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- Any shape, any size, we have over 2,000 miles of tube in stock ready for you to order
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BSS offer over **60,000 product lines** giving all our customers access to a wide range of equipment for all types of industry sectors and applications.

This brochure is designed to give the user a comprehensive guide to our BOSS™ range of valves, actuators, actuated packages & accessories.

In BSS, our world class BOSS™ range is backed with full technical and application support and complements the extensive ranges available from leading partner suppliers.

Our network is backed by a 140,000 sq. ft. national distribution centre, a specialist tube distribution centre and over 60 branches nationwide. With a fast and friendly service, BSS can offer access to an unrivalled range of products - available same day or next day - delivered to site or collected from our trade counters.

Every BSS branch now offers our Hire-It service - built around the needs of the plumbing and heating trade. You can be sure of a huge choice of well maintained, top name equipment that meets all the safety standards as well as expert advice and excellent service to accompany each and every hire.

Our in-house Engineering & Actuation team can provide actuated valve packages, pre-set safety valves, heat exchangers, bespoke flange modifications and more. With a fast and friendly service, BSS can also offer application advice, product sizing, commissioning and a range of bespoke engineering solutions.

The BOSS™ valve range maintains the highest standards of quality and reliability with products manufactured in accordance with industry recognised standards and approvals (including EN331 Fire Safe & WRAS where stated). This ensures commitment of product quality can be passed on to the customer. The latest additions to this best-selling range include:

- Pressure Independent Control Valves
- Differential Pressure Control Valves
- Modular Valve Systems
- Stainless Steel Ball Valves
- Pneumatic & Electric Actuators
- Actuated Valve Packages

To find out more about our latest special offers or to get a quote for your next job, just call your nearest branch on 0330 123 3521.



BOSS™ delivers heating, plumbing and pipeline system products for professionals who demand guaranteed quality and service.

The brand is built on a proud 100-year history and a solid reputation. We want our customers to recognise us as PROUD, DECISIVE, RESPECTED, CONFIDENT and EXPERT and we want to be an aspirational choice for the professionals in our industry.

We work hard to meet and exceed our customers' expectations every time they buy from us. We value the relationships we build and know that each and every one of them is based on trust. Our business has a long and proud history - dating back over a century - and we see an equally positive future.

Any tradesperson, whether they're a domestic installer or an industrial contractor, wants to use reliable products they know are up to the job. With our wide range and reputation for quality, BOSS™ appeals to every type of customer.

BOSS™ is a premium product offered alongside other market leading brands.



What is Stress Corrosion Cracking (SCC)?

When subjected to the combined effects of stress and corrosion, many alloys can develop cracks over a period of time and specifically copper-zinc alloys such as brass can be sensitive to stress corrosion attack, particularly in the presence of moisture through condensation.

However, SCC occurs only in the presence of a sufficiently high tensile stress and a specific corrosive environment. For brasses, the environment involved is usually one containing ammonia or closely related substances such as amines. The presence of ammonia or related substances could typically arise from the insulation material or from various sources of chemicals used on an installation and may even be airborne.

Since all brasses are susceptible to stress corrosion cracking it is important to avoid the combination of high stress and unfavourable environment that may cause stress corrosion.

Stress corrosion cracking of joints can occur with quite low concentrations of ammonia and may be accompanied by black staining of the surrounding surface. SCC is usually localised with the cracks running roughly perpendicular to the direction of the tensile.

Condensation and Insulation

Condensation of water vapour will occur on a surface that is at a temperature below the atmospheric dew point temperature due to the water vapour being drawn towards the cold surface as a result of a difference in partial vapour pressure between the air at ambient temperature and that at the temperature of the cold surface. Without adequate vapour sealing, moisture can be deposited through condensation within the insulating material and on the insulated metal surface.

Precautions must be taken to exclude moisture (condensation) from the system, therefore an effective vapour barrier is required. The purpose of the vapour barrier is to reduce, and if possible to prevent, the ingress of water vapour into the insulating material and it must be applied before the water in the pipe is cooled. Any joints in the insulating material must be fully sealed to ensure vapour permeance maintained continuously. Particular care must be taken at termination points to ensure that the integrity of the insulation and vapour barrier is maintained.

Only dry insulation material should be used and it should be kept dry until after the vapour barrier has been applied. Unsealed joints, badly fitting insulation and inadequate vapour sealing of termination points such as valve headworks and stems and test points can provide an easy passage for water vapour and subsequent condensation. Pipe supports should not be attached directly to the pipe because it is difficult to seal the insulation surface where the support projects through, therefore the pipe support brackets should be clamped over the exterior of the insulation where possible.

Systems

Copper alloy valves and fittings are widely used throughout HVAC systems on hot water heating, chilled water and domestic hot and cold water. It is reasonable to assume that fitting practices are the same throughout all the systems but failure due to stress corrosion cracking (SCC) is almost invariably encountered with brass products in chilled water systems. Nickel plating of products does not provide protection against SCC.

Products manufactured in bronze are not susceptible to SCC and DZR brass products are also less susceptible.

Installation

Joints must be made in accordance with our installation instructions. Correctly fitting tools such as spanners must be used to avoid causing damage and localised stressing to the component. 'Stilson' type wrenches must not be used. Excessive use of jointing material combined with high tightening forces can generate high hoop stresses in female threaded components.

Where failure does occur as a result of SCC, the stresses involved will almost always have been generated during installation.

Reduce the Risk of SCC

- Preferably install products manufactured in bronze or DZR brass material. If DZR brass is installed, the use of compression ended components is not recommended.
- Ensure that ball valves are supplied with extensions.
- All insulation and vapour barriers must comply with BS5970:2001 and BS5422:2009.

Bronze – FIG 25SM BS 5154/B PN20



Screwed BSPT Female, Bronze body, bonnet and disc, Brass stem, gland and lock nut
 Maximum pressure 20 bar @ -10 to 100°C, 9 bar @ 180°C saturated steam
 Cast Iron handwheel, Steel handwheel nut

Size	½	¾	1	1¼	1½	2	2½	3
Code	22065430	22065441	22065452	22065463	22065474	22065485	22065496	22065504
F-F mm	50	52	65	66	68	80	102	110
kg	0.30	0.43	0.66	0.98	1.12	1.93	3.75	4.95

Bronze – FIG 25SMLS Lockshield Pattern BS 5154/B PN20



Screwed BSPT Female, Bronze body, bonnet and disc, Brass stem, gland and lock nut
 Maximum pressure 20 bar @ -10 to 100°C, 9 bar @ 180°C saturated steam
 Brass lockshield

Size	½	¾	1	1¼	1½	2
Code	22065515	22065526	22065537	22065548	22065559	22065570
F-F mm	50	54	62	68	72	87
kg	0.33	0.43	0.61	0.85	1.11	1.82

Brass - FIG R55 BS 5154/B PN16



Screwed BSPT Female, 2½" & 3" are BSPP Female, Brass body
 Maximum pressure 16 bar @ 23°C, 10 bar @ 95°C, 2½" & 3" are PN10
 Aluminium handwheel, Zinc Plated Steel handwheel nut

Size	½	¾	1	1¼	1½	2	2½	3
Code	22072707	22072718	22072729	22072740	22072751	22072762	22072773	22072784
F-F mm	43	48	54	62	64	76	80	84
kg	0.21	0.32	0.44	0.77	0.93	1.45	2.81	3.56

Brass - 1068 Wheelhead PN20



Screwed BSPT Female, ¼" to 2" Forged Brass body and bonnet, 2½" to 3" Gravity Die Cast Brass Body and Forged Brass Bonnet, Brass stem and ring
 Maximum pressure 20 bar @ 100°C, 9 bar @ 180°C
 Aluminium handwheel, Brass handwheel nut

Size	¼	¾	½	¾	1	1¼
Code	22072987	22072998	22073004	22073015	22073026	22073037
F-F mm	43	43	52	56	65	73
kg	0.22	0.22	0.27	0.37	0.64	0.99

Size	1½	2	2½	3
Code	22073048	22073059	22073070	22073081
F-F mm	76	90	102	114
kg	1.28	2.00	3.19	4.63

Bronze - FIG 80S Rapid Action - Self Closing Type PN16



Screwed BSPT Female, Bronze body, EPDM disc
 Maximum pressure 10 bar @ 149°C, Steam 4.7 bar.
 Bronze lever, Stainless Steel spring

Size	½	¾	1	1¼	1½	2
Code	22015208	22015219	22015230	22015241	22015252	22015263
F-F mm	70	79	89	111	121	127
kg	1.00	1.25	1.75	2.16	3.25	3.75

Ductile Iron - FIG 7XS PN16



Flanged, Ductile Iron body and bonnet, Ductile Iron Bronze faced disc, Bronze disc nut and seat rings,
 Brass stem, Graphite bonnet gasket and packing
 Maximum pressure 16 bar @ -10 to 120°C, Maximum temperature 200°C @ 12 bar
 Non rising stem

Size	2	2½	3	4	5	6	8
Code	32020001	32020012	32020023	32020034	32020045	32020056	32020067
F-F mm	178	190	203	229	254	267	292
kg	20.00	26.00	30.00	47.00	65.00	81.00	141.00

Ductile Iron - FIG 7XS PN6



Flanged, Ductile Iron body and bonnet, Ductile Iron Bronze faced disc, Bronze disc nut and seat rings, Brass stem and Graphite bonnet gasket and packing
 Maximum pressure 6 bar @ -10 to 120°C, Maximum temperature 150°C @ 5.4 bar
 Non rising stem

Size	2	2½	3	4	5	6	8
Code	32020108	32020119	32020130	32020141	32020152	32020163	32020174
F-F mm	150	170	180	190	200	210	230
kg	15.00	19.00	27.00	36.00	50.00	66.00	102.00

Ductile Iron - FIG 7XSE BS 3464



Flanged, BST "E", 4" also available BST "D", Ductile Iron body and bonnet, Ductile Iron Bronze faced disc, Bronze disc nut and seat rings with Graphite bonnet gasket and packing
 Maximum pressure 6.9 bar @ -17.8 to 121°C, 3.5 bar Steam @ -17.8 to 221°C
 Non rising stem

Size	2	2½	3	4	4 D	5	6	8
Code	32020204	32020215	32020226	32020237	32020248	32020259	32020270	32020281
F-F mm	146	159	165	171	171	191	210	241
kg	15.00	19.00	26.00	38.00	38.00	50.00	71.00	110.00

Bronze - FIG 62S BS 5154B PN32



Screwed BSPT Female, Bronze body and bonnet, Brass stem and disc nut, PTFE packing
 Maximum pressure 14 bar @ 198°C, 32 bar @ -10 to 100°C
 Screwed bonnet

Size	½	¾	1	1¼	1½	2
Code	22065600	22065611	22065622	22065633	22065644	22065655
F-F mm	59	73	82	96	109	130
kg	0.42	0.60	0.82	1.23	1.78	3.02

Ductile Iron - FIG 9XS PN16



Flanged, Ductile Iron body and bonnet, Ductile Iron Bronze faced disc, Bronze body seat rings, Brass stem with Graphite bonnet gasket and packing
 Maximum pressure 16 bar @ -10 to 120°C, 14.4 bar @ 200°C
 Outside screw and yoke

Size	2	2½	3	4	5	6	8
Code	32020407	32020418	32020429	32020440	32020451	32020462	32020473
F-F mm	203	216	241	292	330	356	495
kg	20.00	26.00	30.00	47.00	65.00	81.00	141.00

Bronze - FIG 113S BS 5154 PN25 - Swing Check Pattern



Screwed BSPT Female, Bronze body, cap, hinge & disc, Graphite packing
 Maximum pressure 25 bar @ -10 to 100°C, 10.5 bar @ 186°C

Size	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Code	22066004	22066015	22066026	22066037	22066048	22066059	22066070	22066081
F-F mm	66	70	83	96	108	128	160	180
kg	0.33	0.37	0.63	0.96	1.16	2.12	3.42	4.61

Bronze - FIG 103S BS 5154 PN25 Vertical Valve Spring Loaded



Screwed BSPT Female, Bronze body, end fitting and disc for sizes 1 1/2" and 2" and Brass disc 1/2" to 1 1/4",
 Stainless Steel spring
 Maximum pressure 25 bar @ -10 to 66°C, 10.5 bar 186°C

Size	1/2	3/4	1	1 1/4	1 1/2	2
Code	22065910	22065921	22065932	22065943	22065954	22065965
F-F mm	53	59	68	79	88	98
kg	0.17	0.26	0.43	0.63	0.92	1.39

Bronze - FIG 99S BS 5154 PN32 Horizontal Lift Pattern Check Valves



Screwed BSPT Female, Bronze body, cap and disc
 Maximum pressure 32 bar @ -10 to 100°C, 14 bar @ 198°C
 Metal-to-metal seat

Size	1/2	3/4	1	1 1/4	1 1/2	2
Code	22065803	22065814	22065825	22065836	22065847	22065858
F-F mm	59	73	82	96	109	130
kg	0.20	0.36	0.57	0.83	1.16	1.93

Bronze - FIG 96S BS 5154 PN32 Horizontal Lift Pattern Spring Loaded Check Valves



Screwed BSPT Female, Bronze body, cap and disc holder, PTFE disc, Stainless Steel spring
 Maximum pressure 32 bar @ -10 to 100°C, 14 bar @ 198°C

Size	1/2	3/4	1	1 1/4	1 1/2	2
Code	22065707	22065718	22065729	22065740	22065751	22065762
F-F mm	59	73	82	96	109	130
kg	0.30	0.50	0.66	1.00	1.40	2.32

Ductile Iron - FIG 8XS PN16



Flanged, Ductile Iron body, Ductile Iron Bronze faced disc, Bronze body seat ring
 Maximum pressure 16 bar @ -10 to 120°C, 14.4 bar @ 200°C
 Swing pattern, metal faced disc

Size	2	2 1/2	3	4	5	6	8
Code	32020300	32020311	32020322	32020333	32020344	32020355	32020366
F-F mm	203	216	241	292	330	356	495
kg	18.00	21.00	28.00	40.00	51.00	68.00	128.00

101SC Single Check Valves



Compression Ends, DZR body, Brass compression nut & olive, Stainless Steel spring
 Maximum pressure 16 bar @ 100°C, Working pressure PN10
 WRAS approved

Size	15mm	22mm	28mm
Code	32210006	32210017	32210028
F-F mm	40.7	44	47.5
kg	0.11	0.24	0.34

101S Single Check Valves



BSPF Female, DZR body, Stainless Steel spring
 Maximum pressure 16 bar @ 100°C, Working pressure PN10
 WRAS approved

Size	1/2	3/4	1	1 1/4	1 1/2	2
Code	32210209	32210220	32210231	32210242	32210253	32210264
F-F mm	45	54	63.5	70	76	88
kg	0.09	0.13	0.23	0.34	0.41	0.71

102SC Double Check Valves



Compression Ends, DZR or Chrome Plated body, Brass compression nut & olive, Stainless Steel spring
 Maximum pressure 16 bar @ 100°C, Working pressure PN10
 WRAS approved

	DZR	DZR	DZR	CHROME	CHROME	CHROME
Size	15mm	22mm	28mm	15mm	22mm	28mm
Code	32210102	32210113	32210124	32210135	32210146	32210157
F-F mm	66	75	89	66	75	88
kg	0.18	0.23	0.49	0.18	0.23	0.49

102S Double Check Valves



BSPF Female, DZR body, Stainless Steel spring
 Maximum pressure 16 bar @ 100°C, Working pressure PN10
 WRAS approved



Size	½	¾	1	1¼	1½	2
Code	32210305	32210316	32210327	32210338	32210349	32210360
F-F mm	70	87	106	122	135	173
kg	0.15	0.23	0.38	0.60	0.82	1.52

10XS Non-Return Valves



Wafer design, Ductile Iron body, Stainless Steel stem & spring, Cast Stainless Steel disc, EPDM seat
 Maximum pressure 16 bar @ -0 to 85°C
 WRAS approved



Size	2	2½	3	4	5	6
Code	23210209	23210220	23210231	23210242	23210253	23210264
F-F mm	107	127	142	162	192	218
kg	1.50	2.40	3.60	5.70	7.30	9.00

Size	8	10	12
Code	23210275	23210286	23210297
F-F mm	273	328	378
kg	17.00	26.00	42.00

11XS Single Non- Return Valve



SG Iron body, EPDM seal, Stainless Steel spring
 Maximum pressure 16 bar @ 23°C
 WRAS approved



Size	DN50	DN65	DN80	DN100	DN125	DN150
Code	36700011	36700022	36700033	36700044	36700055	36700066
F-F mm	100	120	130	155	200	230
kg	5.60	7.30	10.00	11.75	20.00	26.50

Size	DN200	DN250
Code	36700077	36700088
F-F mm	280	344
kg	50.00	94.00

11XS Double Non-Return Valve



SG Iron body, EPDM seal and gasket, Acetal ring, Stainless Steel spring
 Maximum pressure 16 bar @ 23°C
 WRAS approved



Size	DN50	DN65	DN80	DN100	DN125	DN150
Code	36700203	36700214	36700225	36700236	36700247	36700258
F-F mm	205	245	265	315	405	465
kg	12.00	15.00	20.50	24.00	40.50	51.00

Size	DN200	DN250
Code	36700269	36700280
F-F mm	565	693
kg	100.00	188.00

Ball Valves - Manual and Actuated

Ball Valves

Ball Valves - Manual and Actuated

Ball Valves

Brass Full Bore - FIG 966SRL Red Lever WRAS



Screwed BSPT Female, Nickel Plated Brass body and end connector, Brass Chrome Plated ball, Brass anti blow out stem, PTFE seats
 Maximum pressure 1/4" to 1" 40 bar, 1 1/4" to 2" 32 bar, maximum temperature 10 bar @ 180°C
 Lockable Lever, WRAS approved

Size	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Code	37184204	37184215	37184226	37184237	37184248	37184259	37184270	37184281
F-F mm	44	45	57	65	80	90	98	121
kg	0.17	0.16	0.25	0.34	0.57	0.82	1.16	1.93

Brass Full Bore - FIG 966SBL Blue Lever WRAS



Screwed BSPT Female, Nickel Plated Brass body and end connector, Brass Chrome Plated ball, Brass anti blow out stem, PTFE seats
 Maximum pressure 1/4" to 1" 40 bar, 1 1/4" to 2" 32 bar, maximum temperature 10 bar @ 180°C
 Lockable Lever, WRAS approved

Size	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Code	37184108	37184119	37184130	37184141	37184152	37184163	37184174	37184185
F-F mm	43	45	57	65	80	90	98	121
kg	0.17	0.16	0.25	0.34	0.57	0.82	1.16	1.93

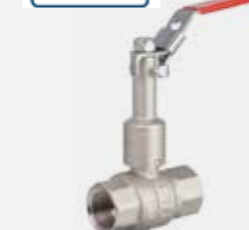
Brass Full Bore - FIG 966SYL (BS EN 331:1998 + A1:2010)



Screwed BSPP Female, Nickel Plated Brass body and end connector, Brass Chrome Plated ball, Brass anti blow out stem, PTFE seats
 Maximum pressure 25 bar, maximum temperature 120°C
 BSEN 331:1998 +A1:2010

Size	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Code	37182008	37182019	37182030	37182041	37182052	37182063	37182074	37182085
F-F mm	48	48	62	70	82	98	109	125
kg	0.19	0.17	0.24	0.38	0.60	1.05	1.38	2.13

Brass Full Bore - FIG 966EXT WRAS



Screwed BSPT Female, Nickel Plated Brass body and end connector, Brass Chrome Plated ball, Brass anti blow out stem, PTFE seats
 Maximum pressure 1/4" to 1" 40 bar @ -10 to 100°C 1 1/4" to 2" 32 bar @ -10 to 100°C, Maximum temperature @ 10 bar 180°C
 Extended Lever, WRAS approved

Size	1/2	3/4	1	1 1/4	1 1/2	2
Code	37184407	37184418	37184429	37184440	37184451	37184462
F-F mm	57	65	80	90	98	121
kg	0.39	0.48	0.75	1.01	1.46	2.23

Brass Full Bore - FIG 966T WRAS



Screwed BSPT Female, Nickel Plated Brass body and end connector, Brass Chrome Plated ball, Brass anti blow out stem, PTFE seats
 Maximum pressure 1/4" to 1" 40 bar @ -10 to 100°C, 1 1/4" to 2" 32 bar @ -10 to 100°C, Maximum temperature @ 10 bar 180°C
 Red T Handle, WRAS approved

Size	1/4	3/8	1/2	3/4	1	1 1/4
Code	37184300	37184311	37184322	37184333	37184344	37184355
F-F mm	43	45	57	65	80	90
kg	0.14	0.13	0.22	0.30	0.51	0.76

Brass Full Bore - FIG 966SYT (BS EN 331:1998 + A1:2010)



Screwed BSPP Female, Nickel Plated Brass body and end connector, Brass Chrome Plated ball, Brass anti blow out stem, PTFE seats
 Maximum pressure 25 bar, maximum temperature 120°C
 Yellow T Handle, BSEN 331:1998 +A1:2010

Size	1/4	3/8	1/2	3/4	1	1 1/4
Code	37881006	37181017	37181028	37181039	37181050	37181061
F-F mm	48	48	62	70	82	98
kg	0.16	0.14	0.21	0.34	0.57	1.01

Brass Full Bore - FIG 966LS Lockshield WRAS



Screwed BSPT Female, Nickel Plated Brass body and end connector, Brass Chrome Plated ball, Brass anti blow out stem, PTFE seats

Maximum pressure 1/2" to 1" 40 bar @ -10 to 100°C, 1 1/4" to 2" 32 bar @ -10 to 100°C, Maximum temperature @ 10 bar 180°C

Lockshield, WRAS approved

Size	1/2	3/4	1	1 1/4	1 1/2	2
Code	37184503	37184514	37184525	37184536	37184547	37184558
F-F mm	57	65	80	90	98	121
kg	0.25	0.32	0.56	0.80	1.15	1.95

Brass Full Bore - FIG 967SRL Red Lever WRAS



Screwed BSPT Female, Nickel Plated Brass body and end connector, Brass Chrome Plated ball, Brass anti blow out stem, PTFE seats

Maximum pressure 2 1/2" to 3" 25 bar, 4" 20 bar, Maximum temperature 2 1/2" to 3" 180°C, 4" 170°C

Lockable Lever, WRAS approved

Size	2 1/2	3	4
Code	37184706	37184717	37184728
F-F mm	149	173	204
kg	3.70	5.15	8.46

Brass Full Bore - FIG 967SBL Blue Lever WRAS



Screwed BSPT Female, Nickel Plated Brass body and end connector, Brass Chrome Plated ball, Brass anti blow out stem, PTFE seats

Maximum pressure 2 1/2" to 3" 25 bar, 4" 20 bar, Maximum temperature 2 1/2" to 3" 180°C, 4" 170°C

Lockable Lever, WRAS approved

Size	2 1/2	3	4
Code	37184643	37184654	37184665
F-F mm	149	173	204
kg	3.70	5.15	8.46

Brass Full Bore - FIG 968SRL Red Lever WRAS



Compression ends, Nickel Plated Brass body and end connector. Brass Chrome Plated ball, Brass anti blow out stem, PTFE seats

Maximum pressure 16 bar, Maximum temperature @ 5 bar 120°C

Lockable Lever, WRAS approved

Size	15mm	22mm	28mm	35mm	42mm	54mm
Code	37184942	37184953	37184964	37185003	37185014	37185025
F-F mm	70	84	93	110	121	146
kg	0.28	0.47	0.69	0.95	1.41	2.34

Brass Full Bore - FIG 968SBL Blue Lever WRAS



Compression ends, Nickel Plated Brass body and end connector. Brass Chrome Plated ball, Brass anti blow out stem, PTFE seats

Maximum pressure 16 bar, Maximum temperature @ 5 bar 120°C

Lockable Lever, WRAS approved

Size	15mm	22mm	28mm	35mm	42mm	54mm
Code	37184835	37184846	37184857	37184909	37184920	37184931
F-F mm	70	84	93	110	121	146
kg	0.28	0.47	0.69	0.95	1.41	2.34

