CVL ENGINEERING

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CVL Engineering (PTY) Ltd

Reg. no. 2020/469093/07

A level 2 BEE company

Valves

Piping

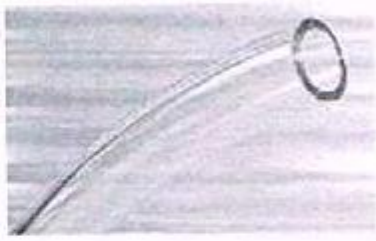
Tubing

Couplings

Hose PVC clear 16001

Kingfisher fig 6001
Stock code H6001
Suitable for laboratory and low pressure uses.
Good clarity and chemical resistance

Sizes: ⅛" to ½" (3mm to 12.5mm)

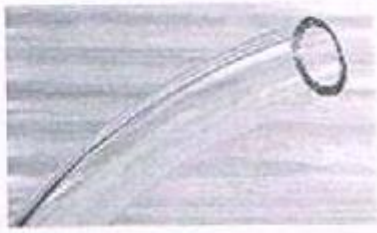


Inside diameter	3mm	5mm	6.3mm	8mm	10mm	12.5mm
Wall thickness	0.8mm	0.8mm	1.0mm	1.0mm	1.0mm	1.6mm

Hose PVC clear 16002

Kingfisher fig 6002
Stock code H6002
Suitable for laboratory and industrial use under 100PSI (690kPa)
Ideal for chemicals.

Sizes: ⅛" to 2" (3mm to 50mm)



Inside diameter in mm	3	5	6.3	8	10	12.5	16	20	25	32	40	50
Wall thickness in mm	1.4	1.4	2.16	2.16	2.61	2.61	2.7	2.7	3.1	3.1	3.1	3.1

Hose nylon reinforced PVC 17009

Kingfisher fig 7009
Stock code H7009
High pressure applications on air, diluted acids and oils

Sizes: ⅛" to 2" (3mm to 50mm)

Nominal dimensions in mm												
Inside diameter	3	5	6.3	8	10	12.5	16	20	25	32	40	50
Outside diameter	7.6	9.4	11.5	13.3	14.75	18.1	21.7	27	33.8	43.5	48	66
Pressure (kPa)												
Working	1700	1500	1300	1200	1100	1100	1000	1000	1000	900	800	700
Burst	7000	6600	5900	5200	4500	4200	4000	4000	4000	3800	3600	3000
Mass (g/m)	51	68	95	113	130	175	227	335	524	874	1354	1785

Black malleable iron navy unions

Kingfisher fig RING (Japan)
Stock code BUN
Complete with bronze trim on one spherical face and plain malleable iron spherical face on the other end.
Suitable for 200PSI (1400kPa) steam, water, oil or gas.

Sizes: ½" to 3" (15mm to 80mm)

Black malleable iron navy union

Kingfisher fig Mech (China)
Stock code BUNM
Complete with bronze trim on one spherical face and plain malleable iron spherical face on the other end.
Suitable for 150PSI (1000kPa) steam at 184°C or 200PSI (1400kPa) water, oil or gas.

Sizes: ¼" to 4" (8mm to 100mm)

Wrought steel navy unions

Kingfisher fig 1000
Stock code SUCF
Complete with bronze trim on one spherical face and wrought steel finish on other face.
Suitable for 290PSI (2000kPa) steam.

Sizes: ¼" to 2" (8mm to 50mm)

Food grade hose

Kingfisher fig FG
Stock code HFG
Clear plasticized PVC abrasion and ozone resistant hose. Wire reinforced.
Suitable for liquid food and suitable chemical applications. Can be used on suction and delivery.
Temperatures -5°C +60°C
Suitable pressure for ½" – 7bar, 4" – 2bar.
Safety factor ratio 1:3

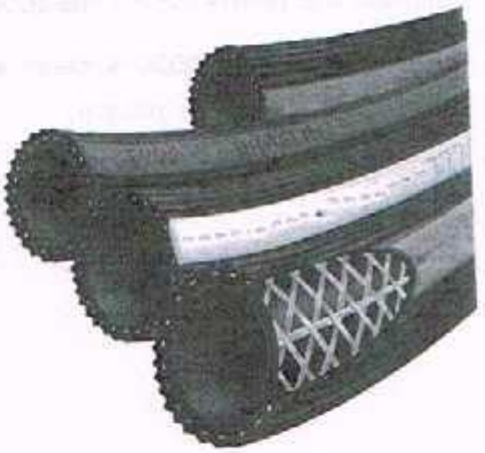
Sizes: ½" to 4" (15mm to 100mm)

Dragline

Kingfisher fig DSD
Stock code HSD020
Complete with four layer, with blue liner

Specification:
Working pressure: 10 bar plus
Pressure tested over 50 bar
Weight per meter:330 gram
4 layers, with blue liner
UV stabilized
Cut and abrasion resistant
Internal ID: 19,1mm($^3/_4$")
Manufactured in South Africa

Available in 30m,36m,50m,100m rolls



Fuel hose 17019

Kingfisher fig 7017
Stock code H7019
Good resistance to fuel, diesel and gas. Cut and abrasion resistant.

Nominal dimensions						
Internal diameter	3	5	6.3	8	10	12.5
Wall thickness	7.11	8.3	10.58	13	13.37	19
Pressure (kPa)						
Working	1700	1500	1300	1200	1100	1100
Burst	7000	6600	5900	5200	4500	4200
Mass (kg/100m)	54	68	86	103	137	197

Steel pipe fittings screwed to BS1387 – 1967

Sizes: ⅛" to 6" (6mm to 150mm)

1000 lbs and 3000 lbs series fittings screwed and socket weld to ANSI B16.11-ASTM A105

1000lbs Fittings
Suitable for 1000PSA (6897kPa) at 100°C

Sizes: ⅛" to 2" (6mm to 50mm)

3000lbs Fittings
Suitable for 3000PSI (20,690kPa) at 100°C

Sizes: ¼" to 4" (8mm to 100mm)

Nylon insert fittings for LDPE piping

Working pressure 87PSI (600kPa) at 80°C

Sizes: ½" to 3" (15mm to 80mm)

High Density Polyethylene compression type fittings

Suitable for use with the whole range of HDPE pipe. Outer dimensions from 16mm to 110mm. The perfect seal achieved by the rubber o-ring ensures complete water tightness whether the pipe is bent or straight. Working pressures for 16bar.

Sizes: 16mm to 110mm

Steam fittings screwed to BS21 and BS1740 – 1965

Working pressures and temperatures
Wrought steel fittings to BS1740 may be used for water, gas, steam or air services and are screwed for use with light, medium and heavy quality SABS62 pipe. Maximum temperatures should not exceed 232°C. Test pressure 48.5 Bar (703PSI).

Sizes: ⅛" to 6" (6mm to 150mm)

Galvanized and Black malleable iron fittings screwed to BS143 – 1952

Working pressures and temperatures
Malleable fittings may be used for water, gas, steam or air services for working pressure not exceeding 14 Bar (200PSI) water and 10Bar (150PSI) steam, gas or oil. Working temperature should not exceed 232°C.

Sizes: ⅛" to 6" (6mm to 150mm)

Stainless steel grade 304 and 316 screwed fittings

Working pressures and temperatures
304 and 316 stainless steel fittings may be used for 150PSI (1000kPa) steam, water, oil or gas at 180°C

Sizes: ¼" to 3" (8mm to 80mm)

Brass connex fittings compression fittings to SABS 1067 (1985) Part 2

Working pressure and temperature
Refer Copper Pipe chart on page

Sizes: ½" to 4" (15mm to 108mm)

Brass fittings – Compression type

To be used with copper, brass, aluminium and nylon tubing.
Suitable for gasoline, oil, water, vacuum lines, air lines and other low and medium pressure lines.
Working pressure and temperature
Refer Copper Tube chart on page T/10

Sizes: ⅛" to ½" (6mm to 15mm)

Copper copcal capillary fittings to SABS 1067(1985) Part 2, DIN 2856, ISO 2016 and BS 3640

Working pressure and temperature
Refer Copper Pipe chart on page T/10

Sizes: ½" to 4" (15mm to 108mm)

Stainless steel (316/304) weld on fittings (schedule 10 and 40) to specification A403/95WP/W ANSI B16-9

Working pressure and temperature
Refer stainless steel pipe chart on page T/06 and 07
Fitting specifications and dimensions
Refer charts on page T/13

Sizes: ⅛" to 4" (6mm to 100mm)

Carbon steel schedule 40 and JIS weld on fittings to ANSI B16-9

Working pressure and temperature
Refer carbon steel pipe chart on page T/04 and 05
Fitting specifications and dimensions
Refer chart on page T/13

Sizes: ½" to 24" (15mm to 600mm)

Malleable iron screwed galvanized and black BSPT flanges in table D, E and H

Mild steel weld on flanges in table D, E, F, H, 1000, 1600, 2500, 4000, BS4504, T/10, T/16, T25, T40, ASA150, 300, 600

Copper tube to SABS 460-75 class 0,1,2

For domestic and industrial application depending on class.
Working pressures, dimensions and temperatures.
Refer chart on page T/10.
Sizes: ½" to 4" (15mm to 108mm)

Copper tube annealed to ASTMB 280-88

Working pressures, dimensions and temperatures.

Sizes in coils of 15.24m (50ft): ⅛" to ¾" (3.18 to 19.01)
as well as 4mm to 12 mm refer below chart

Outside Dia.	Wall Thick-ness	Working Pressure (Mpa)
3.18 (⅛")	0.76	27
4.76(3/16")	0.71	17
6.35(¼")	0.71	12
7.94(5/16")	0.71	10
9.53 (⅜")	0.71	8
12.70(½")	0.76	7
15.88(⅝")	0.81	6
19.01(¾")	0.89	5
4	0.60	20
6	0.90	17
8	0.90	12
10	0.90	10
12	0.90	8

Nylon tubing

Kingfisher fig N711 and N811
Stock code TBN

Comes in 30m coils. A standard and heavy duty is available as per chart.

Outside Dia.	Wall Thick-ness	Burst Pressure @20°C (kPa)
⅛"(3.18)	0.19"(0.05)	7500
3/16"(4.76)	0.19"(0.05)	5500
¼"(6.35)	0.040"(1)	7500
5/16" (7.94)	0.040"(1)	6900
⅜" (9.53)	0.055"(1.4)	6580
½" (12.70)	0.060"(1.5)	5500
⅝" (15.88)	0.079"(2)	5500
¾" (19.01)	0.079"(2)	4300

Outside Dia.	Wall Thick-ness	Burst Pressure @20°C (kPa)
⅛"(3.18)	0.040"(1)	18400
3/16"(4.76)	0.040"(1)	10800
¼" (6.35)	0.055"(1.4)	11300
5/16"(7.94)	0.055"(1.4)	8600
⅜"(9.53)	0.075"(1.9)	10000
½"(12.70)	0.075"(1.9)	7000

Outside Dia.	Wall Thick-ness	Burst Pressure @20°C (kPa)
4mm	1	13300
6mm	1	8000
8mm	1	5700
10mm	1	5000
11mm	1.5	6800
12mm	1.5	6300
14mm	2	6000
15mm	1.5	5500
16mm	2	4500

Steel piping to SABS 62

Comes in light, medium and heavy grade. Variations are plain ended uncoated, galvanized screwed, black coated screwed, and red coated screwed.
Working pressures, dimensions and temperatures.
Refer SABS62 Chart on page T/01.

Sizes: ⅛" to 6" (6mm to 150mm)

Steel piping to SABS 719/71 GRADE B

Comes in different wall thicknesses, plain ended or flanged, uncoated or galvanized.
Working pressures, dimensions and temperatures.
Refer SABS719/71 chart on page T/02.

Sizes: 8" to 40" (200mm to 1000mm)

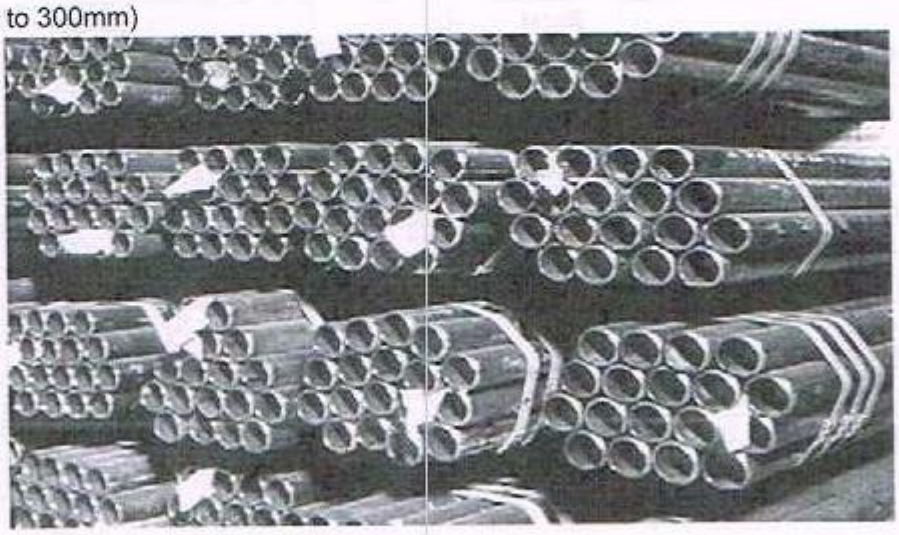
Steel piping schedule 40 and 80 (welded or seamless)

Working pressures, dimensions and temperatures.
Refer chart on page T/03

Stainless steel (304 and 316) schedule 10 and 40 pipe

Comes in welded and seamless.
Working pressures, dimensions and temperatures.
Refer chart on page T/03.

