

PRODUCT DIRECTORY

SOLUTIONS FOR THE EVERYDAY

- GENERAL VALVES
- BALANCING VALVES
- PUBLIC HEALTH VALVES



OUR GENIUS IS VALVES



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- Crane Limited founded in Ipswich in 1919
- Viking Johnson founded in Hitchin in the 1930s
- WASK founded in Keighley in 1888
- Delta Fluid Products founded in 1900

The essence of this resolution is the business policy of Crane Co. today.



Richard Teller Crane







Malleable Iron Pipe Fittings

have proved the superiority of the Malleable Iron Fitting over Wrought Iron for their high standard of Quality and Dependability. Their resistance to ductile and tensile loads and resistance to the pipe line, integrated by any other steel of Forging.






None the nearer of the Malleable Iron Pipe Fitting, they have built up a reputation second to none for their adaptability in all conditions. Their size allows standardization in all Pipe Lines for Steam, Water, Gas, and in a pressure of 125 lbs. and on equivalent measure.

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Reliability is an inbuilt characteristic of "C" Brand Fittings which embody in their construction all the characteristics of practical engineering.

ALL
SIZES
IN STOCK
ALL
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OF TO-DAY, AND THEIR PERMANENT
QUALITY PROVIDES FOR THE FUTURE

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and a thermometer
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expensive hot pot includes a super-heating unit & a full
hot water storage tank for 2 1/2 to 3 hours. It's
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seasoned beef soup or any other delicious, succulent
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CRANE

In 1906 James E. Bennett set up a business in London as a Coppersmith. He soon recognised a growing interest in the trade for the latest American pipe fittings and valves, and turned his attention to importing. Amongst the products he introduced to the British industry were those of Crane Co., a thriving American Company founded in the mid-19th century.

Now, for more than 100 years, Crane Fluid Systems has manufactured a range of valves and pipe fittings for the Building Services industry, and is developing a range of next generation balancing solutions. The product portfolio comprises a full range of traditional valves: ball, butterfly, check, gate and globe as well as strainers and drain cocks.

In addition, there is a range of WRAS approved Public Health Valves for hot and cold water systems that includes thermal circulation valves that assist in preventing Legionnaires' Disease, as well as a range of pressure reducing valves.

Also available are malleable iron Pipe Fittings and unions, many of which carry the BSI Kitemark.

The Crane Fluid Systems ProBalance range offers a wide variety of Flow Management Systems and Static Balancing Valves, providing the ultimate in accuracy and reliability.



Ipswich 1921. Mr J. E. Bennett and party drinking a toast after the foundation stone was laid



Ipswich Works



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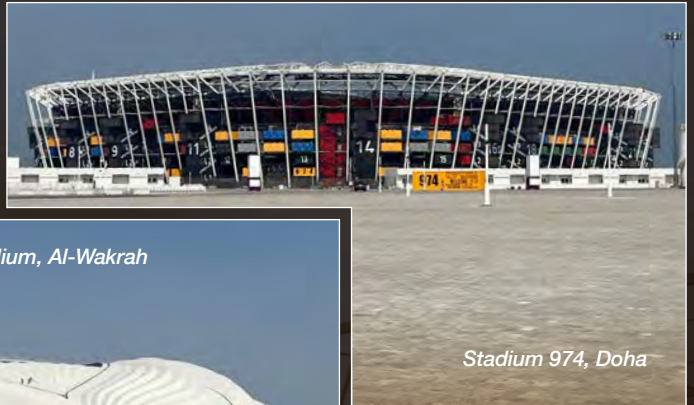
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OUR WORLD CUP STARS

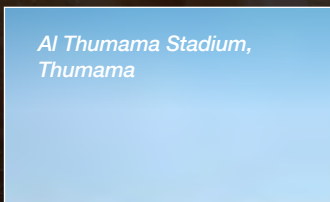
STADIA PRODUCTS



Lusail Stadium, Lusail



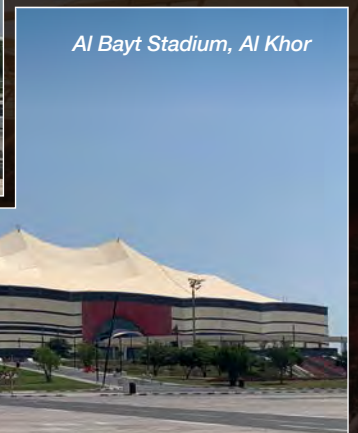
Stadium 974, Doha



Al Thumama Stadium, Thumama



Al Janoub Stadium, Al-Wakrah



Al Bayt Stadium, Al Khor

These Crane FS valve types were specified and installed in the Qatar stadiums.

BALANCING VALVES

- WRAS Approved static balancing valves – DRV's & Fixed Orifice DRV's
- Available in medium and low flow versions
- Static balancing valves offer positive flow control at all hand wheel settings



BALL VALVES

- Isolation valves with full flow in open position and bubble tight in closed
- Quarter turn to open & close
- Light, compact units
- Robust construction ensures long, trouble-free service life



BUTTERFLY VALVES

- Quarter turn isolation valves
- Supplied in wafer or lugged variants with lever or gearbox
- Linings are EPDM or nitrile rubber, depending on the intended service conditions



CHECK VALVES

- Permit flow in one direction only
- Close automatically if flow reverses
- Entirely automatic depending on pressure & velocity of flow



GATE VALVES

- Dependable where minimum pressure drop is important
- Efficient stop valves with flow in either direction
- Little resistance to flow



STRAINERS

- Eliminate scale and dirt in pipes
- Prevent damage to pipeline equipment
- Baskets are easily removed for cleaning



For more information on our full product range visit:
www.cranefs.com

OUR GENIUS IS VALVES

Copper Alloy

Application	Valve Type	End Connection	Body Material	PN10	PN16	PN20	PN25	PN32	PN40	PN64	Class 100	Class 150	Air / Gas 5Bar
Isolation	Gate	Threaded	Bronze	D151, D237	D151, D237	D151, D237	D151X	D166, D180					
			DZR	D151A	D151A	D151A							
			Brass										
		Compression	Bronze										
		Flanged	Bronze										
	Ball	Threaded	Bronze	D171, D171MHU	D171, D171MHU	D171, D171MHU	D171, D171MHU						
			DZR	D171A	D171A	D171A	D171A						D191
		Compression	Bronze	D171C	D171C								
			DZR	D171AC, D181	D171AC, D181								
		Press-Fit	DZR	D172A.PF	D172A.PF								
Isolation & Regulation	Globe	Threaded	Bronze	D4	D4	D4	D7	D7					
		Flanged	Bronze										
Prevent backflow	Check	Threaded	Bronze				D138, D140	D142					
		Press-Fit	Bronze	D138.PF	D138.PF								
Remove debris	Strainers	Threaded	Bronze	D298	D298	D295	D297	D297					
		Press-Fit	Bronze	D298.PF	D298.PF								
Drain system	Drains	Drains	Threaded	Bronze	D340	D341	D171MHU	D171MHU					
Regulate pressure	PRV	Threaded	Bronze	D1725	D1725	D1725	D1725						
			Brass	D1625	D1625	D1625	D1625						
		Flanged	Bronze	DM1816 & DM1825	DM1816 & DM1825								
Regulate temperature	TMV	Compression	Brass	D1089 & D1088									
Thermal Disinfection	TCV	Threaded	Bronze	D2890 & D2880	D2890 & D2880								

Iron & Steel

Application	Valve Type	End Connection	Body Material	PN10	PN16	PN20	PN25	Class 125	Class 150	Class 300	Air / Gas 5Bar
Isolation	Gate	Flanged	Cast Iron	FM57, FM124, FM125	FM63, FM82, FM124, FM125			F53, F58, F84			
			Cast Steel						47XU-F	33XU-F	
Isolation & Regulation	Globe	Flanged	Cast Iron	FM369	FM369			F372			
			Cast Steel						143XU	151XU	
	Butterfly	Flanged	Ductile Iron		F631, F632, F621, F622, F624, F625, FM700, FM701		DM638, DM639, FM638, FM639	F621, F622	FA725, FA700, FA701		
Regulate pressure	PRV	Flanged	Ductile Iron			DM1725	DM1725				
Prevent backflow	Check	Flanged	Cast Iron		DM1725	DM1725					
			Cast Steel	FM469, FM492			F493		147XU	159XU	
			Ductile Iron	FM463	FM463	FM466	FM466	FA463			
Remove debris	Strainers	Flanged	Ductile Iron		FM276		FM278	F277			

For full product specifications please refer to the CFS website: www.cranefs.com

Every effort has been made to ensure that the information contained in this publication is accurate at the time of publishing. Crane Ltd assumes no responsibility or liability for typographical errors or omissions or for any misinterpretation of the information within the publication and reserves the right to change without notice.

PROJECT

Arsenal Emirates Stadium

Crane Fluid Systems' Dominators – ProBalance balancing valves have been installed in the 60,335 capacity home of Arsenal Football Club, the Emirates Stadium.

The heating and air-conditioning of the office building and player's changing rooms are controlled by fan coil units, in which the Dominator is installed.

The football stadium has four tiers of seating covered by 30,000sqm of roofing, which makes it the third largest football stadium in England, behind Manchester United's Old Trafford and the Tottenham Hotspur Stadium. In 2004, Emirates Airline signed a fifteen year contract for the naming rights of the stadium, a deal worth approximately £100 million, the deal has been extended to 2028.

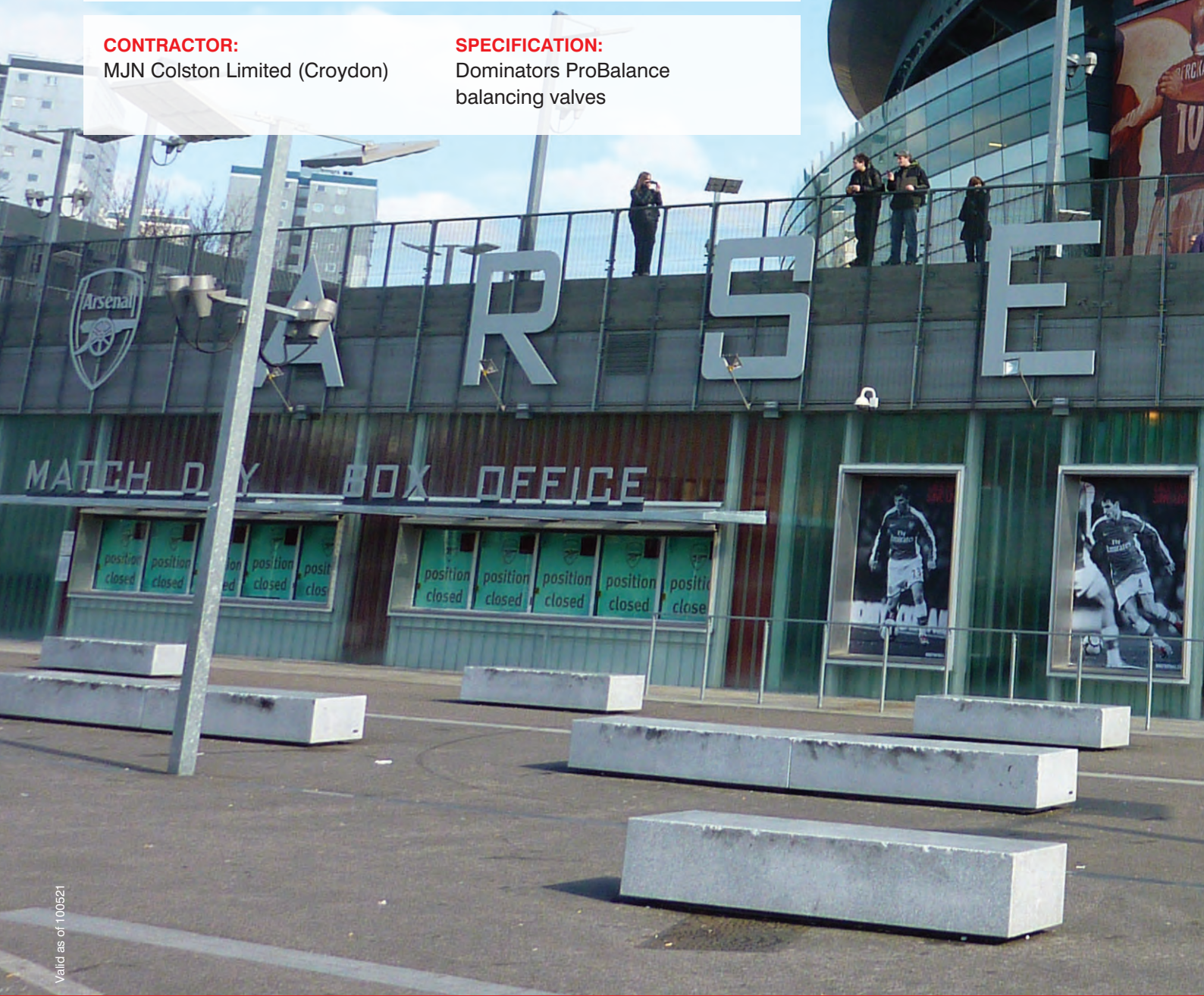
The Dominator, which is part of Crane FS ProBalance range, is a compact, prefabricated unit that combines a control valve, flow measurement device, bypass valve, strainer and drain, ready for simple and fast on-site connection to fan coils and other terminal units.

CONTRACTOR:

MJN Colston Limited (Croydon)

SPECIFICATION:

Dominators ProBalance balancing valves





D901 / D902

Flow Measurement Device (FMD)



Features & Benefits

- **D901** Flow Measurement Device is suitable for systems where pipes have been sized on the basis that pipe frictional losses lie in the range 100 to 400 Pa/m
- **D902** Flow Measurement Device (1/2"/15mm size only) is suitable for the measurement of ultra-low flows in the range 0.015 to 0.06 l/sec e.g. flows to fan coil units
- Square edged entrance orifice plates with tappings for P84 insertion style test points
- Flow measurement accuracy of $\pm 5\%$

Please note: The fitting of P82 test points will give an increased temperature rating of 180°C.

Materials

PART	MATERIAL	SPECIFICATION
Body and Integral Orifice	DZR copper alloy	BS EN 12165 CW602N
P84 Pressure Test Point	DZR copper alloy	BS EN 12164 CW602N

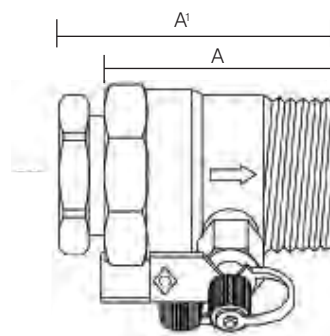
Dimensions, Coefficients & Weights

FIG. NO.	SIZE	END TO END		CENTRE-TO-TOP B (mm)	FLOW (Kv)	HEAD LOSS (K)	KVS	WEIGHT (kg)
		A (mm)	A1 (mm)					
D901	3/4"/DN20	58	-	61	6.1	9.1	4.7	0.30
	1"/DN25	66	-	65	11.9	6.1	8.6	0.40
	1 1/4"/DN32	72	-	71	23.4	4.8	16.6	0.50
	1 1/2"/DN40	72	-	73	36.2	3.7	24.5	0.54
	2"/DN50	82	-	79	71.6	2.4	46.1	0.77
D902	1/2"/DN15	57	66	55	0.57	333	0.54	0.29



D901

Dimensional Drawing



Pressure/Temperature Ratings

Threaded

TEMPERATURE (°C)	-10 to 100	110	120
PRESSURE (BAR)	25	23.4	21.8

Compression

TEMPERATURE (°C)	-10 to 30	65	120
PRESSURE (BAR)	16	10	5

Intermediate pressure ratings shall be determined by interpolation.

Maximum temperature 120°C.

WRAS Approved Product to 99°C.

Note: In line with BS EN 1254/2, the maximum pressure must not exceed 16 bar when using compression adaptors.

*Except pressure rating exceeds BS.

PRESSURE RATING: PN25

SPECIFICATION: FMDs conform to BS 7350*:1990.

END CONNECTIONS:

D901 - Sizes 3/4" to 2"

Inlet: BS EN 10226 formerly BS 21 (ISO 7) taper female. Outlet: BS EN 10226 formerly BS 21 (ISO 7) taper male.

D901/D902 - Sizes 1/2" Inlet: (ISO 228) parallel female threads.

Outlet: BS EN 10226 formerly BS 21 (ISO 7) taper male threads.

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DM900

Flow Measurement Device (FMD)



DM900

Features & Benefits

- DM900 is a stainless steel orifice plate which has a square edged entrance
- The two stainless steel extension tubes are fitted with Crane P84 pressure test points
- Accuracy of flow measurement at normal velocities is $\pm 5\%$
- DM900 can be used as a single unit or close coupled to other regulating or isolating valves to provide accurate flow measurement
- Suitable for use with PN10, PN16, or PN25 flanges or flanged valves with ratings detailed in the appropriate flange or valve product standard
- WRAS Approved product in sizes DN65 to DN150

Please see below or consult Crane Fluid Systems technical team for more information on Installation

Materials

PART	MATERIAL
Orifice and Carrier	Stainless Steel
Extension Tubes	Stainless Steel
Pressure Test Points (P84)	DZR

Dimensions & Weights

SIZE (DN)	FACE- TO-FACE A (mm)	CENTRE- TO-TOP B (mm)	OUTSIDE DIAMETER C (mm)	WEIGHT (kg)	SIZE (DN)	FLOW (Kv)	HEAD LOSS (K)	KVS
20	18	116	63	0.7	20	6.0	9.6	4.7
25	18	119	73	0.8	25	11.6	6.6	8.6
32	18	124	84	1.0	32	23	5.1	16.6
40	18	127	94	1.1	40	35	4.0	24.5
50	18	131	109	1.4	50	72	2.5	46.1
65	18	114	129	1.5	65	154	1.5	90
80	18	120	144	1.8	80	220	1.4	120
100	18	127	164	2.2	100	373	1.4	220
125	18	137	194	2.6	125	570	1.4	342
150	18	147	220	3.0	150	789	1.5	468
200	18	167	275	4.4	200	1383	1.6	792
250	18	187	331	5.7	250	2122	1.7	1224
300	18	207	386	7.1	300	3116	1.6	1800
350	21	216	444	12.4	350	2754	2.6	1795
400	21	235	495	14.5	400	3573	2.6	2334
450	21	256	555	18.0	450	4583	2.6	2981
500	21	278	617	22.1	500	5686	2.6	3700
600	25	319	734	36.1	600	8229	2.6	4491

*Larger sizes available on application. *Except pressure rating exceeds BS.

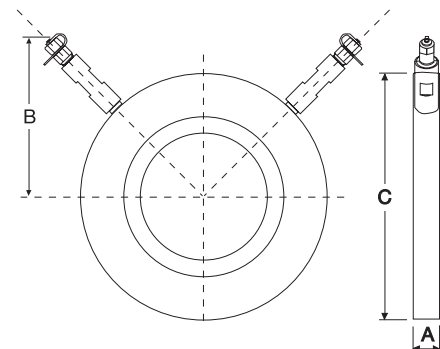
PRESSURE RATING: PN25

SPECIFICATION: The DM900 Conforms to BS 7350:1990*

END CONNECTIONS: can be mounted between valve and/or pipe flanges to BS EN 1092-1+2 with PN10, PN16 or PN25 ratings. The outside diameter ensures a proper alignment when installed between PN10/16 flanges and PN25 flanges up to 80mm size. When assembling between PN25 flanges sized 100mm and larger, ensure the device has been correctly centred with the mating flanges.



Dimensional Drawing



Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 100
PRESSURE (BAR)	21.8

(DN300-600 limited to 110°C only)

When fitted with P84 pressure test points, the DM900 is limited to 120°C max.

For use at temperatures above 120°C, suitable alternative pressure test points should be fitted

For temperatures between 120 - 180°C, replace P84 with P82

All products classified in accordance with Pressure Equipment Directive 2014/68/EU, and Pressure Equipment (Safety) Regulations 2016, as amended.

DN50-250:

Suitable for use on Group 2 Gas and Group 2 Liquids.

DN300-600:

Suitable for use on Group 2 Liquids only, and limited to 110°C.

None suitable for use on Group 1 Liquids, Group 1 Gas, or unstable liquids.

DM950G / DM950L**ProBalance****DM950G**

**Gearbox Operated
Flow Measurement & Regulating Valve**

PN16**Features & Benefits**

- The DM950G and DM950L consist of a DM925G/L coupled with a fixed orifice flow measurement device using a spool piece connector, to form a fixed orifice flow measurement unit with regulation and isolation capability
- The DM950G and DM950L is supplied ready assembled to site
- Test points are supplied loose
- Suitable gasket and bolting should be provided by the contractor/installer

Materials

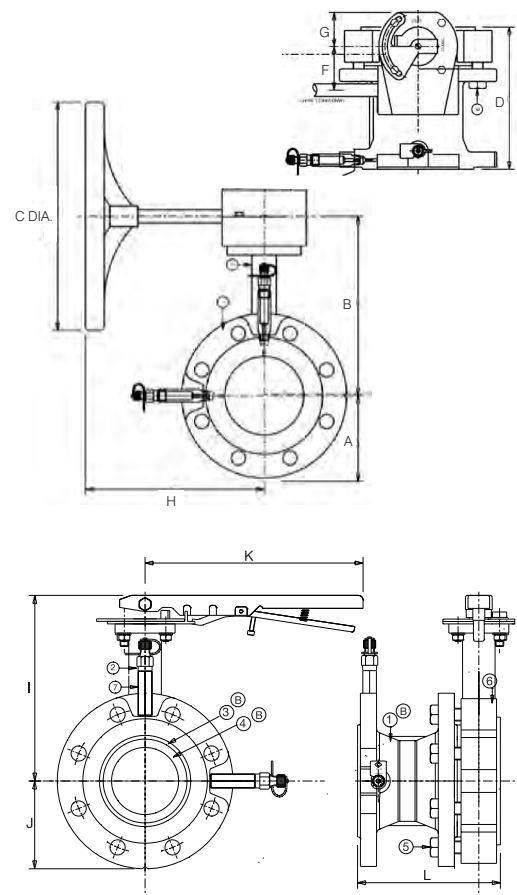
PART	MATERIAL	SIZES
Extension Piece	Steel DIN 17100 R.St.37.2/ASTM A53.Gr.A	150-400
Extension Piece	Steel DIN 17100 R.St. 37.2	50-125
P84 Test Valve	See Fig No P84	All
Orifice Plate Retain	Steel DIN 17100 R.St. 37.2	All
Orifice Plate	Stainless Steel BS 970 316S31	All
Orifice Plate Gasket	Asbestos Free	All
Flange Bolts	Steel BS 3692 Gr. 8.8	All
DM925G	See Fig. No DM925G Gear Operated	All
Test Point Extension	DZR Brass BS EN 12164 CW602N	All
Test Point Adaptor	DZR Brass BS EN 12164 CW602N	50-125
Socket Head Cap Screw	Steel BS 4168 Gr. 12.9	All

Dimensions & Weights

SIZE (mm)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)	D (mm)	F (mm)	G (mm)	H (mm)	I (mm)	J (mm)	K (mm)	L (mm)
50	19.7	162	80	150	134	45	54	158	194	83	260	134
65	20.8	175	89	150	138	45	54	158	95	206	150	138
80	23.4	181	95	150	148	45	54	158	213	102	260	148
100	32.5	200	114	150	157	45	54	158	232	124	260	157
125	38.4	213	127	200	217	45	54	148	244	137	260	217
150	47.1	225	139	200	227	45	54	148	257	150	260	227
200	67.8	260	175	300	263	78	81	226	—	—	—	—
250	89.2	292	203	300	320	78	81	226	—	—	—	—
300	124.2	337	242	300	379	78	81	226	—	—	—	—
350	170	406	260	300	429	78	81	226	—	—	—	—
400	250	447	290	450	489	120	130	277	—	—	—	—

Coefficients*

SIZE (DN)	FLOW (Kv)	HEADLOSS (K)	KVS
50	58	3.4	46.1
65	114	2.6	90
80	168	2.3	120
100	303	2.0	220
125	479	1.8	342
150	649	1.8	468
200	1113	1.6	792
250	1713	1.6	1224
300	2656	1.5	1800
350	2754	1.3	1795
400	3573	1.3	2334

**Dimensional Drawing****Pressure/Temperature Ratings**

TEMPERATURE (°C)	-10 to 120
PRESSURE (BAR)	16

Note: 350mm and 400mm limited to 110°C.

DM925G / DM925L**ProBalance****DM925G**

Gearbox/Lever Operated
Double Regulating Valve (DRV)

PN16**Features & Benefits**

- The DM925G and DM925L Double Regulating Valves consist of a fully lugged, EPDM liner butterfly valve with a Double Regulating gearbox or lever
- The Double Regulating feature allows the valve to be used for isolation and to be reopened to its pre-set position to maintain required flow rate
- As an alternative to the DM921, the DM925G and DM925L can be used in conjunction with a flow measurement device to measure flow

Materials

PART	MATERIAL	SIZES
Body	Ductile Iron ASTM A536 65-45-12	All
Disc	Aluminium Bronze	All
Seat	EPDM	All
Shaft	Stainless Steel ASTM A532 Type 416	All
Taper Pin	Stainless Steel ASTM A276 Type 316	All
Key	Carbon Steel	All
O-Ring	Nitrile (Buna)	All
Shaft Bushing	PTFE or Bronze	All

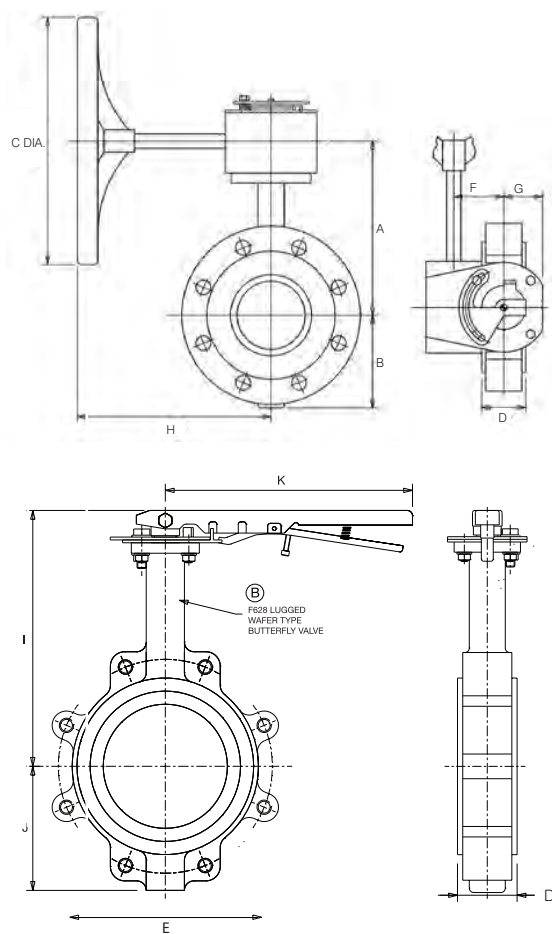
Dimensions & Weights

SIZE (DN)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)	J (mm)	K (mm)	L (mm)
50	8.6	162	80	150	42	—	45	54	158	195	83	260	44
65	9.1	175	89	150	45	—	45	54	158	207	95	260	48
80	11.8	181	95	150	45	—	45	54	158	213	102	260	48
100	17.2	200	144	150	52	—	45	54	158	232	124	260	54
125	18.1	213	127	200	54	—	45	54	148	245	137	260	57
150	19.5	225	140	200	56	—	45	54	148	256	150	266	57
200	29.5	260	175	300	61	—	78	81	226	—	—	—	—
250	39.9	292	203	300	66	—	78	81	226	—	—	—	—
300	54.9	337	242	300	77	—	78	81	226	—	—	—	—
350	61.0	406	279	300	78	—	78	81	226	—	—	—	—
400	94.0	447	305	450	76	—	120	130	277	—	—	—	—
450	139.7	479	381	450	105	456	185	130	321	—	—	356	—
500	215.5	536	394	450	130	456	185	160	321	—	—	356	—
600	337.3	625	457	450	151	456	185	160	355	—	—	356	—

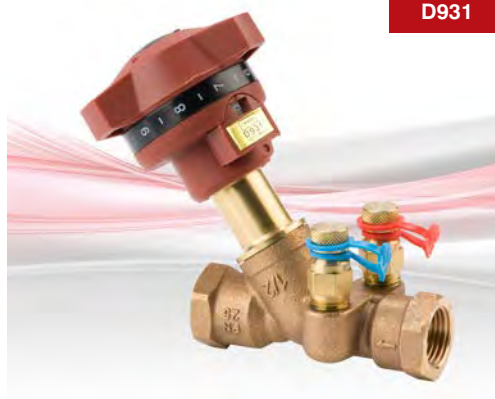
Coefficients*

SIZE (DN)	FLOW (Kv)	HEADLOSS (K)
50	100	1.000
65	170	0.988
80	261	0.962
100	519	0.594
125	884	0.500
150	1366	0.434
200	2713	0.348
250	4619	0.293
300	7136	0.255
350	6087	0.648
400	9010	0.505
450	10566	0.588
500	13804	0.525
600	18052	0.636

*Fully open position.

**Dimensional Drawing****Pressure/Temperature Ratings**

TEMPERATURE (°C)	-10 to 130
PRESSURE (BAR)	16

D931 / D933 / D934**Fixed Orifice Double Regulating Valve (FODRV)****PN25****D931****Features & Benefits**

- D933 size 1/2" low flow FODRV combines the functions of regulation and flow measurement in a unit of high authority making it particularly suitable for low flow applications in the range of 0.03 to 0.07 l/s
- D934 size 1/2" ultra-low flow FODRV combines the functions of regulation and flow measurement in a unit of high authority making it particularly suitable for ultra-low flow applications in the range of 0.016 to 0.04 l/s.
- The Double regulating valve, with its integral fixed orifice design offers an accuracy of $\pm 5\%$ on all settings, for precise flow regulation and measurement
- The Double Regulating feature allows the valve to be used for isolation and to be reopened to its pre-set position to maintain required flow rate
- Y-Pattern globe valves having characterised throttling disc tending towards equal percentage performance
- Integral square edged entrance orifice plate and P84 insertion test points fitted Double regulating feature allows valve opening to be set with an Allen key
- Operation of the valve is by means of the Microset handwheel

Materials

PART	MATERIAL	SPECIFICATION
Body	Bronze	BS EN 1982 CC491K
Bonnet	DZR Copper Alloy	BS EN 12165 CW602N
Stem	DZR Copper Alloy	BS EN 12164 CW602N
Disc	DZR Copper Alloy	BS EN 12164/5 CW602N
O-Ring Seal	EPDM Rubber	
Orifice Insert	DZR Copper Alloy	BS EN 12164 CW602N
P84 Test Valve	DZR Copper Alloy	BS EN 12164 CW602N
Handwheel	Plastic	

Dimensions, Coefficients & Weights

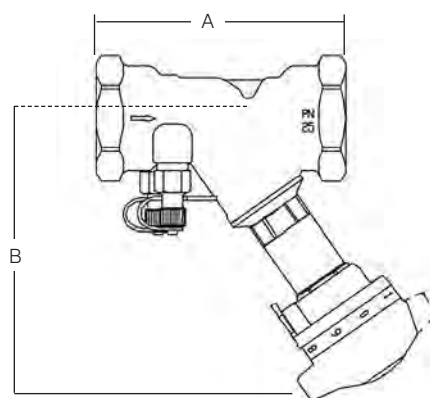
FIG. NO.	SIZE	DIMENSIONS (mm)		FULLY OPEN		KVS	WEIGHT (kg)
		A	B	FLOW (Kv)	HEAD LOSS (K)		
D931	1/2"/DN15	87	105	1.87	30.27	2.2	0.61
	3/4"/DN20	96	106	3.14	34.55	4.7	0.65
	1"/DN25	100	127	5.59	27.85	8.6	0.95
	1 1/4"/DN32	114	128	10.80	22.60	16.6	1.13
	1 1/2"/DN40	125	143	18.10	14.76	24.5	1.52
	2"/DN50	146	144	29.10	14.62	46.1	1.98
D933	1/2"/DN15	87	105	1.06	94.20	1.1	0.61
D934	1/2"/DN15	87	105	0.57	325.80	0.58	0.61

SPECIFICATION: Conforms to BS 7350*:1990**END CONNECTIONS:** Sizes 1" to 2" taper threaded to BS EN 10226-2 (ISO 7-1) formerly BS 21.

Sizes 1/2" & 3/4" DN15 & DN20 BS 2779 (ISO 228) parallel. Adaptor kits for use with copper tube also available.

Also available threaded to ANSI B1.20.1AT.

Order code D931AT/D933AT/D934AT.

Dimensional Drawing**Pressure/Temperature Ratings****Threaded**

TEMPERATURE (°C)	-10 to 100	110	120
PRESSURE (BAR)	25	23.4	21.8

Compression

TEMPERATURE (°C)	-10 to 30	65	120
PRESSURE (BAR)	16	10	5

Intermediate pressure ratings shall be determined by interpolation.

Maximum temperature 120°C.

Note: In line with BS EN 1254/2, the maximum pressure must not exceed 16 bar when using compression adaptors.

WRAS approved -10 to 85°C.

DM941 / DA941

ProBalance**DM941****Fixed Integral Orifice
Double Regulating Valve (FODRV)****DM941 PN16 / DA941 CLASS 125**

Features & Benefits

- Single unit Y-Pattern globe valves incorporating an integral orifice plate to form a fixed orifice flow measurement unit with regulation and isolation capacity
- The Double Regulating feature allows the valve to be used for isolation and to be reopened to its pre-set position to maintain required flow rate
- Accuracy of flow measurement is $\pm 5\%$ at all open positions of the valve in accordance with BS 7350: 1990
- Primarily used in injection or other circuits requiring a double regulating valve for system balancing

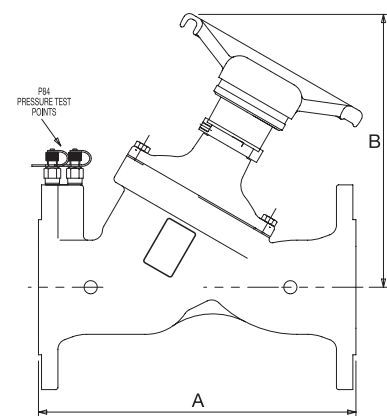
Materials

PART	MATERIAL
Body	Ductile Iron - BS EN 1563 GJS-450-10
Bonnet	Ductile Iron - BS EN 1563 GJS-450-10
Bonnet Gasket	Non-asbestos
Disc (All sizes)	EPDM Coated Cast Iron
Disc Bush	Bronze
Stem	410 SS
Gland (65 to 150mm)	Brass
Gland (200 to 300mm)	Cast Iron
Gland Nut	Brass
Packing	Non-asbestos
Seat Ring	Bronze



BALANCING VALVES

Dimensional Drawing



Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 120
PRESSURE (BAR)	16.0

Ratings align with BS EN 1092-2 PN16 (formerly BS 4504)

Dimensions & Weights

SIZE (DN)	FACE- TO-FACE A (mm)	CENTRE- TO-TOP B (mm)	WEIGHT (kg)
65	290	262	16.3
80	310	267	20.0
100	350	300	28.5
125	400	325	38.0
150	480	340	51.0
200	600	525	124.0
250	730	575	194.0
300	850	645	254.0

Coefficients*

DN (DN)	FLOW (Kv)	HEAD LOSS (K)	KVS
65	93	6.9	90
80	99	6.8	120
100	136	12.7	220
125	229	8.7	342
150	342	8.9	468
200	550	10.3	792
250	1052	6.0	1224
300	1367	7.8	1800

*Fully open position.

SPECIFICATION: Valves conform to requirements of BS 7350: 1990**END CONNECTIONS:** DM941 Ends are flanged to BS EN 1092-2 (formerly BS 4504) and DA941 Ends are flanged to ANSI B16.1 Class 125

Every effort has been made to ensure that the information contained in this publication is accurate at the time of publishing. Crane Ltd assumes no responsibility or liability for typographical errors or omissions or for any misinterpretation of the information within the publication and reserves the right to change without notice.

DM931 / DA931**ProBalance****DM931**Variable Orifice Double
Regulating Valves (VODRV)

PN16 / CLASS 125

Features & Benefits

- These are Y-Pattern globe valves supplied with two pressure test points P84 to provide flow measurement, regulation and isolation
- The Double Regulating feature allows the valve to be used for isolation and to be reopened to its pre-set position to maintain required flow rate
- Primarily used in injection or other circuits requiring a double regulating valve for system balancing
- Accuracy of flow measurement is $\pm 10\%$ at the full open position of the valve
- Some reduction in accuracy occurs at partial openings of the valve in accordance with BS 7350

Materials

PART	MATERIAL
Body	Ductile Iron - BS EN 1563 GJS-450-10
Bonnet	Ductile Iron - BS EN 1563 GJS-450-10
Bonnet Gasket	Non-asbestos
Disc (All sizes)	EPDM Coated Cast Iron
Disc Bush	Bronze
Stem	410 SS
Gland (65 to 150mm)	Brass
Gland (200 to 300mm)	Cast Iron
Gland Nut	Brass
Packing	Non-asbestos
Seat Ring	Bronze

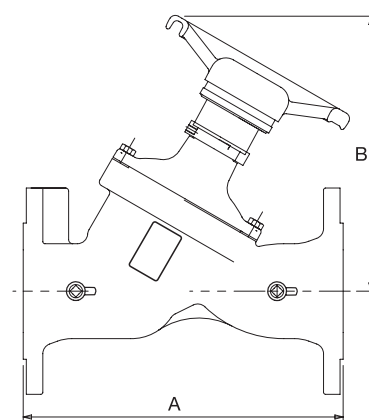
Dimensions & Weights

SIZE (DN)	FACE- TO-FACE A (mm)	CENTRE- TO-TOP B (mm)	WEIGHT (kg)
65	290	262	15.8
80	310	267	19.5
100	350	300	28.0
125	400	325	37.5
150	480	340	50.5
200	600	525	123.0
250	730	575	192.0
300	850	645	251.0

Coefficients*

SIZE (DN)	FLOW (Kv)	HEAD LOSS (K)
65	85	4.9
80	111	5.5
100	146	9.2
125	250	7.3
150	380	6.5
200	600	7.8
250	1211	4.6
300	1521	6.0

*Fully open position.

**Dimensional Drawing****Pressure/Temperature Ratings**

TEMPERATURE (°C)	-10 to 120
PRESSURE (BAR)	16.0

Ratings align with BS EN 1092-2 PN16 (formerly BS 4504)

SPECIFICATION: Conform to requirements of BS 7350: 1990**END CONNECTIONS:** DM931 Ends are flanged to BS EN 1092-2 (formerly BS 4504) and DA931 Ends are flanged to ANSI B16.1 Class 125

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PROJECT

Mall of Egypt



Crane Fluid Systems supplied a range of general valves to the Mall of Egypt, a five star complex which includes a ski dome.

The mall is comprised of 160,000 square meters of retail space with more than 400 shops and over 50 food and beverage outlets. It is the dominant super mall serving the western half of the city as a 'one stop' destination for locals and tourists.

The mall is a sister brand to Mall of the Emirates, combining a powerful range of retailers with the most comprehensive leisure offering in North Africa.

Crane Fluid Systems valves have been used throughout the HVAC systems, and importantly in the Ski Egypt ski dome – keeping the air conditioning fully functional.

Majid Al Futtaim is a real estate developer which specialises in the operation of shopping malls in the Middle East and North Africa. Majid Al Futtaim also oversaw Ski Dubai, a large ski dome which brought the first real and complete winter experience to the Middle East.

LOCATION:

Cairo, Egypt

DISTRIBUTOR:

Omega

CLIENT:

Majid Al Futtaim

SPECIFICATION:

Butterfly valves, ball valves, gate valves, globe valves, DRVs, strainers

CONTRACTOR:

ORASCOM

Air Vents/De-Aerators

Offering an efficient performance, the Crane Fluid System Air Vents remove inevitable and potentially dangerous air trapped in the system. Designed to simplify the venting process, for single or multi-boiler and calorifier installations, the range offers savings in time and costs.

Fig. No.	PN Rating	End Connections	Size Range	Cap Type	Shutoff Valve
D2003†	10	Threaded	3/8 - 1/2"	Standard	No
D2003†	10	Threaded	3/4 - 1"	Hygroscopic	No
D2004†	10	Threaded	1/2"	Standard	Yes

† WRAS approved product

D2003



D2003 & D2004

Automatic Air Vent



PN10

Features & Benefits

- Removes inevitable potentially dangerous air trapped in system
- Simplifies the venting process
- Saves time and costs
- WRAS approved for closed circuit use only
- A shut-off valve option is available in size 1/2 inch. Please specify when ordering D2004
- Conforms to design standard BS EN 1074-4.

Materials

PART	MATERIAL	SPECIFICATION BS EN
Body 1"	Brass	EN12165 - CW617N
Body 3/8" to 3/4"	Brass	EN 1982 - CC754S
Cover	Brass	EN12165 - CW617N
Plug	Plastic	POLYAMIDE PA6 GF30%
Piston	Plastic	ACETAL
Seat	Brass	EN 12164 - CW614N
Gasket	Plastic	P.T.F.E.
Separating	Plastic	ACETAL
O-Ring	Rubber	EPDM PEROX
Spring	Stainless Steel	EN 10270-3 - 1.4310
Body isolation valve	Brass	EN 12164 - CW614N
O-Ring	Rubber	NBR
Lever	Plastic	ACETAL
Float	Plastic	POLYPROPYLENE
Seat Gasket	Rubber	NBR
Spring	Stainless Steel	AISI 302-EN 10270-3 NS
Hooking System	Plastic	ACETAL

Dimensions & Weights

FIG NUMBER	SIZE/ THREAD (inch)	D (mm)	H/H1 (mm)	A (mm)	WEIGHT (kg)
D2003	3/8	46	70.50	10.50	0.146
	1/2	46	70.50	10.50	0.157
	3/4	46	70.50	10.50	0.154
	1	46	73.50	13.50	0.190
D2004	1/2	46	88	10.50	0.190

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 110
PRESSURE (BAR)	10

PRESSURE RATING: 10 bar

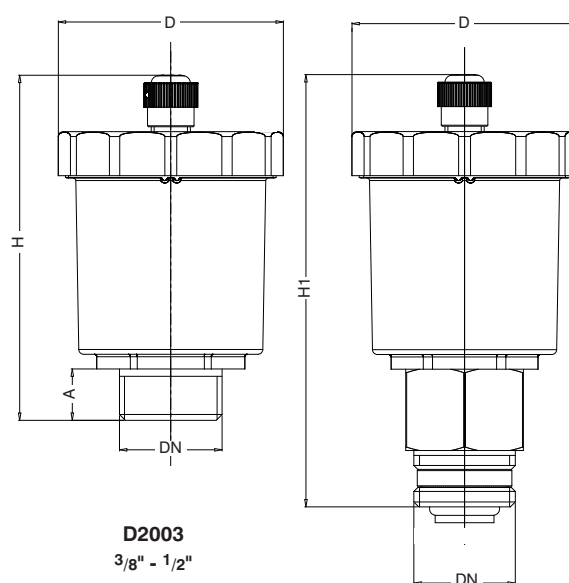
TEMPERATURE RATING:
10 Bar / 0 to 110°C

MAXIMUM DISCHARGE PRESSURE: 7 bar

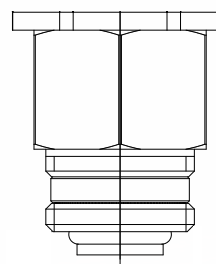
SPECIFICATION: Brass body and cover. Polypropylene float. EPDM seals. WRAS Approved for non-wholesome water in closed circuit central heating. BSP parallel thread.
D2004 Shut-Off Valve option available in size 1/2".



Dimensional Drawing



Shut-Off Valve base



NOTE

D2004 version with Shut-Off Valve base allows the Automatic Air Vent to be removed without draining the system

Ball Valves

The Crane Fluid System Series of ball valves consists of compact, lightweight units which are easy to install and operate. Their robust construction ensures a long, trouble-free service life. They offer full flow with minimum turbulence in the open position and bubble tight closure in the closed position. Only a quarter-turn is required to fully open or close the valve.

Model	Size Range	Pressure Rating	End Connections	Operation	Body material	APPLICATION							
						WRAS approval	CHW	Potable Water	LTHW	MTHW	HTHW	Air	Gas
D171	1/2" - 2"	PN25	Threaded	Lever	Bronze	✓	✓	✓	✓	✓	✓	✓	
D171EXS	1/2" - 2"	PN25	Threaded	Lever + Extension	Bronze	✓	✓	✓	✓	✓	✓	✓	
D171A†	1/4" - 2"	PN25	Threaded	Lever	DZR Brass	✓	✓	✓	✓	✓		✓	
D171AEXS†	1/4" - 2"	PN25	Threaded	Lever + Extension	DZR Brass	✓	✓	✓	✓	✓		✓	
D171MHU	1/2" - 1"	PN25	Threaded	Lever	Bronze	✓	✓	✓	✓	✓	✓	✓	
D171MHULS	1/2" - 1"	PN25	Threaded	Lockshield	Bronze	✓	✓	✓	✓	✓	✓	✓	
D191	1/4" - 2"	PN25*	Threaded	Lever			✓		✓			✓	✓
D181C†	15 - 22mm	PN16	Compression	Lever***	Chrome plated DZR brass	✓	✓	✓	✓				

† WRAS approved product

* 25 Bar for non-gas applications. 5 Bar for gas applications

** 16 Bar for non-gas applications. 5 Bar for gas applications

*** Lever can be removed to allow for screwdriver operation



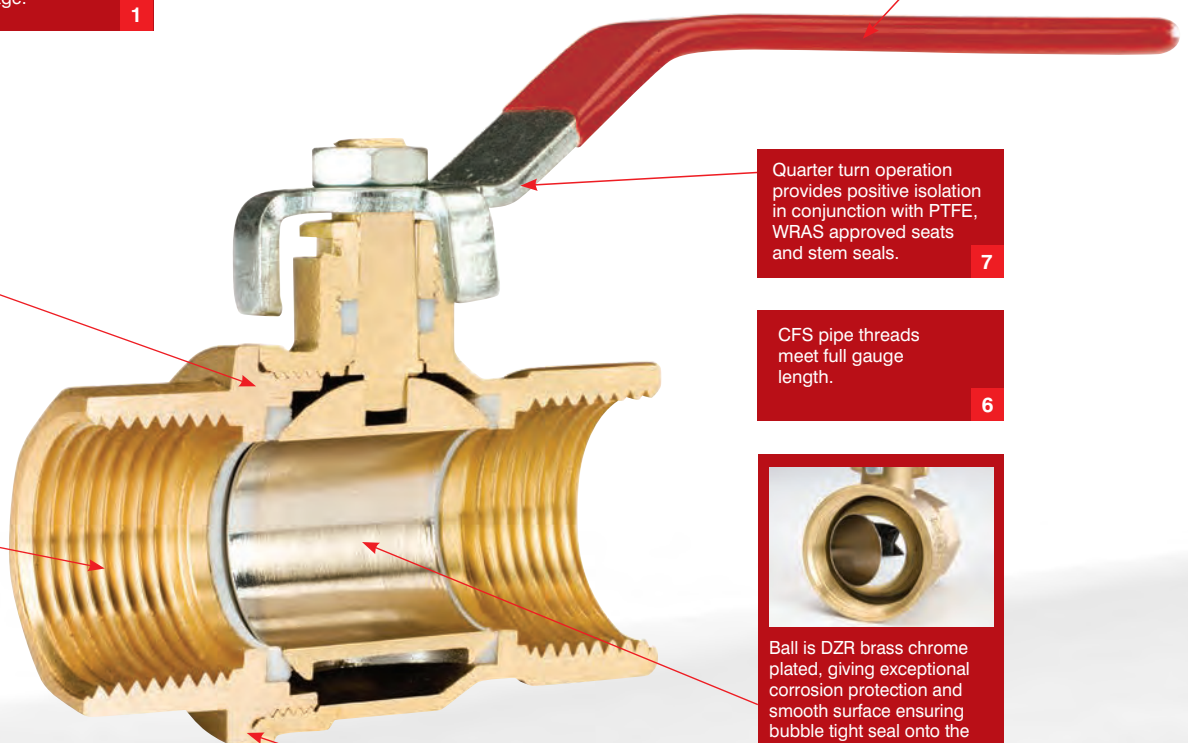
1

Loctite 648 is used on the main joint threads to give more strength and resistance to installation damage.

2

Available in different taper thread options - BS EN 10226-2 or ANSI B1.20.1

3



Quarter turn operation provides positive isolation in conjunction with PTFE, WRAS approved seats and stem seals.

7

CFS pipe threads meet full gauge length.

6



Ball is DZR brass chrome plated, giving exceptional corrosion protection and smooth surface ensuring bubble tight seal onto the seat and therefore excellent longevity in service. Temperature range is -10° to 120 °C. Ball is full bore.

Primary metal to metal seal.

4



Multiple operating handle options (Clockwise from top right), quarter turn lever, extended stem lever, T-Handle & lockshield. Rubberised handle for grip and to provide a level of thermal isolation to the user. Featuring the Crane brand as a reassurance of quality.

D171

Bronze Ball Valve

**D171****D171EXS**

Extended Stem Bronze Ball Valve

PN25

Features & Benefits

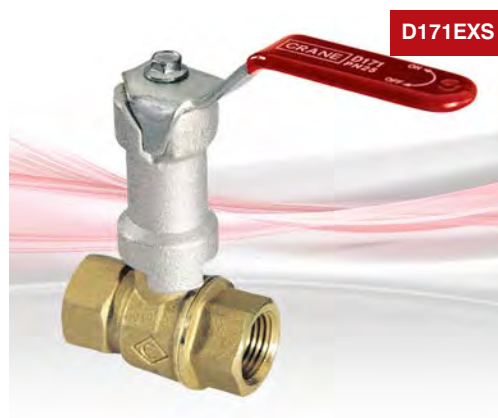
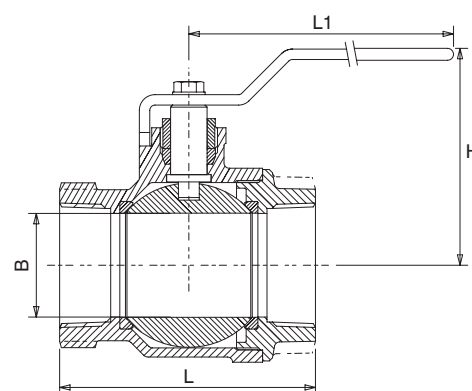
- **D171** Ball Valves are light, compact units which are easy to install and operate, yet their robust construction ensures long, trouble free service life.
- **D171** and **D171EXS** are WRAS approved for use on hot and cold water systems up to 85°C.
- Extension stem (EXS) to enable valve operation whilst the valve and associated pipework is surrounded with insulation or if the valve is in a hard to access area.

Materials

PART	MATERIAL	SIZES
Body	Bronze BS EN 1982 CC491K	All
Seat Retainer	Bronze BS EN 1982 CC491K	All
Ball	DZR Brass BS EN 12165 CW602N (Chrome Plated)	1/2 - 1
Ball	Bronze BS EN 1982 CC491K (Chrome Plated)	1 1/4 - 3
Seat Ring	PTFE	All
Stem	DZR Brass BS EN 12164 CW602N	All
Packing	PTFE	All
Gland Nut	DZR Brass BS EN 12164 CW602N	1/4 - 2
Lever	Mild Steel (Zinc Plated)	All
Screw	Mild Steel (Zinc Plated)	All
Lever Cover	PVC	All
Extension Housing	Aluminium	D171EXS
Extension Stem	Brass BS EN 12164 CW602N	D171EXS

Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	WEIGHT (EXS) (kg)	L (mm)	B (mm)	H (mm)	H (EXS) (mm)	L1 (mm)	KV
1/4	0.15	-	46	10.0	39	-	81	11
3/8	0.15	-	46	10.0	39	-	81	11
1/2	0.24	0.30	57	14.0	54	104	92	20
3/4	0.40	0.47	67	18.1	58	108	92	47
1	0.60	0.69	77	24.1	66	128	127	77
1-1/4	0.86	1.00	91	31.0	72	134	127	141
1-1/2	1.37	1.55	103	39.0	82	151	142	198
2	2.23	2.30	122	50.0	90	159	142	338
2-1/2	4.98	-	153	65.0	117	-	202	593
3	8.75	-	179	80.0	132	-	282	820

**Dimensional Drawing****Pressure/Temperature Ratings****Threaded**

TEMPERATURE (°C)	-10 to 100	110	120	186
PRESSURE (BAR)	25.0	23.4	21.8	10.5

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN25**TEMPERATURE OPERATING RANGE:** -10 To 186°C**UK END CONNECTION:** Taper Threaded To BS EN 10226-2 (Iso 7-1) Formerly BS 21**US END CONNECTION:** ANSI B1.20.1 (please add suffix AT to denote American Thread)**OPERATOR:** Lever

SPECIFICATION: Quarter Turn, Tight Shut-Off. This Valve Is Not Suitable For Use On Group 1 Gases Or Unstable Fluids, as defined by the Pressure Equipment Directive 2014/68/EU.*

*see Quality Assurance page for more information

D171A

Threaded DZR Ball Valve



D171A

D171AEXS

Threaded DZR Ball Valve with Extension Stem

PN25

Features & Benefits

- Designed to be light, compact and easy to install and operate
- Features improved leak resistance and reduced risk of damage from over tightening
- WRAS Approved to 85°C
- Extension stem (EXS) to enable valve operation whilst the valve and associated pipework is surrounded with insulation or if the valve is in a hard to access area.