Brass Full Bore - FIG 968SYL (BS EN 331:1998 + A1:2010)



Compression ends, Nickel Plated Brass body and end connector. Brass Chrome Plated ball, Brass anti blow out stem, PTFE seats

Maximum operating pressure 5 bar, Maximum temperature @ 16 bar 30°C, 10 bar 65°C, 6 bar 110°C and 5 bar 120°C. BSEN 331:1998 +A1:2010

Size	15mm	22mm	28mm	35mm	42mm	54mm
Code	37182104	37182115	37182126	37182137	37182148	37182159
F-F mm	68	77	91	104	116	134
kg	0.22	0.33	0.58	0.93	1.29	2.17

Brass Full Bore - FIG 968LS WRAS



Compression ends, Nickel Plated Brass body and end connector. Brass Chrome Plated ball, Brass anti blow out stem, PTFE seats

Maximum pressure 16 bar, Maximum temperature @ 5 bar 120°C. Lockshield, WRAS approved

Size	15mm	22mm	28mm	35mm	42mm	54mm
Code	37185036	37185047	37185058	37185110	37185121	37185132
F-F mm	70	84	93	110	121	146
kg	0.27	0.45	0.68	0.94	1.39	2.35

Brass Full Bore - FIG 2500 ISO 5211 Mount



Screwed BSPT ISO-7, Nickel plated brass body and stem, Chrome nickel plated brass ball, PTFE seat
Full port, Max pressure PN40 (1/4"-2") PN25 (2 1/2") PN16 (3"-4"), Temperature -20°C - +160°C
ISO 5211 Mount (no lever), Anti static, Anti-blowout stem

Size	1/4	3/8	1/2	3/4	1	1 1/4
Code	29410006	29410017	29410028	29410039	29410050	29410061
F-F mm	67	67	67	76	90	102
kg	0.40	0.40	0.30	0.40	0.70	1.10

Size	1 1/2	2	2 1/2	3
Code	29410072	29410083	29410094	29410102
F-F mm	114	138	165	188
kg	1.70	2.90	4.10	6.40

Bronze Full Bore - FIG 965S



Threaded Female x Female, Bronze body, Brass stem, Brass Chrome Plated ball, PTFE seats
Maximum pressure 3/8" to 2" 40 bar @ 95°C & 10 bar @ 185°C, 2 1/2" to 3" 25 bar @ 95°C & 10 bar @ 185°C
Red Lever

Size	3/8	1/2	3/4	1	1 1/4	1 1/2
Code	37171000	37171011	37171022	37171033	37171044	37171055
F-F mm	46	57	67	77	91	103
kg	0.14	0.25	0.35	0.58	0.91	1.42

Size	2	2 1/2	3
Code	37171066	37171077	37171088
F-F mm	122	53	179
kg	2.15	4.53	6.49

Brass Full Bore - FIG 3500T 3 way ISO 5211 Mount



3 way T port, Female threaded, Nickel plated brass body and stem, Chrome nickel plated brass ball, PTFE seat
Full port, Max pressure PN30 (1/2"-3/4") PN16 (1") PN10 (1 1/4"-2"), Temperature -20°C - +160°C
ISO 5211 Mount, Lever operated, Anti static, Anti-blowout stem

Size	1/2	3/4	1	1 1/4	1 1/2	2
Code	29410242	29410253	29410264	29410275	29410286	29410297
F-F mm	77	87	105	122	138	166
kg	0.70	1.10	1.90	2.90	4.90	8.70

Bronze Full Bore - FIG 965NREXT



Screwed BSPP Female, Bronze body, Brass stem, Brass Chrome Plated ball, PTFE seats
Maximum pressure 25 bar <95°C, 16 bar >95°C
Non Rotating Extension Stem

Size	1/2	3/4	1	1 1/4	1 1/2	2
Code	37171107	37171118	37171129	37171140	37171151	37171162
F-F mm	57	69	77	90	103	123
kg	0.35	0.45	0.71	1.07	1.69	2.49

Brass Full Bore - FIG 3600L 3 way ISO 5211 Mount



3 way L port, Female threaded, Nickel plated brass body and stem, Chrome nickel plated brass ball, PTFE seat
Full port, Max pressure PN30 (1/2"-3/4") PN16 (1") PN10 (1 1/4"-2"), Temperature -20°C - +160°C
ISO 5211 Mount, Lever operated, Anti static, Anti-blowout stem

Size	1/2	3/4	1	1 1/4	1 1/2	2
Code	29410146	29410157	29410168	29410179	29410190	29410209
F-F mm	77	87	105	122	138	166
kg	0.70	1.20	1.90	3.00	5.00	8.90

Ball Valves - Manual and Actuated

Mini Ball Valves

Ball Valves - Manual and Actuated

Mini Ball Valves, Mini Ball Radiator Valves

Reduced Bore - Mini Ball Valves - Compression Chrome Plated



Compression ends Copper x Copper, DZR Brass body, Chrome Plated finish. EPDM seal & stem "O" rings
Maximum pressure 10 bar, Maximum temperature 100°C
WRAS approved

Size	15mm	22mm	28mm
Code	86310102	86310113	86310124
F-F mm	41	57	65
kg	0.14	0.22	0.54

Reduced Bore - Mini Ball Valves - Compression Raw



Compression ends Copper x Copper, DZR Brass body, Raw finish. EPDM seal & stem "O" rings
Maximum pressure 10 bar, Maximum temperature 100°C
WRAS approved

Size	15mm	22mm	28mm
Code	86314527	86314538	86314549
F-F mm	41	57	65
kg	0.14	0.22	0.54

Reduced Bore - Mini Ball Valves - Female x Female Screwed Chrome Plated



Screwed Female x Female, DZR Brass body, Chrome Plated finish, EPDM stem "O" rings
Maximum pressure 10 bar, Maximum temperature 100°C
WRAS approved

Size	1/2	3/4	1
Code	86310039	86310050	86310681
F-F mm	47	56	75
kg	0.11	0.23	0.42

Reduced Bore - Mini Ball Valves - Female x Female Screwed Raw



Screwed Female x Female, DZR Brass body, Raw finish, EPDM stem "O" rings
Maximum pressure 10 bar, Maximum temperature 100°C
WRAS approved

Size	1/2	3/4
Code	86314228	86314239
F-F mm	47	56
kg	0.11	0.23

Reduced Bore - Mini Ball Valves - Male x Female Screwed Chrome Plated



Screwed Male x Female, DZR Brass body, Chrome Plated finish, EPDM stem "O" rings
Maximum pressure 10 bar, Maximum temperature 100°C
WRAS approved

Size	1/2	3/4
Code	86310829	86310840
F-F mm	44	44
kg	0.10	0.10

Reduced Bore - Mini Ball Valves - Screwed Female x Copper Connections



Screwed Female x Copper connection, DZR/Enkotal body, Chrome Plated finish, EPDM stem "O" rings
Maximum pressure 10 bar, Maximum temperature 100°C
WRAS approved

Size	1/2 x 15mm	3/4 x 22mm
Code	86310168	86310179
F-F mm	51	51
kg	0.13	0.13

Reduced Bore - Mini Ball Valves - Straight Swivel Female Union x Copper Compression Connection



Straight swivel Female union x Copper compression connections, Enkotal Alloy body, Chrome Plated finish, EPDM stem "O" rings
Maximum pressure 10 bar, Maximum temperature 100°C
WRAS approved

Size	15mm x 1/2
Code	86316103
F-F mm	41
kg	0.15

Mini Ball Valves - Plastic Handles



Black Plastic handle

Size	10-15mm
Code	86310574

Ball Valves - Manual and Actuated

Mini Ball Radiator Valves

Ball Valves - Manual and Actuated

Mini Ball Radiator Valves, Filter Ball Valves

Mini Ball Valves - Plastic Handles



Red Plastic handle

Size	10-15mm
Code	86310585

Mini Ball Valves - Plastic Handles



Blue Plastic handle

Size	10-15mm
Code	86310596

Mini Ball Valves - Plastic Handles



Black Plastic handle

Size	20-28mm
Code	86310604

Reduced Bore - Mini Ball Valves - Angle Swivel Female Union x Copper Compression Connections



Angle swivel Female union x Copper compression connections, Enkotal Alloy body, Chrome Plated finish, EPDM seal & stem "O" rings
Maximum pressure 10 bar, Maximum temperature 100°C
WRAS approved

Size	15mm x 1/2"
Code	86316114
F-F mm	23
kg	0.12

Mini Ball Valve - Straight Radiator Valve



Brass, Nickel Plated finish, Straight Radiator valve

Size	1/2"	3/4"
Code	86315839	86315850
F-F mm	82	82
kg	0.21	0.37

Mini Ball Valve - Angled Drain Valve



Brass, Nickel Plated finish, Angled Drain valve

Size	1/2"
Code	86310209
F-F mm	31
kg	0.08

Mini Ball Filter Ball Valves



DZR Body, Chrome Plated finish, Stainless Steel screen
WRAS approved

Size	15mm	22mm
Code	86310925	86310936
F-F mm	45	50
kg	0.15	0.27

Filter Ball Valve



Screwed BSPP Female, DZR Brass, PTFE seat, 28 Mesh Stainless Steel screen
Maximum pressure 16 bar 1/2" to 1", 20 bar 1 1/4" to 2" @ -10 to 120°C
Viton seal, Lever handle

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Code	37130073	37130084	37130029	37130040	37130051	37130062
F-F mm	69	69	95	111	127	154
kg	0.40	0.50	1.20	1.90	3.00	5.00

Carbon Steel Reduced Bore - FIG LN190 1 pce 1000WOG



Screwed BSPT Female, Carbon Steel Body, 304 Stainless Steel ball, PTFE seats
 Maximum pressure 10.5 bar @ 180°C, Maximum temperature 70 bar @ -10 to +40°C
 1 Piece Valve, Blue Lever

Size	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Code	36420204	36420215	36420226	36420237	36420248	36420259	36420270	36420281
F-F mm	39	44	57	59	71	78	83	101
kg	0.07	0.09	0.19	0.27	0.44	0.68	0.86	1.49

Stainless Steel Reduced Bore - FIG LN190 1 pce 1000WOG



Screwed BSPT Female, Stainless Steel Body, 316 Stainless Steel ball, PTFE seats
 Maximum pressure 10.5 bar @ 180°C, Maximum temperature 70 bar @ -10 to +40°C
 1 Piece Valve, Blue Lever

Size	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Code	36420300	36420311	36420322	36420333	36420344	36420355	36420366	36420377
F-F mm	40	44	57	58	71	78	83	101
kg	0.07	0.09	0.19	0.27	0.44	0.66	0.86	1.49

Carbon Steel Full Bore - FIG LN240 2 pce 1000WOG



Screwed BSPT Female, Carbon Steel Body, 304 Stainless Steel ball, PTFE seats
 Maximum pressure 10.5 bar @ 180°C, Maximum temperature 70 bar @ -10 to +40°C
 2 Piece Valve, Blue Lever

Size	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Code	36420108	36420119	36420130	36420141	36420152	36420163	36420174	36420185
F-F mm	51	51	63	76	79	101	109	122
kg	0.26	0.25	0.38	0.53	0.87	1.38	2.21	3.35

Stainless Steel Full Bore - FIG B380DD 3 pce ISO 5211 Mount



Screwed BSPT ISO-7, Stainless steel body, ball and stem, RTFE seat
 Full port, Max pressure 1000 WOG, Temperature 10 bar at -10°C - +160°C
 ISO 5211 Mount, Anti static, Anti-blowout stem

Size	1/2	3/4	1	1 1/4	1 1/2	2
Code	30910102	30910113	30910124	30910135	30910146	30910157
F-F mm	70	76	92	105	120	138
kg	0.90	1.00	1.70	2.40	3.90	5.20

Stainless Steel Full Bore - FIG B380DX 3 pce ISO 5211 Mount



Socket weld, Stainless steel body, ball and stem, RTFE seat
 Full port, Max pressure 1000 WOG, Temperature 10 bar at -10°C - +160°C
 ISO 5211 Mount, Anti static, Anti-blowout stem

Size	1/2	3/4	1	1 1/4	1 1/2	2
Code	30910209	30910220	30910231	30910242	30910253	30910264
F-F mm	70	76	92	105	120	138
kg	0.90	1.00	1.70	2.40	3.90	5.20

Stainless Steel Full Bore - FIG 203B ANSI 150 2 pce ISO 5211 Mount



Flanged ANSI 150, Stainless steel body, ball and stem, RTFE seat
 Full port, Max Pressure at Temp 19.0 bar at -29°C, 13.7 bar at 200°C
 ISO 5211 Mount, Firesafe by Design (Firesafe Approved 1/2" - 1")

Size	1/2	3/4	1	1 1/2	2	2 1/2
Code	30910305	30910316	30910327	30910338	30910349	30910360
F-F mm	108	117	127	165	178	190
kg	1.70	2.30	3.30	7.00	10.00	16.70

Size	3	4	6	8
Code	30910371	30910382	30910393	30910401
F-F mm	203	229	394	457
kg	21.80	38.00	85.50	194.00

Stainless Steel Full Bore - FIG 203H PN16 2 pce ISO 5211 Mount



Flanged PN16, Stainless steel body, ball and stem, RTFE seat
 Full port, Max Pressure at Temp 16.0 bar at -10°C, 12.1 bar at 200°C
 ISO 5211 Mount, Firesafe Approved

Size	1/2	3/4	1	1 1/2	2	2 1/2
Code	30910456	30910467	30910478	30910489	30910508	30910519
F-F mm	115	120	125	140	150	170
kg	2.10	3.00	3.90	7.20	10.00	15.20

Size	3	4	6	8
Code	30910530	30910541	30910552	30910563
F-F mm	180	190	350	400
kg	20.00	30.00	67.40	185.00

Stainless Steel Reduced Bore - FIG B230T 3 way ISO 5211 Mount



3 way T port, Screwed BSPT, Stainless steel body, ball and stem, RTFE seat, 2 seats design (diverter valve)
 Reduced port, Max pressure 2000 WOG, Temperature 10 bar at -10°C - +160°C
 ISO 5211 Mount, Anti static, Anti blowout stem

Size	1/2	3/4	1	1 1/4	1 1/2	2
Code	30910604	30910615	30910626	30910637	30910648	30910659
F-F mm	67	78	90	102	109	135
kg	0.50	0.90	1.30	2.20	2.70	4.60

Stainless Steel Reduced Bore - FIG B230L 3 way ISO 5211 Mount



3 way L port, Screwed BSPT, Stainless steel body, ball and stem, RTFE seat, 2 seats design (diverter valve)
 Reduced port, Max pressure 2000 WOG, Temperature 10 bar at -10°C - +160°C
 ISO 5211 Mount, Anti static, Anti blowout stem

Size	1/2	3/4	1	1 1/4	1 1/2	2
Code	30910700	30910711	30910722	30910733	30910744	30910755
F-F mm	67	78	90	101	108	135
kg	0.50	0.90	1.30	2.20	2.70	4.60

Stainless Steel Full Bore - FIG LN240 2 pce 1000 WOG



Screwed BSPT Female, Stainless steel body, ball and stem, RTFE seat
 Full port, max pressure 1000 WOG, Temperature 10.5 bar at 180°C, 70 bar at -10°C - +40°C
 2 hole mounting pad for actuation

Size	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Code	36420001	36420012	36420023	36420034	36420045	36420056	36420067	36420078
F-F mm	52	52	64	75	79	101	109	123
kg	0.30	0.30	0.40	0.50	0.90	1.40	2.20	3.40

Brass Full Bore - FIG 250-SR / 250-DA 2 pce



Screwed BSPT ISO-7, Nickel plated brass body and stem, Chrome nickel plated brass ball, PTFE seat
Full port, Max pressure PN40 (1/4"-2") PN25 (2 1/2") PN16 (3"-4"), Temperature -20°C - +160°C
ISO 5211 Mount, Anti static, Anti-blowout stem
Fitted with Pneumatic Actuator, sized for 5.5 bar (80 psi) air supply, fully assembled and tested

Size	1/4	3/8	1/2	3/4	1	1 1/4
F-F mm	67	67	67	76	90	102
SR kg	1.70	1.70	1.70	1.70	2.10	2.40
DA kg	0.90	0.80	0.80	0.90	1.20	1.60

Size	1 1/2	2	2 1/2	3
F-F mm	114	138	165	188
SR kg	5.20	6.40	11.20	13.60
DA kg	2.90	4.10	5.70	8.10

Brass Full Bore - FIG 350T-SR / 350T-DA 3 way



3 way T port, Female threaded, Nickel plated brass body and stem, Chrome nickel plated brass ball, PTFE seat
Full port, Max pressure PN30 (1/2"-3/4") PN16 (1") PN10 (1 1/4"-2"), Temperature -20°C - +160°C
ISO 5211 Mount, Anti static, Anti-blowout stem
Fitted with Pneumatic Actuator, sized for 5.5 bar (80 psi) air supply, fully assembled and tested

Size	1/2	3/4	1	1 1/4	1 1/2	2
F-F mm	77	87	105	122	138	166
SR kg	2.00	4.60	5.30	6.40	12.10	15.90
DA kg	1.20	2.30	3.00	4.00	6.60	11.50

Brass Full Bore - FIG 360L-SR / 360L-DA 3 way



3 way L port, Female threaded, Nickel plated brass body and stem, Chrome nickel plated brass ball, PTFE seat
Full port, Max pressure PN30 (1/2"-3/4") PN16 (1") PN10 (1 1/4"-2"), Temperature -20°C - +160°C
ISO 5211 Mount, Anti static, Anti-blowout stem
Fitted with Pneumatic Actuator, sized for 5.5 bar (80 psi) air supply, fully assembled and tested

Size	1/2	3/4	1	1 1/4	1 1/2	2
F-F mm	77	87	105	122	138	166
SR kg	2.00	4.60	5.40	6.50	12.10	16.10
DA kg	1.20	2.30	3.00	4.10	6.60	11.70

Brass Full Bore - FIG 250-EA 2 pce



Screwed BSPT ISO-7, Nickel plated brass body and stem, Chrome nickel plated brass ball, PTFE seat
Full port, Max pressure PN40 (1/4"-2") PN25 (2 1/2") PN16 (3"-4"), Temperature -20°C - +160°C
ISO 5211 Mount, Anti static, Anti-blowout stem
110-240V AC/DC / 12-24V AC/DC multi voltage On/Off Actuator, IP67 rated, set at 90°, Fully assembled and tested

Size	1/4	3/8	1/2	3/4	1	1 1/4
F-F mm	67	67	67	76	90	102
kg	2.20	2.20	2.10	2.20	2.50	2.90

Size	1 1/2	2	2 1/2	3
F-F mm	114	138	165	188
kg	3.50	4.70	6.00	8.30

Brass Full Bore - FIG 350T-EA 3 way



3 way T port, Female threaded, Nickel plated brass body and stem, Chrome nickel plated brass ball, PTFE seat
Full port, Max pressure PN30 (1/2"-3/4") PN16 (1") PN10 (1 1/4"-2"), Temperature -20°C - +160°C
ISO 5211 Mount, Anti static, Anti-blowout stem
110-240V AC/DC / 12-24V AC/DC multi voltage On/Off Actuator, IP67 rated, set at 90°, Fully assembled and tested

Size	1/2	3/4	1	1 1/4	1 1/2	2
F-F mm	77	87	105	138	138	166
kg	2.50	2.90	3.70	4.70	6.80	11.10

Brass Full Bore - FIG 360L-EA 3 way



3 way L port, Female threaded, Nickel plated brass body and stem, Chrome nickel plated brass ball, PTFE seat
Full port, Max pressure PN30 (1/2"-3/4") PN16 (1") PN10 (1 1/4"-2"), Temperature -20°C - +160°C
ISO 5211 Mount, Anti static, Anti-blowout stem
110-240V AC/DC / 12-24V AC/DC multi voltage On/Off Actuator, IP67 rated, set at 90°, Fully assembled and tested

Size	1/2	3/4	1	1 1/4	1 1/2	2
F-F mm	77	87	105	122	138	166
kg	2.50	3.00	3.70	4.80	6.90	11.30

Ball Valves - Manual and Actuated

Pneumatically Actuated with Spring Return / Double Acting Actuator

Stainless Steel Full Bore - FIG B381-SR / B381-DA 3 pce



Screwed BSPT ISO-7, Stainless steel body, ball and stem, RTFE seat
 Full port, Max pressure 1000 WOG, Temperature 10 bar at -10°C - +160°C
 ISO 5211 Mount, Anti static, Anti-blowout stem
 Fitted with Pneumatic Actuator, sized for 5.5 bar (80 psi) air supply, fully assembled and tested

Size	1/2	3/4	1	1 1/4	1 1/2	2
F-F mm	70	76	92	105	120	138
SR kg	2.90	4.40	5.10	7.20	8.70	10.70
DA kg	2.00	2.10	2.80	4.10	5.60	8.00

Stainless Steel Full Bore - FIG B382-SR / B382-DA 3 pce



Socket weld, Stainless steel body, ball and stem, RTFE seat
 Full port, Max pressure 1000 WOG, Temperature 10 bar at -10°C - +160°C
 ISO 5211 Mount, Anti static, Anti-blowout stem
 Fitted with Pneumatic Actuator, sized for 5.5 bar (80 psi) air supply, fully assembled and tested

Size	1/2	3/4	1	1 1/4	1 1/2	2
F-F mm	70	76	92	105	120	138
SR kg	2.90	4.40	5.10	7.20	8.70	10.70
DA kg	2.00	2.10	2.80	4.10	5.60	8.00

Stainless Steel Full Bore - FIG 204-SR / 204-DA ANSI 150 2 pce



Flanged ANSI 150, Stainless steel body, ball and stem, RTFE seat
 Full port, Max Pressure at Temp 19.0 bar at -29°C, 13.7 bar at 200°C
 ISO 5211 Mount, Firesafe by Design (Firesafe Approved 1/2" - 1")
 Fitted with Pneumatic Actuator, sized for 5.5 bar (80 psi) air supply, fully assembled and tested

Size	1/2	3/4	1	1 1/2	2	2 1/2
F-F mm	108	117	127	165	178	190
SR kg	3.80	6.70	8.20	14.20	21.70	31.10
DA kg	2.90	3.40	4.90	8.70	12.80	20.60

Size	3	4	6	8
F-F mm	203	229	394	457
SR kg	44.00	68.10	126.10	264.00
DA kg	27.30	46.90	94.40	216.00

Ball Valves - Manual and Actuated

Pneumatically Actuated with Spring Return / Double Acting Actuator

Stainless Steel Full Bore - FIG 205-SR / 205-DA PN16 2 pce



Flanged PN16, Stainless steel body, ball and stem, RTFE seat
 Full port, Max Pressure at Temp 16.0 bar at -10°C, 12.1 bar at 200°C
 ISO 5211 Mount, Firesafe Approved
 Fitted with Pneumatic Actuator, sized for 5.5 bar (80 psi) air supply, fully assembled and tested

Size	1/2	3/4	1	1 1/2	2	2 1/2
F-F mm	115	120	125	140	150	170
SR kg	4.10	6.40	8.80	14.40	21.70	29.50
DA kg	3.20	4.10	5.50	8.90	12.80	19.10

Size	3	4	6	8
F-F mm	180	190	350	400
SR kg	42.20	60.10	108.00	256.00
DA kg	25.50	38.90	76.30	207.00

Stainless Steel Reduced Bore - FIG B232T-SR / B232T-DA 3 Way



3 way T port, Screwed BSPT, Stainless steel body, ball and stem, RTFE seat, 2 seats design (diverter valve)
 Reduced port, Max pressure 2000 WOG, Temperature 10 bar at -10°C - +160°C
 ISO 5211 Mount, Anti static, Anti blowout stem
 Fitted with Pneumatic Actuator, sized for 5.5 bar (80 psi) air supply, fully assembled and tested