Sizes: ½" to 12" (15mm to 300mm)



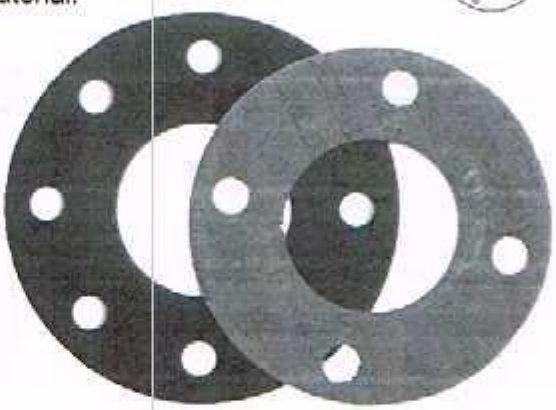
Full face gaskets

Available in rubber insertion, PTFE and non asbestos material.
Suitable for high temperatures and pressures.

Sizes: ½" to 24" (15mm to 600mm)

NB! Other materials and sizes are obtainable within 24 hours.

Refer page T/27 for technical chart.



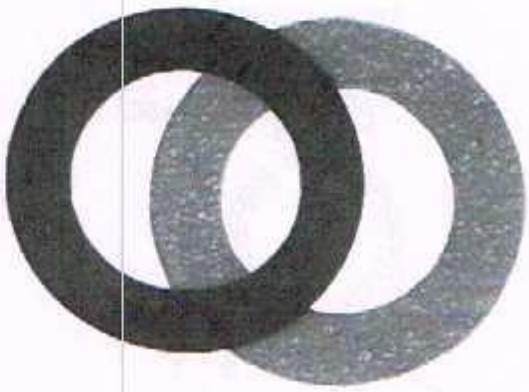
Ring gaskets

Available in rubber insertion, PTFE and non asbestos materials.
Suitable for high temperatures and pressures.

Sizes: ½" to 24" (15mm to 600mm)

NB! Other materials and sizes are obtainable within 24 hours.

Refer page T/27 for technical chart.



PTFE

Kingfisher fig BT
Stock code PTFE
Manufactured from Duraport teflon, non toxic and non reactive. Impervious to most acids, alkalis, chemicals, corrosives, fuels, hydraulic fluids and oil solvents.
Suitable for temperatures between -100°C and +240°C
An oxygen grade tape is available for use on oxygen, Freon, ammonia and other industrial gasses.

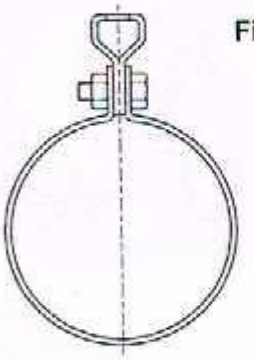
NB! Oil free PTFE tape for oxygen is available.

Stock code	PTFE012	PTFE020	PTFE025
Size	12mm x 0.075 x 10m	19mm x 0.075 x 10m	25mm x 0.075 x 10m

PIPE SUPPORTS

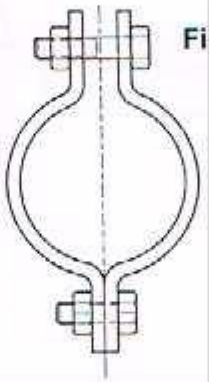
LIGHTWEIGHT PIPEHANGER

Fig4



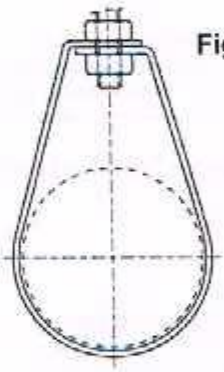
HEAVYWEIGHT DOUBLE CLAMP

Fig6A



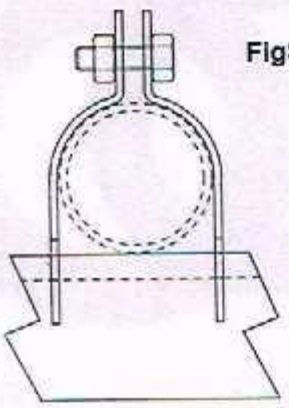
PEAR SHAPED PIPE BELT

Fig7/42



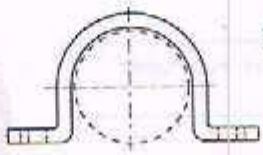
STRUT CLAMP

FigSC



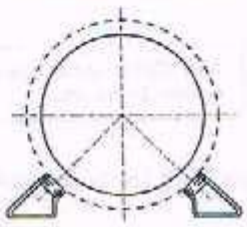
PIPE SADDLE

Fig13

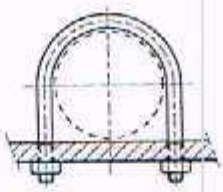


ADJUSTABLE ROLLER SUPPORT

Fig20

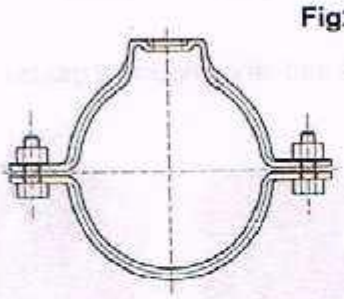


U-BOLT



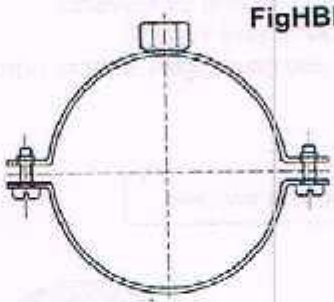
PES HOLDERBAT

Fig27



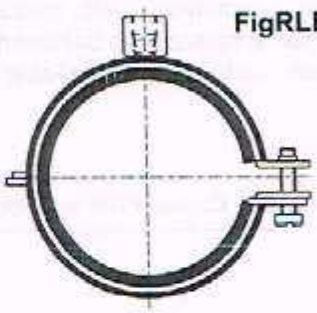
HOLDERBAT (BOSSED NUT)

FigHBN



RUBBER-LINED CLAMP (BOSSED NUT)

FigRLE



Non asbestos compressed gasket material

TEADIT/EUROSEAL fig NA1002
Stock code NA1002
A general purpose non-asbestos material for medium to high loadings. Made from aramid fibre, mineral fibre and inorganic bonded with synthetic NBR elastomers. Suitable for high performance oil resistant gasket material with excellent thermal, chemical and mechanical properties.
Maximum Internal pressure 150PSI (1000kPa). Maximum Temperature 180°C

Sizes: 1/16" to 1/8" (0.7mm to 3mm)

Non asbestos compressed gasket material

TEADIT/EUROSEAL fig NA1000M
Stock code NA1000M
A general purpose non-asbestos material for medium to high loadings. Made from aramid fibre, mineral fibre and inorganic bonded with synthetic NBR elastomers, wire reinforced. Suitable for high performance oil resistant gasket material with excellent thermal, chemical and mechanical properties.
Maximum Internal pressure 150PSI (1000kPa). Maximum Temperature 150°C

Sizes: 1/16" to 1/8" (0.7mm to 3mm)

Graphited gasket sheeting

TEADIT/EUROSEAL fig NA1100
Stock code NA1100
Universal sheet packing with high thermal resistance characteristics, manufactured from carbon and graphite fibers bound by NBR. Suitable for sealing petroleum derivatives, solvents, water, saturated steam, gases and chemical products in general.
Suitable for 290PSI (2000kPa) at 200°C.

Sizes: 1/16" to 1/8" (0.7mm to 3mm)

Non-Asbestos compressed gasket material

Kingfisher fig GP
Stock code NASB
A universal non-asbestos grade for medium to high loadings, made from aramid and glass fibers with a nitrile rubber binder.
Suitable for oil, fuels, hydrocarbons and water at pressures up to 40 bar (580 PSI) at between -25°C up to 180°C.

Sizes: 0.3mm, 0.5mm, 0.8mm, 1.5mm, 3.00mm
Sheet size: 2m x 1.5m

NB: Not suitable for steam

Non-Asbestos compressed gasket material

TEADIT Fig NA1122
Stock code 1122P03
A universal non-asbestos sheet gasket material product from a combination of inorganic fibers and special fillers, bonded with nitrile rubber (NBR). It is also available with wire reinforcing.
Suitable for saturated & superheated steam as well as liquid petroleum derivate, ethanol &chemical products. At 200 bar (1500Psi) at 400°C.

Sizes: 0.4mm-6.4mm thick x 1.5m x1.6m

Non-Asbestos compressed gasket with a stainless steel foil reinforcement

Kingfisher fig SLS
Stock code NASBSLS
Pure exfoliated graphite with a smooth stainless steel foil reinforcement.
Suitable for steam and virtually resistant to all media as well as high and low temperatures of -200°C + 200°C at 45 bar (650 PSI) pressure.

Sizes: 0.4mm-6.4mm thick x 1.5m x1.6m

Cork grade 2

Kingfisher GM fig GC2
Stock code GC2
Economical grade with high compressibility, good flexibility and resilience. Oil and fuel resistant. Nitrile rubber binder. Ideal for automotive and industrial gaskets.

Sizes: ⅛" to 1" (3mm to 25mm)

Cork grade 3

Kingfisher GM fig GC3
Stock code GC3
High bolt pressure with good flexibility and resilience. Very good fuel, solvent and oil resistance (including mineral oil). Nitrile rubber binder. Ideal for automotive, industrial, transformer and switchgear applications.

Sizes: ⅛" to 1" (3mm to 25mm)

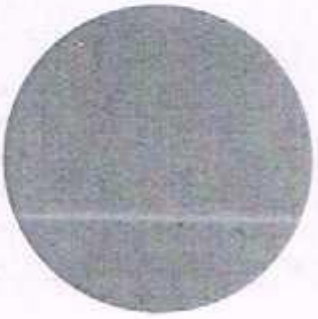
Cork grade 4

Kingfisher GM fig GC4
Stock code GC4
Premium quality grade for high bolt pressure, with good flexibility and resilience. Excellent oil and fuel resistance. Nitrile/neoprene rubber binder. Ideal for high end automotive and industrial gaskets. Widely used for mineral oil applications in transformer, switchgear and other electrical applications.

Sizes: ⅛" to 1" (3mm to 25mm)

Engineers Felt

Kingfisher BA fig GEF
Stock code GEF
Used mainly as a dust seal. Comes in a roll of 1.83m wide and thickness varies from 1mm to 29mm.



Expanded PTFE joint sealant

Fig no 24B
Stock code EP10
Expanded PTFE joint sealant is made from pure PTFE resin. This product has reserved the superior character of PTFE's chemical resistance and has very good flexibility, restore rate on compression & high tensile strength. This sealing tape can be stuck on to the flanges sealing face without any waste. Suitable for 80 bar (1160PSI) at -240°C + 280°C.

Sizes: 20mm and 25mm ($^{3}/_{4}$" and 1")

Rubber insertion gasketing

Kingfisher fig TR
Stock code RI
Suitable for 100PSI (700kPa) water, oil, air and gas at -20°C/+80°C.

Sizes: 1.2m wide rolls as required; ⅛" to ¼" (3mm to 6mm) thick

Chemical resistance	Rating
Ozone	Poor
Diluted acids and bases	Fair
Concentrated acids and bases	Fair
Hydrocarbons	Poor
Solvents	Poor

RECOMMENDATION CHART

Styles \ Fluids	Mild Inorganic Acids	Mild Organic Acids	Strong/Oxidizing Inorg.Acids	Strong Organic Acids	Concentrated Alkalies	Diluted Alkalies	Water	Air	Industrial Gases	Animal Oils	Synthetic Oils	Vegetable Oils	Petroleum & Derivatives	General Chemicals	Aliphatic Solvents	Aromatic Solvents	Chlorinated Solvents	Oxygenated Solvents	Brine	Neutral Solutions	Refrigerants	Saturated Steam
NA 1000/NA 1000M/NA 1002	•	•			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
NA 1005	•	•			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
NA 1020	•	•			•	•	•	•	•					•					•	•	•	•
NA 1030	•	•			•	•	•	•	•					•					•	•	•	•
NA 1040	•	•			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
NA 1085	•	•	•	•	•	•	•	•	•					•					•	•	•	•
NA 1100	•	•			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Hemp natural fibre sealant

Stock code HEMP
Ideal for use with STAG.