Materials

PART	MATERIAL	QUANTITY
Hex-Nut	Steel Plated	1
Lever	Steel Dacromet Plated	1
Sleeve	Maroon PVC	1
Packing Nut	Brass BS EN 12164 CW617N	1
Packing Gland	PTFE WRAS approved	1
Body	DZR Brass BS EN 12165 CW602N	1
Seats	PTFE WRAS approved	2
Ball	DZR Brass Chrome Plated BS EN 12165 CW602N	1
O-Ring	Rubber EPDM WRAS approved	1
Seat Retainer	DZR Brass BS EN 12165 CW602N	1
Stem	DZR Brass BS EN 12164 CW602N	1
Extension Stem Outer	Aluminium	1
Extension Stem Inner	Zinc Plated Steel	1

Dimensions & Weights

SIZE (inch)	WEIGHT (A) (kg)	WEIGHT (AEXS) (kg)	L (mm)	B (mm)	H (A) (mm)	H (AEXS) (mm)	L1 (mm)	KV
1/4	0.152	-	46	8.0	40.9	-	89	11
3/8	0.136	-	46	10.0	40.9	-	89	11
1/2	0.209	0.268	59	15.0	48.3	103.8	98.5	31
3/4	0.308	0.364	67	20.0	51.8	107.3	98.5	45
1	0.52	0.597	80.4	25.0	62.7	116.2	125	63
1-1/4	0.835	0.948	94	32.0	79	130	140	102
1-1/2	1.139	1.252	102	39.5	84.8	135.8	140	375
2	1.924	2.066	124	50	97.5	150	165	420

PRESSURE RATING: PN25

TEMPERATURE OPERATING RANGE: -10 to 120°C

UK END CONNECTION: Taper threaded to BS EN 10226-2 (ISO 7-1) formerly BS 21

US END CONNECTION: ANSI B1.20.1:1983 (please add suffix AT to denote American Thread)

OPERATOR: Lever

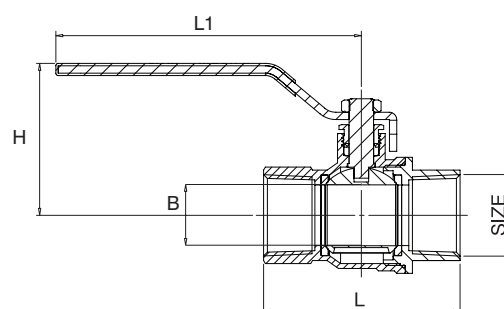
SPECIFICATION: Quarter Turn



D171AEXS



Dimensional Drawing



All dimensions are nominal.

Pressure/Temperature Ratings Threaded

TEMPERATURE (°C)	-10 to 100	120
PRESSURE (BAR)	25	21.8

Intermediate pressure ratings shall be determined by interpolation.

D171MHU

Bronze Draw-Off Valve

**D171MHU****D171MHULS**

Bronze Draw-Off Ball Valve with Lockshield

PN25

Features & Benefits

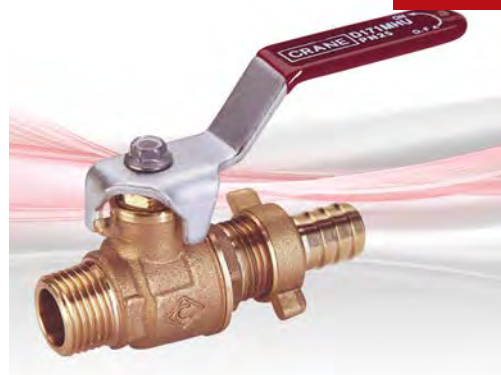
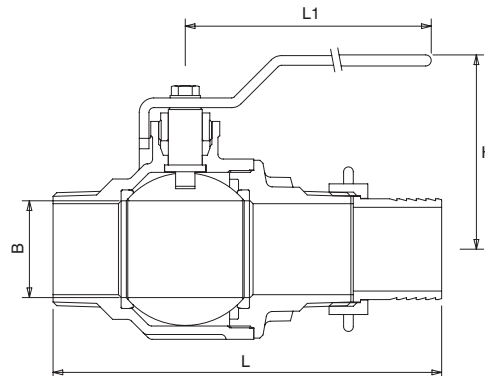
- Designed to be light, compact and easy to install and operate
- WRAS approved for use on hot and cold water systems up to 85°C
- Features improved leak resistance and reduced risk of damage from over tightening
- Allows for a flexible hose to be easily connected to facilitate draining of the system into remotely located receptacle or drain with minimal spillage

Materials

PART	MATERIAL	SIZES
Body	Bronze BS EN 1982 CC491K	All
Seat Retainer	Bronze BS EN 1982 CC491K	All
Ball	DZR Brass BS EN 12165 CW602N-Chrome Plated	All
Seat	PTFE	All
Stem	DZR Brass BS EN 12164 CW602N	All
Packing	PTFE	All
Gland Nut	Brass BS EN 12164 CW617N	All
Lever	Mild Steel (Zinc Plated)	D171MHU
Lever Screw	Mild Steel (Zinc Plated)	D171MHU
Lever Cover	PVC	D171MHU
Hose Connector	Brass BS EN 12164 CW617N	All
Hose Union Nut	Brass BS EN 12165 CW617N	All
Washer	PTFE	All
Lockshield Cap	Brass BS EN 12164 CW617N	D171MHULS
Lockshield Cover	Nylon 6	D171MHULS

Dimensions & Weights

SIZE (inch)	WEIGHT (MHU) (kg)	WEIGHT (MHULS) (kg)	L (mm)	B (mm)	H (MHU) (mm)	H (MHULS) (mm)	L1 (MHU) (mm)	L1 (MHULS) (mm)	KV
1/2	0.31	0.31	104	15.0	40	47	82	34.9	20
3/4	0.58	0.58	124	20.0	56	51	92	34.9	47
1	0.90	0.90	147	25.0	65	57	127	38.5	77

**D171MHULS****Dimensional Drawing****Pressure/Temperature Ratings**

TEMPERATURE (°C)	-10 to 100	110	120	186
PRESSURE (BAR)	25.0	23.4	21.8	10.5

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN25**TEMPERATURE OPERATING RANGE:** -10 to 186°C**UK END CONNECTION:** Taper threaded to BS EN 10226-2 (ISO 7-1) formerly BS 21**OPERATOR:** Lever / Allen Key**SPECIFICATION:** Quarter Turn, Tight Shut-off. Male x hose union outlet.

This valve is not suitable for use on Group 1 gases and unstable fluids as defined by the Pressure Equipment Directive 2014/68/EU.*

*see Quality Assurance page for more information

D191

D191

Threaded DZR Ball Valve

PN25

Features & Benefits

- Designed to be light, compact and easy to install and operate
- Features improved leak resistance and reduced risk of damage from over tightening
- Tested by BSI and complies with essential requirements of BS EN 331:1998
- Also suitable for natural gas applications

Materials

PART	MATERIAL
Hex-Nut	Dacromet Plated Steel
Handle Sleeve	PVC Yellow
Handle	Dacromet Plated Steel
Packing Nut	Brass CW617N
Packing Gland	PTFE (WRAS Approved)
Body	DZR Brass CW602N
Ball	DZR Brass Chrome Plated
Seats	PTFE (WRAS Approved)
O-Ring	NBR with BS EN 549 Approval
Bonnet	DZR Brass CW602N
Stem	DZR Brass CW602N

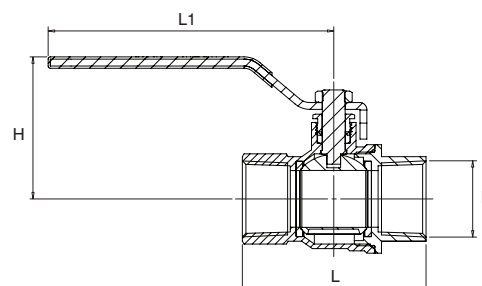
Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	L (mm)	B (mm)	H (mm)	L1 (mm)	KV
1/4	0.152	46	8.0	40.9	89.0	11
3/8	0.136	46	10.0	40.9	89.0	11
1/2	0.209	58.9	15.0	48.3	98.5	31
3/4	0.308	66.9	20.0	51.8	98.5	45
1	0.520	80.4	25.0	62.7	125.0	63
1 1/4	0.835	94.0	32.0	79.0	140.0	102
1 1/2	1.139	102.0	39.5	84.8	140.0	375
2	1.924	124.0	50.0	97.5	165.0	420



GENERAL VALVES

Dimensional Drawing



All dimensions are nominal.

Pressure/Temperature Ratings

Non Gas application

TEMPERATURE (°C)	-10 to 100	110
PRESSURE (BAR)	25	23.5

Intermediate pressure ratings shall be determined by interpolation.

Natural Gas application

TEMPERATURE (°C)	-20 to 60
PRESSURE (BAR)	5

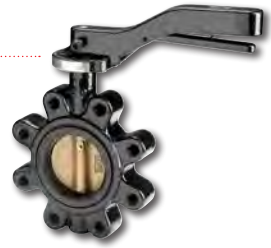
Intermediate pressure ratings shall be determined by interpolation. Gas approved to BS EN 331:1998

PRESSURE RATING: PN25**TEMPERATURE OPERATING RANGE:** Non Gas -10 to 110°C, Gas -20 to 60°C**UK END CONNECTION:** Taper threaded to BS EN 10226-2 (ISO 7-1) formerly BS 21**US END CONNECTION:** ANSI B1.20.1:1983 (please add suffix AT to denote American Thread)**OPERATOR:** Lever**SPECIFICATION:** Quarter Turn, PTFE Seats and Stem Seal.

Tested by BSI and complies with the essential requirements of BS EN 331:1998.

Butterfly Valves

F624



Crane Fluid System butterfly valves are compact quarter turn valves. The body is elastomer lined providing a resilient bubble tight shut off. The valves are supplied in wafer or lugged variants and may be lever or gearbox operated. Linings are EPDM or Nitrile rubber depending on the intended service conditions. Primarily recommended for on off service, they may also be used for non-critical throttling applications. Only a quarter turn is needed to fully open or close the valve.

CFS also offer a range of high performance butterfly valves, developed for high integrity shut-off and regulation duties.

This range is ideal where increased pressure and elevated temperature specifications are outside the normal operating parameters of concentric disc valves. The CFS high performance valves have enhanced features to provide impeccable performance and reliability.

Features & Benefits

	BODY		BODY STYLE		DISC	SHAFT	LINER		OPERATOR		RATING					APPLICATION						
Figure Number	Size Range	Ductile Iron	Semi Lugged	Fully Lugged	Aluminium Bronze	Stainless Steel	Stainless Steel	WRAS Approved EPDM	EPDM	Nitrile	Lever	Gearbox	PN10	PN16	PN25	ANSI Class 125	ANSI Class 150	CHW	Potable Water	LTHW	MTHW	Gas
F621†	50 - 200mm	✓	✓		✓		✓	✓			✓			✓		✓		✓	✓	✓		
F622†	50 - 300mm	✓	✓		✓		✓	✓				✓		✓		✓		✓	✓	✓		
F624†	50 - 200mm	✓		✓	✓		✓	✓			✓			✓				✓	✓	✓		
F625†	50 - 300mm	✓		✓	✓		✓	✓				✓		✓				✓	✓	✓		
F631	50 - 200mm	✓		✓		✓	✓		✓			✓		✓				✓		✓	✓	
F632	50 - 600mm	✓		✓		✓	✓		✓			✓		✓				✓		✓	✓	
FM638	50 - 150mm	✓		✓		✓	✓		✓		✓				✓			✓		✓	✓	
FM639	50 - 600mm	✓		✓		✓	✓		✓			✓			✓			✓		✓	✓	
DM638	50 - 150mm	✓		✓		✓	✓		✓		✓				✓			✓		✓	✓	
DM639	50 - 600mm	✓		✓		✓	✓		✓			✓			✓			✓		✓	✓	
FM700 / FM701	700 - 1800mm	✓		✓		✓	✓		✓			✓	1400 - 1800mm	700 - 1200mm				✓		✓	✓	
FM700 / FM701	26 - 56"	✓		✓		✓	✓		✓			✓				✓	✓	✓		✓	✓	
FA725G	26 - 36"	✓		✓		✓	✓		✓			✓				✓	✓	✓		✓	✓	
FM725G	700 - 900mm	✓		✓		✓	✓		✓			✓		✓				✓		✓	✓	

† WRAS approved

F621

Semi-Lugged Lever Operated Butterfly Valves



PN16

F621

GENERAL VALVES

Features & Benefits

- WRAS approved for potable water applications -10°C to 80°C
- Robust, ductile iron valve body for long life service
- Valve body semi-lugged to fit PN16 or ANSI Class 125 flanges
- The anti-blow out stem design provides a safe and secure operation
- Integrated notch plate for a more compact design and aluminium lever to reduce risk of corrosion
- Fully bonded epoxy paint system for superior corrosion resistance
- Suitable for applications where Level 3 C3 (Medium) corrosion protection is required
- Suitable for use with flanges conforming to BS EN 1092-2 PN10 or PN16 and ANSI B16.1 Class 125
- Maintenance free valve design, reducing downtime
- Suitable for a wide temperature range -10°C to 100°C

Materials

PART	MATERIAL
Body	Ductile Iron ASTM A536 64-45-12 (Epoxy Paint)
Disc	Aluminium Bronze C954 ASTM B148
Liner	EPDM (WRAS Approved) Temp. -10 to 100°C (80°C WRAS)
Shaft	Stainless Steel Type 410
Taper Pin	Stainless Steel Type 410
O-Ring	Buna-N
Bushing	PTFE
Lever	Aluminium Alloy (Epoxy Paint)

Dimensions & Weights

SIZE (mm)	WEIGHT (kg)	A (mm)	A1 (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	Kv	FLANGE SLOTS TO SUIT
50	2.4	109	246	72	43	32	212.5	100	52.9	98	DN50 PN16 / 2" CL125
65	3.3	131.5	278.5	82	46	32	212.5	120	64.6	167	DN65 PN16 / 2.1/2" CL125
80	3.6	134	294	95	46	32	212.5	127	79	258	DN80 PN16 / 3" CL125
100	4.5	163	343	115	52	32	212.5	156	104.4	512	DN100 PN16 / 4" CL125
125	6.3	169	359	125	56	32	212.5	190	123.5	872	DN125 PN16 / 5" CL125
150	8.4	179	392	142	56	40	245	212	155.8	1,347	DN150 PN16 / 6" CL125
200	13.4	224	465	170	60	40	378	268	202.7	2,675	DN200 PN16 / 8" CL125

*Kv coefficient denotes valves in fully open position

PRESSURE RATING: PN16 / CLASS 125

TEST PRESSURES:

Shell: 24 Bar Seat: 17.6 Bar

SPECIFICATION: Lever operated epoxy coated Ductile Iron Body.

Semi-lugged. Aluminium Bronze disc. EPDM liner. To suit flange connections BS EN 1092-2 PN10 or PN16 and ANSI B16.1 Class 125. Valves may be used for flow regulation. Valve design conforms to BS EN 593. Face to face conforms to BS EN 558.

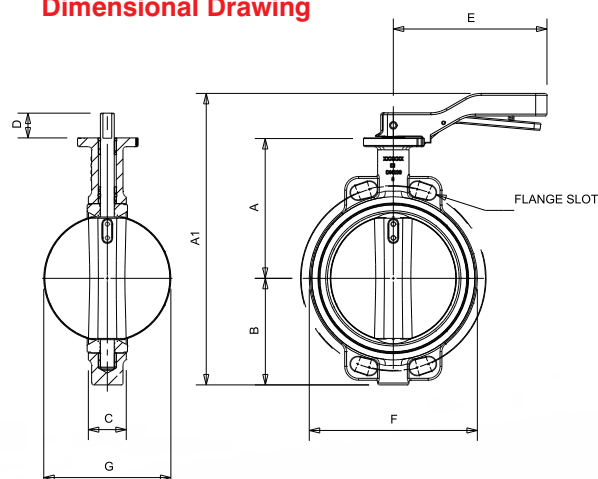
MEDIUM:

Suitable for Group 2 liquids as defined by the Pressure Equipment Directive 2014/68/EU* WRAS approved valves.

*see Quality Assurance page for more information



Dimensional Drawing



Pressure/Temperature Ratings

	F621
MAX TEMPERATURE (°C)	-10 to 100
PRESSURE (BAR)	16

Intermediate pressure ratings shall be determined by interpolation.

WRAS approved -10 to 80°C

F622

Semi-Lugged Gearbox Operated
Butterfly Valves

PN16

Features & Benefits

- WRAS Approved for potable water applications -10°C to 80°C
- Robust, ductile iron valve body for long life service
- The anti-blow out stem design provides a safe and secure operation
- Valve body semi-lugged to fit PN16 or ANSI Class 125 flanges
- Fully bonded epoxy paint system for superior corrosion resistance
- Suitable for applications where Level 3 C3 (Medium) corrosion protection is required
- Maintenance free valve design, reducing downtime
- Suitable for use with flanges conforming to BS EN 1092-2 PN10 or PN16 and ANSI B16.1 Class 125
- Suitable for a wide temperature range -10°C to 100°C

Materials

PART	MATERIAL
Body	Ductile Iron ASTM A536 64-45-12 (Epoxy Paint)
Disc	Aluminium Bronze C954 ASTM B148
Liner	EPDM (WRAS approved) Temp. -10 to 100°C (80°C WRAS)
Shaft	Stainless Steel Type 410
Taper Pin	Stainless Steel Type 410
O-Ring	Buna-N
Bushing	PTFE
Gearbox	Cast Iron

Dimensions & Weights

SIZE (mm)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	h (mm)	M (mm)	Kv	FLANGE SLOTS TO SUIT
50	7.1	109	72	43	32	157	150	52.9	45	54	39	98	DN50 PN16 / 2" CL125
65	7.9	131.5	82	46	32	157	150	64.6	45	54	39	167	DN65 PN16 / 2.1/2" CL125
80	8.2	134	95	46	32	157	150	79	45	54	39	258	DN80 PN16 / 3" CL125
100	9.1	163	115	52	32	157	150	104.4	45	54	39	512	DN100 PN16 / 4" CL125
125	10.9	169	125	56	32	157	150	123.5	45	54	39	872	DN125 PN16 / 5" CL125
150	12.7	179	142	56	40	157	150	155.8	45	54	39	1,347	DN150 PN16 / 6" CL125
200	19.6	224	170	60	40	238	150	202.7	45	54	39	2,675	DN200 PN16 / 8" CL125
250	38.8	264	215	68	40	238	300	250.7	63	81	41.5	4,555	DN250 PN16 / 8" CL125
300	54.0	299	240	78	40	223.5	300	301.9	78	81	38.3	7,037	DN300 PN16 / 12" CL125

*Kv coefficient denotes valves in fully open position

PRESSURE RATING: PN16 / ANSI CLASS 125

TEST PRESSURES:

Shell: 24 Bar Seat: 17.6 Bar

SPECIFICATION: Gearbox operated epoxy coated Ductile Iron Body.

Semi-lugged. Aluminium Bronze disc. EPDM liner. To suit flange connections BS EN 1092-2 PN10 or PN16 and ANSI B16.1 Class 125. Valves may be used for flow regulation. Valve design conforms to BS EN 593. Face to face conforms to BS EN 558.

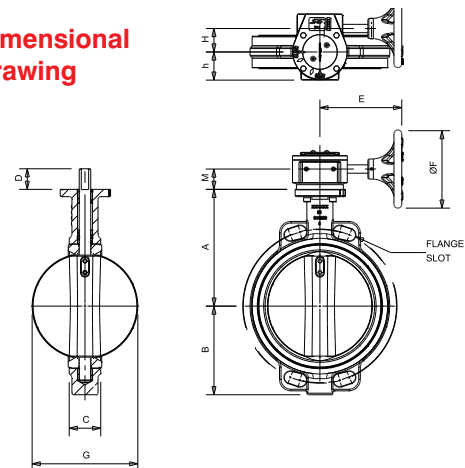
MEDIUM:

Suitable for Group 2 liquids as defined by the Pressure Equipment Directive 2014/68/EU* WRAS approved valves.

*see Quality Assurance page for more information



Dimensional Drawing



Pressure/Temperature Ratings

	F622
MAX TEMPERATURE (°C)	-10 to 100
PRESSURE (BAR)	16

Intermediate pressure ratings shall be determined by interpolation. WRAS approved -10 to 80°C

F624

Fully-Lugged Lever Operated Butterfly Valves



PN16

F624



DN80 PICTURED

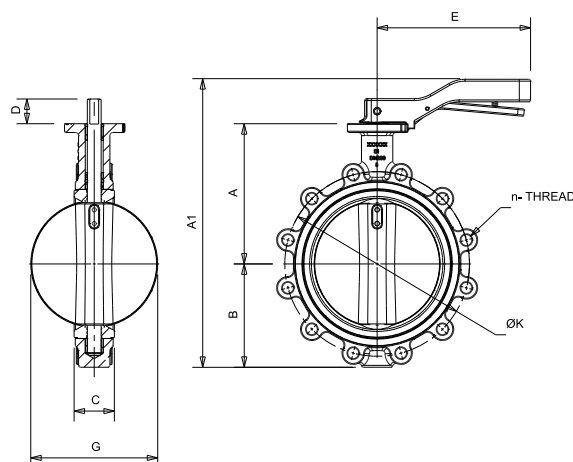
Features & Benefits

- WRAS approved for potable water applications -10 to 80°C
- Robust, ductile iron valve body for long life service
- Valve body fully-lugged to fit PN16 or ANSI Class 125 flanges
- The anti-blow out stem design provides a safe and secure operation
- Integrated notch plate for a more compact design and aluminium lever to reduce risk of corrosion
- Fully bonded epoxy paint system for superior corrosion resistance
- Suitable for applications where Level 3 C3 (Medium) corrosion protection is required
- Maintenance free valve design, reducing downtime
- Suitable for a wide temperature range -10°C to 100°C

Materials

PART	MATERIAL
Body	Ductile Iron ASTM A536 64-45-12 (Epoxy Paint)
Disc	Aluminium Bronze C954 ASTM B148
Liner	EPDM (WRAS Approved) Temp. -10 to 100°C (80°C WRAS)
Shaft	Stainless Steel Type 410
Taper Pin	Stainless Steel Type 410
O-Ring	Buna-N
Bushing	PTFE
Lever	Aluminium Alloy (Epoxy Paint)
Stop Plate	Carbon Steel (Zn Plated)

Dimensional Drawing



Dimensions & Weights

SIZE (mm)	WEIGHT (kg)	A (mm)	A1 (mm)	B (mm)	C (mm)	D (mm)	E (mm)	G (mm)	K (mm)	Kv	N-THREAD
50	3.6	109	246	72	43	32	212.5	52.9	125	98	4- M16x2.0
65	4.1	131.5	278.5	82	46	32	212.5	64.6	145	167	4- M16x2.0
80	5.0	134	294	90	46	32	212.5	79	160	258	8- M16x2.0
100	6.5	163	343	108	52	32	212.5	104.4	180	512	8- M16x2.0
125	9.3	169	359	125	56	32	212.5	123.5	210	872	8- M16x2.0
150	11.5	179	392	142	56	40	245	155.8	240	1,347	8- M20x2.5
200	16.8	224	465	165	60	40	378	202.7	295	2,675	12- M20x2.5

*Kv coefficient denotes valves in fully open position

Pressure/Temperature Ratings

	F624
MAX TEMPERATURE (°C)	-10 to 100
PRESSURE (BAR)	16

Intermediate pressure ratings shall be determined by interpolation. WRAS approved -10 to 80°C

PRESSURE RATING: PN16

TEST PRESSURES:

Shell: 24 Bar Seat: 17.6 Bar

SPECIFICATION: Lever operated epoxy coated Ductile Iron Body.

Fully-lugged. Aluminium Bronze disc. EPDM liner.

To suit flange connections BS EN 1092-2 PN16. Valves may be used for flow regulation. Valve design conforms to BS EN 593. Face to face conforms to BS EN 558.

MEDIUM:

Suitable for Group 2 liquids as defined by the Pressure Equipment Directive 2014/68/EU* WRAS approved valves.

*see Quality Assurance page for more information

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F625

Fully-Lugged Gearbox Operated
Butterfly Valves

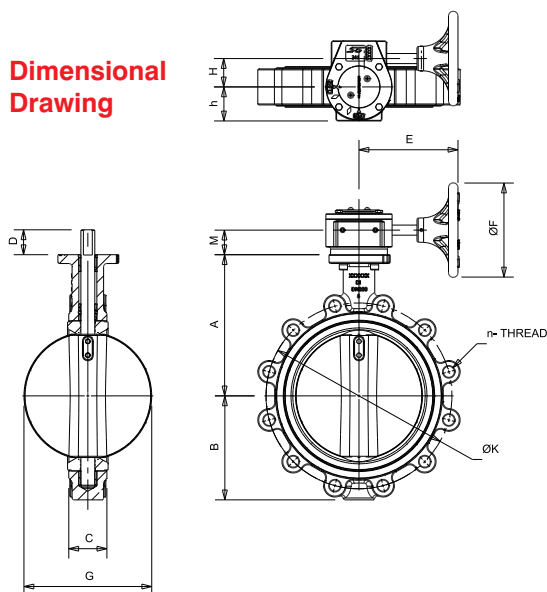
PN16

Features & Benefits

- WRAS Approved for potable water applications -10°C to 80°C
- Robust, ductile iron valve body for long life service
- Valve body fully-lugged for secure installation
- The anti-blow out stem design provides a safe and secure operation
- Fully bonded epoxy paint system for superior corrosion resistance
- Suitable for applications where Level 3 C3 (Medium) corrosion protection is required
- Maintenance free valve design, reducing downtime
- Suitable for a wide temperature range -10°C to 100°C

Materials

PART	MATERIAL
Body	Ductile Iron ASTM A536 (Epoxy Paint)
Disc	Aluminium Bronze
Liner	EPDM (WRAS Approved) Temp. -10 to 100°C (80°C WRAS)
Shaft	Stainless Steel Type 410
Taper Pin	Stainless Steel Type 316
O-Ring	Buna-N
Bushing	PTFE
Gearbox	Cast Iron

Dimensional
Drawing

Pressure/Temperature Ratings

	F625
MAX TEMPERATURE (°C)	-10 to 100
PRESSURE (BAR)	16

Intermediate pressure ratings shall be determined by interpolation. WRAS approved -10 to 80°C

Dimensions & Weights

SIZE (mm)	GEARBOX OPERATED WEIGHT (kg)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	h (mm)	M (mm)	Kv	N-THREAD
50	8.3	109	72	43	32	157	150	52.9	45	54	39	98	4- M16x2.0
65	8.7	131.5	82	46	32	157	150	64.6	45	54	39	167	4- M16x2.0
80	9.7	134	90	46	32	157	150	79	45	54	39	258	8- M16x2.0
100	11.2	163	108	52	32	157	150	104.4	45	54	39	512	8- M16x2.0
125	13.9	169	125	56	32	157	150	123.5	45	54	39	872	8- M16x2.0
150	15.8	179	142	56	40	157	150	155.8	45	54	39	1,347	8- M20x2.5
200	23.0	224	165	60	40	238	150	202.7	45	54	39	2,675	12- M20x2.5
250	44.9	264	215	68	40	238	300	250.7	63	81	41.5	4,555	12- M24x3.0
300	64.2	299	240	78	40	223.5	300	301.9	78	81	38.3	7,037	12- M24x3.0

*Kv coefficient denotes valves in fully open position

PRESSURE RATING: PN16

TEST PRESSURES:

Shell: 24 Bar Seat: 17.6 Bar

SPECIFICATION: Gearbox operated epoxy coated Ductile Iron Body. Semi-lugged. Aluminium Bronze disc. EPDM liner. To suit flange connections BS EN 1092-2 PN16. Valves may be used for flow regulation. Valve design conforms to BS EN 593. Face to face conforms to BS EN 558.

MEDIUM:

Suitable for Group 2 liquids as defined by the Pressure Equipment Directive 2014/68/EU* WRAS approved valves.

*see Quality Assurance page for more information

DM638 & DM639

Butterfly Double Regulating Valves

PN25

DM639



GENERAL VALVES

Features & Benefits

- Robust, ductile Iron valve bodies for long service life
- Stainless Steel discs as standard
- Suitable for wide temperature range -10°C to 120°C
- Fully lugged for secure installation
- Rated to PN25
- Lever and Gearbox operator options
- A **Double Regulating Valve** allows for a stop position to be set and fixed. The valve can then be closed and re-open to the same stop position to maintain commissioned flow rates.

Materials

NO.	PART	MATERIAL	SPECIFICATION
1	Body	DI (EN-GJS-400-15)	ASTM A536 65-45-12
2	Disc	Stainless Steel 304	ASTM A351 CF8
3	Shaft	Stainless Steel 431	ASTM A276 431
4	Short Bushing	Aluminum Bronze	ASTM B148-952A
5	Seat	EPDM	-
6	Long Bushing	Aluminum Bronze	ASTM B148-952A
7	Long Bushing	Aluminum Bronze	ASTM B148-952A
8	'O' Ring	NBR	-
9	Pin	Stainless Steel 431	ASTM A276 431
10	Top Cap (DM638)	Carbon Steel	ASTM A194 Gr. 2H
10	Hand Wheel (DM639)	-	-
11	Bolt	Carbon Steel	ASTM A194 Gr. 2H
12	Lever (DM638)	Malleable Iron	ASTM Gr. 32510
12	Gear Box (DM639)	Cast Iron	EN-GJL-250

Dimensions & Weights

DM638 Lever Butterfly Valve										
SIZE (DN)	WEIGHT (KG)	A (mm)	B (mm)	C (mm)	ØD (mm)	N-M (mm)	H (mm)	L (mm)	a°	Kv*
50	5.0	138	65	43	125	4-M16	32	216	45°	91
65	6.6	153	83	46	145	8-M16	32	216	22.5°	141
80	6.6	155	88	46	160	8-M16	32	216	22.5°	247
100	10.3	178	105.5	52	190	8-M20	32	265	22.5°	586
125	14.0	193	123	56	220	8-M24	32	265	22.5°	861
150	15.5	210	135	56	250	8-M24	32	265	22.5°	1839

DM639 Geared Butterfly Valve											
SIZE (DN)	WEIGHT (KG)	A (mm)	B (mm)	C (mm)	ØD (mm)	N-M (mm)	ØDD (mm)	L1	L2	a°	Kv*
50	5.0	138	65	43	125	4-M16	150	173.5	249	45°	40
65	7.0	153	83	46	145	8-M16	150	173.5	264	22.5°	110
80	6.6	155	88	46	160	8-M16	150	173.5	266	22.5°	253
100	10.5	178	105.5	52	190	8-M20	150	173.5	289	22.5°	440
125	14.0	193	123	56	220	8-M24	150	173.5	304	22.5°	586
150	15.6	210	135	56	250	8-M24	150	173.5	321	22.5°	1213
200	28.6	240	172	60	310	12-M24	300	237	436	15°	2625
250	40.9	285.4	202	68	370	12-M27	300	237	481.5	15°	5294
300	58.2	315	234.5	78	430	16-M27	300	229.5	524	11.25°	9209

*Kv data denotes valves at fully open position

PRESSURE/TEMPERATURE RATING: 25 Bar From -10°C To 120°C

MEDIUM: Group 2 Liquids

FLANGES: Fully Lugged to BS EN1092-2

FACE TO FACE: BS EN 558

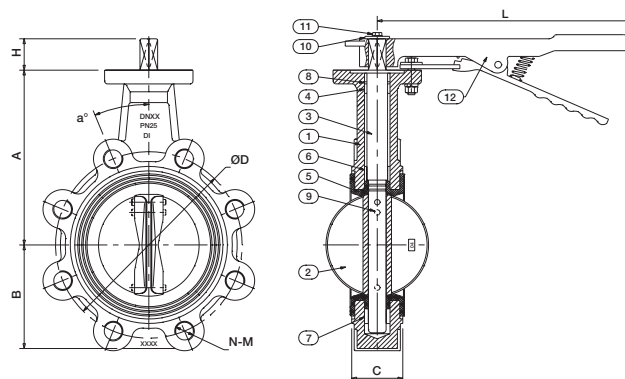
DESIGN STANDARD: BS EN 593: 2009

TEST AND INSPECTION STANDARD: BS EN 12266-1

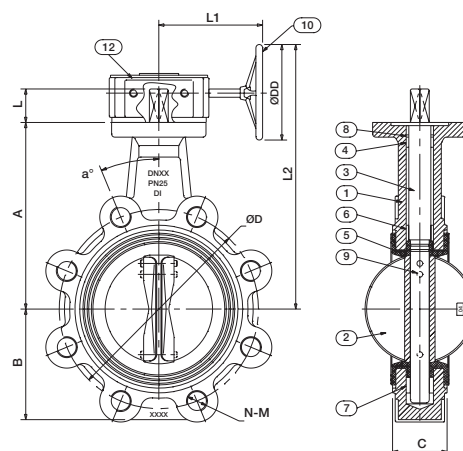
MOUNTING FLANGE: ISO 5211-2001

Dimensional Drawing

DM638



DM639



FM700 / FM701 & FM700B

FM700

DN700 - DN1200
DN1400 - DN1800PN16
PN10

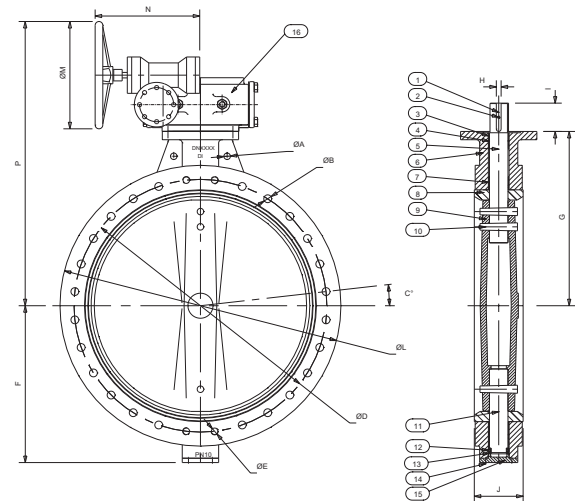
Features & Benefits

- Suitable for Gearbox or Actuator operation
- Rugged construction: Ductile Iron Body for all sizes
- Stainless Steel disc as standard
- Epoxy paint coated as standard
- Low operating torques
- Metric flange and hole pattern

Materials

NO.	PART	MATERIAL	SPECIFICATION
1	Key	Carbon Steel	ASTM A29 1045
2	Screw	Carbon Steel	ASTM A194 Gr.2H
3	Short Bushing	-	PTFE
4	O' Ring	-	NBR
5	Upper Shaft	Stainless Steel	ASTM A276 420
6	Body	Ductile Iron	EN-GJS-500-7U
7	Long Bushing	-	PTFE
8	Seat + Backing Ring	-	EPDM + Aluminium
9	Disc: FM700/FM700B Disc: FM701	Stainless Steel 316 Stainless Steel 304	ASTM A351 CF8M ASTM A351 CF8
10	Pin	Stainless Steel	ASTM A276 431
11	Lower Shaft	Stainless Steel	ASTM A276 420
12	Split Retaining Ring	Carbon Steel	ASTM A29-1045
13	Bearing	High Carbon Steel	ASTM A295 52100
14	Screw	Carbon Steel	ASTM A194 Gr. 2H
15	Lower Gland	Carbon Steel	EN-GJS-500-7U
16	Gearbox	Ductile Iron	EN-GJS-400-15

Dimensional Drawing



Dimensions & Weights

SIZE (DN)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)	J (mm)	K (mm)	L (mm)	M (mm)	N (mm)	P (mm)	FLANGE THICKNESS	WEIGHT (kg) Gearbox Bareshaft	FLOW (kv)
DN700	N/A	20-Ø37	7.5	840	4-M33	537	629	18	110	165	4-Ø40	910	398	397	883	39.5	350 310	42818
DN800	N/A	20-Ø41	7.5	950	4-M36	596	666	20	110	190	4-Ø40	1025	500	417	971	43	450 410	33086
DN900	N/A	24-Ø41	6.43	1050	4-M36	656	720	20	110	203	4-Ø42	1125	500	450	1032	46.5	605 550	75688
DN1000	2-Ø40	24-Ø44	6.43	1170	4-M39	720	800	22	130	216	4-Ø45	1255	500	470	1109	50	810 740	103584
DN1200	2-Ø46	28-Ø50	5.625	1390	4-M45	864	942	28	130	254	N/A	1485	600	491	1327	57	1270 1130	133210
DN1400	2-Ø48	32-Ø44	5	1590	4-M39	1014	1000	40	180	279	N/A	1675	600	491	1385	46	1645 1510	152700
DN1600	2-Ø50	36-Ø50	4.5	1820	4-M45	1071	1155	40	180	318	N/A	1915	500	571	1685	49	3540 3200	175700
DN1800	2-Ø50	40-Ø50	4.09	2020	4-M45	1178	1300	45	200	356	N/A	2115	500	665	1853	52	5900 5310	211060

PRESSURE RATING: DN700 - DN1200 PN16,
DN1400 - DN1800 PN10

TEMPERATURE RATING: -10°C to 110°C

FACE TO FACE DIMENSIONS: BS EN 558: 2011 Series 20

END CONNECTIONS: Flanges to BS EN 1092 PN10 and PN16

ACTUATOR MOUNTING FLANGES: ISO 5211: 2001

OPERATORS: Gearbox - FM700 - (Disc SS 316) / FM701 (Disc SS 304)

BARESHAFT VALVE OPTIONS: FM700B

MEDIUM: Manufactured to BS EN 593: 2009. Suitable for use on Group 2 Liquids only, and limited to 110°C use as defined by Pressure Equipment Directive 2014/68/EU, and Pressure Equipment (Safety) Regulations 2016, as amended.*

Not suitable for use on Group 1 & Group 2 Gases, Group 1 Liquids or unstable liquids.

*see Quality Assurance page for more information

FA700 / FA701 & FA700B

26" - 48"
56"PN16 (Flanged CL150)
PN10 (Flanged CL150)

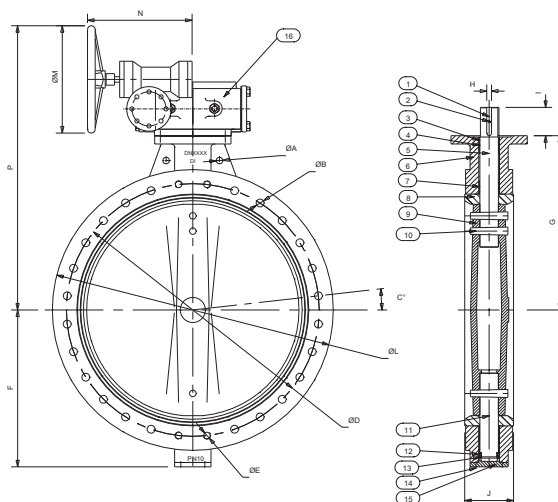
Features & Benefits

- Suitable for Gearbox or Actuator operation
- Epoxy paint coated as standard
- Rugged construction: Ductile Iron Body for all sizes
- Low operating torques
- Stainless Steel disc as standard
- ANSI flange and hole pattern

Materials

NO.	PART	MATERIAL	SPECIFICATION
1	Key	Carbon Steel	ASTM A29 1045
2	Screw	Carbon Steel	ASTM A194 Gr.2H
3	Short Bushing	-	PTFE
4	O' Ring	-	NBR
5	Upper Shaft	Stainless Steel	ASTM A276 420
6	Body	Ductile Iron	EN-GJS-500-7U
7	Long Bushing	-	PTFE
8	Seat + Backing Ring	-	EPDM + Aluminium
9	Disc: FA700/FA700B	Stainless Steel 316	ASTM A351 CF8M
	Disc: FA701	Stainless Steel 304	ASTM A351 CF8
10	Pin	Stainless Steel	ASTM A276 431
11	Lower Shaft	Stainless Steel	ASTM A276 420
12	Split Retaining Ring	Carbon Steel	ASTM A29-1045
13	Bearing	High Carbon Steel	ASTM A295 52100
14	Screw	Carbon Steel	ASTM A194 Gr. 2H
15	Lower Gland	Carbon Steel	EN-GJS-500-7U
16	Gearbox	Ductile Iron	EN-GJS-400-15

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)	J (mm)	K (mm)	L (mm)	M (mm)	N (mm)	P (mm)	FLANGE THICKNESS	WEIGHT (kg) Gearbox Bareshaft	FLOW (kv)
26"	N/A	20-Ø35	7.5	806.5	4-1.25-7	485	565	14	110	165	N/A	870	600	346	913	39.5	307 270	37300
28"	N/A	24-Ø35	6.43	863.6	4-1.25-7	537	629	18	110	165	4-Ø40	927	398	397	883	39.5	380 340	42818
30"	N/A	24-Ø35	6.43	914.4	4-1.25-7	565	660	18	110	165	4-Ø40	984	500	417	965	43	410 370	63513
32"	N/A	24-Ø41	6.43	977.9	4-1.5-6	596	666	20	110	190	4-Ø40	1060	500	417	971	43	490 450	33086
34"	N/A	28-Ø41	5.625	1028.7	4-1.5-6	633	720	20	110	200	4-Ø40	1111	500	450	1032	45	585 530	52300
36"	N/A	28-Ø41	5.625	1085.9	4-1.5-6	656	720	20	110	203	4-Ø42	1168	500	450	1032	46.5	665 610	75688
38"	N/A	28-Ø41	5.625	1149.4	4-1.5-6	675	708	22	110	200	4-Ø44	1238	600	450	1070	50	745 690	91500
40"	2-Ø40	32-Ø41	5	1200.1	4-1.5-6	720	800	22	130	216	4-Ø45	1289	500	470	1109	50	830 760	103584
42"	N/A	32-Ø41	5	1257.3	4-1.5-6	772	850	22	130	251	4-Ø47	1346	500	470	1159	53.5	1070 1000	101638
48"	2-Ø46	40-Ø41	4.1	1422.4	4-1.5-6	864	942	28	130	254	N/A	1511	600	491	1327	57	1300 1160	133210
56"	2-Ø48	44-Ø47.8	3.75	1651	4-1.75-5	1014	1000	40	180	279	N/A	1746	600	491	1385	46	1676 1550	152700

PRESSURE RATING: 26" - 48" PN16; 56" PN10

TEMPERATURE RATING: -10°C to 110°C

FACE TO FACE DIMENSIONS: BS EN 558: 2011 Series 20

END CONNECTIONS: To mount between ASME B16.47 Series A

ACTUATOR MOUNTING FLANGES: ISO 5211: 2001

OPERATORS: Gearbox - FA700 (Disc SS 316) / FA701 (Disc SS 304)

BARESHAFT VALVE OPTIONS: FA700B

MEDIUM: Manufactured to BS EN 593: 2009. Suitable for use on Group 2 Liquids only, and limited to 110°C use as defined by Pressure Equipment Directive 2014/68/EU, and Pressure Equipment (Safety) Regulations 2016, as amended.*

Not suitable for use on Group 1 & Group 2 Gases, Group 1 Liquids or unstable liquids.

*see Quality Assurance page for more information

FA725G

FA725

Large Diameter Butterfly Valve PN16 (Flanged CL150)

Features & Benefits

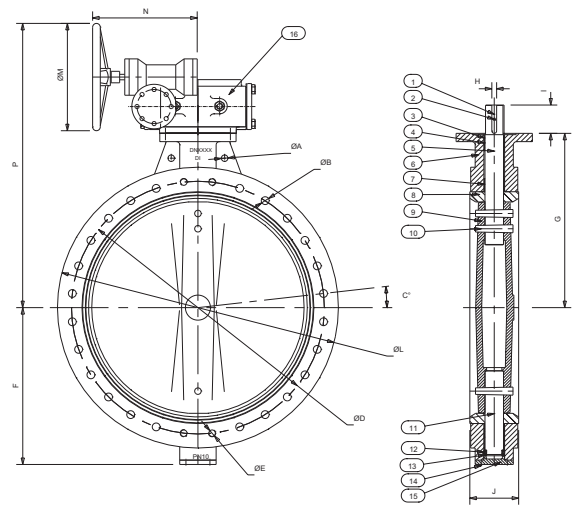
- Suitable for Gearbox or Actuator operation
- Rugged construction: ductile Iron Body for all sizes
- Stainless Steel disc as standard
- Epoxy paint coated as standard
- Low operating torques
- Double regulating feature on gearboxes
- ANSI flange and hole pattern



Materials

NO.	PART	MATERIAL	SPECIFICATION
1	Key	Carbon Steel	ASTM A29 1045
2	Screw	Carbon Steel	ASTM A194 Gr.2H
3	Short Bushing	-	PTFE
4	O' Ring	-	NBR
5	Upper Shaft	Stainless Steel	ASTM A276 420
6	Body	Ductile Iron	EN-GJS-400-15
7	Long Bushing	-	PTFE
8	Seat + Backing Ring	-	EPDM + Aluminium
9	Disc	Stainless Steel	ASTM A351 CF8M
10	Pin	Stainless Steel	ASTM A276 431
11	Lower Shaft	Stainless Steel	ASTM A276 420
12	Bearing	High Carbon Steel	ASTM A295 52100
13	Lower adjusting shim	Carbon Steel	ASTM A36
14	Screw	Carbon Steel	ASTM A194 Gr. 2H
15	Lower Gland	Carbon Steel	EN-GJS-400-15
16	Gearbox	Cast Iron	-

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)	J (mm)	K (mm)	L (mm)	M (mm)	N (mm)	P (mm)	FLANGE THICKNESS	WEIGHT (kg)		FLOW (kv)
																	Gearbox	Shaft	
26"	N/A	20-Ø35	7.5	806.5	4-1.25-7	510	565	14	110	165	N/A	870	400	301	868	39.5	490	410	37300
28"	N/A	24-Ø35	6.43	863.6	4-1.25-7	537	629	18	110	165	4-Ø40	927	400	301	957	39.5	548	468	42818
30"	N/A	24-Ø35	6.43	914.4	4-1.25-7	565	660	20	110	165	4-Ø40	984	400	355	1017	43	647	550	63513
32"	N/A	24-Ø41	6.43	977.9	4-1.5-6	596	666	20	110	190	4-Ø40	1060	400	355	1023	43	725	628	33086
34"	N/A	28-Ø41	5.625	1028.7	4-1.5-6	633	720	20	110	200	4-Ø40	1111	400	355	1077	45	852	755	52300
36"	N/A	28-Ø41	5.625	1085.9	4-1.5-6	656	720	20	110	203	4-Ø42	1168	400	355	1077	46.5	972	875	75688

Kv Values

SIZE (inch)	DISC POSITION (°)								
	10	20	30	40	50	60	70	80	90
26"	20	1050	220	4850	8600	14300	22600	33900	37300
28"	31	1568	3148	5740	8650	12931	19695	30187	42818
30"	32	1799	3811	8257	14714	24347	38531	57798	63513
32"	39	2065	4144	7557	11927	17830	27157	41621	33086
34"	150	2300	5000	9200	14500	22800	36100	55000	52300
36"	225	2638	5821	11020	17490	28113	45413	68854	75688

PRESSURE RATING: 26"-36" PN16

TEMPERATURE RATING: -10°C to 110°C

FACE TO FACE DIMENSIONS: BS EN 558: 2011 Series 20

END CONNECTIONS: To mount between ASME B16.47 Series A

ACTUATOR MOUNTING FLANGES: ISO 5211: 2001

OPERATORS: Gearbox

MEDIUM: Manufactured to BS EN 593: 2009. Suitable for use on Group 2 Liquids only, and limited to 110°C, use as defined by Pressure Equipment Directive 2014/68/EU, and Pressure Equipment (Safety) Regulations 2016, as amended.

Not suitable for use on Group 1 & Group 2 Gases, Group 1 Liquids or unstable liquids.

FM725G

FM725

Large Diameter Butterfly Valve

PN16

Features & Benefits

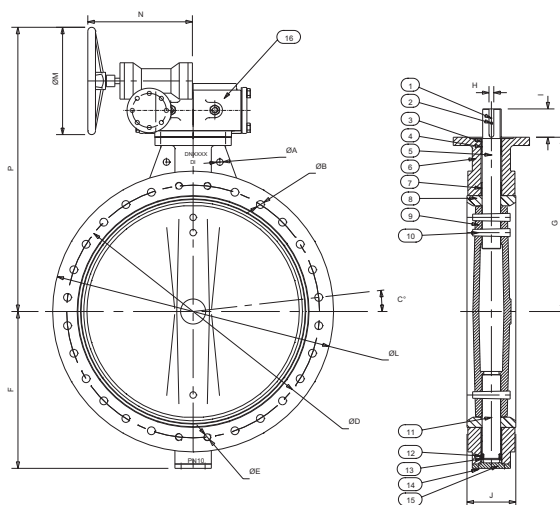
- Suitable for Gearbox or Actuator operation
- Rugged construction: Ductile Iron Body for all sizes
- Stainless Steel disc as standard
- Epoxy paint coated as standard
- Low operating torques
- Double regulating features on gearboxes
- Metric flange and hole pattern



Materials

NO.	PART	MATERIAL	SPECIFICATION
1	Key	Carbon Steel	ASTM A29 1045
2	Screw	Carbon Steel	ASTM A194 Gr.2H
3	Short Bushing	-	PTFE
4	O' Ring	-	NBR
5	Upper Shaft	Stainless Steel	ASTM A276 420
6	Body	Ductile Iron	EN-GJS-400-15
7	Long Bushing	-	PTFE
8	Seat + Backing Ring	-	EPDM + Aluminium
9	Disc	Stainless Steel	ASTM A351 CF8M
10	Pin	Stainless Steel	ASTM A276 431
11	Lower Shaft	Stainless Steel	ASTM A276 420
12	Bearing	High Carbon Steel	ASTM A295 52100
13	Lower adjusting shim	Carbon Steel	ASTM A36
14	Screw	Carbon Steel	ASTM A194 Gr. 2H
15	Lower Gland	Carbon Steel	EN-GJS-400-15
16	Gearbox	Cast Iron	-

Dimensional Drawing



Dimensions & Weights

SIZE (DN)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)	J (mm)	K (mm)	L (mm)	M (mm)	N (mm)	P (mm)	FLANGE THICKNESS	WEIGHT (kg)		FLOW (kv)
																	Gearbox	Bareshaft	
DN700	N/A	20-Ø37	7.5	840	4-M33	537	629	18	110	165	4-Ø40	910	400	301	957	39.5	548	468	42818
DN800	N/A	20-Ø41	7.5	950	4-M36	596	666	20	110	190	4-Ø40	1025	400	355	1023	43	725	628	33086
DN900	N/A	24-Ø41	6.43	1050	4-M36	656	720	20	110	203	4-Ø42	1125	400	355	1077	46.5	972	875	75688

Kv Values

SIZE (mm)	DISC POSITION (°)								
	10	20	30	40	50	60	70	80	90
700	31	1568	3148	5740	8650	12931	19695	30187	42818
800	39	2065	4144	7557	11927	17830	27157	41621	33086
900	225	2638	5821	11020	17490	28113	45413	68854	75688

PRESSURE RATING: DN700 - DN900 PN16

TEMPERATURE RATING: -10°C to 110°C

FACE TO FACE DIMENSIONS: BS EN 558: 2011 Series 20

END CONNECTIONS: Flanges to BS EN 1092 PN16

ACTUATOR MOUNTING FLANGES: ISO 5211: 2001

OPERATORS: Gearbox

MEDIUM: Manufactured to BS EN 593: 2009. Suitable for use on Group 2 Liquids only, and limited to 110°C use as defined by Pressure Equipment Directive 2014/68/EU, and Pressure Equipment (Safety) Regulations 2016, as amended.