Size	1/2	3/4	1	1 1/4	1 1/2	2
F-F mm	67	78	90	102	109	135
SR kg	2.50	5.80	6.20	9.40	9.90	16.20
DA kg	1.60	2.10	3.00	3.90	5.50	7.30

Stainless Steel Reduced Bore - FIG B231L-SR / B231L-DA 3 Way



3 way L port, Screwed BSPT, Stainless steel body, ball and stem, RTFE seat, 2 seats design (diverter valve)
 Reduced port, Max pressure 2000 WOG, Temperature 10 bar at -10°C - +160°C
 ISO 5211 Mount, Anti static, Anti blowout stem
 Fitted with Pneumatic Actuator, sized for 5.5 bar (80 psi) air supply, fully assembled and tested

Size	1/2	3/4	1	1 1/4	1 1/2	2
F-F mm	67	78	90	102	109	135
SR kg	2.50	5.80	6.20	9.40	9.90	16.20
DA kg	1.60	2.10	3.00	3.90	5.50	7.30

Ball Valves - Manual and Actuated

Pneumatically Actuated with Spring Return / Double Acting Actuator

Stainless Steel Full Bore - FIG 241-SR / 241-DA 2 pce



Screwed BSPT Female, Stainless steel body, ball and stem, RTFE seat
 Full port, Max pressure 1000 WOG, Temperature 10.5 bar at 180°C, 70 bar at -10°C to +40°C
 Fitted with Pneumatic Actuator, sized for 5.5 bar (80 psi) air supply, fully assembled and tested

Size	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
F-F mm	52	52	64	75	79	101	109	123
SR kg	1.60	1.60	1.70	1.90	2.20	4.90	5.70	8.30
DA kg	0.80	0.70	0.90	1.00	1.40	2.50	3.30	5.00

Ball Valves - Manual and Actuated

Electrically Actuated with High Voltage / Low Voltage Electric Actuator

Stainless Steel Full Bore - FIG B381-EA 3 pce



Screwed BSPT ISO-7, Stainless steel body, ball and stem, RTFE seat
 Full port, Max pressure 1000 WOG, Temperature 10 bar at -10°C - +160°C
 ISO 5211 Mount, Anti static, Anti-blowout stem
 110-240V AC/DC / 12-24V AC/DC multi voltage On/Off Actuator, IP67 rated, set at 90°, Fully assembled and tested

Size	1/2	3/4	1	1 1/4	1 1/2	2
F-F mm	70	77	92	105	120	138
kg	2.70	2.80	3.50	4.20	5.80	7.10

Stainless Steel Full Bore - FIG B382-EA 3 pce



Socket weld, Stainless steel body, ball and stem, RTFE seat
 Full port, Max pressure 1000 WOG, Temperature 10 bar at -10°C - +160°C
 ISO 5211 Mount, Anti static, Anti-blowout stem
 110-240V AC/DC / 12-24V AC/DC multi voltage On/Off Actuator, IP67 rated, set at 90°, Fully assembled and tested

Size	1/2	3/4	1	1 1/4	1 1/2	2
F-F mm	70	77	92	105	120	138
kg	2.70	2.80	3.50	4.20	5.80	7.10

Stainless Steel Full Bore - FIG 204-EA ANSI 150 2 pce



Flanged ANSI 150, Stainless steel body, ball and stem, RTFE seat
 Full port, Max Pressure at Temp 19.0 bar at -29°C, 13.7 bar at 200°C
 ISO 5211 Mount, Firesafe by Design (Firesafe Approved 1/2" - 1")
 110-240V AC/DC / 12-24V AC/DC / 24V AC/DC multi voltage On/Off Actuator, IP67 rated, set at 90°, Fully assembled and tested

Size	1/2	3/4	1	1 1/2	2	2 1/2
F-F mm	108	117	127	165	178	190
kg	3.50	4.10	5.10	8.90	12.40	19.70

Size	3	4	6
F-F mm	203	229	394
kg	27.00	43.20	90.70

Ball Valves - Manual and Actuated

Electrically Actuated with High Voltage / Low Voltage Electric Actuator

Stainless Steel Full Bore - FIG 205-EA PN16 2 pce



Flanged PN16, Stainless steel body, ball and stem, RTFE seat
 Full port, Max Pressure at Temp 16.0 bar at -10°C, 12.1 bar at 200°C
 ISO 5211 Mount, Firesafe Approved
 110-240V AC/DC / 12-24V AC/DC / 24V AC/DC multi voltage On/Off Actuator, IP67 rated, set at 90°, Fully assembled and tested

Size	1/2	3/4	1	1 1/2	2	2 1/2
F-F mm	115	120	125	140	150	170
kg	3.90	4.80	5.70	9.10	12.40	18.20

Size	3	4	6
F-F mm	180	190	350
kg	25.20	35.20	72.60

Stainless Steel Reduced Bore - FIG B232T-EA 3 way



3 way T port, Screwed BSPT, Stainless steel body, ball and stem, RTFE seat, 2 seats design (diverter valve)
 Reduced port, Max pressure 2000 WOG, Temperature 10 bar at -10°C - +160°C
 ISO 5211 Mount, Anti static, Anti blowout stem
 110-240V AC/DC / 12-24V AC/DC multi voltage On/Off Actuator, IP67 rated, set at 90°, Fully assembled and tested

Size	1/2	3/4	1	1 1/4	1 1/2	2
F-F mm	67	78	90	102	109	135
kg	2.30	2.70	3.10	4.10	5.10	7.00

Stainless Steel Reduced Bore - FIG B231L-EA 3 way



3 way L port, Screwed BSPT, Stainless steel body, ball and stem, RTFE seat, 2 seats design (diverter valve)
 Reduced port, Max pressure 2000 WOG, Temperature 10 bar at -10°C - +160°C
 ISO 5211 Mount, Anti static, Anti blowout stem
 110-240V AC/DC / 12-24V AC/DC multi voltage On/Off Actuator, IP67 rated, set at 90°, Fully assembled and tested

Size	1/2	3/4	1	1 1/4	1 1/2	2
F-F mm	67	78	90	102	109	135
kg	2.30	2.70	3.10	4.10	5.10	7.00

Ball Valves - Manual and Actuated

Electrically Actuated with High Voltage / Low Voltage Electric Actuator

Stainless Steel Full Bore - FIG 241-EA 2 pce



Screwed BSPT Female, Stainless steel body, ball and stem, RTFE seat
 Full port, Max pressure 1000 WOG, Temperature 10.5 bar at 180°C, 70 bar at -10°C to +40°C
 110-240V AC/DC / 12-24V AC/DC multi voltage On/Off Actuator, IP67 rated, set at 90°, Fully assembled and tested

Size	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
F-F mm	52	52	64	75	79	101	109	123
kg	2.10	2.10	2.20	2.30	2.70	3.20	4.00	5.10

Ductile Iron - 16LNB Lugged



Flanged, Lugged, Ductile Iron body, Nickel Plated disc, BUNA liner
 Maximum pressure 16 bar @ 0 to 70°C
 Lever operated

Size	50mm	65mm	80mm	100mm	125mm	150mm	200mm
Code	36530509	36530520	36530531	36530542	36530553	36530564	36530575
F-F mm	43	46	46	52	56	56	60
kg	4.60	5.90	6.10	10.00	12.60	16.10	25.00

Ductile Iron - 16SNB Semi-Lugged



Flanged, Semi-Lugged, Ductile Iron body, Nickel Plated disc, BUNA liner
 Maximum pressure 16 bar @ 0 to 70°C
 Lever operated

Size	50mm	65mm	80mm	100mm	125mm	150mm	200mm
Code	36530103	36530114	36530125	36530136	36530147	36530158	36530169
F-F mm	43	46	46	52	56	56	60
kg	3.90	4.70	5.10	6.90	9.70	11.00	19.50

Ductile Iron - G16LNB Lugged



Flanged, Lugged, Ductile Iron body, Nickel Plated disc, BUNA liner
 Maximum pressure 16 bar @ 0 to 70°C
 Gear operated

Size	200mm	250mm	300mm
Code	36532107	36530586	36530597
F-F mm	60	68	78
kg	25.00	44.90	61.50

Ductile Iron - G16SNB Semi-Lugged



Flanged, Semi-Lugged, Ductile Iron body, Nickel Plated disc, BUNA liner
 Maximum pressure 16 bar @ 0 to 70°C
 Gear operated

Size	200mm	250mm	300mm
Code	36532118	36532129	36532140
F-F mm	60	68	78
kg	37.60	37.60	50.07

Ductile Iron - 16LNBY Lugged



Flanged, Lugged, Ductile Iron body, Nickel Plated disc, BUNA liner
 Maximum pressure 16 bar @ 0 to 70°C
 Lever operated, Yellow lever

Size	50mm	65mm	80mm	100mm	125mm	150mm	200mm
Code	36531201	36531212	36531223	36531234	36531245	36531256	36531267
F-F mm	43	46	46	52	56	56	60
kg	4.60	5.90	6.10	10.00	12.60	16.10	25.00

Ductile Iron - 16LSB Lugged



Flanged, Lugged, Ductile Iron body, Stainless Steel disc, BUNA liner
 Maximum pressure 16 bar @ 0 to 70°C
 Lever operated

Size	50mm	65mm	80mm	100mm	125mm	150mm	200mm
Code	36530701	36530712	36530723	36530734	36530745	36530756	36530767
F-F mm	43	46	46	52	56	56	60
kg	4.60	5.90	6.10	10.00	12.60	16.10	25.00

Ductile Iron - G16LNBY Lugged



Flanged, Lugged, Ductile Iron body, Nickel Plated disc, BUNA liner
 Maximum pressure 16 bar @ 0 to 70°C
 Gear operated, Yellow lever

Size	200mm	250mm	300mm
Code	36532151	36532162	36532173
F-F mm	60	68	78
kg	25.00	44.90	61.50

Ductile Iron - G16LSB Lugged



Flanged, Lugged, Ductile Iron body, Stainless Steel disc, BUNA liner
 Maximum pressure 16 bar @ 0 to 70°C
 Gear operated

Size	200mm	250mm	300mm
Code	36532214	36530778	36530789
F-F mm	60	68	78
kg	25.00	44.90	61.50

Ductile Iron - 16SSB Semi-Lugged



Flanged, Semi-Lugged, Ductile Iron body, Stainless Steel disc, BUNA liner
Lever operated

Size	50mm	65mm	80mm	100mm	125mm	150mm	200mm
Code	36530306	36530317	36530328	36530339	36530350	36530361	36530372
F-F mm	43	46	46	52	56	56	60
kg	3.90	4.70	5.10	6.90	9.70	11.00	19.50

Ductile Iron - G16SSB Semi-Lugged



Flanged, Semi-Lugged, Ductile Iron body, Nickel Plated disc, BUNA liner
Maximum pressure 16 bar @ 0 to 70°C
Gear operated

Size	200mm	250mm	300mm
Code	36532184	36532195	36532203
F-F mm	60	68	78
kg	37.60	37.60	50.07

Ductile Iron - 16LSE Lugged



Flanged, Lugged, Ductile Iron body, Stainless Steel disc, EPDM liner
Maximum pressure 16 bar @ -20 to 120°C
Lever operated
WRAS approved

Size	50mm	65mm	80mm	100mm	125mm	150mm	200mm
Code	36530605	36530616	36530627	36530638	36530649	36530660	36530671
F-F mm	43	46	46	52	56	56	60
kg	4.60	5.90	6.10	10.00	12.60	16.10	25.00

Ductile Iron - G16LSE Lugged



Flanged, Lugged, Ductile Iron body, Stainless Steel disc, EPDM liner
Maximum pressure 16 bar @ -20 to 120°C
Gear operated
WRAS approved

Size	200mm	250mm	300mm
Code	36532258	36530682	36530693
F-F mm	60	68	78
kg	25.00	44.90	61.50

Ductile Iron - 16SSE Semi-Lugged



Flanged, Semi-Lugged, Ductile Iron body, Stainless Steel disc, EPDM liner
Maximum pressure 16 bar @ -20 to 120°C
Lever operated
WRAS approved

Size	50mm	65mm	80mm	100mm	125mm	150mm	200mm
Code	36530210	36530221	36530232	36530243	36530254	36530265	36530276
F-F mm	43	46	46	52	56	56	60
kg	3.90	4.70	5.10	6.90	9.70	11.00	19.50

Ductile Iron - G16SSE Semi-Lugged



Flanged, Semi-Lugged, Ductile Iron body, Stainless Steel disc, EPDM liner
Maximum pressure 16 bar @ -20 to 120°C
Gear operated
WRAS approved

Size	200mm	250mm	300mm
Code	36532225	36532236	36532247
F-F mm	60	68	78
kg	37.60	37.60	50.07

Balancing Valves, Differential Pressure Control Valves and Pressure Independent Control Valves

Balancing Valves

900SC Venturi FODRV Compression



Compression ends, DZR Brass body and spindle, DZR Brass Chrome Plated ball, PTFE gasket, EPDM "O" rings
Maximum pressure 5 bar @ 120°C
2 test points

Size	15/15mm L	15/15mm S	15/15mm H	20/22mm L	20/22mm S	20/22mm H
Code	22073295	22073303	22073443	22073369	22073314	22073454
F-F mm	99	99	99	105	105	105
kg	0.54	0.54	0.54	0.72	0.72	0.72

Size	25/28mm S	25/28mm H	32/35mm H	40/42mm H	50/54mm H
Code	22073325	22073465	22073336	22073347	22073358
F-F mm	118	118	135	149	167
kg	1.00	1.00	1.81	2.51	3.82

901SC Venturi DRV Compression



Compression ends, DZR Brass body and spindle, DZR Brass Chrome Plated ball, PTFE gasket, EPDM "O" rings
Maximum pressure 5 bar @ 135°C

Size	15/15mm L	15/15mm S	20/22mm L	20/22mm S	25/28mm S	32/35mm S
Code	22074168	22074209	22074190	22074220	22074231	22074242
F-F mm	62	62	67	67	81	93
kg	0.37	0.37	0.51	0.51	0.80	1.55

Size	40/42mm S	50/54mm S
Code	22074253	22074264
F-F mm	107	126
kg	2.12	3.25

L=Low Flow, S=Standard Flow, H=High Flow

Balancing Valves, Differential Pressure Control Valves and Pressure Independent Control Valves

Balancing Valves

900S Venturi FODRV Female x Female



Screwed BSPP Female x Female, DZR Brass body and spindle, DZR Brass Chrome Plated ball, PTFE gasket, EPDM "O" rings
Maximum pressure 25 bar @ 120°C
2 test points

Size	1/2 UL	1/2 L	1/2 S	1/2 H	3/4 L	3/4 S
Code	22073188	22073199	22073207	22073410	22073273	22073218
F-F mm	94	94	94	94	100	100
kg	0.41	0.41	0.49	0.49	0.41	0.49

Size	3/4 H	1 S	1 H	1 1/4 H	1 1/2 H	2 H
Code	22073421	22073229	22073432	22073240	22073251	22073262
F-F mm	100	112	112	130	140	156
kg	0.49	0.67	0.67	1.27	1.66	2.37

901S Venturi DRV Female x Female



Screwed BSPP Female x Female, DZR Brass body and spindle, DZR Brass Chrome Plated ball, PTFE gasket, EPDM "O" rings
Maximum pressure 25 bar @ 135°C

Size	1/2 L	1/2 S	3/4 L	3/4 S	1 S	1 1/4 S	1 1/2 S	2 S
Code	22073967	22074006	22073989	22074017	22074028	22074039	22074050	22074061
F-F mm	57	57	62	62	75	88	122	115
kg	0.23	0.23	0.29	0.29	0.47	1.01	1.24	1.80

UL=Ultra Low Flow, L=Low Flow, S=Standard Flow, H=High Flow

Balancing Valves, Differential Pressure Control Valves and Pressure Independent Control Valves

Balancing Valves

Balancing Valves, Differential Pressure Control Valves and Pressure Independent Control Valves

Balancing Valves

PS900S Venturi FODRV Pressfit Connections



Pressfit connections, DZR Brass body and spindle, DZR Brass Chrome Plated ball, PTFE gasket, EPDM "O" rings
Maximum pressure 16 bar @ 110°C
2 test points

Size	15/15mm UL	15/15mm L	15/15mm S	15/15mm H	15/18mm UL	15/18mm L
Code	22073731	22073506	22073517	22073528	22073742	22073539
F-F mm	138	138	138	138	138	138
kg	0.49	0.49	0.49	0.49	0.49	0.49

Size	15/18mm S	15/18mm H	20/15mm L	20/15mm S	20/15mm H	20/18mm L
Code	22073550	22073561	22073572	22073583	22073594	22073602
F-F mm	138	138	143	143	143	143
kg	0.49	0.49	0.51	0.51	0.51	0.51

Size	20/18mm S	20/18mm H	20/22mm L	20/22mm S	20/22mm H	25/28mm S
Code	22073613	22073624	22073635	22073646	22073657	22073668
F-F mm	143	143	147	147	147	165
kg	0.51	0.51	0.52	0.52	0.52	0.88

Size	25/28mm H	32/35mm H	40/42mm H	50/54mm H
Code	22073679	22073690	22073709	22073720
F-F mm	165	188	194	233
kg	0.88	1.62	2.18	3.38

PS901S Venturi DRV Pressfit Connections



Pressfit connections, DZR Brass body and spindle, DZR Brass Chrome Plated ball, PTFE gasket, EPDM "O" rings
Maximum pressure 16 bar @ 110°C

Size	15/15mm L	15/15mm S	15/18mm L	15/18mm S	20/15mm L	20/15mm S	20/18mm L
Code	22074305	22074316	22074327	22074338	22074349	22074360	22074371
F-F mm	101	101	101	101	105	105	105
kg	0.31	0.31	0.31	0.32	0.39	0.39	0.39

Size	20/18mm S	20/22mm L	20/22mm S	25/28mm S	32/35mm H	40/42mm H	50/54mm H
Code	22074382	22074393	22074401	22074412	22074423	22074434	22074445
F-F mm	105	109	109	128	146	172	202
kg	0.39	0.40	0.40	0.68	1.35	1.77	2.81

UL=Ultra Low Flow, L=Low Flow, S=Standard Flow, H=High Flow

903 Venturi Commissioning Valve with Drain Female x Female



Screwed BSPP Female x Female, DZR Brass body, DZR Brass Chrome Plated ball, PTFE gasket, EPDM "O" rings
Maximum pressure 25 bar @ 120°C
2 test points

Size	15UL UL	15 L	15 S	15 H	20 L	20 S
Code	22074508	22074519	22074530	22074541	22074552	22074563
F-F mm	94	94	94	94	100	100
kg	0.55	0.55	0.55	0.55	0.65	0.65

Size	20 H	25 S	25 H	32 H	40 H	50 H
Code	22074574	22074585	22074596	22074604	22074615	22074626
F-F mm	100	112	112	130	14	156
kg	0.65	0.80	0.80	1.50	1.70	2.40

903 Venturi Commissioning Valve with Drain Pressfit Connections



Pressfit connection, DZR Brass body, DZR Brass Chrome Plated ball, PTFE gasket, EPDM "O" rings
Maximum pressure 16 bar @ 120°C
2 test points

Size	15 UL x 15mm	15 L x 15mm	15 S x 15mm	15 H x 15mm
Code	22074637	22074648	22074659	22074670
F-F mm	145	145	145	145
kg	0.63	0.63	0.63	0.63

Size	15 UL x 18mm	15 L x 18mm	15 S x 18mm	15 H x 18mm	20 L x 15mm	20 S x 15mm
Code	22074681	22074692	22074700	22074711	22074722	22074733
F-F mm	147	147	147	147	154	154
kg	0.64	0.64	0.64	0.64	0.76	0.76

Size	20 H x 15mm	20 L x 18mm	20 S x 18mm	20 H x 18mm	20 L x 22mm	20 S x 22mm
Code	22074744	22074755	22074766	22074777	22074788	22074799
F-F mm	154	151	151	151	161	161
kg	0.76	0.76	0.76	0.76	0.77	0.77

Size	20 H x 22mm	25 S x 28mm	25 S x 28mm	32 H x 35mm	40 H x 42mm	50 H x 54mm
Code	22074807	22074818	22074829	22074840	22074851	22074862
F-F mm	161	187	187	251	277	313
kg	0.77	1.00	1.00	1.78	2.08	3.07

UL=Ultra Low Flow, L=Low Flow, S=Standard Flow, H=High Flow

Balancing Valves, Differential Pressure Control Valves and Pressure Independent Control Valves

Balancing Valves

Manometer



Compact, handheld instrument for effective system commissioning, quick coupling pressure ports
 Pressure nominal range 1000kPa, maximum over pressure 120% of nominal range, operating temperature -5 to 90°C.

