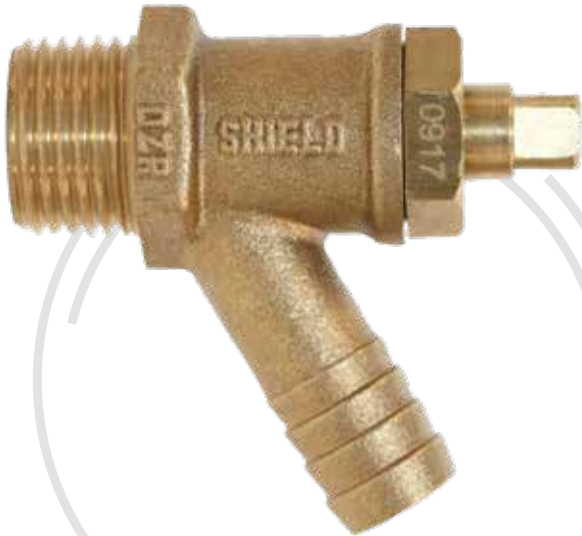
The SD-DC16 drain valve is manufactured in accordance with BS 2879 and can be used for domestic and commercial plumbing, industrial application, agricultural requirements, heating, sanitary, waterworks and generally with every non-aggressive fluid.

Technical Details:

Working Pressure	PN16
Working Temperature	-10°C ~ 120°C
Thread	BS 21 (B.S.P.T.)

Specifications:

No.	Part	Material
1	Body	DZR Brass
2	Gasket	NBR
3	Disc	DZR Brass
4	'O' rings	NBR
5	Bonnet	DZR Brass
6	Stem	DZR Brass



Drain Valve

DN	A	B	C
15	56	13	20
20	64	16	26
25	89	19	32

NOTE: Dimensions are in mm

Angle Valve

SD-AGV10

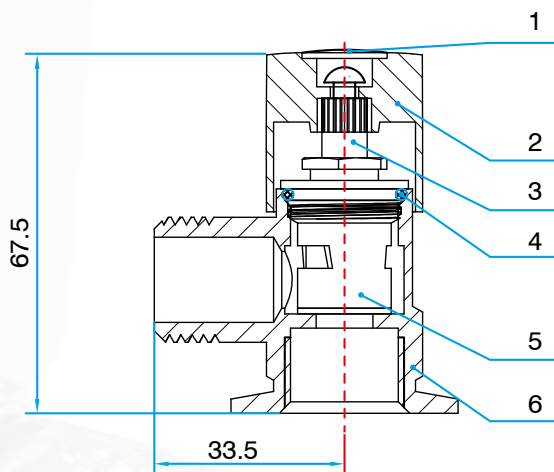
Angle Valve SD-AGV10 are used as a shut-off valves water intake of plumbing applications. It is used for regulating the flow of fluid in a pipe.

Technical Details:

Working Pressure	PN10
Working Temperature	-10°C ~ 110°C
Thread	ISO 7/ISO 228

Specifications:

No.	Part	Material
1	Dust Cover	Plastic
2	Hand-wheel	Nickle Chrome Plate Brass
3	O Ring	NBR
4	Core	Ceramic
5	Stem	Brass
6	Body	Nickle Chrome Plate Brass



Note: Red/Blue cap is available upon request.

Brass Bibcock

SD-98303

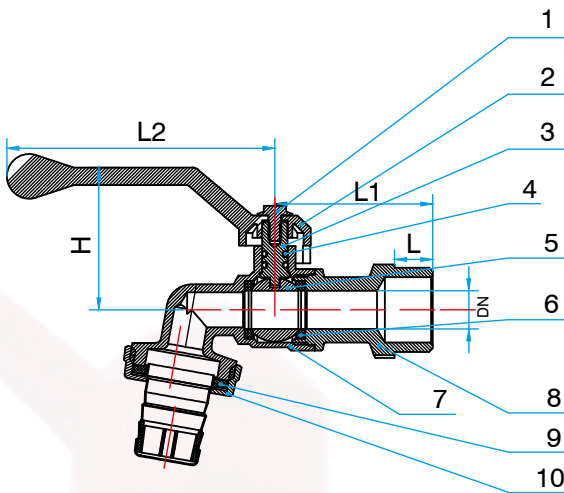
Brass Bibcock SD-98303 is a tap having a nozzle bent downwards and supplied from horizontal pipe with a hose union.