Sizes: 50g, 200g, 1kg hanks

Copper compound (high temperature)

Stock code COPPERSLYP
Copper compound is a high temperature, anti-seize, anti-corrosion compound that permits firmer and easier opening of mating surfaces. Use on threaded or press fit before joining to ensure easy disassembly. Use on manifold studs, exhaust systems, nuts, cylinder head nuts, brake expanders and adjusters, battery terminals, all gaskets and any screw or bolt you may later want to remove. Use on the backs of disc pads to stop chatter / squeal. Resistant to acid, alkali, water and sea water corrosion, and remains effective at surface temperatures up to 1100°C.

Sizes: 100ml tube; 400ml spray; 500g and 5kg tins

Graphite packing that is made of a tightly braded yarn of high purity expanded graphite

Kingfisher Fig no P-ES-3170
Stock code PGGKF3170
This product is ideally suited for both pump and valve applications. As a general purpose packing, P-ES-3170 has the ability to take the place of cheap products and offer an improved life expectancy. It has proven itself in the Petrochemical, Pulp and paper and Power Generation industries. Especially useful in dryers, blowers, pulpers, digesters, agitators, mixers, high temperature steam valves and hydrocarbon valves, with the added advantage of reduce emission as well.

Suitable for 80 bar at 600 °C

Sizes: Boxes as per chart

Tub sizes: 3mm x 10m, 6mm x 3m, 8mm x 2.2m, 10mm x 1m, 12mm x 1m, 16mm x 1.1m

Size		kg Box		kg/m	m/kg
mm	inch	metres	kg		
3mm	-	94.2	1	0.017	94.2
	1/8"	82.8	1	0.018	82.8
4mm	-	53.0	1	0.025	53.00
	5/32"	36.8	1	0.033	36.80
5mm		33.9	1	0.036	33.90
6mm		23.5	1	0.048	23.50
	1/4"	20.7	1	0.054	20.70
7mm		17.3	1	0.063	17.30
	9/32"	13.6	1	0.079	13.60
8mm		13.2	1	0.081	13.20
	5/16"	9.4	1	0.112	9.40
10mm		8.5	1	0.123	8.50
11mm		7.0	1	0.147	7.00
	7/16"	7.0	1	0.147	7.00
12mm		11.8	2	0.174	5.90
	1/2"	10.5	2	0.194	5.25
13mm		10.0	2	0.203	5.00
14mm		8.6	2	0.235	4.30
	9/16"	8.3	2	0.245	4.15
15mm		7.5	2	0.269	3.75
	5/8"	10.1	3	0.301	3.37
16mm		9.9	3	0.305	3.30
18mm		7.8	3	0.384	2.60
19mm		7.0	3	0.427	2.33
	3/4"	7.0	3	0.431	2.33
20mm		6.4	3	0.472	2.13
	13/16"	6.0	3	0.501	2.00
22mm		8.8	5	0.570	1.76
	7/8"	8.6	5	0.581	1.72
	15/16"	7.5	5	0.666	1.50
24mm		7.4	5	0.677	1.48
25mm		6.8	5	0.734	1.36
	1"	6.6	5	0.758	1.32

Vellamoid

Kingfisher GM fig GV
Stock code GV
Comes in 1 meter wide roll and thicknesses of 0.4mm, 0.8mm, 1.5mm and 3mm.
Ideally suited as a gasket for petrol and oil at 120°C

Sweet red or white rubber

Kingfisher GM fig GSRR
Stock code GSRR
Sweet rubber comes in a 1.2m roll and in thicknesses of 1.5mm, 3mm, 4.5mm and 6mm. Ideal as a gasket for all non-toxic seals (food).

STAG jointing compound

Stock code STAG
For quick and efficient sealing of flanged and screwed joints.

Main Features:
Resistant to oil, petrol, water, steam, benzene, and certain acids.
Anti-corrosive.
Remains flexible in the joint.
High electrical insulation properties.
Resistant to pressure and temperature.

Sizes: 400g tin with screw top and application brush, or 500g tin with press top lid

White thread sealant

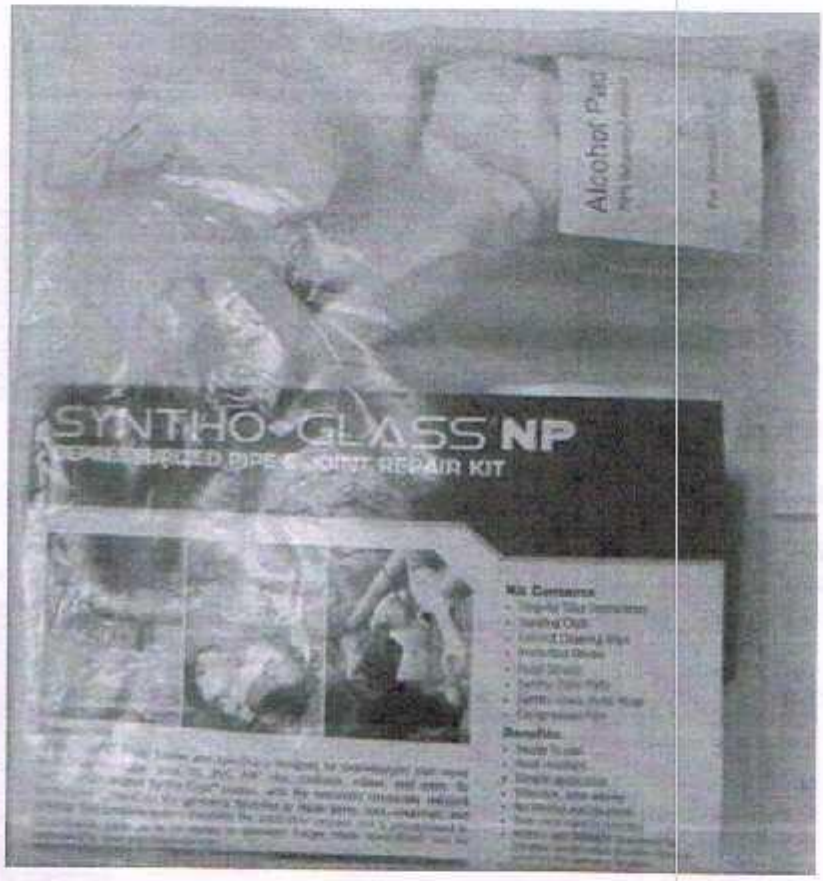
Fig no PIPE-GRIP SEALANT
Stock code PIPE-GRIP 100G
Pipe grip is the latest German technology available for sealing threads joints on plastic, aluminium, brass, steel and stainless steel. It can be used with or without Hemp. With Hemp 30 minutes to be functional, without Hemp four hours and 18 hours for full cure.
Suitable for water, oil, petrol, steam benzene and certain acids.

Sizes: 100g bottle

Syntho repair kits

For the following uses
Pipeline restoration systems
Repair kit for active pipe & joint repair
Superior protection for pipes at supports
Composite repair system for high temperatures and process piping
Two part epoxy compound
Low viscosity, self-leveling, underwater epoxy mastic sealant systems
Fiberglass water-activated composite solution

We have a full catalogue of information on Syntho products. Please refer to the supplier for this catalogue.



Diesel mobile pump 12VDC

Kingfisher fig PUM170
Stock code DPM12V

Complete with 12 volt DC pump, 6m of wire reinforced suction hose c/w foot valve. Plus 6m of delivery hose c/w filling nozzle.
The unit comes complete with resettable meter and totalizer.

Acrylic PTFE gland packing

Stock code PGAPTFE
Consists of acrylic PTFE lubricated gland packing.
Suitable for 580PSI (4000kPa) water at 180°C.

Sizes: ⅛" to 1" (3mm to 25mm), in 1m or 8m boxes

Size		8m Box		Kg/m	m/kg
mm	inch	metres	kg		
3mm	-	8	0.15	0.02	63.41
	⅛"	8	0.17	0.02	40.58
4mm	-	8	0.24	0.03	28.18
	5/32"	8	0.33	0.04	25.97
5mm		8	0.35	0.04	18.04
6mm		8	0.48	0.06	15.85
	¼"	8	0.54	0.07	13.25
7mm		8	0.64	0.08	10.40
	9/32"	8	0.81	0.10	10.15
8mm		8	0.82	0.10	7.10
	5/16"	8	1.16	0.14	7.03
10mm		8	1.17	0.15	6.00
11mm		8	1.36	0.17	5.90
	11/32"	8	1.39	0.17	5.20
12mm		8	1.57	0.20	4.70
	½"	8	1.73	0.22	4.60
13mm		8	1.76	0.22	4.10
14mm		8	1.97	0.25	4.00
	9/16"	8	2.02	0.25	3.60
15mm		8	2.24	0.28	3.03
	⅝"	8	2.66	0.33	3.00
16mm		8	2.68	0.34	2.70
18mm		8	2.97	0.37	2.52
19mm		8	3.18	0.40	2.50
	¾"	8	3.21	0.40	2.30
20mm		8	3.48	0.44	2.17
	13/16"	8	3.69	0.46	1.95
22mm		8	4.10	0.51	1.90
	⅞"	8	4.21	0.53	1.66
	15/16"	8	4.81	0.60	1.65
24mm		8	4.84	0.60	1.54
25mm		8	5.18	0.65	1.50
	1"	8	5.32	0.66	

Graphited flexible braided cotton fibre yarn packing

Stock code PGCGMP
Suitable applications rotary shafts reciprocating pistons, and valve spindles. Maximum working temperature 250°C. Comes in 1m coils.

Sizes: 6mm to 20mm

Foam sealing strip

Features

Stops Rattles
Seals draughts
Dampers sound
Protect delicate surfaces
Self-adhesive

Sizes
3mm x 10mm x 5m
3mm x 15mm x 5m
3mm x 25mm x 5m
6mm x 10mm x 5m
6mm x 15mm x 5m
6mm x 25mm x 5m
10mm x 10mm x 5m
10mm x 15mm x 5m
10mm x 20mm x 5m
10mm x 25mm x 5m
12mm x 12mm x 3m
12mm x 25mm x 3m

PIPE - S.A.B.S. 719

Mass of steel pipe in kilograms per meter

Dimensions							
Nominal Diameter mm	Outside Diameter mm	Wall Thickness in mm					
		4.5	5.0	6.0	8.0	10.0	12.0
200	219.1	24.9	27.7	33.1	43.6	54.2	64.6
250	273.0	31.2	34.6	41.4	54.7	68.0	81.5
300	323.9	37.1	41.3	49.3	65.2	81.3	97.5
350	355.6	40.7	45.4	54.2	71.7	89.5	108.0
400	406.4	46.6	52.0	62.1	82.2	103.0	123.0
500	508.0	58.5	65.1	78.0	103.0	129.0	155.0
600	609.6	70.2	78.3	93.6	124.0	155.0	186.0
700	711.2	82.0	91.5	110.0	145.0	182.0	219.0
800	812.8		105.0	125.0	166.0	208.0	250.0
900	914.4		118.0	140.0	187.0	233.0	282.0
1000	1016.0		131.0	156.0	208.0	260.0	315.0

Standard lengths: 6.096m and 9.144m

NOTES
Pipe outside diameters are to B.S. 534/1966; I.S.O. /R336; B.S. 5405/1969; I.S.O. /R2084.
The pipe outside diameters suite the metricated flanges of B.S. 4504/1969 and I.S.O. /R2084.

Steel to S.A.B.S. 719/71 Grade B

Test Pressure in kPa

Dimensions									
Nominal Bore mm	Nominal Bore mm	Wall Thickness in mm							
		4.0	4.5	5.0	6.0	8.0	10.0	12.0	14.0
200	219.1	6600	7430	8250	9900	13200	16500	19800	23100
250	273.0	5300	5960	6620	7950	10590	13240	15890	18540
300	323.9	4460	5020	5580	6700	8930	11160	13390	15630
350	355.6	4070	4580	5080	6100	8130	10170	12200	14230
400	406.4	3560	4000	4450	5340	7120	8900	10670	12450
450	457.2	3160	3560	3950	4740	6330	7910	9490	11070
500	508.0	2850	3200	3560	4270	5690	7120	8540	9960
600	609.6	2370	2670	2970	3560	4740	5930	7120	8300
700	711.2	2030	2290	2540	3010	4070	5080	6100	7120
800	812.8	1780	2000	2220	2670	3560	4450	5340	6230
900	914.4	1580	1780	1980	2370	3160	3950	4740	5540
1000	1016.0	1420	1600	1780	2140	2850	3560	4270	4980

NOTES
Yield stress of steel – 241 MPa. (35 000 PSI)
Test pressures above are based on stressing steel to 75% of minimum specified yield stress and are applied only to plain ended pipes.