1200 maximum valves in library, 20000 maximum records

Code	22074467
kg	2.27

900XSS Venturi FODRV Butterfly Short Pattern PN16



Flanged, Carbon Steel Venturi pipe, Cast Iron body, Stainless Steel disc and shaft, EPDM backing ring
 Maximum pressure 16 bar @ 105°C
 Gear operated, 2 test points

Size	2½	3	4	5	6	8	10	12
Code	32014110	32014121	32014132	32014143	32014154	32014165	32014176	32014187
F-F mm	182	249	325	341	354	378	411	465
kg	13.30	16.20	23.00	30.00	36.00	55.00	70.00	105.00

900XSL Venturi FODRV Butterfly Long Pattern PN16



Flanged, Carbon Steel Venturi pipe, Cast Iron body, Stainless Steel disc and shaft, EPDM backing ring
 Maximum pressure 16 bar @ 105°C
 Gear operated, 2 test points

Size	2½	3	4	5	6
Code	32014003	32014014	32014025	32014036	32014047
F-F mm	455	570	735	865	1010
kg	17.30	22.00	34.00	47.00	63.00

901XS Venturi DRV Butterfly PN16



Flanged, Carbon Steel Venturi pipe, Cast Iron body, Stainless Steel disc and shaft, EPDM backing ring
 Maximum pressure 16 bar @ 105°C
 Gear operated

Size	2½	3	4	5	6	8	10	12
Code	32014601	32014612	32014623	32014634	32014645	32014656	32014667	32014678
F-F mm	285	295	310	325	340	430	465	535
kg	6.10	6.30	10.60	12.60	14.10	14.10	33.70	48.70

Balancing Valves, Differential Pressure Control Valves and Pressure Independent Control Valves

Balancing Valves

MVS Modular Valve System - Red Handles For Heating Applications - Ball Valve Version



Screwed BSPP Female and terminal connections via flat face male, Bronze/DZR Brass body
 Maximum pressure 16 bar, 6 bar @ 110°C
 Can be manufactured to include BOSS™ PICV

Size	DN15UL	DN15L	DN15S	DN20L	DN20S	DN20H
Code	22910179	22910006	22910017	22910028	22910039	22910201
kg	2.13	2.13	2.13	2.69	2.38	2.38

MVS Modular Valve System - Red Handles For Heating Applications - Strainer Version



Screwed BSPP Female and terminal connections via flat face male, Bronze/DZR Brass body
 Maximum pressure 16 bar, 6 bar @ 110°C
 Can be manufactured to include BOSS™ PICV

Size	DN15UL	DN15L	DN15S	DN20L	DN20S	DN20H
Code	22910190	22910094	22910102	22910113	22910124	22910223
kg	2.79	2.79	2.79	3.04	3.04	2.80

MVS Modular Valve System - Blue Handles For Chilled Water Applications - Ball Valve Version



Screwed BSPP Female and terminal connections via flat face male, Bronze/DZR Brass body
 Maximum pressure 16 bar, 6 bar @ 110°C
 Can be manufactured to include BOSS™ PICV

Size	DN15L	DN15S	DN20L	DN20S	DN20H
Code	22910050	22910061	22910072	22910083	22910212
kg	2.19	2.18	2.43	2.43	2.40

MVS Modular Valve System - Blue Handles For Chilled Water Applications - Strainer version



Screwed BSPP Female and terminal connections via flat face male, Bronze/DZR Brass body
 Maximum pressure 16 bar, 6 bar @ 110°C
 Can be manufactured to include BOSS™ PICV

Size	DN15L	DN15S	DN20L	DN20S	DN20H
Code	22910135	22910146	22910157	22910168	22910234
kg	2.80	2.80	3.13	3.13	2.80

Balancing Valves, Differential Pressure Control Valves and Pressure Independent Control Valves

Balancing Valves

Balancing Valves, Differential Pressure Control Valves and Pressure Independent Control Valves

9400, 9510, 9515 Series

Dynamic PICV 902 Pressure Independent Control Valve



Screwed BSPP Female, DZR Brass body, EPDM seals
Maximum pressure 25 bar @ 120°C, Operating pressure 0.3 to 4 bar
Actuators available separately

Size	DN15 L	DN15 S	DN15 H	DN20 S	DN20 H	DN25 S
Code	21910006	21910017	21910028	21910039	21910050	21910061
F-F mm	95	95	95	120	120	127
kg	0.55	0.55	0.55	0.88	0.88	1.30

Size	DN25 H	DN32 H	DN40 S	DN50 H
Code	21910072	21910083	21910094	21910102
F-F mm	127	127	190	195
kg	1.30	1.77	3.65	4.15

Dynamic Thermotecnic Actuator



24VAC/DC On/Off, Normally Closed, Protection class IP54, Grey 1 metre cable
Operating power 1.8W, Ambient Temperature 0- 60°C

Size	BOSS902
Code	21910135
F-F mm	58
kg	0.14

Dynamic Thermotecnic Actuator



230VAC/DC On/Off, Normally Closed, Protection class IP54, Grey 1 metre cable
Operating power 1.8W, Ambient Temperature 0-60°C

Size	AT01
Code	21910146
F-F mm	58
kg	0.12

L=Low Flow, S=Standard Flow, H=High Flow

Dynamic Thermotecnic Actuator



24VAC/DC Modulating, Normally Closed, Protection class IP54, White 1 metre cable
Operating power 2W, Control Voltage 0-10VDC, Ambient Temperature 0-60°C

Size	AE01
Code	21910157
F-F mm	60
kg	0.14

Dynamic Electromechanical Actuator



24VAC Modulating, Protection class IP40, Colour coded fly lead 1.5m long
Operating power 3.1 VA, Ambient Temperature 0-50°C

Size	AVUE
Code	21910231
F-F mm	101
kg	0.41

Dynamic Electromechanical Actuator



24VAC On/Off, Protection class IP40, Colour coded fly lead 1.5m long
Operating power 2.3 VA, Ambient Temperature 0-50°C

Size	AVUX
Code	21910253
F-F mm	101
kg	0.41

Dynamic Electromechanical Actuator



230VAC On/Off, Protection class IP40, Colour coded fly lead 1.5m long
Operating power 3.6 VA, Ambient Temperature 0-50°C

Size	AVUM
Code	21910242
F-F mm	101
kg	0.41

Balancing Valves, Differential Pressure Control Valves and Pressure Independent Control Valves

9400, 9510, 9515 Series

DZR Brass 9400 Metering Station



Screwed BSPT Male x BSPP Female, DZR Brass body, Venturi insert test points, EPDM gaskets and polypropylene ties
Maximum pressure 25 bar @ 100°C, 20 bar at 130°C

Size	DN15 UL	DN15 L	DN15	DN20	DN25	DN32
Code	37000184	37000195	37000203	37000214	37000225	37000236
F-F mm	60	60	60	62	68	72
kg	0.22	0.22	0.21	0.25	0.35	0.46

Size	DN40	DN50
Code	37000247	37000258
F-F mm	72	82
kg	0.53	0.76

DZR Brass 9510 Double Regulating Valve



Screwed BSPP Female x Female, DN25-DN50 BSPT, DZR Brass body, disc, union and balancing cone Brass stem, ABS blue hand wheel. PTFE gasket disc. Threaded F/F Brass stem, ABS blue hand wheel. PTFE gasket disc. Threaded F/F
Maximum pressure 25 bar @ 100°C, 20 bar at 130°C

Size	DN15 L	DN15	DN20	DN25	DN32	DN40	DN50
Code	37000107	37000118	37000129	37000140	37000151	37000162	37000173
F-F mm	88	88	96	100	118	127	145
kg	0.53	0.53	0.58	0.70	1.15	1.45	2.03

DZR Brass 9515 Fixed Orifice Commissioning Set



Screwed BSPP Female x Female, DN25-DN50 BSPT, DZR Brass body, disc, union and balancing cone. brass stem, ABS blue hand wheel. PTFE gasket disc. Threaded F/F
Maximum pressure 25 bar @ 100°C, 20 bar at 130°C
Blue ABS plastic handwheel

Size	DN15 UL	DN15 L	DN15	DN20	DN25	DN32
Code	37000011	37000022	37000033	37000044	37000055	37000066
F-F mm	88	88	88	96	100	118
kg	0.56	0.56	0.55	0.62	0.75	1.19

Size	DN40	DN50
Code	37000077	37000088
F-F mm	127	145
kg	1.45	2.06

UL=Ultra Low Flow, L=Low Flow, S=Standard Flow, H=High Flow

Balancing Valves, Differential Pressure Control Valves and Pressure Independent Control Valves

Differential Pressure Controls Valves

DZR Brass 904 DPCV



Screwed BSPP Female, DZR Brass body and seat, Stainless Steel spring, EPDM seals and diaphragm
Maximum pressure 25 bar @ 120°C
For Partner Valve - use BOSS 903

Size	DN15 20-65kPa	DN20 20-65kPa	DN25 20-65kPa	DN32 20-65kPa
Code	89720001	89720012	89720023	89720034
F-F mm	61	71	84	96
kg	1.00	1.00	2.00	2.00

Size	DN40 20-40kPa	DN40 35-75kPa	DN50 20-40kPa	DN50 35-75kPa	DN50 60-100kPa
Code	89720045	89720056	89720067	89720078	89720089
F-F mm	100	100	135	135	135
kg	3.00	3.00	4.00	4.00	4.00

Differential Pressure Control Valves 2" to 4" (DN65 to DNP100)



Flanged, Cast Iron body, Stainless Steel cone and springs, EPDM membrane and "O" rings
Maximum pressure 16 bar @ 120°C
DPCV is mounted on the Return

Size	DN65 20-40kPa	DN80 20-40kPa	DN100 20-40kPa	DN65 35-75kPa
Code	89710305	89710316	89710327	89710338
F-F mm	290	310	347	290
kg	42.00	48.00	64.44	42.00

Size	DN80 35-75kPa	DN100 35-75kPa	DN65 60-100kPa	DN80 60-100kPa	DN100 60-100kPa
Code	89710349	89710360	89710371	89710382	89710393
F-F mm	310	347	290	310	347
kg	48.25	63.00	41.50	48.00	65.00

Differential Pressure Control Valves 2" to 4" (DN65 to DNP100) Adjustment /Partner Valve



Flanged, Cast Iron body, Stainless Steel cone and springs, EPDM membrane and "O" rings
Used to connect the impulse tubes from DPCV to provide isolation, measuring and regulation
Partner valve is mounted on the Flow

Size	DN65	DN80	DN100
Code	89710401	89710412	89710423
F-F mm	290	310	350
kg	17.11	21.06	32.50

Strainers & Drain Cocks

Strainers, Screwed "Y" Type Strainers

Bronze - FIG 47N



Screwed BSPT Female, 65-80mm are BSPP Female, Bronze body, DZR brass plug
 Maximum Pressure - Steam 13.8bar at 200°C, Cold non shock pressure 32 bar
 20 mesh Stainless Steel screen, Other screens available on request
 Strainers 25mm and above may be tapped and drilled

Size	15	20	25	32	40	50	65	80
Code	23010604	23010615	23010626	23010637	23010648	23010659	23010670	23010681
F-F mm	67	74	92	106	114	147	226	226
kg	0.30	0.40	0.60	1.20	1.40	2.00	9.50	9.50

Bronze - FIG 47XN



Flanged, Bronze body, DZR Brass plug 15-65mm, Gunmetal 80-150mm. Flanges 15 & 20mm BS4504 PN16, 25 to 50mm BS4504 PN16/40, 65 to 100mm BS4504 PN16
 Maximum Pressure - Steam 10.3bar at 260°C, Cold non shock pressure 24 bar
 Screen 1/8 Stainless Steel, Other screens available on request

Size	15	20	25	32	40	50
Code	23013108	23013119	23013130	23013141	23013152	23013163
F-F mm	115	115	150	200	200	230
kg	3.50	4.00	5.50	9.00	9.00	12.00

Size	65	80	100
Code	23012973	23012984	23012995
F-F mm	230	310	350
kg	13.00	20.00	28.00

Cast Iron - FIG 52XN PN16



Flanged, Cast Iron body and cap, Soft Steel and Graphite gasket. Malleable Iron drain plugs
 Maximum pressure 16 bar @ -10 to 120°C, Maximum temperature 200°C @ 12.8 bar
 Stainless Steel perforated screen 1.5mm holes 50 to -150mm, 2.0mm holes 200 to 450mm, 3.2mm holes 500mm
 Other screens available on request

Size	50	65	80	100	125	150	200
Code	33045108	33045119	33045130	33045141	33045152	33045163	33045174
F-F mm	220	270	290	350	390	440	540
kg	11.50	14.00	20.00	30.00	43.00	58.00	106.00

Size	250	300	350	400	450	500
Code	33045185	33045196	33045204	33045215	33045226	33045237
F-F mm	660	720	949	1079	1150	1275
kg	174.00	276.00	421.00	605.00	740.00	770.00

Strainers & Drain Cocks

Screwed "Y" Type Strainers, Type Strainers for Natural Gas

Brass - FIG 46W



Screwed BSPT Female, DZR Brass body & plug, EPDM washer
 Maximum pressure 20 bar @ -10 to 85°C
 20 mesh Stainless Steel screen
 WRAS approved

Size	15	20	25	32	40	50
Code	10460003	10460014	10460025	10460036	10460047	10460058
F-F mm	58	70	87	96	106	126
kg	0.14	0.20	0.38	0.55	0.80	1.09

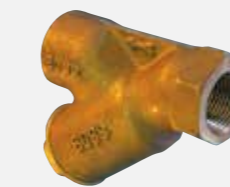
Brass - FIG 46CW



Compression ends, DZR Brass body & plug, Copper olive, Brass nut, EPDM washer
 Maximum pressure 16 bar @ -10 to 85°C
 20 mesh Stainless Steel screen
 WRAS approved

Size	15	22
Code	10460110	10460121
F-F mm	75	84
kg	0.15	0.24

Bronze "Y" Type - FIG 87NG



Screwed BSPT Female, Bronze body, Brass Plug, Nitrile "O" ring seal
 Maximum pressure 25bar non shock
 300 mesh screen

Size	1/2	3/4
Code	23014003	23014014
F-F mm	60	89
kg	0.33	0.43

Bronze Drain Tap 370 BS 2879-2



Screwed BSPT Male, Bronze body, Brass cap stem and disc holder
 Maximum pressure 10 bar @ 110°C
 Rubber disc and "O" rings

Size	1/2	3/4	1
Code	22066100	22066111	22066122
F-F mm	54	74.2	82
kg	0.22	0.33	0.44

Bronze Drain Tap 371LS Lockshield BS 2879-2



Screwed BSPT Male, Bronze body, Brass cap, stem and disc holder
 Maximum pressure 10 bar @ 110°C
 Rubber disc and "O" rings

Size	1/2	3/4	1
Code	22066133	22066144	22066155
F-F mm	54	75	82
kg	0.22	0.33	0.44

DZR Brass Drain Tap 372 Extended



Extended Capillary Male End, DZR Brass body, Brass spindle & gland nut, Rubber NBR washer & "O" ring
 Maximum pressure 16 bar @ 30°C, 10 bar @ 65°C, 6 bar @ 85°C
 WRAS approved

Size	15
Code	27200107
F-F mm	77
kg	0.12

Brass Draw Off Ball Valve - FIG 22S



Screwed BSPT Male, Brass body, Brass Chrome Plated ball, Buna-N Seat
 Maximum pressure 7 bar @ 100°C
 Cap can be used to operate valve

Size	1/2
Code	22083501
F-F mm	76
kg	0.19

Bronze Gland Cock 81HU



Screwed BSPT Male, Bronze body, Brass gland & cap
 Maximum pressure 10 bar @ 120°C
 Suitable for water or oil

Size	1/2	3/4	1
Code	20016649	20016660	20016671
F-F mm	96	129	157
kg	0.38	0.67	1.20

Thermostatic and Regulating Valves

Thermostatic and Regulating Valves

Bossmix™ TMV2/3 - Standard Connection and Check Valve Kit



Compression ends, DZR Chrome Plated body, Stainless Steel springs, EPDM seals
 Maximum pressure 10 bar @ 85°C (D08 65°C)
 WRAS approved, Buildcert Approved, NHS D08 compliant
 Bossmix™ Technical Helpline: 0870 112 1597

Size	15	22
Code	86345001	86345012
F-F mm	135	150
kg	0.50	0.60

For TMV2/3 Standard Connection
 2 Check Valves

Check Valve Kit

Size	15	22
Code	86330007	86330018

Bossmix™ TMV2/3 - Angled Connection and Check Valve Kit



Compression ends, DZR Chrome Plated body, Stainless Steel springs, EPDM seals
 Maximum pressure 10 bar @ 85°C (D08 65°C)
 WRAS approved, Buildcert Approved, NHS D08 compliant
 Bossmix™ Technical Helpline: 0870 112 1597

Size	15	22
Code	86345023	86345034
F-F mm	128	132
kg	0.65	0.75

For TMV2/3 Angled Connection
 2 Check Valves & Strainers

Check Valve Kit

Size	15	22
Code	86330062	86330073

Thermostatic and Regulating Valves

Thermostatic and Regulating Valves

205 TBV



Screwed BSPT Female, Red Brass body, bonnet & cone, EPDM "O" ring
 PN16, Maximum temperature 90°C, Thermal disinfection starts at 90°C
 Regulating range 50-65°C, Factory setting 58°C

Size	15	20
Code	20510102	20510113
F-F mm	65	75
kg	0.36	0.52

282CF Calflow Plus



Compression ends, Brass body, Hard Chrome Plated Brass ball, 40 mesh Stainless Steel strainer
 Maximum static pressure 15 bar, maximum inlet pressure 2 bar, maximum temperature @ 85°C
 Differential pressure range 15-200 kPa
 WRAS approved

Size	15 4LTR	15 6LTR	15 8LTR	15 10LTR	15 12LTR	15 15LTR	15 18LTR
Code	28200011	28200022	28200033	28200044	28200055	28200066	28200077
F-F mm	90	90	90	90	90	90	90
kg	0.21	0.21	0.21	0.21	0.21	0.21	0.21

Radiator Valves & TRVS

Radiator Valves & TRVS

Radiator Valves & TRVS

Radiator Valves & TRVS

Manual Radiator Valves - Chrome Plated Wheel Head Angle Valve



Dual 15mm x 1/2" connection. Chrome Plated finish. Matching lock shield. TRV design
 Maximum pressure 10 bar @ 65°C. Maximum temperature 5 bar @ 120°C
 Approved BS2767-10, Lock shield cap required and allen key to adjust flow
 Valves suited for both open vented and sealed systems

Size	15
Code	49341004
F-F mm	53
kg	0.50

Manual Radiator Valves - Chrome Plated Lock Shield Angle Valve



Dual 15mm x 1/2" connection. Chrome Plated finish. Matching lock shield. TRV design
 Maximum pressure 10 bar @ 65°C. Maximum temperature 5 bar @ 120°C

Size	15
Code	49341015
F-F mm	52
kg	0.28

Manual Radiator Valves - Chrome Plated Angled Lock Shield Valve Concealed Adjustment



Dual 15mm x 1/2" connection. Chrome Plated finish. Matching lock shield. TRV design
 Maximum pressure 10 bar @ 65°C. Maximum temperature 5 bar @ 120°C

Size	15
Code	49341026
F-F mm	52
kg	0.28

Manual Radiator Valves - Chrome Plated Straight Lock Shield Valve Concealed Adjustment



Dual 15mm x 1/2" connection. Chrome Plated finish. Matching lock shield. TRV design
 Maximum pressure 10 bar @ 65°C. Maximum temperature 5 bar @ 120°C

Size	15
Code	49341037
F-F mm	105
kg	0.28

Thermostatic Radiator Valve - Horizontal TRV



TRV has a liquid filled head which can be mounted on the flow or return. Built-in tamper proof key
 Control range of 11°C to 29°C. Frost setting to open automatically around 7°C to prevent system freezing
 Positive shut off allows the heat emitter to be isolated for maintenance
 Built in tamper proof key operated setting

Size	15
Code	49341048
F-F mm	53
kg	0.40

Thermostatic Radiator Valve - Vertical TRV



TRV has a liquid filled head which can be mounted on the flow or return. Built-in tamper proof key
 Control range of 11°C to 29°C. Frost setting to open automatically around 7°C to prevent system freezing

Size	15
Code	49341059
F-F mm	53
kg	0.40

Thermal Head Options - 0 Position



Tamper proof key, lift and lock operation prevents accidental adjustment
 Control range of 11°C to 29°C. Frost setting to open automatically around 7°C to prevent system freezing
 Positive shut off allows the heat emitter to be isolated for maintenance

Code	49341070
F-F mm	84
kg	0.15

Thermal Head Options - 2M or 8M Remote Sensor



2metre or 8metre remote sensor.
 Remote sensing prevents curtains or office equipment interfering with a thermal head. Suitable for LST radiators

Size	2m	8m
Code	49341081	49341229
F-F mm	84	87
kg	0.22	0.24

Thermal Head Options - 2M or 8M Remote Adjuster



2metre or 8metre remote adjuster
Remote adjuster provides temperature control

Size	2m	8m
Code	49341092	49341100
F-F mm	72	90
kg	0.27	0.3

Thermal Body Options - Chrome Plated TRV Body Angle vertical



Dual 15mm x 1/2" connection. Chrome Plated finish
Maximum pressure 10 bar @ 65°C. Maximum temperature 120°C @ 5 bar
Approved to EN215. Two way operation provides reverse flow operation capability
Double "O" ring seal

Size	15
Code	49341122
F-F mm	52
kg	0.24

Thermal Body Options - Chrome Plated TRV Body angle horizontal



Dual 15mm x 1/2" connection. Chrome Plated finish
Maximum pressure 10 bar @ 65°C. Maximum temperature 120°C @ 5 bar

Size	15
Code	49341111
F-F mm	34
kg	0.24

Thermal Body Options - Chrome Plated TRV Body straight



Dual 15mm x 1/2" connection. Chrome Plated finish
Maximum pressure 10 bar @ 65°C. Maximum temperature 120°C @ 5 bar

Size	15
Code	49341133
F-F mm	41
kg	0.24

Thermal Body Options - TRV Pre-set Body Angle vertical



Dual 15mm x 1/2" connection. Chrome Plated finish
Maximum pressure 10 bar @ 65°C. Maximum temperature 120°C @ 5 bar

Size	15
Code	49341144
F-F mm	52
kg	0.24

Thermal Body Options - TRV Pre-set Body straight



Dual 15mm x 1/2" connection. Chrome Plated finish
Maximum pressure 10 bar @ 65°C. Maximum temperature 120°C @ 5 bar

Size	15
Code	49341155
F-F mm	43
kg	0.24

Miniball Radiator Valves - Straight Radiator Valve



Brass, Nickel Plated finish, Straight Radiator valve

Size	1/2	3/4
Code	86315839	86315850
F-F mm	82	82
kg	0.21	0.37

Miniball Radiator Valves - Angled Drain Valve



Brass, Nickel Plated finish, Angled Drain valve

Size	1/2
Code	86310209
F-F mm	31
kg	0.08

Safety Relief Valve WRAS Listed - 960 Set Pressure Range



Screwed BSPT Female, Gunmetal body, seat adaptor and seat seal holder, PTFE seat seal, EPDM "O" ring seal
Maximum temperature 200°C

10PSIG / 0.7 Bar

Size	1/2	3/4	1	1 1/4	1 1/2	2
Code	27620089	27620344	27620621	27620868	27621080	27621313
F-F mm	100	115	136	130	203	230
kg	0.48	0.66	0.94	1.44	2.64	4.66

15PSIG / 1.1 Bar

Size	1/2	3/4	1	1 1/2	2
Code	27620108	27620355	27620632	27621091	27621324
F-F mm	100	115	136	203	230
kg	0.48	0.66	0.94	2.64	4.66

19PSIG / 1.4 Bar

Size	1 1/4	1 1/2	2
Code	27620879	27621110	27621335
F-F mm	130	203	230
kg	1.44	2.64	4.66

20PSIG / 1.4 Bar

Size	1/2	3/4	1
Code	27620130	27620377	27620643
F-F mm	100	115	136
kg	0.48	0.66	0.94

23PSIG / 1.6 Bar

Size	1/2	3/4	1	1 1/4	1 1/2	2
Code	27620141	27620388	27620654	27620909	27621132	27621357
F-F mm	100	115	136	130	203	230
kg	0.48	0.66	0.94	1.44	2.64	4.66

25PSIG / 1.8 Bar

Size	1/2	3/4	1	1 1/4	1 1/2	2
Code	27620152	27620399	27620665	27620920	27621143	27621368
F-F mm	100	115	136	130	203	230
kg	0.48	0.66	0.94	1.44	2.64	4.66

28PSIG / 2.0 Bar

Size	1/2	3/4	1	1 1/4	1 1/2	2
Code	27620163	27620407	27620676	27620931	27621154	27621379
F-F mm	100	115	136	130	203	230
kg	0.48	0.66	0.94	1.44	2.64	4.66

30PSIG / 2.1 Bar

Size	1/2	3/4	1	1 1/4	1 1/2	2
Code	27620174	27620418	27620687	27620942	27621165	27621390
F-F mm	100	115	136	130	203	230
kg	0.48	0.66	0.94	1.44	2.64	4.66

32PSIG / 2.3 Bar

Size	3/4	1	1 1/4	1 1/2	2
Code	27620429	27620698	27620953	27621176	27621409
F-F mm	115	136	130	203	230
kg	0.66	0.94	1.44	2.64	4.66

35PSIG / 2.5 Bar

Size	1/2	1
Code	27620185	27620706
F-F mm	100	136
kg	0.48	0.94

36PSIG / 2.5 Bar

Size	¾	1½	2
Code	27620451	27621187	27621420
F-F mm	115	203	230
kg	0.66	2.64	4.66

40PSIG / 2.8 Bar

Size	½	¾	1
Code	27620204	27620462	27620728
F-F mm	100	115	136
kg	0.48	0.66	0.94

41PSIG / 2.9 Bar

Size	½	¾	1	1¼	1½	2
Code	27620215	27620473	27620739	27620964	27621198	27621431
F-F mm	100	115	136	130	203	230
kg	0.48	0.66	0.94	1.44	2.64	4.66

45PSIG / 3.1 Bar

Size	½	¾	1	1¼	1½	2
Code	27620226	27620484	27620750	27620975	27621206	27621442
F-F mm	100	115	136	130	203	230
kg	0.48	0.66	0.94	1.44	2.64	4.66

49PSIG / 3.4 Bar

Size	½	¾	1	1¼	1½	2
Code	27620237	27620495	27620761	27620986	27621217	27621453
F-F mm	100	115	136	130	203	230
kg	0.48	0.66	0.94	1.44	2.64	4.66

50PSIG / 3.5 Bar

Size	½	¾	1
Code	27620248	27620503	27620772
F-F mm	100	115	136
kg	0.48	0.66	0.94

60PSIG / 4.2 Bar

Size	¾
Code	27620514
F-F mm	115
kg	0.66

Safety Relief Valve WRAS Listed - 960 Unset Pressure Range


Screwed BSPT Female, Gunmetal body, seat adaptor and seat seal holder, PTFE seat seal, EPDM "O" ring seal
Maximum temperature 200°C