Technical Details:

Working Pressure	PN10
Working Temperature	-10°C ~ 70°C
Working Medium	Water

Specifications:

No.	Part	Material
1	Hexagon Screw	Q235
2	Handle	Aluminium
3	Stem	Brass Nickel Chrome Plated
4	O Ring	NBR
5	Body	Brass Nickel Chrome Plated
6	Seat	PTFE
7	Body	Brass Nickel Chrome Plated
8	Bonnet	Brass Nickel Chrome Plated
9	Gasket	NBR
10	Hose Connector	Brass Nickel Chrome Plated



Brass Bibcock

DN	L	L1	L2	H
15	10.5	43	84	42.5
20	12	49.5	84	44.5
25	12	55	97.5	49.5

NOTE: Dimensions are in mm

Brass Float Valve

SD-9934

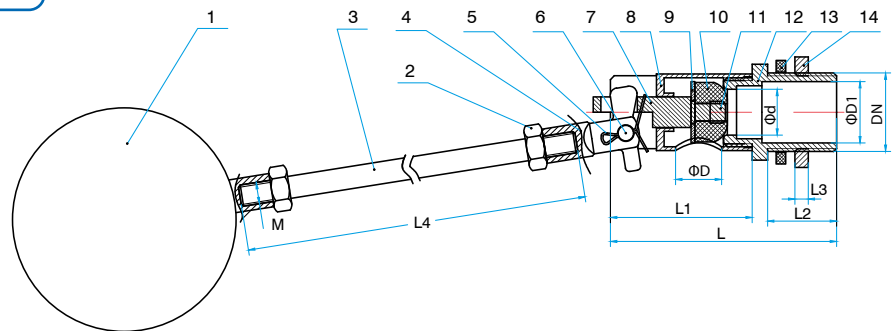
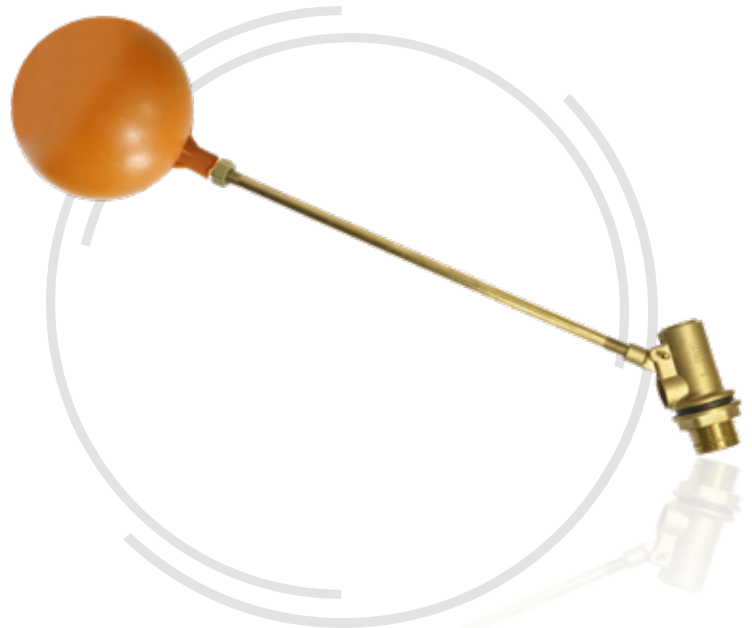
Brass float SD-9934 valve are used in commercial, industrial and agricultural applications for controlling high capacity water flow.

Technical Details:

Working Pressure	PN10
Working Temperature	≤ 90°C
Working Medium	Water

Specifications:

No.	Part	Material
1	Ball	Plastic/Copper/Stainless Steel 304
2	Nut	Brass
3	Hinge	Brass
4	Adjusting Lever	Brass
5	Pin	Stainless Steel 304
6	Pin	Stainless Steel 304
7	Piston Core	Brass
8	Body	Brass
9	Gasket	Stainless Steel A2-70
10	Disc	Silica Rubber
11	Screw	Stainless Steel A2-70
12	Seat	Brass
13	Gasket	E.P.D.M
14	Nut	Brass



Brass Float Valve

DN	L	L1	L2	L3	L4	Ød	ØD	ØD1	M	Ball
15	59.0	37.0	18.0	3.5	230	12	12	16.0	M8	4.5"
20	59.0	37.0	19.0	3.5	230	12	12	21.0	M8	5.0"
25	71.5	46.0	21.5	3.5	230	14	22	27.0	M8	6.0"
32	74.0	49.0	24.0	4.0	600	14	21	33.5	M12	8.0"
40	82.0	55.5	22.0	3.5	600	22	32	41.0	M12	10.0"
50	85.0	55.5	24.5	4.0	600	22	32	51.0	M12	10.0"
65	116.5	81.0	31.0	7.0	796	30	53	66.5	M14	12.0"
80	119.0	81.0	32.0	7.0	796	30	53	78.0	M14	12.0"
100	142.0	98.0	36.0	6.5	796	40.5	67.0	102.5	M14	12.0"

NOTE:

- ▶ Dimensions are in mm
- ▶ Copper Float is also available upon request.