PIPE – S.A.B.S. 62

Dimensions (in millimetres)					Masses (kilograms/meter)		
Nominal	Approx.	Nominal Wall Thickness			Coated Tubes – Screwed & Socketed		
Bore	O.D.	Light	Medium	Heavy	Light	Medium	Heavy
6	10.20	1.80	2.00	2.65	0.364	0.410	0.496
8	13.50	1.80	2.35	2.90	0.521	0.654	0.773
10	17.20	1.80	2.35	2.90	0.680	0.858	1.030
15	21.30	2.00	2.30	2.80	0.961	1.100	1.300
20	26.90	2.35	2.30	2.80	1.420	1.420	1.690
25	33.70	2.65	2.80	3.50	2.030	2.190	2.670
32	42.40	2.65	2.80	3.50	2.610	2.800	3.430
40	48.30	2.90	2.80	3.50	3.290	3.190	3.920
50	60.30	2.90	3.30	4.00	4.180	4.570	5.490
65	76.10	3.25	3.30	4.00	5.920	5.850	7.040
80	88.90	3.25	3.50	4.30	6.980	7.490	8.890
100	114.30	3.65	4.50	4.80	10.200	10.820	12.910
125	139.70	-	4.30	4.80	-	14.310	15.920
150	165.10	-	4.30	4.80	-	17.110	19.040

Standard lengths: Light 6.0m
Medium 6.0m
Heavy 6.0m

NOTES
For approximate masses of galvanized tubes add the following percentages to masses indicated above:
Light tube + 6.5%;
Medium tube + 5.75%;
Heavy tube + 5%
S.A.B.S. 62 is equivalent to B.S. 1387

S.A.B.S. 62 - Recommended working pressures

Pipes tested to 4800kPa – hydraulic

Pipe size	Maximum working pressure in kPa/Maks Taper / Parallel joint			
	Water service			**Steam, Air and gas service (260°C)**
	Ambient Temperature			
mm	Light	Medium	Heavy	Medium and Heavy
6	1050	2100	2400	1050
8	1050	2100	2400	1050
10	1050	2100	2400	1050
15	1050	2100	2400	1050
20	1050	2100	2400	1050
25	1050	2100	2400	1050
32	850	1700	2100	900
40	850	1700	2100	900
50	700	1400	1700	-
65	700	1400	1700	-
80	700	1400	1700	-
100	550	1050	1400	-
125	-	1050	1400	-
150	-	850	1050	-

NOTES
The efficiency of taper / parallel screwed joints is highly dependent on the degree of care taken in assembly, as well as the quality of jointing compound used.
Light pipes are not recommended for steam, air or gas services.
Reference to steam service applies to saturated steam only.

Allowable working pressure for petroleum refinery piping and Carbon Steel welding fittings

(These values also apply to ASTM A106, Grade B Seamless Pipe)

Nominal pipe Size in inches	WT or schedule Number	Wall thickness	Allowable working pressures in kPa for temperatures (in deg F) not to exceed				
			-20 to 100	300	500	650	750
½	ST 40	0.109	15582	14134	12755	11721	10135
¾	ST 40	0.113	13376	12135	10962	10066	8687
	XS 80	0.154	23856	21649	19512	17857	15444
1	ST 40	0.133	14548	13169	11928	10894	9446
	XS 80	0.179	23925	21718	19581	17995	15513
	XS 160	0.250	39438	35852	32267	29578	25579
	XXS	0.385	65775	59708	53779	49366	42609
1 ¼	ST 40	0.140	12479	11378	10204	9377	8136
	XS 80	0.191	20684	18753	16892	15513	13375
	XS 160	0.250	30543	27717	24959	22890	19788
	XXS	0.382	54744	49711	44747	41092	35439
1 ½	ST 40	0.145	11538	10480	9446	8687	7515
	XS 80	0.200	19167	17443	15720	14410	12410
	XS 160	0.231	31026	28130	25372	23304	20063
	XXS	0.400	49849	45229	40748	37438	32336
2	ST 40	0.154	10135	9239	8342	7653	6619
	XS 80	0.218	17168	15582	14065	12893	11169
	XS 160	0.343	31716	28820	25993	23787	20546
	XXS	0.436	43368	39369	35439	32543	28061
2 ½	ST 40	0.203	12755	11583	10411	9584	8274
	XS 80	0.276	19443	17650	15927	14617	12617
	XS 160	0.375	28958	26269	23649	21718	18753
	XXS	0.552	47229	42885	38610	35439	30612
3	LW	0.120	4413	3999	3585	3289	2841
	ST 40	0.216	11307	10273	9303	8480	7377
	XS 80	0.300	17650	15996	14410	13238	11445
	XS 160	0.438	28475	25855	23235	21373	18409
	XXS	0.636	41989	38128	34336	31509	27234
3 ½	LW	0.120	3861	3516	3137	2875	2489
	ST 40	0.226	10549	9584	8618	7929	6826
	XS 80	0.318	16547	15030	13514	12410	10687
		0.636	38886	35301	31784	29164	25166
4	LW	0.120	3406	3096	2786	2558	2206
	ST 40	0.237	9928	9032	8136	7446	6481
	XS 80	0.337	15720	14272	12893	11790	10204
	XS 160	0.531	27441	24959	22477	20615	17788
	XXS	0.674	36611	33232	29923	27510	23718
5	LW	0.134	3365	3054	2751	2523	2179
	ST 40	0.258	8963	8136	7308	6757	5791
	XS 80	0.375	14410	13100	11790	10825	9308
	XS 160	0.625	26544	24131	21718	19926	17237
	XXS	0.750	32957	29923	26958	24752	21373
6	LW	0.134	2827	2572	2317	2123	1834
	ST 40	0.280	8342	7584	6826	6274	5447
	XS 80	0.432	14272	12962	11652	10687	9239
	XS 160	0.718	25924	23511	21167	19443	16823
	XXS	0.864	32129	29164	26269	24131	20822
8	LW	0.148	2565	2330	2103	1924	1662
	ST 40	0.322	7584	6895	6205	5723	4964
	XS 80	0.500	12893	11721	10549	9652	8342
	XS 160	0.875	24545	22270	20063	18409	15927
	XXS	0.906	25510	23166	20891	19167	16547

Schedule continued on next page ...

A.S.A. Pipe schedules • Diameters • Wall thicknesses • Weights

Piping to ANSI B36.19, B36.10, in inches and metric

Pipe Size inch	Metric O.D. in mm	Schedule 5S	10S	10	20	30	STS and 40S	Schedule 40	60	XS and 80S	Schedule 80	100	120	140	160	XXS
⅛	10.30	- -	1.24 0.28	- -	-	-	1.73 0.36		-	2.41 0.46		-	-	-	-	-
¼	13.71	- -	1.65 0.49	- -	-	-	2.24 0.63		-	3.02 0.80		-	-	-	-	-
⅜	17.14	- -	1.65 0.63	- -	-	-	2.31 0.85		-	3.20 1.10		-	-	-	-	-
½	21.34	1.65 0.80	2.11 1.00	- -	-	-	2.77 1.27		-	3.73 1.62		-	-	-	4.78 1.94	7.47 2.55
¾	26.67	1.65 1.03	2.11 1.28	- -	-	-	2.87 1.68		-	3.91 2.19		-	-	-	5.56 2.90	7.82 3.63
1	33.40	1.65 1.29	2.77 2.08	- -	-	-	3.38 2.50		-	4.55 3.23		-	-	-	6.35 4.18	9.09 5.45
1 ¼	42.16	1.65 1.65	2.77 2.69	- -	-	-	3.56 3.38		-	4.85 4.46		-	-	-	6.35 5.58	9.70 7.76
1 ½	48.26	1.65 1.90	2.77 3.12	- -	-	-	3.68 4.05		-	5.08 5.41		-	-	-	7.14 7.22	10.16 9.55
2	60.32	1.65 2.38	2.77 3.94	- -	-	-	3.91 5.44		-	5.54 7.49		-	-	-	8.74 11.08	11.07 13.45
2 ½	73.02	2.11 3.70	3.05 5.26	- -	-	-	5.16 8.68		-	7.01 11.42		-	-	-	9.52 14.88	14.02 20.41
3	88.90	2.11 4.50	3.05 6.45	- -	-	-	5.49 11.29		-	7.62 5.27		-	-	-	11.13 20.98	15.24 27.67
3 ½	101.60	2.11 5.20	3.05 7.40	- -	-	-	5.74 13.37	5.74 13.57	-	-8.08 18.63-		-	-	-	- -	- -
4	114.30	2.11 5.81	3.05 8.34	- -	-	-	6.02 16.07		-	8.56 22.31		-	11.13 28.25	-	13.49 33.48	17.12 41.02
5	141.30	2.77 9.45	3.40 11.56	- -	-	-	6.55 21.78		-	9.52 30.95		-	12.70 40.24	-	15.88 49.11	19.05 57.42
6	168.30	2.77 11.31	3.40 13.82	- -	-	-	7.11 28.26		-	10.97 42.56		-	14.47 54.20	-	18.26 67.22	21.95 79.18
8	219.10	2.77 14.78	3.76 19.94	- -	6.35 33.03	7.04 36.72	8.18 42.53		10.31 52.88	12.70 64.63		15.09 75.80	18.26 90.32	20.62 101.04	23.01 111.32	22.22 107.87
10	273.00	3.40 22.62	4.19 27.83	- -	6.35 41.76	7.80 51.00	9.27 60.29		12.70 81.46	12.70 81.46	15.09 95.95	18.26 114.59	21.44 132.74	25.40 154.94	28.58 172.14	25.4 154.94
12	323.85	3.96 33.00	4.57 36.00	- -	6.35 49.81	8.38 65.07	9.52 73.82	10.31 79.67	14.27 108.97	12.70 97.36	17.47 131.70	21.44 159.52	25.40 186.77	28.58 206.96	33.34 238.11	25.40 186.77
14	355.60	3.96 34.23	4.78 41.18	6.35 54.63	7.92 67.95	9.52 81.28	9.52 81.28	11.13 94.31	15.09 126.49	12.70 107.28	19.05 157.94	23.82 194.82	27.79 224.42	31.75 253.14	35.71 281.38	- -
16	406.40	4.19 41.60	4.78 47.33	6.35 62.58	7.92 77.88	9.52 93.21	9.52 93.21	12.70 123.18	16.64 159.98	12.70 123.18	21.44 203.16	26.19 245.32	30.96 286.44	36.52 332.62	40.49 364.85	- -
18	457.20	4.19 46.83	4.78 53.18	6.35 70.53	7.92 87.81	11.13 122.12	9.52 105.14	14.27 155.90	19.05 205.62	12.70 139.07	23.82 254.19	29.36 309.44	34.92 363.19	39.69 408.01	45.24 459.18	- -
20	508.00	4.78 59.22	5.54 68.50	6.35 78.47	9.52 117.07	12.70 154.97	9.52 117.07	15.09 183.12	20.62 247.79	12.70 154.97	26.19 310.90	32.54 381.04	38.10 440.93	44.45 587.54	50.01 564.14	- -
22	558.80	- -	- -	6.35 86.49	9.52 129.01	12.70 171.01	9.52 129.01	- -	22.22 294.06	12.70 171.01	28.60 373.58	34.92 451.14	41.28 526.70	47.62 600.27	53.98 671.85	- -
24	609.60	5.54 82.60	6.35 94.37	6.35 94.37	9.52 140.84	14.27 209.54	9.52 140.94	17.48 254.74	24.61 354.64	12.70 186.75	30.96 441.10	38.89 546.92	46.02 639.18	52.30 718.94	59.54 806.61	- -
26	660.40	- -	- -	7.92 127.58	12.70 202.65	- -	9.52 152.87	- -	- -	12.70 202.65	- -	- -	- -	- -	- -	- -
28	711.20	- -	- -	7.92 137.50	12.70 218.51	15.88 271.90	9.52 164.63	- -	- -	12.70 218.51	- -	- -	- -	- -	- -	- -
30	762.00	- -	- -	7.92 147.33	12.70 234.44	15.88 291.81	9.52 176.73	- -	- -	12.70 234.44	- -	- -	- -	- -	- -	- -
32	812.80	- -	- -	7.92 156.58	12.70 250.33	15.88 311.67	9.52 188.86	17.48 352.28	- -	12.70 250.33	- -	- -	- -	- -	- -	- -
34	863.60	- -	- -	7.92 166.82	12.70 266.35	15.88 331.54	9.52 200.59	17.48 363.91	- -	12.70 266.35	- -	- -	- -	- -	- -	- -
36	914.40	- -	- -	7.92 177.12	12.70 282.12	15.88 351.41	9.52 212.52	19.05 420.17	- -	12.70 282.12	- -	- -	- -	- -	- -	- -
38	965.20	- -	- -	- -	- -	- -	9.52 224.42	- -	- -	12.70 298.23	- -	- -	- -	- -	- -	- -
40	1016.00	- -	- -	- -	- -	- -	9.52 236.35	- -	- -	12.70 314.14	- -	- -	- -	- -	- -	- -
42	1066.80	- -	- -	- -	- -	- -	9.52 248.35	- -	- -	12.70 330.00	- -	- -	- -	- -	- -	- -
44	1117.60	- -	- -	- -	- -	- -	9.52 260.21	- -	- -	12.70 345.95	- -	- -	- -	- -	- -	- -