Not suitable for use on Group 1 & Group 2 Gases, Group 1 Liquids or unstable liquids.

Export Butterfly Valves

F648



Features & Benefits

Figure Number	BODY		DISC			SHAFT	LINER		BODY STYLE		OPERATOR		RATING	
	Size Range	Ductile Iron	Aluminium Bronze	Ductile Iron	Stainless Steel	Stainless Steel	EPDM	Nitrile	Semi Lugged	Fully Lugged	Lever	Gearbox	PN16	ANSI Class 125
F676L	50 - 200mm	✓	✓			✓	✓		✓		✓		✓	✓
F676G	50 - 600mm	✓	✓			✓	✓		✓			✓	✓	✓
F671L	50 - 200mm	✓	✓			✓		✓	✓		✓		✓	✓
F671G	50 - 600mm	✓	✓			✓		✓	✓			✓	✓	✓
F678L	50 - 200mm	✓	✓			✓	✓			✓	✓		✓	
F678G	50 - 600mm	✓	✓			✓	✓			✓		✓	✓	
F674L	50 - 200mm	✓	✓			✓		✓		✓	✓		✓	
F674G	50 - 600mm	✓	✓			✓		✓		✓		✓	✓	
FA678L	2 - 8"	✓	✓			✓	✓			✓	✓			✓
FA678G	2 - 24"	✓	✓			✓	✓			✓		✓		✓
FA674L	2 - 8"	✓	✓			✓		✓		✓	✓			✓
FA674G	2 - 24"	✓	✓			✓		✓		✓		✓		✓
F646L	50 - 200mm	✓		✓		✓	✓		✓		✓		✓	✓
F646G	150 - 600mm	✓		✓		✓	✓		✓			✓	✓	✓
F641L	50 - 200mm	✓		✓		✓		✓	✓		✓		✓	✓
F641G	150 - 600mm	✓		✓		✓		✓	✓			✓	✓	✓
F648L	50 - 200mm	✓		✓		✓	✓			✓	✓		✓	
F648G	150 - 600mm	✓		✓		✓	✓			✓		✓	✓	
F644L	50 - 200mm	✓		✓		✓		✓		✓	✓		✓	
F644G	150 - 600mm	✓		✓		✓		✓		✓		✓	✓	
FA648L	2 - 8"	✓		✓		✓	✓			✓	✓			✓
FA648G	6 - 24"	✓		✓		✓	✓			✓		✓		✓
FA644L	2 - 8"	✓		✓		✓		✓		✓	✓			✓
FA644G	6 - 24"	✓		✓		✓		✓		✓		✓		✓
F656L	50 - 200mm	✓			✓	✓	✓		✓		✓		✓	✓
F656G	150 - 600mm	✓			✓	✓	✓		✓			✓	✓	✓
F651L	50 - 200mm	✓			✓	✓		✓	✓		✓		✓	✓
F651G	150 - 600mm	✓			✓	✓		✓	✓			✓	✓	✓
F658L	50 - 200mm	✓			✓	✓	✓			✓	✓		✓	
F658G	150 - 600mm	✓			✓	✓	✓			✓		✓	✓	
F654L	50 - 200mm	✓			✓	✓		✓		✓	✓		✓	
F654G	150 - 600mm	✓			✓	✓		✓		✓		✓	✓	
FA658L	2 - 8"	✓			✓	✓	✓			✓	✓			✓
FA658G	6 - 24"	✓			✓	✓	✓			✓		✓		✓
FA654L	2 - 8"	✓			✓	✓		✓		✓	✓			✓
FA654G	6 - 24"	✓			✓	✓		✓		✓		✓		✓

† WRAS approved product

F646L / F641L / F656L / F651L / F676L / F671L

Semi-Lugged Wafer Pattern Lever Operated Butterfly Valves

PN16 / ANSI 125

F646L



GENERAL VALVES

Features & Benefits

- Universal Pattern - Valves are suitable for use with flanges conforming to BS EN 1092-2 PN16 or ANSI B16.1 Class 125
- Valve to BS EN593
- Ductile Iron, Stainless Steel, Aluminium Bronze Disc Options
- EPDM and Nitrile Seat Liner Options
- 420 Stainless Steel Shafts for superior strength

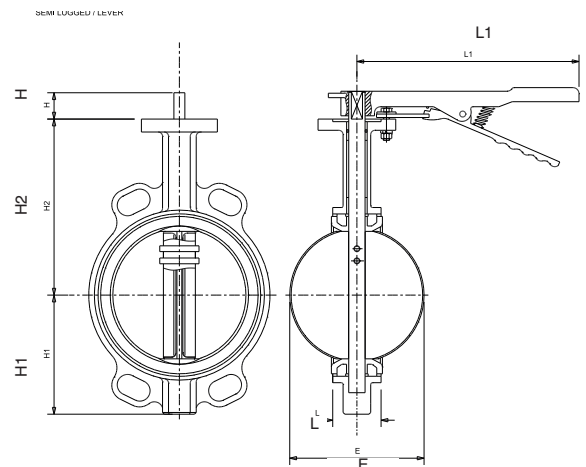
Valve Selection

	EPDM LINER	NITRILE LINER
DUCTILE IRON DISC	F646L	F641L
STAINLESS STEEL DISC	F656L	F651L
ALUMINIUM BRONZE DISC	F676L	F671L

Materials

PART	MATERIAL
Body	Ductile Iron (EN-GJS-400-15)
Disc (F646L & F641L)	Ductile Iron (EN-GJS-400-15) Epoxy coated
Disc (F656L & F651L)	Stainless Steel 304 (ASTM A351 CF8)
Disc (F676G & F671G)	Aluminium Bronze (ASTM B148 C95400)
Liner (F646L, F656L & F676L)	EPDM
Liner (F641L, F651L & F671L)	Nitrile Rubber
Shaft	Stainless Steel 420 (ASTM A276 420)
Taper Pin	Stainless Steel 431 (ASTM A276 431)
O-Ring	Nitrile Rubber
Bushing	PTFE
Lever & Screw	Malleable Iron ASTM Gr.32510
Stop Plate	Mild Steel (GB700 Q235) Chromium Plated

Dimensional Drawing



Dimensions & Weights

SIZE (mm)	WEIGHT (kg)	H2	H1	L	H	L1	ØE	Kv
50	2.6	141	61	43	32	216	52.9	133
65	3.0	153	72	46	32	216	64.7	227
80	3.4	161	87	46	32	216	79.1	349
100	4.9	179	106	52	32	265	104.4	694
125	6.3	193	123	56	32	265	123.3	1181
150	7.3	204	137	56	32	265	155.6	1825
200	12.2	247	174	60	45	374	202.5	2503

Pressure/Temperature Ratings

	F646L/F656L/F676L	F641L/F651L/F671L
TEMPERATURE (°C)	-10 to 120	-10 to 82
PRESSURE (BAR)	16	16

PRESSURE RATING: PN16 & ANSI Class 125

END CONNECTION: Semi-Lugged

OPERATOR: Trigger Lever

OTHER: Bare shaft options available
(Fig No. F646B / F641B / F656B / F651B / F676B / F671B)
Please contact us for bare shaft top works details

SPECIFICATION: End connections compatible with BS EN1092-2 PN16 & ANSI B16.1 Class 125 flanges.

TEST PRESSURES: (Hydrostatic)

SHELL: 24 bar

SEAT: 17.6 bar

F646G / F641G / F656G / F651G / F676G / F671G

Semi-Lugged Wafer Pattern Gearbox Operated Butterfly Valves

PN16 / ANSI 125

Features & Benefits

- Universal Pattern - Valves are suitable for use with flanges conforming to BS EN 1092-2 PN16 or ANSI B16.1 Class 125
- Valve to BS EN593
- Ductile Iron, Stainless Steel, Aluminium Bronze Disc Options
- EPDM and Nitrile Seat Liner Options
- 420 Stainless Steel Shafts for superior strength

Valve Selection

	EPDM LINER	NITRILE LINER
DUCTILE IRON DISC	F646G	F641G
STAINLESS STEEL DISC	F656G	F651G
ALUMINIUM BRONZE DISC	F676G	F671G

Materials

PART	MATERIAL
Body	Ductile Iron (EN-GJS-400-15)
Disc (F646G & F641G) (DN150-600)	Ductile Iron (EN-GJS-400-15) Epoxy Coated
Disc (F656G & F651G) (DN150-600)	Stainless Steel 304 (ASTM A351 CF8)
Disc (F676G & F671G) (DN50-600)	Aluminium Bronze (ASTM B148 C95400)
Liner (F646G, F656G & F676G)	EPDM
Liner (F641G, F651G & F671G)	Nitrile Rubber
Shaft	Stainless Steel 420 (ASTM A276 420)
Taper Pin	Stainless Steel 431 (ASTM A276 431)
O-Ring	Nitrile Rubber
Bushing	PTFE

Dimensions & Weights

SIZE (mm)	WEIGHT (kg)		H2	H1	L	H	L1	ØE	DD	Kv
	BARESHAF	GEARBOX								
50	2.1	7.0	141	61	43	32	157	52.9	145	133
65	2.5	7.4	153	72	46	32	157	64.7	145	227
80	2.9	7.8	161	87	46	32	157	79.1	145	349
100	4.2	9.1	179	106	52	32	157	104.4	145	694
125	5.6	10.5	193	123	56	32	157	123.3	145	1181
150	6.6	11.5	204	137	56	32	157	155.6	145	1825
200	11.3	20.1	247	174	60	45	236	202.5	300	2503
250	17.3	26.0	280	209	68	45	236	250.5	300	3876
300	24.7	36.0	324	253	78	45	237	301.6	300	6736
350	37.0	48.0	310	255	78	48	237	333.6	300	8135
400	57.0	82.0	340	317.5	102	64	246	389.5	300	12041
450	75.0	100.0	375	330	114	64	246	440.5	380	14121
500	104.0	134.0	425	367	127	64	254	489.7	285	18449
600	157.0	207.0	505	443	154	82	301	592.7	400	24125

PRESSURE RATING: PN16 & ANSI Class 125

END CONNECTION: Semi-Lugged

OPERATOR: Gearbox

OTHER: Bare shaft options available

(Fig No. F646B / F641B / F656B / F651B / F676B / F671B)

Please contact us for bare shaft top works details

SPECIFICATION: End connections compatible with BS EN1092-2 PN16 & ANSI B16.1 Class 125 flanges.

TEST PRESSURES: (Hydrostatic)

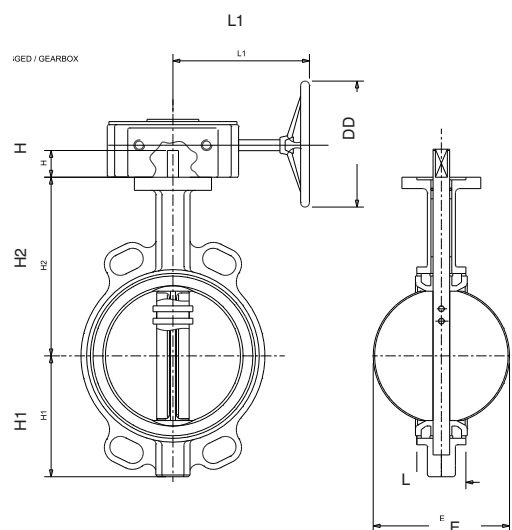
SHELL: 24 bar

SEAT: 17.6 bar

F646G



Dimensional Drawing



Pressure/Temperature Ratings

	F646G/F656G/F676G	F641G/F651G/F671G
TEMPERATURE (°C)	-10 to 120	-10 to 82
PRESSURE (BAR)	16	16

F648L / F644L / F658L / F654L / F678L / F674L

Fully Lugged Lever Operated
Butterfly Valves

PN16

F648L



GENERAL VALVES

Features & Benefits

- Valves are suitable for use with flanges conforming to BS EN 1092-2 PN16
- Valve to BS EN593
- Ductile Iron, Stainless Steel, Aluminium Bronze Disc Options
- EPDM and Nitrile Seat Liner Options
- 420 Stainless Steel Shafts for superior strength

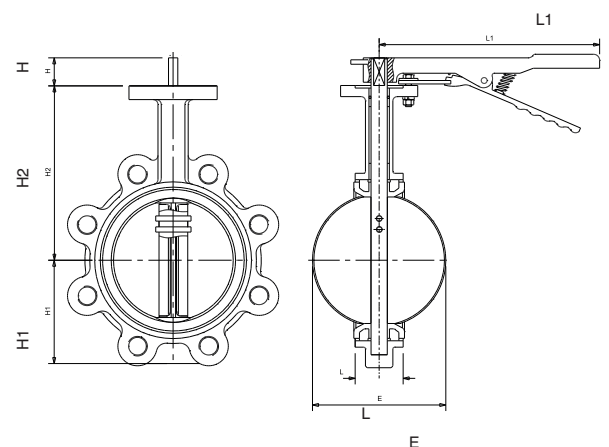
Valve Selection

	EPDM LINER	NITRILE LINER
DUCTILE IRON DISC	F648L	F644L
STAINLESS STEEL DISC	F658L	F654L
ALUMINIUM BRONZE DISC	F678L	F674L

Materials

PART	MATERIAL
Body	Ductile Iron (EN-GJS-400-15)
Disc (F648L & F644L)	Ductile Iron (EN-GJS-400-15) Epoxy coated
Disc (F658L & F654L)	Stainless Steel 304 (ASTM A351 CF8)
Disc (F678L & F674L)	Aluminium Bronze (ASTM B148 C95400)
Liner (F648L, F658L & F678L)	EPDM
Liner (F644L, F654L & F674L)	Nitrile Rubber
Shaft	Stainless Steel 420 (ASTM A276 420)
Taper Pin	Stainless Steel 431 (ASTM A276 431)
O-Ring	Nitrile Rubber
Bushing	PTFE
Lever & Screw	Malleable Iron ASTM Gr.32510
Stop Plate	Mild Steel (GB700 Q235) Chromium Plated

Dimensional Drawing



Dimensions & Weights

SIZE (mm)	WEIGHT (kg)	H2	H1	L	H	L1	ØE	Kv
50	3.5	141	61	43	32	216	52.9	133
65	3.9	153	72	46	32	216	64.7	227
80	5.2	161	87	46	32	216	79.1	349
100	7.3	179	106	52	32	265	104.4	694
125	9.8	193	123	56	32	265	123.3	1181
150	10.7	204	137	56	32	265	155.6	1825
200	18.3	247	174	60	45	374	202.5	2503

Pressure/Temperature Ratings

	F648L/F658L/F678L	F644L/F654L/F674L
TEMPERATURE (°C)	-10 to 120	-10 to 82
PRESSURE (BAR)	16	16

PRESSURE RATING: PN16

END CONNECTION: Fully Lugged

OPERATOR: Trigger Lever

OTHER: Bare shaft options available

(Fig No. F648B / F658B / F644B / F654B / F678B / F674B)

Please contact us for bare shaft top works details

SPECIFICATION: End connections compatible with BS EN1092-2 PN16 flanges.

TEST PRESSURES: (Hydrostatic)

SHELL: 24 bar

SEAT: 17.6 bar

F648G / F644G / F658G / F654G / F678G / F674G

Fully Lugged Gearbox Operated
Butterfly Valves

PN16

Features & Benefits

- Valves are suitable for use with flanges conforming to BS EN 1092-2 PN16
- Valve to BS EN593
- Ductile Iron, Stainless Steel, Aluminium Bronze Disc Options
- EPDM and Nitrile Seat Liner Options
- 420 Stainless Steel Shafts for superior strength

Materials

PART	MATERIAL
Body	Ductile Iron (EN-GJS-400-15)
Disc (F648G & (F644G) (DN150-600)	Ductile Iron (EN-GJS-400-15) Epoxy Coated
Disc (F658G & F654G) (DN150-600)	Stainless Steel 304 (ASTM A351 CF8)
Disc (F678G & F674G) (DN50-600)	Aluminium Bronze (ASTM B148 C95400)
Liner (F648G, F658G & F678G)	EPDM
Liner (F644G, F654G & F674G)	Nitrile rubber
Shaft	Stainless Steel 420 (ASTM A276 420)
Taper Pin	Stainless Steel 431 (ASTM A276 431)
O-Ring	Nitrile rubber
Bushing	PTFE

Dimensions & Weights

SIZE (mm)	WEIGHT (kg)									
	BARESHAF	GEARBOX	H2	H1	L	H	L1	ØE	DD	Kv
50	3.0	7.9	141	61	43	32	157	52.9	145	133
65	3.4	8.3	153	72	46	32	157	64.7	145	227
80	4.7	9.6	161	87	46	32	157	79.1	145	349
100	6.6	11.5	179	106	52	32	157	104.4	145	694
125	9.1	14.0	193	123	56	32	157	123.3	145	1181
150	10.0	14.9	204	137	56	32	157	155.6	145	1825
200	17.4	26.2	247	174	60	45	236	202.5	300	2503
250	25.0	34.0	280	209	68	45	236	250.5	300	3876
300	34.0	46.0	324	253	78	45	237	301.6	300	6736
350	52.0	63.0	310	260	78	48	237	333.6	300	8135
400	81.0	106.0	340	317.5	102	64	246	389.5	300	12041
450	106.0	131.0	375	330	114	64	246	440.5	380	14121
500	140.0	170.0	425	367	127	64	254	489.7	285	18449
600	220.0	270.0	505	443	154	82	301	592.7	400	24125

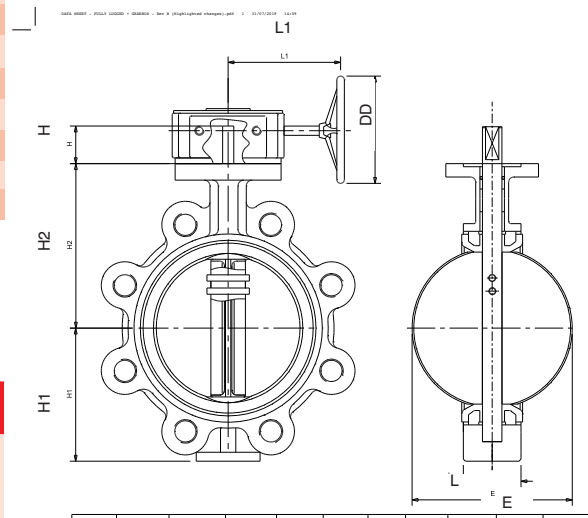


F648G

Valve Selection

	EPDM LINER	NITRILE LINER
DUCTILE IRON DISC	F648G	F644G
STAINLESS STEEL DISC	F658G	F654G
ALUMINIUM BRONZE DISC	F678G	F674G

Dimensional Drawing



Pressure/Temperature Ratings

	F648G / F658G / F678G	F644G / F654G / F674G
TEMPERATURE (°C)	-10 to 120	-10 to 82
PRESSURE (BAR)	16	16

PRESSURE RATING: PN16

END CONNECTION: Fully Lugged

OPERATOR: Gearbox

OTHER: Bare shaft options available

(Fig No. F648B / F644B / F658B / F654B / F678B / F674B)

Please contact us for bare shaft top works details

SPECIFICATION: End connections compatible with BS EN1092-2 PN16 flanges.

TEST PRESSURES: (Hydrostatic)

SHELL: 24 bar

SEAT: 17.6 bar

FA648L / FA644L / FA658L / FA654L / FA678L / FA674L

Fully Lugged Lever Operated
Butterfly Valves

ANSI 125

Features & Benefits

- Valves are suitable for use with flanges conforming to ANSI B16.1 Class 125
- Valve generally conforms to MSS SP 67
- Ductile Iron, Stainless Steel, Aluminium Bronze Disc Options
- EPDM and Nitrile Seat Liner Options
- 420 Stainless Steel Shafts for superior strength

Materials

PART	MATERIAL
Body	Ductile Iron (EN-GJS-400-15)
Disc (FA648L & FA644L) (2"-8")	Ductile Iron (EN-GJS-400-15) Epoxy Coated
Disc (FA658L & FA654L) (2"-8")	Stainless Steel 304 (ASTM A351 CF8)
Disc (FA678L & FA674L) (2"-8")	Aluminium Bronze (ASTM B148 C95400)
Liner (FA648L, FA658L & FA678L)	EPDM
Liner (FA644L, FA654L & FA674L)	Nitrile rubber
Shaft	Stainless Steel 420 (ASTM A276 420)
Taper Pin	Stainless Steel 431 (ASTM A276 431)
O-Ring	Nitrile rubber
Bushing	PTFE
Lever & Screw	Malleable Iron ASTM Gr.32510
Stop Plate	Mild Steel (GB700 Q235) Chromium Plated



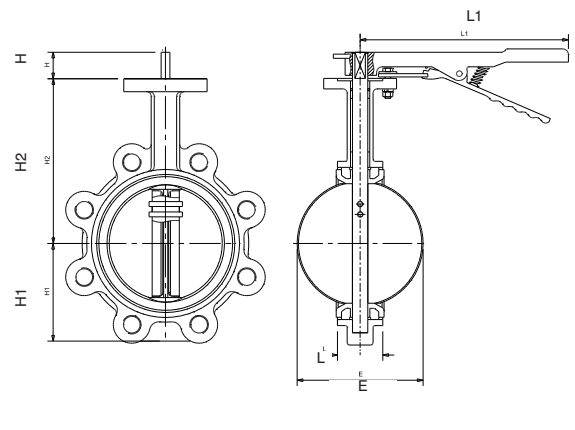
FA648L

GENERAL VALVES

Valve Selection

	EPDM LINER	NITRILE LINER
DUCTILE IRON DISC	FA648L	FA644L
STAINLESS STEEL DISC	FA658L	FA654L
ALUMINIUM BRONZE DISC	FA678L	FA674L

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	H2	H1	L	H	L1	ØE	Kv
2	3.5	141	61	43	32	216	52.9	133
2 1/2	3.9	153	72	46	32	216	64.7	227
3	5.2	161	87	46	32	216	79.1	349
4	7.3	179	106	52	32	265	104.4	694
5	9.8	193	123	56	32	265	123.3	1181
6	10.7	204	137	56	32	265	155.6	1825
8	18.3	247	174	60	45	374	202.5	2503

Pressure/Temperature Ratings

	FA648L / FA658L / FA678L	FA644L / FA654L / FA674L
TEMPERATURE (°C)	-10 to 120	-10 to 82
PRESSURE (BAR)	16	16

PRESSURE RATING: ANSI 125

END CONNECTION: Fully Lugged

OPERATOR: Trigger Lever

OTHER: Bare shaft options available

(Fig No. FA648B / FA658B / FA644B / FA654B / FA678B / FA674B)

Please contact us for bare shaft top works details

SPECIFICATION: End connections compatible with ANSI B16.1 Class 125 flanges.

TEST PRESSURES: (Hydrostatic)

SHELL: 24 bar

SEAT: 17.6 bar

Valid as of 08/12/20

Every effort has been made to ensure that the information contained in this publication is accurate at the time of publishing. Crane Ltd assumes no responsibility or liability for typographical errors or omissions or for any misinterpretation of the information within the publication and reserves the right to change without notice.

FA648G / FA644G / FA658G / FA654G / FA678G / FA674G

Fully Lugged Gearbox Operated
Butterfly Valves

ANSI 125

Features & Benefits

- Valves are suitable for use with flanges conforming to ANSI B16.1 Class 125
- Valve generally conforms to MSS SP 67
- Ductile Iron, Stainless Steel, Aluminium Bronze Disc Options
- EPDM and Nitrile Seat Liner Options
- 420 Stainless Steel Shafts for superior strength

Valve Selection

	EPDM LINER	NITRILE LINER
DUCTILE IRON DISC	FA648G	FA644G
STAINLESS STEEL DISC	FA658G	FA654G
ALUMINIUM BRONZE DISC	FA678G	FA674G

Materials

PART	MATERIAL
Body	Ductile Iron (EN-GJS-400-15)
Disc (FA648G & FA644G) (6"-24")	Ductile Iron (EN-GJS-400-15) Epoxy Coated
Disc (FA658G & FA654G) (6"-24")	Stainless Steel 304 (ASTM A351 CF8)
Disc (FA678G & FA674G) (2"-4")	Aluminium Bronze (ASTM B148 C95400)
Liner (FA648G, FA658G & FA678G)	EPDM
Liner (FA644G, FA654G & FA674G)	Nitrile rubber
Shaft	Stainless Steel 420 (ASTM A276 420)
Taper Pin	Stainless Steel 431 (ASTM A276 431)
O-Ring	Nitrile rubber
Bushing	PTFE

Dimensions & Weights

SIZE (inch)	WEIGHT (kg)		H2	H1	L	H	L1	ØE	DD	Kv
	BARESHAF	GEARBOX								
2	3.0	7.9	141	61	43	32	157	52.9	145	133
2.5	3.4	8.3	153	72	46	32	157	64.7	145	227
3	4.7	9.6	161	87	46	32	157	79.1	145	349
4	6.6	11.5	179	106	52	32	157	104.4	145	694
5	9.1	14.0	193	123	56	32	157	123.3	145	1181
6	10.0	14.9	204	137	56	32	157	155.6	145	1825
8	17.4	26.2	247	174	60	45	236	202.5	300	2503
10	25.0	34.0	280	209	68	45	236	250.5	300	3876
12	34.0	46.0	324	253	78	45	237	301.6	300	6736
14	52.0	63.0	310	260	78	48	237	333.6	300	8135
16	81.0	106.0	340	317.5	102	64	246	389.5	300	12041
18	106.0	131.0	375	330	114	64	246	440.5	380	14121
20	140.0	170.0	425	367	127	64	254	489.7	285	18449
24	220.0	270.0	505	443	154	82	301	592.7	400	24125

PRESSURE RATING: ANSI 125

END CONNECTION: Fully Lugged

OPERATOR: Gearbox

OTHER: Bare shaft options available (Fig No. FA648B / FA658B / FA644B / FA654B / FA678B / FA674B)

Please contact us for bare shaft top works details

SPECIFICATION: End connections compatible with ANSI B16.1 Class 125 flanges.

TEST PRESSURES: (Hydrostatic)

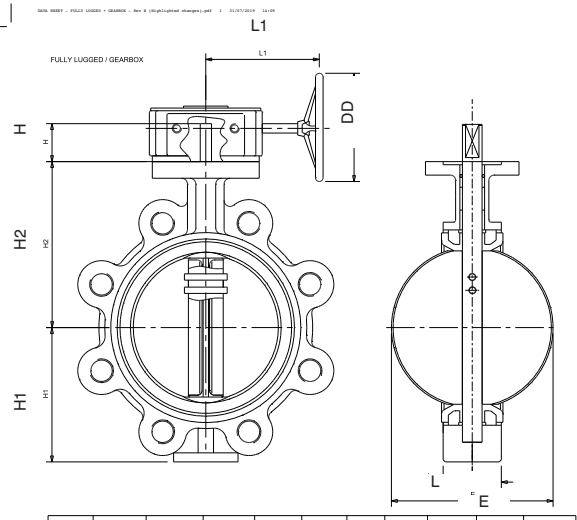
SHELL: 24 bar

SEAT: 17.6 bar

FA648G



Dimensional Drawing



Pressure/Temperature Ratings

	FA648G/FA658G/FA678G	FA644G/FA654G/FA674G
TEMPERATURE (°C)	-10 to 120	-10 to 82
PRESSURE (BAR)	15.3	15.3

**PROJECT**

Kempinski Hotel Marsa Malaz, Doha

Marsa Malaz Kempinski, the first ultra-luxury hotel to open on Doha's iconic Pearl Island, comprises 281 rooms, including 73 suites, two Presidential Suites and two Royal Suites.

The complex includes six restaurants, lounge café, bar, rooftop nightclub with large open-air terraces, as well as a pool restaurant, spa café and a health club with an indoor pool. The hotel also features a Grand Ballroom and seven meeting rooms. The island has a private beach and outdoor swimming pools, water sports facilities, yachts jetty, tennis courts and lush gardens and patios.

LOCATION:

Doha, Qatar

CLIENT:

Kempinski

CONSULTANT:

Arab Engineering Bureau

CONTRACTOR:

CDC Construction Development Company

CHANNEL PARTNER:

AlRiyadh Trading & Contracting

SPECIFICATION:

Crane FS Balancing Valves and a wide selection of General Valves and Strainers.

PROJECT

Piccadilly Gate

Previously The Rail House, Piccadilly Gate comprises 10 floors and 13,000 sq m of contemporary office space in an area seen as the focus for the city's growing professional, financial and public sector occupiers. The fully air-conditioned space underwent a £8 million refit making it a premier commercial address in the city of Manchester.

Fitted with fan coils and chilled beams, Crane Fluid System's Dominator has been installed throughout the build. The Dominator is a compact prefabricated unit which combines essential control components and connecting pipework which is ready for a simple and fast on-site connection to the terminal units.

The Dominator allows the Rail House to control and measure flow around the building and is ideal for flushing and isolation.

LOCATION:

Manchester

CLIENT:

Manchester County Council

CONSULTING**ENGINEER:**

Shepherd Engineering Services Ltd

ARCHITECTURAL**DESIGN/MAIN****CONTRACTOR:**

OCON Construction

DISTRIBUTOR:

BSS (Salford) Ltd

SPECIFICATION:

Dominators

**PROJECT**

Lyric Theatre

Crane Fluid Systems provided a range of General Valves to the extension of The Lyric Hammersmith Theatre in London.

The new £16.5 million building is changing the landscape of Hammersmith with a new drama, dance, film and TV recording studios; a 60-seat cinema; and a new bar and café. As well as this large extension to the west of the theatre, the existing building will undergo its first major facelift in 30 years.

The Lyric is aiming to become one of the most sustainable cultural buildings in London with a green roof, almost 100 per cent LED lighting and reclaimed furniture.

LOCATION:

Hammersmith, London

CLIENT:

Lyric Theatre

CONTRACTOR:

Mace Plus

DISTRIBUTOR:

Pipe - Greenford

SPECIFICATION:

General valves

Check Valves

Check valves permit flow in one direction only, and close automatically if flow reverses. They are entirely automatic in action, depending upon pressure and velocity of flow within the line to perform their functions of opening and closing. Most Crane Fluid System swing check valves can be installed in horizontal or vertical upward flow piping. Lift check valves must be used in horizontal lines only.

CFS offers four basic types of bronze check valves, namely:

- Horizontal lift check
- Vertical lift check
- Swing check
- Double check

Swing check valves, having 6 diameters of straight lengths of pipe upstream and 3 diameters downstream, are suitable for velocities up to 3 metres/second. If the valve is situated such that turbulent flow enters the valve, the velocity should not exceed 2 metres/second.

Horizontal lift check valves are primarily used for air, gas and steam services whilst swing check valves are most suitable for water and other liquids.

For air, gas and low pressure applications, especially where bubble tight closure is required, a valve with rubber faced disc is necessary.

Compressed air service requires a horizontal lift check valve with a nitrile rubber facing on the disc and fitted with a recoil spring. The valve should always be installed as far away from the compressor as possible.

When selecting valves, reference to codes of practice and other mandatory specifications should be made which may preclude certain types for specific applications.

Double check valves are designed to prevent contamination of water caused by back syphonage, back flow and cross connection in supplies such as those to hose taps, cisterns, stand pipes, showers and basins.

Valves, where designated, are WRAS Approved Products and listed in the Water Fittings and Materials Directory

D142



Copper Alloy

Model	Size Range	Pressure Rating	Type of Operation	Body material	APPLICATION					
					WRAS approval	CHW	Potable Water	LTHW	MTHW	MTHW
D138	3/8" - 3"	PN25	Swing	Bronze		✓		✓	✓	✓
D140	1/2" - 3"	PN25	Swing	Bronze		✓		✓	✓	
D140W	3/4" - 2"	PN25	Swing	Bronze	✓	✓	✓	✓	✓	
D142	1/4" - 3"	PN32	Swing	Bronze		✓		✓	✓	✓
D220W	1/2" - 2"	PN16	In-Line Double Check	DZR Brass	✓	✓	✓	✓	✓	
D220CW	15 - 28 mm	PN16	In-Line Double Check	DZR Brass	✓	✓	✓	✓	✓	

Iron & Steel

Model	Size Range	Pressure Rating	Type of Operation	Body material	APPLICATION					
					WRAS approval	CHW	Potable Water	LTHW	MTHW	MTHW
D130	50 - 300mm	PN16	In-Line Single Check	Cast Iron	✓	✓	✓	✓	✓	
D230W	50 - 300mm	PN16	In-Line Double Check	Cast Iron	✓	✓	✓	✓	✓	
FM469	50 - 300mm	PN16	Swing	Cast Iron		✓				
FM492	50 - 300mm	PN16	Swing	Cast Iron		✓		✓	✓	✓
F491	2" - 8"	Class 100	Swing	Cast Iron		✓		✓	✓	✓
F493	2" - 12"	Class 125	Swing	Cast Iron		✓		✓	✓	✓
FM463	50 - 600mm	PN16	Dual Plate Wafer	Cast / Ductile Iron		✓				
FA463	2" - 12"	Class 125	Dual Plate Wafer	Cast / Ductile Iron		✓				
FM466	50 - 600mm	PN25	Dual Plate Wafer	Cast / Ductile Iron		✓				
147XU	2" - 24"	Class 150	Swing	Cast Steel		✓		✓	✓	✓
159XU	2" - 24"	Class 300	Swing	Cast Steel		✓		✓		

D135

Bronze Swing Check Valve with Metal Disc

PN20

D135



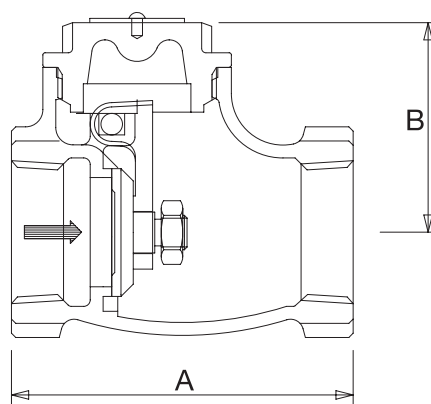
Features & Benefits

- Check valves permit flow in one direction only and close automatically if flow reverses
- Horizontal swing pattern
- Robust and high quality bronze body.

Materials

NO.	MATERIAL	SIZES
Body	Bronze BS EN 1982 CC491K	All
Cap	Bronze BS EN 1982 CC491K	All
Disc	Brass BS EN 12164 CW614N	1/2 - 1
Disc	Bronze BS EN 1982 CC491K	1 1/4 - 2
Hinge	Bronze BS EN 1982 CC491K	All
Hinge Pin	Stainless Steel SS316	1/2 - 2
Hinge Nut	Brass BS EN 12164 CW614N	All
ID Plate	Aluminium	All
Drive Pin	Steel - Electro Brassed	All

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)	Kv
1/2	0.30	59	38	8.53
3/4	0.40	68	42	15.55
1	0.59	82	49	26.27
1 1/4	0.86	95	56	46.49
1 1/2	1.15	98	65	64.77
2	1.78	111	76	112.24

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 100	180
PRESSURE (BAR)	20	9

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN20

TEMPERATURE OPERATING RANGE: -10 to 180 °C

UK END CONNECTION: Taper threaded to BS EN 10226-2 (ISO 7-1) formerly BS 21

US END CONNECTION: ANSI B1.20.1

(please add suffix AT to denote American Thread)

SPECIFICATION: Bronze Check Valve, Metal seated, with body and cap to BSEN1982 CC491K, SS 316 hinge pin, PN20 rating in accordance with BS5154.

This valve falls under SEP category and suitable for use on Group 1 & 2 Liquids and Group 2 Gas, as defined by the Pressure Equipment Directive 2014/68/EU.*

*see Quality Assurance page for more information

D138

Bronze Swing Check Valve with Metal Disc



PN25

D138



GENERAL VALVES

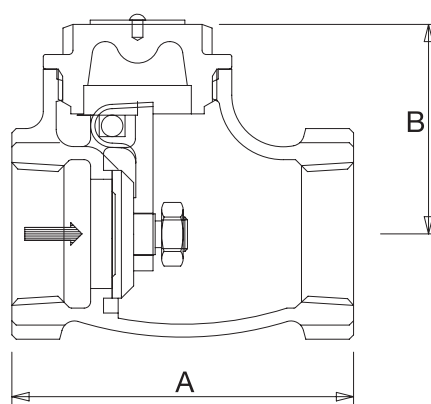
Features & Benefits

- Check valves permit flow in one direction only and close automatically if flow reverses.
- Bronze material of construction and robust design ensuring longevity
- Integral Bronze seats
- Full bore ensuring least resistance to flow

Materials

NO.	MATERIAL	SIZES
Body	Bronze BS EN 1982 CC491K	All
Cap	Bronze BS EN 1982 CC491K	All
Disc	Brass BS EN 12164 CW614N	$\frac{3}{8}$ - 1
Disc	Bronze BS EN 1982 CC491K	$1\frac{1}{4}$ - 3
Hinge	Bronze BS EN 1982 CC491K	All
Hinge Pin	Stainless Steel SS316	$\frac{3}{8}$ - 2
Hinge Pin	Brass BS EN 12164 CW614N	$2\frac{1}{2}$ & 3
Hinge Nut	Brass BS EN 12164 CW614N	All
ID Plate	Aluminium	All
Drive Pin	Steel - Electro Brassed	All
Hinge Pin Plug	Brass BS EN 12164 CW614N	$2\frac{1}{2}$ & 3

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)	Kv
$\frac{3}{8}$	0.19	50	33	-
$\frac{1}{2}$	0.32	59	38	8.53
$\frac{3}{4}$	0.43	68	42	15.55
1	0.61	81.5	49	26.27
$1\frac{1}{4}$	1.01	93.2	56	46.49
$1\frac{1}{2}$	1.34	98.3	65	64.77
2	2.12	110.6	76	112.24
$2\frac{1}{2}$	4.08	155.6	98	164.53
3	5.76	190	99	254.05

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 100	110	120	186
PRESSURE (BAR)	25.0	23.4	21.8	10.5

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN25

TEMPERATURE OPERATING RANGE: -10 to 186

UK END CONNECTION: Taper threaded to BS EN 10226-2 (ISO 7-1) formerly BS 21

US END CONNECTION: ANSI B1.20.1

(please add suffix AT to denote American Thread)

SPECIFICATION: Bronze Check Valves, Swing type, Full Bore, Bronze Cap & Seat. BSI Kitemark approved.

Valves are manufactured in accordance with BS5154:1991 PN25 for Series B ratings.

This valve is not suitable for use on Group 1 gases or unstable fluids, as defined by the Pressure Equipment Directive 2014/68/EU.*

LEAKAGE RATE: Rate B in accordance with BS EN 12266-1.

*see Quality Assurance page for more information

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D140

Bronze Swing Check Valve with Resilient Disc



PN25

D140



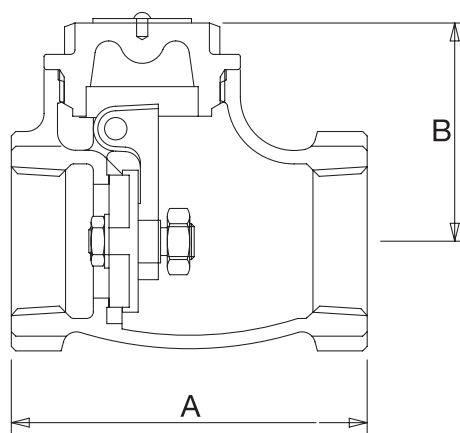
Features & Benefits

- Check valves permit flow in one direction only and close automatically if flow reverses
- Entirely automatic in action, depending upon pressure and velocity of flow within the line to perform their functions of opening and closing
- Nitrile rubber disc to give superior seal
- This valve carries the British Standards Institution kitemark
- Conforms with BS 5154:1991 and generally conforms with MSS SP 80.

Materials

NO.	MATERIAL	SIZES
Body	Bronze BS EN 1982 CC491K	All
Cap	Bronze BS EN 1982 CC491K	All
Disc Holder	Brass BS EN 12164 CW614N	1/2 - 1
Disc Holder	Bronze BS EN 1982 CC491K	1 1/4 - 3
Disc	Nitrile Rubber	All
Disc Retaining Nut	Brass BS EN 12164 CW614N	1/2 - 2 1/2
Disc Retaining Nut	Bronze BS EN 1982 CC491K	3" only
Washer	Brass BS EN 12164 CW614N	1/2 - 2 1/2
Hinge	Bronze BS EN 1982 CC491K	All
Hinge Pin	Stainless Steel	1/2 - 2
Hinge Pin	Brass BS EN 12164 CW614N	2 1/2 & 3
Hinge Pin Plug	Brass BS EN 12164 CW614N	2 1/2 & 3
Hinge Nut	Brass BS EN 12164 CW614N	All
ID Plate	Aluminium	All
Drive Pin	Steel-Electro Brass	All

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)
1/2	0.33	58	38
3/4	0.43	66	42
1	0.63	80	49
1 1/4	1.01	89	56
1 1/2	1.34	95	65
2	2.12	108	76
2 1/2	4.2	153	98
3	6.02	188	98

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 100
PRESSURE (BAR)	25

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN25

TEMPERATURE OPERATING RANGE: -10 To 100°C

UK END CONNECTION: Taper threaded to BS EN 10226-2 (ISO 7-1) formerly BS 21

US END CONNECTION: ANSI B1.20.1 (please add suffix AT to denote American Thread)

OPERATOR: Swing Type Check Valve

SPECIFICATION: Bronze Swing Check Valve, Screwed Cap, in accordance with BS 5154:1991, PN25 rated. Valve Body, Cap and hinge to BS EN 1982 CC491K. Nitrile Rubber coated Brass and Bronze disc. BSI Kitemark approved.

MSS SP80 CONFORMANCE: D140 complies with MSS SP 80, however, valve markings and threaded ends confirms with BS EN 12288:2010 only. D140.AT complies with threaded ends as well. The Valve is suitable for use in group 2 gases, group 1 and group 2 liquids, as defined by the Pressure Equipment Directive 2014/68/EU.*

*see Quality Assurance page for more information

D140W

Swing Check Valves



D140W

PN25

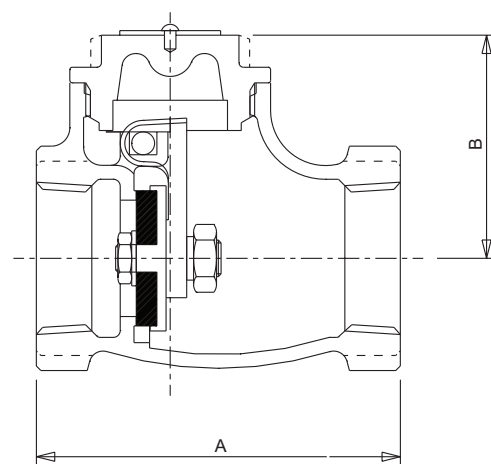
Features & Benefits

- Check Valves permit flow in one direction only and close automatically if flow reverses
- They are entirely automatic in action, depending upon pressure and velocity of flow within the line to perform their functions of opening and closing
- Conforms with BS 5154:1991 and generally conforms with MSS SP 80.

Materials

PART	MATERIAL	SPECIFICATION	SIZES
Body	Bronze	BS EN 1982 CC491K	All
Cap	Bronze	BS EN 1982 CC491K	All
Disc Holder	Brass	BS EN 12164 CW614N	3/4 - 1
Disc Holder	Bronze	BS EN 1982 CC491K	1 1/4 - 2
Disc	WRAS Approved Nitrile Rubber		All
Disc Retaining Nut	Brass	BS EN 12164 CW614N	All
Washer	Brass	BS EN 12164 CW614N	All
Hinge	Bronze	BS EN 1982 CC491K	All
Hinge Pin	Stainless Steel		All
Hinge Nut	Brass	BS EN 12164 CW614N	All

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)
3/4	0.43	66	42
1	0.63	80	49
1 1/4	1.01	89	56
1 1/2	1.34	95	65
2	2.12	108	76

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 85
PRESSURE (BAR)	25

MIN OPENING PRESSURE: 4 kPa

MAX OPERATING PRESSURE: PN25

TEMPERATURE OPERATING RANGE: -10 to 85°C

UK END CONNECTIONS: Taper threaded to BS EN 10226-2

(ISO 7-1) OPERATOR: Swing type Check Valve

SPECIFICATION: Bronze Swing Check Valve, Screwed Cap, in accordance with BS 5154:1991, PN25 rated. Valve Body, Cap and hinge to Bronze to BS EN 1982 CC491K. Nitrile Rubber coated Brass and Bronze disc. BSI Kitemark approved. WRAS approved for use with potable water.

MSS SP80 CONFORMANCE: D140W complies with MSS SP 80, however, valve markings and threaded ends confirms with BS EN 12288:2010 only. D140W.AT complies with threaded ends as well.

The Valve is suitable for use in group 2 liquids only, as defined by the Pressure Equipment Directive 2014/68/EU.*

* See page xx for more information

D142

Bronze Swing Check Valve

D142

PN32

Features & Benefits

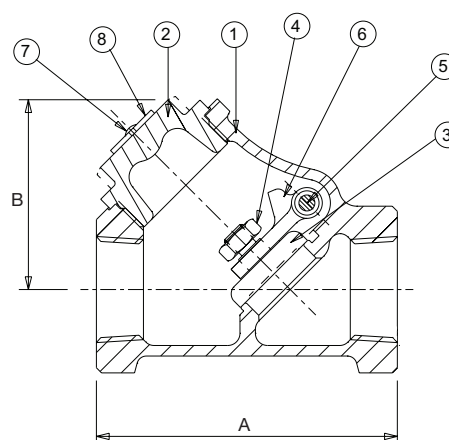
- Check valves permit flow in one direction only and close automatically if flow reverses
- D142 is a Bronze Swing Check Valve with disc seat at 45 Deg inclination to the flow path
- Conforms with BS EN12288:2010 and generally conforms with MSS SP 80.



Materials

NO.	MATERIAL	SIZES
Body	Bronze BS EN 1982 CC491K	
Cap	Bronze BS EN 1982 CC491K	
Disc	Brass BS EN 12164 CW721R	1/4 - 3/4"
Disc	Bronze BS EN 1982 CC491K	1 - 3"
Hinge	Nut Brass BS 2874 CZ121	
Hinge	Pin/Plug DZR Brass BS EN 12164 CW602N	
Hinge	Bronze BS EN 1982 CC491K	
Drive Pin	Steel-Electro Brassed	
ID Plate	Aluminium	

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)
1/4	0.26	54	37
3/8	0.25	54	37
1/2	0.39	62	43
3/4	0.62	76	52
1	1.07	94	65
1 1/4	1.65	110	76
1 1/2	2.56	126	89
2	4.05	152	108
2 1/2	6.4	186	134
3	9.3	218	160

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 120	260
PRESSURE (BAR)	32	14

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN32

TEMPERATURE OPERATING RANGE: -10 to 260°C

UK END CONNECTION: BS 21 Taper

US END CONNECTION: ANSI B1.20.1

OPERATOR: Swing Check, Screwed in Cap. Can be mounted vertically as long as flow is upwards

SPECIFICATION: Bronze Swing Check Valve, Screwed Cap, in accordance with BS 5154:1991, PN32 rated. Valve Body, Cap and hinge to Bronze to BS EN 1982 CC491K. Bronze disc to CC491K up to 3/4" and Manganese Bronze disc 1" to 3".

MSS SP80 CONFORMANCE: D142 meets the essential requirements of the Standard such as pressure temperature rating, functional attributes, material of construction, wall thickness and thread depth. D142.AT complies with end connections as well.

The Valve is suitable for use in group 2 gases, group 1 and group 2 liquids, as defined by the Pressure Equipment Directive 2014/68/EU.*

*see Quality Assurance page for more information

D220W / D220CW**Double Check Valves****D220W****PN16****GENERAL VALVES****Features & Benefits**

- Double check valves are used to prevent the risk of backflow and back siphonage contamination in domestic dwellings, public and commercial buildings
- WRAS Approved for use with wholesome (potable) water to 85°C (85°C for threaded and 60°C for Compression)
- Compression version supplied with ends complying with BS EN 1254-2 for use with BS EN 1057 R250 (half hard) copper tube or female taper threads complying with BS EN 10226-2
- Shell pressure rating for D220W and D220CW is PN16 with a maximum inlet/working pressure of 16 bar
- Compliant with BS EN 13959 'Anti-pollution check valves' family E type D

Materials

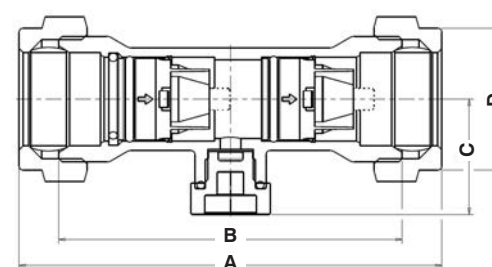
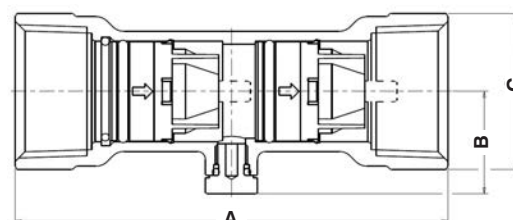
PART	MATERIAL	SPECIFICATION
Body	DZR Brass	BS EN 12165 CW602N
Cartridge	Acetal	-
Vent Plug (threaded)	Brass	BS EN 12165 CW614N / 617N
Vent Plug (compression)	Nylon	-
'O' ring	NBR / EPDM	-
Retaining Clip	Stainless Steel	AISI 304
Compression Nut	Brass	BS EN 12165 CW602N
Compression Olive	Cartridge Brass	H62
Plating (compression)	Nickel Plated	-
Plating (Threaded)	Unplated	-

Dimensions & Weights**Compression - D220CW**

SIZE (mm)	A (mm)	B (mm)	C (mm)	D (mm)	WEIGHT (kg)
15	82.1	63.4	25.2	29.4	0.17
22	101.3	82.2	27.5	39.3	0.29
28	115.2	94.8	30	45.6	0.41

Threaded - D220W

SIZE (inch)	A (mm)	B (mm)	C (mm)	WEIGHT (kg)
1/2	75.7	20.2	25.5	0.13
3/4	94.8	22.3	32	0.21
1	108	25.6	39	0.33
1 1/4	118	29.7	49.5	0.49
1 1/2	137	36.8	57	0.79
2	181	37.1	70	1.41

**Dimensional Drawing****Compression****Threaded****Pressure/Temperature Ratings**

	COMPRESSION	THREADED
TEMPERATURE (°C)	-10 to 60	-10 to 85
SHELL PRESSURE (BAR)	16	16

SHELL PRESSURE RATING: PN16**MAX INLET/WORKING PRESSURE:** 16 bar

WRAS APPROVED: 16 bar

MIN OPENING PRESSURE: 0.2 bar**END CONNECTIONS:** Compression to BS EN 1254-2 and taper female threaded to BS EN 10226-2**APPLICATION:** Water**TEMPERATURE RATING:** 85°C maximum - WRAS Approved to 85°C**PED:** This valve is suitable for use on group 2 liquids only as defined by the Pressure Equipment Directive 2014/68/EU

D130W

Single Non-Return Valve



PN16

D130W



Features & Benefits

- Spring loaded axially guided disc
- Positive non-slam shut-off
- WRAS approved for use with wholesome (potable) water to 85°C
- Resilient seat

Materials

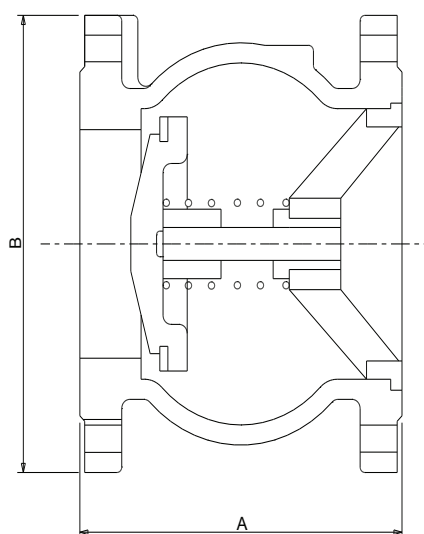
PART	MATERIAL	SPECIFICATION	
		BS EN	ASTM
Body	Cast Iron	1561 EN-GJL-250	A126 CLASS B
Disc	Cast Iron	1561 EN-GJL-250	A126 CLASS B
Seat	EPDM	WRAS Approved	-
Spring	Stainless Steel 304	1.4301	AISI 304
Stem	Stainless Steel 304	1.4301	AISI 304
Bushing	Brass	12164 CW617N	-
Bushing	Cast Iron	1561 EN-GJL-250	A126 CLASS B

Dimensions & Weights

SIZE (DN)	A (mm)	B (mm)	WEIGHT (kg)
50	100	165	8
65	120	185	10
80	140	200	13
100	170	220	17
125	200	250	28
150	230	285	38
200	288	340	52
250	354	405	85
300	410	460	125

Note: These valves are not intended to be used as backflow prevention devices conforming to Schedule 2 Section 6 of the WRAS Water Regulations Guide.