4-7PSIG / 0.3-0.5 Bar

Size	½	¾	1	1¼	1½	2
Code	27620001	27620259	27620525	27620783	27620997	27621228
F-F mm	100	115	136	130	203	230
kg	0.48	0.66	0.94	1.44	2.64	4.66

8-15PSIG / 0.6-1.1 Bar

Size	½	¾	1	1¼	1½	2
Code	27620012	27620270	27620536	27620794	27621003	27621239
F-F mm	100	115	136	130	203	230
kg	0.48	0.66	0.94	1.44	2.64	4.66

16-31PSIG / 1.2-2.2 Bar

Size	½	¾	1	1¼	1½	2
Code	27620023	27620281	27620547	27620802	27621014	27621250
F-F mm	100	115	136	130	203	230
kg	0.48	0.66	0.94	1.44	2.64	4.66

32-47PSIG / 2.3-3.3 Bar						
Size	½	¾	1	1¼	1½	2
Code	27620034	27620292	27620558	27620813	27621025	27621261
F-F mm	100	115	136	130	203	230
kg	0.48	0.66	0.94	1.44	2.64	4.66

48-71PSIG / 3.4-4.9 Bar						
Size	½	¾	1	1¼	1½	2
Code	27620045	27620300	27620569	27620824	27621036	27621272
F-F mm	100	115	136	130	203	230
kg	0.48	0.66	0.94	1.44	2.64	4.66

72-95PSIG / 5.0-6.6 Bar						
Size	½	¾	1	1¼	1½	2
Code	27620056	27620311	27620580	27620835	27621047	27621283
F-F mm	100	115	136	130	203	230
kg	0.48	0.66	0.94	1.44	2.64	4.66

96-119PSIG / 6.7-8.2 Bar						
Size	½	¾	1	1¼	1½	2
Code	27620067	27620322	27620591	27620846	27621058	27621294
F-F mm	100	115	136	130	203	230
kg	0.48	0.66	0.94	1.44	2.64	4.66

120-148PSIG / 8.3-10.5 Bar						
Size	½	¾	1	1¼	1½	2
Code	27620078	27620333	27620610	27620857	27621069	27621302
F-F mm	100	115	136	130	203	230
kg	0.48	0.66	0.94	1.44	2.64	4.66

Springs for BOSS™ 960

White 4-7PSI / 0.3-0.5 Bar						
Size	½	¾	1	1¼	1½	2
Code	22071107	22071118	22071129	22071140	22071151	22071162
kg	0.03	0.03	0.03	0.03	0.03	0.03

Red 8-15PSI / 0.6-1.1 Bar						
Size	½	¾	1	1¼	1½	2
Code	22071173	22071184	22071195	22071203	22071214	22071225
kg	0.03	0.03	0.03	0.03	0.03	0.03

Yellow 16-31PSI / 1.2-2.2 Bar						
Size	½	¾	1	1¼	1½	2
Code	22071236	22071247	22071258	22071269	22071280	22071291
kg	0.03	0.03	0.03	0.03	0.03	0.03

Green 32-47PSI / 2.3-3.3 Bar						
Size	½	¾	1	1¼	1½	2
Code	22071310	22071321	22071332	22071343	22071354	22071365
kg	0.03	0.03	0.03	0.03	0.03	0.03

Safety Relief & Pressure Reducing Valves

Relief Valves

Brown 48-71PSI / 3.4-4.9 Bar

Size	1/2	3/4	1	1 1/4	1 1/2	2
Code	22071376	22071387	22071398	22071406	22071417	22071428
kg	0.03	0.03	0.03	0.03	0.03	0.03

Blue 72-95PSI / 5.0-6.6 Bar

Size	1/2	3/4	1	1 1/4	1 1/2	2
Code	22071439	22071450	22071461	22071472	22071483	22071494
kg	0.03	0.03	0.03	0.03	0.03	0.03

Purple 96-119PSI / 6.7-8.2 Bar

Size	1/2	3/4	1	1 1/4	1 1/2	2
Code	22071502	22071513	22071524	22071535	22071546	22071557
kg	0.03	0.03	0.03	0.03	0.03	0.03

Black 120-152PSI / 8.3-10.5 Bar

Size	1/2	3/4	1	1 1/4	1 1/2	2
Code	22071568	22071579	22071590	22071609	22071620	22071631
kg	0.03	0.03	0.03	0.03	0.03	0.03

Safety Relief & Pressure Reducing Valves

Pressure Reducing Valves

Pressure Reducing Valves



Compression end, DZR Brass body, Stainless Steel filter mesh
Maximum pressure 1 1/2 to 6 Bar (adjustable) @ 70°C



Size	15	22	28
Code	28110305	28110316	28110327
F-F mm	150	170	182
kg	0.78	0.99	1.61

Pressure Reducing Valves



Screwed BSP Male, DZR Brass body, Stainless Steel filter mesh
Maximum pressure 1 1/2 to 6 Bar (adjustable) @ 70°C



Size	1/2	3/4	1	1 1/4	1 1/2	2
Code	28110102	28110113	28110124	28110135	28110146	28110157
F-F mm	140	160	170	200	225	255
kg	0.70	0.90	1.45	1.83	3.08	4.25

Actuators and Ancillaries

Pneumatic Actuators, Electric Actuators, Test Points, Solenoid Valves, Sight Flow Indicators and Switchboxes

Spring Return Actuators - BOSS™ 82



0-90° Twin rack and pinion design, Aluminium body, Limit stops +/- 5%, constant torque output
 Max pressure 8 bar, Temperature range -20°C - +85°C
 ISO 5211 connection - Star Drive, Namur configuration, Position indicators

Size	SR52	SR63	SR75	SR85	SR100	SR115	SR125	SR140
Code	61502004	61502015	61502026	61502037	61502048	61502059	61502070	61502081
Length	141	164	210	241	275	333	372	435
kg	1.30	2.00	3.40	4.80	7.00	11.50	14.10	21.80

Size	SR160	SR180	SR200	SR230	SR270	SR330
Code	61502092	61502100	61502111	61502122	61502133	61502144
Length	500	493	579	690	672	881
kg	30.00	39.90	55.00	71.00	100.30	209.00

Double Acting Actuators - BOSS™ 82



0-90° Twin rack and pinion design, Aluminium body, Limit stops +/- 5%, constant torque output
 Max pressure 8 bar, Temperature range -20°C - +85°C
 ISO 5211 connection - Star Drive, Namur configuration, Position indicators

Size	DA32	DA52	DA63	DA75	DA85	DA100	DA115	DA125
Code	61502155	61502166	61502177	61502188	61502199	61502207	61502218	61502229
Length	110	141	164	210	241	275	333	372
kg	0.50	1.10	1.70	2.80	3.90	5.50	8.90	10.80

Size	DA140	DA160	DA180	DA200	DA230	DA270	DA330
Code	61502240	61502251	61502262	61502273	61502284	61502295	61502303
Length	435	500	493	579	690	672	881
kg	16.30	21.80	29.00	37.00	58.50	82.70	168.00

Actuators and Ancillaries

Pneumatic Actuators, Electric Actuators, Test Points, Solenoid Valves, Sight Flow Indicators and Switchboxes

Accessories - Switchbox



Namur Switchbox complete with 2 x SPDT Silver Plated Switches
 To suit 20, 30, 40 & 50 namur pinion

Code 68520407

Accessories - Solenoids



Solenoid valve for ¼ turn pneumatic actuators
 Namur standard fixing dimensions, Aluminium body, 1/4" BSP port connection
 Max ambient temperature +80°C, Min working temperature -20°C, 3 to 10 bar working pressure

Size	24V	110V	240V
Code	69631097	69631116	69631127

Accessories - Silencer



¼" sintered Bronze silencer with BSP thread

Size	¼"
Code	69631193

Actuators and Ancillaries

Pneumatic Actuators, Electric Actuators, Test Points, Solenoid Valves, Sight Flow Indicators and Switchboxes

High Voltage - BOSS™ EA218



110-240V AC/DC multi voltage On/Off Actuator, IP67 rated, set at 90°
 LED status feedback, Manual override, Over torque and anti-condensation protection, all external electrical connection, ISO 5211 mounting
 Temperature range -20°C to +70°C
 6 models offering a range of break away torques from 25 to 350Nm
 Conversion kits available for: Failsafe (close or open), Modulating (0-10V or 4-20mA) or Failsafe Modulating

Size	Model 20	Model 35	Model 55	Model 85	Model 140	Model 300
Code	21800077	21800088	21800099	21800107	21800118	21800129
Length	181	181	181	181	235	235
kg	1.80	1.90	2.40	3.00	5.20	5.20

Low Voltage - BOSS™ EA218



12-24V AC/DC (Models 140 & 300 24V AC/DC only) multi voltage On/Off Actuator, IP67 rated, set at 90°
 LED status feedback, Manual override, Over torque and anti-condensation protection, all external electrical connection, ISO 5211 mounting
 Temperature range -20°C to +70°C
 6 models offering a range of break away torques from 25 to 350Nm
 Conversion kits available for: Failsafe (close or open), Modulating (0-10V or 4-20mA) or Failsafe Modulating

Size	Model 20	Model 35	Model 55	Model 85	Model 140	Model 300
Code	21800011	21800022	21800033	21800044	21800055	21800066
Length	181	181	181	181	235	235
kg	1.80	1.90	2.40	3.00	5.20	5.20

Failsafe System - For BOSS™ EA218



Drives the actuator to a pre-determined position in the event of external power loss
 Complete, simple to install plug and play failsafe kit with on site retro fit capability
 Suits high and low voltage EA218 actuators

Size	BSR 20-85	BSR 140-300
Code	21800140	21800162
kg	0.20	0.40

Actuators and Ancillaries

Pneumatic Actuators, Electric Actuators, Test Points, Solenoid Valves, Sight Flow Indicators and Switchboxes

Modulating System - For BOSS™ EA218



Digital Positioning System to convert on/off to modulating function (0-10V or 4-20mA input and output)
 Complete, simple to install plug and play, self calibrating modulating kit with on site retro fit capability
 Suits high and low voltage EA218 actuators

Size	DPS 20-85	DPS 140-300
Code	21800151	21800173
kg	0.50	0.90

Failsafe Modulating System - For BOSS™ EA218



Failsafe modulating function achieved by the installation of both the BOSS Failsafe and Modulating System
 Actuator fails to pre-determined position on loss of external power
 Complete, simple to install plug and play kits with on site retro fit capability
 Suits high and low voltage EA218 actuators

Size	BSR & DPS 20-85	BSR & DPS 140-300
Code	21800140 & 21800151	21800162 & 21800173
kg	0.70	1.30

Actuators and Ancillaries

Pneumatic Actuators, Electric Actuators, Test Points, Solenoid Valves, Sight Flow Indicators and Switchboxes

Test Plugs - Extended



Screwed BSPT Male, Brass body, cap and retaining ring, Ethylene Propylene Retaining strap and core
 Maximum pressure 35 bar @ -8 to 135°C
 Suitable for low temperature hot water, chilled water and low temperature steam
 Extended plugs give approximately an extra 38mm for insulation

Size	8mm	15mm
Code	25028626	25028637
F-F mm	75	77
kg	0.06	0.17

Test Plugs - Extended



Screwed BSPT Male, Stainless Steel body, Brass cap and retaining ring, Ethylene Propylene Retaining strap and core
 Maximum pressure 35 bar @ -8 to 135°C
 Suitable for low temperature hot water, chilled water and low temperature steam
 Extended plugs give approximately an extra 38mm for insulation

Size	8mm	15mm
Code	25028530	25028541
F-F mm	75	77
kg	0.06	0.17

Test Plugs



Screwed BSPT Male, Brass body, cap and retaining ring, Ethylene Propylene Retaining strap and core
 Maximum pressure 35 bar @ -8 to 135°C
 Suitable for low temperature hot water, chilled water and low temperature steam

Size	8mm	15mm
Code	25028604	25028615
F-F mm	38	41
kg	0.03	0.07

Actuators and Ancillaries

Pneumatic Actuators, Electric Actuators, Test Points, Solenoid Valves, Sight Flow Indicators and Switchboxes

Test Plugs



Screwed BSPT Male, Stainless Steel body, Brass cap and retaining ring, Ethylene Propylene Retaining strap and core
 Maximum pressure 35 bar @ -8 to 135°C

Size	8mm	15mm
Code	25028508	25028519
F-F mm	38	41
kg	0.03	0.07

Pilot Operated Solenoid Valves - FIG DCA Air, Light Oil, Water, 230Vac



BS21 BSPP Female, Brass/bronze body, Stainless Steel internals. Nitrile seals
 Maximum static pressure 20 bar, Maximum media temperature 180°C. 230Vac, Protection class IP65 with Plug
 Coil insulation Class H

Size	1/2	3/4	1	1 1/4	1 1/2	2
Code	20812106	20812117	20812128	20812139	20812150	20812161
F-F mm	70	70	85	137	137	137
kg	0.90	0.90	1.20	3.00	3.00	3.20

Pilot Operated Solenoid Valves - FIG PCAX Steam, 230Vac



BS21 BSPP Female, Brass/bronze body, Stainless Steel/Copper alloy internals. PTFE seals
 Maximum static pressure 20 bar, Maximum media temperature 180°C. 230Vac, Protection class IP65 with Plug

Size	1/2	3/4	1	1 1/2	2
Code	20812172	20812183	20812194	20812770	20812781
F-F mm	69	69	85	117	146
kg	1.20	1.50	1.50	3.10	5.20

Pressure Gauges and Thermometers

Pressure Gauges

FIG408 DM - Black Steel Case



1/4" BSP, 2" dial, Black Plastic case, Acrylic window, Direct Mounting, Dual Scale reading
 Maximum media temperature 60°C
 Suitable for internal use

Size	2	2	2	2	2	2	2
Code	80010017	80010050	80010072	80010094	80010113	80010124	80010146
Reading	0-1 Bar	0-2 Bar	0-4 Bar	0-7 Bar	0-10 Bar	0-14 Bar	0-21 Bar
kg	0.60	0.60	0.60	0.60	0.60	0.60	0.60

1/4" BSP, 2 1/2" dial, Black Plastic case, Acrylic window, Direct Mounting, Dual Scale reading
 Maximum media temperature 60°C
 Suitable for internal use

Size	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2
Code	80010275	80010297	80010316	80010327	80010349
Reading	0-4 Bar	0-7 Bar	0-10 Bar	0-14 Bar	0-21 Bar
kg	0.70	0.70	0.70	0.70	0.70

3/8" BSP, 4" dial, Black Steel case, Glass window, Direct Mounting, Dual Scale reading
 Maximum media temperature 60°C
 Suitable for internal use

Size	4	4	4	4	4	4	4	4	4
Code	80011820	80011831	80011842	80011875	80011897	80011916	80011949	80011971	80012010
Reading	0-1 Bar	0-1.6 Bar	0-2 Bar	0-4 Bar	0-7 Bar	0-10 Bar	0-14 Bar	0-21 Bar	0-42 Bar
kg	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70

Size	4
Code	80012032
Reading	0-70 Bar
kg	0.70

3/8" BSP, 4" dial, Black Steel case, Glass window, Perspex dial, Direct Mounting, Dual Scale reading
 Maximum media temperature 60°C
 Suitable for internal use

Size	4	4	4	4
Code	80011757	80011768	80011779	80011790
Reading	0-4 Bar	0-7 Bar	0-10 Bar	0-14 Bar
kg	0.50	0.50	0.50	0.50

3/8" BSP, 6" dial, Black Steel case, Glass window, Direct Mounting, Dual Scale reading
 Maximum media temperature 60°C
 Suitable for internal use

Size	6	6	6	6	6
Code	80012224	80012257	80012268	80012279	80012290
Reading	0-1 Bar	0-4 Bar	0-7 Bar	0-10 Bar	0-14 Bar
kg	0.80	0.80	0.80	0.80	0.80

Pressure Gauges and Thermometers

Pressure Gauges

FIG 410 DM - All Stainless Steel Gauge



1/2" BSP, 4" dial, Stainless Steel, Acrylic window, Glycerine fillable, Direct Mounting, Dual Scale reading
 Maximum media temperature 60°C
 Suitable for external use

Size	4	4	4	4	4
Code	80110006	80110017	80110028	80110039	80110050
Reading	0-2 Bar	0-4 Bar	0-7 Bar	0-10 Bar	0-14 Bar
kg	0.70	0.70	0.70	0.70	0.70

FIG 407 DM - Brass Case



1/4" BSP, 3" dial, Brass case & bezel, Direct Mounting, Dual Scale reading
 Maximum media temperature 60°C
 Suitable for internal use

Size	3	3	3	3
Code	80010508	80010530	80010541	80010563
Reading	0-7 Bar	0-10 Bar	0-14 Bar	0-21 Bar
kg	0.80	0.80	0.80	0.80

3/8" BSP, 4" dial, Brass case & bezel, Direct Mounting, Dual Scale reading, Blow out device
 Maximum media temperature 60°C
 Suitable for internal use

Size	4	4	4	4	4	4	4	4
Code	80010851	80010895	80010903	80010925	80010958	80010980	80011019	80011041
Reading	0-2 Bar	0-4 Bar	0-7 Bar	0-10 Bar	0-14 Bar	0-21 Bar	0-42 Bar	0-70 Bar
kg	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80

3/8" BSP, 6" dial, Brass case & bezel, Direct Mounting, Dual Scale reading, Blow out device
 Maximum media temperature 60°C
 Suitable for internal use

Size	6	6
Code	80011222	80011299
Reading	0-10 Bar	0-42 Bar
kg	1.00	1.00

Pressure Gauges and Thermometers

Pressure Gauges

FIG 409S - Sprinkler Gauge



3/8" BSP, Stainless Steel bezel, Direct Mounting
 Maximum media temperature 60°C
 Suitable for internal or external use

Size	4
Code	80046505
Reading	0-16 Bar
kg	0.80

FIG 223 DM - Low Pressure Capsule Gauge Polished Brass Case



3/8" BSP, Brass bezel, Direct Mounting
 Suitable for internal use

Size	4	4	4
Code	80046003	80046014	80046036
Reading	0-60 Bar	0-100 Bar	0-250 Bar
kg	0.50	0.50	0.50

FIG 342 DM - Liquid Filled Stainless Steel Case



1/4" BSP, 2 1/2" dial, Stainless Steel bezel, Direct Mounting, Dual Scale reading, Glycerine filled
 Maximum media temperature 60°C
 Suitable for internal use

Size	2 1/2	2 1/2	2 1/2	2 1/2
Code	80046110	80046121	80046132	80046143
Reading	0-4 Bar	0-7 Bar	0-10 Bar	0-14 Bar
kg	0.50	0.50	0.50	0.50

3/8" BSP, 4" dial, Stainless Steel bezel, Direct Mounting, Dual Scale reading, Silicone Oil filled
 Maximum media temperature 60°C
 Suitable for internal use

Size	4	4	4	4	4
Code	80046206	80046198	80046217	80046228	80046239
Reading	0-4 Bar	0-7 Bar	0-10 Bar	0-16 Bar	0-21 Bar
kg	0.50	0.50	0.50	0.50	0.50

Pressure Gauges and Thermometers

Vacuum Gauges, Compound Gauges

FIG 412 DM - Black Steel Case



3/8" BSP, Chrome Plated bezel, Direct Mounting, Dual Scale reading
 Maximum media temperature 60°C
 Suitable for internal use

Size	4
Code	80013023
Reading	0 to -1 Bar
kg	0.50

FIG 411 DM - Brass Case



1/4" BSP for 3" dial, 3/8" BSP for 4" dial, Brass bezel, Direct Mounting, Dual Scale reading
 Maximum media temperature 60°C
 Suitable for internal use

Size	3	4
Code	80012918	80012929
Reading	0 to -1 Bar	0 to -1 Bar
kg	0.80	0.80

FIG 420DM - Brass Case



3/8" BSP Brass bezel, Direct Mounting, Dual Scale reading
 Maximum media temperature 60°C
 Suitable for internal use

Size	4	4	4
Code	80014217	80014228	80014239
Reading	-1 to +2 Bar	-1 to +4 Bar	-1 to +7 Bar
kg	0.50	0.50	0.50

FIG 421DM - Black Steel Case



3/8" BSP, Chrome Plated bezel, Direct Mounting, Dual Scale reading
 Maximum media temperature 60°C
 Suitable for internal use

Size	4
Code	80014390
Reading	-1 to +2 Bar
kg	0.50

Pressure Gauges and Thermometers

Altitude Gauges

FIG 416 DM - Black Steel Case



3/8" BSP, Chrome Plated bezel, Direct Mounting, Dual Scale reading
 Maximum media temperature 60°C
 Suitable for internal use

Size	4	4	4
Code	80013366	80013377	80013388
Reading	0-30 Feet 0-10 Metres	0-50 Feet 0-16 Metres	0-80 Feet 0-25 Metres
kg	0.60	0.60	0.60
Size	4	4	
Code	80013399	80013407	
Reading	0-130 Feet 0-40 Metres	0-200 Feet 0-60 Metres	
kg	0.60	0.60	

FIG 415 DM - Brass Case



3/8" BSP, Brass bezel, Direct Mounting, Dual Scale reading
 Maximum media temperature 60°C
 Suitable for internal use

Size	4	4
Code	80013204	80013270
Reading	0-30 Feet 0-10 Metres	0-130 Feet 0-40 Metres
kg	0.50	0.50

FIG 416 DM - Black Steel Case



3/8" BSP, Chrome Plated bezel, Direct Mounting, Dual Scale reading
 Maximum media temperature 60°C
 Suitable for internal use

Size	4	4	4
Code	80013879	80013920	80013931
Reading	0-1 Bar 0-10 Metres	0-4 Bar 0-40 Meters	0-6 Bar 0-60 Meters
kg	0.60	0.60	0.60
Size	6	6	
Code	80013942	80013975	
Reading	0-1 Bar 0-10 Metres	0-4 Bar 0-40 Meters	
kg	0.60	0.60	

Pressure Gauges and Thermometers

Altitude Gauges, Ancillary Equipment for Gauges

FIG 417 DM - Brass Case



3/8" BSP, Brass bezel, Direct Mounting, Dual Scale reading
 Maximum media temperature 60°C
 Suitable for internal use

Size	4	6
Code	80014069	80014121
Reading	0-6 Bar 0-60 Meters	0-1.6 Bar 0-16 Metres
kg	0.60	0.60

Flanged back plates - Steel



For use with Class 1 gauges only

Size	4
Code	80014505
kg	0.20

Flanged back plates - Brass



For use with Class 1 gauges only

Size	4	6
Code	80014612	80014623
kg	0.20	0.20

Gauge Cocks - FIG 393S



3/4" BSP Female connection. Three way gauge cock to allow inspectors gauge cock to be fitted when checking existing gauge
 150lb/in.sq water working pressure

Size	3/8
Code	22030317
kg	2.00

Pressure Gauges and Thermometers

Ancillary Equipment for Gauges

Gauge Cocks - FIG 394S - Brass



1/4", 3/8" and 1/2" BSP Female connection, brass gauge cock with polypropylene handle
150lb/in.sq water working pressure

Size	1/4	3/8	1/2
Code	22030402	22030413	22030424
kg	0.14	0.22	0.28

Gauge Cocks - FIG 395S - Chrome Plated



3/8" BSP Female connections, brass gauge cock with brass handle
150lb/in.sq water working pressure

Size	3/8
Code	22030457
kg	0.26

Gauge Cocks - FIG 395S - Brass



3/8" BSP Female connections, brass gauge cock with brass handle
150lb/in.sq water. working pressure

Size	3/8
Code	22030520
kg	0.26

Gauge Cocks - FIG 396S - Brass with Polypropylene Handle



3/8" BSP connections. Brass gauge cock with polypropylene handle. Union and tail pipe screwed
150lb/in.sq water working pressure

Size	3/8
Code	22030616
kg	0.26

Pressure Gauges and Thermometers

Ancillary Equipment for Gauges

"U" Pattern Syphons - FIG 398S - Polished Brass



1/4", 3/8" and 1/2" BSP
Maximum working pressure 100lb/in.sq

Size	1/4	3/8	1/2
Code	80018203	80018214	80018225
kg	0.50	0.50	0.50

Ring Pattern Syphons - FIG 400S - Polished Brass



3/8" and 1/2" BSP
Maximum working pressure 100lb/in.sq

Size	3/8	1/2
Code	80018321	80018332
kg	0.50	0.50

"U" Pattern Syphons - FIG 401S - Mild Steel



1/4", 3/8" and 1/2" BSP
Max working pressure: Water 42 bar, Steam 21 bar - 260°C.