NOTE: Top figure = wall thickness in mm Bottom figure = weight in kg

PIPE - Allowable working pressures

Schedule 10S 316L

Size Inch	ALLOWABLE WORKING PRESSURES IN KPA																	
Temp °F	100	150	200	250	300	350	400	450	500	550	600	625	650	675	700	725	750	775
½	19981	19981	19981	19277	18574	16968	15368	14727	14086	13541	13003	12776	12555	12328	12100	11879	11652	11466
¾	15747	15747	15747	15196	14637	13376	12114	11611	11107	10680	10245	10073	9894	9715	9542	9363	9191	9039
1	16561	16561	16561	15982	15396	14065	12741	12210	11680	11224	10777	10590	10404	10218	10032	9846	9659	9501
1 ½	11252	11252	11252	10852	10459	9556	8653	8294	7936	7625	7322	7191	7067	6943	6812	6688	6564	6453
2	8929	8929	8929	8611	8294	7584	6887	6877	6295	6053	5809	5709	5605	5509	5405	5309	5205	5123
2 ½	8094	8094	8094	7805	7522	6874	6226	5964	5709	5488	5267	5178	5081	4992	4902	4812	4723	4640
3	6612	6612	6612	6377	6143	5619	5096	4874	4661	4481	4302	4226	4151	4082	4006	3930	3854	3792
4	5116	5116	5116	4937	4757	4344	3937	3771	3606	3468	3330	3268	3213	3158	3096	3040	2985	2937
6	3861	3861	3861	3723	3592	3282	2972	2847	2723	2620	2510	2468	2427	2385	2337	2296	2254	2213
8	3268	3268	3268	3151	3040	2778	2516	2413	2303	2213	2123	2089	2055	2020	1979	1944	1910	1875
10	2923	2923	2923	2820	2716	2482	2248	2151	2061	1979	1903	1868	1834	1799	1772	1737	1703	1675
12	2682	2682	2682	2592	2496	2282	2061	1979	1889	1820	1744	1717	1689	1655	1627	1593	1565	1537

Schedule 40S 316L

Size Inch	ALLOWABLE WORKING PRESSURES IN KPA																	
Temp °F	100	150	200	250	300	350	400	450	500	550	600	625	650	675	700	725	750	775
½	26862	26862	26862	25917	24973	22814	20663	19801	16940	18209	17478	17175	16878	16575	16271	15975	15672	15410
¾	21904	21904	21904	21132	20360	18609	16851	16147	15444	14851	14251	14010	13762	13514	13272	13024	12776	12569
1	20491	20491	20491	19767	19043	17402	15761	15106	14444	13886	13327	13100	12872	12638	12410	12183	11984	11755
1 ½	15175	15175	15175	14637	14106	12888	11673	11190	10700	10287	9873	9701	9535	9363	9191	9025	8853	8708
2	12783	12783	12783	12335	11886	10859	9832	9425	9018	8667	8322	8177	8032	7887	7743	7600	7460	7336
2 ½	13982	13982	13982	13486	12990	11873	10756	10307	9859	9480	9094	8942	8784	8625	8467	8315	8156	8018
3	12141	12141	12141	11714	11287	10314	9342	8949	8563	8232	7901	7763	7625	7488	7357	7219	7081	6964
4	10294	10294	10294	9929	9570	8742	7915	7584	7260	6977	6695	6584	6467	6350	6233	6122	6005	5902
6	13024	8196	8196	7908	7619	6964	6309	6040	5778	5557	5336	5240	5150	5061	4964	4874	4785	4702
8	7219	7219	7219	6964	6708	6129	5550	5316	5088	4888	1695	4612	4530	4454	4371	4288	4206	4137
10	6543	6543	6543	6315	6088	5567	5033	4826	4619	4440	4261	4185	4109	4040	3964	3895	3820	3758
12	6129	6129	6129	5916	5695	5205	4716	4516	4323	4157	3992	3923	3854	3785	3716	3647	3578	3516

For welded pipe see notes below

Conforming with requirements of 327,4,3 have a weld joint factor of 1.00 ie pressure as tabulated above.

Longitudinally welded pipe to ASTM specification A358 Class II has a weld joint factor of .85 ie pressures tabulated above multiplied by .85.

Longitudinally welded pipe to ASTM specification A312 has a weld joint factor of .80 ie pressures as tabulated above multiplied by .80

$$t = \frac{Pd}{2(SE + PY - P)}$$

Allowable working pressure for petroleum refinery piping and Carbon Steel welding fittings continued ...

(These values also apply to ASTM A106, Grade B Seamless Pipe)

Nominal Pipe Size (inches)	WT or Schedule number	Wall Thickness	Allowable working pressures in kPa for temperatures (in deg F) not to exceed				
			-20 to 100	300	500	650	750
10	LW	0.165	2441	2220	1999	1834	1586
	ST 40	0.365	7101	6412	5791	5309	4619
	XS 60	0.500	10273	9308	8411	7722	6688
	XS 160	1.125	25786	23442	21098	19374	16685
12	LW	0.180	2344	2130	1917	1758	1524
	ST	0.375	6136	5585	5033	4619	3999
	XS	0.500	8618	7860	7032	6481	5585
	160	1.312	25510	23167	20891	19167	16547
14	10	0.250	3351	3047	2744	2516	2172
	ST 30	0.375	5585	5102	4619	4206	3654
	XS	0.500	7860	7101	6412	5860	5102
16	10	0.250	2937	2668	2406	2206	1903
	ST 30	0.375	4895	4461	3999	3654	3158
	XS 40	0.500	6826	6205	5585	5171	4413
18	10	0.250	2606	2372	2137	1958	1689
	ST	0.375	4344	3930	3585	3240	2799
	XS	0.500	6067	5516	4964	4550	3930
20	10	0.250	2344	2130	1917	1758	1524
	ST 20	0.375	3930	3585	3171	2909	2510
	XS 30	0.500	5447	4964	4481	4137	3585
22		0.250	2123	1930	1737	1593	1379
	ST	0.375	3516	3192	2875	2641	2282
	XS	0.500	4964	4481	4068	3723	3199
24	10	0.250	1944	1765	1593	1462	1262
	ST 20	0.375	3227	2930	2641	2420	2096
	XS	0.500	4550	4137	3723	3385	2923
26	ST	0.375	2978	2710	2441	2234	1930
	XS	0.500	4206	3792	3406	3123	2703
30	ST	0.375	2579	2344	2110	1937	1675
	XS 20	0.500	3654	3268	2944	2703	2330
34	ST	0.375	2275	2068	1861	1710	1475
	XS	0.500	3171	2882	2599	2379	2055
36	ST	0.375	2137	1944	1751	1606	1386
	XS	0.500	2992	2723	2448	2248	1944
42	ST	0.375	1834	1668	1503	1379	1193
	XS	0.500	2565	2330	2103	1924	1662

Above values in kPa to conform to South African metric system.
All dimensions are in inches.
LW = Light Weight
ST = Standard Wall
XS = Extra Strong Wall
XXS = Double Extra Strong Wall
Numbers are Schedule Numbers
The above tabular values are rounded off to the next higher unit of 10 for pressures 500PSI and higher. Interpolation is permissible for intermediate temperatures.

The allowable working pressures were calculated by the following formula given in the code for Pressure Piping, ASA B31.3-1959, par, 304.1.2,

$$P = \frac{2StE}{D_o 2yt}$$

where P = internal design pressure, psig
S = applicable allowable stress, psi
D_o = outside diameter of pipe, inches
E = longitudinal weld joint factor = 1.0
$t = t_m - C$ = design thickness, inches
t_m = minimum thickness for the pipe selected considering manufacturer's minus tolerance = 12 $^2/_2$% less than the thickness shown in the table.
C = mechanical, corrosion and erosion allowance in inches = 0.05" in above calculations.
Y = a coefficient = 0.4 for ferritic steels to 900°F.

The allowable working stresses were obtained from the Code for Pressure Piping, ASA B31.3-1959, Table 302.3.1A

Plant process piping: It is recommended that the allowable working pressures listed above be used also for the process piping in plants other than oil refineries except where such piping is expressly covered in the same ASME Boiler and Pressure Vessel Code or other sections on the Code for Pressure Piping. Case No. 49, states that chemical process piping may be designed in accordance with the requirements of the ASA B31.3, Petroleum Refinery Piping.

Copper tubing for domestic plumbing

Tubes for Domestic Plumbing Services as per SABS 460-75 as amended 1981

Class 2 (Medium)

Nominal Size of Tube mm	Outside Diameter Max mm	Outside Diameter Min mm	Wall Thickness Class 2 Med mm	Theoretical Mass kg/m Class 2	Maximum Working Pressure mPa Class 2 Half Hard
15	15.045	14.955	1.0	0.392	7.54
22	22.055	21.945	1.0	0.588	5.00
28	28.055	27.945	1.2	0.900	4.72
35	35.070	34.930	1.5	1.407	4.72
42	42.070	41.930	1.5	1.701	3.81
54	54.070	53.930	2.0	2.912	4.06
76	76.170	76.030	2.0	4.150	2.85
108	108.070	107.930	2.5	7.385	2.50

Class 1 (Light)

Nominal Size of Tube mm	Outside Diameter Max mm	Outside Diameter Min mm	Wall Thickness Class 1 Light mm	Theoretical Mass kg/m Class 1	Maximum Working Pressure mPa Class 1 Half Hard
15	15.045	14.955	0.70	0.280	5.160
22	22.055	21.945	0.90	0.532	4.500
28	28.055	27.945	0.90	0.683	3.500
35	35.070	34.930	1.20	1.136	3.740
42	42.070	41.930	1.20	1.371	3.030
54	54.070	53.930	1.20	1.774	2.400
76	76.170	76.030	1.50	3.133	2.120
108	108.070	107.930	1.50	4.473	1.490

Class 0

Nominal Size of Tube mm	Outside Diameter Max mm	Outside Diameter Min mm	Wall Thickness Class 0 mm	Theoretical Mass kg/m Class 0	Maximum Working Pressure mPa Class 0 Half Hard
15	15.045	14.955	0.60	0.242	4.93
22	22.055	21.945	0.75	0.447	4.18
28	28.055	27.945	0.80	0.61	3.59
35	35.070	34.930	1.20	1.137	4.2
42	42.070	41.930	1.20	1.372	3.48
54	54.070	53.930	1.20	1.775	2.69
76	76.170	76.030	1.50	3.133	2.38
108	108.070	107.930	1.50	4.473	1.67

PIPE - Allowable working pressures

Schedule 10S 304L

Size Inch	ALLOWABLE WORKING PRESSURES IN KPA																	
Temp °F	100	150	200	250	300	350	400	450	500	550	600	625	650	675	700	725	750	775
⅛	19981	19788	19595	19188	16782	15430	14086	13258	12424	11976	11528	11369	11204	11045	10887	10756	10632	10501
¼	15747	15595	15444	14334	13224	12169	11107	10452	9790	9439	9087	8963	8832	8706	8584	8480	8377	8280
⅜	16561	16402	16244	15079	13907	12169	11680	10990	10301	9929	9556	9425	9287	9156	9025	8922	8811	8708
½	11252	11142	11031	10239	9446	8687	7936	7467	6998	6743	6488	3698	6309	6219	6129	6060	5984	5916
¾	8929	8839	8756	8122	7495	6895	6295	5922	5550	5350	5150	5074	5005	4937	4861	4806	4750	4688
1	8094	8012	7936	7363	6798	6253	5709	5371	5033	4854	4668	4606	4537	4475	4413	4357	4309	4254
1 ¼	6612	6550	6469	6019	5550	5109	4661	4385	4109	3964	3813	3764	3709	3654	3606	3558	3516	3475
1 ½	5116	5068	5019	4654	4295	3951	3606	3392	3178	3068	2951	2909	2868	6827	2785	2751	2723	2689
2	3861	3826	3785	3516	3240	2985	2723	2565	2399	2317	2227	2199	2165	2137	2103	6082	2055	2027
2 ½	3269	3240	3206	2978	2744	2523	2303	2172	2034	1958	1890	1861	1834	1806	1779	1758	1737	1717
3	2923	2896	2861	2661	2454	2254	2061	1937	1813	1751	1682	1662	1641	1613	1593	1572	1551	1537
4	2682	2661	2634	2441	2254	2075	1899	1779	1668	1606	1551	1524	1503	1482	1462	1448	1427	1413

Schedule 40S 304L

Size Inch	ALLOWABLE WORKING PRESSURES IN KPA																	
Temp °F	100	150	200	250	300	350	400	450	500	550	600	625	650	675	700	725	750	775
⅛	26862	26607	26345	24455	22559	20753	18940	17823	16706	16099	15499	15285	15065	14851	14637	14465	14293	14120
¼	21904	21698	21484	19939	18395	16919	15444	14534	13624	13127	12639	12466	12286	12114	11935	11797	11659	11515
⅜	20491	20291	20091	18850	17202	15829	14444	13589	12741	12279	11817	11659	11493	11328	11162	11031	10900	10769
½	15175	15030	14886	13810	12741	11721	10700	10066	9439	9094	8756	8632	8515	8391	8267	8170	8074	7977
¾	12783	12665	12541	11638	10735	9873	9018	8480	7949	7660	7377	7274	7170	7067	6964	6888	6805	6722
1	13982	13844	13713	12726	11742	10797	9859	9273	8694	8377	8067	7956	7839	7729	7619	7529	7439	7350
1 ¼	12141	12024	11907	11052	10197	9377	8563	8053	7550	7274	7005	6908	6812	6715	6612	6536	6460	6384
1 ½	10294	10190	10094	9370	8648	7949	7260	6826	6398	6171	5936	5854	5771	5688	5605	5543	5474	5412
2	8198	8122	8039	7460	6881	6329	5778	5440	5095	4918	4730	4661	4599	4530	4468	4413	4364	4309
2 ½	7219	7143	7074	6571	6060	5571	5098	4785	4488	4323	4164	4102	4047	3992	3930	3889	3840	3792
3	6543	6481	6419	5957	5694	5054	4619	4344	4068	3923	3778	3723	3675	3620	3564	3523	3482	3440
4	6129	6074	6012	5578	5150	4737	4323	4069	3813	3675	3537	3489	3440	3392	3337	3302	3261	3220

The above calculations are for seamless pipe.