Water Hammer Arrestors

Copper Body Piston Type

SD-9WHA-KW-B

DESCRIPTION:

Water Hammer arrestors can be installed between the water pipe to machine, to absorb the shock and stop the banging.

SPECIFICATIONS:

SHIELD Products Pre-charged hard drawn copper surge pressure absorber with teflon piston, EPDM 'O'ring seals, and Lead Free Adaptor male NPT & BSP connection.

OPERATING PRESSURE:

Designed to operate on all domestic and commercial lines up-to 150 PSI Working Pressure.

TEMPERATURE RANGE:

33°F ~ 180°F (0.5°C ~ 82°C)

INSTALLATION:

May be installed in new or existing plumbing systems with a standard pipe tee.

CONSTRUCTION:

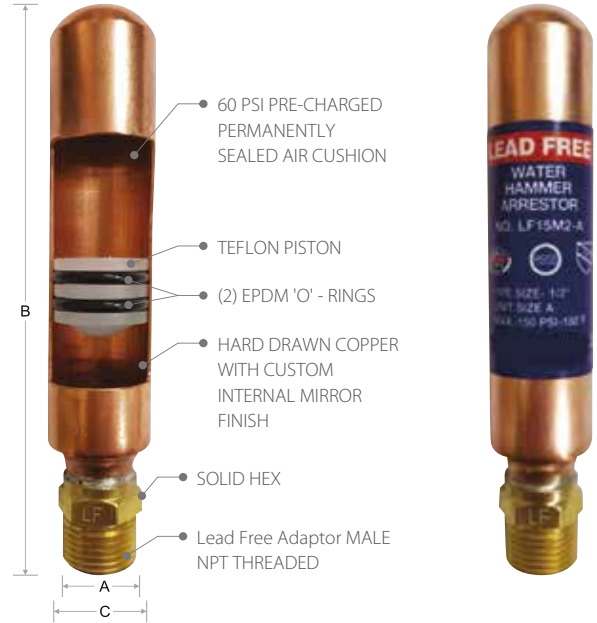
Bodies: Hard drawn copper with custom internal mirror finish.
 Seal Lubricant: Dow-Corning Silicone compound
 Piston: Teflon
 Seals: EPDM 'O' rings

PIPE SIZING (SELECT ONE)

Suffix	Description
KW-A	Connection Size ½" (13), Height 4-7/8"(124)
KW-B	Connection Size 1" (25), Height 7-3/8"(187)
KW-C	Connection Size ¾" (20), Height 6-7/8"(175)
KW-D	Connection Size 1-1/4" (32), Height 10-3/4"(273)
KW-E	Connection Size 2" (51), Height 14-7/8"(378)
KW-F	Connection Size 1½" (38), Height 11½"(192)

TECHNICAL DATA

Size	KW-A	KW-B	KW-C	KW-D	KW-E	KW-F
Fixture Unit	1-11	12-32	33-60	61-113	114-154	155-330
"A" connection	½"(15)	¾"(20)	1"(25)	1¼"(32)	1½"(40)	2"(50)
"B" height	151	185	224	253	323	284
"C" diameter	¾"(24)	1-7/8"(48)	2-3/16"(57)	2-11/16"(66)	3-5/16"(85)	3-5/16"(85)



Flexible Connector Stainless Steel

Corrugated

SD-FLEX

SD-FLEX is a flexible hose, which is primarily used as a connector to fan coil units and sanitary equipment. With engineered structural design of SD-FLEX, we are assuring you less leakage under pressure.

Technical Details:

Working Pressure	PN16 / PN20
Working Temperature	-10°C ~ 110°C
Thread	BS 21 (B.S.P.T)

Specifications:

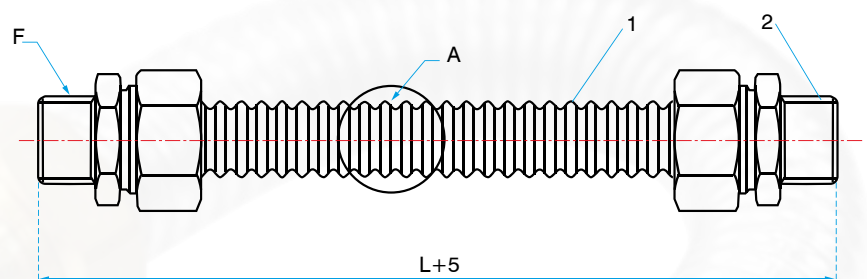
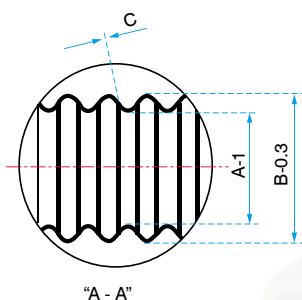
No.	Part	Material
1	Body	Stainless Steel
2	Fittings	Brass