Dimensional Drawing



PRESSURE / TEMPERATURE RATING: 16 bar from -10 to 110°C (WRAS to 85°C)

SPECIFICATION: Flanged to BS EN 1092-2 PN16.

D230W

D230W

Double Non-Return Valve

PN16

Features & Benefits

- 2 WRAS approved single non-return valves (to 85°C) bolted together
- Spring loaded axially guided disc
- Positive non-slam shut-off
- Resilient seat
- WRAS Approved fusion bonded epoxy internal and external coating

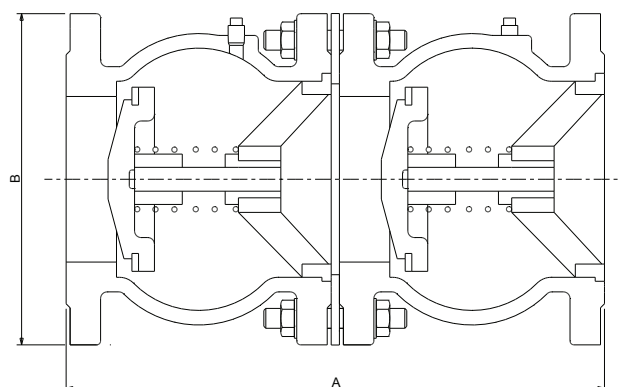
Materials

PART	MATERIAL	SPECIFICATION	
		BS EN	ASTM
Body	Cast Iron	1 EN-GJL-250	A126 CLASS B
Disc	Fusion Bonded Epoxy Cast Iron	1561 EN-GJL-250	A126 CLASS B
Seat	EPDM	WRAS Approved	-
Spring	Stainless Steel 304	1.4301	AISI 304
Stem	Stainless Steel 304	1.4301	AISI 304
Bushing	Brass	12164 CW617N	-
Guide	Cast Iron	1561 EN-GJL-250	A126 CLASS B
Gasket	EPDM (Shore 70) - WRAS Approved	-	-
Stud	Steel (Zinc Plated)	BS EN 3692 Grade 8.8	-
Nut	Steel (Zinc Plated)	BS EN 3692 Grade 8	-
Plug 1/4" RC	Stainless Steel 316/304	-	-

Dimensional Drawing

Dimensions & Weights

SIZE (DN)	A (mm)	B (mm)	WEIGHT (kg)
50	203	165	17
65	243	185	21
80	283	200	28
100	343	220	36
125	403	250	58
150	463	285	78
200	579	340	108
250	711	405	174
300	823	460	255



Please Note:

These valves are not intended to be used as backflow prevention devices conforming to Schedule 2 Section 6 of the WRAS Water Regulations Guide.

Title: Acceptability of two single check valves in place of a double check valve

Clause Reference: Schedule 2 paragraph 15(5) of the WRAS Water Regulations Guide

Two suitably approved single check valves (Type EA device) installed in series are accepted as offering the equivalent level of protection as that afforded by a double check valve (Type EC device) providing the maximum distance between the adjacent flanges of the valves did not exceed twice their nominal bore and the operation of one component does not interfere with the operation of the other.

PRESSURE / TEMPERATURE RATING: 16 bar from -10 to 110°C

SPECIFICATION: Flanged to BS EN 1092-2 PN16.

Valid as of 180722

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FM469

Cast Iron Swing Check Valve
with Resilient Seat

PN16

FM469

Features & Benefits

- Check valves permit flow in one direction only and close automatically if flow reverses
- Entirely automatic in action, depending upon pressure and velocity of flow within the line to perform their functions of opening and closing
- Swing pattern, bronze trim, resilient seated

Materials

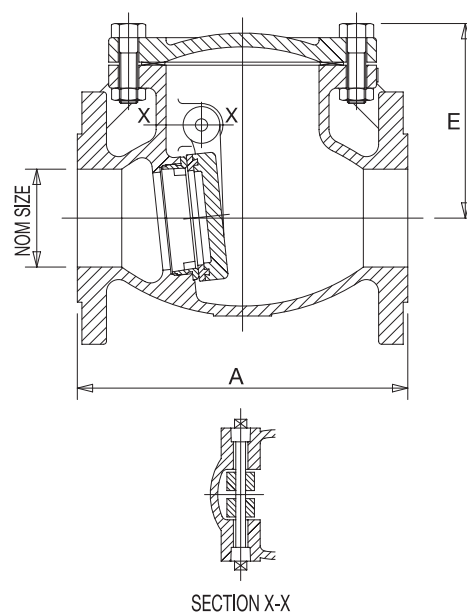
PART	MATERIAL	SIZES
Body	Cast Iron BS EN 1561 GJL-250	All
Cap	Cast Iron BS EN 1561 GJL-250	All
Disc	Cast Iron BS EN 1561 GJL-250	All
Body Seat Ring	Bronze BS EN 1982 CC491K	All
Disc Ring	Nitrile Rubber	All
Hinge Pin Bush	Bronze BS EN 1982 CC491K	All
Hinge Pin Plug	Bronze BS EN 1982 CC491K	All
Hinge Pin	Stainless Steel Type 304	50 - 80
Hinge Pin	13% Cr.Steel AISI Type 410	100 - 300
Cap Bolts	Steel BS 3692 Gr.8.8	All
Cap Bolt Nuts	Steel BS 3692 Gr.8	All
Gasket	Asbestos Free	All
Body Plate	Aluminium	All
Disc Ring Retaining Nut	Cast Iron BS EN 1561 GJL-250	All
Retaining Nut Pin	Steel	All

Dimensions & Weights

SIZE (mm)	WEIGHT (kg)	A (mm)	E (mm)
50	11.3	203	113
65	15.6	216	126
80	19.3	241	136
100	26.6	292	153
125	44	330	186
150	55.5	356	207
200	119	495	250
250	175	622	352
300	263	698	397



Dimensional Drawing



Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 65
PRESSURE (BAR)	16

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN16

TEMPERATURE OPERATING RANGE: -10 to 65°C

UK END CONNECTION: Flanged BS EN 1092-2 PN16

OPERATOR: Swing Check Valve

SPECIFICATION: Valves are manufactured in accordance with BS EN 12334:2001.

End flanges conform to BS EN 1092-2 Section 3.2 Table 11 with raised face and are normally supplied drilled.

This valve is not suitable for use on Group 1 gases or unstable fluids, as defined by the Pressure Equipment Directive 2014/68/EU.*

*see Quality Assurance page for more information

FM492

Cast Iron Swing Check Valve

PN16

FM492



GENERAL VALVES

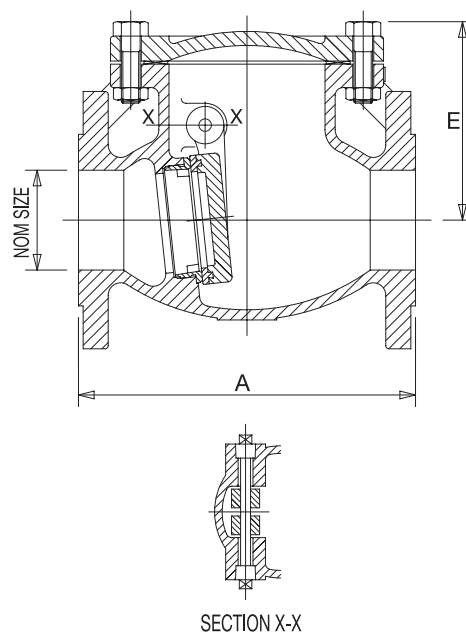
Features & Benefits

- Check valves permit flow in one direction only and close automatically if flow reverses
- Swing Type Check Valve with Bronze seat
- Fusion Bonded Epoxy coating suitable for C3 environment

Materials

PART	MATERIAL	SIZES
Body	Cast Iron BS EN 1561 GJL-250	All
Cap	Cast Iron BS EN 1561 GJL-250	All
Disc	Cast Iron BS EN 1561 GJL-250	All
Body Seat Ring	Bronze BS EN 1982 CC491K	All
Disc Ring	Bronze BS EN 1982 CC491K	All
Hinge Pin Bush	Bronze BS EN 1982 CC491K	All
Hinge Pin Plug	Bronze BS EN 1982 CC491K	All
Hinge Pin	Stainless Steel Type 304	50 - 100
Hinge Pin	13% Cr.Steel AISI Type 410	125 - 300
Cap Bolts	Steel BS 3692 Gr.8.8	All
Cap Bolt Nuts	Steel BS 3692 Gr.8	All
Gasket	Asbestos Free	All
Body Plate	Aluminium	All

Dimensional Drawing



Dimensions & Weights

SIZE (mm)	WEIGHT (kg)	A (mm)	E (mm)
50	11.3	203	113
65	15.6	216	126
80	19.3	241	136
100	26.6	292	153
125	44	330	186
150	55.5	356	207
200	119	495	250
250	175	622	352
300	263	698	397

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 120	220
PRESSURE (BAR)	16	12.1

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN16

TEMPERATURE OPERATING RANGE: -10 to 220°C

UK END CONNECTION: Flanged BS EN 1092-2

OPERATOR: Swing Type Check Valve

SPECIFICATION: VSwing Type Check Valve in accordance with BS EN 16767, PN16 Rated. Cast Iron Body, Cap and Disc. CC491K Bronze Seat Ring, Disc Ring, Bush and Plug. SS Hinge pin, Asbestos free gasket. Fusion Bonded Epoxy coating suitable for C3 environment. The valve has been categorized in accordance with Pressure Equipment Directive 2014/68/EU as shown in below table.

FIG NO.	MATERIAL	PED CATEGORY BY VALVE SIZE (DN)			PRODUCT APPLICATIONS			
		SEP	1	2	Group 1 Gas	Group 2 Gas	Group 1 Liquid	Group 2 Liquid
FM492	Cast Iron	50	65-125	150-300	-	✓	✓	✓

*see Quality Assurance page for more information

F491

Cast Iron Swing Check Valve

Class 100

F491

Features & Benefits

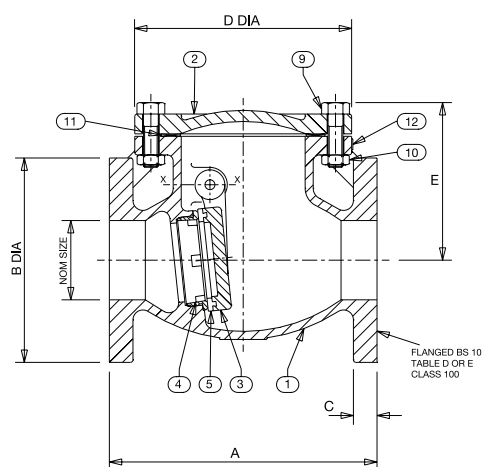
- Check valves permit flow in one direction only and close automatically if flow reverses.
- Entirely automatic in action, depending upon pressure and velocity of flow within the line to perform their functions of opening and closing
- ANSI flange and holse pattern



Materials

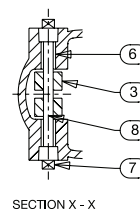
NO.	PART	MATERIAL	SIZES
1	Body	Cast Iron BS EN 1561 GJL-250	-
2	Cover	Cast Iron BS EN 1561 GJL-250	-
3	Disc	Cast Iron BS EN 1561 GJL-250	-
4	Body Seat Ring	Bronze BS EN 1982 CC491K	-
5	Disc Face Ring	Bronze BS EN 1982 CC491K	-
6	Hinge Pin Bush	Bronze BS EN 1982 CC491K	-
7	Hinge Pin Plug	Bronze BS EN 1982 CC491K	-
8	Hinge Pin	Stainless Steel Type 304	2 - 4
8	Hinge Pin	13% CR Steel Type 410	5 - 12
9	Cover Bolt	Steel BS 3692 Grade 8.8	-
10	Cover Bolt Nut	Steel BS 3692 Grade 8	-
11	Gasket	Asbestos Free Garlock 2850	-
12	Body Plate	Aluminium	-

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
2	11.3	203	152	16	153	113
2 1/2	15.6	216	178	17	175	126
3	19.3	241	191	19	195	136
4	26.6	292	229	24	225	153
5	44.0	330	254	24	273	186
6	55.5	356	279	25	310	207
8	119.0	495	343	29	365	250



PRESSURE RATING: Class 100

TEMPERATURE OPERATING RANGE: -10 to 232°C

UK END CONNECTION: Flanged BS10 Table D or E

OPERATOR: Swing Check Valve

SPECIFICATION: Valves are manufactured in accordance with BS 5153.

Flanges are flat faced and drilled to BS 10 Table D or E.

This valve is not suitable for use on Group 1 gases or unstable fluids as defined by the Pressure Equipment Directive 2014/68/EU.*

*see Quality Assurance page for more information

F493

Cast Iron Swing Check Valve

Class 125

F493



GENERAL VALVES

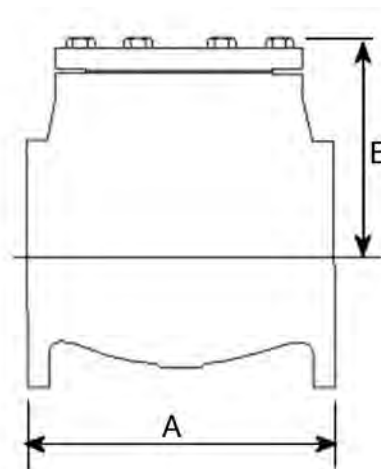
Features & Benefits

- The F493 is a swing check valve with a Bronze trim
- Manufactured to BS 5153:1974

Materials

PART	MATERIAL	SIZES
Body	Cast Iron BS EN 1561 GJL-250	All
Cap	Cast Iron BS EN 1561 GJL-250	All
Disc	Cast Iron BS EN 1561 GJL-250	All
Body Seat Ring	Bronze BS EN 1982 CC491K	All
Disc Ring	Bronze BS EN 1982 CC491K	All
Hinge Pin Bush	Bronze BS EN 1982 CC491K	All
Hinge Pin Plug	Bronze BS EN 1982 CC491K	All
Hinge Pin	Stainless Steel Type 304	2 - 4
Hinge Pin	13% Cr.Steel AISI Type 410	5 - 12
Cap Bolts	Steel BS 3692 Gr.8.8	All
Cap Bolts Nuts	Steel BS 3692 Gr.8	All
Gasket	Asbestos Free	All
Body Plate	Aluminium	All

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)
2	11.3	203	113
2 1/2	15.6	216	126
3	19.3	241	136
4	26.6	292	153
5	44	330	186
6	55.5	356	207
8	119	495	250
10	175	622	352
12	263	698	397

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 65	150	230
PRESSURE (BAR)	13.8	11.4	8.6

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: Class 125

TEMPERATURE OPERATING RANGE: -10 to 230°C

US END CONNECTION: ANSI Class 125

OPERATOR: Swing Check Valve

SPECIFICATION: Valves are manufactured in accordance with BS 5153:1974

and also meet the requirements of MSS.SP-71. End flanges conform to BS 1560. Section 3.2/ANSI B16.1 Class 125 with flat face and are normally supplied drilled.

This valve is not suitable for use on Group 1 gases or unstable fluids, as defined by the Pressure Equipment Directive 2014/68/EU.*

*see Quality Assurance page for more information

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FM463 / FM463W / FA463 / FM466



Check Valves

PN16 / PN16 / ANSI125 / PN25

FM463



Features & Benefits

- Check valves permit flow in one direction only and close automatically if flow reverses, depending upon pressure and velocity of flow to perform the functions of the opening and closing.
- Non-Slam design as a result of rubber seat and spring-assisted closure.
- EPDM rubber seat to facilitate quiet operation and improve disk seating.
- Eyebolt tapped holes in sizes DN200 and above, to fit bolts to BS EN ISO 3226:2010 (eyebolts are not supplied with product).
- Design and construction lends itself to pump duty applications.
- WRAS approved model FM463W DN50 - DN300 for potable water applications rated PN16.

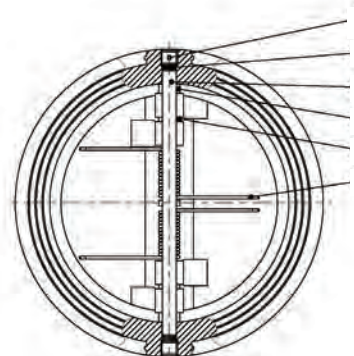
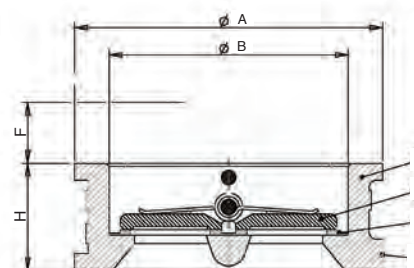
Materials

NO.	PART	MATERIAL
1	Body	Cast Iron EN-GJL-250 FM463/ FA463 DN50-DN150
		Ductile Iron EN-GJS-400-15 FM463/ FA463 DN200-DN600
		Ductile Iron EN-GJS-400-15 PN25 DN50-DN600 FM466 / PN16 DN50-DN300 FM463W
2	Disc	Stainless Steel SS304
3	ID Plate	Anodised Aluminium
4	Seat	EPDM Max 120°C (85°C for WRAS)
5	Stop Bolt	Stainless Steel 304
6	Stem	Stainless Steel 304
7	Spring	Stainless Steel 304
8	Washer	PTFE (85°C for WRAS)
9	Gasket	EPDM Max 120°C (85°C for WRAS)

Dimensions & Weights

SIZE	A (mm)		B (mm)	F (mm)	H (mm)	WEIGHT (Kg)	EYEBOLT TAPPING (To BS EN 3226:2010)	Kv VALUES
	PN16	ANSI 125						
DN50	107	102	66.0	10.0	43.0	1.5	N/A	44
DN65	127	121	80.5	16.0	46.0	2.2	N/A	102
DN80	142	133	95.0	15.0	64.0	3.2	N/A	128
DN100	162	171	119.0	28.0	64.0	4.1	N/A	203
DN125	192	193	146.0	38.0	70.0	5.7	N/A	528
DN150	218	219	171.0	47.0	76.0	8.2	N/A	688
DN200	273	276	224.5	70.0	89.0	14.6	M8	1315
DN250	328	336	266.0	78.0	114.0	24.2	M10	2315
DN300	382	406	311.0	104.0	114.0	35.8	M10	3623
DN350	442	448	360.0	127.0	127.0	54.0	M12	4620
DN400	495	511	410.0	143.0	140.0	76.0	M12	5166
DN450	555	546	450.0	158.0	152.0	103.0	M16	6164
DN500	617	603	505.0	183.0	152.0	126.0	M16	9670
DN600	734	714	624.0	221.0	178.0	187.0	M16	15340

Dimensional Drawing



Selection

FIG NO.	FM463	FM466	FA463	FM463W
PRESSURE RATING	PN16	PN25	ANSI125	PN16

MIN OPENING PRESSURE: 4 kPa

PRESSURE RATING: FM463: PN16, FA463: ANSI 125, FM466: PN25, FM463W: PN16

TEMPERATURE OPERATING RANGE: -10 to 120°C (85°C for WRAS)

UK END CONNECTION: Suitable for flange connection to BS EN 1092-2 PN16 / BS EN 1092-2 PN25

US END CONNECTION: BS 1560, ANSI B16.1, ANSI B16.5

SPECIFICATION: Dual Plate Wafer type Check Valve, in accordance with BS EN 16767 with face to face according to BS EN 558 series 16. Cast Iron / Ductile Iron Body, SS304 Disc, Stem and spring, EPDM seat, PTFE gasket and washers, Fusion bonded epoxy coating suitable for C3 environment.

WRAS approved model suitable upto 85 Deg C with WRAS approved EPDM seat, WRAS approved PTFE gasket, washer, and WRAS approved coating.

Valve is suitable for use on Group 2 liquids as defined by the Pressure Equipment Directive 2014/68/EU.*

*see Quality Assurance page for more information

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147XU

147XU

Cast Steel Swing Check Valve

Class 150

Features & Benefits

- Cast Steel, bolted cap and flanged
- Swing check valves prevent reversal of flow through the pipeline
- Can be installed in horizontal or vertical, upward flow piping
- Offer low resistance to flow and are particularly suited to low velocity service
- Seat ring is seal welded to eliminate leak paths

Materials

PART	MATERIAL
Body	A216 WCB
Cap	A216 WCB
Seat Ring	Hardfaced
Disc	13% CR Overlay
Hinge	WCB
Pins, Hinge	410 SS
Disc Washer	Steel
Cap Gasket	ASTM A276 304 + Graphite
Cap Studs	A193 Gr. B7
Cap Nuts	A194 Gr. 2H
ID Tags	SS
ID Pins	Steel

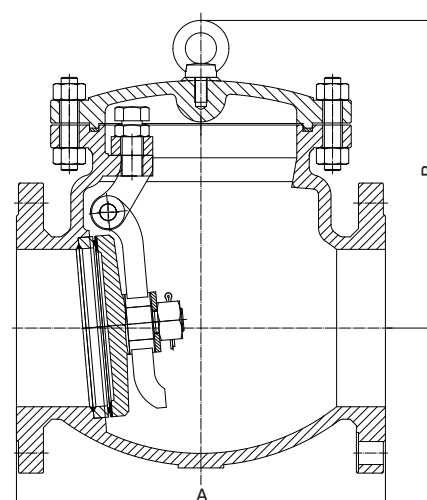
Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B VALVE OPEN (mm)
2	15	203	150
2½	21	216	167
3	28	241	178
4	41	292	233
6	72	356	297
8	122	495	334
10	179	622	395
12	282	698	451
14	401	787	477
16	510	864	545
18	638	978	582
20	717	978	627
24	1162	1295	980



GENERAL VALVES

Dimensional Drawing



Industry Standards

PRESSURE/TEMPERATURE	ANSI B16.34
FACE-TO-FACE/END-TO-END	ANSI B16.10
FLANGE DIMENSIONS	ANSI B16.5
TESTING	API 598
DESIGN	API 594

Intermediate pressure ratings shall be determined by interpolation.

SIZE RANGE: 2 - 24 inches

PRESSURE RATING: Class 150

Carbon Steel

ASTM A216 Grade WCB

19.6 Bar / -29 to 38°C

5.5 Bar / 425°C

SPECIFICATION: Swing check valves prevent reversal of flow through pipelines.

Most Crane FS swing check valves can be installed in horizontal or vertical upward flow piping. They offer low resistance to flow and are particularly suited to low velocity service.

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159XU

Swing Check Valve

Class 300

Features & Benefits

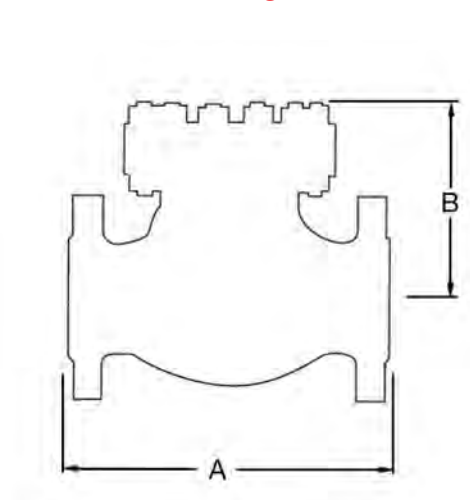
- Cast Steel, bolted cap and flanged
- Swing check valves prevent reversal of flow through the pipeline
- Can be installed in horizontal or vertical, upward flow piping
- Offer low resistance to flow and are particularly suited to low velocity service
- Seat ring is seal welded to eliminate leak paths



Materials

PART	MATERIAL
Body	A216 WCB
Bonnet	A216 WCB
Seat Ring	Hardfaced
Disc	13% CR Overlay
Hinge	WCB
Pins, Hinge	410 SS
Cap Screw	A307 Gr. B
Cap Gasket	Spiral Wound
Cap Studs	A193 Gr. B7
Cap Nuts	A194 Gr. 2H
ID Tags	SS
ID Pins	Steel

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (lbs)	A (inch)	B VALVE OPEN (inch)
2	23	267	177
2½	31	292	190
3	40	318	203
4	62.7	356	283
6	89	400	310
8	122.6	444	331
10	199	533	411
12	298.5	622	456

Industry Standards

PRESSURE/TEMPERATURE	ANSI B16.34
FACE-TO-FACE/END-TO-END	ANSI B16.10
FLANGE DIMENSIONS	ANSI B16.5
TESTING	API 598
DESIGN	API 594

Intermediate pressure ratings shall be determined by interpolation.

SIZE RANGE: 2 - 12 inches

PRESSURE RATING: Class 300

Carbon Steel

ASTM A216 Grade WCB

51.1 Bar / -29 to 38°C

28.8 Bar / 425°C

SPECIFICATION: Swing check valves prevent reversal of flow through pipelines.

Most Crane FS swing check valves can be installed in horizontal or vertical upward flow piping. They offer low resistance to flow and are particularly suited to low velocity service.

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PROJECT

HSBC Data Centre

This HSBC Data Centre is the first standalone data centre in Hong Kong meeting the design requirements of Tier IV standard.

The centre is recognised by the global IT industry for the high levels of reliability and accessibility of its on-site infrastructure, building support services, security and computer layout designs. The project site area is approximately 48,000 sq m, with a corresponding gross floor area of about 57,200 sq m.

The data centre operates uninterrupted 24 hours per day, 365 days per year, to meet current and foreseeable future business needs for more than 20 countries and 60 locations.

LOCATION:

Hong Kong

CLIENT:

HSBC

CHANNEL PARTNER:

Tozen HK Ltd

SPECIFICATION:

Balancing valves and a selection of general valves

PROJECT

M&S - Carmine Building

Also known as No. 5 Merchant Square, the Carmine Building overlooks the canal which runs through Paddington and is part of a large area of regeneration in West London.

Marks & Spencers have leased seven of the 15 floors as additional office space, as it conveniently sits adjacent to the retailers' current Waterside House headquarters.

The Crane Fluid Systems Dominators provide heating, ventilation and air conditioning throughout the building. These are a compact prefabricated unit that combine a control valve, flow measurement device, bypass valves, strainer and drain, ready for simple and fast on-site connection to fan coils, chilled beams and other terminal units.

All the components are supplied as one tested unit with a known performance, which minimises specification risks and saves valuable time. For contractors, Imtech Meica, installation of Dominators provides significant reduction in site labour and installation costs because connection is fast and simple. There is a range of standard Dominator units available and these can also be tailor-made to suit specific needs.

LOCATION:

Paddington,
London

ARCHITECT:

Mossessian
& Partners

HVAC

CONTRACTOR:

Imtech Meica

DISTRIBUTOR:

BSS (Romford)

SPECIFICATION:

Dominators



Draw-Off Cocks / Drain Taps

Fitting Crane Fluid System's Drain Taps and Gland Cocks enable systems to be drained without removing pipework. They prevent the build up of sediment that flows through the pipework thus extending its life expectancy.

Fig. No.	PN Rating	End Connections	Size Range	Body Material
D340†	16	Threaded Inlet	1/2 - 1"	Bronze
D341†	16	Threaded Inlet	1/2 - 1"	Bronze

† WRAS approved product



D341

D340

DZR Brass Draining Tap



D340

Features & Benefits

- Integrated shroud gives a tamper resistant design
- DZR Brass draining taps are suitable for use on hot and cold water up to 16bar, at temperatures up to 110°C
- Enables system to be drained without removing pipework
- The inlet is a threaded taper male connection to BS EN 10226-2
- The outlet is ribbed for hose connection
- WRAS Approved up to 85°C

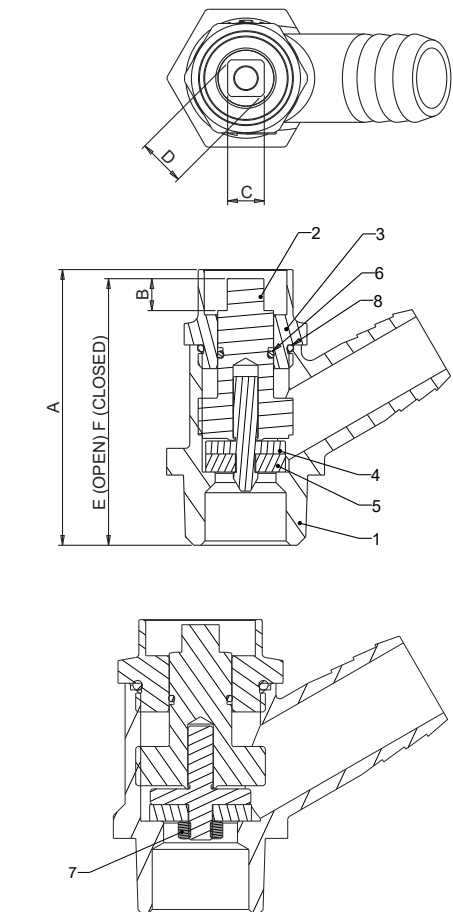
Materials

NO.	NAME	MATERIAL
1	Body	DZR Brass BS EN 12165 CW602N
2	Stem	Brass BS EN 12164 CW614N
3	Bonnet	Brass BS EN 12164 CW614N
4	Disc Holder	Brass BS EN 12164 CW614N
5	Rubber Seat	EP80 (EPDM-WRAS Approved)
6	Stem Packing	EP70 (EPDM-WRAS Approved)
7	Nut (1" Only)	Brass BS EN 12164 CW614N

Dimensions, Coefficients & Weights

SIZE (inch)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	WEIGHT (kg)
1/2	53.5	7.0	7.4	9.5	55.9	50.7	0.13
3/4	64.0	7.0	8.5	11.3	68.3	61.7	0.26
1	74.8	7.0	9.5	11.3	82.3	73.7	0.59

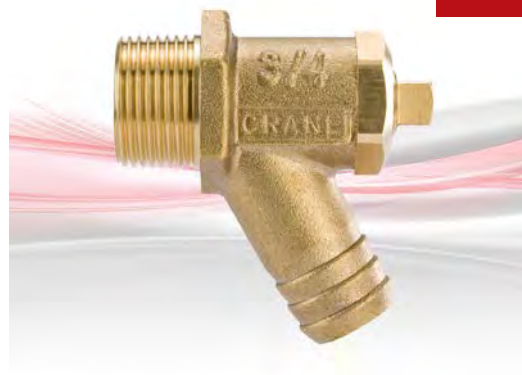
Dimensional Drawing

**PRESSURE RATING:** PN16**TEMPERATURE OPERATING RANGE:** 0 to 110°C**UK END CONNECTION:** BS EN 10226-2 Taper**OPERATOR:** Lockshield**SPECIFICATION:** Sizes 1/2" and 3/4" draining taps are designed and manufactured in accordance with BS 2879 type 2.

This valve is excluded from the requirements of the Pressure Equipment Directive 2014/68/EU

D341**DZR Brass Draining Tap****PN16****D341****Features & Benefits**

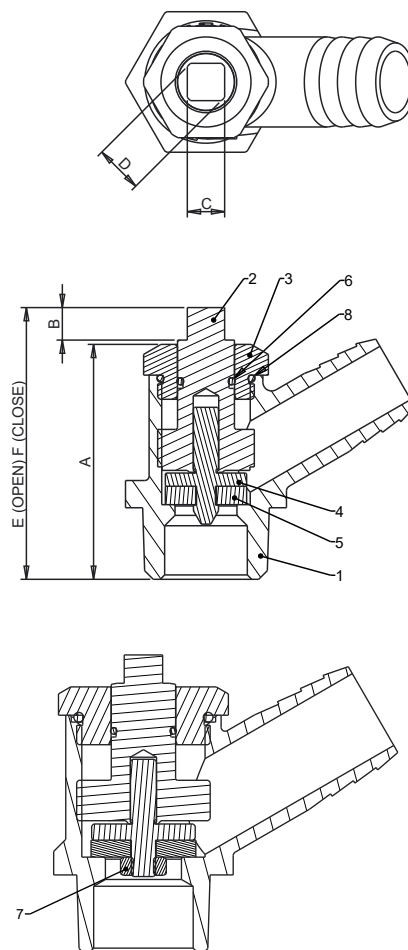
- DZR Brass draining taps are suitable for use on hot and cold water up to 16bar, at temperatures up to 120°C
- Enables system to be drained without removing pipework
- The inlet is a threaded taper male connection to BS EN 10226-2
- The outlet is ribbed for hose connection
- WRAS Approved up to 85°C

**Materials**

NO.	NAME	MATERIAL
1	Body	DZR Brass BS EN 12165 CW602N
2	Stem	Brass BS EN 12164 CW614N
3	Bonnet	Brass BS EN 12164 CW614N
4	Disc Holder	Brass BS EN 12164 CW614N
5	Rubber Seat	EP80 (EPDM WRAS APPROVED)
6	Stem Packing	EP70 (EPDM WRAS APPROVED)
7	Nut (1" Only)	Brass BS EN 12164 CW614N

Dimensions, Coefficients & Weights

SIZE (inch)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	WEIGHT (kg)
1/2	43.5	7.0	7.4	9.5	59.9	50.7	0.13
3/4	53.5	7.0	8.5	11.3	68.3	61.7	0.26
1	65.6	7.0	9.5	11.3	82.3	73.7	0.59

Dimensional Drawing**PRESSURE RATING:** PN16**TEMPERATURE OPERATING RANGE:** 0 to 120°C**UK END CONNECTION:** BS EN 10226-2 Taper**OPERATOR:** Loose Key Operation

SPECIFICATION: Sizes 1/2" and 3/4" draining taps are designed and manufactured in accordance with BS 2879 type 2.

This valve is excluded from the requirements of the Pressure Equipment Directive 2014/68/EU.

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PROJECT

100 Bishopsgate

100 Bishopsgate is a forty storey tower is located in the heart of the city of London and is a mixed-use commercial development.

The completed project will provide approximately 950,000 ft² of best in class office and retail accommodation across two buildings, as well as a newly created half-acre public square enlivened with restaurant and retail amenities.

LOCATION:

City of London

CLIENT:

Brookfield

M&E**CONTRACTOR:**

MJ Lonsdale

DISTRIBUTOR:

Pipe Centre
– Slough

ARCHITECT:

Allies & Morrison

SPECIFICATION:

Range of
commissioning
and general valves

Gate Valves

D151



Crane Fluid System gate valves offer the ultimate in dependable service wherever minimum pressure drop is important. They serve as efficient isolation valves with fluid flow in either direction. The straight through design offers little resistance to flow and reduces pressure drop to a minimum. A gate-like disc - actuated by a stem screw and handwheel - moves up and down at right

angles to the path of flow, and seats against two seat faces to shut off the flow. Gate valves are not recommended for throttling since the control characteristic is not appropriate and subsequent damage, due to erosion, may prevent the valve providing an effective shut off.

Copper Alloy Gate Valves

Model	Size Range	Pressure Rating	End Connections	Operation	Stem Type	Bonnet Type	Body material	APPLICATION							
								WRAS approval	Kite Mark	MSS SP	CHW	Potable Water	LTHW	MTHW	Oil
D151	1/4" - 4"	PN20	Threaded Ends	Handwheel	Non-Rising Stem	Screwed Bonnet	Bronze	✓	✓	✓	✓	✓	✓	✓	✓
D237	1/4" - 3"	PN20	Threaded Ends	Lockshield	Non-Rising Stem	Screwed Bonnet	Bronze	✓	✓	✓	✓	✓	✓	✓	✓
D151A	1/4" - 3"	PN20	Threaded Ends	Handwheel	Non-Rising Stem	Screwed Bonnet	DZR			✓	✓		✓	✓	✓
D151X	1/4" - 3"	PN25	Threaded Ends	Handwheel	Non-Rising Stem	Screwed Bonnet	Bronze			✓	✓		✓	✓	✓
D166	1/4" - 3"	PN32	Threaded Ends	Handwheel	Rising Stem	Screwed Bonnet	Bronze			✓	✓		✓	✓	✓
D180	1/4" - 3"	PN32	Threaded Ends	Handwheel	Rising Stem	Union Bonnet	Bronze			✓	✓		✓	✓	✓

Cast Iron Gate Valves

Model	Size Range	Pressure Rating	Flange Rating	Operation	Stem Type	Body material	Trim	APPLICATION							
								WRAS approval	MSS SP	CHW	Potable Water	LTHW	MTHW		
F53	2" - 12"	CL 125	Class 125	Handwheel	DZR/SS Non-Rising Stem	Cast Iron	Cast Iron			✓		✓	✓		
F58	2" - 12"	CL 125	Class 125	Handwheel	SS Rising Stem	Cast Iron	Bronze			✓		✓	✓		
F84	2" - 12"	CL 125	Class 125	Handwheel	DZR/SS Non-Rising Stem	Cast Iron	Bronze		✓	✓		✓	✓		
FM57	2" - 12"	PN 10	PN 10	Handwheel	DZR/SS Non-Rising Stem	Cast Iron	Bronze			✓		✓	✓		
FM63	2" - 12"	PN 16	PN 16	Handwheel	SS Non-Rising Stem	Cast Iron	Bronze			✓		✓	✓		
FM82	2" - 12"	PN 16	PN 16	Handwheel	SS Rising Stem	Cast Iron	Bronze			✓		✓	✓		
FM124	2" - 12"	PN 16	PN 16	Handwheel	SS Non-Rising Stem	Ductile Iron	Resilient DI-EPDM	✓		✓	✓	✓	✓		
FM125	2" - 12"	PN 16	PN 16	Stem Adaptor	SS Non-Rising Stem	Ductile Iron	Resilient DI-EPDM	✓		✓	✓	✓	✓		

D151

Bronze Gate Valve Non rising stem



Sizes 1/2"-2" only

PN20

D151

GENERAL VALVES



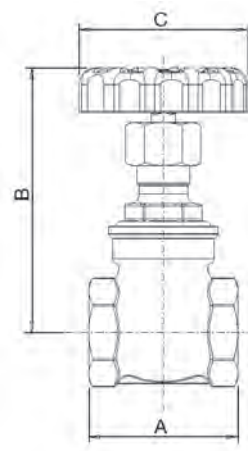
Features & Benefits

- Crane gate valves offer the ultimate in dependable service wherever minimum pressure drop is important
- The D151 carries the British Standards Institution kitemark - your assurance of exacting quality standards
- WRAS approved for use on wholesome (potable) water in sizes 1/2" – 2" only. WRAS approval temperature 85°C max
- Non-rising stem design to minimise installation height
- Full bore design to ensure minimal pressure drop
- Adjustable gland packing for ease of maintenance
- Body, bonnet and disc are made from low lead content bronze, typically 4-6%
- Conforms with BS EN12288:2010 and generally conforms with MSS SP 80.

Materials

PART	MATERIAL	SIZES
Body	Bronze BS EN 1982 CC491K	All
Bonnet	Bronze BS EN 1982 CC491K	All
Stem	DZR Brass BS EN 12164 CW602N	1/4 - 3
Stem	Manganese Bronze	4
Disc	Bronze BS EN 1982 CC491K	All
Stem Retainer	DZR Brass BS EN 12164 CW602N	1/2 - 2
Stuffing Box	DZR Brass BS EN 12164 CW602N	1/4, 3/8, 2 1/2 & 3
Stuffing Box	Bronze BS EN 1982 CC491K	4
Packing	Asbestos Free	All
Packing Gland	Brass BS EN 12164 CW614N	1/4, 3/8, 1 - 3
Packing Gland Nut	Brass BS EN 12164 CW614N	1/2 & 3/4
Packing Gland	Bronze BS EN 1982 CC491K	4
Packing Nut	Brass BS EN 12164 CW614N	1/4 - 3
Packing Nut	Bronze BS EN 1982 CC491K	4
Handwheel	Aluminium	1/4 - 3
Handwheel	Malleable Iron BS EN 1562 GJMB-300-6	4
ID Plate	Aluminium	All
Handwheel Nut	Brass BS EN 12164 CW614N	All
Gasket	Asbestos Free	3 - 4

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)
1/4	0.27	46	75	45
3/8	0.26	46	75	45
1/2	0.269	50	78	52.5
3/4	0.384	54	84	52.5
1	0.593	62	105	65
1 1/4	0.844	71	111	70
1 1/2	1.266	77.5	130	78
2	1.881	87.5	153	92
2 1/2	4.37	96	219	121
3	6.4	105	259	121
4	19.7	162	366	203

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 100	180
PRESSURE (BAR)	20	8

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN20

TEMPERATURE OPERATING RANGE: -10 to 180°C

UK END CONNECTION: Taper threaded to BS EN 10226-2 (ISO 7-1) formerly BS 21

US END CONNECTION: ANSI B1.20.1

OPERATOR: Handwheel.

Gate valves are best for services that require infrequent valve operation, and where the disc is kept either fully opened or fully closed. They are not practical for throttling.

SPECIFICATION: Bronze Gate Valve, Non-Rising Stem, Solid Wedge, Screwed Bonnet, in accordance with BS EN 12288:2010, PN20 rated. Body, Bonnet and disc to Bronze to BS EN 1982 CC491K. DZR Brass Stem to CW602N. PTFE packing ring complete with Brass packing gland and nut design. WRAS approved and BSI Kitemark approved.

MSS SP80 CONFORMANCE: D151 meets the essential requirements of the Standard such as pressure temperature rating, functional attributes, material of construction, wall thickness and thread depth. D151.AT complies with end connections as well.

Suitable for use on Group 2 Gas, Group 1 and Group 2 Liquids as defined by Pressure Equipment Directive 2014/68/EU, and Pressure Equipment (Safety) Regulations 2016, as amended.*

Not suitable for use on Group 1 Gases or unstable liquids.

*see Quality Assurance page for more information

D151A

DZR Gate Valve
Non rising stem

PN20

D151A

Features & Benefits

- Crane gate valves offer the ultimate in dependable service wherever minimum pressure drop is important
- Non-rising stem design to minimise installation height
- Full bore design to ensure minimal pressure drop
- Adjustable gland packing for ease of maintenance
- Material selection results in superior dezincification (DZR) and corrosion resistance properties
- Conforms with BS EN12288:2010 and generally conforms with MSS SP 80.

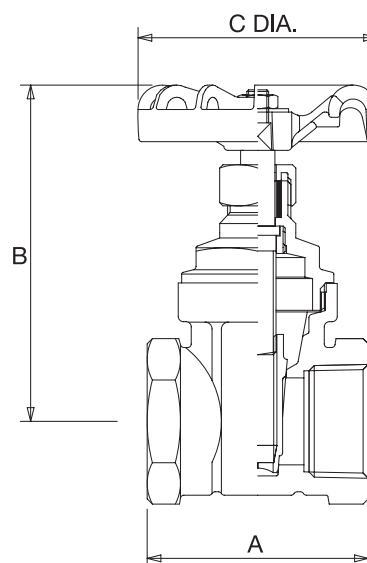
Materials

PART	MATERIAL	SIZES
Body	DZR Brass BS EN 12165 CW602N	All
Bonnet	DZR Brass BS EN 12165 CW602N	All
Stem	DZR Brass BS EN 12165 CW602N	All
Packing Nut	Brass BS EN 12164 CW617N	All
Packing	PTFE	All
Stem Bush	DZR Brass BS EN 12165 CW602N	All
Disc	DZR Brass BS EN 12165 CW602N	All
Handwheel	Aluminium	All
Handwheel Nut	Steel (Zinc Plated)	All

Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)
1/4	0.2	43	69	45
3/8	0.19	43	69	45
1/2	0.23	50	69	45
3/4	0.36	54	79	52
1	0.5	62	92	52
1 1/4	0.82	70	108	65
1 1/2	1.08	72	125	70
2	1.83	88	150	92
2 1/2	2.9	97	176	103
3	3.97	111	204	120

Dimensional Drawing



Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 100	180
PRESSURE (BAR)	20	9

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN20

TEMPERATURE OPERATING RANGE:
-10 to 180°C

END CONNECTION: Taper threaded to BS EN 10226-2 (ISO 7-1) formerly BS 21

US END CONNECTION: ANSI B1.20.1

OPERATOR: Handwheel.

Gate valves are best for services that require infrequent valve operation, and where the disc is kept either fully opened or fully closed. They are not practical for throttling.

SPECIFICATION: Bronze Gate Valves Non Rising Stem, Solid Wedge, Screwed Bonnet, in accordance with BS EN 12288:2010 PN20 rated. Valve body, bonnet, disc and stem made of DZR Brass to CW602N. PTFE packing ring complete with Brass packing gland and nut design.

MSS SP80 CONFORMANCE: D151A meets the essential requirements of the Standard such as pressure temperature rating, functional attributes, material of construction, wall thickness and thread depth. D151A.AT complies with end connections as well.

Suitable for use on Group 2 Gas, Group 1 and Group 2 Liquids as defined by Pressure Equipment Directive 2014/68/EU, and Pressure Equipment (Safety) Regulations 2016, as amended.*

Not suitable for use on Group 1 Gases or unstable liquids.

*see Quality Assurance page for more information

D151X

Bronze Gate Valve
Non rising stem

PN25

D151X

GENERAL VALVES

Features & Benefits

The D151X bronze gate valve offers a dependable and long service life across a wide variety of applications by virtue of its design and material composition.

- Non-rising stem design to minimise installation height
- Full bore design to ensure minimal pressure drop
- Adjustable gland packing for ease of maintenance
- Material selection results in superior dezincification (DZR) and corrosion resistance properties
- Body, bonnet and disc are made from low lead content bronze, typically 4-6%
- Conforms with BS EN12288:2010 and generally conforms with MSS SP 80.

Materials

PART	MATERIAL	SPECIFICATION	SIZES
Body	Bronze	BS EN 1982 (CC491K)	ALL
Bonnet	Bronze	BS EN 1982 (CC491K)	ALL
Stem	DZR Brass	BS EN 12164 CW602N	ALL
Disc	Bronze	BS EN 1982 (CC491K)	ALL
Stem Retainer	DZR Brass	BS EN 12164 CW602N	1/2 - 2
Stuffing Box	DZR Brass	BS EN 12164 CW602N	1/4 - 3/8, 2 1/2 - 3
Packing Ring	PTFE	-	ALL
Packing Nut	Brass	BS EN 12164 CW614N	ALL
Packing Gland	Brass	BS EN 12164 CW614N	1/4 - 3/8, 1 - 3
Handwheel	Aluminium	-	ALL
Identification Plate	Aluminium	-	ALL
Handwheel Nut	Brass	BS EN 12164 CW614N	ALL
Gasket	Asbestos Free	-	3

Dimensions & Weights

SIZE (inch)	A (mm)	B (mm)	C (mm)	D (mm)	WEIGHT (kg)	KV
1/4	46	75	45	86.7	0.27	-
3/8	46	75	45	86.7	0.26	-
1/2	50	78	52.3	93.0	0.27	21
3/4	54	84	60	103	0.38	39
1	62	105	65	127	0.59	66
1 1/4	71	111	70	139	0.89	116
1 1/2	77.5	130	78	163	1.31	162
2	87.5	153	92	193	2.09	281
2 1/2	106	235	103	286.2	5.62	411
3	113	251	121	310.3	7.89	635

PRESSURE RATING: PN25

TEMPERATURE OPERATING RANGE:
-10 to 186°C

UK END CONNECTION:

FIG. D151X: Taper threaded to
BS EN 10226-2 (ISO 7-1) formerly BS 21

US END CONNECTION:

FIG. D151X.AT: ANSI B1.20.1

OPERATOR: Handwheel.

Gate valves are best for services that require infrequent valve operation, and where the disc is kept either fully opened or fully closed. They are not practical for throttling.

SPECIFICATION: Bronze Gate Valve, Non-Rising Stem, Solid Wedge, Screwed Bonnet, in accordance with BS EN 12288:2010, PN25 rated. Body, Bonnet and disc to Bronze to BS EN 1982 CC491K. DZR Brass Stem to CW602N. PTFE packing ring complete with Brass packing gland and nut design.

MSS SP80 CONFORMANCE: D151X meets the essential requirements of the Standard such as pressure temperature rating, functional attributes, material of construction, wall thickness and thread depth. D151X.AT complies with end connections as well.

Suitable for use on Group 2 Gas, Group 1 and Group 2 Liquids as defined by Pressure Equipment Directive 2014/68/EU, and Pressure Equipment (Safety) Regulations 2016, as amended.*

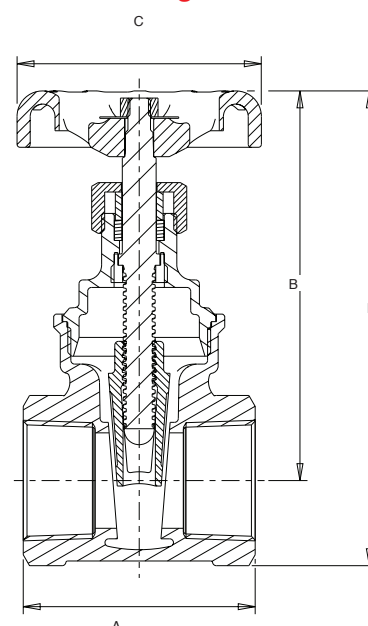
Not suitable for use on Group 1 Gases or unstable liquids.

*see Quality Assurance page for more information



Please note: the photograph & dimensional drawing denotes sizes 1/2" - 2" only.

Dimensional Drawing



Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 66	120	170	186
PRESSURE (BAR)	25.0	21.8	12.8	10.5

Intermediate pressure ratings shall be determined by interpolation.

D166

Bronze Gate Valve
Rising stem

PN32

D166

Features & Benefits

- Crane gate valves offer the ultimate in dependable service wherever minimum pressure drop is important



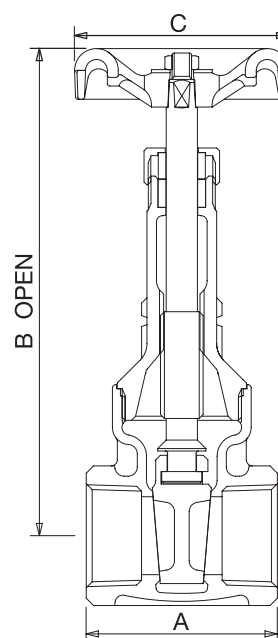
Materials

PART	MATERIAL	SIZES
Body	Bronze BS EN 1982 CC491K	All
Bonnet	Bronze BS EN 1982 CC491K	All
Stem	Bronze BS EN 1982 CC491K	1/4 - 2
Stem	Bronze BS EN 1982 CC491K	All
Disc	Bronze BS EN 1982 CC491K	All
Packing	Asbestos Free	All
Gland	Brass BS EN 12164 CW614N	All
Packing Nut	Brass BS EN 12164 CW614N	1/4 - 2
Packing Nut	Bronze BS EN 1982 CC491K	2 1/2 & 3
Handwheel	Aluminium	All
ID Plate	Aluminium	All
Handwheel Nut	Brass BS EN 12164 CW614N	All

Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)
1/4	0.32	46	126	45
3/8	0.31	46	126	45
1/2	0.46	51	129	52
3/4	0.72	55	159	65
1	1.1	63	189	70
1 1/4	1.5	71	219	78
1 1/2	2.25	73	246	92
2	3.2	84	301	92
2 1/2	5.8	105	369	134
3	8.52	111	416	134

Dimensional Drawing



Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 100	198
PRESSURE (BAR)	32	14

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN32

TEMPERATURE OPERATING RANGE:
-10 to 198°C

UK END CONNECTION: Taper threaded to BS EN 10226-2 (ISO 7-1) formerly BS 21

US END CONNECTION: ANSI B1.20.1

OPERATOR: Handwheel.

Gate valves are best for services that require infrequent valve operation, and where the disc is kept either fully opened or fully closed. They are not practical for throttling.

SPECIFICATION: Valves are manufactured in accordance with BS EN 12288: 2010 PN32 for Series B ratings. Rising Stem.