Allowable working pressures tabulated above were calculated by the formula in para 304, 1.2 (a) of ASA B31.3-1966 code for pressure piping as follows:

$$t = \frac{Pd}{2(SE+PY-P)}$$

Longitudinally welded pipe weld joint factors are established in para 302.4.3 of ASA B31.3.1966

Longitudinally welded pipe to ASTM specification A358 Class I and to ASTM specification A312 with 100% radiography in accordance with para 336.4.2 (e).

Useful pressure conversions

kPa	PSI	Metres Head	kPa	PSI	Metres Head	kPa	PSI	Metres Head
1.00	0.14	0.10	380.00	55.11	38.75	880.00	127.63	89.73
2.00	0.29	0.20	390.00	56.56	39.77	890.00	129.08	90.75
3.00	0.44	0.31	400.00	58.02	40.79	896.32	130.00	91.40
4.00	0.58	0.41	410.00	59.47	41.81	900.00	130.53	91.77
5.00	0.73	0.51	413.69	60.00	42.18	910.00	131.98	92.79
6.00	0.87	0.61	420.00	60.92	42.83	920.00	133.43	93.81
6.89	1.00	0.70	430.00	62.37	43.85	930.00	134.89	94.83
7.00	1.02	0.71	440.00	63.82	44.87	930.79	135.00	94.91
8.00	1.16	0.82	448.16	65.00	45.70	940.00	136.34	95.85
9.00	1.31	0.92	450.00	65.27	45.89	950.00	137.79	96.87
10.00	1.45	1.02	460.00	66.72	46.91	960.00	139.24	97.89
13.79	2.00	1.41	470.00	68.17	47.93	965.27	140.00	98.43
20.00	2.90	2.04	480.00	69.62	48.95	970.00	140.69	98.91
20.68	3.00	2.11	482.63	70.00	49.21	980.00	142.14	99.83
27.58	4.00	2.81	490.00	71.07	49.97	990.00	143.59	100.95
30.00	4.35	3.06	500.00	72.52	50.99	999.74	145.00	101.95
34.47	5.00	3.52	510.00	73.97	52.01	1000.00	145.04	101.97
40.00	5.80	4.08	517.11	75.00	52.73	1034.21	150.00	105.46
41.37	6.00	4.22	520.00	75.42	53.03	1378.95	200.00	140.61
48.26	7.00	4.92	530.00	76.87	54.04	1500.00	217.56	152.96
50.00	7.25	5.10	540.00	78.32	55.06	1723.69	250.00	175.77
55.16	8.00	5.62	550.00	79.77	56.08	2000.00	290.08	203.94
60.00	8.70	6.12	551.58	80.00	56.25	2068.43	300.00	210.92
62.05	9.00	6.33	560.00	81.22	57.10	2413.16	350.00	246.07
68.95	10.00	7.03	570.00	82.67	58.12	2500.00	362.59	254.93
70.00	10.15	7.14	580.00	84.12	59.14	2757.90	400.00	281.23
80.00	11.60	8.16	586.05	85.00	59.76	3000.00	435.11	305.91
90.00	13.05	9.18	590.00	85.57	60.16	3102.64	450.00	316.38
100.00	14.50	10.20	600.00	87.02	61.18	3447.38	500.00	351.53
103.42	15.00	10.55	610.00	88.47	62.20	3500.00	507.63	356.90
110.00	15.95	11.22	620.00	89.92	63.22	3792.12	550.00	386.69
120.00	17.40	12.24	620.53	90.00	63.28	4000.00	580.15	407.89
130.00	18.85	13.26	630.00	91.37	64.24	4136.85	600.00	421.84
137.90	20.00	14.06	640.00	92.82	65.26	4481.59	650.00	457.00
140.00	20.31	14.28	650.00	94.27	66.28	4500.00	652.67	458.87
150.00	21.76	15.30	655.00	95.00	66.79	4826.33	700.00	492.15
160.00	23.21	16.32	660.00	95.72	67.30	5000.00	725.19	509.86
172.37	25.00	17.58	670.00	97.18	68.32	5171.07	750.00	527.30
180.00	26.11	18.35	680.00	98.63	69.34	5500.00	797.71	560.84
190.00	27.56	19.37	689.48	100.00	70.31	5515.81	800.00	562.46
200.00	29.01	20.39	690.00	100.08	70.36	5861.54	850.00	597.61
206.84	30.00	21.09	700.00	101.53	71.38	6000.00	870.23	611.83
210.00	30.46	21.41	710.00	102.98	72.40	6205.28	900.00	632.76
220.00	31.91	22.43	720.00	104.43	73.42	6500.00	942.75	662.82
230.00	33.36	23.45	723.95	105.00	73.82	6550.00	950.00	667.91
240.00	34.81	24.47	730.00	105.88	74.44	6894.76	1000.00	703.07
241.32	35.00	24.61	740.00	107.33	75.46	7000.00	1015.26	713.80
250.00	36.26	25.49	750.00	108.78	76.48	7239.49	1050.00	738.22
260.00	37.71	26.51	758.42	110.00	77.34	7500.00	1087.78	764.79
270.00	39.16	27.53	760.00	110.23	77.50	7584.23	1100.00	773.38
275.79	40.00	28.12	770.00	111.68	78.52	7928.97	1150.00	808.53
280.00	40.61	28.55	780.00	113.13	79.54	8000.00	1160.30	815.77
290.00	42.06	29.57	790.00	114.58	80.56	8273.71	1200.00	843.68
300.00	43.51	30.59	792.90	115.00	80.85	8500.00	1232.82	866.76
310.00	44.96	31.61	800.00	116.03	81.58	8618.45	1250.00	878.84
310.26	45.00	31.64	810.00	117.48	82.60	8963.18	1300.00	913.99
320.00	46.41	32.63	820.00	118.93	83.62	9000.00	1305.34	917.74
330.00	47.86	33.65	827.37	120.00	84.37	9307.92	1350.00	949.14
340.00	49.31	34.67	830.00	120.38	84.64	9500.00	1377.86	968.73
344.74	50.00	35.15	840.00	121.83	85.66	9652.66	1400.00	984.30
350.00	50.76	35.69	850.00	123.28	86.68	9997.40	1450.00	1019.45
360.00	52.21	36.71	860.00	124.73	87.70	10000.00	1450.38	1019.72
370.00	53.66	37.73	861.84	125.00	87.88			
379.21	55.00	38.67	870.00	126.18	88.72			

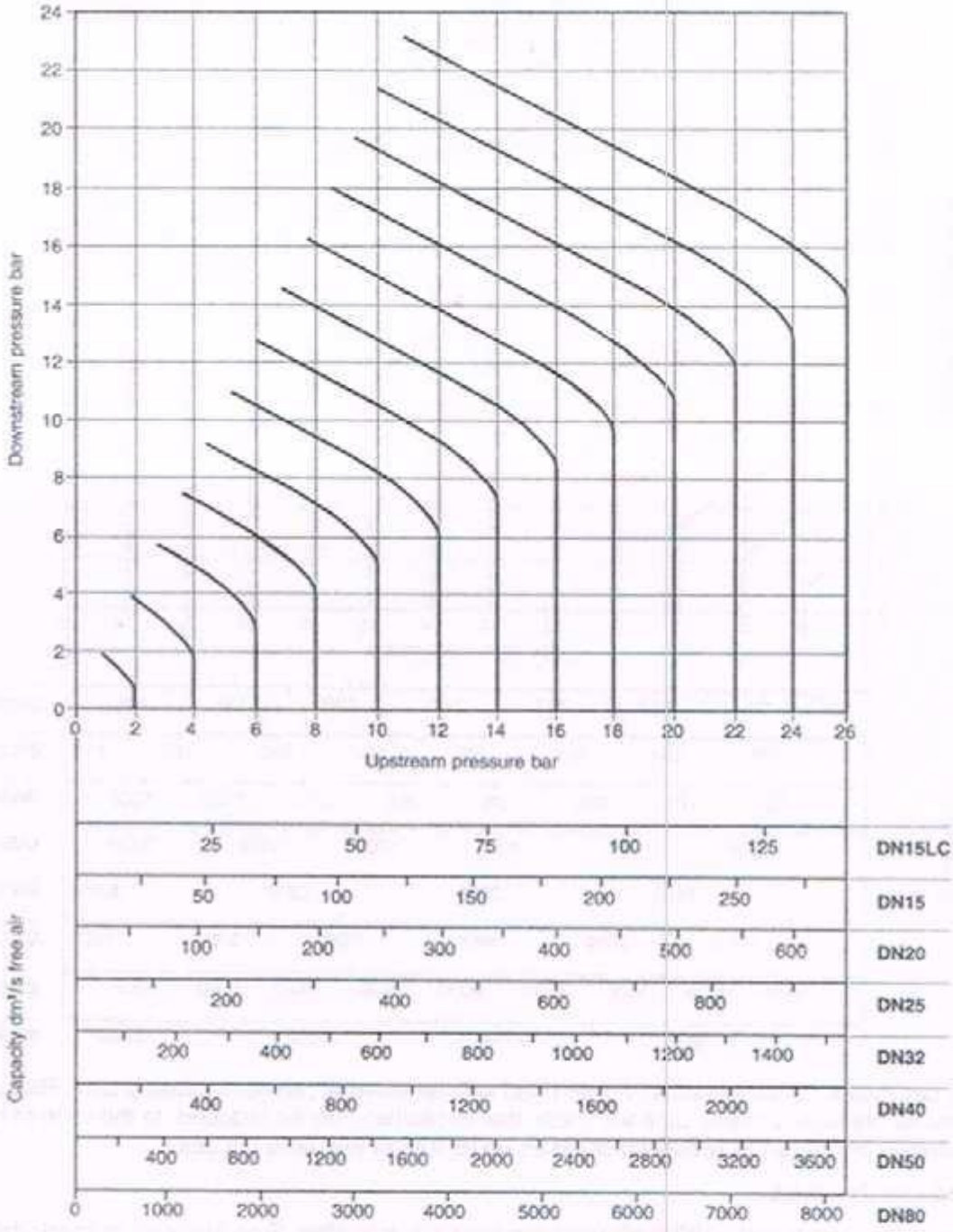
TABULATION SHEET

Useful Conversion Factors and Formulae

To convert from	to	multiply by
Atmospheres	Pounds per sq inch	14,70
Centimeters	inches	0,3937
Cubic centimeters	cubic inches	0,06103
Cubic feet	cubic meters	0,02832
Cubic feet	gallons	6,228
Cubic inches	cubic centimeters	16,3871
Cubic inches	liters	0,01639
Cubic meters	cubic feet	3532
Cubic meters	cubic yards	1308
Cubic yards	cubic meters	07645
Feet	meters	03048
Gallons	liters	4546
Gallons	cubic feet	01605
Grams	pounds	000220
Inches	centimeters	2540
Inches	millimeters	25,40
Kilograms	pounds	2,205
Kilograms	tons	000098
Kilometers	miles	06214
Kilograms per meter	pounds. Per foot	0672
Kilograms per sq. mm	tons per sq. in.	0635
Kilograms per sq. mm.	pounds per sq in.	142234
Kilograms per sq cm.	pounds per sq in.	14223
Kilograms per sq. mm.	newtons per sq. mm.	9,8115
Liters	cubic inches	6103
Liters	gallons	0,2205
Liters of water at 62°F	pounds	2,205
Meters	feet	3,281
Meters	yards	1,094
Miles	kilometers	1,609
Millimeters	inches	0,0394
Nektons per sq. mm.	Kilograms per sq. mm.	0,1019
Nektons per sq. mm	pounds per sq inch	145,0677
Pounds	grams	453.6
Pounds	kilograms	0,4536
Pounds per foot	Kilograms per meter	1.488
Pounds per sq in	Kpa	6.895
Pounds per sq in.	atmospheres	0,06803
Pounds per sq in.	kilograms per sq. cm.	007031
Pounds per sq. in.	kilograms per sq mm.	0.0007031
Pounds per sq. in.	newtons per sq mm.	0,0069
square centimeters	square inches	01550
Square feet	square meters	0,09296
Square inches	square centimeters	6,452
Square kilometers	square miles	0,3861
Square meters	square feet	10,76
Square meters	square yards	1,196
Square miles	square kilometers	2,590
Square yards	square meters	0.8367
Temperature conversion:	°F to °C = 5/9 - 32 °C to °F = 9/5 + 32	
Tons per sq. in	kilograms per sq mm.	1,575
Tons	kilograms	10160
Yards	meters	0,9144

Sizing the cast iron pressure reducing valve flanged continued...