Flexible Connector Stainless Steel

DN	Tube			Products
	I.D.	O.D.	Thickness	*Length
	A	B	C	L
15	17	21.5	0.3	300
20	21.5	25.5		
25	26	32		

NOTE: Dimensions are in mm
* Length more than 300 mm available upon request
* F = Female Thread



Metal Bellows Expansion Joint

Rotary Flanged, with/without Liner, PN16

SD-918 Series

DESCRIPTION:

Axial expansion joints aim to absorb the axial expansions.

- ▶ They do not change the direction of the flow.
- ▶ Additional assemblage distance is not necessary.
- ▶ Dividing the pipeline helps to prevent stress of lateral forces.

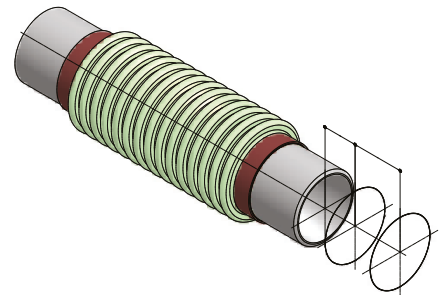
MOVEMENT ABSORPTION:

Axial shift and slight all-around movement of the expansion joint is possible. Axial expansion joints with two bellows are used to absorb larger movements.



ADVANTAGES OF AXIAL EXPANSION JOINTS:

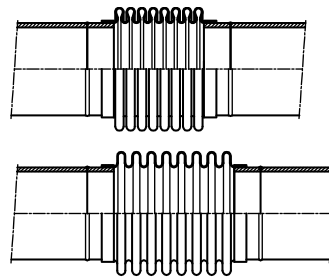
- ▶ Easy to absorb the expansion movements
- ▶ No direction changes of the flow
- ▶ Minimum application area
- ▶ Possible lateral and angular expansion absorption by the additional bellows.
- ▶ To provide a non-stressed area where the pressure is not too high such as pump and compressor applications.
- ▶ Low application costs



Working simulation of axial expansion joint

Technical Details:

Bellow Material	Stainless Steel AISI 321 (opt.304,316L,316TI,309)
Connection Types	Fixed and Floating Flanged and Welded Ended
Flange Material	Carbon Steel St.37.2 as standard, the material can be customised on request
Inner Sleeve	Available in stainless steel AISI 321 (opt.304,316L,316TI,309) on request
Working Temperature	-80°C ~ 600°C
Working Pressure	PN2.5, PN6, PN16, PN25, PN40, PN64
Nominal Diameters	DN 25 (1") ~ DN 2600 (104")



Movement of axial expansion joint

Metal Bellows Expansion Joint

Rotary Flanged, with/without Liner, PN16

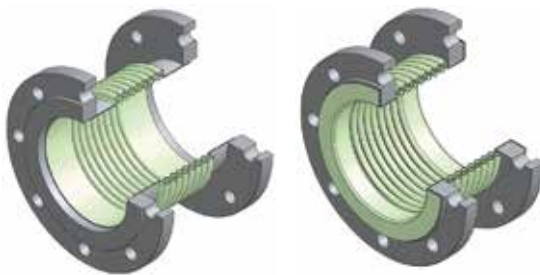
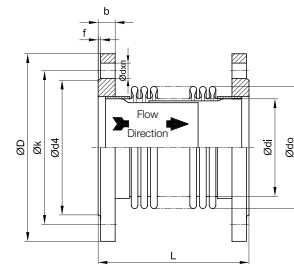
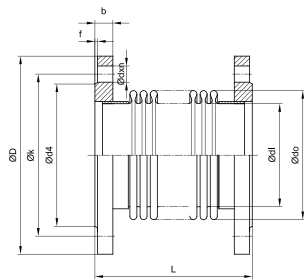
SD-918 Series

AXIAL EXPANSION JOINT WITH 30MM EXPANSION CAPACITY WITH/WITHOUT INNER SLEEVE:

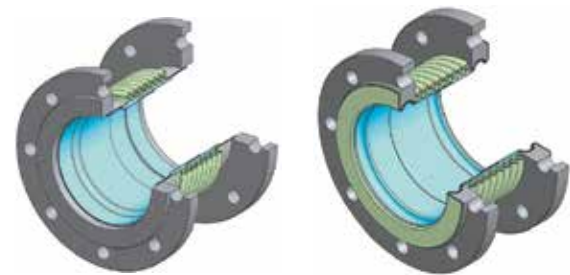
Model	Expansion Amount	Design Pressure	Design
SDSF-30	-10/+20mm	16 bar	Axial Expansion Joint with 30mm expansion capacity and fixed flanges without inner sleeve
SDDF-30	-10/+20mm	16 bar	Axial Expansion Joint with 30mm expansion capacity and floating flanges without inner sleeve
SDSF-30L	-10/+20mm	16 bar	Axial Expansion Joint with 30mm expansion capacity and fixed flanges with inner sleeve
SDDF-30L	-10/+20mm	16 bar	Axial Expansion Joint with 30mm expansion capacity and floating flanges with inner sleeve

NOTE:

- ▶ Special designed axial expansion joints with customized features are available on request.
- ▶ Subject to technical alterations and deviations resulting from the manufacturing process without giving any notification.



Without Inner Sleeve



With Inner Sleeve

Flange (DIN EN 1092-1) PN16						Bellows					SDSF-30 / SDSF-30L		SDDF-30 / SDDF-30L	
DN	ØD	ØK	ØD4	f	b	ØDxN	ØDI	ØDO	Effective Bellows Area	Axial Spring Rate	L	Code	L	Code
mm	mm	mm	mm	mm	mm	mm	mm	mm	cm ²	n/mm	mm		mm	
25	115	85	68	2	16	Ø 14x4	38.0	48.2	14.58	82.1	120	702.041.101.002	110	702.031.101.002
32	140	100	78	2	18	Ø 18x4	42.4	55.0	18.62	49.7	125	702.041.101.004	115	702.031.101.004
40	150	110	88	3	18	Ø 18x4	48.3	61.0	23.44	60.8	130	702.041.101.006	120	702.031.101.006
50	165	125	102	3	20	Ø 18x4	60.3	76.0	36.46	104.5	120	702.041.101.008	110	702.031.101.008
65	185	145	122	3	20	Ø 18x4	76.1	95.0	57.45	87.8	120	702.041.101.010	110	702.031.101.010
80	200	160	138	3	20	Ø 18x8	88.9	111.0	78.42	178.9	120	702.041.101.012	110	702.031.101.012
100	220	180	158	3	22	Ø 18x8	114.3	140.0	137.09	252.2	130	702.041.101.014	115	702.031.101.014
125	250	210	188	3	22	Ø 18x8	139.7	164.0	181.01	320.0	135	172.041.101.016	130	172.031.101.016
150	285	240	212	3	24	Ø 23x8	168.3	200.0	266.20	196.4	160	702.041.101.018	145	702.031.101.018
200	340	295	168	3	26	Ø 23x12	219.1	250.0	431.86	694.2	160	702.041.101.020	140	702.031.101.020
250	405	355	320	3	29	Ø 27x12	273.0	323.0	697.11	590.0	170	702.041.101.022	150	702.031.101.022
300	460	410	378	4	32	Ø 27x12	323.9	380.0	972.37	496.8	170	702.041.101.024	150	702.031.101.024

NOTE: Other flange types made according to different standards (ANSI, BS, UNI) are also available.

APPLICATION OF FIXED POINTS:

By using axial expansion joints in pipeline applications, it will be possible to build up well structured and freely moving straight pipelines. Axial expansion absorption can only be possible with applying appropriate guides which are strong enough to meet the pressure at both ends.

Metal Bellows Expansion Joint

Rotary Flanged, with/without Liner, PN16

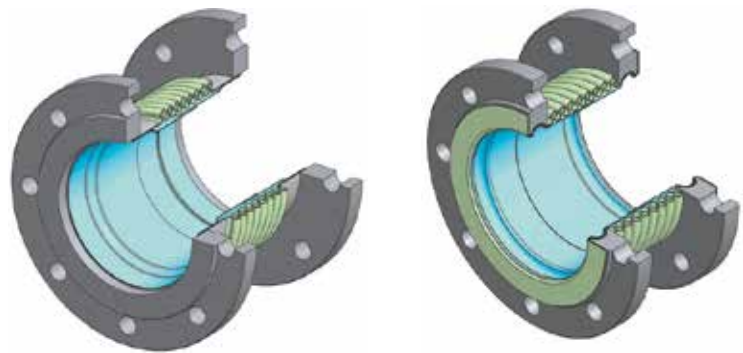
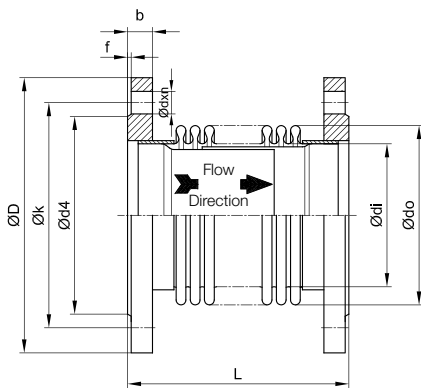
SD-918 Series