This valves is suitable for use on Group 2 Gas, Group 1 and Group 2 Liquids as defined by Pressure Equipment Directive 2014/68/EU, and Pressure Equipment (Safety) Regulations 2016, as amended. *
Not suitable for use on Group 1 Gases or unstable liquids.

*see Quality Assurance page for more information

D180

D180

Bronze Gate Valve
Rising stem

PN32

Features & Benefits

- Crane gate valves offer the ultimate in dependable service wherever minimum pressure drop is important
- Conforms with BS EN12288:2010 and generally conforms with MSS SP 80.

Materials

PART	MATERIAL	SIZES
Body	Bronze BS EN 1982 CC491K	All
Bonnet	Bronze BS EN 1982 CC491K	All
Stem	Bronze BS EN 1982 CC491K	1/4 - 2
Stem	Bronze BS EN 12164 CW602N	2 1/2 & 3
Disc	Bronze BS EN 1982 CC491K	All
Union Ring	Bronze BS EN 1982 CC491K	1/4 - 2 only
Packing	Asbestos Free	All
Gland	Brass BS EN 12164 CW614N	All
Packing Nut	Brass BS EN 12164 CW614N	1/4 - 2
Packing Nut	Bronze BS EN 1982 CC491K	2 1/2 & 3
Handwheel	Aluminium	1/4 - 2
Handwheel	Malleable Iron BS EN 1562 GJMB-300-6	2 1/2 & 3
ID Plate	Aluminium	All
Handwheel Nut	Brass BS EN 12164 CW614N	All
Stud	Steel BS 970 070M20	2 1/2 & 3" only
Stud Nut	Steel BS 4190 Gr.4	2 1/2 & 3" only
Gasket	Asbestos Free	2 1/2 & 3" only

Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)
1/4	0.32	46	126	45
3/8	0.31	46	126	45
1/2	0.46	51	129	52
3/4	0.72	55	159	65
1	1.1	63	189	70
1 1/4	1.5	71	219	78
1 1/2	2.3	73	246	92
2	3.2	83	301	92
2 1/2	5.8	120	369	134
3	8.5	134	416	134

PRESSURE RATING: PN32

TEMPERATURE OPERATING RANGE:
-10 to 260°C

UK END CONNECTION: Taper threaded to BS EN 10226-2 (ISO 7-1) formerly BS 21

US END CONNECTION: ANSI B1.20.1

OPERATOR: Handwheel.

Gate valves are best for services that require infrequent valve operation, and where the disc is kept either fully opened or fully closed. They are not practical for throttling.

SPECIFICATION: Bronze Gate Valves Rising Stem, Solid Wedge, Union Bonnet, in accordance with BS EN 12288:2010 PN32 rated complete with Backseating feature. Valve Body, Bonnet and disc to Bronze to BS EN 1982 CC491K. Bronze Stem up to 2" and DZR Brass Stem for sizes 2 1/2" & 3". PTFE packing ring complete with Brass packing gland and nut design.

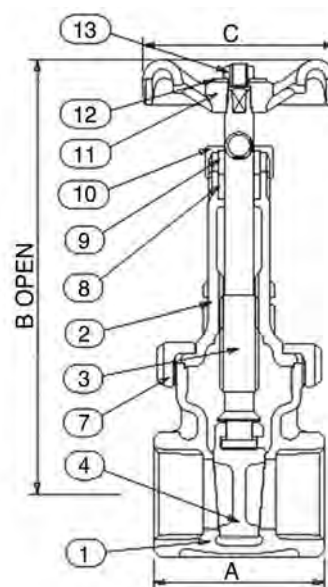
MSS SP80 CONFORMANCE: D180 complies with MSS SP 80, however, valve markings and threaded ends confirms with BS EN 12288:2010 only. D180.AT complies with threaded ends as well.

This valves is suitable for use on Group 2 Gas, Group 1 and Group 2 Liquids as defined by Pressure Equipment Directive 2014/68/EU, and Pressure Equipment (Safety) Regulations 2016, as amended.*

Not suitable for use on Group 1 Gases or unstable liquids.

*see Quality Assurance page for more information

Dimensional Drawing



Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 120	260
PRESSURE (BAR)	32	14

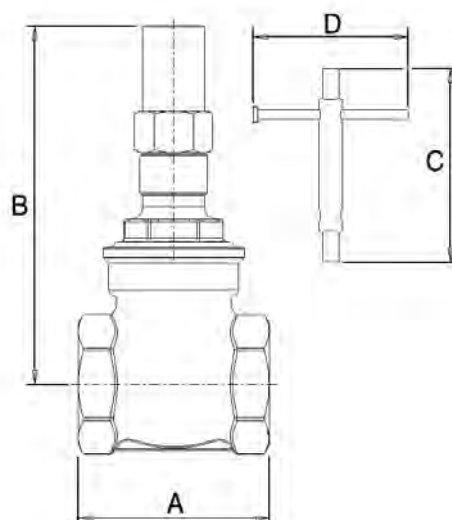
Intermediate pressure ratings shall be determined by interpolation.

D237**Bronze Gate Valve with Lockshield**
Non rising stem**PN20****D237****Features & Benefits**

- Crane gate valves offer the ultimate in dependable service wherever minimum pressure drop is important.
- The D237 carries the British Standards Institution Kitemark - your assurance of exacting quality standards
- WRAS approved for use on wholesome (potable) water in sizes 1/2" - 2" only
- WRAS approval temperature 85°C max
- Conforms with BS EN12288:2010 and generally conforms with MSS SP 80.

**Materials**

PART	MATERIAL	SIZES
Body	Bronze BS EN 1982 CC491K	1/2 - 3
Bonnet	Bronze BS EN 1982 CC491K	1/2 - 3
Disc	Bronze BS EN 1982 CC491K	1/2 - 3
Stem	DZR Brass BS EN 12164 CW602N	1/2 - 3
Stuffing Box	DZR Brass BS EN 12164 CW602N	2 1/2 & 3
Stem Retainer	DZR Brass BS EN 12164 CW602N	1/2 - 2
Gland	Brass BS EN 12164 CW614N	1 - 3
Packing	Asbestos Free	1/2 - 3
Lockshield	Brass BS EN 12164 CW614N	1/2 - 3
Box Spanner	Mild Steel	1/2 - 3

Dimensional Drawing**Dimensions & Weights**

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)	D (mm)
1/2	0.276	50	78	90	100
3/4	0.389	54	87	90	100
1	0.593	62	106	125	100
1 1/4	0.831	71	116	125	100
1 1/2	1.248	77.5	132	125	100
2	1.882	87.5	156	125	100
2 1/2	4.15	96	218	-	-
3	6.24	105	253	-	-

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 100	180
PRESSURE (BAR)	20	9

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN20**TEMPERATURE OPERATING RANGE:**
-10 to 180°C**END CONNECTION:** Taper threaded to
BS EN 10226-2 (ISO 7-1) formerly BS 21**US END CONNECTION:** ANSI B1.20.1**OPERATOR:** Lockshield.

Gate valves are best for services that require infrequent valve operation, and where the disc is kept either fully opened or fully closed. They are not practical for throttling.

SPECIFICATION: Bronze Gate Valve, Non-Rising Stem, Solid Wedge, Screwed Bonnet, in accordance with BS EN 12288:2010, PN20 rated. Body, Bonnet and disc to Bronze to BS EN 1982 CC491K. DZR Brass Stem to CW602N. PTFE packing ring complete with Brass packing gland and nut design. WRAS approved and BSI Kitemark approved.

MSS SP80 CONFORMANCE: D237 meets the essential requirements of the Standard such as pressure temperature rating, functional attributes, material of construction, wall thickness and thread depth. D237.AT complies with threaded end connections as well.

This valves is suitable for use on Group 2 Gas, Group 1 and Group 2 Liquids as defined by Pressure Equipment Directive 2014/68/EU, and Pressure Equipment (Safety) Regulations 2016, as amended.* Not suitable for use on Group 1 Gases or unstable liquids.

AVAILABLE OPTIONS: P103 lockshield key 1/2" - 2"
P100 lockshield key 2 1/2" - 3"

*see Quality Assurance page for more information

F53

F53

Cast Iron Gate Valve Non rising Stem

Class 125

Features & Benefits

- Crane cast iron gate valves offer the ultimate in dependable service wherever minimum pressure drop is important

Materials

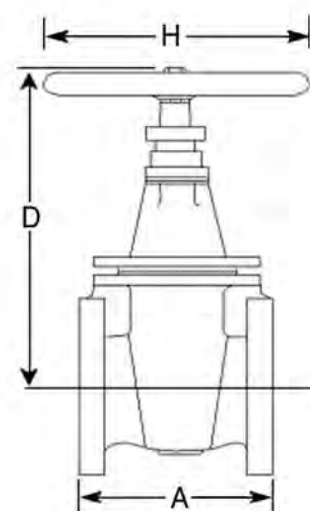
PART	MATERIAL	SIZES
Body	Cast Iron BS EN 1561 GJL-250	All
Bonnet	Cast Iron BS EN 1561 GJL-250	All
Bonnet Gasket	Asbestos Free	All
Disc	Cast Iron BS EN 1561 GJL-250	All
Stem	Brass BS EN 12164: CW603N	2-10
Stem	Stainless Steel BS EN 10088-3 1.4006 (SS410) / Brass BS EN 12164: CW603N	12
Stuffing Box	Cast Iron BS EN 1561 GJL-250	All
Gland	Cast Iron BS EN 1561 GJL-250	All
Stuffing Box Gasket	Asbestos Free	All
Packing	Asbestos Free	All
Handwheel	Cast Iron	All
Body Seat Ring	Bronze BS EN 1982 CC491K	All
Disc Stem Nut	Bronze BS EN 1982 CC491K	All
Disc Ring	Bronze BS EN 1982 CC491K	All

Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	D (mm)	H (mm)
2	12.7	178	277	140
2 1/2	15.8	190	296	140
3	19.5	203	337	152
4	29.3	229	369	203
5	39.5	254	429	229
6	45.8	267	470	229
8	84	292	600	305
10	148	330	722	356
12	198	356	818	406



Dimensional Drawing



Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 65	230
PRESSURE (BAR)	13.8	8.6

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: Class 125

TEMPERATURE OPERATING RANGE: -10 to 230°C

US END CONNECTION: ANSI Class 125

OPERATOR: Handwheel.

Gate valves are best for services that require infrequent valve operation, and where the disc is kept either fully opened or fully closed. They are not practical for throttling.

SPECIFICATION: Valves are manufactured in accordance with BS 5150:1990. End flanges conform to BS 1560 Section 3.2/ANSI B16.1 Class 125 with flat face and are normally supplied drilled.

Wedge Disc, Non-Rising Stem, Inside Screw, Bronze Trim. This valve is not suitable for use on group 1 gases or unstable fluids, as defined by the Pressure Equipment Directive 2014/68/EU.*

AVAILABLE OPTIONS: Flanges Undrilled

*see Quality Assurance page for more information

F58

Cast Iron Gate Valve
Rising Stem

Class 125

F58

Features & Benefits

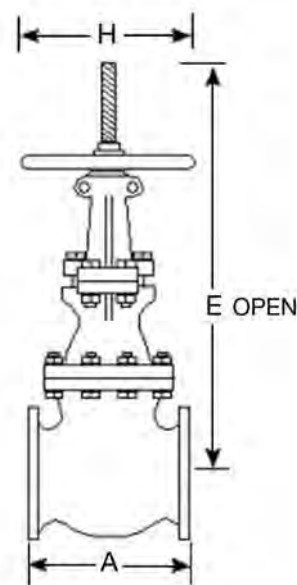
- Crane cast iron gate valves offer the ultimate in dependable service wherever minimum pressure drop is important
- Rising stem gives visual indication of valve open position

Materials

PART	MATERIAL	SIZES
Body	Cast Iron BS EN 1561 GJL-250	All
Bonnet	Cast Iron BS EN 1561 GJL-250	All
Disc	Cast Iron BS EN 1561 GJL-250	All
Stem	13% Cr.Steel BS 970 Pt.1 410S21 or 431S29	All
Body Seat Ring	Bronze BS EN 1982 CC491K	All
Disc Ring	Bronze BS EN 1982 CC491K	All
Yokesleeve	Bronze BS EN 1982 CC491K	All
Yokesleeve Nut	Ductile Iron ASTM A536 65-45-12	2, 3, 5, 8 & 10
Yokesleeve Nut	Cast Iron BS EN 1561 GJL-250	2 ¹ / ₂ , 4, 6 & 12
Yokesleeve Ret'g Nut	Ductile Iron ASTM A536 65-45-12	2, 3, & 5
Yokesleeve Ret'g Nut	Cast Iron BS EN 1561 GJL-250	2 ¹ / ₂ , 4, 6 & 12
Disc Stem Nut	Bronze BS EN 1982 CC491K	All
Gland	Cast Iron BS EN 1561 GJL-250	All
Packing	Asbestos Free	All
Gasket	Asbestos Free	All
Yoke	Cast Iron BS EN 1561 GJL-250	8, 10 & 12
Handwheel	Malleable Iron BS EN 1562 GJMB-300-6	All



Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	E (mm)	H (mm)
2	17	178	365	152
2 ¹ / ₂	20	190	448	152
3	28	203	481	203
4	38	229	622	229
5	56	254	672	254
6	60	267	835	254
8	112	292	989	305
10	185	330	1208	356
12	242	356	1469	406

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 65	230
PRESSURE (BAR)	13.8	8.6

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: Class 125

TEMPERATURE OPERATING RANGE: -10 to 230°C

US END CONNECTION: ANSI Class 125

OPERATOR: Handwheel.

Gate valves are best for services that require infrequent valve operation, and where the disc is kept either fully opened or fully closed. They are not practical for throttling.

SPECIFICATION: Valves are manufactured in accordance with BS 5150: 1990. End flanges conform to BS 1560 section 3.2/ANSI B16.1 Class 125 with flat face and are normally supplied drilled. Wedge Disc, Rising Stem, Outside Screw and Yoke.

This valve is not suitable for use on group 1 gases or unstable fluids, as defined by the Pressure Equipment Directive 2014/68/EU.*

AVAILABLE OPTIONS: Flanges Undrilled. P50 Locking Device

*see Quality Assurance page for more information

F84

F84

Cast Iron Gate Valve Rising Stem

Class 125

Features & Benefits

- Crane cast iron gate valves offer the ultimate in dependable service wherever minimum pressure drop is important
- Each valve is manufactured in accordance with BS 5150: 1990
- Rising stem gives visual indication of valve open position

Materials

PART	MATERIAL	SIZES
Body	Cast Iron BS EN 1561 GJL-250	All
Bonnet	Cast Iron BS EN 1561 GJL-250	All
Disc	Bronze BS EN 1982 CC491K	2 - 4
Disc	Cast Iron BS EN 1561 GJL-250	5 - 12
Stem	Brass BS EN 12164: CW603N	2 - 10
Stem	Stainless Steel BS EN 10088-3 1.4006 (SS410) / Brass BS EN 12164: CW603N	12
Body Seat Ring	Bronze BS EN 1982 CC491K	All
Disc Ring	Bronze BS EN 1982 CC481K	5 - 12
Yoke	Cast Iron BS EN 1561 GJL-250	5 - 12
Yoke Hub Bolts/Nuts	Steel BS 4190 Gr.4.6/4	5 - 12
Yoke Pad Bolts/Nuts	Steel BS 4190 Gr.4.6/4	5 - 12
Yokesleeve	Manganese Bronze ASTM B584-C86400	2 - 4
Yokesleeve	Bronze BS EN 1982 CC491K	5 - 12
Yokesleeve Ret'g Nut	Malleable Iron BS EN 1562 GJMB-300-6	2 - 4
Yokesleeve Nut	Malleable Iron BS EN 1562 GJMB-300-6	2 - 4
Yokesleeve Nut	Ductile Iron ASTM A536 65-45-12	5 - 12
Gland	Malleable Iron BS EN 1562 GJMB-300-6	2 - 4
Gland	Cast Iron BS EN 1561 GJL-250	5 - 12
Gland Flange	Ductile Iron ASTM A536 65-45-12	5 - 12
Packing	Asbestos Free	All
Gasket	Asbestos Free	All
Handwheel	Malleable Iron BS EN 1562 GJMB-300-6	All
Body Plate	Aluminium	All

Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)	H (mm)
2	21.5	178	399	203
2 1/2	24.8	190	432	203
3	29.5	203	469	203
4	42.7	229	566	229
5	72.3	254	714	305
6	88.1	267	813	305
8	140	292	1013	356
10	225	330	1257	406
12	314	356	1454	457

PRESSURE RATING: Class 125

TEMPERATURE OPERATING RANGE: -10 to 230°C

US END CONNECTION: ANSI Flanged

OPERATOR: Handwheel.

Gate valves are best for services that require infrequent valve operation, and where the disc is kept either fully opened or fully closed. They are not practical for throttling.

SPECIFICATION: Generally compliant with MSS.SP-70: 1998. End flanges conform to BS 1560 Section 3.2/ANSI B16.1. Class 125 with flat face and are normally supplied drilled. Wedge Disc, Rising Stem, Outside Screw and Yoke.

This valve is not suitable for use on group 1 gases or unstable fluids, as defined by the Pressure Equipment Directive 2014/68/EU.*

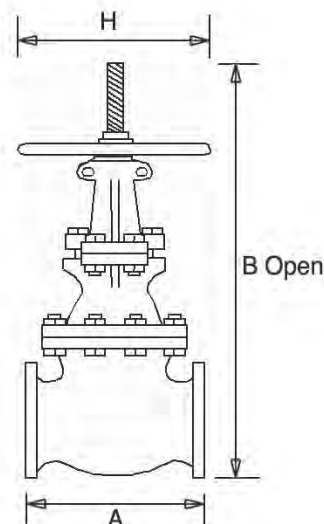
Valves tested in accordance with BS EN 12266-1: 2003.

AVAILABLE OPTIONS: Flanges Undrilled.

*see Quality Assurance page for more information



Dimensional Drawing



Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 65	230
PRESSURE (BAR)	13.8	8.6

Intermediate pressure ratings shall be determined by interpolation.

FM57

Cast Iron Gate Valve
Non rising stem

PN10

FM57

Features & Benefits

- Crane cast iron gate valves offer the ultimate in dependable service wherever minimum pressure drop is important
- Complete with Bronze trim
- Each valve is hydrostatically tested to BS EN 12266-1: 2003
- Manufactured in accordance with BS EN 1171: 2002

Materials

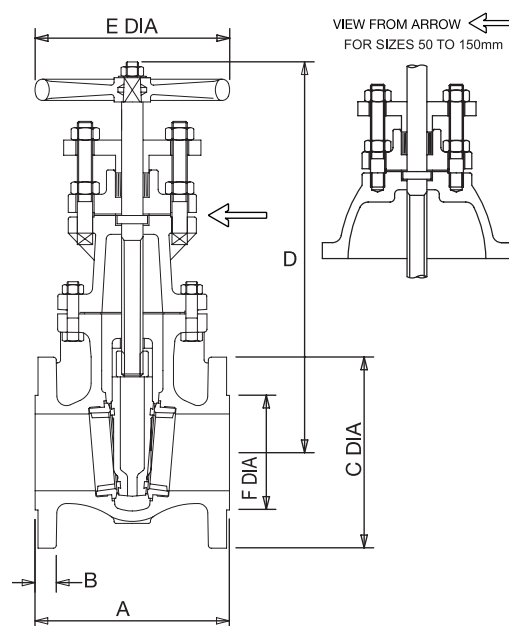
PART	MATERIAL	SIZES
Body	Cast Iron BS EN 1561 GJL-250	All
Bonnet	Cast Iron BS EN 1561 GJL-250	All
Bonnet Gasket	Asbestos Free	All
Disc	Cast Iron BS EN 1561 GJL-250	All
Stem	Brass BS EN 12164 CW603N	DN50-250
Stem	Stainless Steel BS EN 10088-3 1.4006 (SS410) / Brass BS EN 12164: CW603N	DN300
Stuffing Box	Cast Iron BS EN 1561 GJL-250	All
Gland	Cast Iron BS EN 1561 GJL-250	All
Stuffing Box Gasket	Asbestos Free	All
Packing	Asbestos Free	All
Handwheel	Cast Iron	All
Body Seat Ring	Bronze BS EN 1982 CC491K	All
Disc Stem Nut	Bronze BS EN 1982 CC491K	All
Disc Ring	Bronze BS EN 1982 CC491K	All

Dimensions & Weights

SIZE (mm)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)
50	14	178	20	165	277	140	102
65	17	190	20	185	296	140	122
80	22	203	22	200	337	152	138
100	30	229	24	220	369	203	158
125	41	254	26	250	429	229	188
150	47	267	26	285	470	229	212
200	85	292	26	340	600	305	268
250	146	330	28	395	722	356	320
300	188	356	28	445	818	406	370



Dimensional Drawing



Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 100	180
PRESSURE (BAR)	10	8.4

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN10

TEMPERATURE OPERATING RANGE: -10 to 180°C

UK END CONNECTION: Flanged BS EN 1092-2: PN10

OPERATOR: Handwheel.

Gate valves are best for services that require infrequent valve operation, and where the disc is kept either fully opened or fully closed. They are not practical for throttling.

SPECIFICATION: Long Face-to-face, Wedge Disc, Non-Rising Stem.

Valves are manufactured in accordance with BS EN 1171: 2002. End flanges conform to BS EN 1092-2 PN10 with raised face and are normally supplied drilled.

This valve is not suitable for use on group 1 gases or unstable fluids, as defined by the Pressure Equipment Directive 2014/68/EU.*

AVAILABLE OPTIONS: Flanges Undrilled, P50 Locking Device

*see Quality Assurance page for more information

FM63

FM63

Cast Iron Gate Valve
Non rising Stem

PN16

Features & Benefits

- Crane cast iron gate valves offer the ultimate in dependable service wherever minimum pressure drop is important.
- Each valve is manufactured in accordance with BS EN 1171: 2002
- Hydrostatically tested to BS EN 12266-1: 2003

Materials

NO.	PART	MATERIAL
1	Body	Cast Iron BS EN 1561 GJL-250
2	Bonnet	Cast Iron BS EN 1561 GJL-250
3	Disc	Cast Iron BS EN 1561 GJL-250
4	Body Seat Ring	Bronze BS EN 1982 (CC491K)
5	Disc Seat Ring	Bronze BS EN 1982 (CC491K)
6	Stem	Stainless Steel BS 970: 410S21
7	Gasket	Graphite Graphite (Asbestos Free)
8	Gland Packing Nut	Stainless Steel BS 970: 304S31
9	Handwheel	Grey Iron BS EN 1561 EN-GJL-250
10	Stem Retaining Ring	Stainless Steel BS 970: 304S31
11	Disc Stem Nut	Bronze BS EN 1982 (CC491K)
12	Packing Ring	Graphite Graphite (Asbestos Free)
13	Body/Bonnet Bolt	Steel BS 3692 GR 8.8
14	Body/Bonnet Nut	Steel BS 3692 GR 8
15	Handwheel Retaining Nut	Steel BS 4190 GR 4
16	Handwheel Washer	Steel BS 4320
17	Body ID Plate (Not Shown)	Aluminium

Dimensions & Weights

SIZE (mm)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)
65	18.7	190	20	185	262	190	118
80	23.9	203	22	200	286	190	132
100	37.6	229	24	220	356	220	156
125	50.7	254	26	250	426	300	184
150	63.8	267	26	285	463	300	211
200	104.3	292	30	340	578	350	266
250	194.5	330	32	405	773	406	319
300	275.5	356	32	460	860	457	370

All dimensions are nominal.
Please note size 50mm is also available, please refer to the website.

PRESSURE RATING: PN16

PRESSURE/TEMPERATURE OPERATING RANGE:

-10 to 120°C at 16 bar, 200°C at 12.8 bar

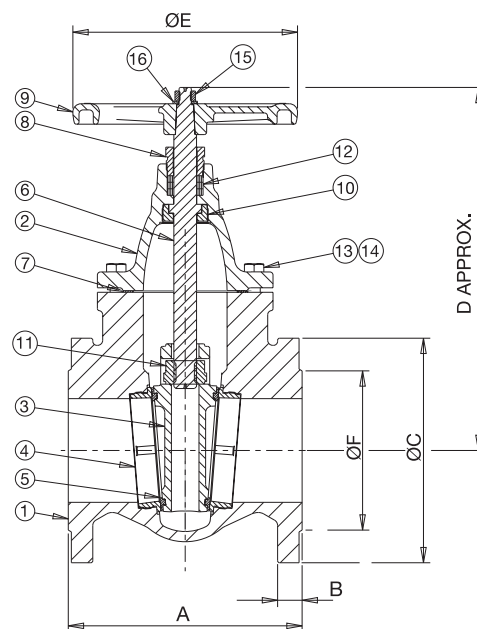
UK END CONNECTION: Flanged BS EN 1092-2: PN16

SPECIFICATION: Wedge Disc, Non-Rising Stem, Inside Screw, Handwheel operated.

This valve is not suitable for use on group 1 gases or unstable fluids, as defined by the Pressure Equipment Directive 2014/68/EU.*

AVAILABLE OPTIONS: Flanges Undrilled

Dimensional Drawing



Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 120	200
PRESSURE (BAR)	16	12.8

Intermediate pressure ratings shall be determined by interpolation.

*see Quality Assurance page for more information

FM82

Cast Iron Gate Valve
Rising Stem

PN16

FM82

Features & Benefits

- Crane cast iron gate valves offer the ultimate in dependable service wherever minimum pressure drop is important
- Each valve is hydrostatically tested to BS EN 12266-1: 2003
- Manufactured in accordance with BS EN 1171: 2002
- Rising stem gives visual indication of valve open position

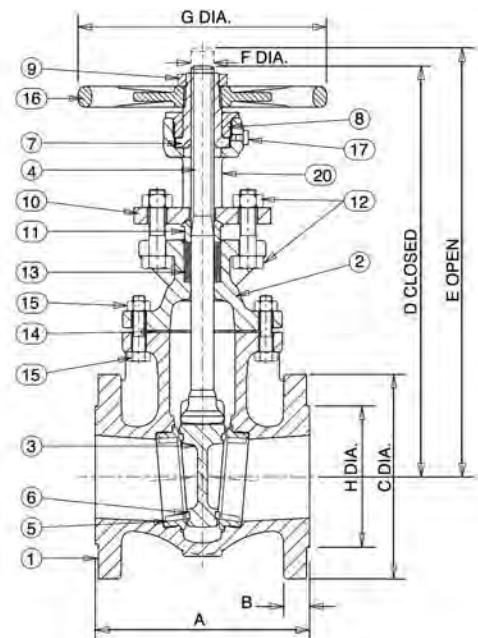
Materials

NO.	PART	MATERIAL
1	Body	Cast Iron BS EN 1561 GJL-250
2	Bonnet/Yoke	Cast Iron BS EN 1561 GJL-250
2	Bonnet	Cast Iron BS EN 1561 GJL-250
3	Disc	Cast Iron BS EN 1561 GJL-250
4	Stem	Stainless Steel 410 S21
5	Body Seat Ring	Bronze BS EN 1982 CC491K
6	Disc Seat Ring	Bronze BS EN 1982 CC491K
7	Yoke Sleeve	Bronze BS EN 1982 CC491K
8	Yoke Sleeve Retg Nut	Ductile Iron ASTM A536 65-45-12
9	Yoke Sleeve Nut	Malleable Iron BS EN 1562 GJMB 300-6
10	Gland Flange	Malleable Iron BS EN 1562 GJMB 300-6
11	Gland (2"-4")	Brass BS EN 12164 CW721R
11	Gland (5"-12")	Malleable Iron BS EN 1562 GJMB-300-6
13	Packing	Graphite
14	Bonnet Gasket	Graphite wrapped with SS304
16	Handwheel	Malleable Iron BS EN 1562 GJMB-300-6
18	Body Plate	Aluminium
20	Yoke	Cast Iron BS EN 1561 GJL-250

Dimensions & Weights

SIZE (mm)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)
50	22.5	178	20	165	334	399	19	203	102
65	26.4	190	20	185	354	432	19	203	122
80	31	203	22	200	375	469	19	203	135
100	44.3	229	24	220	449	566	22	229	155
125	72.3	254	26	254	575	714	28.5	305	185
150	88.1	267	26	279	649	813	28.5	305	212
200	140	292	30	340	800	1013	34.9	356	248
250	225	330	32	405	984	1257	39.7	406	320
300	314	356	32	460	1127	1454	39.7	457	378

Dimensional Drawing



Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 120	200
PRESSURE (BAR)	16	12.8

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN16

TEMPERATURE OPERATING RANGE: -10 to 200°C

UK END CONNECTION: Flanged BS EN 1092-2 PN16

OPERATOR: Handwheel.

Gate valves are best for services that require infrequent valve operation, and where the disc is kept either fully opened or fully closed. They are not practical for throttling.

SPECIFICATION: Cast Iron Gate Valve, Bronze Trim, Rising SS Stem, in accordance with BS EN 1171:2002. PN16 Rated. End flanges conform to BS EN 1092-2 with raised face.

DN50 falls under SEP category, DN65 - DN125 Category 1, DN150 - DN300 Category 2. The valve is suitable for use on Group 2 gases, Group 1 Liquids and Group 2 Liquids, as defined by the Pressure Equipment Directive 2014/68/EU.*

*see Quality Assurance page for more information

33XU-F

Cast Steel Gate Valve Rising Stem

Class 300

33XU-F

GENERAL VALVES



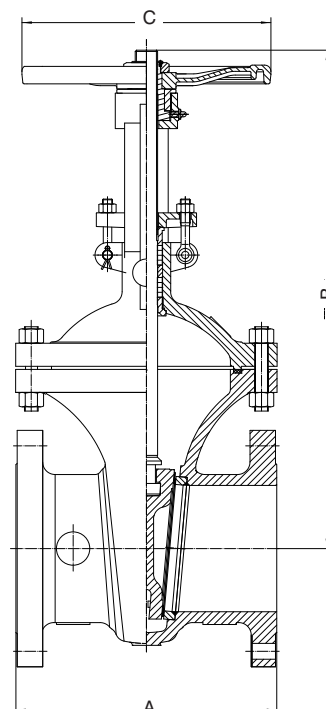
Features & Benefits

- Efficient stop valves with flow in either direction
- Commonly used where a minimum pressure drop is important
- Flexible wedge disc compensates for deformation of body due to pipe stress
- Outside screw & yoke
- Flanged
- Seat ring is seal welded to eliminate leak paths

Materials

PART	MATERIAL
Body	A216 WCB
Bonnet	A216 WCB
Seat Rings	Hardfaced
Disc	CA-15 or 13% CR Overlay
Stem	ASTM A182 F6a Cl. 2. This is equivalent to SS410
Packing	Graphite
Bonnet Gasket	ASTM A276 304 + Graphite
Back Seat	410 SS
Yoke	ASTM A216 WCB
Retaining Nut	Malleable or Steel
Disc Washer	Carbon Steel
Gland	Steel
Gland Flange	Steel
Eye Bolt	Steel
Eye Bolt Nuts	Steel
Pins	Steel
Bonnet Studs	A193 Gr. B7
Bonnet Nuts	A194 Gr. 2H
Handwheel	Malleable, Ductile or Steel
Handwheel Nut	Ductile or Steel
ID Tags	SS
ID Pins	Steel
Spacer	Steel
Grease Fittings	Steel

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B VALVE OPEN (mm)	C (mm)
2	24.42	216	408	200
2 1/2	32.93	241	460	200
3	46.08	282	530	240
4	72.83	305	619	280
6	141.17	403	826	360
8	216.67	419	1038	400
10	322	457	1247	450
12	480	502	1436	560

Industry Standards

STEEL VALVES	ANSI B16.34
FACE-TO-FACE/END-TO-END	ANSI B16.10
FLANGE DIMENSIONS	ANSI B16.5
BASIC DESIGN	API 600
TESTING	API 598
ACCEPTANCE	API RP591

Intermediate pressure ratings shall be determined by interpolation.

SIZE RANGE: 2 -12 inches **PRESSURE TEMPERATURE RATING:** Class 300

Carbon Steel
ASTM A216 Grade WCB
51.1 Bar / -29 to 38°C
28.8 Bar / 425°C

Valid as of 081220

Every effort has been made to ensure that the information contained in this publication is accurate at the time of publishing. Crane Ltd assumes no responsibility or liability for typographical errors or omissions or for any misinterpretation of the information within the publication and reserves the right to change without notice.

47XU-F

Cast Steel Gate Valve
Rising Stem

Class 150

Features & Benefits

- Efficient stop valves with flow in either direction
- Commonly used where a minimum pressure drop is important
- Flexible wedge disc compensates for deformation of body due to pipe stress
- Outside screw and yoke
- Flanged
- Seat ring is seal welded to eliminate leak paths

Materials

PART	MATERIAL
Body	A216 WCB
Bonnet	A216 WCB
Seat Rings	Hardfaced
Disc	CA-15 or 13% CR Overlay
Stem	ASTM A182 F6a Cl. 2. This is equivalent to SS410
Packing	Graphite
Bonnet Gasket	ASTM A276 304 + Graphite
Back Seat	410 SS
Yoke	ASTM A216 WCB
Retaining Nut	Malleable or Steel
Gland	Steel
Gland Flange	Steel
Eye Bolt	Steel
Eye Bolt Nuts	Steel
Pins	Steel
Bonnet Studs	A193 Gr. B7
Bonnet Nuts	A194 Gr. 2H
Handwheel	Malleable, Ductile or Steel
Handwheel Nut	Ductile or Steel
ID Tags	SS
ID Pins	Steel
Spacer	Steel
Grease Fittings	Steel

Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B VALVE OPEN (mm)	C (mm)
2	17.5	178	387	200
2.1/2	24.8	190	435	200
3	31.85	203	510	240
4	45.65	229	580	280
6	79.3	267	775	320
8	117.87	292	960	360
10	180.2	330	1165	400
12	267.85	356	1367	450
14	360	381	1545	560
16	458	406	1744	560
18	579	432	1930	640
20	732	457	2135	640
24	1083	508	2531	720

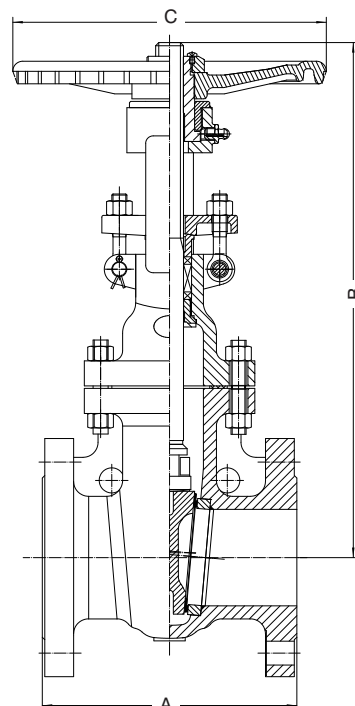
SIZE RANGE: 2 - 24 inches PRESSURE TEMPERATURE RATING: Class 150

Carbon Steel
ASTM A216 Grade WCB
19.6 Bar / -29 to 38°C
5.5 Bar / 425°C

47XU-F



Dimensional Drawing



Industry Standards

PRESSURE/TEMPERATURE	ANSI B16.34
FACE-TO-FACE/END-TO-END	ANSI B16.10
FLANGE DIMENSIONS	ANSI B16.5
BASIC DESIGN	API 600
TESTING	API 598

Intermediate pressure ratings shall be determined by interpolation.

FM124 / FM125

Resilient Seated Gate Valve



PN16

Features & Benefits

- Manufactured in accordance with BS EN 1074 for quality assurance
- Handwheel (FM124) or Stem Adaptor (FM125) version available
- WRAS Approved product to 23°C for potable water applications, maximum temperature rating 80°C
- WRAS listed fusion bonded epoxy coating, minimum thickness 250 micron and corrosion resistant construction
- Manufactured from Ductile Iron EN1563 EN-GJS-500-7 for improved durability
- Ductile iron disc encapsulated with EPDM WRAS elastomer for improved isolation

Materials

PART	MATERIAL	SPECIFICATION	QTY
Body	Ductile Iron	EN1563 EN-GJS-500-7	1
Disc	Ductile Iron / EPDM	EN1563 EN-GJS-500-7 / BS EN 681 - I	1
Stem	SS431	-	1
Bonnet	Ductile Iron	EN1563 EN-GJS-500-7	1
Bonnet Gasket	EPDM	BS EN 681 - I	1
O-Ring	EPDM	BS EN 681 - I	4
Gasket	Nylon 1010	-	2
Bush	DZR Brass	BS EN 12165 CW602N	1
Pin	SS304	-	1
Handwheel	Ductile Iron	EN1563 EN-GJS-500-7	1
Cap	Ductile Iron	EN1563 EN-GJS-500-7	1

Dimensions & Weights

SIZE (DN)	A (mm)	B (mm)	C (mm)	D (mm)	L (mm)	WEIGHT (kg)	
						HANDWHEEL	CAP
50	460	269	200	165	178	13.55	12.00
65	485	300	200	185	190	17.85	16.00
80	530	336	260	200	203	21.20	20.00
100	590	359	260	220	229	25.20	24.00
125	640	424	315	250	250	34.10	32.00
150	695	441	375	285	285	44.20	41.00
200	830	546	375	340	340	66.80	63.00
250	940	637	400	405	405	117.60	114.00
300	1030	719	500	460	460	173.00	168.00

PRESSURE RATING: PN16

TEMPERATURE RATING: 0°C to 80°C (WRAS 0°C to 23°C)

END CONNECTIONS: Flanged in accordance with BS EN 1092-2

OPERATOR: FM124 Handwheel / FM125 Stem Adaptor

SPECIFICATION: Valves are manufactured in accordance with BS EN 1074 Parts 1 and 2. Face to face is in accordance with BS5163 and EN 558 series 3. Valves are supplied with drilled pipe end flanges.

Stem adaptor in accordance with BS1074 design standards for operation using a standard waterworks tee-key.

The grade of Ductile Iron used for the body, bonnet and disc castings shall be BS EN 1563 EN-GJS-500-7.

These valves fall into the SEP category and as such do not require CE markings or notified body markings.

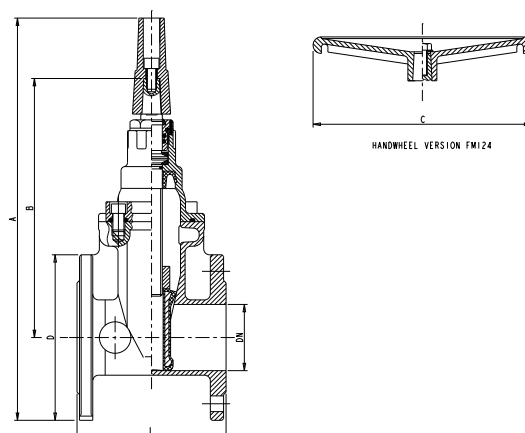
FM125



FM124



Dimensional Drawing



PROJECT

Qatar National Rail Scheme, Qatar

The QRail Doha scheme consists of a 300-kilometre metro network with four lines (red, gold, green & blue) with 80 stations; and light rail networks serving residential developments, such as Lusail, Education City and West Bay.

The Lusail LRT (Light Rail) project consists of four lines totalling 30km, 8 underground stations and 25 at-grade stations. Raed Line North will extend approximately 13 km northward from Musherib station, and has 7 underground stations. Two parallel tunnels will be excavated for a length of about 11.6 km and an internal diameter of 6.17 metres. Red Line South has 12 km long underground sections between Doha City Centre and the Airport. Green Line, has 15 km long underground sections which run north-south through the city. An over-ground extension to the underground tunnel section will have a total length of 3.2 km, of which 2.7 km will be a bridge from prefabricated components.

LOCATION:

Qatar

CLIENT:

Qatar Railways Development Company

CONTRACTOR:

ANEL MEP, Redco Int'l, Abantia, Cegelec, Saudi Bin Laden Group/Porr/HBK JV, TCS.

CONSULTANTS:

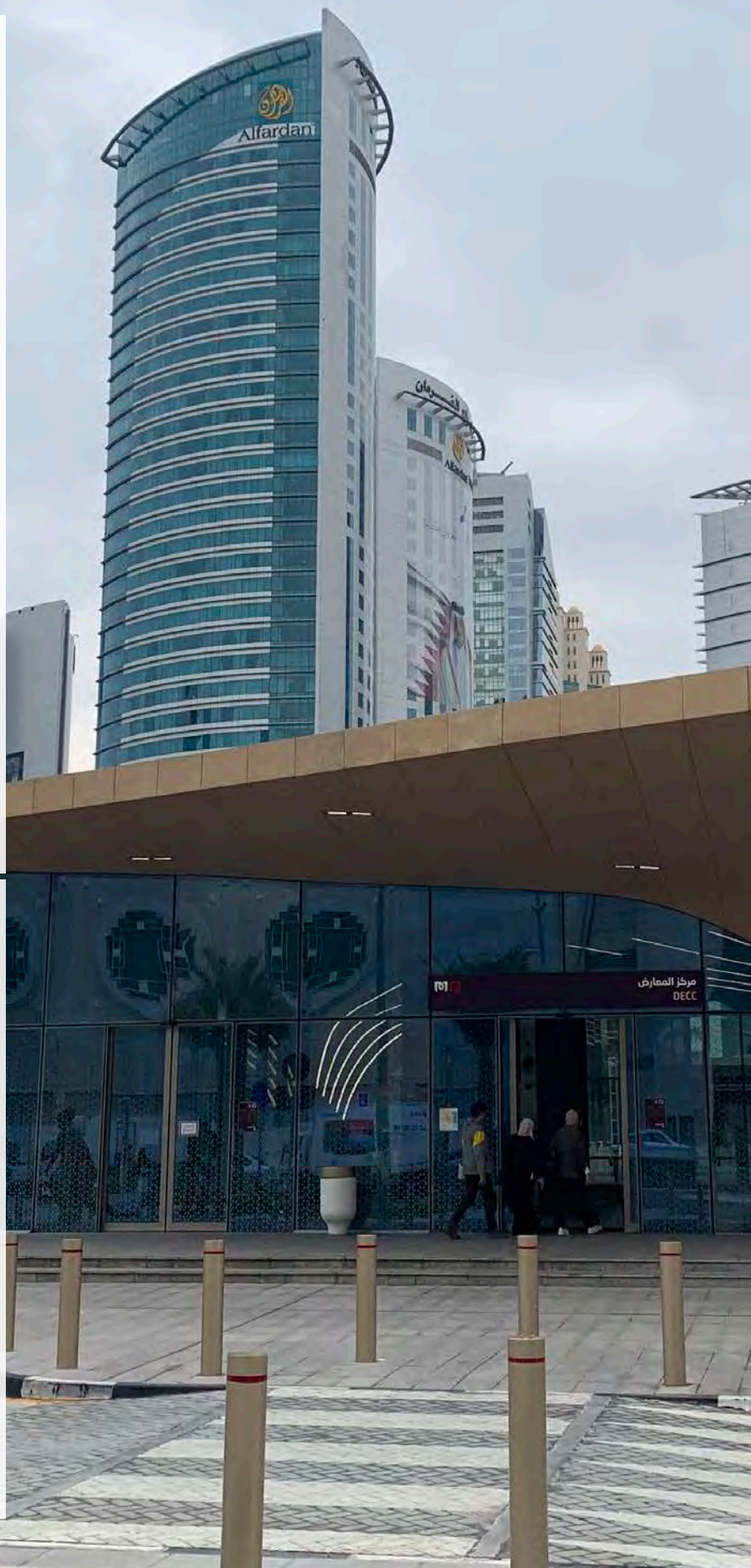
Jacobs Engineering, Louis Berger, Egis, Hill Int'l, Italferr SpA, WSP Parsons, Brinckerhoff, Astad, Atkins.

CHANNEL**PARTNER:**

AlRiyadh Trading & Contracting

SPECIFICATION:

Crane FS Pressure Independent Control Valves PICV, Balancing Valves & a wide selection of General Valves and Strainers



PROJECT

King's Cross Energy Centre



Crane FS Project Valves, including ball, butterfly, check and strainers were supplied via BSS for installation within the energy centre, which supplies heated water throughout the development at King's Cross, London. The 67-acre mixed

use development includes 2,000 new homes, new offices and retail space, 20 new streets and 10 public spaces, creating an entirely new piece of the city with its own postcode.

Crane FS valves will be installed in a site-wide Combined Heat and Power (CHP) driven hot water distribution network fed from a central energy centre. This is just one of the methods used on this site to cut energy consumption. Others include energy efficient buildings achieving a minimum BRE AAM of 'Excellent' roof-mounted wind turbines, ground source heat pumps and rainwater harvesting. The first buildings have been inhabited since autumn 2012.

LOCATION:

King's Cross, London

CLIENT:

King's Cross Central Limited Partnership

MAIN CONTRACTORS:

Carillion, BAM Construct, BAM Nuttall and Kier Group

M&E CONTRACTORS:

Vital Energi

DISTRIBUTOR:

BSS Ltd.

SPECIFICATION:

Wide range of project valves



Globe Valves

D7

Crane Fluid System globe valves are highly efficient for throttling service because seat and disc designs provide flow characteristics with proportionate relationships between valve lift and flow rate. This assures accurate flow control/ regulation. Globe valve bodies are normally of spherical shape, ensuring maximum strength against line pressures and pipeline strains. Wide faced hexagon ends on threaded valves provide a firm wrench grip which prevents damage to the valve. The majority of CFS globe valves are inside screw pattern, having either a screwed bonnet or union bonnet configuration. A wide choice of disc and seat materials is offered in this range to enable the user to select a valve most suited for the intended service.

There are five basic seat and disc arrangements available:

1. Metal to metal: the seat being integral with the body.
2. Renewable alloy or stainless steel disc and seat.
3. Renewable composition or elastomeric disc.
4. Renewable composition elastomeric disc alloy seat.
5. Vee-Reg pattern stainless steel disc and seat giving protection against wire drawing on steam service.



Fig. No.	Pressure Rating	End Connections	Size Range	Disc Material	Body Material
D4	20	Threaded	1/4 - 2"	"Brass (1/2 - 1") Bronze (2")"	Bronze
D7	32	Threaded	1/4 - 3"	PTFE	Bronze
F372	Class 125	Flanged	2 - 6"	Bronze	Cast Iron
FM369	16	Flanged	50 - 150mm	Bronze	Cast Iron
143XU	Class 150	Flanged	2 - 12"	Steel	Cast Steel
151XU	Class 300	Flanged	2 - 12"	Steel	Cast Steel

† WRAS approved product

D4

Bronze Globe Valve - Series B



PN20

Features & Benefits

- Crane bronze globe valves are highly efficient for throttling because seat and disc designs provide flow characteristics with proportionate relationships between valve lift and flow rate
- This valve carries the British Standards Institution kitemark – your assurance of exacting quality
- Conforms with BS 5154:1991 and generally conforms with MSS SP 80.

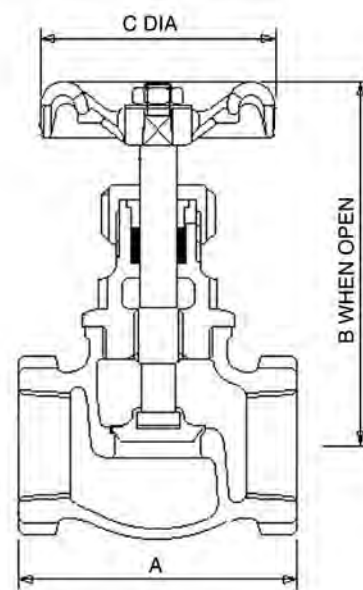
Materials

PART	MATERIAL	SIZES
Body	Bronze BS EN 1982 CC491K	All
Bonnet	Bronze BS EN 1982 CC491K	All
Disc	Brass BS EN 12164 CW614N	1/4 - 1 1/2
Disc	Bronze BS EN 1982 CC491K	2"
Stem	Brass BS EN 12164 CW614N	All
Packing	Asbestos Free	All
Gland	Brass BS EN 12164 CW614N	All
Packing Nut	Brass BS EN 12164 CW614N	All
Disc Stem Ring	Manganese Bronze BS EN 12164 CW721R	2" only
Handwheel	Aluminium	All
Handwheel Nut	Brass BS EN 12164 CW614N	All
ID Plate	Aluminium	All

Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)
1/4	0.23	44	75	52
3/8	0.22	44	75	52
1/2	0.31	55	82	52
3/4	0.42	63	89	52
1	0.71	77	102	65
1 1/4	1.12	91	118	70
1 1/2	1.5	98	134	78
2	2.48	118	171	103

Dimensional Drawing



Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 100	80
PRESSURE (BAR)	20	9

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN20

TEMPERATURE OPERATING RANGE: -10 to 180°C

UK END CONNECTION:

Taper threaded to BS EN 10226-2 (ISO 7-1) formerly BS 21

US END CONNECTION: ANSI B1.20.1

OPERATOR: Handwheel.

SPECIFICATION: Bronze Globe Valve, Rising Stem, Screwed Bonnet, in accordance with BS 5154:1991, PN20 rated. Integral narrow contact angled body seat. Valve Body & Bonnet to Bronze to BS EN 1982 CC491K. Bronze disc on size 2". Brass Stem and Disc to CW614N. PTFE packing ring complete with Brass packing gland and nut design. BSI Kitemark approved.

MSS SP80 CONFORMANCE: D4 meets the essential requirements of the Standard such as pressure temperature rating, functional attributes, material of construction, wall thickness and thread depth. D4.AT complies with end connections as well.

The Valve is suitable for use in group 2 gases, group 1 and group 2 liquids, as defined by the Pressure Equipment Directive 2014/68/EU.*

*see Quality Assurance page for more information

D7

Bronze Globe Valve

PN32

D7

Features & Benefits

- Crane bronze globe valves are highly efficient for throttling because seat and disc designs provide flow characteristics with proportionate relationships between valve lift and flow rate

Materials

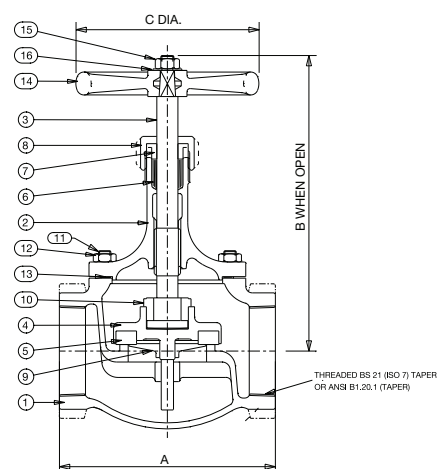
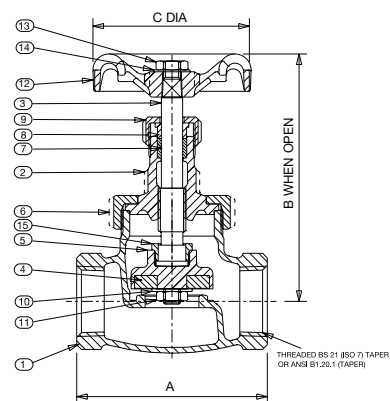
NO.	PART	MATERIAL	SIZES
1	Body	Bronze BS EN 1982 CC491K	All
2	Bonnet	Bronze BS EN 1982 CC491K	All
3	Stem	Brass BS EN 12163 CW721R	1/4 - 2
3	Stem	Bronze BS EN 1982 CC491K	2 1/2 & 3
4	Disc	PTFE - 25% Glass Filled	All
5	Disc Holder	Bronze BS EN 1982 CC491K	1 1/4 - 3
5	Disc Holder	Brass BS EN 12164 CW617N	1/4 - 1
6	Union Ring	Bronze BS EN 1982 CC491K	1/4, 3/8, 1/2 & 2
6	Union Ring	Brass BS EN 12164 CW617N	3/4 - 1 1/2
7	Packing	Asbestos Free	All
8	Packing Gland	Brass BS EN 12164 CW614N	All
9	Packing Nut	Brass BS EN 12164 CW614N	1/4 - 1 1/2
9	Packing Nut	Bronze BS EN 1982 CC491K	2 - 3
10	Washer	Brass BS EN 12164 CW614N	1/4 - 2
11	Disc Ret'ng Nut	Brass BS EN 12164 CW614N	1/4 - 2
11	Disc Ret'ng Nut	Bronze BS EN 1982 CC491K	2 1/2 & 3
12	Handwheel	Aluminium	1/4 - 2
12	Handwheel	Malleable Iron BS EN 1562 GJMB-300-6	2 1/2 & 3
13	Handwheel Nut	Brass BS EN 12164 CW614N	All
14	ID Plate	Aluminium	All
15	Disc Stem Ring	Brass BS EN 12163 CW721R	1/4 - 2
15	Disc Stem Ring	Bronze BS EN 1982 CC491K	2 1/2 & 3
16	Bonnet Stud	Steel BS 970 070M20	2 1/2 & 3
17	Bonnet Stud Nut	Steel BS 4190 Gr.4	2 1/2 & 3
18	Gasket	Asbestos Free	2 1/2 & 3

Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)
1/4	0.5	52	100	52
3/8	0.49	52	100	52
1/2	0.73	62	101	52
3/4	1.09	74	115	52
1	1.74	90	125	70
1 1/4	2.44	100	150	70
1 1/2	3.32	115	159	92
2	5.54	136	191	103
2 1/2	10.9	184	278	152
3	16.4	210	308	178



Dimensional Drawing

**PRESSURE RATING:** PN32**TEMPERATURE OPERATING RANGE:** -10 to 198°C**UK END CONNECTION:** BS 21 Taper**US END CONNECTION:** ANSI B1.20.1**OPERATOR:** Handwheel.**AVAILABLE OPTIONS:** P150 Locking Device**SPECIFICATION:** Valves are manufactured in accordance with BS 5154 PN32 for Series B ratings.