Compressed air capacities



How to use the chart

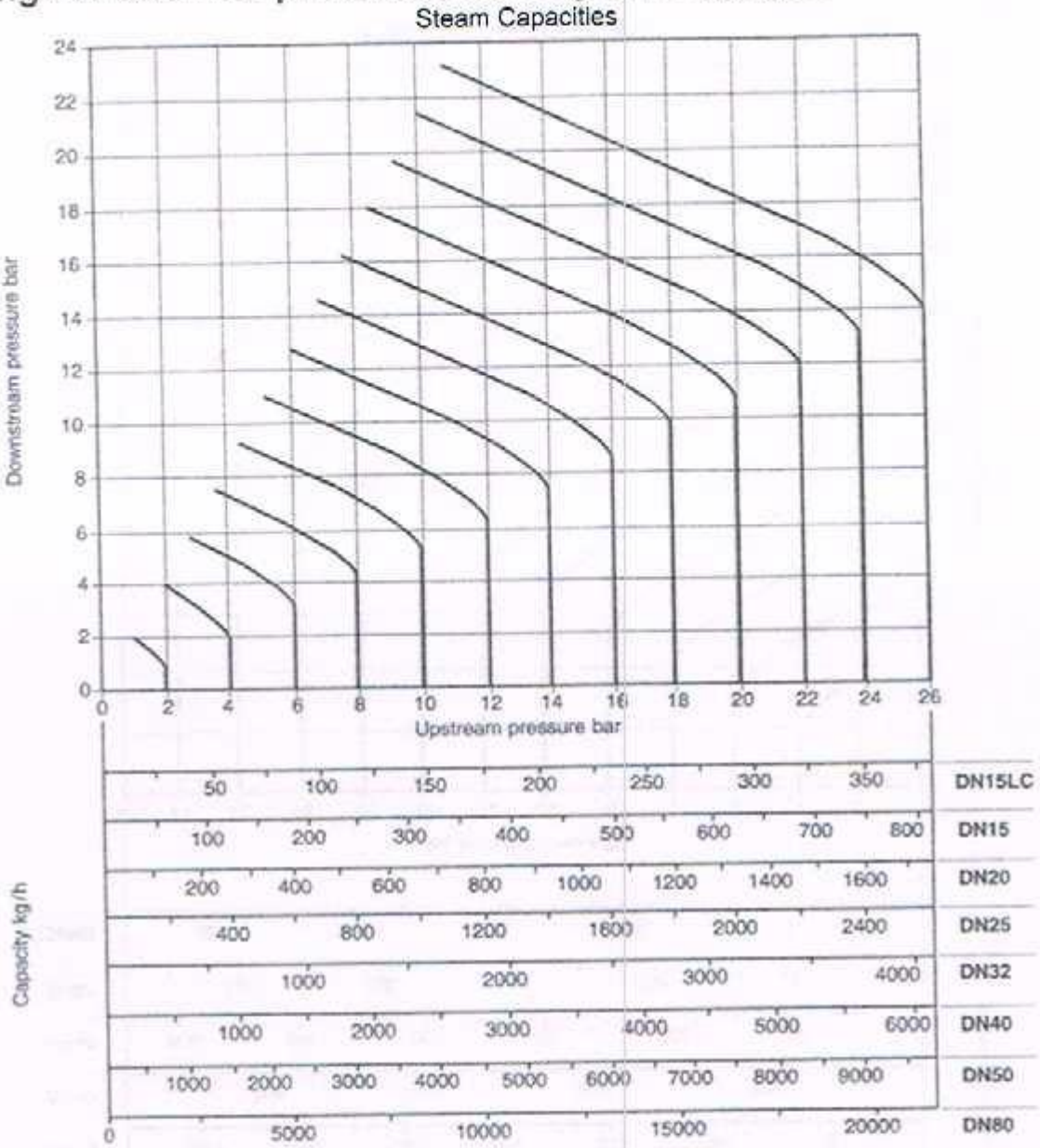
Capacities are given in cubic decimeters of free air per second (dm^3/s). The use of the capacity chart can be best explained by an example.

A valve is required to pass $200dm^3/s$ of free air reducing from 14bar to 8bar.

Find the point at which the curved 14bar upstream pressure line crosses the horizontal 8bar downstream pressure line. A perpendicular dropped from this point gives the capacities of all the sizes. A 20mm valve is the smallest which will carry the required load

A 15mm valve will only pass approximately $153.13dm^3/s$ which is not large enough; therefore a 20mm valve is the correct one to choose as it will pass approximately $333dm^3/s$ under these conditions

Sizing the cast iron pressure reducing valve flanged



Above capacities above based on valves fitted with an external pressure sensing pipe. Reliance on the internal pressure sensing pipe will mean that capacities may be reduced. In the case of low downstream pressure this reduction could be up to 30% of the valve capacity.

How to use the chart

A valve is required to pass 1000kg/h reducing from 10bar to 6bar. Find the point at which the curved 10bar upstream pressure line crossed the horizontal 6bar downstream pressure line. A perpendicular dropped from this point gives the capacities of all sizes under these conditions. A 32mm valve is the smallest size which will carry the required load.

Superheated Steam

Due to the higher specific volume of superheated steam a correction factor must be applied to the figure obtained from the above chart. For 55°C of superheated steam the factor is 0.95 and for 100°C the factor is 0.9

Using the given example for saturated steam, the 32mm valve would pass

1500 x 0.95 = 1425kg/h if the steam had 55°C of superheat.
1500 x 0.9 = 1350kg/h if the steam had 100°C of superheat.
It is still big enough to pass the required load of 1000kg/h.

Safety & Relief Valves

Blow-off capacity

SS Fig S10, S10L and S10T

SS

STEAM							Unit kg/hr
Size	½"(13)	¾"(19)	1"(25)	1 ¼"(32)	1 ½"(38)	2"(50)	2 ½"(65)
Lift	0.52	0.76	1	1.28	1.52	2	2.5
Area	21.2	45.3	78.5	128.6	181.4	314.0	510.3
Pressure kg/cm²				Capacity (kg/hr)			
8.5	82.8	177.0	306.4	501.9	707.8	1225.5	1991.4
2	26.0	55.5	96.1	157.5	222.0	384.4	624.7
3	34.7	74.2	128.5	210.5	296.8	513.8	834.9
4	43.5	92.9	160.8	263.5	371.5	643.2	1045.2
5	52.2	111.6	193.1	316.5	446.2	772.6	1255.5
6	61.0	130.2	225.5	369.5	521.0	902.0	1465.7
7	69.7	148.9	257.8	422.4	595.7	1031.4	1676.0
8	78.5	167.6	290.2	475.4	670.5	1160.8	1886.2
9	87.2	186.3	322.5	528.4	745.2	1290.2	2096.5
10	96.0	205.0	354.9	581.4	819.9	1419.5	2306.8
11	104.7	223.7	387.2	634.4	894.7	1548.9	2517.0
12	113.5	242.4	419.6	687.4	969.4	1678.3	2727.3
1kg/cm2 = 14.2		Working	Temperature	1. Teflon seat	- 100 to 180		
PSI = 1 Bar				2. Hot brass seat	- 45 to 185		
				3. Stainless seat	- 196 to 250		

WATER							Unit l/hr
Size	½"(13)	¾"(19)	1"(25)	1 ¼"(32)	1 ½"(38)	2"(50)	2 ½"(65)
Lift	0.52	0.76	1	1.28	1.52	2	2.5
Area	21.2	45.3	78.5	128.6	181.4	314.0	510.3
Pressure kg/cm²				Capacity (l/hr)			
7	1708	3649	6318	10351	14597	25272	41067
2	913	1951	3377	5533	7802	13508	21951
3	1118	2389	4136	6777	9556	16544	26885
4	1291	2759	4776	7825	11034	19104	31044
5	1444	3084	5340	8749	12337	21359	34708
6	1582	3379	5849	9584	13514	23397	38021
7	1708	3649	6318	10351	14597	25272	41067
8	1826	3901	6754	11066	15605	27017	43902
9	1937	4138	7164	11737	16551	28656	46565
10	2042	4362	7551	12372	17447	30206	49084
11	2142	4575	7920	12976	18298	31680	51480
12	2237	4778	8272	13553	19112	33089	53769
13	2328	4973	8610	14107	19892	34440	55965
14	2416	5161	8935	14639	20643	35740	58077
15	2501	5342	9249	15153	21368	36994	60116
16	2583	5517	9552	15650	22069	38208	62087
17	2662	5687	9846	16131	22748	39383	63998
18	2740	5852	10131	16599	23407	40525	65853
19	2815	6012	10409	17054	24049	41636	67658
20	2888	6168	10679	17497	24674	42717	69416
1kg/cm2 = 14.2		Working	Temperature	1. Teflon seat	- 100 to 180		
PSI = 1 Bar				2. Hot brass seat	- 45 to 185		
				3. Stainless seat	- 196 to 250		

FLANGE DIMENSIONS

B.S. 10 1962									ANSI B16.5 or BS 1560						BS 4504 1969					
Pressure Rating	Steam	kPa	345	690			1035	1725	1035			2070			500			800		
	Water		690	1380			2070	3450	1900			4965			1000			1600		
			"D"	"E"			"F"	"H"	A.S.A. 150			A.S.A. 300			TABLE 10			TABLE 16		
BORE	Outside DIA	P.C.D. Holes	No: of Holes	No: of Holes	Outside DIA	P.C.D. Holes	No: of Holes	No: of Holes	Outside DIA	P.C.D. Holes	No: of Holes	Outside DIA	P.C.D. Holes	No: of Holes	Outside DIA	P.C.D. Holes	No: of Holes	Outside DIA	P.C.D. Holes	No. of Holes
15	95	67	4	4	95 / 114	67	4	4	89	60	4	95	67	4	95	65	4	95	65	4
20	102	73	4	4	102 / 114	73 / 83	4	4	98	70	4	118	83	4	105	75	4	105	75	4
25	114	83	4	4	121	87	4	4	108	79	4	124	89	4	115	85	4	115	85	4
32	121	87	4	4	133	98	4	4	118	89	4	133	98	4	140	100	4	140	100	4
40	133	98	4	4	140	105	4	4	127	98	4	156	114	4	150	110	4	150	110	4
50	152	114	4	4	165	127	4	4	152	121	4	165	127	8	165	125	4	165	125	4
65	165	127	4	4	184	146	8	8	178	140	4	191	149	8	185	145	4	185	145	4
80	184	146	4	4	203	165	8	8	191	152	4	210	168	8	200	160	8	200	160	8
100	216	178	4	8	229	191	8	8	229	191	8	254	200	8	220	180	8	220	180	8
125	254	210	8	8	279	235	8	8	254	216	8	279	235	8	250	210	8	250	210	8
150	279	235	8	8	305	260	12	12	279	241	8	318	270	12	285	240	8	295	240	8
200	337	292	8	8	368	324	12	12	343	299	8	381	330	12	340	295	8	340	295	12
250	406	356	8	12	432	381	12	12	406	362	12	445	387	16	395	350	12	405	355	12
300	457	406	12	12	489	438	16	16	483	432	12	521	451	16	445	400	12	460	410	12
350	527	470	12	12	553	495	16	16	533	476	12	584	514	20	505	460	16	520	470	16
400	578	521	12	12	610	553	20	20	597	540	16	648	572	20	565	515	16	580	525	16
450	641	584	12	16	673	610	20	20	635	578	16	711	629	24	615	565	20	640	585	20
500	705	641	16	16	737	673	24	24	699	635	20	775	686	24	670	620	20	715	650	20

Blow off capacity continued...