AXIAL EXPANSION JOINT WITH 60MM EXPANSION CAPACITY WITH INNER SLEEVE:

Model	Expansion Amount	Design Pressure	Design
SDSF-60L	-20/+40mm	16 bar	Axial Expansion Joint with 60mm expansion capacity and fixed flanges
SDDF-60L	-20/+40mm	16 bar	Axial Expansion Joint with 60mm expansion capacity and floating flanges

NOTE:

- ▶ Special designed axial expansion joints with customized features are available on request.
- ▶ Subject to technical alterations and deviations resulting from the manufacturing process without giving any notification.



Flange (DIN EN 1092-1) PN16						Bellows				SDSF-60L		SDDF-60L		
DN	ØD	ØK	ØD4	f	b	ØDxN	ØDI	ØDO	Effective Bellow Area	Axial Spring Rate	L	Code	L	Code
mm	mm	mm	mm	mm	mm	mm	mm	mm	cm ²	n/mm	mm		mm	
50	165	125	102	3	20	Ø 18x4	60.3	76.0	36.46	55.7	200	702.041.202.008	190	702.031.202.008
65	185	145	122	3	20	Ø 18x4	76.1	95.0	57.45	43.9	205	702.041.202.010	195	702.031.202.010
80	200	160	138	3	20	Ø 18x8	88.9	111.0	78.42	89.4	200	702.041.202.012	190	702.031.202.012
100	220	180	158	3	22	Ø 18x8	114.3	140.0	137.09	126.1	215	702.041.202.014	200	702.031.202.014
125	250	210	188	3	22	Ø 18x8	139.7	164.0	181.01	160.0	225	172.041.202.016	210	702.031.202.016
150	285	240	212	3	24	Ø 23x8	168.3	200.0	266.20	98.2	250	702.041.202.018	245	702.031.202.018
200	340	295	168	3	26	Ø 23x12	219.1	250.0	431.86	347.1	265	702.041.202.020	245	702.031.202.020
250	405	355	320	3	29	Ø 27x12	273.0	323.0	697.11	295.0	270	702.041.202.022	250	702.031.202.022
300	460	410	378	4	32	Ø 27x12	323.9	380.0	972.37	248.4	170	702.041.202.024	250	702.031.202.024

NOTE: Other flange types made according to different standards (ANSI, BS, UNI) are also available.

APPLICATION OF FIXED POINTS:

By using axial expansion joints in pipeline applications, it will be possible to build up well structured and freely moving straight pipelines. Axial expansion absorption can only be possible with applying appropriate guides which are strong enough to meet the pressure at both ends.

Metal Bellows Expansion Joint

Rotary Flanged, with/without Liner, PN16

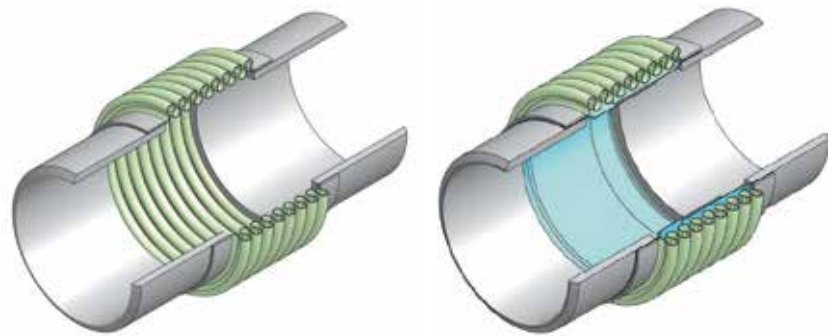
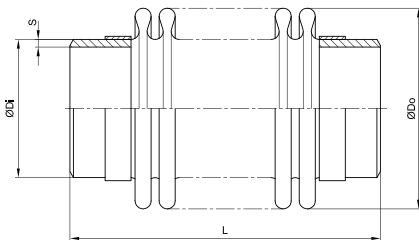
SD-918 Series

AXIAL EXPANSION JOINT WITH WELDED ENDS:

Model	Expansion Amount	Design Pressure	Design
SDKB-30L	-10/+20mm	16 bar	Axial Expansion Joint with 30mm expansion capacity
SDKB-30L	-10/+20mm	16 bar	Axial Expansion Joint with 30mm expansion capacity and inner sleeve
SDKB-60L	-20/+40mm	16 bar	Axial Expansion Joint with 60mm expansion capacity and inner sleeve

NOTE:

- ▶ Special designed axial expansion joints with customized features are available on request.
- ▶ Subject to technical alterations and deviations resulting from the manufacturing process without giving any notification.