Design incorporates a disc holder with on sizes 1/4" to 2" slips on to stem, and on sizes 2 1/2" and 3" is retained by a threaded ring. Sizes 1/4" to 3" BS 21 versions BSI Kitemarked.

Body seat is integral of the semi-crown type. Sizes 1/4" to 2" have union bonnet and sizes 2 1/2" and 3" have a bolted bonnet. Valves having ANSI threads also generally conform to MSS SP-80.

This valve is not suitable for use on group 1 gases or unstable fluids, as defined by the Pressure Equipment Directive 2014/68/EU.*

*see Quality Assurance page for more information

F372

F372

Cast Iron Globe Valve

Class 125

Features & Benefits

- Crane cast iron globe valves are highly efficient for throttling because seat and disc designs provide flow characteristics with proportionate relationships between valve lift and flow rate

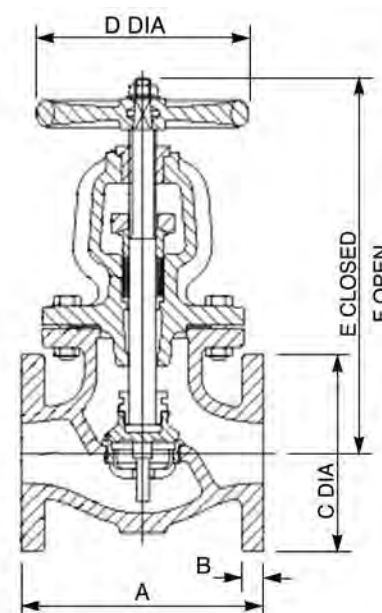
Materials

PART	MATERIAL	SIZES
Body	Cast Iron BS EN 1561 GJL-250	All
Bonnet	Cast Iron BS EN 1561 GJL-250	All
Disc Guide Pin	Brass BS EN 12164 CW721R	5 & 6
Gland	Brass BS EN 12164 CW614N	All
Gland Flange	Malleable Iron BS EN 1562 GJMB-300-6	All
Gasket	Asbestos Free	All
Disc Stem Ring	Brass BS EN 12164 CW721R	All
Lockwasher	Brass BS EN 1652	All
Disc	Bronze BS EN 1982 CC491K	All
Body Seat Ring	Bronze BS EN 1982 CC491K	All
Stem	Brass BS EN 12164 CW721R	All
Packing	Asbestos Free	All
Yoke Bushing	Brass BS EN 12164 CW721R	All
Handwheel	Malleable Iron BS EN 1562 GJMB-300-6	All

Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)
2	23.1	203	16	152	203	310	335
2½	27.2	216	17	178	203	330	356
3	34.5	241	19	191	229	362	392
4	54.4	292	24	229	254	416	446
5	70.8	330	24	254	305	457	489
6	95.3	356	25	279	305	476	516

Dimensional Drawing



Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 65	150	230
PRESSURE (BAR)	13.8	11.4	8.6

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: Class 125

TEMPERATURE OPERATING RANGE: -10 to 230°C

US END CONNECTION: ANSI Class 125

OPERATOR: Handwheel

AVAILABLE OPTOINS: Flanges Undrilled

SPECIFICATION: Valves are manufactured in accordance with BS 5152: 1974 and also meet the requirements of MSS.SP-85: 2002.

End flanges conform to BS 1560 Section 3.2/ANSI B16.1 Class 125 with Flat Face and are normally supplied drilled.

Valves detailed on this page are dimensioned in metric terms.

This valve is not suitable for use on Group 1 gases or unstable fluids, as defined by the Pressure Equipment Directive 2014/68/EU.*

*see Quality Assurance page for more information

FM369

Cast Iron Globe Valve

PN16

FM369

Features & Benefits

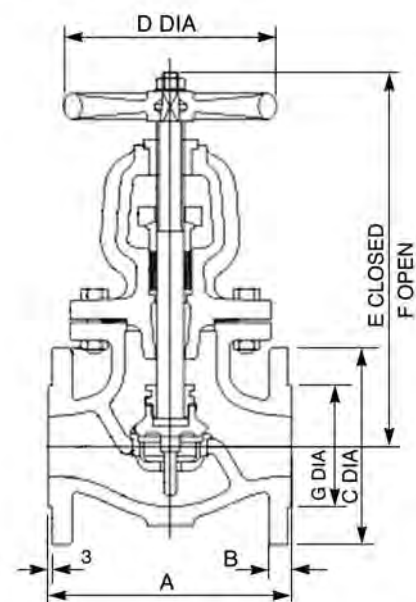
- Crane cast iron globe valves are highly efficient for throttling because seat and disc designs provide flow characteristics with proportionate relationships between valve lift and flow rate



Materials

PART	MATERIAL	SIZES
Body	Cast Iron BS EN 1561 GJL-250	All
Bonnet	Cast Iron BS EN 1561 GJL-250	All
Disc Guide Pin	Brass BS EN 12164 CW721R	125 - 150
Gland	Brass BS EN 12164 CW614N	All
Gland Flange	Malleable Iron BS EN 1562 GJMB-300-6	All
Gasket	Asbestos Free	All
Disc Stem Ring	Brass BS EN 12164 CW721R	All
Lockwasher	Brass BS EN 1652	All
Disc	Bronze BS EN 1982 CC491K	All
Body Seat Ring	Bronze BS EN 1982 CC491K	All
Stem	Brass BS EN 12164 CW721R	All
Packing	Asbestos Free	All
Yoke Bushing	Brass BS EN 12164 CW721R	All
Handwheel	Malleable Iron BS EN 1562 GJMB-300-6	All

Dimensional Drawing



Dimensions & Weights

SIZE (mm)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)
50	24.2	203	20	165	203	310	335	102
65	29	216	20	185	203	330	356	122
80	36.9	241	22	200	229	362	392	138
100	56	292	24	220	254	416	446	158
125	72.3	330	26	250	305	457	489	188
150	98.8	356	26	285	305	476	516	212

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 100	220
PRESSURE (BAR)	16	12.1

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN16

TEMPERATURE OPERATING RANGE: -10 to 220°C

UK END CONNECTION: Flanged BS EN 1092-2 PN16

OPERATOR: Handwheel

AVAILABLE OPTIONS: Flanges Undrilled

SPECIFICATION: Valves are manufactured in accordance with BS EN 13789:2010.

End flanges conform to BS EN 1092-2 PN16 with raised face.

Valves are normally supplied drilled.

This valve is not suitable for use on group 1 gases or unstable fluids, as defined by the Pressure Equipment Directive 2014/68/EU.*

*see Quality Assurance page for more information

143XU

Cast Steel Globe Valve

Class 150

143XU

GENERAL VALVES



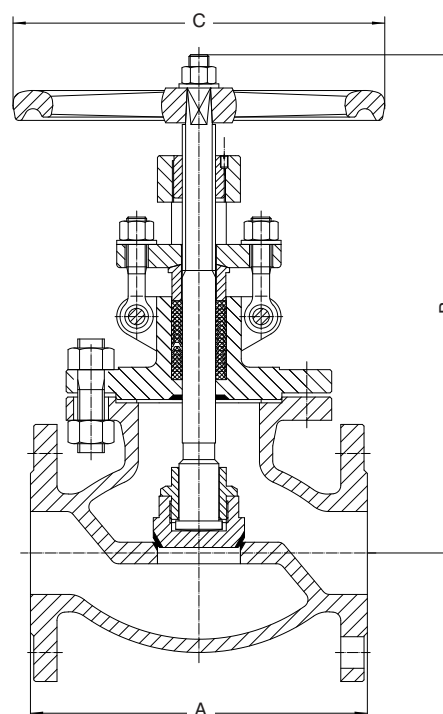
Features & Benefits

- Ideal for throttling service
- Flow characteristics permit accurate and repeatable flow control
- Seat ring is seal welded to eliminate leak paths
- Outside screw & yoke
- Bolted bonnet

Materials

PART	MATERIAL
Body	A216 WCB
Bonnet	A216 WCB
Seat Rings	Hardfaced
Disc	ASTM A105 + STL
Stem	ASTM A182 F6a Cl. 2. This is equivalent to SS410
Packing	ASTM A276 304 + Graphite
Bonnet Gasket	ASTM A276 304 + Graphite
Back Seat	410 SS
Disc Stem Nut	Steel
Disc Washer	Carbon Steel
Gland	410 SS
Gland Flange	WCB
Eye Bolt	Steel
Eye Bolt Nuts	Steel
Pins	-
Bonnet Studs	A193 Gr. B7
Bonnet Nuts	A194 Gr. 2H
Handwheel	ASTM A536 65-45-12
Handwheel Nut	A194 Gr. 2H
ID Tags	SS
ID Pins	Steel

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B VALVE OPEN (mm)	C (mm)
2	17.4	203	327	200
2 1/2	24	216	366	240
3	31.8	241	418	240
4	44.6	292	446	280
6	88	406	590	400
8	143	495	702	450
10	233	622	983	440
12	268	698	1190	540

Industry Standards

PRESSURE/TEMPERATURE	ANSI B16.34
FACE-TO-FACE/END-TO-END	ANSI B16.10
FLANGE DIMENSIONS	ANSI B16.5
TESTING	API 598
DESIGN	API 623

Intermediate pressure ratings shall be determined by interpolation.

SIZE RANGE: 2 - 12 inches **PRESSURE TEMPERATURE RATING:** Class 150

Sizes 10" and 12" are
Carbon Steel
Gearbox operated
ASTM A216 Grade WCB
19.6 Bar / -29 to 38°C
5.5 Bar / 425°C

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151XU

Cast Steel Globe Valve

Class 300

151XU



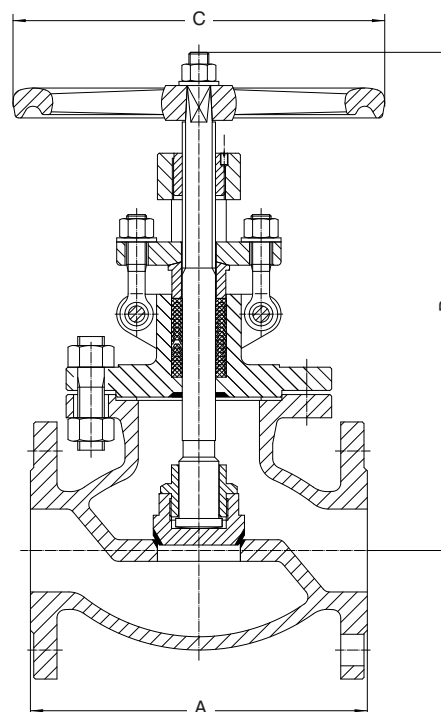
Features & Benefits

- Ideal for throttling service
- Flow characteristics permit accurate and repeatable flow control
- Seat ring is seal welded to eliminate leak paths
- Outside screw & yoke
- Bolted Bonnet

Materials

PART	MATERIAL
Body	A216 WCB
Bonnet	A216 WCB
Seat Rings	Hardfaced
Disc	ASTM A105 + STL
Stem	ASTM A182 F6a Cl. 2. This is equivalent to SS410
Packing	ASTM A276 304 + Graphite
Bonnet Gasket	ASTM A276 304 + Graphite
Back Seat	410 SS
Disc Stem Nut	Steel
Disc Washer	Carbon Steel
Gland	410 SS
Gland Flange	WCB
Eye Bolt	Steel
Eye Bolt Nuts	Steel
Pins	-
Bonnet Studs	A193 Gr. B7
Bonnet Nuts	A194 Gr. 2H
Handwheel	ASTM A536 65-45-12
Handwheel Nut	A194 Gr. 2H
ID Tags	SS
ID Pins	Steel

Dimensional Drawing



Dimensions & Weights

SIZE (inch)	WEIGHT (kg)	A (mm)	B VALVE OPEN (mm)	C (mm)
2	23.55	267	362	240
2½	33	292	432	280
3	47.5	318	457	280
4	65.9	356	504	320
6	132.5	444	671	400
8	217	559	1170	440
10	322	622	1283	540
12	480	711	1488	540

Industry Standards

PRESSURE/TEMPERATURE	ANSI B16.34
FACE-TO-FACE/END-TO-END	ANSI B16.10
FLANGE DIMENSIONS	ANSI B16.5
TESTING	API 598
DESIGN	API 623

Intermediate pressure ratings shall be determined by interpolation.

SIZE RANGE: 2 - 12 inches **PRESSURE TEMPERATURE RATING:** Class 300

Sizes 8", 10" and 12" are
Gearbox operated
Carbon Steel
ASTM A216 Grade WCB
51.1 Bar / -29 to 38°C
28.8 Bar / 425°C

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PROJECT

Phase III, The Avenues

Phase 3 of Kuwait's largest shopping destination was completed in 2012 and consists of more than 86,000 square metres of retail space. Located in the Al Rai district of Kuwait City, the mall has been designed by London and Los Angeles offices of Gensler, in conjunction with Kuwait developers, Mabaneer.

The completed third phase houses 545 retail units. This stage of the project was awarded to Bader Al Mulla, one of Kuwait's top MEP contractors on a very tight time-scale. Crane Fluid Systems together with their distributor, Asia Electro-Mechanical, committed to holding valve stocks in Kuwait to service this project and ensure no delays. This was a key factor in persuading Bader Al Mulla to place the order for the complete range of valves with Asia/Crane FS.

The first phase of the project opened in April 2007 and includes the largest IKEA in the region, the first Carrefour supermarket in Kuwait and a 10 screen cinema complex. The building design is inspired by the natural forms and elements of the desert. It is also built using environmentally friendly techniques which utilise natural sunlight.

The completed mall includes more than 100 restaurants, a spa, an entertainment centre, a boutique mall, hotels, offices, a convention centre and a theatre.

LOCATION:

Kuwait

DEVELOPERS:

Gensler (London & Los Angeles), Mabaneer Co.

CONTRACTOR:

Bader Al Mulla

DISTRIBUTOR:

Asia Electro-Mechanical

SPECIFICATION:

A wide range of traditional and commissioning valves



PROJECT

Steigenberger Hotel Tahrir Square, Cairo

The new Steigenberger Hotel El Tahrir is located in the heart of Cairo down town, within a short walking distance of the Egyptian Museum, Khan El Khalili and the Arab League.

The hotel offers 295 modernly furnished rooms and suites and on-site parking facilities. Meeting rooms are efficiently spread over one floor with a main multi-purpose hall able to take up to 300 guests.

**LOCATION:**

Cairo, Egypt

CLIENT:

Steigenberger Hotels

CONSULTANT:

EHAf

CONTRACTOR:

Siemens

CHANNEL PARTNER:

OMEGA Engineering

SPECIFICATION:

Crane FS Balancing Valves and a wide selection of General Valves and Strainers.



PROJECT

Tate Modern Project

Crane Fluid Systems has supplied Dominators and a selection of general valves to the new extension at the Tate Modern, The Tate Project, situated on the banks of the River Thames, South-East London.

Tate Modern was designed for an annual audience of two million visitors, but receives around five million, putting pressure on existing facilities. The expansion has created a less congested, more welcoming environment, at the same time doubling exhibition and display space and enabling the gallery to show more of their Collection. There are also more cafes, terraces and concourses in which to meet and unwind.

The new development has continued to bolster the growth of the borough. A public walkway through the building will make possible a direct route from the City to the heart of Southwark and there will be two new public squares to the south and west of the building. To the east, a new planted area has been created especially for the use of the local community and staff.

LOCATION:

London

CLIENT:

Tate

MAIN**CONTRACTOR:**

Mercury

DISTRIBUTOR:

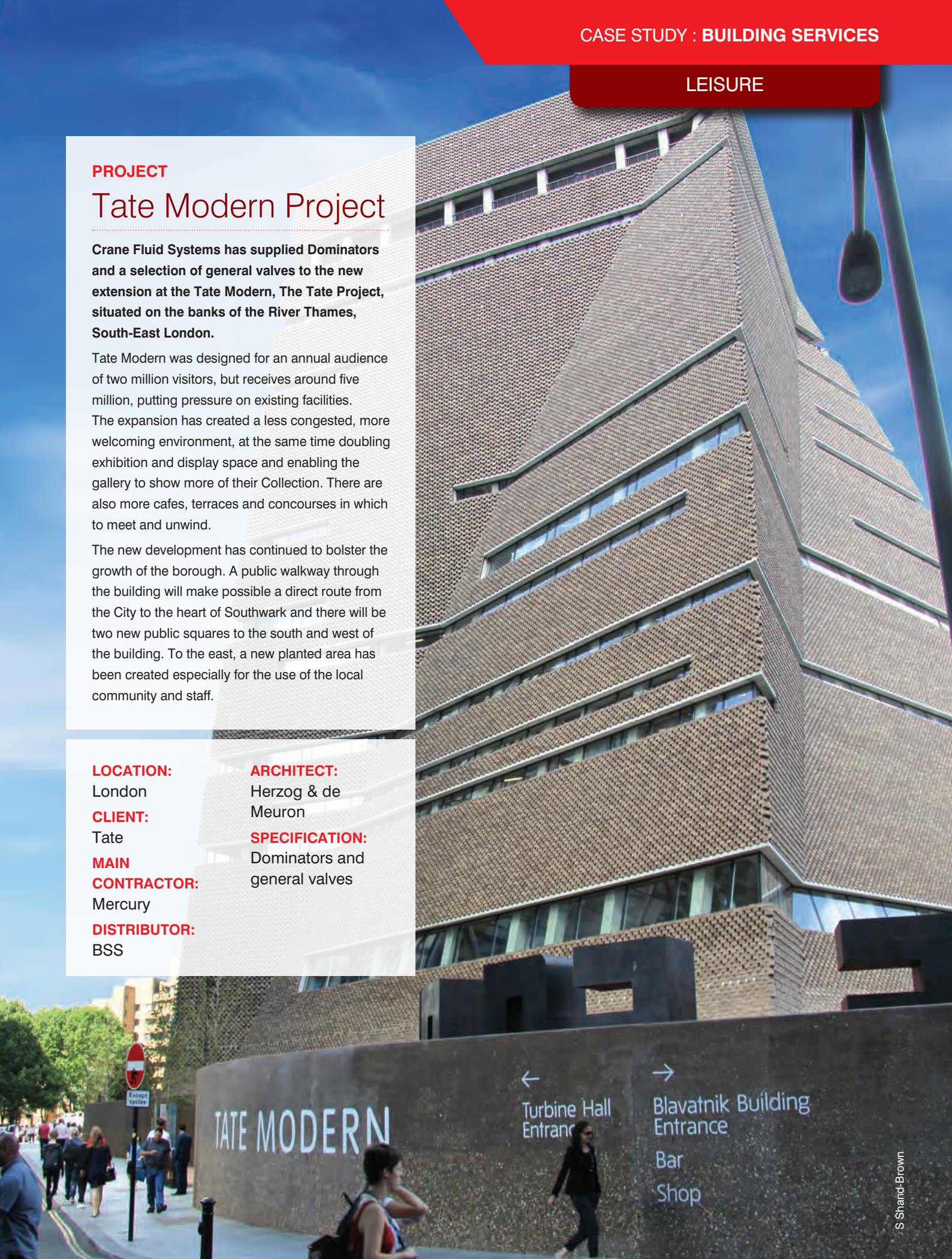
BSS

ARCHITECT:

Herzog & de Meuron

SPECIFICATION:

Dominators and general valves



Strainers

Scale and dirt in piping systems can cause endless trouble and serious damage to pipeline equipment. Installation of Hattersley strainers will help eliminate the problems caused by foreign matter within piping systems. Generous proportions of Crane Fluid Systems' strainers allow the units to collect significant quantities of foreign matter before pressure losses necessitate cleaning of the basket.



D298

Fig. No.	PN Rating	End Connections	Size Range	Strainer Screen Material	Screen Hole Size	Free Flow %	Body Material
D295†	20	Threaded	1/2 - 2"	Stainless Steel	0.75mm (1/2 - 1") 1.4mm (1 1/4 - 2")	50% (1/2 - 1") 46% (1 1/4 - 2")	Bronze
D297†	32	Threaded	1/2 - 2"	Stainless Steel	0.75mm	23%	Bronze
D298†	16	Threaded	1/2 - 2"	Stainless Steel	0.75mm (1/2 - 1") 1.4mm (1 1/4 - 2")	50% (1/2 - 1") 46% (1 1/4 - 2")	Bronze
FM276	16	Flanged	50 - 200mm	Stainless Steel	1.5mm	32%	Ductile Iron
F277	Class 125	Flanged	50 - 200mm	Stainless Steel	1.5mm	32%	Ductile Iron
FM276	16	Flanged	250 - 600mm	Stainless Steel	1.5mm	32%	Ductile Iron
F277	Class 125	Flanged	250 - 300mm	Stainless Steel	1.5mm	32%	Ductile Iron
FM278	25	Flanged	50 - 300mm	Stainless Steel	1.5mm	32%	Ductile Iron
FM276W†	16	Flanged	65 - 150mm	Stainless Steel	1.5mm	32%	Cast Iron
FM278W†	25	Flanged	65 - 150mm	Stainless Steel	1.5mm	32%	Ductile Iron

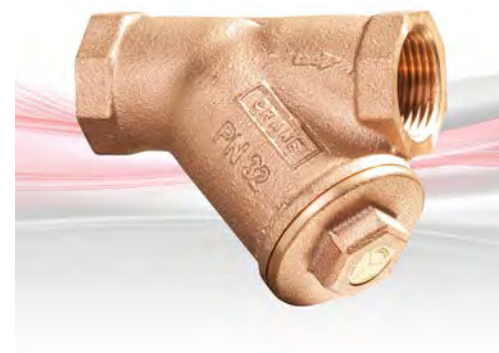
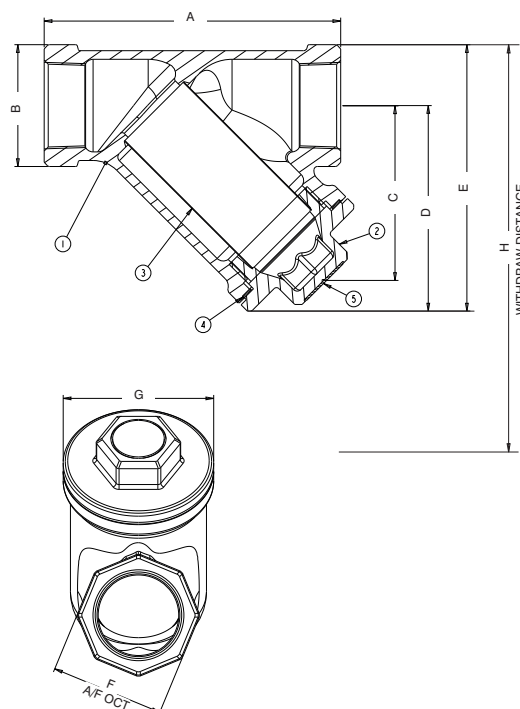
† WRAS approved product

D297**Strainer****PN32****D297****GENERAL VALVES****Features & Benefits**

- Eliminate the problems caused by foreign matter within piping systems
- Perforated stainless steel screen with robust design, low flow resistance and high quality materials
- WRAS approved for use on hot and cold water systems up to 85°C
- 0.75mm screen perforations

Materials

PART	MATERIAL	SPECIFICATION
Body	Bronze	BS EN 1982 CC491K
Cap	Bronze	BS EN 1982 CC491K
Strainer Mesh	Stainless Steel	Type 304
Gasket	Klingsil	C4430
ID Plate	Anodised Aluminium	

**Dimensional Drawing****Dimensions & Weights**

SIZE (inch)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (Rc)	Kv	WEIGHT (kg)
1/2	71	29	42	49	63	27	35	144	4.4	0.27
3/4	86	35	51	60	77	33	44	176	9.5	0.44
1	101	45	55	67	90	42	54	202	16.5	0.78
1 1/4	134	54	80	93	120	50	63	294	24.5	1.30
1 1/2	148	63	87	103	134	58	73	322	30.8	1.81
2	176	77	98	119	157	71	93	367	55.6	3.10

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 100	130	15	180	200
PRESSURE (BAR)	32	26.5	22.8	17.4	14

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: PN32**TEMPERATURE OPERATING RANGE:** -10 to 200°C**UK END CONNECTION:**

Taper threaded to BS EN 10226-2

US END CONNECTION: ANSI B1.20.1

SPECIFICATION: Strainers fitted with stainless steel perforated strainer element with 0.75mm diameter holes. Screens fitted into Crane Strainers conform to the high standards of materials and workmanship associated with all Crane products.

This strainer is not suitable for use on Group 1 gases, Group 2 gases or unstable fluids, as defined by the Pressure Equipment Directive 2014/68/EU.*

*see Quality Assurance page for more information

Valid as of 08/12/20

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D298

Bronze Strainer



PN16

D298

Features & Benefits

- A generous use of pipeline strainers will make a significant contribution to the reliability of a piping system and to optimise performance of the equipment - pumps, valves, flow measuring devices, traps etc
- Strainers are a low cost investment for any piping system and result in reduced maintenance costs as well as minimising 'downtime' by protecting the circuit from damage by foreign matter

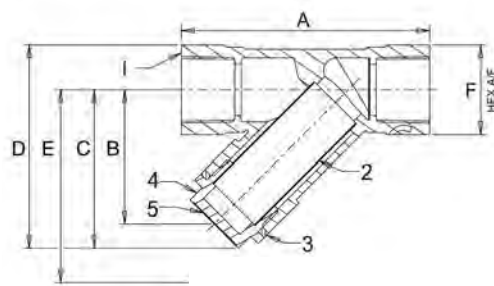
Materials

NO.	PART	MATERIAL
1	Body	Bronze to BS EN 1982 CC491K
2	Mesh	Stainless Steel to A.I.S.I. Type 304
3	Cap Seal	PTFE
4	Cap	Bronze to BS EN 1982 CC491K
5	ID Plate	Aluminium

Dimensions & Weights

DN	MESH HOLE Ø (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	WEIGHT (kg)
15	0.75	58	33	40	55	62	27	0.16
20	0.75	70	42	54	69	80	33	0.28
25	0.75	88	48	60	80	93	39	0.38
32	1.4	96	55	69	95	108	49	0.64
40	1.4	107	61	76	107	118	55	0.88
50	1.4	126	79	99	135	153	67	1.40

Dimensional Drawing



E = withdrawal distance for the screen

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 100	170
PRESSURE (BAR)	16	7

Intermediate pressure ratings shall be determined by interpolation.

WRAS approval -10 to 85°C

PRESSURE RATING: PN16

16 bar -10° to 100°C (max)*

7 bar at 170°C

TEST PRESSURE: 24 bar hydraulic

SPECIFICATION: Bronze body. Screen 304 stainless steel.

End connections threaded to BS EN 10266 (BS 21 Taper ISO R7) & B1.20.1 ANSI.

* WRAS -10 to 85°C

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D295

Bronze Strainer



PN20

D295



GENERAL VALVES

Features & Benefits

- Robust and high quality bronze body
- Streamlined flow contours minimise pressure drop
- Compact design with short face to face
- Perforated stainless steel screen
- Captive asbestos-free non-stick PTFE gasket

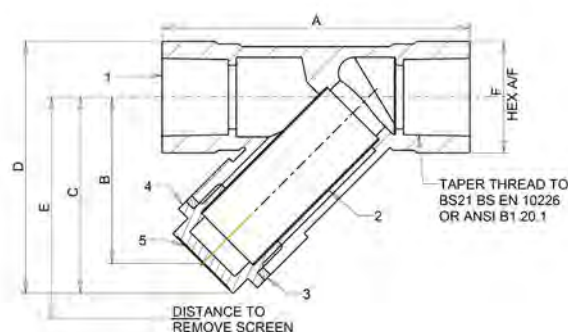
Materials

NO.	PART	MATERIAL
1	Body	Bronze to BS EN 1982 CC491K
2	Mesh	Stainless Steel to A.I.S.I. Type 304
3	Cap Seal	PTFE
4	Cap	Bronze to BS EN 1982 CC491K
5	ID Plate	Aluminium

Dimensions & Weights

DN	MESH HOLE Ø (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	WEIGHT (kg)
15	0.75	58	33	40	55	62	27	0.19
20	0.75	70	42	54	69	80	33	0.30
25	0.75	88	48	60	80	93	39	0.43
32	1.40	96	55	69	95	108	49	0.74
40	1.40	107	61	76	107	118	55	1.01
50	1.40	126	79	99	135	153	67	1.46

Dimensional Drawing

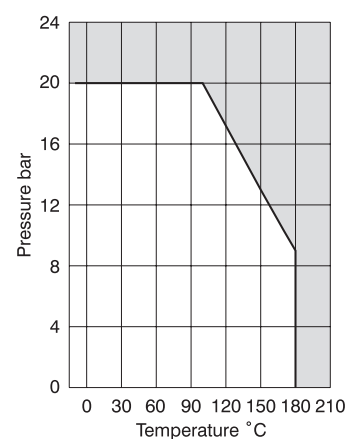


Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 100	180
PRESSURE (BAR)	20	9

Intermediate pressure ratings shall be determined by interpolation.

WRAS approval -10 to 85°C



PRESSURE RATING: PN20

TEMPERATURE OPERATING RANGE: -10° to 180°C

UK END CONNECTION: Taper threaded to BS EN 10226-2 (ISO 7-1) formerly BS 21

US END CONNECTION: ANSI B1.20.1

* WRAS -10 to 85°C

SPECIFICATION: Bronze Y Strainer, with body and cap to BSEN1982 CC491K, SS 304 Screen, PTFE Cap seal, PN20 rating.

End connections threaded to BS EN 10266 (BS 21 Taper ISO R7) & B1.20.1 ANSI. Use suffix AT for American threads.

This valve falls under SEP category and suitable for use on Group 2 gases, Group 1 Liquids and Group 2 Liquids, as defined by the Pressure Equipment Directive 2014/68/EU*

*see Quality Assurance page for more information

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FM276 - PN16

F277 - CLASS 125

Ductile Iron Strainer DN50 - DN300

Features & Benefits

- Scale and dirt in piping systems causes endless trouble and frequently serious damage to pipeline equipment.
- Installation of Crane strainers will help eliminate the problems caused by foreign matter within piping systems
- The FM276 and F277 offer the integrity of manufacture, quality and reliability which are the hallmarks of all Crane products
- Cap tapped and plugged for drain
- Stainless steel strainer element

Materials

PART	MATERIAL
Body	Ductile Iron BS EN 1563 EN-GJS-450-10
Cap	Ductile Iron BS EN 1563 EN-GJS-450-10
Gasket	Asbestos Free
Screen	Stainless Steel AISI Type 304
Drain Plug	Malleable Iron
Test Point Plug Rc 1/4	Malleable Iron
Studs	Cast Iron
Bolts	Ductile Iron
Bolts	Cast Iron

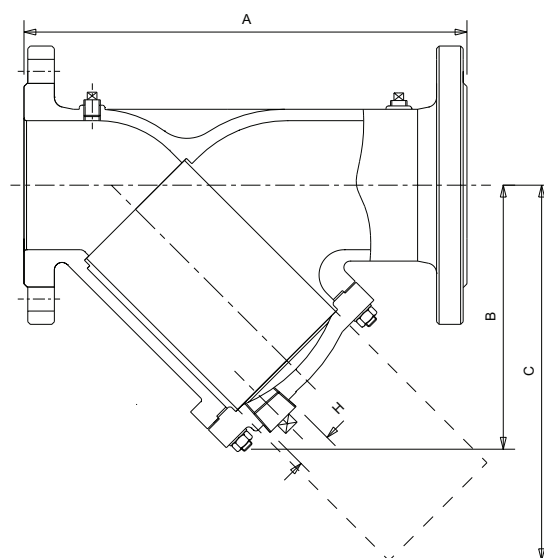
Dimensions & Weights

SIZE (mm)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)	H (Rc)	kV
50	10	230	139.2	197	1/2"	58
65	14	290	158.6	227	1"	89
80	18	310	177.5	256	1"	127
100	24	350	197.6	293	1 1/2"	180
125	37	400	269.6	362	2"	268
150	50	480	296.8	407	2"	356
200	89	600	363.4	513	2"	630
250	140	730	471	762	2"	901
300	211	850	605	946	2"	1247



FM276

Dimensional Drawing



Pressure/Temperature Ratings - FM276

TEMPERATURE (°C)	-10 to 120	200
PRESSURE (BAR)	16	12.8

Pressure/Temperature Ratings - F277

TEMPERATURE (°C)	-10 to 65	230
PRESSURE (BAR)	13.8	8.6

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: FM276: PN16 / F277: Class 125

TEMPERATURE OPERATING RANGE:

FM276: -10 to 200°C

F277: -10 to 230°C

UK END CONNECTION: Flanged BS EN 1092-2: PN16 Raised face

US END CONNECTION: Flanged Class 125 BS1560

- Section 3.2/ ANSI B16.1 Flat Face

SPECIFICATION:

Strainers are supplied with a stainless steel perforated strainer element. The mesh screen diameter hole sizes are as follows: DN50 - DN300 1.5mm diameter.

Suitable for use on Group 2 Gas, Group 1 & Group 2 Liquids as defined by Pressure Equipment Directive 2014/68/EU, and Pressure Equipment (Safety) Regulations 2016, as amended.*

Not suitable for use on Group 1 Gases or unstable liquids.

Bosses drilled, tapped and plugged.

*see Quality Assurance page for more information

FM276 DN350 - DN600 PN16

Ductile Iron Strainer

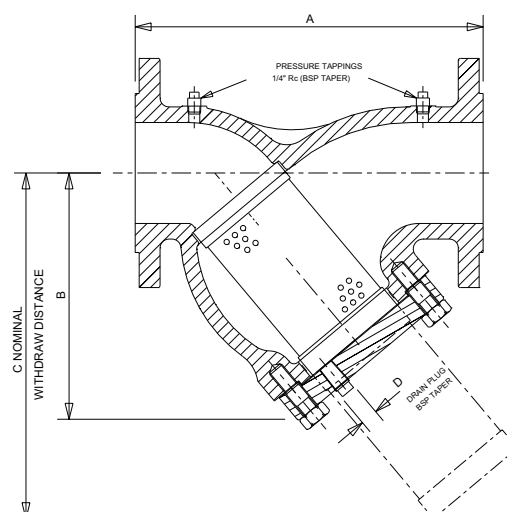
FM276

**Features & Benefits**

- Scale and dirt in piping systems causes endless trouble and frequently serious damage to pipeline equipment.
- Installation of Crane strainers will help eliminate the problems caused by foreign matter within piping systems
- The FM276 offers the integrity of manufacture, quality and reliability which are the hallmarks of all Crane products
- Cap tapped and plugged for drain
- Stainless Steel strainer element

Materials

PART	MATERIAL	SIZE
Body	Ductile Iron A536 65-45-12 (EN-GJS-450-10)	350-500
Body	Ductile Iron BS EN 1563 (EN-GJS-500-7)	600
Cap	Ductile Iron A536 65-45-12 (EN-GJS-450-10)	350-500
Cap	Ductile Iron BS EN 1563 (EN-GJS-500-7)	600
Gasket	Asbestos Free	All
Screen	Stainless Steel AISI Type 304	All
Drain Plug	Malleable Iron	All
Test Point Plug Rc 1/4	Malleable Iron	All
Nuts	Steel Grade 8	350-300
Bolts	Carbon Steel Grade 4.6	350-500
Bolts	Carbon Steel Grade 4.8	600

Dimensional Drawing**Dimensions & Weights**

SIZE (mm)	WEIGHT (kg)	A (mm)	B (mm)	C (mm)	D (Rc)	kV
350	328	848	680	1015	2"	3018
400	452	984	765	1135	2"	4138
450	627	1105	845	1250	2"	5233
500	751	1257	997	1605	2"	6810
600	1080	1450	1160	1655	2"	8180

Pressure/Temperature Ratings
- FM276

TEMPERATURE (°C)	-10 to 110°C
PRESSURE (BAR)	16

- F277

TEMPERATURE (°C)	-10 to 65°C	110°C
PRESSURE (BAR)	10.3	8.9

Intermediate pressure ratings shall be determined by interpolation.

PRESSURE RATING: FM276: PN16

TEMPERATURE OPERATING RANGE:

FM276: -10°C to 110°C

UK END CONNECTION: Flanged BS EN 1092-2: PN16

SPECIFICATION:

Strainers are supplied with a stainless steel perforated strainer element. The mesh screen diameter hole sizes are as follows: DN350-DN500 3.2mm diameter and DN600 3.0mm diameter.

Suitable for use on Group 2 Liquids only, and limited to 110°C use as defined by Pressure Equipment Directive 2014/68/EU, and Pressure Equipment (Safety) Regulations 2016, as amended.*

Not suitable for use on Group 1 and Group 2 Gases, Group 1 Liquids or unstable liquids. Bosses drilled, tapped and plugged.

*see Quality Assurance page for more information

FM276W

Strainers



PN16

Features & Benefits

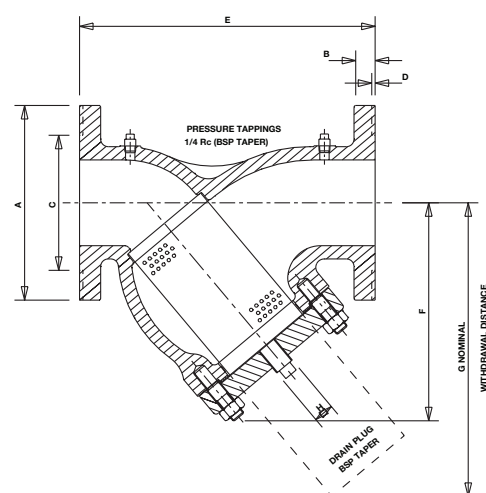
- Crane strainers will help eliminate the problems caused by foreign matter within piping systems
- WRAS approved range from DN65 to DN150
- WRAS approved for use with wholesome (potable) water
- WRAS approved internal epoxy powder coating



Materials

PART	MATERIAL	SPECIFICATION
Body	Cast Iron	BS EN 1561 EN-GJL-250
Cap	Cast Iron	BS EN 1561 EN-GJL-250
Gasket	Asbestos Free	
Stud	Steel	BS 4439 GRADE 8.8
Nut	Steel	BS 3692 GRADE 8
Screen Hole Size Ø1.5mm 32% Open Ratio	Stainless Steel	Type 304
Drain Plug	Malleable Iron	
Test Point Plug Rc 1/4	Malleable Iron	

Dimensional Drawing



Dimensions & Weights

SIZE (DN)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (Rc)	WEIGHT (kg)
65	185	20	122	3	290	210	298	1 1/4"	18
80	200	22	138	3	310	215	301	1 1/4"	21
100	220	24	158	3	350	245	350	1 1/4"	32
125	250	26	188	3	400	297	430	1 1/2"	46
150	285	26	212	3	480	333	484	1 1/2"	62

Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 85
PRESSURE (BAR)	16

END CONNECTION: Flanged to BS EN 1092-2 PN16

SPECIFICATION: End flanges conform to BS EN 1092-2 PN16 Section 3.2 table 11 with raised face and are normally supplied drilled.

Strainers are normally supplied with a stainless steel perforated strainer element having 1.5mm diameter holes.

This product is not suitable for use on Group 2 liquids only, as defined by the Pressure Equipment Directive 2014/68/EU.*

Bosses drilled, tapped and plugged.

*see Quality Assurance page for more information

FM278

Ductile Iron Strainer

PN25

FM278



GENERAL VALVES

Features & Benefits

- Scale and dirt in piping systems causes endless trouble and frequent serious damage to pipeline equipment
- Installation of Crane strainers will help eliminate the problems caused by foreign matter with piping systems
- The FM278 offers the integrity of manufacture, quality and reliability which are the hallmarks of Crane products
- Cap tapped and plugged for drain (drain valve sold separately)

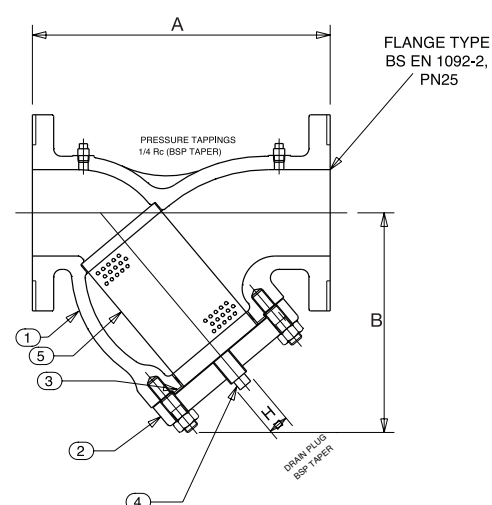
Materials

NO.	PART	MATERIAL
1	Body	Ductile Iron - BS EN 1563 EN GJS 500/7
2	Cap	Ductile Iron - BS EN 1563 EN GJS 500/7
3	Gasket	Asbestos Free
4	Plug	Ductile Iron - BS EN 1563 EN GJS 500/7
5	Screen	304 Stainless Steel

Dimensions & Weights

SIZE (mm)	A (mm)	B (mm)	H(RC)	WEIGHT (kg)
50	230	146	1/2"	13.0
65	273	174	1"	18.3
80	295	198	1"	21.2
100	352	232	1"	25.9
125	416	285	1 1/4"	36.0
150	470	305	1 1/2"	60.0
200	543	401	1 1/2"	100.0
250	660	473	2"	170.0
300	770	554	2"	290.0

Dimensional Drawing



Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 220
PRESSURE (BAR)	21.8

Intermediate pressure ratings shall be determined by interpolation.

(DN300: Limited to 110°C only).

PRESSURE RATING: PN25

END CONNECTION: Flanged to BS EN 1092-2 PN25

TEMPERATURE OPERATING RANGE:

-10 to 220°C

(DN300: Limited to 110°C only).

SPECIFICATION: Flanges conform to BS EN 1092-2 PN25 Section 3.2 table 11 with raised face.

Strainers are supplied with a stainless steel perforated strainer element having 1.6mm diameter holes.

All products classified in accordance with Pressure Equipment Directive 2014/68/EU, and Pressure Equipment (Safety) Regulations 2016, as amended.

DN50 to 250: Suitable for use on Group 2 Gas, Group 1 and Group 2 Liquids.

DN300: Suitable for use on Group 2 Liquids only, and limited to 110°C.

None suitable for use on Group 1 Liquids or unstable liquids.

**see Quality Assurance page for more information*

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FM278W

Strainers



PN25

Features & Benefits

- Crane strainers will help eliminate the problems caused by foreign matter within piping systems
- WRAS approved range from DN65 to DN150
- WRAS approved for use with wholesome (potable) water
- WRAS approved internal epoxy powder coating



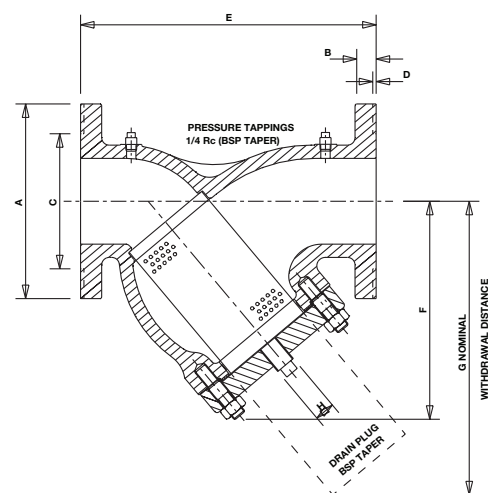
Materials

PART	MATERIAL	SPECIFICATION
Body	Ductile Iron	BS EN 1563 EN GJS 500/7
Cap	Ductile Iron	BS EN 1563 EN GJS 500/7
Gasket	Asbestos Free	
Stud	Steel	BS 4439 GRADE 8.8
Nut	Steel	BS 3692 GRADE 8
Screen Hole Size Ø1.5mm 32% Open Ratio	Stainless Steel	Type 304
Drain Plug	Malleable Iron	
Test Point Plug Rc 1/4	Malleable Iron	

Dimensions & Weights

SIZE (DN)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (Rc)	WEIGHT (kg)
65	185	19	118	3	273	210	298	1 1/4"	18
80	200	19	132	3	295	215	301	1 1/4"	21
100	235	19	156	3	252	245	350	1 1/4"	32
125	270	19	184	3	412	297	430	1 1/2"	46
150	300	20	211	3	470	333	484	1 1/2"	62

Dimensional Drawing



Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 85
PRESSURE (BAR)	25

END CONNECTION: Flanged to BS EN 1092-2 PN25

SPECIFICATION: Flanges conform to BS EN 1092-2 PN25 Section 3.2 table 11 with raised face. Strainers are supplied with a stainless steel perforated strainer element having 1.6mm diameter holes. This product is suitable for use on Group 2 liquids only, as defined by the Pressure Equipment Directive 2014/68/EU.*

*see Quality Assurance page for more information

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Domino's



PROJECT

Domino's Pizza HQ

Commissioning valve units, strainers and associated products from Crane Fluid Systems have been installed at the commissary built for Domino's Pizza Group, the leading pizza delivery company in the UK and Ireland, at West Ashland, Milton Keynes.

The state of the art facility provides for the planned future growth of Domino's global business. Over 500 of its stores rely on the commissary for the fresh dough and other ingredients they need to produce pizzas.

Crane's isolation and commissioning valves play a vital role in managing energy use within the £20 million building. Boasting a compact, space saving design and fast commissioning, they require fewer on-site joints and thus offer considerable installed cost savings.

Designed by Q2 Architects to the highest environmental standards, the new building's exterior emulates the sleek form of the adjacent MK stadium. It covers an area of 7,400sq m and incorporates production facilities as well as a distribution warehouse.

LOCATION:

Milton Keynes

CLIENT:

Domino's Pizza Group

ARCHITECT:

Q2 Architects

MECHANICAL AND ELECTRICAL CONSULTANT:

Couch Perry & Wilkes LLP

CONTRACTOR:

The Buckingham Group

MECHANICAL AND ELECTRICAL CONTRACTOR:

Walter Miles

DISTRIBUTOR:

BSS (Leicester) Ltd.

SPECIFICATION:

Isolation and commissioning valves

PUBLIC HEALTH RANGE

WRAS - SEAL OF CONFIDENCE

Crane Fluid Systems range of Public Health Valves, designed for hot and cold water systems are now all WRAS approved. Available in multiple sizes and in pressure ratings from PN10 to PN25, they are ideal for a wide variety of construction projects and especially useful for buildings with a high footfall traffic, such as hospitals and medical centres, hotels, high rise buildings, educational and sports facilities.

Thermal Circulation Valves (TCV)

TCVs provide self-balancing, thermostatically controlled regulation of flow and thermal disinfection, assisting with protection against Legionella. The valves automatically adjust in response to changes in fluid temperature to ensure that stable temperatures are maintained across domestic hot water systems. There are legal requirements for designers and installers to consider the risk of Legionella.

Available as follows:

D2890 - 1/2" Low Flow. PN16

D2880 - 1/2" and 3/4" Standard Flow. PN16

Pressure Reducing Valves (PRV)

PRVs ensure that an appropriate and comfortable water usage pressure is available at all times. These valves enable the control of pressure from boosted cold water supplies to match site requirements. The wide range of valves offer a variety of water pressure options to suit a number of different applications which could include more demanding projects such as tall buildings like hotels and residential/commercial tower blocks.

Available as follows:

D1716: 1/2" to 2". PN16

D1725: 1/2" to 2". PN25

DM1725: DN100 and DN150. PN25

DM1816: DN65 and DN80. PN16

DM1825: DN65 and DN80. PN25

Single & Double Check Valves

Single and Double Check Valves permit flow in only one direction and close automatically if flow reverses. They are suitable for domestic and commercial water systems.

Spring assistance enables the valve to be installed in horizontal or vertical pipework, while simultaneously preventing backflow.

The single check valves are available as follows:

D120CW Compression Ended:

15mm, 22mm & 28mm. PN10

D120W Threaded Ends: 1 1/4", 1 1/2" & 2". PN16

The double check valves are available as follows:

D220CW Compression Ended:

15mm, 22mm & 28mm. PN10

D220W Threaded Ends: 1 1/4", 1 1/2" & 2". PN10

D225W Threaded Ends: 1 1/4", 1 1/2" & 2". PN10

Swing Check Valve

The Swing Check Valve can operate in horizontal or vertical pipelines. For vertical pipeline the flow must only be in an upward direction. A disc inside the valve allows the liquid to flow through comfortably, but shuts when the liquid attempts to change direction, thus preventing back flow.

Available as follows:

D140W: 3/4" to 2". PN25

Non-Return Valves

Single and Double Non-Return Valves are specifically designed to allow flow of fluid in one direction only and to prevent reverse flow of fluid.

Available as follows:

D130W : DN50 to DN300. PN16

Butterfly Balancing Valve

Lever Operated Double Regulating Valve contains a feature that enables the valve to be used for isolation and to be re-opened to its pre-set position to maintain required flow rate. It is an ideal choice because of its lightweight but robust structure. This valve can be used in conjunction with a DM900 orifice plate as a commissioning set and is referred to as a butterfly balancing valve.

Available as follows:

DM925LW: DN65 to DN150. PN16

DM900: DN65 to DN150. PN25

Thermostatic Mixing Valves

Thermostatic Mixing Valves blend hot water (stored at temperatures high enough to kill bacteria) with cold, to ensure constant, safe outlet temperatures preventing scalding. Predominantly used in the healthcare industry, Thermostatic Mixing Valves are installed in situations where there is a high risk of scalding i.e. hospitals, care homes & schools.

Available as follows:

D1088 & D1089: 15mm & 22mm. PN10

Strainers

Scale and dirt in piping systems cause endless trouble and frequently serious damage to pipeline equipment.

Installation of Crane strainers will help eliminate the problems caused by foreign matter within piping systems.

Available as follows:

FM276W & FM278W: DN65 to DN150. PN16 & PN25

Service Ball Valves

Light, compact and easy to install and operate.

Available as follows:

D181C: 15mm & 22mm. PN16.

Crane also offers a range of other WRAS approved products which are suitable for use within a public health environment such as ball valves or our range of Pressfit valves. See our web site for full details.

NABIC – Safety Valves

NABIC, a Crane sister brand, is a leading supplier of safety valves for commercial hot water applications.

Designed and tested to the latest British standards with third party certified discharge capacities.

These valves are ideal for controlling hot water supply, heating, pump relief and bypass relief systems.

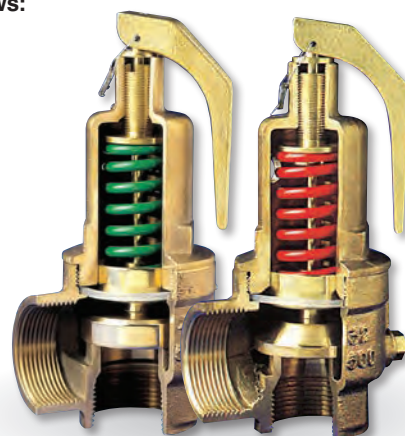
Available as follows:

Fig 542: DN15 to

DN80. 10.5 Bar

Fig 500: DN10 to

DN65. 12.5 Bar



THERMAL CIRCULATION VALVES

The Reality...

In Europe it is believed 6000 cases of Legionnaires' disease are diagnosed every year. While in 2010 more than 350 cases were identified in the UK with approximately 10% of these resulting in fatalities*

High Risk

Areas of high risk due to the generation of aerosol droplets of water suspended in air include cooling towers, domestic hot water services (DHWS), showers, taps and whirlpool spa baths.