Size	1/4	3/8	1/2
Code	80018406	80018417	80018428
kg	0.50	0.50	0.50

Pressure Gauges and Thermometers

Ancillary Equipment for Gauges

Pressure Gauges and Thermometers

Thermometers

Ring Pattern Syphons - FIG 403S - Mild Steel



1/4", 3/8" and 1/2" BSP

Maximum working pressure: water 42 bar, steam 21 bar - 260°C

Size	1/4	3/8	1/2
Code	80018450	80018461	80018472
kg	0.50	0.50	0.50

"U" Pattern Syphons - FIG 399S - Stainless Steel



1/2" BSP

Maximum working pressure: water 42 bar, steam 21 bar -260°C

Size	1/2
Code	80120001
kg	

Ring Pattern Syphons - FIG 402S - Stainless Steel



1/2" BSP

Maximum working pressure: water 42 bar, steam 21 bar -260°C

Size	1/2
Code	80120130
kg	

Snubbers FIG 432S - Brass (also available in Stainless Steel)



Adjustable snubbers to eliminate surge and pressure pulsation to pressure gauges

Maximum working pressure: 250 bar @ 120°C

Size	1/4	3/8
Code	80017319	80017330
kg	0.50	0.50

Vapour Pressure Thermometers - FIG 438S Black Steel Case - Straight Stem



1/2" BSP. 4" dial, Chrome Plated bezel, straight stem, Dual Scale reading, complete with pocket, 100mm immersion length. Maximum working temperature 60°C

Suitable for internal use

Size	4	4
Code	80014708	80014763
Reading	20-120°C	-20 to +40°C
kg	0.50	0.50

FIG 439S Black Steel Case - Angle Stem



1/2" BSP. 4" dial, Chrome Plated bezel, Angle stem, Dual Scale reading, Complete with pocket, 100mm Immersion length. Maximum working temperature 60°C

Suitable for internal use

Size	4
Code	80015005
Reading	20-120°C
kg	0.50

FIG 439S Bottom Back Entry



1/2" BSP. 4" dial, Chrome Plated bezel, straight stem, Dual Scale reading, complete with pocket, 100mm immersion length. Maximum working temperature 60°C

Suitable for internal use

Size	4
Code	80014774
Reading	-20 to +40°C
kg	0.50

FIG 448S Brass Case - Straight Stem



1/2" BSP. 4" dial, Chrome Plated bezel, Straight stem, Dual Scale reading, complete with pocket

Maximum working temperature 60°C

Suitable for internal use

Size	4
Code	80014634
Reading	20-120°C
kg	0.50

Pressure Gauges and Thermometers

Thermometers

FIG449S - Brass Case - Angle Stem



1/2" BSP. 4" dial, Chrome Plated bezel, Angle stem, Dual Scale reading, Complete with pocket, 100mm Immersion length Maximum working temperature 60°C
Suitable for internal use

Size	4
Code	80014656
Reading	20-120°C
kg	0.50

Vapour Pressure Thermometers - FIG450S Surface Mounting



1/2" BSP. Chrome Plated bezel, Surface Mounted, Dual Scale reading, Complete with pocket, 100mm Immersion length. Maximum working temperature 60°C
Suitable for internal use

Size	4	6
Code	80014678	80014689
Reading	20-120°C	20-120°C
kg	0.50	0.50

Altiterm Combined Altitude and Thermometer - FIG EG100 Black Steel Case



1/2" BSP, 3" dial size, Chrome bezel. Dual Scale reading
Maximum working temperature 60°C
Suitable for internal use

Size	0-120	0-120
Code	80015101	80015112
Reading	0-80 Feet 0-25 Metres	0-130 Feet 0-40 Metres
kg	0.50	0.50

BI-Metal Thermometers - Dial Thermometers FIG 428S



1/2" BSP, 4" dial size, Chrome Plated bezel. Dual Scale reading, 63mm Vertical Immersion length
Maximum working temperature 60°C
Suitable for internal use

Size	4	4	4
Code	80015400	80015411	80015422
Reading	-30 to +50°C	0-120°C	0-250°C
kg	0.50	0.50	0.50

Pressure Gauges and Thermometers

Thermometers

BI-Metal Thermometers - Dial Thermometers FIG 429S



1/2" BSP, 4" dial size, Chrome Plated bezel. Dual Scale reading, 100mm Vertical Immersion length
Maximum working temperature 60°C
Suitable for internal use

Size	4	4	4
Code	80015529	80015540	80015551
Reading	-30 to +50°C	0-120°C	0-250°C
kg	0.50	0.50	0.50

Bi-Metal Thermometers - Dial Thermometers FIG 429S



1/2" BSP, 4" dial size, Chrome Plated bezel. Dual Scale reading, 63mm Back Immersion length
Maximum working temperature 60°C
Suitable for internal use

Size	4	4	4
Code	80015444	80015455	80015466
Reading	-30 to +50°C	0-120°C	0-250°C
kg	0.50	0.50	0.50

BI-Metal Thermometers - Dial Thermometers FIG 429S



1/2" BSP, 4" dial size, Chrome Plated bezel. Dual Scale reading, 100mm Back Immersion length
Maximum working temperature 60°C
Suitable for internal use

Size	4	4	4
Code	80015562	80015573	80015584
Reading	-30 to +50°C	0-120°C	0-250°C
kg	0.50	0.50	0.50

Thermometer Pockets - FIG 465S

Brass,
100mm long

Stainless Steel,
100mm long

Brass,
63mm long

Size	1/2
Code	80017020
kg	0.50

Size	1/2
Code	80017064

Size	1/2
Code	80017009
kg	0.01

Bi-Metal Thermometers FIG 461S Black Steel Case



Surface contact, 2 1/2" dial, Chrome Plated bezel, Dual Scale reading
 These thermometers show only the surface temperature of the pipe and are not recommended where a good degree of accuracy is required.

Size	2 1/2
Code	80016605
Reading	0-120°C
kg	0.50

Bi-Metal Thermometers FIG 463S Black Steel Case



1/2" BSP, 2 1/2" dial, Chrome Plated bezel, Dual Scale reading, Centre back immersion
 45mm stem immersion length

Size	2 1/2	2 1/2
Code	80016701	80016712
Reading	0-120°C	-30 to +50°C
kg	0.50	

Bi-Metal Thermometers FIG 464S Black Steel Case



1/2" BSP, 2 1/2" dial, Chrome Plated bezel, Dual Scale reading, Vertical immersion
 45mm stem immersion length

Size	2 1/2	2 1/2
Code	80016819	80016830
Reading	0-120°C	-30 to +50°C

Gas Expansion Thermometers FIG 434S



1/2" BSP, Chrome Plated bezel, Straight Stem, 100mm immersion, Dual Scale reading
 Complete with 2m capillary & pocket

Size	4	4
Code	80015219	80015208
Reading	0-120°C	0-200°C

Gas Expansion Thermometers FIG 434S



1/2" BSP, Chrome Plated bezel, Angle Stem, 100mm immersion, Dual Scale reading
 Complete with 2m capillary & pocket

Size	4	4
Code	80015241	80015230
Reading	0-120°C	0-200°C

Gas Expansion Thermometers FIG 434S



1/2" BSP, Chrome Plated bezel, Surface Mounting, 100mm immersion, Dual Scale reading
 Complete with 2m capillary & pocket

Size	4	4
Code	80015263	80015252
Reading	0-120°C	0-200°C

Pressure Gauges and Thermometers

Thermometers

Ancillary Equipment for Thermometers



EPDM as standard.

Description	kg	Code
Pressure Test Points Mechseal Pressure Adaptor	0.25	25028124
Pressure Test Points Machseal Manometer Adaptor	0.03	25028113
Mechseal Pressure Test Point	0.03	25028102
Mechseal MK11 Test Point	0.13	25028135

Imperial to Metric

Length	
ft x 0.305 = m	
in x 25.4 = mm	
Volume	
ft ³ x 0.028 = m ³	
UK Gal x 4.546 = litres	
Weight	
lb x 0.45 = kg	
Pressure	
psi x 0.069 = Bar	
psi x 6.89 = kPa (kN/m ²)	
Bar x 100 = kPa (kN/m ²)	
ft.hd. x 2.98 = kPa (kN/m ²)	
in.w.g. x 0.249 = kPa (kN/m ²)	
Heat and Energy	
BTU/hr x 0.00029 = kW	
BTU/hr x 0.252 = kCal/hr	
BTU/hr/ft ² °F x 5.68 = w/m ² °C	
H.P. x 746 = W	
BTU/lb x 2.326 = kJ/kg	
Temperature	
(°F - 32) x 0.555 = °C	
Velocity/Flow Rate	
GMP x 0.076 = l/s	
lbs/hr x 0.000126 = kg/s	
ft ³ /min x 0.000472 = m ³ /s	
ft ³ /min x 1.7 = m ³ /hr	
ft/min x 0.0051 = m/s	
ft/s x 0.305 = m/s	

Metric to Imperial

Length	
m x 3.28 = ft	
mm x 0.039 = in	
Volume	
m ³ x 35.31 = ft ³	
litres x 0.22 = UK Gall	
Weight	
kg x 2.2 = lb	
Pressure	
Bar x 14.5 = psi	
kPa (kN/m ²) x 0.145 = psi	
kPa (kN/m ²) x 0.01 = Bar	
kPa (kN/m ²) x 0.33 = ft.hd.	
kPa (kN/m ²) x 4 = In.w.g.	
Heat and Energy	
kW x 3412 = BTU/hr	
kCal/hr x 3.97 = BTU/hr	
w/m ² °C x 0.176 = BTU/hr/ft ² °F	
W x 0.0013 = H.P.	
kJ/kg x 0.43 = BTU/lb	
Temperature	
(°C x 1.8) + 32 = °F	
Velocity/Flow Rate	
l/s x 13.2 = GPM	
kg/s x 7937 = lbs/hr	
m ³ /s x 2119 = ft ³ /min	
m ³ /hr x 0.588 = ft ³ /min	
m/s x 197 = ft/min	
m/s x 3.28 = ft/s	

Decimal Multiples and Sub-Multiples

Although the SI units are preferred it will not be practical for everyday use to limit usage to these and therefore their decimal multiples and sub-multiples will also be used. These are formed by using the following prefixes:

Factor by which the unit is multiplied	Prefix	Symbol
10 ¹²	ter	T
10 ⁹	giga	G
10 ⁶	mega	M
10 ³	kilo	k
10 ²	hecto	h
10	deca	da
10 ⁻¹	deci	d
10 ⁻²	centi	c
10 ⁻³	milli	m
10 ⁻⁶	micro	μ
10 ⁻⁹	nano	n
10 ⁻¹²	pico	p
10 ⁻¹⁵	femto	f
10 ⁻¹⁸	atto	a

Conversions to SI Units

Pressure Standards			
International standard atmosphere	(1 atm)	= 1.0133 bar = 1.0332 kgf/cm ² = 14.6959 lbf/in ²	
Metric atmosphere	(1 at)	= 0.9807 bar = 1 kgf/cm ² = 14.2233 lbf/in ²	
	ata	= at absolutew	
	atu	= at gauge	
Standard conditions – s.t.p. or NTP = 1.0133 bar 0°C = 14.6959 lbf/in ² at 0°C			

Density

Gram per millilitre g/ml	Kilogram per cubic metre kg/m ³	Pound per cubic foot lb/ft ³	Pound per cubic inch lb/in ³
1	1000	62.428	0.0361
0.001	1	0.0624	0.000036
0.016	16.02	1	0.00058
27.6807	27679.9	1728	1

Heat Flow Rate

Watts W	Calorie per second cal/s	Kilocalorie per hour Kcal/h	British Thermal unit per hour Btu/h
1	0.2388	0.8598	3.4121
4.1868	1	3.6	14.286
1.163	0.2778	1	3.9683
0.231	0.07	0.252	1

Force

Kilonewton kN	Kilogram force kgf	Pound force kgf	Poundal pdl
1	101.972	224.809	7233.01
0.00981	1	2.2046	70.9316
0.0044	0.4536	1	32.1740
0.000138	0.0141	0.0311	1

Power

Watt W	Kilogram force metre per second kgf m/s	Metric horse power	Foot pound force per second Ft lbf/s	Horse power hp
1	0.102	0.00136	0.7376	0.00134
9.8067	1	0.01333	7.2330	0.01315
735.499	75	1	542.476	0.98632
1.3558	0.1383	0.00184	1	0.00182
745.70	76.0402	0.0139	550.0	1

Conversions to SI Units

Standard Gas Conditions and Modular Volumes		
Normal (eg nft ³) – European and scientific work	= 0°C and 1.0133 bar	Molar Volume 22.412 m ³ /kg mol
Standard (eg std ft ³) – British Gas Industry	= 15.55°C and 1.016 bar	Molar Volume 24.112 m ³ /kg mol
Standard (scf) – USA	= 15.55°C and 1.0133 bar	Molar Volume 23.681 m ³ /kg mol

Pressure and Liquid Head									
1	2	3	4	5	6	7	8	9	10
Bar	Kilogram Force per square centimetre kgf/cm ²	Pound Force per square inch lbf/in ²	atm	Foot of water ft H ₂ O	Inch of water in H ₂ O	Metre of water m H ₂ O	Centimetre of mercury cm Hg	Inch of mercury in Hg	Millimetre of mercury mm Hg
1	1.0197	14.5038	0.9869	33.4553	401.463	10.1972	75.0062	29.530	750.062
0.9807	1	14.2233	0.9878	32.8084	393.701	10	73.556	28.959	735.559
0.0689	0.0703	1	0.0609	2.3067	27.68	0.7031	5.1715	2.036	51.715
1.0133	1.0332	14.6959	1	33.889	406.782	10.3323	76.0	29.9213	760
0.0299	0.0305	0.4335	0.0295	1	12	0.3048	2.242	0.8827	22.4198
0.0025	0.0025	0.0361	0.0025	0.0833	1	0.0254	0.1868	0.0734	1.8683
0.0981	0.10000	1.422	0.0968	3.2808	39.3701	1	7.3556	2.896	73.356
0.0133	0.0136	0.1934	0.0132	0.4461	5.3524	0.136	1	0.3937	10
0.0339	0.0345	0.4911	0.0334	1.133	13.5951	0.3453	2.54	1	25.4
0.0013	0.0014	0.0193	0.0013	0.446	0.5352	0.0136	0.1	0.0394	1

- ① 1 bar = 10⁵N/m² ③ At density 1g/cm³ ⑤ International standard atmosphere
 ② Often denoted non-technically as psi ④ Technical (metric) atmosphere (at) ⑥ Also known as torr

Mass/Volumetric Rate of Flow Formulae

Gases	
ft ³ /h (std) = lb/h x 379 M	m ³ /h (norm) = kg/h x 22.40 M
ft ³ /h (std) = lb/h p1	m ³ /h (norm) = kg/h p2
ft ³ /h (std) = lb/h x 13.1 G1	m ³ /h (norm) = kg/h x 0.82 G2
Liquids	
US gal/min = lb/h 50 x SG	m ³ /h = .001 kg/h SG2

Where: (std) is at 14.7 lbf/in² (abs) and 60°F
 (norm) is at 760 mm Hg and 0°C
 SG 1 Water = 1 at 60°F

SG2 Water = 1 at 4°C
 M = Molecular Weight
 p1 = Density lb/ft³ (std)

p2 = Density kg/cm³ (norm)
 G1 = sp.gr. Air = 1 (std)
 G2 = sp.gr. Air = 1 (norm)

Torque

Newton metre Nm	Kilogram force metre kgf m	Pound force metre kgf m	Pound force inch lbf in
1	0.102	.7376	8.8508
9.8067	1	7.2330	86.7962
1.3558	0.1383	1	12
0.113	0.0115	0.0833	1

Conversions to SI Units

Specific Gravity and Molecular Weight of Gases			
	Symbol	Specific Gravity	Molecular weights
Air		1.000	28.97
Ammonia	NH3	0.5963	17.03
Carbon Dioxide	CO2	1.5290	44.00
Carbon Monoxide	CO	0.9670	28.00
Chlorine	Cl2	2.486	70.91
Ethylene	C2H4	0.9749	28.03
Helium	He	0.1380	4.00
Hydrogen	H2	0.0695	2.016
Hydrogen Sulphide	H2S	1.1900	34.08
Methane	CH4	0.5544	16.03
Methyl Chloride	CH3Cl	1.7848	50.48
Nitrogen	N2	0.9672	28.02
Nitrous Oxide	N2O	1.530	44.02
Oxygen	O2	1.105	32.00
Sulphur Dioxide	SO2	2.264	64.06
Natural Gas (typical)		0.60	

Specific Gravity of Liquids	
Water	1.0
Sea water	1.025
Kerosene	0.80
Sulphuric Acid 100%	1.83
Hydrochloric Acid 45%	1.48
Sodium Hydroxide 25%	1.27
Carbon Tetrachloride	1.60
Petrol (Gasoline)	0.65-0.80
Benzene	0.88
Turpentine	1.1-1.2

Conversion Table for Specific Enthalpy

	kJ/kg = J/g	kJ/kg = cal/g	Btu/lb	kgf m/kg	ft lbf/lb	kWh/kg = Wh/g
1 kJ/kg	*1	0.238 846	0.429 923	101.972	334.553	2.777 78 x 10 ⁻⁴
1 kcal/kg	*4.186 8	*1	*1.8	426.935	1400.70	*1.163 x 10 ⁻³
1 Btu/lb	*2.326	0.555 556	*1	237.186	778.169	6.461 11 x 10 ⁻⁴
1 kgf m/kg	*9.806 65 x 10 ⁻³	2.342 28 x 10 ⁻³	4.216 10 x 10 ⁻³	*1	3.280 84	2.724 07 x 10 ⁻⁶
1 ft lbf/lb	2.989 07 x 10 ⁻³	7.139 26 x 10 ⁻⁴	1.285 07 x 10 ⁻³	*0.304 8	*1	0.830 296 x 10 ⁻⁶
1 kWh/kg	*3600	859.845	1547.72	3.670 98 x 105	1.204 39 x 106	*1

*Factors are exact

Combined Imperial and SI Steam Tables

Gauge Pressure		Absolute Pressure		Saturation Temperature ts		Specific Enthalpy				Specific Volume Steam vg	
bar g	lbf/in ² g	bar a	lb/in ² a	°C	°F	Water Sensible heat (hf) kJ/kg	Evaporation Latent heat (hfg) kJ/kg	Water Sensible heat (hf) Btu/lb	Evaporation Latent heat (hfg) Btu/lb	m ³ /kg	ft ³ /lb
-0.96	28.4	0.05	0.725	32.9	91	138	2423	59	1042	28.2	452
-0.91	27.0	0.1	1.45	45.8	114	192	2392	82	1029	14.7	236
-0.86	25.5	0.15	2.18	54.0	129	226	2373	97	1020	10.0	160
-0.81	24.0	0.2	2.90	60.1	140	251	2358	108	1014	7.65	123
-0.76	22.5	0.25	3.63	65.0	149	272	2346	117	1009	6.20	99.3
-0.71	21.1	0.3	4.35	69.1	156	289	2336	124	1004	5.23	83.8
-0.66	19.6	0.35	5.08	72.7	163	304	2327	131	1000	4.53	72.6
-0.61	18.1	0.4	5.80	75.9	169	318	2319	137	997	3.99	63.9
-0.56	16.6	0.45	6.53	78.7	174	330	2312	142	994	3.58	57.3
-0.51	15.1	0.5	7.25	81.3	178	341	2305	147	991	3.24	51.9
-0.46	13.7	0.55	7.98	83.7	183	351	2299	151	988	2.96	47.4
-0.41	12.2	0.6	8.70	85.9	187	360	2294	155	986	2.73	43.7
-0.36	10.7	0.65	9.43	88.0	190	369	2288	159	984	2.54	40.7
-0.31	9.24	0.7	10.2	90.0	194	377	2283	162	982	2.37	38.0
-0.26	7.77	0.75	10.9	91.8	197	384	2279	165	980	2.22	35.6
-0.21	6.29	0.8	11.6	93.5	200	392	2274	169	978	2.09	33.5
-0.16	4.81	0.85	12.3	95.1	203	399	2270	172	976	1.97	31.6
-0.11	3.34	0.9	13.1	96.7	206	405	2266	174	974	1.87	30.1
-0.06	1.86	0.95	13.8	98.2	209	411	2262	177	972	1.78	28.5
-0.01	0.38	1.0	14.5	99.6	211	418	2258	179	971	1.69	27.1

Continued >>

Combined Imperial and SI Steam Tables (Continued)

Gauge Pressure		Absolute Pressure		Saturation Temperature ts		Specific Enthalpy				Specific Volume Steam vg	
bar g	lbf/in ² g	bar a	lb/in ² a	°C	°F	Water Sensible heat (hf) kJ/kg	Evaporation Latent heat (hfg) kJ/kg	Water Sensible heat (hf) Btu/lb	Evaporation Latent heat (hfg) Btu/lb	m ³ /kg	ft ³ /lb
0	0	1.013	14.696	100	212	419	2257	180	970	1.67	26.8
.1	1.45	1.11	16.1	103	217	430	2250	185	967	1.53	24.5
.2	2.90	1.21	17.5	105	221	441	2243	190	964	1.41	22.6
.3	4.35	1.31	19.0	107	225	450	2237	194	962	1.31	21.0
.4	5.80	1.41	20.5	110	229	460	2231	198	959	1.23	19.7
.5	7.25	1.51	21.9	112	234	468	2226	201	957	1.15	18.4
.6	8.70	1.61	23.4	114	237	476	2220	205	954	1.08	17.3
.7	10.2	1.71	24.8	115	239	484	2215	208	952	1.02	16.3
.8	11.6	1.81	26.3	117	243	492	2211	212	951	0.971	15.6
.9	13.1	1.91	27.7	119	246	499	2206	215	948	0.923	14.8
1.0	14.5	2.01	29.2	120	248	506	2201	218	946	0.881	14.1
1.1	16.0	2.11	30.6	122	252	512	2197	220	945	0.841	13.5
1.2	17.4	2.21	32.1	123	253	519	2193	223	943	0.806	12.9
1.3	18.9	2.31	33.5	125	257	525	2189	226	941	0.773	12.4
1.4	20.3	2.41	35.0	126	259	531	2185	228	939	0.743	11.9
1.5	21.8	2.51	36.4	128	262	536	2181	230	938	0.714	11.4
1.6	23.2	2.61	37.9	129	264	542	2177	233	936	0.689	11.0
1.7	24.7	2.71	39.3	130	266	547	2174	235	935	0.665	10.7
1.8	26.1	2.81	40.8	131	268	552	2170	237	933	0.643	10.3
1.9	27.6	2.91	42.2	133	271	557	2167	240	932	0.622	9.96
2.0	29.0	3.01	43.7	134	273	562	2163	242	930	0.603	9.66
2.2	31.9	3.21	46.6	136	277	572	2157	246	927	0.568	9.10
2.4	34.8	3.41	49.5	138	280	581	2151	250	925	0.536	8.59
2.6	37.7	3.61	52.4	140	284	589	2145	253	922	0.509	8.15
2.8	40.6	3.81	55.3	142	288	597	2139	257	920	0.483	7.74
3.0	43.5	4.01	58.2	144	289	605	2133	260	917	0.461	7.38
3.2	46.4	4.21	61.1	146	293	613	2128	264	915	0.440	7.05
3.4	49.3	4.41	64.0	147	297	620	2123	267	913	0.422	6.76
3.6	52.2	4.61	66.9	149	298	627	2118	270	911	0.405	6.49
3.8	55.1	4.81	69.8	150	302	634	2113	273	908	0.389	6.23
4.0	58.0	5.01	72.7	152	304	641	2108	276	906	0.374	5.99
4.2	60.9	5.21	75.6	153	307	647	2104	278	905	0.361	5.78
4.4	63.8	5.41	78.5	155	309	653	2099	281	902	0.348	5.57
4.6	66.7	5.61	81.4	156	313	659	2095	283	901	0.336	5.38
4.8	69.6	5.81	84.3	158	315	665	2090	286	899	0.325	5.21
5.0	72.5	6.01	87.2	159	316	671	2086	289	897	0.315	5.01
5.5	79.8	6.51	94.4	162	324	685	2076	295	893	0.292	4.68
6.0	87.0	7.01	102	165	329	698	2066	300	888	0.272	4.36
6.5	94.3	7.51	109	168	333	710	2057	305	884	0.255	4.09
7.0	102	8.01	116	171	338	721	2048	310	880	0.240	3.84
7.5	109	8.51	123	173	343	733	2039	315	877	0.227	3.64
8.0	116	9.01	131	175	347	743	2031	319	873	0.215	3.44
8.5	123	9.51	138	178	351	753	2023	324	870	0.204	3.27
9.0	131	10.0	145	180	354	763	2015	328	866	0.194	3.11
9.5	138	10.5	152	182	360	773	2008	332	863	0.185	2.96
10.0	145	11.0	160	184	363	782	2000	336	860	0.177	2.84
10.5	152	11.5	167	186	367	790	1993	340	857	0.171	2.74
11.0	160	12.0	174	188	370	798	1986	344	854	0.163	2.61
11.5	167	12.5	181	190	374	807	1979	347	851	0.157	2.51
12.0	174	13.0	189	192	376	815	1973	350	848	0.151	2.42
12.5	181	13.5	196	193	379	823	1966	354	845	0.146	2.34
13.0	189	14.0	203	195	383	830	1960	357	843	0.141	2.26
13.5	196	14.5	210	197	385	838	1953	360	840	0.136	2.18
14.0	203	15.0	218	198	388	845	1947	363	837	0.132	2.11
14.5	210	15.5	225	200	392	852	1941	366	834	0.128	2.05
15.0	218	16.0	232	202	394	859	1935	369	832	0.124	1.99