DN mm	Bellows				S mm	SDSF-30L			SDDF-30L		
	ØDI mm	ØDO mm	Effective Bellows Area cm ²	Axial Spring Rate n/mm		L mm	Code	L m	Code	L mm	Code
25	38.0	48.8	14.58	82.1	2.6	210	702.051.101.006	210	702.051.102.006	-	-
32	42.4	55.6	18.62	49.7	2.6	215	702.051.101.008	215	702.051.102.008	-	-
40	48.3	61.5	23.44	60.8	2.6	220	702.051.101.010	220	702.051.102.010	-	-
50	60.3	76.9	36.46	104.5	2.9	210	702.051.101.012	210	702.051.102.012	290	702.051.202.012
65	76.1	95.9	54.45	87.8	2.9	210	702.051.101.014	210	702.051.102.014	285	702.051.202.014
80	88.9	112.1	78.42	178.9	3.2	215	702.051.101.016	215	702.051.102.016	300	702.051.202.016
100	114.3	140.9	137.09	252.2	3.6	215	702.051.101.018	215	702.051.102.018	300	702.051.202.018
125	139.7	165.7	181.01	320.0	4.0	220	702.051.101.020	220	702.051.102.020	310	702.051.202.020
150	168.3	201.1	266.20	196.4	4.5	245	702.051.101.022	245	702.051.102.022	345	702.051.202.022
200	219.1	252.3	431.86	694.2	6.3	235	702.051.101.024	235	702.051.102.024	340	702.051.202.024
250	273.0	325.8	697.11	590.0	6.3	240	702.051.101.026	240	702.051.102.026	340	702.051.202.026
300	323.9	382.9	972.37	496.8	7.1	250	702.051.101.028	250	702.051.102.028	340	702.051.202.028

APPLICATION OF FIXED POINTS:

By using axial expansion joints in pipeline applications, it will be possible to build up well structured and freely moving straight pipelines. Axial expansion absorption can only be possible with applying appropriate guides which are strong enough to meet the pressure at both ends.



Valves Installation Instructions



Installation Instructions

GENERAL

We assure the satisfactory performance of our valve. However proper storage, neat installation, gentle operation & timely maintenance enhance valve performance and life. Upon receipt, inspect the valve for any shipping damage, verify the goods received and check for short supply if any.

STORAGE AND PRESERVATION

Valve is generally packed and protected from damage during shipment. This packing & protection should be left in place until the valve is to be installed. Valves should, where possible be stored in a clean, dry environment. Caution: - avoid the entry of dirt, sedimentation grit & other foreign particles on seating & sealing surface, flange face or thread surface.

VALVE MARKING

Each valve has the identification information plate riveted/fastened on the flange/to the side of the valve body. Flow direction is marked on the valve body.

GENERAL INSTRUCTION FOR INSTALLATION

Wear all necessary personal protective equipment. Never remove or maintain a valve or joint unless the line had been fully drained or de-pressurized always operate the valve to the open position to ensure that no trapped pressure exists within the cavity. Never handle the valves that have been used on harmful substances unless they have been completely decontaminated and & certified safe to handle. Always use correct lifting methods & equipments when installing, removing & maintaining the product.

Valve can be installed in any position. However avoid stem position downward. It is recommended to mount the valve stem in vertical position prior to installation; pipe lines should be thoroughly flushed, cleaned free from weld slugs, rust, scales & other dust inside piping & on flange surface.

Pipe line should be aligned properly so that pipeline weight & stresses are not transferred to the valve. Valves should be thoroughly cleaned at flow passage, stem portion before installation. If the valves are stored for long time, they must be cleaned, lubricated, & tested prior to installation. Tighten the gland packing uniformly before installing & after trial operation.

Qualified welder must perform welding operation & the welding procedure in accordance with ASME boiler & pressure vessel code.

Site standards for installation of the valves must be followed where such standards do not exist; the following guidelines must be used.

FLANGED END VALVES

Pipe work should have correct gap to allow the valve face to face length plus assembled gasket material thickness. Be sure that flange gasket & fasteners are suitable for operating condition. Insert the valve along with gasket between mating flange, align the flange bolt holes & hold it in place, hold the nut first, insert bolt & finger tight first. Use two spanners to tighten the joint in sequence.