Legionella is also found in untreated surface waters and is not always removed by conventional water treatment processes and can easily colonise environments such as hot and cold-water distribution systems. In these systems legionella is able to flourish at temperatures between 20°C and 45°C especially where dirt, scale or biofilms are present.

The bacteria can survive under a wide variety of environmental conditions. The organisms are dormant below 20°C and will not survive above 60°C, but grow most prolifically at about 37°C.

Legal Considerations

There are legal requirements for designers and installers of DHWS to consider the risk of Legionella. These requirements are detailed in the Health and Safety at Work Act. (HSWA) 1974 and Control of Substances Hazardous to Health Regulations (COSHH) 1999. In addition in L8- HSE ACOP (Approved Code of Practice and Guidance) gives practical advice on the requirements of HSWA & COSHH. L8 has a 'special' legal status and following L8 guidelines demonstrates compliance with the law.

How the Thermal Circulation Valve Works

The key is to keep water hot, and keep water moving. The Thermal Circulation Valve responds to changes in system temperature and automatically adjusts to allow more flow (if temperature falls) or less flow (if temperature rises), and maintain the set temperature.

During thermal disinfection, the Thermal Circulation Valve opens automatically to a secondary position to allow increased flow at the higher temperature.

The Core Range

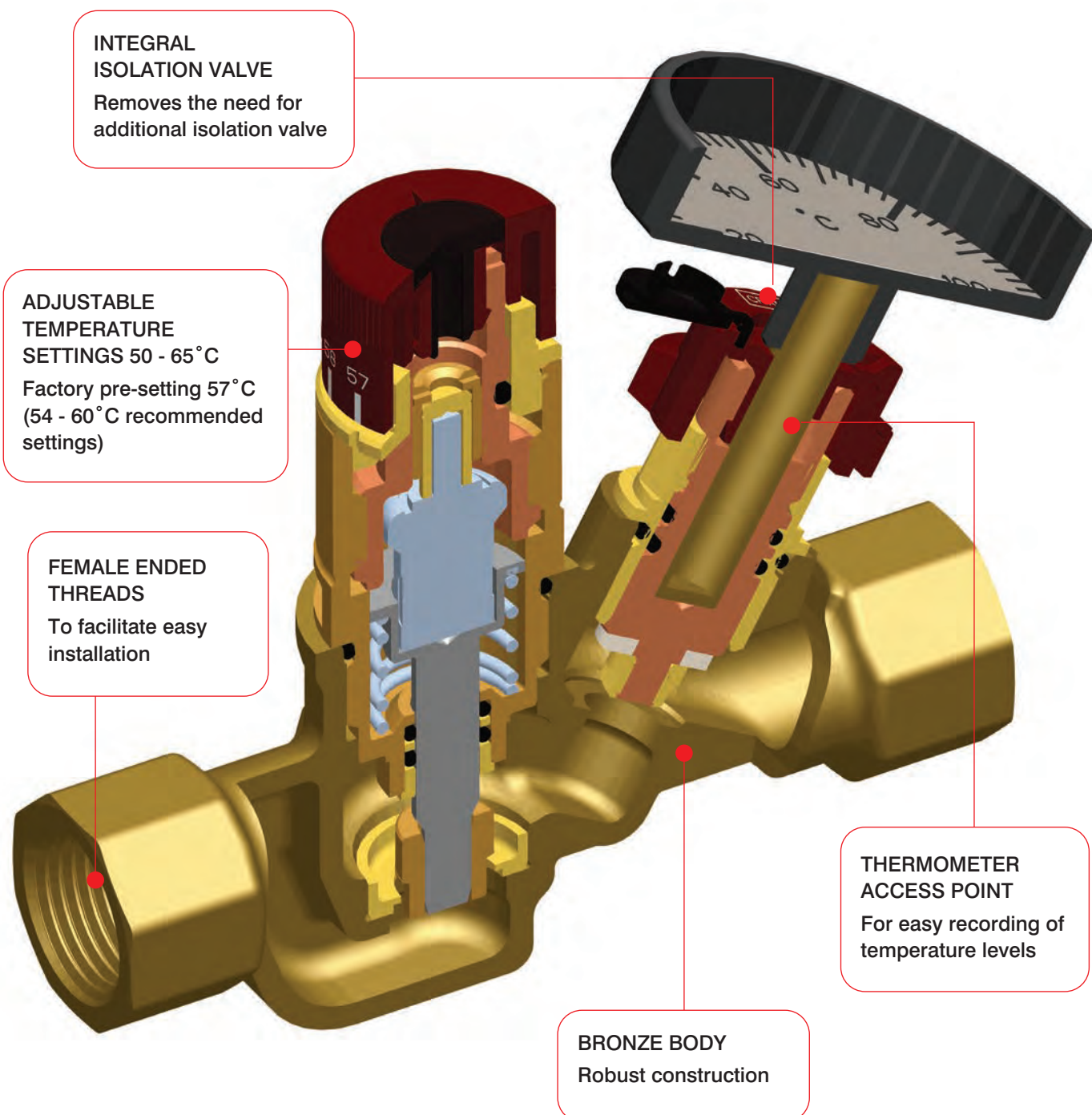
Crane Fluid Systems TCV's are available in DN15 low flow and DN15 & DN20 standard flow sizes.

Key Features & Benefits

- Ideal for DHWS to help protect against Legionella.
- Provides self-balancing, thermostatically controlled regulation of flow & disinfection.
- Thermal disinfection at temperatures above 70°C.
- Thermal balancing reduces commissioning time and hence cost.
- Schedule & selection service available.
- Compact unit comprising isolation valve with thermometer access point.
- Incorporates a settable temperature sensing cartridge, factory pre-set at a standard 57°C.
- Easily verifiable temperatures by thermometer (available as an accessory)
- Valve opens automatically during disinfection.
- Has an accuracy of +/- 2°C.
- WRAS approved.

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Valid as of 01/09/13

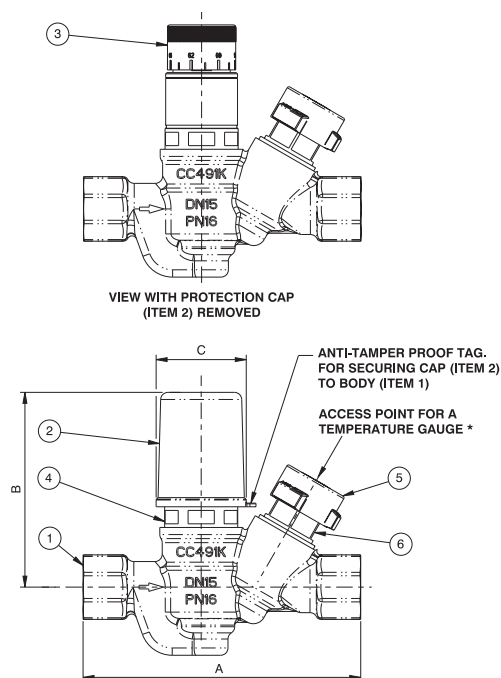
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D2890 / D2880**Thermal Circulation Valves****PN16****Features & Benefits**

- Ideal for domestic hot water services to assist with protection against Legionella
- Provides self-balancing, thermostatically controlled regulation of flow and disinfection
- Thermal disinfection at temperatures above 70°C
- Compact unit comprising isolation valve with thermometer access point
- Incorporates a settable temperature sensing cartridge, factory pre-set at a standard 57°C
- Has an accuracy of +/- 2°C at set temperature

**Materials**

NO.	PART	MATERIAL	SIZES
1	Body	Bronze	BS EN 1982 CC491K
2	Protective Cap (Removable)	Polypropylene	-
3	Temperature Adjusting Cap	Nylon 6	-
4	Bonnet and Associated Parts	DZR Brass	BS EN 12164 CW602N
5	Handwheel	Nylon 6	-
6	Bonnet	DZR Brass	BS EN 12164 CW602N
INT	Stem	Stainless Steel	SS EN10088-3 1.4305
INT	Body Seat	DZR Brass	BS EN 12164 CW602N
INT	Plug	DZR Brass	BS EN 12164 CW602N
INT	Bush	DZR Brass	BS EN 12164 CW602N
INT	O-Ring Seals	EPDM Rubber	WRAS Approved
INT	Stem	DZR Brass	BS EN 12164 CW602N
INT	Body Seat	PTFE	WRAS Approved
INT	Stem Seat Retainer	DZR Brass	BS EN 12164 CW602N
INT	O-Ring Seals	EPDM Rubber	WRAS Approved

Dimensional Drawing**Dimensions & Weights**

SIZE (DN)	FIG NO.	FLOW	A (mm)	B (mm)	C (mm)	FEMALE END CONNECTIONS	WEIGHT (kg)
15*	D2890	Low	114	80	37	Pipe Thread EN 10226 Rc 1/2"	0.76
15*	D2880	Standard	114	80	37	Pipe Thread EN 10226 Rc 1/2"	0.76
20*	D2880	Standard	126	80	37	Pipe Thread EN 10226 Rc 3/4"	0.88

*Thermometer fits all sizes. Available on request

PRESSURE RATING: PN16
MAX TEMPERATURE: 90°C

OPERATION: When the set point is preset to 57°C, the valve completely open up to a valve temperature of 52°C. Between 52°C and the set point of 57°C, the valve starts to close. When the set point temperature has been reached, a minimum volume flow is continuously flowing through the circulation system. If the storage temperature is further increased to temperatures greater than 70°C to effect disinfection, the valve increases the flow.

SPECIFICATION: Taper threaded to BS EN 10226-2

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D2890 / D2880

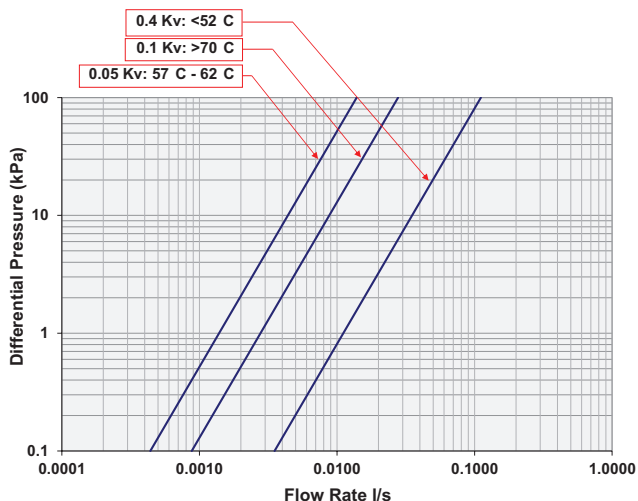
Performance & Flow Charts

PN16

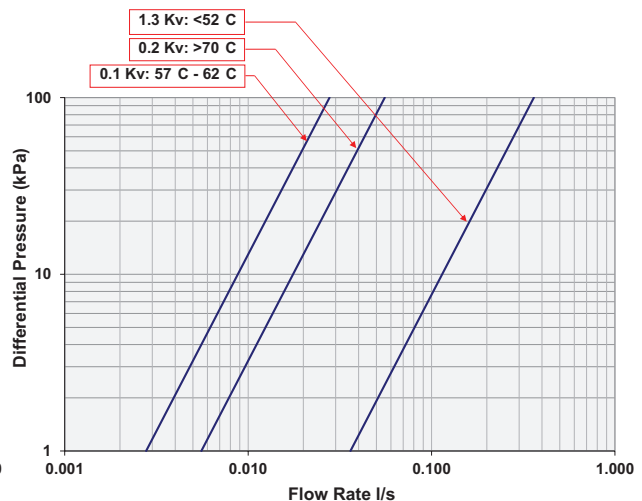
The charts on this page show performance characteristics of each valve size at various temperatures.

- At initial installation and start up, and with system temperature below the valve set point of 57°C, the valves are fully open allowing a higher flow rate through the valves
- As the system temperature increases, the valve will partially close until it reaches the set point of 57°C. At this temperature the valve will remain static and slightly open to allow a continuous flow of fluid. This is critical to avoid dead-legs with stagnant water in the system
- Thermal Disinfection is best achieved at higher temperatures and fully effective at 70°C. Our valves have been designed such that the flow through the valves increases during the disinfection process
- Graphs show the relationship between flow rate (l/s) and differential pressure (kPa) for the 3 operating positions of the TCV. As the TCV responds to a change in water temperature the flow coefficient (Kv) changes. The differential pressure created by an individual flow rate can be read off the graph using the relevant temperature line

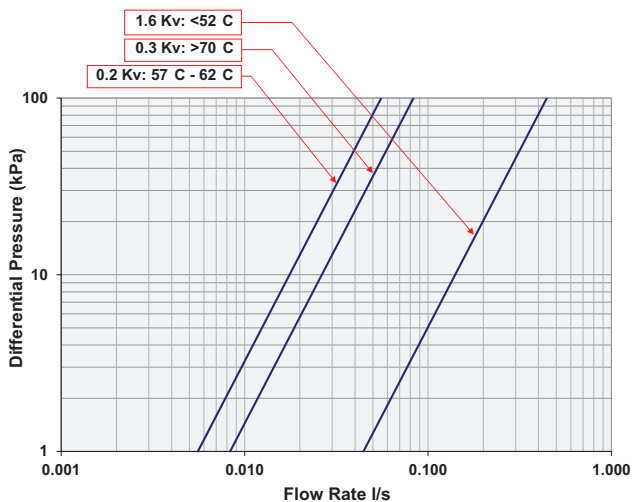
DN15 Low Flow - D2890
Set Position 57°C



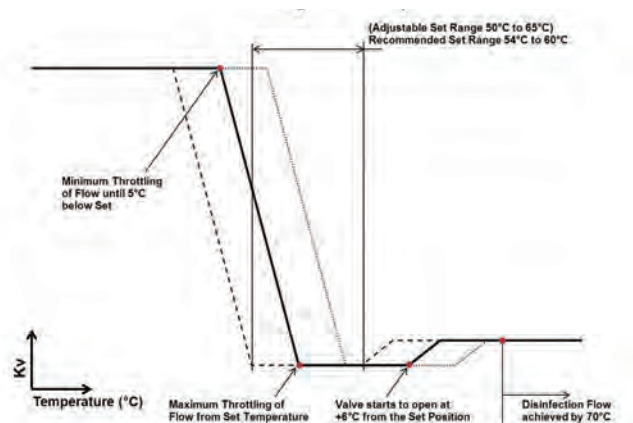
DN15 Standard Flow - D2880
Set Position 57°C



DN20 Standard Flow - D2880
Set Position 57°C



Thermal Regulation Response*



* The performance chart above indicates the shift in thermal reaction when the temperature set point of 57°C is altered.

Valid as of 01/09/13

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D1088

TMV



D1088

PN10

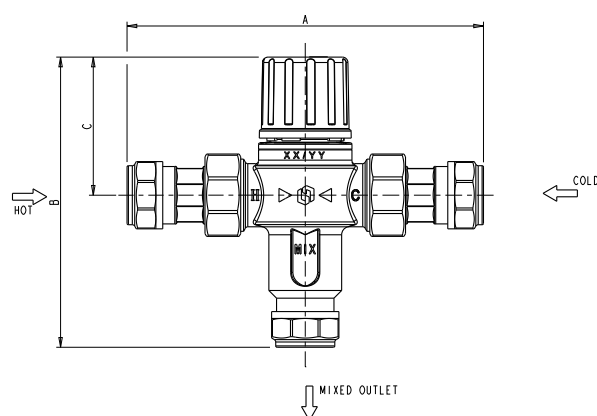
Features & Benefits

- A self-acting Thermostatic Mixing Valve designed to blend hot and cold water, to ensure a constant, controlled safe outlet temperature
- Fulfills the 'duty of care' requirements against scalding
- Ideal for healthcare, schools, workplace and domestic environments
- Flat face union ensures easy removal for maintenance
- Integral strainers and check valves
- Tamper-proof adjustment
- WRAS Approved maximum operating temperature 85°C

Materials

PART	MATERIAL	SPECIFICATION
Body	Chrome Plated DZR Brass	CW602N
Bonnet	Chrome Plated DZR Brass	CW602N
Check Valve	Body - POM	-
	O-ring - EPDM	-
	Spring - Stainless Steel	AISI304
Cap	ABS	-
Element	-	-
Water Flow Directors	PSU	-
Spring	Stainless Steel	AISI304
O-Ring	EPDM	-
Strainer	Stainless Steel	AISI304
Compression Olive	Brass	CW507L

Dimensional Drawing



Dimensions & Weights

SIZE (mm)	A (mm)	B (mm)	C (mm)	WEIGHT (kg)
15	131	108	51	0.49
22	155	110	51	0.68

Limits of Use

Crane D1088 valves have been approved for use on the following designated systems:

HIGH PRESSURE (HP)	LOW PRESSURE (LP)	APPLICATION	MAX MIXED TEMPERATURE
HP-B	LP-B	Bidet	38 °C
HP-S	LP-S	Shower	41 °C
HP-W	LP-W	Wash Basin	41 °C
HP-T (TMV2)	-	Bath	44 °C
HP-T44 (TMV3)	-	Bath	44 °C

PRESSURE RATING: PN10

OPERATOR: Lockshield

SPECIFICATION: The D1088 Thermostatic Mixing Valve is certified under the NSF TMV2 & TMV3 schemes and is a WRAS approved product listed in the WRAS Approvals Directory.

FACTORY SETTING: 41°C

TEMPERATURE SETTING RANGE: 30-50°C

MINIMUM HOT TO MIX TEMPERATURE: 12°C

COLD WATER SUPPLY TEMPERATURE: 5-25°C

HOT WATER SUPPLY TEMPERATURE: 55-65°C

TEMPERATURE STABILITY: ±2°C

MAXIMUM WORKING PRESSURE: 10 bar

SUPPLY PRESSURE IMBALANCE DYNAMIC: 2:1

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D1089

TMV



D1089

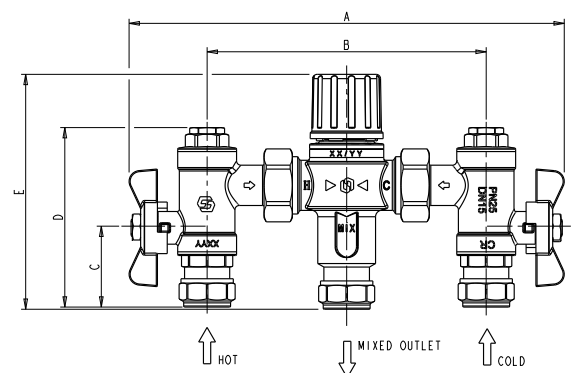
PN10

Features & Benefits

- A self-acting Thermostatic Mixing Valves designed to blend hot and cold water, to ensure a constant, controlled safe outlet temperature
- Fulfills the 'duty of care' requirements against scalding
- Ideal for healthcare, schools, workplace and domestic environments
- Flat face union ensures easy removal for maintenance
- Integral strainers and check valves
- Tamper-proof adjustment
- Includes ball valves for isolation
- WRAS Approved maximum operating temperature 85°C

Materials

PART	MATERIAL	SPECIFICATION
Body	Chrome Plated DZR Brass	CW602N
Bonnet	Chrome Plated DZR Brass	CW602N
Check Valve	Body - POM O-ring - EPDM Spring - Stainless Steel	- - AISI304
Cap	ABS	-
Element	-	-
Strainer	Stainless Steel	AISI304
Water Flow Directors	PSU	-
Spring	Stainless Steel	AISI304
O-Ring	EPDM	-
Ball	Chrome Plated Brass	CW607N
T-Handle	Al Alloy	-
Ball Seat	PTFE	-
Compression Olive	Brass	CW507L

Dimensional Drawing**Dimensions & Weights**

SIZE (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	WEIGHT (kg)
15	200	128	36	82	108	0.82
22	200	129	38	86	110	1.01

Limits of Use

Crane D1089 valves have been approved for use on the following designated systems:

HIGH PRESSURE (HP)	LOW PRESSURE (LP)	APPLICATION	MAX MIXED TEMPERATURE
HP-B	LP-B	Bidet	38°C
HP-S	LP-S	Shower	41°C
HP-W	LP-W	Wash Basin	41°C
HP-T (TMV2)	-	Bath	44°C
HP-T44 (TMV3)	-	Bath	44°C

PRESSURE RATING: PN10**OPERATOR:** Lockshield

SPECIFICATION: The D1089 Thermostatic Mixing Valve is certified under the NSF TMV2 & TMV3 schemes and is a WRAS approved product listed in the WRAS Approvals Directory.

FACTORY SETTING: 41°C**TEMPERATURE SETTING RANGE:** 30-50°C**MINIMUM HOT TO MIX TEMPERATURE:** 12°C**COLD WATER SUPPLY TEMPERATURE:** 5-25°C**HOT WATER SUPPLY TEMPERATURE:** 55-65°C**TEMPERATURE STABILITY:** ±2°C**MAXIMUM WORKING PRESSURE:** 10 bar**SUPPLY PRESSURE IMBALANCE DYNAMIC:** 2:1

D1725

Pressure Reducing Valve
Direct Acting - Diaphragm style



PN25

D1725

Form and Function**Diaphragm Actuated Pressure Reducing Valve (PRV)**

PRVs enable control of outlet pressure from boosted water supplies to meet site requirements, as a result, protecting the downstream system and stabilising water pressure. Particularly suitable where low loss and hysteresis are required along with a high level of control accuracy.

Features & Benefits

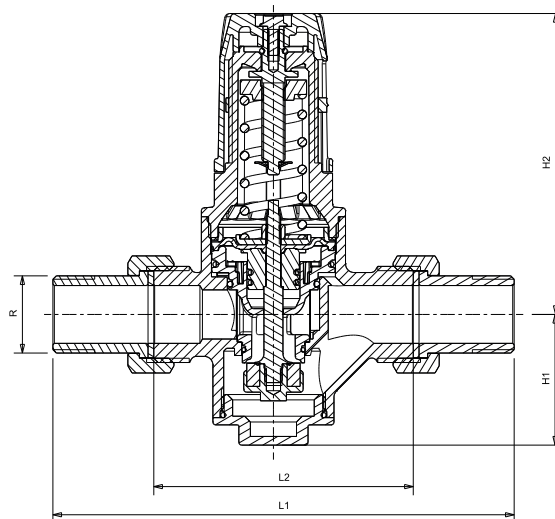
- DZR brass for long lasting corrosion resistant performance
- Integrated pressure scale making on-site pressure setting simple and fast
- Includes male union tail-pieces reducing installation time
- Integral stainless steel strainer prevents debris from affecting valve performance
- Performance in accordance with BS EN 1567 for quality assurance
- 1/4" outlet pressure gauge connection both sides for flexibility and accurate setting
- WRAS Approved to 80°C for drinking water applications

**Pressure Gauge**

Pressure gauge used to measure outlet pressure; available as 1/4" male threaded back connection

**Materials**

PART	MATERIAL	SPECIFICATION
Body	DZR Brass	EN 12165: CW625N
Plug (Bottom Cap)	DZR Brass	EN 12165: CW625N
Bonnet (Upper Cap)	Polyamide	PA6 GF30
Cartridge	Acetal	POM
Filter Screen	Stainless Steel	AISI 304
Spring	Spring Steel	EN 10270-1
Nuts	Brass	EN12165: CW617N
Dismantling Fittings	DZR Brass	EN 12164: CW626N
Other Internal Parts (in contact with water)	DZR Brass	EN 12164: CW626N
Other Components (not in contact with water)	Brass	EN 12164: CW614N
Diaphragm	EPDM	-
Seat Gaskets	EPDM	-
O-Rings	EPDM	-
Gaskets	Pressed Fibre	(Asbestos Free)

Dimensional Drawing**Dimensions & Weights**

SIZE (inch)	L1 (mm)	L2 (mm)	H1 (mm)	H2 (mm)	THREAD R (inch)	WEIGHT (kg)	MAX. CAPACITY (l/s)	Kv [m³/h]*
1/2	140	80	45	104	1/2	0.8	0.35	3.2
3/4	160	90	45	104	3/4	0.9	0.63	3.3
1	180	100	49.5	131	1	1.5	1.00	6.5
1 1/4	200	105	58.5	130	1 1/4	1.7	1.60	6.9
1 1/2	225	130	72.5	166.5	1 1/2	3.5	2.53	11.9
2	252	140	82	163.5	2	4.2	3.89	13.8

* Kv Values calculated with the valve in fully open position.

PRESSURE RATING: PN25

MEDIUM: Water Only

CONNECTIONS: Male union tapered tail-pieces to BS EN 10226-1

OUTLET PRESSURE RANGE: 1-6 bar

PRE SET OUTLET PRESSURE: 3 bar

MAX TEMPERATURE: 80°C

DESIGN STANDARD: BS EN 1567

APPROVALS: WRAS Approved on cold water only
• PED 2014/68/EU

MESH SIZE: 0.5mm all sizes

SPECIFICATION TEXT

The Pressure Reducing Valve (PRV) shall be diaphragm actuated and WRAS approved. Outlet pressure should be externally adjustable from 1 to 6 bar, with capacity to accommodate a pressure gauge for easy reading. The body and cap shall be manufactured from DZR brass, with a Polyamide cap with integrated pressure scale, Acetal cartridge and EPDM seat gaskets, O-rings and diaphragm. The PRV shall have an integral strainer with stainless steel basket. All Dismantling fittings shall be DZR brass.

The PRV shall be PN25 Rated, and suitable for temperatures up to 80°C as per Crane FS Fig. D1725

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DM925LW

Lever Operated Double Regulating Valve



PN16

DM925LW



PUBLIC HEALTH

Features & Benefits

- WRAS approved Double Regulating Valves consists of a fully lugged, WRAS approved EPDM liner butterfly valve with a Double Regulating Lever
- The Double Regulating feature allows the valve to be used for isolation and to be reopened to its pre-set position to maintain required flow rate
- Use the DM925LW with Orifice plate Fig.DM900 for Commissioning Set

Materials

PART	MATERIAL	SPECIFICATION
Body	Ductile Iron	ASTM A536 65-45-12
Disc	Aluminium Bronze	
Seat	EPDM WRAS approved	WRAS approved
Shaft	Stainless Steel	ASTM A532 Type 416
Taper Pin	Stainless Steel	ASTM A276 Type 316
Key	Carbon Steel	
O-Ring	Nitrile (Buna)	
Shaft Bushing	PTFE or Bronze	

Dimensions & Weights

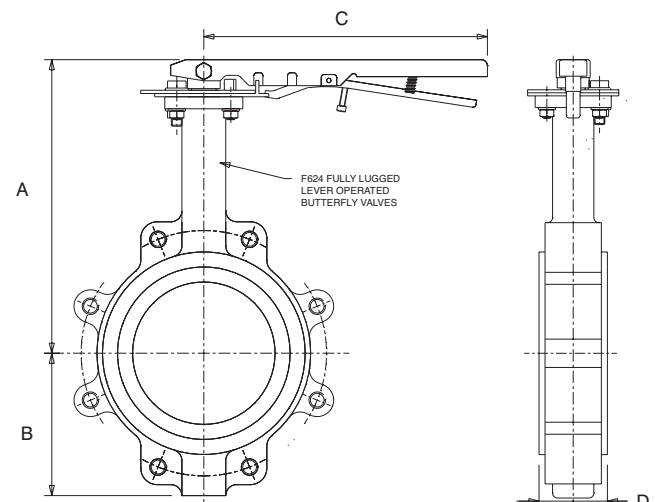
SIZE (DN)	A (mm)	B (mm)	C (mm)	D (mm)	WEIGHT (kg)
65	207	95	260	48	5
80	213	102	260	48	8
100	232	124	260	48	13
125	245	137	260	57	14
150	256	150	266	57	15

Coefficients*

SIZE (DN)	FLOW (Kv)	HEADLOSS (K)
65	170	0.856
80	261	0.856
100	519	0.650
125	884	0.553
150	1142	0.483

* Fully open position

Dimensional Drawing



Pressure/Temperature Ratings

TEMPERATURE (°C)	-10 to 80
PRESSURE (BAR)	16

PRESSURE / TEMPERATURE RATING: 16 bar from -10 to 80°C

Flange Tables

This information is extracted from the following European, British and American standards:

- BS EN 1092 Circular flanges for pipes, valves, fittings and accessories, PN designated Part 1 Steel flanges.
- Part 2 Cast iron flanges.
- BS 4504 Flanges and bolting for pipes, valves, and fittings metric series (for copper alloy flanges only).
- ANSI B16.1 Cast Iron pipe flanges and flanged fittings.
- ANSI B16.5 Steel pipe flanges and flanged fittings.
- ANSI B16.24 Bronze flanges and flanged fittings BS10 Flanges and bolting for pipes, valves and fittings.

Notes:

1. Raised joint faces are applicable to BS EN 1092-1, BS EN 1092-2, BS10 ANSI table H steel, and classes 150 to 1500 inclusive.
2. ANSI Class 125 refers to cast iron only.
3. ANSI 600, 900, 1500 flange thickness does not include raised face.
4. Dimensions for flanges to BS EN 1092 are given in millimetres only. Dimensions for ANSI and BS 10 flanges are shown in inches with the metric equivalent (to nearest whole millimetre) in brackets.

Nominal Size 15mm (1/2")

BS EN 1092	Dia. of flange	Bolt circle diameter	No. of bolts	Dia. of bolts	Dia. of holes	Dia. of raised face(3) Iron	Dia. of raised face(3) Steel	Height of raised face(3)	Thickness of flange			
									Grey Cast Iron	Copper Alloy	Cast and Forged Steel	Ductile Cast Iron
PN6	80	55	4	M10	11	38	40	2	12 (1)	-	12	-
PN10	95	65	4	M12	14	46	45	2	14 (1)	-	16	14
PN16	95	65	4	M12	14	46	45	2	14 (1)	6 (2)	16	14
PN25	95	65	4	M12	14	46	45	2	16 (1)	8 (2)	16	14
PN40	95	65	4	M12	14	46	45	2	-	9 (2)	16	16
PN64	105	75	4	M12	14	-	45	2	-	-	20	-
ANSI												
Class 125/150	3 1/2 (89)	2 3/8 (60)	4	1/2 (13)	5/8 (16)	-	1 3/8 (35)	1/16 (2)	-	5/16 (8)	7/16 (11)	-
Class 300	3 3/4 (95)	2 5/8 (67)	4	1/2 (13)	5/8 (16)	-	1 3/8 (35)	1/16 (2)	-	1/2 (13)	1/2 (13)	-
Class 600	3 3/4 (95)	2 5/8 (67)	4	1/2 (13)	5/8 (16)	-	1 3/8 (35)	1/4 (6)	-	-	9/16 (14)	-
Class 900	4 3/4 (121)	3 1/4 (83)	4	3/4 (19)	7/8 (22)	-	1 3/8 (35)	1/4 (6)	-	-	7/8 (22)	-
Class 1500	4 3/4 (121)	3 1/4 (83)	4	3/4 (19)	7/8 (22)	-	1 3/8 (35)	1/4 (6)	-	-	7/8 (22)	-
BS 10												
Table A	3 3/4 (95)	2 5/8 (67)	4	1/2 (13)	9/16 (14)	-	-	-	1/2 (13)	1/4 (6)	-	-
Table D	3 3/4 (95)	2 5/8 (67)	4	1/2 (13)	9/16 (14)	-	-	-	1/2 (13)	1/4 (6)	3/8 (10)	-
Table E	3 3/4 (95)	2 5/8 (67)	4	1/2 (13)	9/16 (14)	-	-	-	1/2 (13)	1/4 (6)	3/8 (10)	-
Table F	3 3/4 (95)	2 5/8 (67)	4	1/2 (13)	9/16 (14)	-	-	-	1/2 (13)	5/16 (8)	3/8 (10)	-
Table H	4 1/2 (114)	3 1/4 (83)	4	5/8 (16)	1 1/16 (17)	-	2 1/4 (57)	1/16 (2)	5/8 (16)	3/8 (10)	1/2 (13)	-

(1) These flange thicknesses are also valid for ductile iron flanges type 21-2 (2) Flange thicknesses for copper alloy are from BS 4504

(3) Copper alloy flanges are always flat-faced

Nominal Size 20mm (3/4")

BS EN 1092	Dia. of flange	Bolt circle diameter	No. of bolts	Dia. of bolts	Dia. of holes	Dia. of raised face(3) Iron	Dia. of raised face(3) Steel	Height of raised face(3)	Thickness of flange			
									Grey Cast Iron	Copper Alloy	Cast and Forged Steel	Ductile Cast Iron
PN6	90	65	4	M10	11	48	50	2	14 (1)	-	14	-
PN10	105	75	4	M12	14	56	58	2	16 (1)	-	18	16
PN16	105	75	4	M12	14	56	58	2	16 (1)	6 (2)	18	16
PN25	105	75	4	M12	14	56	58	2	18 (1)	8 (2)	18	16
PN40	105	75	4	M12	14	56	58	2	-	9 (2)	18	18
PN64	130	90	4	M16	18	-	58	2	-	-	22	-
PN100	130	90	4	M16	18	-	58	2	-	-	22	-
ANSI												
Class 125/150	37/8 (98)	23/4 (70)	4	1/2 (13)	5/8 (16)	-	111/16 (43)	1/16 (2)	-	11/32 (9)	9/16 (14)	-
Class 300	45/8 (117)	31/4 (83)	4	5/8 (16)	3/4 (19)	-	111/16 (43)	1/16 (2)	-	17/32 (13)	5/8 (16)	-
Class 600	45/8 (117)	31/4 (83)	4	5/8 (16)	3/4 (19)	-	111/16 (43)	1/4 (6)	-	-	5/8 (16)	-
Class 900	51/8 (130)	31/2 (89)	4	3/4 (19)	7/8 (22)	-	111/16 (43)	1/4 (6)	-	-	1 (25)	-
Class 1500	51/8 (130)	31/2 (89)	4	3/4 (19)	7/8 (22)	-	111/16 (43)	1/4 (6)	-	-	1 (25)	-
BS 10												
Table A	4 (102)	27/8 (73)	4	1/2 (13)	9/16 (14)	-	-	-	1/2 (13)	1/4 (6)	-	-
Table D	4 (102)	27/8 (73)	4	1/2 (13)	9/16 (14)	-	-	-	1/2 (13)	1/4 (6)	3/8 (10)	-
Table E	4 (102)	27/8 (73)	4	1/2 (13)	9/16 (14)	-	-	-	1/2 (13)	1/4 (6)	3/8 (10)	-
Table F	4 (102)	27/8 (73)	4	1/2 (13)	9/16 (14)	-	-	-	1/2 (13)	5/16 (8)	3/8 (10)	-
Table H	41/2 (114)	31/4 (83)	4	5/8 (16)	11/16 (17)	-	21/4 (57)	1/16 (2)	5/8 (16)	3/8 (10)	1/2 (13)	-

(1) These flange thicknesses are also valid for ductile iron flanges type 21-2 (2) Flange thicknesses for copper alloy are from BS 4504
 (3) Copper alloy flanges are always flat-faced

Nominal Size 25mm (1")

BS EN 1092	Dia. of flange	Bolt circle diameter	No. of bolts	Dia. of bolts	Dia. of holes	Dia. of raised face(3) Iron	Dia. of raised face(3) Steel	Height of raised face(3) Iron	Height of raised face(3) Steel	Thickness of flange			
										Grey Cast Iron	Copper Alloy	Cast and Forged Steel	Ductile Cast Iron
PN 6	100	75	4	M10	11	58	60	3	2	14 (1)	-	14	-
PN10	115	85	4	M12	14	65	68	3	2	16 (1)	-	18	16
PN16	115	85	4	M12	14	65	68	3	2	16 (1)	8 (2)	18	16
PN25	115	85	4	M12	14	65	68	3	2	18 (1)	9 (2)	18	16
PN40	115	85	4	M12	14	65	68	3	2	-	11 (2)	18	18
PN64	140	100	4	M16	18	-	68	-	2	-	-	24	-
PN100	140	100	4	M16	18	-	68	-	2	-	-	24	-
ANSI													
Class 125/150	41/4 (114)	31/8 (79)	4	1/2 (13)	5/8 (16)	-	2 (51)	-	1/16 (2)	7/16 (11)	3/8 (10)	7/16 (11)	9/10 (14)
Class 300	47/8 (124)	31/2 (89)	4	5/8 (16)	3/4 (19)	-	2 (51)	-	1/16 (2)	-	19/32 (15)	11/16 (17)	-
Class 600	47/8 (124)	31/2 (89)	4	5/8 (16)	3/4 (19)	-	2 (51)	-	1/4 (6)	-	-	11/16 (17)	-
Class 900	57/8 (149)	4 (102)	4	7/8 (22)	1 (25)	-	2 (51)	-	1/4 (6)	-	-	11/8 (29)	-
Class 1500	57/8 (149)	4 (102)	4	7/8 (22)	1 (25)	-	2 (51)	-	1/4 (6)	-	-	11/8 (29)	-
BS 10													
Table A	41/2 (114)	31/4 (83)	4	1/2 (13)	9/16 (14)	-	-	-	-	1/2 (13)	5/16 (8)	-	-
Table D	41/2 (114)	31/4 (83)	4	1/2 (13)	9/16 (14)	-	-	-	-	1/2 (13)	5/16 (8)	3/8 (10)	-
Table E	41/2 (114)	31/4 (83)	4	1/2 (13)	9/16 (14)	-	-	-	-	1/2 (13)	5/16 (8)	3/8 (10)	-
Table F	43/4 (121)	37/16 (87)	4	5/8 (16)	11/16 (17)	-	-	-	-	1/2 (13)	3/8 (10)	3/8 (10)	-
Table H	43/4 (121)	37/16 (87)	4	5/8 (16)	11/16 (17)	-	21/2 (64)	-	1/16 (2)	3/4 (19)	7/16 (11)	9/16 (14)	-

Nominal Size 32mm (1 1/4")

BS EN 1092	Dia. of flange	Bolt circle diameter	No. of bolts	Dia. of bolts	Dia. of holes Iron	Dia. of holes Steel	Dia. of raised face(3) Iron	Dia. of raised face(3) Steel	Height of raised face(3) Iron	Height of raised face(3) Steel	Thickness of flange			
											Grey Cast Iron	Copper Alloy	Cast and Forged Steel	Ductile Cast Iron
PN 6	120	90	4	M12	14	14	69	70	3	2	16 (1)	-	14	-
PN10	140	100	4	M16	19	18	76	78	3	2	18 (1)	-	18	18
PN16	140	100	4	M16	19	18	76	78	3	2	18 (1)	8 (2)	18	18
PN25	140	100	4	M16	19	18	76	78	3	2	20 (1)	9 (2)	18	18
PN40	140	100	4	M16	19	18	76	78	3	2	-	11 (2)	18	20
PN64	155	110	4	M20	-	22	-	78	-	2	-	-	26	-
PN100	155	110	4	M20	-	22	-	78	-	2	-	-	26	-
ANSI														
Class 125/150	4 5/8 (117)	3 1/2 (89)	4	1/2 (13)	5/8 (16)	5/8 (16)	-	2 1/2 (64)	-	1/16 (2)	1/2 (13)	13/32 (10)	1/2 (13)	5/8 (16)
Class 300	5 1/4 (133)	3 7/8 (98)	4	5/8 (16)	-	3/4 (19)	-	2 1/2 (64)	-	1/16 (2)	-	5/8 (16)	3/4 (19)	-
Class 600	5 1/4 (133)	3 7/8 (98)	4	5/8 (16)	-	3/4 (19)	-	2 1/2 (64)	-	1/4 (6)	-	-	13/16 (21)	-
Class 900	6 1/4 (159)	4 3/8 (111)	4	7/8 (22)	-	1 (25)	-	2 1/2 (64)	-	1/4 (6)	-	-	1 1/8 (29)	-
Class 1500	6 1/4 (159)	4 3/8 (111)	4	7/8 (22)	-	1 (25)	-	2 1/2 (64)	-	1/4 (6)	-	-	1 1/8 (29)	-
BS 10														
Table A	4 3/4 (121)	3 7/16 (87)	4	1/2 (13)	9/16 (14)	9/16 (14)	-	-	-	-	5/8 (16)	5/16 (8)	-	-
Table D	4 3/4 (121)	3 7/16 (87)	4	1/2 (13)	9/16 (14)	9/16 (14)	-	-	-	-	5/8 (16)	5/16 (8)	1/2 (13)	-
Table E	4 3/4 (121)	3 7/16 (87)	4	1/2 (13)	9/16 (14)	9/16 (14)	-	-	-	-	5/8 (16)	5/16 (8)	1/2 (13)	-
Table F	5 1/4 (133)	3 7/8 (98)	4	5/8 (16)	1 1/16 (17)	1 1/16 (17)	-	-	-	-	5/8 (16)	3/8 (10)	1/2 (13)	-
Table H	5 1/4 (133)	3 7/8 (98)	4	5/8 (16)	1 1/16 (17)	1 1/16 (17)	-	3 (76)	-	1/16 (2)	7/8 (22)	7/16 (11)	1 1/16 (17)	-

(1) These flange thicknesses are also valid for ductile iron flanges type 21-2 (2) Flange thicknesses for copper alloy are from BS 4504

(3) Copper alloy flanges are always flat-faced

Nominal Size 40mm (1 1/2")

BS EN 1092	Dia. of flange	Bolt circle diameter	No. of bolts	Dia. of bolts	Dia. of holes Iron	Dia. of holes Steel	Dia. of raised face(3) Iron	Dia. of raised face(3) Steel	Height of raised face(3) Iron	Height of raised face(3) Steel	Thickness of flange			
											Grey Cast Iron	Copper Alloy	Cast and Forged Steel	Ductile Cast Iron
PN6	130	100	4	M12	14	14	78	80	3	2	16 (1)	-	14	-
PN10	150	110	4	M16	19	18	84	88	3	2	18 (1)	-	18	19
PN16	150	110	4	M16	19	18	84	88	3	2	18 (1)	9 (2)	18	19
PN25	150	110	4	M16	19	18	84	88	3	2	20 (1)	11 (2)	18	19
PN40	150	110	4	M16	19	18	84	88	3	2	-	13 (2)	18	19
PN64	170	125	4	M20	-	22	-	88	-	2	-	-	28	-
PN100	170	125	4	M20	-	22	-	88	-	2	-	-	28	-
ANSI														
Class 125/150	5 (127)	3 7/8 (98)	4	1/2 (13)	5/8 (16)	5/8 (16)	-	2 7/8 (73)	-	1/16 (2)	9/16 (14)	7/16 (11)	9/16 (14)	1 1/16 (17)
Class 300	6 1/8 (156)	4 1/2 (114)	4	3/4 (19)	-	7/8 (22)	-	2 7/8 (73)	-	1/16 (2)	-	1 1/16 (17)	13/16 (21)	-
Class 600	6 1/8 (156)	4 1/2 (114)	4	3/4 (19)	-	7/8 (22)	-	2 7/8 (73)	-	1/4 (6)	-	-	7/8 (22)	-
Class 900	7 (178)	4 7/8 (124)	4	1 (25)	-	1 1/8 (29)	-	2 7/8 (73)	-	1/4 (6)	-	-	1 1/4 (32)	-
Class 1500	7 (178)	4 7/8 (124)	4	1 (25)	-	1 1/8 (29)	-	2 7/8 (73)	-	1/4 (6)	-	-	1 1/4 (32)	-
BS 10														
Table A	5 1/4 (133)	3 7/8 (98)	4	1/2 (13)	9/16 (14)	9/16 (14)	-	-	-	-	5/8 (16)	3/8 (10)	-	-
Table D	5 1/4 (133)	3 7/8 (98)	4	1/2 (13)	9/16 (14)	9/16 (14)	-	-	-	-	5/8 (16)	3/8 (10)	1/2 (13)	-
Table E	5 1/4 (133)	3 7/8 (98)	4	1/2 (13)	9/16 (14)	9/16 (14)	-	-	-	-	5/8 (16)	3/8 (10)	1/2 (13)	-
Table F	5 1/2 (140)	4 1/8 (105)	4	5/8 (16)	1 1/16 (17)	1 1/16 (17)	-	-	-	-	5/8 (16)	7/16 (11)	1/2 (13)	-
Table H	5 1/2 (140)	4 1/8 (105)	4	5/8 (16)	1 1/16 (17)	1 1/16 (17)	-	3 1/4 (83)	-	1/16 (2)	7/8 (22)	1/2 (13)	1 1/16 (17)	-

(1) These flange thicknesses are also valid for ductile iron flanges type 21-2

(2) Flange thicknesses for copper alloy are from BS 4504

(3) Copper alloy flanges are always flat-faced

Nominal Size 50mm (2")

BS EN 1092	Dia. of flange	Bolt circle diameter	No. of bolts	Dia. of bolts	Dia. of holes Iron	Dia. of holes Steel	Dia. of raised face(3) Iron	Dia. of raised face(3) Steel	Height of raised face(3) Iron	Height of raised face(3) Steel	Thickness of flange			
											Grey Cast Iron	Copper Alloy	Cast and Forged Steel	Ductile Cast Iron
PN 6	140	110	4	M12	14	14	88	90	3	2	16 (1)	-	14	-
PN10	165	125	4	M16	19	18	99	102	3	2	20 (1)	-	18	19
PN16	165	125	4	M16	19	18	99	102	3	2	20 (1)	11 (2)	18	19
PN25	165	125	4	M16	19	18	99	102	3	2	22 (1)	11 (2)	20	19
PN40	165	125	4	M16	19	18	99	102	3	2	-	13 (2)	20	19
PN64	180	135	4	M20	-	22	-	102	-	2	-	-	26	-
PN100	195	145	4	M24	-	26	-	102	-	2	-	-	30	-
ANSI														
Class 125/150	6 (152)	4 ³ / ₄ (121)	4	5/8 (16)	3/4 (19)	3/4 (19)	-	3 ⁵ / ₈ (92)	-	1/16 (2)	5/8 (16)	1/2 (13)	5/8 (16)	-
Class 300	6 ¹ / ₂ (165)	5 (127)	8	5/8 (16)	-	3/4 (19)	-	3 ⁵ / ₈ (92)	-	1/16 (2)	-	3/4 (19)	7/8 (22)	-
Class 600	6 ¹ / ₂ (165)	5 (127)	8	5/8 (16)	-	3/4 (19)	-	3 ⁵ / ₈ (92)	-	1/4 (6)	-	- 1	(25)	-
Class 900	8 ¹ / ₂ (216)	6 ¹ / ₂ (165)	8	7/8 (22)	-	1 (25)	-	3 ⁵ / ₈ (92)	-	1/4 (6)	-	- 1	1/2 (38)	-
Class 1500	8 ¹ / ₂ (216)	6 ¹ / ₂ (165)	8	7/8 (22)	-	1 (25)	-	3 ⁵ / ₈ (92)	-	1/4 (6)	-	- 1	1/2 (38)	-
BS 10														
Table A	6 (152)	4 ¹ / ₂ (114)	4	5/8 (16)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-	-	-	-	5/8 (16)	3/8 (10)	-	-
Table D	6 (152)	4 ¹ / ₂ (114)	4	5/8 (16)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-	-	-	-	1 ¹ / ₁₆ (17)	3/8 (10)	9/16 (14)	-
Table E	6 (152)	4 ¹ / ₂ (114)	4	5/8 (16)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-	-	-	-	3/4 (19)	3/8 (10)	9/16 (14)	-
Table F	6 ¹ / ₂ (165)	5 (127)	4	5/8 (16)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-	-	-	-	3/4 (19)	7/16 (11)	5/8 (16)	-
Table H	6 ¹ / ₂ (165)	5 (127)	4	5/8 (16)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-	4 (102)	-	1/16 (2)	1 (25)	1/2 (13)	3/4 (19)	-

- (1) These flange thicknesses are also valid for ductile iron flanges type 21-2 (2) Flange thicknesses for copper alloy are from BS 4504
 (3) Copper alloy flanges are always flat-faced

Nominal Size 65mm (2¹/₂")

BS EN 1092	Dia. of flange	Bolt circle diameter	No. of bolts	Dia. of bolts	Dia. of holes Iron	Dia. of holes Steel	Dia. of raised face(3) Iron	Dia. of raised face(3) Steel	Height of raised face(3) Iron	Height of raised face(3) Steel	Thickness of flange			
											Grey Cast Iron	Copper Alloy	Cast and Forged Steel	Ductile Cast Iron
PN 6	160	130	4	M12	14	14	108	110	2	3	16 (1)	-	14	-
PN 10	185	145	4 (2)	M16	19	18	118	122	2	3	20 (1)	-	18	19
PN 16	185	145	4 (2)	M16	19	18	118	122	2	3	20 (1)	13	18	19
PN 25	185	145	8	M16	19	18	118	122	2	3	24 (1)	13	22	19
PN 40	185	145	8	M16	19	18	118	122	2	3	-	14	22	19
PN 64	205	160	8	M20	-	22	-	122	2	-	-	-	26	-
PN 100	220	170	8	M24	-	26	-	122	2	-	-	-	34	-
ANSI														
Class 125/150	7 (178)	5 ¹ / ₂ (140)	4	5/8 (16)	3/4 (19)	3/4 (19)	-	4 ¹ / ₈ (105)	-	1/16 (2)	1 ¹ / ₁₆ (17)	9/16 (14)	1 ¹ / ₁₆ (17)	-
Class 300	7 ¹ / ₂ (191)	5 ⁷ / ₈ (149)	8	3/4 (19)	-	7/8 (22)	-	4 ¹ / ₈ (105)	-	1/16 (2)	-	1 ³ / ₁₆ (21)	1 (25)	-
Class 600	7 ¹ / ₂ (191)	5 ⁷ / ₈ (149)	8	3/4 (19)	-	7/8 (22)	-	4 ¹ / ₈ (105)	-	1/4 (6)	-	-	1 ¹ / ₈ (29)	-
Class 900	9 ⁵ / ₈ (244)	7 ¹ / ₂ (191)	8	1 (25)	-	1 ¹ / ₈ (29)	-	4 ¹ / ₈ (105)	-	1/4 (6)	-	-	1 ⁵ / ₈ (41)	-
Class 1500	9 ⁵ / ₈ (244)	7 ¹ / ₂ (191)	8	1 (25)	-	1 ¹ / ₈ (29)	-	4 ¹ / ₈ (105)	-	1/4 (6)	-	-	1 ⁵ / ₈ (41)	-
BS 10														
Table A	6 ¹ / ₂ (165)	5 (127)	4	5/8 (16)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-	-	-	-	1 ¹ / ₁₆ (17)	7/16 (11)	-	-
Table D	6 ¹ / ₂ (165)	5 (127)	4	5/8 (16)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-	-	-	-	1 ¹ / ₁₆ (17)	7/16 (11)	9/16 (14)	-
Table E	6 ¹ / ₂ (165)	5 (127)	4	5/8 (16)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-	-	-	-	3/4 (19)	7/16 (11)	9/16 (14)	-
Table F	7 ¹ / ₄ (184)	5 ³ / ₄ (146)	8	5/8 (16)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-	-	-	-	3/4 (19)	1/2 (13)	5/8 (16)	-
Table H	7 ¹ / ₄ (184)	5 ³ / ₄ (146)	8	5/8 (16)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-	4 ¹ / ₂ (114)	-	1/16 (2)	1 (25)	9/16 (14)	3/4 (19)	-

- (1) These flange thicknesses are also valid for ductile iron flanges type 21-2
 (2) Steel flanges in this DN and PN may be supplied with 8 holes. For compliance with these, equivalent cast iron flanges may be supplied with 8 holes as special order and after agreement between manufacturer and customer
 (3) Flange thicknesses for copper alloy are from BS 4504 (4) Copper alloy flanges are always flat-faced

Nominal Size 80mm (3")