Technical Information

Materials Selection Chart

Technical Information

Materials Selection Chart

Section	Material	Typical Applications	Size Range	Pressure Rating	Temperature Rating	Joining Technique	Key Product Features
Industrial	PVC-U	Acids and Alkalis; Effluents; Potable Water; Chemical Processing	12 to 315mm (Metric) ½" to 12" (Imperial)	Metric: PN16 20 to 63mm pipe; PN16 12 to 160mm; PN10 20 to 315mm; Imperial: ½" to 6" pipe Class E; ¾" to 12" fittings Class E	5°C to 60°C	Solvent weld	Lightweight; Easy to install; Corrosion resistant
	ABS	Chilled Water; Air Conditioning; Boosted Cold Water; Vacuum Systems; Waste Water; De-Mineralised Water	16 to 315mm (Metric) ¾" to 12" (Imperial)	Metric: PN10 16 to 250mm; PN8 315mm Imperial: Up to 4" Class E; Up to 8" Class C; 10" and 12" Class B	-40°C to 70°C	Two step solvent weld	Lightweight; Easy to install; Wide temperature range; Tough and durable; Corrosion resistant
	PVC-C	Acids and Alkalis; Demineralised Water; Industrial Waste Treatments; Chemical Processing; Soaps Paper & Pulp; Effluents	16 to 160mm	PN16 16mm to 110mm PN10 160mm	5°C to 95°C	Solvent weld	Excellent chemical resistance; Lightweight; Wide temperature range; Easy to install; High temperature acids and alkalis
	Polypropylene	Acids and Alkalis; Chemical Processing; Industrial Waste Treatments; Pharmaceuticals; Effluents	20 to 100mm ¾" to 4"	Metric: PN10; Imperial: ¾" to ¾" Class E; 1" to 2" Class D; 3" to 4" Class C	0°C to 100°C	Fusion welded using socket butt	Lightweight; Excellent chemical resistance; Multiple joining options
	PVDF	Pharmaceutical grade purified water (PW) and DI water, using hot water, steam chemical or ozone sanitisation. Chemical process industry microelectronics life science	16 to 315mm	16 to 225mm PN16. 90 to 315mm PN10	-20°C to +140°C	Fusion welded using socket &/or butt	Outstanding mechanical properties, even at high temperatures. Long service life, even under intensely corrosive conditions. Very pure material. Secure jointing. Smooth inner surface
Building Services	BOSS PVC-C	Domestic Hot & Cold Water	16 to 225mm	PN10 75 to 225mm; PN16 16 to 160mm	0°C to 80°C	Solvent Weld	Excellent chemical resistance; Lightweight; Wide temperature range; Easy to install; High temperature acids and alkalis
	Aquasystem	Hot and cold water supply, Heating systems, Chilled, Compressed air lines.	20 to 125mm		0°C to 80°C	Electrofusion, socket fusion	Lightweight; Limescale and corrosion free; Fully WRAS approved
	Friatherm	Hospitals; Schools; Commercial Buildings; Hotels; Sports Stadiums; Residential Buildings	16 to 160mm	PN25 Up to 63mm; PN16 75mm and 160mm	0°C to 95°C	One step solvent weld	Lightweight; Limescale and corrosion free; Minimum 50 years service life; No power or hot works required; Fully WRAS approved
	Geberit Mepla	Hot and cold water supply (mains and risers) Industrial applications Fire sprinkler systems Air supply	16 to 63mm	10 Bar operating pressure. 16 Bar test pressure	0°C to 95°C	Crimp compression	Lightweight High stability High temperature resistance Expansion resistance Hygienic Corrosion resistant
	Polypress	Potable water, Hot and cold plumbing and heating systems	16 to 63mm	10 bar	0°C to 95°C	Crimp compression	Lightweight Optimum Flow characteristics High temperature resistance Expansion resistance Corrosion resistant
	John Guest	Potable water, Hot and cold plumbing and heating systems	10 to 28mm	12 Bar	0°C to 105°C	Twist & lock fittings, Pushfit connection	Demountable, lightweight, flexible, corrosion free.

Section	Material	Typical Applications	Size Range	Pressure Rating	Temperature Rating	Joining Technique	Key Product Features
Drainage	Soil & Waste	Above and below ground: residential (Apartments), industrial, commercial drainage	32 to 160mm	N/A	N/A	Solvent weld range and ring seal push fit	Integrated soil, waste and trap system.
	HDPE - Geberit	Above and below ground: residential (Apartments), industrial, commercial drainage	32 to 315mm	N/A	N/A	Butt weld or Electro weld fittings	Lightweight, chemical, abrasion and impact resistant.
	HDPE - Terrain	Above and below ground: residential (Apartments), industrial, commercial drainage	40 to 315mm	N/A	N/A	Electrofusion, mechanical coupling and butt welding	Lightweight, chemical, abrasion and impact resistant.
	Acoustic Drainage - Geberit db20	Acoustic drainage requirements for Multiple dwellings, Libraries, Public buildings, Restaurants, Cinemas, Hospitals, Hotels and Offices	56 to 160mm	N/A	N/A	Butt weld or Electro weld fittings	Acoustic drainage
	Acoustic Drainage - Terrain db12	Acoustic drainage requirements for Multiple dwellings, Libraries, Public buildings, Restaurants, Cinemas, Hospitals, Hotels and Offices	40 to 160mm	N/A	N/A	Push Fit	Acoustic drainage
	Acoustic Drainage - Friaphon	Acoustic drainage requirements for Multiple dwellings, Libraries, Public buildings, Restaurants, Cinemas, Hospitals, Hotels and Offices	110 to 160mm	N/A	N/A	Push Fit	Superb sound insulation; Lower cost alternative to cast iron; No lagging required; Lower cost alternative to lagged plastic; Push fit assembly; High impact and temperature resistant
	Vulcathene	Laboratories in: Schools; Universities and Colleges; Hospitals and Clinics; Pharmaceutical Companies; Research Organisations	38 to 152mm	N/A	-20°C to 100°C (only intermittent at 100°C)	Mechanical compression & endfusion techniques	Purpose designed for chemical drainage. Two easy jointing methods. Fully BBA approved
Utilities	Polyethylene	Gas and water utilities industrial water applications, cooling, irrigation, industrial effluents	20 to 1000mm	20 to 63mm 12.5 Bar 90 to 710mm 16 Bar 90 to 1000mm 10 Bar	0°C to 60°C	Butt fusion and Electro fusion fittings	Lightweight, chemical, abrasion and impact resistant.

When considering applications, pressure and temperature please refer to the manufacturers data for precise detail of operating details and product suitability as manufacturers material blends will differ and may affect the suitability.

Technical Information

Flanges

Technical Information

Flanges

Nominal Size 25mm (1")

BS EN 1092	Diameter of flange	Bolt circle diameter	No of bolts	Diameter of bolts	Diameter of holes	Thickness of flange							
						Diameter of raised face ³ iron	Diameter of raised face ³ steel	Height of raised face ³ iron	Height of raised face ³ steel	Grey cast iron	Copper alloy	Cast & forged steel	Ductile cast iron
PN6	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													
Class125/150	4 1/4 (108)	318 (79)	4	1/2 (13)	3/8 (16)	-	2 (51)	-	1/8 (2)	1/8 (11)	3/16 (10)	1/4 (11)	3/16 (14)
Class 300	4 1/2 (124)	3 1/2 (89)	4	5/8 (16)	3/4 (19)	-	2 (51)	-	1/8 (2)	-	19/20 (15)	1 1/8 (17)	-
Class 600	4 3/4 (124)	3 3/8 (89)	4	1 (16)	7/8 (19)	-	2 (51)	-	3/8 (6)	-	-	1 1/8 (17)	-
Class 900	5 1/4 (149)	4 (102)	4	1 1/4 (22)	1 (25)	-	2 (51)	-	1/2 (6)	-	-	1 1/2 (29)	-
Class 1500	5 3/4 (149)	4 (102)	4	1 3/4 (22)	1 (25)	-	2 (51)	-	3/4 (6)	-	-	1 1/2 (29)	-
BS 10													
Table A	4 1/2 (114)	3 3/8 (83)	4	1/2 (13)	5/16 (14)	-	-	-	-	1/2 (13)	5/16 (8)	-	-
Table D	4 1/2 (114)	3 3/8 (83)	4	1/2 (13)	5/16 (14)	-	-	-	-	1/2 (13)	5/16 (8)	3/8 (10)	-
Table E	4 1/2 (114)	3 3/8 (83)	4	1/2 (13)	5/16 (14)	-	-	-	-	1/2 (13)	5/16 (8)	3/8 (10)	-
Table F	4 3/4 (121)	3 3/8 (87)	4	5/8 (16)	1 1/8 (17)	-	-	-	-	1/2 (13)	3/8 (10)	3/8 (10)	-
Table H	4 3/4 (121)	3 3/8 (87)	4	5/8 (16)	1 1/8 (17)	-	2 1/2 (64)	-	1/8 (2)	3/8 (19)	1/8 (11)	5/16 (14)	-

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

² Flange thicknesses for copper alloy are from BS 450

³ Copper alloy flanges are always flat-faced

Nominal Size 32mm (1 1/4")

BS EN 1092	Diameter of flange	Bolt circle diameter	No of bolts	Diameter of bolts	Diameter of holes	Thickness of flange								
						Diameter of raised face ³ iron	Diameter of raised face ³ steel	Height of raised face ³ iron	Height of raised face ³ steel	Grey cast iron	Copper alloy	Cast & forged steel	Ductile cast iron	
PN6	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 3/4 (117)	3 1/2 (89)	4	1/2 (13)	3/8 (16)	1/2 (16)	-	2 1/2 (64)	-	1/8 (2)	1/2 (13)	3/16 (10)	1/2 (13)	3/16 (16)
Class 300	5 1/4 (133)	3 3/8 (98)	4	5/8 (16)	-	3/4 (19)	-	2 1/2 (64)	-	1/8 (2)	-	3/8 (16)	3/4 (19)	-
Class 600	5 3/4 (133)	3 3/8 (98)	4	1 (16)	-	3/4 (19)	-	2 1/2 (64)	-	1/4 (6)	-	-	1 1/8 (21)	-
Class 900	6 1/4 (159)	4 1/8 (111)	4	1 1/4 (22)	-	1 (25)	-	2 1/2 (64)	-	1/2 (6)	-	-	1 1/2 (29)	-
Class 1500	6 3/4 (159)	4 1/8 (111)	4	1 3/4 (22)	-	1 (25)	-	2 1/2 (64)	-	3/4 (6)	-	-	1 1/2 (29)	-
BS 10														
Table A	4 3/4 (121)	3 3/8 (87)	4	1/2 (13)	5/16 (14)	3/8 (14)	-	-	-	-	5/16 (16)	3/8 (8)	-	-
Table D	4 3/4 (121)	3 3/8 (87)	4	1/2 (13)	5/16 (14)	3/8 (14)	-	-	-	-	5/16 (16)	3/8 (8)	1/2 (13)	-
Table E	4 3/4 (121)	3 3/8 (87)	4	1/2 (13)	5/16 (14)	3/8 (14)	-	-	-	-	5/16 (16)	3/8 (8)	1/2 (13)	-
Table F	5 1/4 (133)	3 3/8 (98)	4	5/8 (16)	1 1/8 (17)	1 1/8 (17)	-	-	-	-	5/16 (16)	3/8 (10)	1/2 (13)	-
Table H	5 1/4 (133)	3 3/8 (98)	4	5/8 (16)	1 1/8 (17)	1 1/8 (17)	-	3 (76)	-	1/8 (2)	3/8 (22)	1/8 (11)	1 1/8 (17)	-

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

² Flange thicknesses for copper alloy are from BS 450

³ Copper alloy flanges are always flat-faced

Nominal Size 40mm (1 1/2")

BS EN 1092	Diameter of flange	Bolt circle diameter	No of bolts	Diameter of bolts	Diameter of holes	Thickness of flange								
						Diameter of raised face ³ iron	Diameter of raised face ³ steel	Height of raised face ³ iron	Height of raised face ³ steel	Grey cast iron	Copper alloy	Cast & 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 3/8 (98)	4	1/2 (13)	3/8 (16)	1/2 (16)	-	2 3/4 (73)	-	1/8 (2)	3/8 (14)	1/2 (11)	3/8 (14)	1 1/8 (17)
Class 300	6 1/8 (156)	4 1/2 (114)	4	5/8 (19)	-	3/4 (22)	-	2 3/4 (73)	-	1/8 (2)	-	1 1/8 (17)	1 3/8 (21)	-
Class 600	6 3/8 (156)	4 3/8 (114)	4	1 (19)	-	3/4 (22)	-	2 3/4 (73)	-	1/4 (6)	-	-	1 3/8 (22)	-
Class 900	7 (178)	4 3/4 (124)	4	1 (25)	-	1 1/4 (29)	-	2 3/4 (73)	-	1/4 (6)	-	-	1 3/4 (32)	-
Class 1500	7 (178)	4 3/4 (124)	4	1 (25)	-	1 1/4 (29)	-	2 3/4 (73)	-	1/4 (6)	-	-	1 3/4 (32)	-
BS 10														
Table A	5 1/4 (133)	3 3/8 (98)	4	1/2 (13)	5/16 (14)	3/8 (14)	-	-	-	-	3/8 (16)	3/8 (10)	-	-
Table D	5 1/4 (133)	3 3/8 (98)	4	1/2 (13)	5/16 (14)	3/8 (14)	-	-	-	-	3/8 (16)	3/8 (10)	1/2 (13)	-
Table E	5 1/4 (133)	3 3/8 (98)	4	1/2 (13)	5/16 (14)	3/8 (14)	-	-	-	-	3/8 (16)	3/8 (10)	1/2 (13)	-
Table F	5 3/4 (140)	4 1/8 (105)	4	5/8 (16)	1 1/8 (17)	1 1/8 (17)	-	-	-	-	5/16 (16)	3/8 (11)	1/2 (13)	-
Table H	5 3/4 (140)	4 1/8 (105)	4	5/8 (16)	1 1/8 (17)	1 1/8 (17)	-	3 3/4 (83)	-	1/8 (2)	3/8 (22)	1/2 (13)	1 1/8 (17)	-

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

² Flange thicknesses for copper alloy are from BS 450

³ Copper alloy flanges are always flat-faced

Nominal Size 50mm (2")

BS EN 1092	Diameter of flange	Bolt circle diameter	No of bolts	Diameter of bolts	Diameter of holes	Thickness of flange								
						Diameter of raised face ³ iron	Diameter of raised face ³ steel	Height of raised face ³ iron	Height of raised face ³ steel	Grey cast iron	Copper alloy	Cast & forged steel	Ductile cast iron	
PN6	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	1/2 (16)	3/4 (19)	1/2 (19)	-	3 1/2 (92)	-	1/8 (2)	3/8 (16)	1/2 (13)	3/8 (16)	-
Class 300	6 1/2 (165)	5 (127)	8	5/8 (16)	-	3/4 (19)	-	3 3/4 (92)	-	1/8 (2)	-	3/4 (19)	7/8 (22)	-
Class 600	6 3/8 (165)	5 (127)	8	1 (16)	-	3/4 (19)	-	3 3/4 (92)	-	1/4 (6)	-	-	1 (25)	-
Class 900	8 1/2 (216)	6 1/2 (165)	8	1 1/4 (22)	-	1 (25)	-	3 3/4 (92)	-	1/4 (6)	-	-	1 1/2 (38)	-
Class 1500	8 3/4 (216)	6 1/2 (165)	8	1 3/4 (22)	-	1 (25)	-	3 3/4 (92)	-	1/4 (6)	-	-	1 1/2 (38)	-
BS 10														
Table A	6 (152)	4 1/2 (114)	4	1/2 (16)	1 1/8 (17)	1 1/8 (17)	-	-	-	-	3/8 (16)	3/8 (10)	-	-
Table D	6 (152)	4 1/2 (114)	4	1/2 (16)	1 1/8 (17)	1 1/8 (17)	-	-	-	-	1 1/8 (17)	3/8 (10)	5/8 (14)	-
Table E	6 (152)	4 1/2 (114)	4	1/2 (16)	1 1/8 (17)	1 1/8 (17)	-	-	-	-	1 1/8 (17)	3/8 (10)	5/8 (14)	-
Table F	6 1/2 (165)	5 (127)	4	5/8 (16)	1 1/8 (17)	1 1/8 (17)	-	-	-	-	3/8 (16)	3/8 (11)	5/8 (16)	-
Table H	6 1/2 (165)	5 (127)	4	5/8 (16)	1 1/8 (17)	1 1/8 (17)	-	4 (102)	-	1/8 (2)	1 (25)	1/2 (13)	3/8 (19)	-

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

² Flange thicknesses for copper alloy are from BS 450

³ Copper alloy flanges are always flat-faced

Technical Information

Flanges

Technical Information

Flanges

Nominal Size 65mm (2½")

BS EN 1092	Diameter of flange	Bolt circle diameter	No of bolts	Diameter of bolts	Diameter of holes iron	Diameter of holes steel	Diameter of raised face ³ iron	Diameter 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 & forged steel	Ductile cast iron
PN6	160	130	4	M12	14	14	108	110	3	2	16 ¹	-	14	-
PN10	185	145	4 ²	M16	19	18	118	122	3	2	20 ¹	-	18	19
PN16	185	145	4 ²	M16	19	18	118	122	3	2	20 ¹	13	18	19
PN25	185	145	8	M16	19	18	118	122	3	2	24 ¹	13	22	19
PN40	185	145	8	M16	19	18	118	122	3	2	-	14	22	19
PN64	205	160	8	M20	-	22	-	122	-	2	-	-	26	-
PN100	220	170	8	M24	-	26	-	122	-	2	-	-	34	-
ANSI														
Class 125/150	7 (178)	5½ (140)	4	¾ (16)	¾ (19)	¾ (19)	-	4¼ (105)	-	½ (2)	1½ (17)	¾ (14)	1½ (17)	-
Class 300	7½ (191)	5¼ (149)	8	¾ (19)	-	¾ (22)	-	4¼ (105)	-	½ (2)	-	1½ (21)	1 (25)	-
Class 600	7½ (191)	5¼ (149)	8	¾ (19)	-	¾ (22)	-	4¼ (105)	-	¼ (6)	-	-	1½ (29)	-
Class 900	9¾ (244)	7½ (191)	8	1 (25)	-	1¾ (29)	-	4¼ (105)	-	¼ (6)	-	-	1¾ (41)	-
Class 1500	9¾ (244)	7½ (191)	8	1 (25)	-	1¾ (29)	-	4¼ (105)	-	¼ (6)	-	-	1¾ (41)	-
BS 10														
Table A	6½ (165)	5 (127)	4	¾ (16)	1½ (17)	1½ (17)	-	-	-	-	1½ (17)	½ (11)	-	-
Table D	6½ (165)	5 (127)	4	¾ (16)	1½ (17)	1½ (17)	-	-	-	-	1½ (17)	¾ (11)	¾ (14)	-
Table E	6½ (165)	5 (127)	4	¾ (16)	1½ (17)	1½ (17)	-	-	-	-	¾ (19)	¾ (11)	¾ (14)	-
Table F	7¼ (184)	5¼ (146)	8	¾ (16)	1½ (17)	1½ (17)	-	-	-	-	¾ (19)	½ (13)	¾ (16)	-
Table H	7¼ (184)	5¼ (146)	8	¾ (16)	1½ (17)	1½ (17)	-	4¼ (114)	-	½ (2)	1 (25)	¾ (14)	¾ (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. Flange thicknesses for copper alloy are from BS 4504

³ Copper alloy flanges are always flat-faced

Nominal Size 80mm (3")

BS EN 1092	Diameter of flange	Bolt circle diameter	No of bolts	Diameter of bolts	Diameter of holes iron	Diameter of holes steel	Diameter of raised face ³ iron	Diameter 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 & forged steel	Ductile cast iron
PN6	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	7½ (191)	6 (152)	4	¾ (16)	¾ (19)	¾ (19)	-	5 (127)	-	½ (2)	¾ (19)	¾ (16)	¾ (19)	-
Class 300	8¼ (210)	6¾ (168)	8	¾ (19)	-	¾ (22)	-	5 (127)	-	½ (2)	-	29/32 (23)	1½ (29)	-
Class 600	8¼ (210)	6¾ (168)	8	¾ (19)	-	¾ (22)	-	5 (127)	-	¼ (6)	-	-	1½ (32)	-
Class 900	9¾ (241)	7½ (191)	8	¾ (22)	-	1 (25)	-	5 (127)	-	¼ (6)	-	-	1½ (38)	-
Class 1500	10½ (267)	8 (203)	8	1 (25)	-	1¾ (32)	-	5 (127)	-	¼ (6)	-	-	1¾ (48)	-
BS 10														
Table A	7¼ (184)	5¼ (146)	4	¾ (16)	1½ (17)	1½ (17)	-	-	-	-	1½ (17)	½ (13)	-	-
Table D	7¼ (184)	5¼ (146)	4	¾ (16)	1½ (17)	1½ (17)	-	-	-	-	¾ (19)	½ (13)	¾ (14)	-
Table E	7¼ (184)	5¼ (146)	4	¾ (16)	1½ (17)	1½ (17)	-	-	-	-	¾ (19)	½ (13)	¾ (14)	-
Table F	8 (203)	6¾ (165)	8	¾ (16)	1½ (17)	1½ (17)	-	-	-	-	¾ (19)	¾ (14)	¾ (16)	-
Table H	8 (203)	6¾ (165)	8	¾ (16)	1½ (17)	1½ (17)	-	5 (127)	-	½ (2)	1½ (29)	¾ (16)	¾ (22)	-