PERIODIC INSPECTION AND MAINTENANCE

Annual inspection should be made to check up valve body, disc, and stem if worn or pitted, substitute new one. It is recommended to replace seat, body gasket, stem packing, washers, unless the parts are in good condition.

BONNET JOINT

Bonnet gasket is properly tightened in the factory to avoid any joint leakage. However before applying pressure, ensure that all bolts are properly tightened. If leaking, depressurize then uniformly tighten the stud/nut.

GLAND PACKING

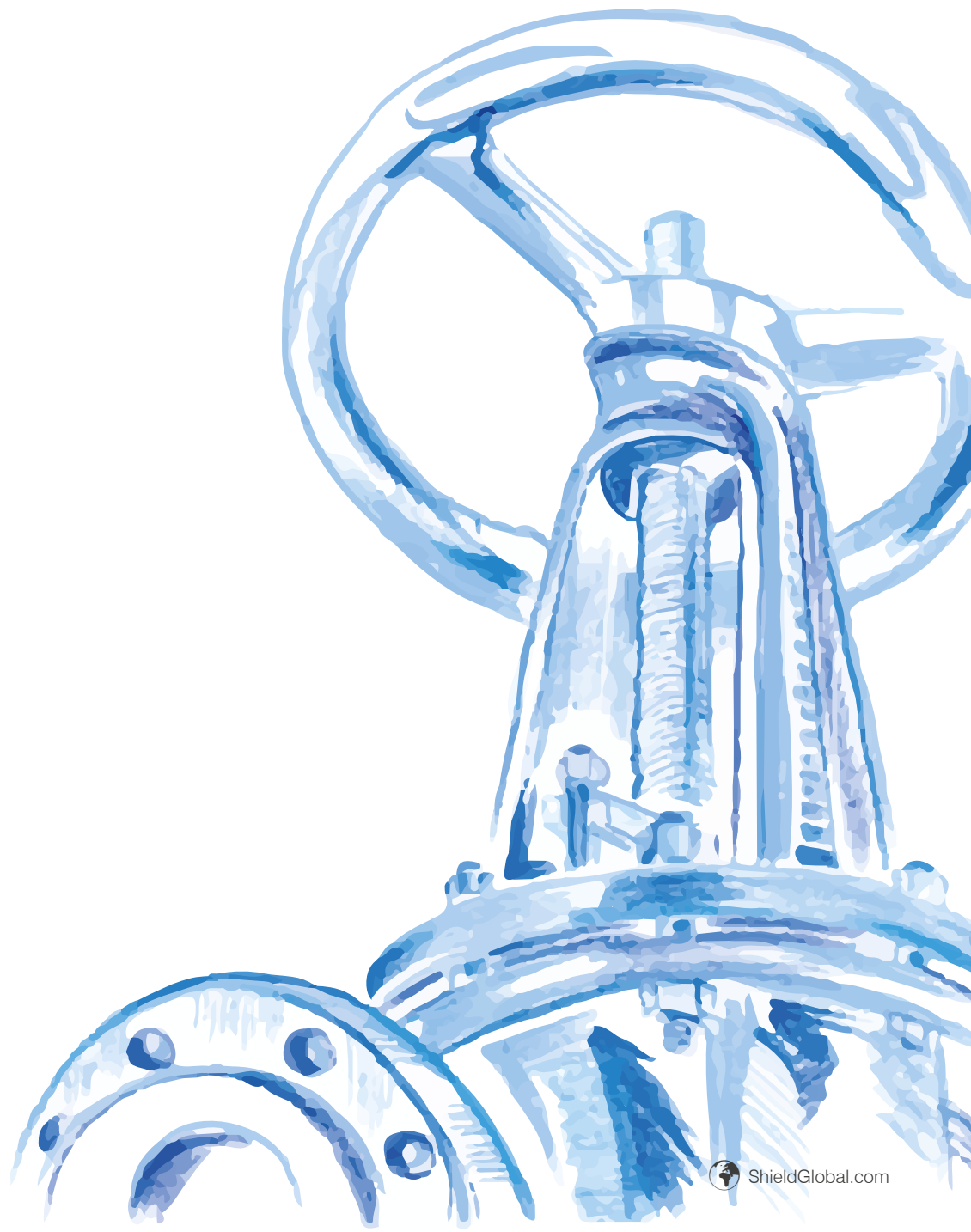
Gland packing is provided to avoid leakage through the stem. When leakage is detected from the gland area while the valve is being in service, the gland should immediately re-tighten. Tighten the gland slowly and gradually until the leakage stops. While rotating the valve hand wheel do not over tighten the packing.

STATE OF THE ART

FLOW

CONTROL

VALVES





For further information on any aspect of the SHIELD range of Valves & Solutions please contact your nearest office.

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