BS EN 1092	Dia. of flange	Bolt circle diameter	No. of bolts	Dia. of bolts	Dia. of holes Iron	Dia. of holes Steel	Dia. of raised face(3) Iron	Dia. of raised face(3) Steel	Height of raised face(3) Iron	Height of raised face(3) Steel	Thickness of flange			
											Grey Cast Iron	Copper Alloy	Cast and Forged Steel	Ductile Cast Iron
PN 6	190	150	4	M16	19	18	124	128	3	2	18 (1)	-	16	-
PN10	200	160	8	M16	19	18	132	138	3	2	22 (1)	-	20	19
PN16	200	160	8	M16	19	18	132	138	3	2	22 (1)	13 (2)	20	19
PN25	200	160	8	M16	19	18	132	138	3	2	26 (1)	14 (2)	24	19
PN40	200	160	8	M16	19	18	132	138	3	2	-	16 (2)	24	19
PN64	215	170	8	M20	-	22	-	138	-	2	-	-	28	-
PN100	230	180	8	M24	-	26	-	138	-	2	-	-	36	-
ANSI														
Class 125/150	7 ¹ / ₂ (191)	6 (152)	4	5/8 (16)	3/4 (19)	3/4 (19)	-	5 (127)	-	1/16 (2)	3/4 (19)	5/8 (16)	3/4 (19)	-
Class 300	8 ¹ / ₄ (210)	6 ⁵ / ₈ (168)	8	3/4 (19)	-	7/8 (22)	-	5 (127)	-	1/16 (2)	-	29/32 (23)	1 ¹ / ₈ (29)	-
Class 600	8 ¹ / ₄ (210)	6 ⁵ / ₈ (168)	8	3/4 (19)	-	7/8 (22)	-	5 (127)	-	1/4 (6)	-	-	1 ¹ / ₄ (32)	-
Class 900	9 ¹ / ₂ (241)	7 ¹ / ₂ (192)	8	7/8 (22)	-	1 (25)	-	5 (127)	-	1/4 (6)	-	-	1 ¹ / ₂ (38)	-
Class 1500	10 ¹ / ₂ (267)	8 (203)	8	1 ¹ / ₈ (29)	-	1 ¹ / ₄ (32)	-	5 (127)	-	1/4 (6)	-	-	1 ⁷ / ₈ (48)	-
BS 10														
Table A	7 ¹ / ₄ (184)	5 ³ / ₄ (146)	4	5/8 (16)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-	-	-	-	1 ¹ / ₁₆ (17)	1/2 (13)	-	-
Table D	7 ¹ / ₄ (184)	5 ³ / ₄ (146)	4	5/8 (16)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-	-	-	-	3/4 (19)	1/2 (13)	9/16 (14)	-
Table E	7 ¹ / ₄ (184)	5 ³ / ₄ (146)	4	5/8 (16)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-	-	-	-	3/4 (19)	1/2 (13)	9/16 (14)	-
Table F	8 (203)	6 ¹ / ₂ (165)	8	5/8 (16)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-	-	-	-	3/4 (19)	9/16 (14)	5/8 (16)	-
Table H	8 (203)	6 ¹ / ₂ (165)	8	5/8 (16)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-	5 (127)	-	1/16 (2)	1 ¹ / ₈ (29)	5/8 (16)	7/8 (22)	-

(1) These flange thicknesses are also valid for ductile iron flanges type 21-2 (2) Flange thicknesses for copper alloy are from BS 4504

(3) Copper alloy flanges are always flat-faced

Nominal Size 100mm (4")

BS EN 1092	Dia. of flange	Bolt circle diameter	No. of bolts	Dia. of bolts	Dia. of holes Iron	Dia. of holes Steel	Dia. of raised face(3) Iron	Dia. of raised face(3) Steel	Height of raised face(3) Iron	Height of raised face(3) Steel	Thickness of flange			
											Grey Cast Iron	Copper Alloy	Cast and Forged Steel	Ductile Cast Iron
PN 6	210	170	4	M16	19	18	144	148	3	2	18 (1)	-	16	-
PN10	220	180	8	M16	19	18	156	158	3	2	24 (1)	-	20	19
PN16	220	180	8	M16	19	18	156	158	3	2	24 (1)	16 (2)	20	19
PN25	235	190	8	M20	23	22	156	162	3	2	28 (1)	17 (2)	24	19
PN40	235	190	8	M20	23	22	156	162	3	2	-	19 (2)	24	19
PN64	250	200	8	M24	-	26	-	162	-	2	-	-	30	-
PN100	265	210	8	M27	-	30	-	162	-	2	-	-	40	-
ANSI														
Class 125/150	9 (229)	7 ¹ / ₂ (191)	8	5/8 (16)	3/4 (19)	3/4 (19)	-	6 ³ / ₁₆ (157)	-	1/16 (2)	15/16 (24)	1 ¹ / ₁₆ (17)	15/16 (24)	-
Class 300	10 (254)	7 ⁷ / ₈ (200)	8	3/4 (19)	-	7/8 (22)	-	6 ³ / ₁₆ (157)	-	1/16 (2)	-	1 ¹ / ₁₆ (27)	1 ¹ / ₄ (32)	-
Class 600	10 ³ / ₄ (273)	8 ¹ / ₂ (216)	8	7/8 (22)	-	1 (25)	-	6 ³ / ₁₆ (157)	-	1/4 (6)	-	-	1 ¹ / ₂ (38)	-
Class 900	11 ¹ / ₂ (292)	9 ¹ / ₄ (235)	8	1 ¹ / ₈ (29)	-	1 ¹ / ₄ (32)	-	6 ³ / ₁₆ (157)	-	1/4 (6)	-	-	1 ³ / ₄ (44)	-
Class 1500	12 ¹ / ₄ (311)	9 ¹ / ₂ (241)	8	1 ¹ / ₄ (32)	-	1 ³ / ₈ (35)	-	6 ³ / ₁₆ (157)	-	1/4 (6)	-	-	2 ¹ / ₈ (54)	-
BS 10														
Table A	8 ¹ / ₂ (216)	7 (178)	4	5/8 (16)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-	-	-	-	3/4 (19)	5/8 (16)	-	-
Table D	8 ¹ / ₂ (216)	7 (178)	4	5/8 (16)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-	-	-	-	3/4 (19)	5/8 (16)	1 ¹ / ₁₆ (17)	-
Table E	8 ¹ / ₂ (216)	7 (178)	8	5/8 (16)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-	-	-	-	7/8 (22)	5/8 (16)	1 ¹ / ₁₆ (17)	-
Table F	9 (229)	7 ¹ / ₂ (191)	8	5/8 (16)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-	-	-	-	7/8 (22)	1 ¹ / ₁₆ (17)	3/4 (19)	-
Table H	9 (229)	7 ¹ / ₂ (191)	8	5/8 (16)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-	6 (152)	-	1/16 (2)	1 ¹ / ₄ (32)	3/4 (19)	1 (25)	-

(1) These flange thicknesses are also valid for ductile iron flanges type 21-2 (2) Flange thicknesses for copper alloy are from BS 4504

(3) Copper alloy flanges are always flat-faced

Nominal Size 125mm (5")

BS EN 1092	Dia. of flange	Bolt circle diameter	No. of bolts	Dia. of bolts	Dia. of holes Iron	Dia. of holes Steel	Dia. of raised face(3) Iron	Dia. of raised face(3) Steel	Height of raised face(3) Iron	Height of raised face(3) Steel	Thickness of flange			
											Grey Cast Iron	Copper Alloy	Cast and Forged Steel	Ductile Cast Iron
PN 6	240	200	8	M16	19	18	174	178	3	2	20 (1)	-	18	-
PN10	250	210	8	M16	19	18	184	188	3	2	26 (1)	-	22	19
PN16	250	210	8	M16	19	18	184	188	3	2	26 (1)	-	22	19
PN25	270	220	8	M24	28	26	184	188	3	2	30 (1)	-	26	19
PN40	270	220	8	M24	28	26	184	188	3	2	-	-	26	23.5
PN64	295	240	8	M27	-	30	-	188	-	2	-	-	34	-
PN100	315	250	8	M30	-	33	-	188	-	2	-	-	40	-
ANSI														
Class 125/150	10 (254)	8 ¹ / ₂ (216)	8	3 ⁴ / ₄ (19)	7 ⁸ / ₈ (22)	7 ⁸ / ₈ (22)	-	7 ⁵ / ₁₆ (186)	-	1 ¹ / ₁₆ (2)	5 ¹ / ₁₆ (24)	3 ⁴ / ₄ (19)	5 ¹ / ₁₆ (24)	-
Class 300	11 (279)	9 ¹ / ₄ (235)	8	3 ⁴ / ₄ (19)	-	7 ⁸ / ₈ (22)	-	7 ⁵ / ₁₆ (186)	-	1 ¹ / ₁₆ (2)	-	1 ¹ / ₈ (29)	1 ³ / ₈ (35)	-
Class 600	13 (330)	10 ¹ / ₂ (267)	8	1 (25)	-	1 ¹ / ₈ (29)	-	7 ⁵ / ₁₆ (186)	-	1 ⁴ / ₄ (6)	-	-	1 ³ / ₄ (44)	-
Class 900	13 ³ / ₄ (349)	11 (279)	8	1 ¹ / ₄ (32)	-	1 ³ / ₈ (35)	-	7 ⁵ / ₁₆ (186)	-	1 ⁴ / ₄ (6)	-	-	2 (51)	-
Class 1500	14 ³ / ₄ (375)	11 ¹ / ₂ (292)	8	1 ¹ / ₂ (38)	-	1 ⁵ / ₈ (41)	-	7 ⁵ / ₁₆ (186)	-	1 ⁴ / ₄ (6)	-	-	2 ⁷ / ₈ (73)	-
BS 10														
Table A	10 (254)	8 ¹ / ₄ (210)	4	5 ⁸ / ₈ (16)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-	-	-	-	3 ⁴ / ₄ (19)	1 ¹ / ₁₆ (17)	-	-
Table D	10 (254)	8 ¹ / ₄ (210)	8	5 ⁸ / ₈ (16)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-	-	-	-	1 ³ / ₁₆ (21)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-
Table E	10 (254)	8 ¹ / ₄ (210)	8	5 ⁸ / ₈ (16)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-	-	-	-	7 ⁸ / ₈ (22)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-
Table F	11 (279)	9 ¹ / ₄ (235)	8	3 ⁴ / ₄ (19)	7 ⁸ / ₈ (22)	7 ⁸ / ₈ (22)	-	-	-	-	1 (25)	3 ⁴ / ₄ (19)	7 ⁸ / ₈ (22)	-
Table H	11 (279)	9 ¹ / ₄ (235)	8	3 ⁴ / ₄ (19)	7 ⁸ / ₈ (22)	7 ⁸ / ₈ (22)	-	7 (178)	-	1 ¹ / ₁₆ (2)	1 ³ / ₈ (35)	7 ⁸ / ₈ (22)	1 ¹ / ₈ (29)	-

(1) These flange thicknesses are also valid for ductile iron flanges type 21-2

(2) Copper alloy flanges are always flat-faced

Nominal Size 150mm (6")

BS EN 1092	Dia. of flange	Bolt circle diameter	No. of bolts	Dia. of bolts	Dia. of holes Iron	Dia. of holes Steel	Dia. of raised face(3) Iron	Dia. of raised face(3) Steel	Height of raised face(3) Iron	Height of raised face(3) Steel	Thickness of flange			
											Grey Cast Iron	Copper Alloy	Cast and Forged Steel	Ductile Cast Iron
PN6	265	225	8	M16	19	18	199	202	3	2	20 (1)	-	18	-
PN10	285	240	8	M20	23	22	211	212	3	2	26 (1)	-	22	19
PN16	285	240	8	M20	23	22	211	212	3	2	26 (1)	-	22	19
PN25	300	250	8	M24	28	26	211	218	3	2	34 (1)	-	28	20
PN40	300	250	8	M24	28	26	211	218	3	2	-	-	28	26
PN64	345	280	8	M30	-	33	-	218	-	2	-	-	36	-
PN100	355	290	12	M30	-	33	-	218	-	2	-	-	44	-
ANSI														
Class 125/150	11 (279)	9 ¹ / ₂ (241)	8	3 ⁴ / ₄ (19)	7 ⁸ / ₈ (22)	7 ⁸ / ₈ (22)	-	8 ¹ / ₂ (216)	-	1 ¹ / ₁₆ (2)	1 (25)	1 ³ / ₁₆ (21)	1 (25)	-
Class 300	12 ¹ / ₂ (318)	10 ⁵ / ₈ (270)	12	3 ⁴ / ₄ (19)	-	7 ⁸ / ₈ (22)	-	8 ¹ / ₂ (216)	-	1 ¹ / ₁₆ (2)	-	1 ³ / ₁₆ (30)	1 ⁷ / ₁₆ (37)	-
Class 600	14 (356)	11 ¹ / ₂ (292)	12	1 (25)	-	1 ¹ / ₈ (29)	-	8 ¹ / ₂ (216)	-	1 ⁴ / ₄ (6)	-	-	1 ⁷ / ₈ (48)	-
Class 900	15 (381)	12 ¹ / ₂ (318)	12	1 ¹ / ₈ (29)	-	1 ¹ / ₄ (32)	-	8 ¹ / ₂ (216)	-	1 ⁴ / ₄ (6)	-	-	2 ³ / ₁₆ (56)	-
Class 1500	15 ¹ / ₂ (394)	12 ¹ / ₂ (318)	12	1 ³ / ₈ (35)	-	1 ¹ / ₂ (38)	-	8 ¹ / ₂ (216)	-	1 ⁴ / ₄ (6)	-	-	3 ¹ / ₄ (83)	-
BS 10														
Table A	11 (279)	9 ¹ / ₄ (235)	4	5 ⁸ / ₈ (16)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-	-	-	-	1 ³ / ₁₆ (21)	1 ¹ / ₁₆ (17)	-	-
Table D	11 (279)	9 ¹ / ₄ (235)	8	5 ⁸ / ₈ (16)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-	-	-	-	1 ³ / ₁₆ (21)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-
Table E	11 (279)	9 ¹ / ₄ (235)	8	3 ⁴ / ₄ (19)	7 ⁸ / ₈ (22)	7 ⁸ / ₈ (22)	-	-	-	-	7 ⁸ / ₈ (22)	1 ¹ / ₁₆ (17)	1 ¹ / ₁₆ (17)	-
Table F	12 (305)	10 ¹ / ₄ (260)	12	3 ⁴ / ₄ (19)	7 ⁸ / ₈ (22)	7 ⁸ / ₈ (22)	-	-	-	-	1 (25)	7 ⁸ / ₈ (22)	7 ⁸ / ₈ (22)	-
Table H	12 (305)	10 ¹ / ₄ (260)	12	3 ⁴ / ₄ (19)	7 ⁸ / ₈ (22)	7 ⁸ / ₈ (22)	-	8 ¹ / ₄ (210)	-	1 ¹ / ₁₆ (2)	1 ³ / ₈ (35)	1 (25)	1 ¹ / ₈ (29)	-

(1) These flange thicknesses are also valid for ductile iron flanges type 21-2

(2) Copper alloy flanges are always flat-faced

Nominal Size 200mm (8")

BS EN 1092	Dia. of flange	Bolt circle diameter	No. of bolts	Dia. of bolts	Dia. of holes Iron	Dia. of holes Steel	Dia. of raised face(3) Iron	Dia. of raised face(3) Steel	Height of raised face(3) Iron	Height of raised face(3) Steel	Thickness of flange			
											Grey Cast Iron	Copper Alloy	Cast and Forged Steel	Ductile Cast Iron
PN 6	320	280	8	M16	19	18	254	258	3	2	22 (1)	-	20	-
PN10	340	295	8	M20	23	22	266	268	3	2	26 (1)	-	24	20
PN16	340	295	12	M20	23	22	266	268	3	2	30 (1)	-	24	20
PN25	360	310	12	M24	28	26	274	278	3	2	34 (1)	-	30	22
PN40	375	320	12	M27	31	30	284	285	3	2	-	-	34	30
PN64	415	345	12	M33	-	36	-	285	-	2	-	-	42	-
PN100	430	360	12	M33	-	36	-	285	-	2	-	-	52	-
ANSI														
Class 125/150	13 ¹ / ₂ (343)	11 ³ / ₄ (298)	8	3/4 (19)	7/8 (22)	7/8 (22)	-	10 ⁵ / ₈ (270)	-	1/16 (2)	1 ¹ / ₈ (29)	1 ⁵ / ₁₆ (24)	1 ¹ / ₈ (29)	-
Class 300	15 (381)	13 (330)	12	7/8 (22)	-	1 (25)	-	10 ⁵ / ₈ (270)	-	1/16 (2)	-	1 ³ / ₈ (35)	1 ⁵ / ₈ (41)	-
Class 600	16 ¹ / ₂ (419)	13 ³ / ₄ (349)	12	1 ¹ / ₈ (29)	-	1 ¹ / ₄ (32)	-	10 ⁵ / ₈ (270)	-	1/4 (6)	-	-	2 ³ / ₁₆ (56)	-
Class 900	18 ¹ / ₂ (470)	15 ¹ / ₂ (394)	12	1 ³ / ₈ (35)	-	1 ¹ / ₂ (38)	-	10 ⁵ / ₈ (270)	-	1/4 (6)	-	-	2 ¹ / ₂ (64)	-
Class 1500	19 (438)	15 ¹ / ₂ (394)	12	1 ⁵ / ₈ (41)	-	1 ³ / ₄ (44)	-	10 ⁵ / ₈ (270)	-	1/4 (6)	-	-	3 ⁵ / ₈ (92)	-
BS 10														
Table A	13 ¹ / ₄ (337)	11 ¹ / ₂ (292)	8	5/8 (16)	11/16 (17)	11/16 (17)	-	-	-	-	7/8 (22)	3/4 (19)	1/2 (13)	-
Table D	13 ¹ / ₄ (337)	11 ¹ / ₂ (292)	8	5/8 (16)	11/16 (17)	11/16 (17)	-	-	-	-	7/8 (22)	3/4 (19)	3/4 (19)	-
Table E	13 ¹ / ₄ (337)	11 ¹ / ₂ (292)	8	3/4 (19)	7/8 (22)	7/8 (22)	-	-	-	-	1 (25)	3/4 (19)	3/4 (19)	-
Table F	14 ¹ / ₂ (368)	12 ³ / ₄ (324)	12	3/4 (19)	7/8 (22)	7/8 (22)	-	-	-	-	1 ¹ / ₈ (29)	1 (25)	1 (25)	-
Table H	14 ¹ / ₂ (368)	12 ³ / ₄ (324)	12	3/4 (19)	7/8 (22)	7/8 (22)	-	10 ¹ / ₄ (260)	-	1/16 (2)	1 ¹ / ₂ (38)	1 ¹ / ₄ (32)	1 ¹ / ₄ (32)	-

(1) These flange thicknesses are also valid for ductile iron flanges type 21-2

(2) Copper alloy flanges are always flat-faced

Nominal Size 250mm (10")

BS EN 1092	Dia. of flange	Bolt circle diameter	No. of bolts	Dia. of bolts	Dia. of holes Iron	Dia. of holes Steel	Dia. of raised face(3) Iron	Dia. of raised face(3) Steel	Height of raised face(3) Iron	Height of raised face(3) Steel	Thickness of flange			
											Grey Cast Iron	Copper Alloy	Cast and Forged Steel	Ductile Cast Iron
PN6	375	335	12	M16	19	18	309	312	3	2	24 (1)	-	22	-
PN10	395 (2)	350	12	M20	23	22	319	320	3	2	28 (1)	-	26	22
PN16	405 (2)	355	12	M24	28	26	319	320	3	2	32 (1)	-	26	22
PN25	425	370	12	M27	31	30	330	335	3	2	-	-	32	24.5
PN40	450	385	12	M30	34	33	345	345	3	2	-	-	38	34.5
PN64	470	400	12	M33	-	36	-	345	-	2	-	-	46	-
PN100	505	430	12	M36	-	39	-	345	-	2	-	-	60	-
ANSI														
Class 125/150	16 (406)	14 ¹ / ₄ (362)	12	7/8 (22)	1 (25)	1 (25)	-	12 ³ / ₄ (324)	-	1/16 (2)	1 ³ / ₁₆ (30)	1 (25)	1 ³ / ₁₆ (30)	-
Class 300	17 ¹ / ₂ (445)	15 ¹ / ₄ (387)	16	1 (25)	-	1 ¹ / ₈ (29)	-	12 ³ / ₄ (324)	-	1/16 (2)	-	-	1 ⁷ / ₈ (41)	-
Class 600	20 (508)	17 (432)	16	1 ¹ / ₄ (32)	-	1 ³ / ₈ (35)	-	12 ³ / ₄ (324)	-	1/4 (6)	-	-	2 ¹ / ₂ (64)	-
Class 900	21 ¹ / ₂ (546)	18 ¹ / ₂ (470)	16	1 ³ / ₈ (35)	-	1 ¹ / ₂ (38)	-	12 ³ / ₄ (324)	-	1/4 (6)	-	-	2 ³ / ₄ (70)	-
Class 1500	23 (584)	19 (483)	12	1 ⁷ / ₈ (41)	-	2 (51)	-	12 ³ / ₄ (324)	-	1/4 (6)	-	-	4 ¹ / ₄ (108)	-
BS 10														
Table A	16 (406)	14 (356)	8	3/4 (19)	7/8 (22)	7/8 (22)	-	-	-	-	1 ⁵ / ₁₆ (24)	3/4 (19)	-	-
Table D	16 (406)	14 (356)	8	3/4 (19)	7/8 (22)	7/8 (22)	-	-	-	-	1 (25)	3/4 (19)	3/4 (19)	-
Table E	16 (406)	14 (356)	12	3/4 (19)	7/8 (22)	7/8 (22)	-	-	-	-	1 (25)	7/8 (22)	7/8 (22)	-
Table F	17 (432)	15 (381)	12	7/8 (22)	1 (25)	1 (25)	-	-	-	-	1 ¹ / ₈ (29)	1 (25)	1 (25)	-
Table H	17 (432)	15 (381)	12	7/8 (22)	1 (25)	1 (25)	-	12 ¹ / ₄ (311)	-	1/16 (2)	1 ⁵ / ₈ (41)	1 ³ / ₈ (35)	1 ³ / ₈ (35)	-

(1) These flange thicknesses are also valid for ductile iron flanges type 21-2

(2) For ductile iron pipes and fittings the outside diameters shall be: for PN10, D = 400mm, for PN16, D = 400mm

(3) Copper alloy flanges are always flat-faced

Nominal Size 300mm (12")

BS EN 1092	Dia. of flange	Bolt circle diameter	No. of bolts	Dia. of bolts	Dia. of holes Iron	Dia. of holes Steel	Dia. of raised face(3) Iron	Dia. of raised face(3) Steel	Height of raised face(3) Iron	Height of raised face(3) Steel	Thickness of flange			
											Grey Cast Iron	Copper Alloy	Cast and Forged Steel	Ductile Cast Iron
PN6	440	395	12	M20	23	22	363	365	4	2	24 (1)	-	22	-
PN10	445 (2)	400	12	M20	23	22	370	370	4	2	28 (1)	-	26	24.5
PN16	460 (2)	410	12	M24	28	26	370	378	4	2	32 (1)	-	28	24.5
PN25	485	430	16	M27	31	30	389	395	4	2	40 (1)	-	34	27.5
PN40	515	450	16	M30	34	33	409	410	4	2	-	-	42	39.5
PN64	530	460	16	M33	-	36	-	410	-	2	-	-	52	-
PN100	585	500	16	M39	-	42	-	410	-	2	-	-	68	-
ANSI														
Class 125/150	19 (483)	17 (432)	12	7/8 (22)	1 (25)	1 (25)	-	15 (381)	-	1/16 (2)	1 1/4 (32)	1 1/16 (27)	1 1/4 (32)	-
Class 300	20 1/2 (521)	17 3/4 (451)	16	1 1/8 (29)	-	1 1/4 (32)	-	15 (381)	-	1/16 (2)	-	-	2 (51)	-
Class 600	22 (559)	19 1/4 (489)	20	1 1/4 (32)	-	1 3/8 (35)	-	15 (381)	-	1/4 (6)	-	-	2 5/8 (67)	-
Class 900	24 (610)	21 (533)	20	1 3/8 (35)	-	1 1/2 (38)	-	15 (381)	-	1/4 (6)	-	-	3 1/8 (80)	-
Class 1500	26 1/2 (673)	22 1/2 (571)	16	2 (51)	-	2 1/8 (54)	-	15 (381)	-	1/4 (6)	-	-	4 7/8 (124)	-
BS 10														
Table A	18 (457)	16 (406)	8	3/4 (19)	7/8 (22)	7/8 (22)	-	-	-	-	15/16 (24)	7/8 (22)	-	-
Table D	18 (457)	16 (406)	12	3/4 (19)	7/8 (22)	7/8 (22)	-	-	-	-	1 (25)	7/8 (22)	7/8 (22)	-
Table E	18 (457)	16 (406)	12	7/8 (22)	1 (25)	1 (25)	-	-	-	-	1 1/8 (29)	1 (25)	1 (25)	-
Table F	19 1/4 (489)	17 1/4 (438)	16	7/8 (22)	1 (25)	1 (25)	-	-	-	-	1 1/4 (32)	1 1/8 (29)	1 1/8 (29)	-
Table H	19 1/4 (489)	17 1/4 (438)	16	7/8 (22)	1 (25)	1 (25)	-	14 1/4 (362)	-	1/16 (2)	1 3/4 (44)	1 1/2 (38)	1 1/2 (38)	-

(1) These flange thicknesses are also valid for ductile iron flanges type 21-2

(2) For ductile iron pipes and fittings the outside diameter shall be: for PN10, D = 455mm; for PN16, D = 455 mm

(3) Copper alloy flanges are always flat-faced

Nominal Size 350mm (14")

BS EN 1092	Dia. of flange	Bolt circle diameter	No. of bolts	Dia. of bolts	Dia. of holes Iron	Dia. of holes Steel	Dia. of raised face(3) Iron	Dia. of raised face(3) Steel	Height of raised face(3) Iron	Height of raised face(3) Steel	Thickness of flange			
											Grey Cast Iron	Copper Alloy	Cast and Forged Steel	Ductile Cast Iron
PN6	490	445	12	M20	23	22	413	415	4	2	26 (1)	-	22	-
PN10	505	460	16	M20	23	22	429	430	4	2	30 (1)	-	26	24.5
PN16	520	470	16	M24	28	26	429	438	4	2	36 (1)	-	30	26.5
PN25	555	490	16	M30	34	33	448	450	4	2	44 (1)	-	38	30
PN40	580	510	16	M33	37	36	465	465	4	2	-	-	46	44
PN64	600	525	16	M36	-	39	-	465	-	2	-	-	56	-
PN100	655	560	16	M45	-	48	-	465	-	2	-	-	74	-
ANSI														
Class 125/150	21 (533)	18 3/4 (476)	12	1 (25)	1 1/8 (29)	1 1/8 (29)	-	16 1/4 (413)	-	1/16 (2)	1 3/8 (35)	-	1 3/8 (35)	-
Class 300	23 (584)	20 1/4 (514)	20	1 1/8 (29)	-	1 1/4 (32)	-	16 1/4 (413)	-	1/16 (2)	-	-	2 1/8 (54)	-
Class 600	23 3/4 (603)	20 3/4 (527)	20	1 3/8 (35)	-	1 1/2 (38)	-	16 1/4 (413)	-	1/4 (6)	-	-	2 3/4 (70)	-
Class 900	25 1/4 (641)	22 (559)	20	1 1/2 (38)	-	1 5/8 (41)	-	16 1/4 (413)	-	1/4 (6)	-	-	3 3/8 (86)	-
Class 1500	29 1/2 (749)	25 (635)	16	2 1/4 (57)	-	2 3/8 (60)	-	16 1/4 (413)	-	1/4 (6)	-	-	5 1/4 (133)	-
BS 10														
Table A	20 3/4 (527)	18 1/2 (470)	8	7/8 (22)	1 (25)	1 (25)	-	-	-	-	1 (25)	1 (25)	-	-
Table D	20 3/4 (527)	18 1/2 (470)	12	7/8 (22)	1 (25)	1 (25)	-	-	-	-	1 1/8 (29)	1 (25)	1 (25)	-
Table E	20 3/4 (527)	18 1/2 (470)	12	7/8 (22)	1 (25)	1 (25)	-	-	-	-	1 1/4 (32)	1 (25)	1 (25)	-
Table F	21 3/4 (552)	19 1/2 (495)	16	1 (25)	1 1/8 (29)	1 1/8 (29)	-	-	-	-	1 3/8 (35)	1 1/4 (32)	1 1/4 (32)	-
Table H	21 3/4 (552)	19 1/2 (495)	16	1 (25)	1 1/8 (29)	1 1/8 (29)	-	16 1/2 (419)	-	1/16 (2)	1 7/8 (48)	1 5/8 (41)	1 5/8 (41)	-

(1) These flange thicknesses are also valid for ductile iron flanges type 21-2

(2) Copper alloy flanges are always flat-faced

Nominal Size 400mm (16")

BS EN 1092	Dia. of flange	Bolt circle diameter	No. of bolts	Dia. of bolts	Dia. of holes Iron	Dia. of holes Steel	Dia. of raised face(3) Iron	Dia. of raised face(3) Steel	Height of raised face(3) Iron	Height of raised face(3) Steel	Thickness of flange			
											Grey Cast Iron	Copper Alloy	Cast and Forged Steel	Ductile Cast Iron
PN6	540	495	16	M20	23	22	463	465	4	2	28 (1)	-	22	-
PN10	565	515	16	M24	28	26	480	482	4	2	32 (1)	-	26	24.5
PN16	580	525	16	M27	31	30	480	490	4	2	38 (1)	-	32	28
PN25	620	550	16	M33	37	36	503	505	4	2	48 (1)	-	40	32
PN40	660	585	16	M36	41	39	535	535	4	2	-	-	50	48
PN64	670	585	16	M39	-	42	-	535	-	2	-	-	60	-
PN100	715	620	16	M45	-	48	-	535	-	2	-	-	78	-
ANSI														
Class 125/150	23 ¹ / ₂ (597)	21 ¹ / ₄ (540)	16	1 (25)	1 ¹ / ₈ (29)	1 ¹ / ₈ (29)	-	18 ¹ / ₂ (470)	-	1 ¹ / ₁₆ (2)	17 ¹ / ₁₆ (37)	-	17 ¹ / ₁₆ (37)	-
Class 300	25 ¹ / ₂ (648)	22 ¹ / ₂ (572)	20	1 ¹ / ₄ (32)	-	1 ³ / ₈ (35)	-	18 ¹ / ₂ (470)	-	1 ¹ / ₁₆ (2)	-	-	2 ¹ / ₄ (57)	-
Class 600	27 (686)	23 ³ / ₄ (603)	20	1 ¹ / ₂ (38)	-	1 ⁵ / ₈ (41)	-	18 ¹ / ₂ (470)	-	1 ¹ / ₄ (6)	-	-	3 (76)	-
Class 900	27 ³ / ₄ (705)	24 ¹ / ₄ (616)	20	1 ⁵ / ₈ (41)	-	1 ³ / ₄ (44)	-	18 ¹ / ₂ (470)	-	1 ¹ / ₄ (6)	-	-	3 ¹ / ₂ (89)	-
Class 1500	32 ¹ / ₂ (826)	27 ³ / ₄ (705)	16	2 ¹ / ₂ (64)	-	2 ⁵ / ₈ (67)	-	18 ¹ / ₂ (470)	-	1 ¹ / ₄ (6)	-	-	5 ³ / ₄ (146)	-
BS 10														
Table A	22 ³ / ₄ (578)	20 ¹ / ₂ (521)	12	7 ⁷ / ₈ (22)	1 (25)	1 (25)	-	-	-	-	1 ¹ / ₁₆ (27)	1 (25)	-	-
Table D	22 ³ / ₄ (578)	20 ¹ / ₂ (521)	12	7 ⁷ / ₈ (22)	1 (25)	1 (25)	-	-	-	-	1 ¹ / ₈ (29)	1 (25)	1 (25)	-
Table E	22 ³ / ₄ (578)	20 ¹ / ₂ (521)	12	7 ⁷ / ₈ (22)	1 (25)	1 (25)	-	-	-	-	1 ¹ / ₄ (32)	1 (25)	1 (25)	-
Table F	24 (610)	21 ³ / ₄ (552)	20	1 (25)	1 ¹ / ₈ (29)	1 ¹ / ₈ (29)	-	-	-	-	1 ³ / ₈ (35)	1 ¹ / ₄ (32)	1 ¹ / ₄ (32)	-
Table H	24 (610)	21 ³ / ₄ (552)	20	1 (25)	1 ¹ / ₈ (29)	1 ¹ / ₈ (29)	-	19 (483)	-	1 ¹ / ₁₆ (2)	2 (51)	1 ³ / ₄ (44)	1 ³ / ₄ (44)	-

(1) These flange thicknesses are also valid for ductile iron flanges type 21-2

(2) Copper alloy flanges are always flat-faced

Nominal Size 450mm (18")

BS EN 1092	Dia. of flange	Bolt circle diameter	No. of bolts	Dia. of bolts	Dia. of holes Iron	Dia. of holes Steel	Dia. of raised face(3) Iron	Dia. of raised face(3) Steel	Height of raised face(3) Iron	Height of raised face(3) Steel	Thickness of flange			
											Grey Cast Iron	Copper Alloy	Cast and Forged Steel	Ductile Cast Iron
PN6	595	550	16	M20	23	22	518	520	4	2	28 (1)	-	22	-
PN10	615	565	20	M24	28	26	530	532	4	2	32 (1)	-	28	25.5
PN16	640	585	20	M27	31	30	548	550	4	2	40 (1)	-	40	30
PN25	670	600	20	M33	37	36	548	555	4	2	50 (1)	-	46	34.5
PN40	685	610	20	M36	41	39	560	560	4	2	-	-	57	49
PN64	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PN100	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ANSI														
Class 125/150	25 (635)	22 ³ / ₄ (578)	16	1 ¹ / ₈ (29)	1 ¹ / ₄ (32)	1 ¹ / ₄ (32)	-	21 (533)	-	1 ¹ / ₁₆ (2)	19 ¹ / ₁₆ (40)	-	19 ¹ / ₁₆ (40)	-
Class 300	28 (711)	24 ³ / ₄ (629)	24	1 ¹ / ₄ (32)	-	1 ³ / ₈ (35)	-	21 (533)	-	1 ¹ / ₁₆ (2)	-	-	2 ³ / ₈ (60)	-
Class 600	29 ¹ / ₄ (743)	25 ³ / ₄ (654)	20	1 ⁵ / ₈ (41)	-	1 ³ / ₄ (44)	-	21 (533)	-	1 ¹ / ₄ (6)	-	-	3 ¹ / ₄ (83)	-
Class 900	31 (787)	27 (686)	20	1 ⁷ / ₈ (48)	-	2 (51)	-	21 (533)	-	1 ¹ / ₄ (6)	-	-	4 (102)	-
Class 1500	36 (914)	30 ¹ / ₂ (775)	16	2 ³ / ₄ (70)	-	2 ⁷ / ₈ (73)	-	21 (533)	-	1 ¹ / ₄ (6)	-	-	6 ³ / ₈ (162)	-
BS 10														
Table A	25 ¹ / ₄ (641)	23 (584)	12	7 ⁷ / ₈ (22)	-	1 (25)	-	-	-	-	1 ¹ / ₁₆ (27)	1 ¹ / ₁₆ (27)	-	-
Table D	25 ¹ / ₄ (641)	23 (584)	12	7 ⁷ / ₈ (22)	-	1 (25)	-	-	-	-	1 ¹ / ₄ (32)	1 ¹ / ₈ (29)	1 ¹ / ₈ (29)	-
Table E	25 ¹ / ₄ (641)	23 (584)	16	7 ⁷ / ₈ (22)	-	1 (25)	-	-	-	-	1 ³ / ₈ (35)	1 ¹ / ₈ (29)	1 ¹ / ₈ (29)	-
Table F	26 ¹ / ₂ (673)	24 (610)	20	1 ¹ / ₈ (29)	-	1 ¹ / ₄ (32)	-	-	-	-	1 ¹ / ₂ (38)	1 ³ / ₈ (35)	1 ³ / ₈ (35)	-
Table H	26 ¹ / ₂ (673)	24 (610)	20	1 ¹ / ₈ (29)	-	1 ¹ / ₄ (32)	-	21 (533)	-	1 ¹ / ₁₆ (2)	2 ¹ / ₈ (54)	1 ⁷ / ₈ (48)	1 ⁷ / ₈ (48)	-

(1) These flange thicknesses are also valid for ductile iron flanges type 21-2

(2) Copper alloy flanges are always flat-faced

Nominal Size 500mm (20")

BS EN 1092	Dia. of flange	Bolt circle diameter	No. of bolts	Dia. of bolts	Dia. of holes Iron	Dia. of holes Steel	Dia. of raised face(3) Iron	Dia. of raised face(3) Steel	Height of raised face(3) Iron	Height of raised face(3) Steel	Thickness of flange			
											Grey Cast Iron	Copper Alloy	Cast and Forged Steel	Ductile Cast Iron
PN6	645	600	20	M20	23	22	568	570	4	2	30 (1)	-	24 (2)	-
PN10	670	620	20	M24	28	26	582	585	4	2	34 (1)	-	28 (2)	26.5
PN16	715	650	20	M30	34	33	609	610	4	2	42 (1)	-	44 (2)	31.5
PN25	730	660	20	M33	37	36	609	615	4	2	52 (1)	-	48 (2)	36.5
PN40	755	670	20	M39	44	42	615	615	4	2	-	-	57 (2)	52
PN64	800	705	20	M45	-	48	-	615	-	2	-	-	68 (2)	-
PN100	870	760	20	M52	-	56	-	615	-	2	-	-	94 (2)	-
ANSI														
Class 125/150	27 ¹ / ₂ (699)	25 (635)	20	1 ¹ / ₈ (29)	1 ¹ / ₄ (32)	1 ¹ / ₄ (32)	-	23 (584)	-	1 ¹ / ₁₆ (2)	1 ¹ / ₁₆ (43)	-	1 ¹ / ₁₆ (43)	-
Class 300	30 ¹ / ₂ (775)	27 (686)	24	1 ¹ / ₄ (32)	-	1 ³ / ₈ (35)	-	23 (584)	-	1 ¹ / ₁₆ (2)	-	-	2 ¹ / ₂ (64)	-
Class 600	32 (813)	28 ¹ / ₂ (724)	24	1 ⁵ / ₈ (41)	-	1 ³ / ₄ (44)	-	23 (584)	-	1 ⁴ / ₁₆ (6)	-	-	3 ¹ / ₂ (89)	-
Class 900	33 ³ / ₄ (857)	29 ¹ / ₂ (749)	20	2 (51)	-	2 ¹ / ₈ (54)	-	23 (584)	-	1 ⁴ / ₁₆ (6)	-	-	4 ¹ / ₄ (108)	-
Class 1500	38 ³ / ₄ (984)	32 ³ / ₄ (832)	16	3 (76)	-	3 ¹ / ₈ (79)	-	23 (584)	-	1 ⁴ / ₁₆ (6)	-	-	7 (178)	-
BS 10														
Table A	27 ³ / ₄ (705)	25 ¹ / ₄ (641)	12	7 ⁷ / ₈ (22)	1 (25)	1 (25)	-	-	-	-	1 ¹ / ₈ (29)	1 ¹ / ₈ (29)	-	-
Table D	27 ³ / ₄ (705)	25 ¹ / ₄ (641)	16	7 ⁷ / ₈ (22)	1 (25)	1 (25)	-	-	-	-	1 ¹ / ₄ (32)	1 ¹ / ₄ (32)	-	-
Table E	27 ³ / ₄ (705)	25 ¹ / ₄ (641)	16	7 ⁷ / ₈ (22)	1 (25)	1 (25)	-	-	-	-	1 ¹ / ₂ (38)	1 ¹ / ₄ (32)	1 ¹ / ₄ (32)	-
Table F	29 (737)	26 ¹ / ₂ (673)	24	1 ¹ / ₈ (29)	1 ¹ / ₄ (32)	1 ¹ / ₄ (32)	-	-	-	-	1 ⁵ / ₈ (41)	1 ¹ / ₂ (38)	1 ¹ / ₂ (38)	-
Table H	29 (737)	26 ¹ / ₂ (673)	24	1 ¹ / ₈ (29)	1 ¹ / ₄ (32)	1 ¹ / ₄ (32)	-	23 ¹ / ₂ (597)	-	1 ¹ / ₁₆ (2)	2 ¹ / ₄ (57)	2 (51)	2 (51)	-

(1) These flange thicknesses are also valid for ductile iron flanges type 21-2

(2) These flange thicknesses are changed substantially as a result of the flange calculation method used in BS EN 1092-1

(3) Copper alloy flanges are always flat-faced

Nominal Size 600mm (24")

BS EN 1092	Dia. of flange	Bolt circle diameter	No. of bolts	Dia. of bolts	Dia. of holes Iron	Dia. of holes Steel	Dia. of raised face(3) Iron	Dia. of raised face(3) Steel	Height of raised face(3) Iron	Height of raised face(3) Steel	Thickness of flange			
											Grey Cast Iron	Copper Alloy	Cast and Forged Steel	Ductile Cast Iron
PN6	755	705	20	M24	28	26	667	670	5	2	30 (1)	-	30	-
PN10	780	725	20	M27	31	30	682	685	5	2	36 (1)	-	34	30
PN16	840	770	20	M33	37	36	720	725	5	2	48 (1)	-	54	36
PN25	845	770	20	M36	41	39	720	720	5	2	-	-	58	42
PN40	890	795	20	M45	50	48	735	735	5	2	-	-	72	58
PN64	930	820	20	M52	-	56	-	735	-	2	-	-	76	-
ANSI														
Class 125/150	32 (813)	29 ¹ / ₂ (749)	20	1 ¹ / ₄ (32)	1 ³ / ₈ (35)	1 ³ / ₈ (35)	-	27 ¹ / ₄ (692)	-	1 ¹ / ₁₆ (2)	1 ⁷ / ₈ (48)	-	1 ⁷ / ₈ (48)	-
Class 300	36 (914)	32 (813)	24	1 ¹ / ₂ (38)	-	1 ⁵ / ₈ (41)	-	27 ¹ / ₄ (692)	-	1 ¹ / ₁₆ (2)	-	-	2 ³ / ₄ (70)	-
Class 600	37 (940)	33 (838)	24	1 ⁷ / ₈ (48)	-	2 (51)	-	27 ¹ / ₄ (692)	-	1 ⁴ / ₁₆ (6)	-	-	4 (102)	-
Class 900	41 (1041)	35 ¹ / ₂ (902)	20	2 ¹ / ₂ (64)	-	2 ⁵ / ₈ (67)	-	27 ¹ / ₄ (692)	-	1 ⁴ / ₁₆ (6)	-	-	5 ¹ / ₂ (140)	-
Class 1500	46 (1168)	39 (991)	16	3 ¹ / ₂ (89)	-	3 ⁵ / ₈ (92)	-	27 ¹ / ₄ (692)	-	1 ⁴ / ₁₆ (6)	-	-	8 (203)	-
BS 10														
Table A	32 ¹ / ₂ (826)	29 ³ / ₄ (756)	12	1 (25)	1 ¹ / ₈ (29)	1 ¹ / ₈ (29)	-	-	-	-	1 ³ / ₁₆ (30)	1 ³ / ₁₆ (30)	-	-
Table D	32 ¹ / ₂ (826)	29 ³ / ₄ (756)	16	1 (25)	1 ¹ / ₈ (29)	1 ¹ / ₈ (29)	-	-	-	-	1 ³ / ₈ (35)	1 ³ / ₈ (35)	1 ³ / ₈ (35)	-
Table E	32 ¹ / ₂ (826)	29 ³ / ₄ (756)	16	1 ¹ / ₈ (29)	1 ¹ / ₄ (32)	1 ¹ / ₄ (32)	-	-	-	-	1 ⁵ / ₈ (41)	1 ¹ / ₂ (38)	1 ¹ / ₂ (38)	-
Table F	33 ¹ / ₂ (851)	30 ³ / ₄ (781)	24	1 ¹ / ₄ (32)	1 ¹ / ₄ (32)	1 ³ / ₈ (35)	-	-	-	-	1 ³ / ₄ (44)	1 ⁵ / ₈ (41)	1 ⁵ / ₈ (41)	-
Table H	33 ¹ / ₂ (851)	30 ³ / ₄ (781)	24	1 ¹ / ₄ (32)	1 ³ / ₈ (35)	1 ³ / ₈ (35)	-	27 ¹ / ₂ (699)	-	1 ¹ / ₁₆ (2)	2 ¹ / ₂ (64)	2 ¹ / ₄ (57)	2 ¹ / ₄ (57)	-

(1) These flange thicknesses are also valid for ductile iron flanges type 21-2

(2) These flange thicknesses are changed substantially as a result of the flange calculation method used in BS EN 1092-1

(3) Copper alloy flanges are always flat-faced

Typical Kv values for various valves to enable Pressure Drop calculations to be made.
For other pipe specifications, valve sizes and valve types, please refer to Crane Fluid Systems technical department.

GATE VALVES (SCHEDULE 40 PIPE)

SIZE (mm)	15	20	25	32	40	50	65	80	100	125	150	200	250	300
Kv	21.32	38.88	65.69	116.23	161.93	280.6	411.33	635.13	1125.41	1823.03	2718.96	4873.47	7681.73	11315.64

GLOBE VALVES (SCHEDULE 40 PIPE)

SIZE (mm)	15	20	25	32	40	50	65	80	100	125	150	200	250	300
Kv	3.27	5.96	10.08	17.83	24.84	43.04	63.1	97.42	172.63	279.64	417.07	747.56	1178.32	1735.74

BUTTERFLY VALVES

SIZE (mm)	15	20	25	32	40	50	65	80	100	125	150	200	250	300
Kv	-	-	-	-	-	133	240	410	655	900	1800	3550	7350	9100

BALL VALVES

SIZE (mm)	8	10	15	20	25	32	40	50	65	80
Kv	9	11	20	47	77	1412	198	338	593	82

CHECK VALVES (SCHEDULE 40 PIPE)

SIZE (mm)	15	20	25	32	40	50	65	80	100	125	150	200	250	300
Kv	8.53	15.55	26.27	46.49	64.77	112.24	164.53	254.05	450.16	729.21	1087.59	1949.39	3072.69	4526.25

STRAINERS (FLANGED) (BS 1387 Medium Grade Steel Pipe)

SIZE (mm)	15	20	25	32	40	50	65	80	100	125	150	200	250	300
Kv	-	-	-	-	33	57	91	131	232	372	544	952	1470	2151

STRAINERS (THREADED) (BS 1387 Medium Grade Steel Pipe)

SIZE (mm)	15	20	25	32	40	50
Kv	4.8	8.8	16.1	25.5	36	68

COMMISSIONING VALVES (Fixed Orifice Double Regulating Valve - Crane DM941)

SIZE (mm)	65	80	100	125	150	200	250	300
Kv	72	100	124	229	324	525	1058	1329

COMMISSIONING VALVES (Fixed Orifice Double Regulating Valve - Crane D931)

SIZE (mm)	15	20	25	32	40	50
Kv	1.87	3.14	5.59	10.8	18.1	29.1

Rigid quality control and inspection at all stages of manufacture ensure that Crane FS products are suitable for their intended application and will give reliable service. Every valve and pipe fitting is individually tested in accordance with the relevant product standard.

Crane Fluid Systems is an approved manufacturer under various quality schemes, including the British Standard Institution (BSI) Kitemark, and is ISO9001 accredited. In addition, the company has been approved and/or listed by various user organisations including the United Kingdom Water Fittings by laws scheme and other third party organisations.



NSF/WRc Evaluation and Testing Centre

The NSF Evaluation and Testing Centre is responsible for the Water Regulations Advisory Scheme, with testing and approval of water fittings meeting the requirements of the United Kingdom Water Regulations/ Bylaws (Scotland).

Valves for use in public water supply systems and domestic situations must not contravene the United Kingdom Water Regulations. Valves which are designated WRAS Approved Product and listed in the Water Fittings and Materials Directory will not contravene those bylaws.

Many Crane Fluid Systems valves have been tested and certified as being WRAS Approved Products and are listed in the Water Fittings and Materials Directory.



Firm of Assessed Capability

BS EN/ISO 9001 is the reference Standard for Quality Systems.



The Kitemark

The Kitemark is a registered trademark owned by British Standards Institution and may only be used by manufacturers who are approved licensees and whose products

fully comply with the individual product standards. Annual product audits and regular surveillance visits by BSI ensure continuing compliance with specification requirements and confirm acceptable Quality Systems to BS EN ISO 9001:2015.

Pressure Equipment Directive



All Crane Fluid Systems products have been assessed in accordance with the Pressure Equipment Directive (PED) 2014/68/EU.

Currently, each product has been classified into a conformity assessment category based on the intended fluid contents – gas or liquid, the classification of the intended fluid contents

– Group 1 or Group 2, and the maximum allowable pressure and the nominal size (DN).

Crane FS products fall into either the 'Sound Engineering Practice' (SEP), Category 1, Category 2, Category 3, or category 4. According to the directive, products classified as 'SEP' shall not be CE marked. Category 1 products will bear the CE mark and those products classified as Categories 2,3 and 4 will bear the CE mark plus the number 0041.

The number 004 is that of Bureau Veritas who Crane FS have chosen as their 'Notified Body' to monitor their quality assurance system as required by the directive.

Classification of Gases and Liquids

Gases

GROUP ONE

- Explosive
- Extremely Flammable
- Highly Flammable
- Very Toxic
- Toxic
- Oxidising

GROUP TWO

- Others

Liquids

GROUP ONE

- Explosive
- Extremely Flammable
- Highly Flammable
- Very Toxic
- Toxic
- Oxidising

GROUP TWO

- Others (including steam)

FINANCIAL

PROJECT

5 Broadgate



Crane Fluid Systems has supplied thousands of valves for the core and shell build of 5 Broadgate, located in London's Square Mile.

5 Broadgate is the new home of UBS a global bank which provides comprehensive financial services around the world and make decisions that can have multi million pound consequences. In fact, 5 Broadgate has become the largest trading floor in Europe, so it is essential that the heating and ventilation systems will never fail.

This world class office building provides over 66,890 sq m of new space, delivering state-of-the-art trading facilities to clients and staff. The development also includes public realm and landscaping enhancements from Sun Street Passage to Primrose Street, and allows for the introduction of retail space in the new Sun Street Square. British Land and GIC see the development of Broadgate as an important and positive milestone for Broadgate and for the City of London as a whole.

LOCATION:

London

DISTRIBUTOR:

BSS

CONTRACTOR:

S F Group

CONSULTANT:

Watkins Payne

CLIENT:

Bluebutton Property Management Ltd

ARCHITECT:

Make Architects

SPECIFICATION:

Heating and domestic general valves, balancing & PICVs



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DM931 / DA93118		/ FA674L43		FM6383			
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D2003 & D200421		/ FA674G44		47XU-F86			
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D171 & D171EXS24		D13550		Globe Valves			
D171A & D171AEXS25		D13851		D491			
D171MHU		D14052		D792			
& D171MHULS26		D140W53		F37293			
D19127		D14254		FM36994			
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F62129		D130W56		151XU96			
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F62431		FM46958		D297101			
F62532		FM49259		D298102			
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& FM700B34		FM463 / FM466W /		FM276105			
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FM725G37		Draw-Off Cocks / Drain Taps					
		D34069					
		D34170					

CRANE[®] FLUID SYSTEMS

Today as part of the Crane Building Services & Utilities, Crane Fluid Systems is joined by an array of complimentary building services brands, including:



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One of the UK's leading suppliers of gunmetal safety valves, NABIC has long been recognised as the industry standard for commercial and industrial hot water applications. In fact, NABIC valves are ideal for hot water supply, heating, pump relief, bypass relief, outside installation and for use with different gases and liquids.



Helden[®]

Helden is a manufacturer of couplings, flange adaptors, and pipe repair solutions for the water, wastewater, gas and industrial markets.

Dedicated and Wide Tolerance products are available from 40mm to 5000mm in diameter, and there is a portfolio to support PE Solutions as well as for Pipe Repair.



VIKING JOHNSON[™]

Viking Johnson is a world leader in the manufacture and supply of couplings, flange adaptors, pipe repair and jointing solutions for the international water, wastewater, gas and industrial markets. Products are suitable for dedicated and wide tolerance application ranging from 15mm to 5000mm in diameter, and can be used to connect or repair many types of pipe material.



WASK[™]

Market leader in the supply of specialist mains and service fittings, along with pipeline equipment of the highest quality, WASK is renowned in the global gas distribution market. WASK Teeset and bagging-off equipment has become a standard in the UK gas industry and in many markets overseas.

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PosiFlex expansion joints provide relief for piping system stress caused by thermal and mechanical vibration and/or movement, and can also be utilised to overcome problems of noise. These flexible connectors are fabricated from a wide range of rubber compounds, open or filled, single or multiple arch and are designed to accommodate the needs of individual pipe systems conveying materials as diverse as fluids, foodstuffs, chemicals or crude oil.



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Distributor details

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