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

² Flange thicknesses for copper alloy are from BS 450

³ Copper alloy flanges are always flat-faced

Nominal Size 100mm (4")

BS EN 1092	Diameter of flange	Bolt circle diameter	No of bolts	Diameter of bolts	Diameter of holes iron	Diameter of holes steel	Diameter of raised face ³ iron	Diameter 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 & forged steel	Ductile cast iron
PN6	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)	7½ (191)	8	¾ (16)	¾ (19)	¾ (19)	-	6¾ (157)	-	½ (2)	1½ (24)	1½ (17)	1½ (24)	-
Class 300	10 (254)	7¼ (200)	8	¾ (19)	-	¾ (22)	-	6¾ (157)	-	½ (2)	-	1½ (27)	1¼ (32)	-
Class 600	10¾ (273)	8½ (216)	8	¾ (22)	-	1 (25)	-	6¾ (157)	-	¼ (6)	-	-	1½ (38)	-
Class 900	11½ (292)	9¼ (235)	8	1 (25)	-	1¼ (32)	-	6¾ (157)	-	¼ (6)	-	-	1¾ (44)	-
Class 1500	12¼ (311)	9½ (241)	8	1 (25)	-	1¾ (35)	-	6¾ (157)	-	¼ (6)	-	-	2½ (54)	-
BS 10														
Table A	8½ (216)	7 (178)	4	¾ (16)	1½ (17)	1½ (17)	-	-	-	-	¾ (19)	¾ (16)	-	-
Table D	8½ (216)	7 (178)	4	¾ (16)	1½ (17)	1½ (17)	-	-	-	-	¾ (19)	¾ (16)	1½ (17)	-
Table E	8½ (216)	7 (178)	8	¾ (16)	1½ (17)	1½ (17)	-	-	-	-	¾ (22)	¾ (16)	1½ (17)	-
Table F	9 (229)	7½ (191)	8	¾ (16)	1½ (17)	1½ (17)	-	-	-	-	¾ (22)	1½ (17)	¾ (19)	-
Table H	9 (229)	7½ (191)	8	¾ (16)	1½ (17)	1½ (17)	-	6 (152)	-	½ (2)	1¼ (32)	¾ (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 450

³ Copper alloy flanges are always flat-faced

Nominal Size 125mm (5")

BS EN 1092	Diameter of flange	Bolt circle diameter	No of bolts	Diameter of bolts	Diameter of holes iron	Diameter of holes steel	Diameter of raised face ³ iron	Diameter 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 & forged steel	Ductile cast iron
PN6	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)	8½ (216)	8	¾ (19)	¾ (22)	¾ (22)	-	7¾ (186)	-	½ (2)	1½ (24)	¾ (19)	1½ (24)	-
Class 300	11 (279)	9¼ (235)	8	¾ (19)	-	¾ (22)	-	7¾ (186)	-	½ (2)	-	1½ (29)	1½ (35)	-
Class 600	13 (330)	10½ (267)	8	1 (25)	-	1 (25)	-	7¾ (186)	-	¼ (6)	-	-	1¾ (44)	-
Class 900	13¾ (349)	11 (279)	8	1 (25)	-	1¾ (35)	-	7¾ (186)	-	¼ (6)	-	-	2 (51)	-
Class 1500	14¾ (375)	11½ (292)	8	1 (25)	-	1¾ (41)	-	7¾ (186)	-	¼ (6)	-	-	2½ (73)	-
BS 10														
Table A	10 (254)	8¼ (210)	4	¾ (16)	1½ (17)	1½ (17)	-	-	-	-	¾ (19)	1½ (17)	-	-
Table D	10 (254)	8¼ (210)	8	¾ (16)	1½ (17)	1½ (17)	-	-	-	-	1½ (21)	1½ (17)	1½ (17)	-
Table E	10 (254)	8¼ (210)	8	¾ (16)	1½ (17)	1½ (17)	-	-	-	-	¾ (22)	1½ (17)	1½ (17)	-
Table F	11 (279)	9¼ (235)	8	¾ (19)	¾ (22)	¾ (22)	-	-	-	-	1 (25)	¾ (19)	¾ (22)	-
Table H	11 (279)	9¼ (235)	8	¾ (19)	¾ (22)	¾ (22)	-	7 (178)	-	½ (2)	1¾ (35)	¾ (22)	1½ (29)	-

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

² Flange thicknesses for copper alloy are from BS 450

³ Copper alloy flanges are always flat-faced

Nominal Size 150mm (6")

BS EN 1092	Diameter of flange	Bolt circle diameter	No of bolts	Diameter of bolts	Diameter of holes iron	Diameter of holes steel	Thickness of flange				Grey cast iron	Copper alloy	Cast & forged steel	Ductile cast iron
							Diameter of raised face ³ iron	Diameter of raised face ³ steel	Height of raised face ³ iron	Height of raised face ³ steel				
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)	9½ (241)	8	¾ (19)	⅝ (22)	⅞ (22)	-	8½ (216)	-	⅜ (2)	1 (25)	1⅞ (21)	1 (25)	-
Class 300	12½ (318)	10½ (270)	12	¾ (19)	-	⅞ (22)	-	8½ (216)	-	⅜ (2)	-	1⅞ (30)	1⅞ (37)	-
Class 600	14 (356)	11½ (292)	12	1 (25)	-	1⅞ (29)	-	8½ (216)	-	⅜ (6)	-	-	1⅞ (48)	-
Class 900	15 (381)	12½ (318)	12	1⅞ (29)	-	1⅞ (32)	-	8½ (216)	-	⅜ (6)	-	-	2⅞ (56)	-
Class 1500	15½ (394)	12½ (318)	12	1⅞ (35)	-	1⅞ (38)	-	8½ (216)	-	⅜ (6)	-	-	3¼ (83)	-
BS 10														
Table A	11 (279)	9¼ (235)	4	⅝ (16)	1⅞ (17)	1⅞ (17)	-	-	-	-	1⅞ (21)	1⅞ (17)	-	-
Table D	11 (279)	9¼ (235)	8	⅝ (16)	1⅞ (17)	1⅞ (17)	-	-	-	-	1⅞ (21)	1⅞ (17)	1⅞ (17)	-
Table E	11 (279)	9¼ (235)	8	¾ (19)	⅞ (22)	⅞ (22)	-	-	-	-	⅞ (22)	1⅞ (17)	1⅞ (17)	-
Table F	12 (305)	10¼ (260)	12	¾ (19)	⅞ (22)	⅞ (22)	-	-	-	-	1 (25)	⅞ (22)	⅞ (22)	-
Table H	12 (305)	10¼ (260)	12	¾ (19)	⅞ (22)	⅞ (22)	-	8¼ (210)	-	⅜ (2)	1⅞ (35)	1 (25)	1⅞ (29)	-

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

² Flange thicknesses for copper alloy are from BS 450

³ Copper alloy flanges are always flat-faced

Nominal Size 250mm (10")

BS EN 1092	Diameter of flange	Bolt circle diameter	No of bolts	Diameter of bolts	Diameter of holes iron	Diameter of holes steel	Thickness of flange				Grey cast iron	Copper alloy	Cast & forged steel	Ductile cast iron
							Diameter of raised face ³ iron	Diameter of raised face ³ steel	Height of raised face ³ iron	Height of raised face ³ steel				
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)	14¼ (362)	12	¾ (22)	⅞ (22)	⅞ (22)	-	12¼ (324)	-	⅜ (2)	1⅞ (30)	1 (25)	1⅞ (30)	-
Class 300	17½ (445)	15¼ (387)	16	1 (25)	-	1⅞ (29)	-	12¼ (324)	-	⅜ (2)	-	-	1⅞ (41)	-
Class 600	20 (508)	17 (432)	16	1¼ (32)	-	1⅞ (35)	-	12¼ (324)	-	⅜ (6)	-	-	2½ (64)	-
Class 900	21¼ (546)	18½ (470)	16	1⅞ (35)	-	1⅞ (38)	-	12¼ (324)	-	⅜ (6)	-	-	2¼ (70)	-
Class 1500	23 (584)	19 (483)	12	1⅞ (41)	-	2 (51)	-	12¼ (324)	-	⅜ (6)	-	-	4¼ (108)	-
BS 10														
Table A	16 (406)	14 (356)	8	¾ (19)	⅞ (22)	⅞ (22)	-	-	-	-	1⅞ (24)	¾ (19)	-	-
Table D	16 (406)	14 (356)	8	¾ (19)	⅞ (22)	⅞ (22)	-	-	-	-	1 (25)	¾ (19)	¾ (19)	-
Table E	16 (406)	14 (356)	12	¾ (19)	⅞ (22)	⅞ (22)	-	-	-	-	1 (25)	⅞ (22)	⅞ (22)	-
Table F	17 (432)	15 (381)	12	¾ (22)	1 (25)	1 (25)	-	-	-	-	1⅞ (29)	1 (25)	1 (25)	-
Table H	17 (432)	15 (381)	12	¾ (22)	1 (25)	1 (25)	-	12¼ (311)	-	⅜ (2)	1⅞ (41)	1⅞ (35)	1⅞ (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 200mm (8")

BS EN 1092	Diameter of flange	Bolt circle diameter	No of bolts	Diameter of bolts	Diameter of holes iron	Diameter of holes steel	Thickness of flange				Grey cast iron	Copper alloy	Cast & forged steel	Ductile cast iron
							Diameter of raised face ³ iron	Diameter of raised face ³ steel	Height of raised face ³ iron	Height of raised face ³ steel				
PN6	320	280	8	M16	19	18	254	258	3	2	20 ¹	-	20	-
PN10	340	295	8	M20	23	22	266	268	3	2	26 ¹	-	24	20
PN16	240	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	13½ (343)	11¼ (298)	8	¾ (19)	⅞ (22)	⅞ (22)	-	10½ (270)	-	⅜ (2)	1⅞ (29)	1⅞ (24)	1⅞ (29)	-
Class 300	15 (381)	13 (330)	12	¾ (22)	-	1 (25)	-	10½ (270)	-	⅜ (2)	-	1⅞ (35)	1⅞ (41)	-
Class 600	16½ (419)	13¼ (349)	12	1⅞ (29)	-	1⅞ (32)	-	10½ (270)	-	⅜ (6)	-	-	2⅞ (56)	-
Class 900	18½ (470)	15½ (394)	12	1⅞ (35)	-	1⅞ (38)	-	10½ (270)	-	⅜ (6)	-	-	2¼ (64)	-
Class 1500	19 (483)	15½ (394)	12	1⅞ (41)	-	1⅞ (44)	-	10½ (270)	-	⅜ (6)	-	-	3¼ (92)	-
BS 10														
Table A	13¼ (337)	11½ (292)	8	⅝ (16)	1⅞ (17)	1⅞ (17)	-	-	-	-	⅞ (22)	¾ (19)	⅞ (13)	-
Table D	13¼ (337)	11½ (292)	8	⅝ (16)	1⅞ (17)	1⅞ (17)	-	-	-	-	⅞ (22)	¾ (19)	¾ (19)	-
Table E	13¼ (337)	11½ (292)	8	¾ (19)	⅞ (22)	⅞ (22)	-	-	-	-	1 (25)	¾ (19)	¾ (19)	-
Table F	14¼ (368)	12¼ (324)	12	¾ (19)	⅞ (22)	⅞ (22)	-	-	-	-	1⅞ (29)	1 (25)	1 (25)	-
Table H	14¼ (368)	12¼ (324)	12	¾ (19)	⅞ (22)	⅞ (22)	-	10¼ (260)	-	⅜ (2)	1⅞ (38)	1¼ (32)	1¼ (32)	-

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

² Flange thicknesses for copper alloy are from BS 450

³ Copper alloy flanges are always flat-faced

Nominal Size 300mm (12")

BS EN 1092	Diameter of flange	Bolt circle diameter	No of bolts	Diameter of bolts	Diameter of holes iron	Diameter of holes steel	Thickness of flange				Grey cast iron	Copper alloy	Cast & forged steel	Ductile cast iron
							Diameter of raised face ³ iron	Diameter of raised face ³ steel	Height of raised face ³ iron	Height of raised face ³ steel				
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	¾ (22)	⅞ (22)	⅞ (22)	-	15 (381)	-	⅜ (2)	1⅞ (32)	1⅞ (27)	1⅞ (32)	-
Class 300	20½ (521)	17¼ (451)	16	1⅞ (29)	-	1⅞ (32)	-	15 (381)	-	⅜ (2)	-	-	2 (51)	-
Class 600	22 (559)	19¼ (489)	20	1¼ (32)	-	1⅞ (35)	-	15 (381)	-	⅜ (6)	-	-	2½ (67)	-
Class 900	24 (610)	21 (533)	20	1⅞ (35)	-	1⅞ (38)	-	15 (381)	-	⅜ (6)	-	-	3¼ (79)	-
Class 1500	26¼ (673)	22½ (571)	16	2 (51)	-	2⅞ (54)	-	15 (381)	-	⅜ (6)	-	-	4¼ (124)	-
BS 10														
Table A	18 (457)	16 (406)	8	¾ (19)	⅞ (22)	⅞ (22)	-	-	-	-	1⅞ (24)	¾ (22)	-	-
Table D	18 (457)	16 (406)	12	¾ (19)	⅞ (22)	⅞ (22)	-	-	-	-	1 (25)	¾ (22)	¾ (22)	-
Table E	18 (457)	16 (406)	12	¾ (22)	1 (25)	1 (25)	-	-	-	-	1⅞ (29)	1 (25)	1 (25)	-
Table F	19¼ (489)	17¼ (438)	16	¾ (22)	1 (25)	1 (25)	-	-	-	-	1⅞ (32)	1⅞ (29)	1⅞ (29)	-
Table H	19¼ (489)	17¼ (438)	16	¾ (22)	1 (25)	1 (25)	-	14¼ (362)	-	⅜ (2)	1⅞ (44)	1⅞ (38)	1⅞ (38)	-

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

Technical Information

Flanges

Technical Information

Flanges

Nominal Size 350mm (14")

BS EN 1092	Diameter of flange	Bolt circle diameter	No of bolts	Diameter of bolts	Diameter of holes iron	Diameter of holes steel	Diameter of raised face ³ iron	Diameter 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 & 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)	18½ (476)	12	1 (25)	1½ (29)	1½ (29)	-	16¼ (413)	-	½ (2)	1½ (35)	-	1½ (35)	-
Class 300	23 (584)	20¼ (514)	20	1½ (32)	-	1½ (32)	-	16¼ (413)	-	½ (2)	-	-	2½ (54)	-
Class 600	23¼ (603)	20¼ (527)	20	1½ (35)	-	1½ (38)	-	16¼ (413)	-	¼ (6)	-	-	2½ (70)	-
Class 900	25¼ (641)	22 (559)	20	1½ (38)	-	1½ (41)	-	16¼ (413)	-	¼ (6)	-	-	3½ (86)	-
Class 1500	29¼ (749)	25 (635)	16	2¼ (57)	-	2½ (60)	-	16¼ (413)	-	¼ (6)	-	-	5¼ (133)	-
BS 10														
Table A	20¼ (527)	18½ (470)	8	¾ (22)	1 (25)	1 (25)	-	-	-	-	1 (25)	1 (25)	-	-
Table D	20¼ (527)	18½ (470)	12	¾ (22)	1 (25)	1 (25)	-	-	-	-	1½ (29)	1 (25)	1 (25)	-
Table E	20¼ (527)	18½ (470)	12	¾ (22)	1 (25)	1 (25)	-	-	-	-	1½ (32)	1 (25)	1 (25)	-
Table F	21¼ (552)	19½ (495)	16	1 (25)	1½ (29)	1½ (29)	-	-	-	-	1½ (35)	1½ (32)	1½ (32)	-
Table H	21¼ (552)	19½ (495)	16	1 (25)	1½ (29)	1½ (29)	-	16½ (419)	-	½ (2)	1½ (48)	1½ (41)	1½ (41)	-

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 400mm (16")

BS EN 1092	Diameter of flange	Bolt circle diameter	No of bolts	Diameter of bolts	Diameter of holes iron	Diameter of holes steel	Diameter of raised face ³ iron	Diameter 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 & 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	23¼ (597)	21¼ (540)	16	1 (25)	1½ (29)	1½ (29)	-	18½ (470)	-	½ (2)	1½ (37)	-	1½ (37)	-
Class 300	25¼ (648)	22¼ (571)	20	1½ (32)	-	1½ (35)	-	18½ (470)	-	½ (2)	-	-	2¼ (57)	-
Class 600	27 (686)	23¼ (603)	20	1½ (38)	-	1½ (41)	-	18½ (470)	-	¼ (6)	-	-	3 (76)	-
Class 900	27¼ (705)	24¼ (616)	20	1½ (41)	-	1½ (44)	-	18½ (470)	-	¼ (6)	-	-	3½ (89)	-
Class 1500	32¼ (826)	27¼ (705)	16	2¼ (64)	-	2½ (67)	-	18½ (470)	-	¼ (6)	-	-	5¼ (146)	-
BS 10														
Table A	22¼ (578)	20¼ (521)	12	¾ (22)	1 (25)	1 (25)	-	-	-	-	1½ (27)	1 (25)	-	-
Table D	22¼ (578)	20¼ (521)	12	¾ (22)	1 (25)	1 (25)	-	-	-	-	1½ (29)	1 (25)	1 (25)	-
Table E	22¼ (578)	20¼ (521)	12	¾ (22)	1 (25)	1 (25)	-	-	-	-	1½ (32)	1 (25)	1 (25)	-
Table F	24 (610)	21¼ (552)	20	1 (25)	1½ (29)	1½ (29)	-	-	-	-	1½ (35)	1½ (32)	1½ (32)	-
Table H	24 (610)	21¼ (552)	20	1 (25)	1½ (29)	1½ (29)	-	19 (483)	-	½ (2)	2 (51)	1½ (44)	1½ (44)	-

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 = 455mm, for PN16, D = 455mm

³ Copper alloy flanges are always flat-faced

Nominal Size 450mm (18")

BS EN 1092	Diameter of flange	Bolt circle diameter	No of bolts	Diameter of bolts	Diameter of holes iron	Diameter of holes steel	Diameter of raised face ³ iron	Diameter 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 & 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)	22¼ (578)	16	1½ (29)	1½ (32)	1½ (32)	-	21 (533)	-	½ (2)	1½ (40)	-	1½ (40)	-
Class 300	28 (711)	24¼ (629)	24	1½ (32)	-	1½ (35)	-	21 (533)	-	½ (2)	-	-	2½ (60)	-
Class 600	29¼ (743)	25¼ (654)	20	1½ (41)	-	1½ (44)	-	21 (533)	-	¼ (6)	-	-	3¼ (83)	-
Class 900	31 (787)	27 (686)	20	1½ (48)	-	2 (51)	-	21 (533)	-	¼ (6)	-	-	4 (102)	-
Class 1500	36 (914)	30¼ (775)	16	2¼ (70)	-	2½ (73)	-	21 (533)	-	¼ (6)	-	-	6¼ (162)	-
BS 10														
Table A	25¼ (641)	23 (584)	12	¾ (22)	-	1 (25)	-	-	-	-	1½ (27)	1½ (27)	-	-
Table D	25¼ (641)	23 (584)	12	¾ (22)	-	1 (25)	-	-	-	-	1½ (32)	1½ (29)	1½ (29)	-
Table E	25¼ (641)	23 (584)	16	¾ (22)	-	1 (25)	-	-	-	-	1½ (35)	1½ (29)	1½ (29)	-
Table F	26¼ (673)	24 (610)	20	1½ (29)	-	1½ (32)	-	-	-	-	1½ (38)	1½ (35)	1½ (35)	-
Table H	26¼ (673)	24 (610)	20	1½ (29)	-	1½ (32)	-	21 (533)	-	½ (2)	2½ (54)	1½ (48)	1½ (48)	-

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 500mm (20")

BS EN 1092	Diameter of flange	Bolt circle diameter	No of bolts	Diameter of bolts	Diameter of holes iron	Diameter of holes steel	Diameter of raised face ³ iron	Diameter 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 & 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	27¼ (699)	25 (635)	20	1½ (29)	1½ (32)	1½ (32)	-	23 (584)	-	½ (2)	11½ (43)	-	11½ (43)	-
Class 300	30¼ (775)	27 (686)	24	1½ (32)	-	1½ (35)	-	23 (584)	-	½ (2)	-	-	2½ (64)	-
Class 600	32 (813)	28¼ (724)	24	1½ (41)	-	1½ (44)	-	23 (584)	-	¼ (6)	-	-	3½ (89)	-
Class 900	33¼ (857)	29¼ (749)	20	2 (51)	-	2½ (54)	-	23 (584)	-	¼ (6)	-	-	4¼ (108)	-
Class 1500	38¼ (984)	32¼ (832)	16	3 (76)	-	3½ (79)	-	23 (584)	-	¼ (6)	-	-	7 (178)	-
BS 10														
Table A	27¼ (705)	25¼ (641)	12	¾ (22)	1 (25)	1 (25)	-	-	-	-	1½ (29)	1½ (29)	-	-
Table D	27¼ (705)	25¼ (641)	16	¾ (22)	1 (25)	1 (25)	-	-	-	-	1½ (32)	1½ (32)	-	-
Table E	27¼ (705)	25¼ (641)	16	¾ (22)	1 (25)	1 (25)	-	-	-	-	1½ (38)	1½ (32)	1½ (32)	-
Table F	29 (737)	26¼ (673)	24	1½ (29)	1½ (32)	1½ (32)	-	-	-	-	1½ (41)	1½ (38)	1½ (38)	-
Table H	29 (737)	26¼ (673)	24	1½ (29)	1½ (32)	1½ (32)	-	23¼ (597)	-	½ (2)	2¼ (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

Technical Information

Flanges

Nominal Size 600mm (24")

BS EN 1092	Diameter of flange	Bolt circle diameter	No of bolts	Diameter of bolts	Diameter of holes iron	Diameter of holes steel	Diameter of raised face ³ iron	Diameter 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 & 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	720	5	2	48 ¹	-	54	36
PN25	845	770	20	M36	41	39	720	725	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)	29½ (749)	20	1¼ (32)	1¾ (35)	1¾ (35)	-	27¼ (692)	-	⅞ (2)	1¾ (48)	-	1¾ (48)	-
Class 300	36 (914)	32 (813)	24	1½ (38)	-	1¾ (41)	-	27¼ (692)	-	⅞ (2)	-	-	2¼ (70)	-
Class 600	37 (940)	33 (838)	24	1¾ (48)	-	2 (51)	-	27¼ (692)	-	¼ (6)	-	-	4 (102)	-
Class 900	41 (1041)	35½ (902)	20	2½ (64)	-	2¾ (67)	-	27¼ (692)	-	¼ (6)	-	-	5½ (140)	-
Class 1500	46 (1168)	39 (991)	16	3½ (89)	-	3¾ (92)	-	27¼ (692)	-	¼ (6)	-	-	8 (203)	-
BS 10														
Table A	32½ (826)	29¼ (756)	12	1 (25)	1¾ (29)	1¾ (29)	-	-	-	-	1⅞ (30)	1⅞ (30)	-	-
Table D	32½ (826)	29¼ (756)	16	1 (25)	1¾ (29)	1¾ (29)	-	-	-	-	1¾ (35)	1¾ (35)	1¾ (35)	-
Table E	32½ (826)	29¼ (756)	16	1¾ (29)	1¼ (32)	1¼ (32)	-	-	-	-	1¾ (41)	1½ (38)	1½ (38)	-
Table F	33½ (851)	30¾ (781)	24	1¼ (32)	1¼ (32)	1¾ (35)	-	-	-	-	1¾ (44)	1¾ (41)	1¾ (41)	-
Table H	33½ (851)	30¾ (781)	24	1¼ (32)	1¾ (35)	1¾ (35)	-	27½ (699)	-	⅞ (2)	2½ (64)	2¼ (57)	2¼ (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



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