SS Fig FGXLSSS, FGXSSS

SS

WATER						Unit : l/hr
Size	½"x1"	¾"x1"	1"x1 ¼"	1 ¼"x2"	1 ½"x2"	2"x2 ½"
D	21	21	21	32	40	50
Area	68.6	100.2	197.8	257.2	381.8	628.0
Pressure kg/cm²	Capacity (l/hr)					
1	2237	3270	6453	8391	12456	20487
2	3164	4624	9126	11867	17615	28972
3	3875	5663	11177	14534	21574	35484
4	4474	6539	12906	16783	24912	40973
8	6328	9248	18253	23734	35230	57945
11	7420	10844	21403	27831	41311	67946
12	7750	11326	22355	29068	43148	70967
14	8371	12234	24146	31397	46605	76653
16	8949	13079	25813	33565	49823	81946
18	9491	13872	27379	35601	52845	86917
20	10005	14622	28860	37527	55704	91618
22	10493	15336	30268	39359	58423	96090
24	10960	16018	31614	41109	61021	100363
26	11407	16672	32905	42787	63512	104461
28	11838	17301	34147	44402	65910	108404
30	12253	17909	35346	45961	68223	112209
32	12655	18496	36505	47468	70461	115889
34	13045	19065	37629	48929	72629	119456
36	13423	19618	38719	50348	74735	122919
38	13791	20155	39780	51727	76783	126287
40	14149	20679	40814	53071	78777	129568

AIR						Unit : cm/hr
Size	½" (15)	¾" (20)	1" (25)	1 ¼" (32)	1 ½" (40)	2" (50)
D (valve seat diameter) mm	21	21	21	32	40	50
Area (cm2)	68.6	100.2	197.8	257.2	381.8	628.0
Set press kg/cm²	Capacity (cm/hr)					
1	90	132	260	339	503	827
2	138	201	397	516	766	1260
3	185	270	533	693	1029	1692
4	232	339	670	871	1292	2125
5	279	408	806	1048	1556	2558
10	516	754	1488	1935	2872	4723
12	610	892	1761	2289	3398	5589
14	705	1030	2033	2644	3925	6455
16	799	1168	2306	2999	4451	7321
18	894	1307	2579	3353	4978	8187
20	989	1445	2852	3708	5504	9053
22	1083	1583	3124	4063	6031	9919
24	1178	1721	3397	4417	6557	10785
26	1272	1859	3670	4772	7084	11651
28	1367	1998	3943	5127	7610	12516
30	1461	2136	4215	5481	8136	13382
32	1556	2274	4488	5836	8663	14248
34	1650	2412	4761	6191	9189	15114
36	1745	2550	5034	6545	9716	15980
38	1840	2689	5306	6900	10242	16846
40	1934	2827	5579	7255	10769	17712

Blow-off capacity continued...

SS Fig S10, S10L and S10LT

SS

AIR							Unit cm/hr
Size	½"(13)	¾"(19)	1"(25)	1 ¼"(32)	1 ½"(38)	2"(50)	2 ½"(65)
Lift	0.52	0.76	1	1.28	1.52	2	2.5
Area	21.2	45.3	78.5	128.6	181.4	314.0	510.3
Pressure kg/cm²	Capacity (cm/hr)						
1	28	60	103	169	239	413	672
2	43	91	157	258	364	630	1023
3	57	122	212	347	489	846	1375
4	72	153	266	435	614	1063	1727
5	86	185	320	524	739	1279	2079
6	101	216	374	613	864	1496	2430
7	116	247	428	701	989	1712	2782
8	130	278	482	790	1114	1929	3134
9	145	310	536	879	1239	2145	3486
10	160	341	590	967	1364	2362	3838
11	174	372	645	1056	1489	2578	4189
12	189	404	699	1145	1614	2795	4541
13	204	435	753	1233	1739	3011	4893
14	218	466	807	1322	1864	3228	5245
15	233	497	861	1411	1989	3444	5596
16	247	529	915	1499	2114	3660	5948
17	262	560	969	1588	2239	3877	6300
18	277	591	1023	1677	2364	4093	6652
19	291	622	1077	1765	2489	4310	7004
20	306	654	1132	1854	2614	4526	7355
1kg/cm2 = 14.2		Working Temperature		1. Teflon seat	- 100 to 180		
PSI = 1 Bar				2. Hot brass seat	- 45 to 185		
				3. Stainless seat	- 196 to 250		

Blow off capacity continued...

SS fig FGXLSSS, FGXSSS

STEAM						Unit : Kg/hr
Size	½"x1"	¾"x1"	1"x1"	1 ¼"x2"	1 ½"x2"	2"x2"
D	21	21	21	32	40	50
Area	68.6	100.2	197.8	257.2	381.8	628.0
Pressure kg/cm²	Capacity (Kg/hr)					
1	56	81	161	209	310	510
2	84	123	242	315	467	769
3	112	164	324	421	625	1028
4	140	205	405	527	782	1286
5	169	247	487	633	939	1545
6	197	288	568	739	1097	1804
7	225	329	650	845	1254	2063
8	254	371	731	951	1411	2322
9	282	412	813	1057	1569	2580
10	310	453	894	1163	1726	2839
20	593	866	1709	2223	3300	5427
22	649	949	1873	2435	3614	5945
24	706	1031	2036	2647	3929	6462
26	762	1114	2199	2859	4244	6980
28	819	1197	2362	3071	4558	7497
30	875	1279	2525	3283	4873	8015
32	932	1362	2688	3495	5188	8532
34	988	1444	2851	3707	5502	9050
36	1045	1527	3014	3919	5817	9567
38	1101	1610	3177	4131	6132	10085
40	1158	1692	3340	4343	6446	10603

Blow off capacity continued...

Fig FGXLBBB, FGXBBB, FGXLBTB, FGXBTB, FGXLBSS, FGXBSS

SS

AIR						Unit : cm/hr
Size	½"x1"	¾"x1"	1"x1 ¼"	1 ¼"x2"	1 ½"x2"	2"x2"
D	15	20	25	32	40	50
Area	49.0	95.5	235.5	257.2	381.8	628.0
Pressure kg/cm2	Capacity (cm/hr)					
1	64	126	310	339	503	827
2	98	191	472	516	766	1260
3	132	257	635	693	1029	1692
4	166	323	797	871	1292	2125
5	200	389	959	1048	1556	2558
10	368	718	1771	1935	2872	4723
12	436	850	2096	2289	3398	5589
14	503	981	2421	2644	3925	6455
16	571	1113	2745	2999	4451	7321
18	639	1244	3070	3353	4978	8187
20	706	1376	3395	3708	5504	9053
22	774	1508	3720	4063	6031	9919
24	841	1639	4044	4417	6557	10785
26	909	1771	4369	4772	7084	11651
28	976	1902	4694	5127	7610	12516
30	1044	2034	5018	5481	8136	13382
32	1111	2166	5343	5836	8663	14248
34	1179	2297	5668	6191	9189	15114
36	1246	2429	5993	6545	9716	15980
38	1314	2561	6317	6900	10242	16846
40	1382	2692	6642	7255	10769	17712

SS

Blow off capacity continued...

Fig FGXLBBB, FGXBBB, FGXLBTB, FGXBTB, FGXLBSS, FGXBSS

STEAM						Unit : Kg/hr
Size	½"x1"	¾"x1"	1"x1 ¼"	1 ¼"x2"	1 ½"x2"	2"x2"
D	15	20	25	32	40	50
Area	49.0	95.5	235.5	257.2	381.8	628.0
Pressure kg/cm²	Capacity (Kg/hr)					
1	40	78	191	209	310	510
2	60	117	288	315	467	769
3	80	156	385	421	625	1028
4	100	196	482	527	782	1286
5	121	235	579	633	939	1545
6	141	274	676	739	1097	1804
7	161	314	774	845	1254	2063
8	181	353	871	951	1411	2322
9	201	392	968	1057	1569	2580
10	221	432	1065	1163	1726	2839
20	423	825	2035	2223	3300	5427
22	464	904	2229	2435	3614	5945
24	504	982	2423	2647	3929	6462
26	544	1061	2617	2859	4244	6980
28	585	1140	2811	3071	4558	7497
30	625	1218	3006	3283	4873	8015
32	666	1297	3200	3495	5188	8532
34	706	1376	3394	3707	5502	9050
36	746	1454	3588	3919	5817	9567
38	787	1533	3782	4131	6132	10085
40	827	1612	3976	4343	6446	10603

WATER						Unit : l/hr
Size	½"x1"	¾"x1"	1"x1 ¼"	1 ¼"x2"	1 ½"x2"	2"x2 ½"
D	15	20	25	32	40	50
Area	49.0	95.5	235.5	257.2	381.8	628.0
Pressure kg/cm²	Capacity (l/hr)					
1	1598	3114	7682	8391	12456	20487
2	2260	4404	10865	11867	17615	28972
3	2768	5394	13306	14534	21574	35484
4	3196	6228	15365	16783	24912	40973
8	4520	8808	21729	23734	35230	57945
11	5300	10328	25480	27831	41311	67946
12	5535	10787	26613	29068	43148	70967
14	5979	11651	28745	31397	46605	76653
16	6392	12456	30730	33565	49823	81946
18	6780	13211	32594	35601	52845	86917
20	7146	13926	34357	37527	55704	91618
22	7495	14606	36034	39359	58423	96090
24	7828	15255	37636	41109	61021	100363
26	8148	15878	39173	42787	63512	104461
28	8456	16477	40652	44402	65910	108404
30	8752	17056	42078	45961	68223	112209
32	9039	17615	43458	47468	70461	115889
34	9318	18157	44796	48929	72629	119456
36	9588	18684	46095	50348	74735	122919
38	9850	19196	47358	51727	76783	126287
40	10106	19694	48588	53071	78777	129568

The blowout capacity of low lift safety valves
Fluid (Steam)

Kg/H

DIA	0.5	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
15	12	16.2	24.5	32.8	41	49.3	57.6	65.9	74.1	82.4	90.7	98.9	107	115	123	132
20	22	28.9	43.6	58.3	73	87.7	102	117	131	146	161	175	190	205	220	234
25	34	45.2	68.2	91.2	114	137	160	183	206	229	251	274	297	320	343	366
32	55	74.1	111	149	187	224	262	299	337	375	412	450	488	525	563	601
40	86	115	174	233	292	351	409	468	527	586	645	703	762	821	880	939
50	135	181	272	364	456	548	640	732	824	916	1008	1099	1191	1283	1375	1467
65	228	306	461	616	771	927	1082	1237	1392	1548	1703	1858	2014	2169	2324	2479
80	332	445	671	897	1122	1348	1574	1800	2026	2252	2478	2704	2930	3156	3381	3607
100	540	724	1091	1459	1826	2194	2561	2929	3296	3664	4032	4399	4767	5134	5502	5869
125	884	1131	1705	2280	2854	3428	4002	4577	5151	5725	6299	6873	7448	8022	8596	9170
150	1216	1629	2456	3283	4110	4937	5764	6591	7418	8244	9071	9898	10725	11552	12379	13206

DIA	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
15	140	148	156	165	173	181	189	198	206	214	222	231	239	247	256
20	249	264	278	293	308	322	337	352	367	381	396	411	425	440	455
25	389	412	435	458	481	504	527	550	573	596	619	642	665	688	711
32	638	676	713	751	789	826	864	902	939	977	1014	1052	1090	1127	1165
40	997	1056	1115	1174	1233	1291	1350	1409	1468	1527	1585	1464	1703	1762	1821
50	1559	1651	1743	1834	1926	2018	2110	2202	2294	2386	2478	2569	2661	2753	2845
65	2635	2790	2945	3101	3256	3411	3566	3722	3877	4032	4187	4343	4498	4653	4809
80	3833	4059	4285	4511	4737	4963	5189	5415	5640	5866	6092	6318	6544	6770	6996
100	6237	6604	6972	7339	7707	8074	8442	8809	9177	9544	9912	10279	10647	11014	11382
125	9745	10319	10893	11467	12042	12616	13190	13764	14338	14913	15487	16061	16635	17210	17784
150	14033	14860	15687	16513	17340	18167	18994	19821	20648	21475	22302	23129	23956	24782	25609

MODEL: S3S-A / S34-A / S36-A
S3S-LR / S34-LR / S36-LR

MODEL: S3F-A / S34F-A / S36F-A
S3F-LR / S34F-LR / S36F – LR

MODEL: SS316- S67
SS316-S69

The blowout capacity of low lift safety valves
Fluid (Water)

10^3KG/H x 1000 =L/H

DIA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
15	0.549	0.777	0.952	1.09	1.22	1.34	1.45	1.55	1.64	1.73	1.82	1.90	1.98	2.05	2.12
20	0.918	1.29	1.59	1.83	2.05	2.24	2.42	2.59	2.75	2.90	3.04	3.18	3.31	3.43	3.55
25	1.60	2.27	2.78	3.21	3.59	3.93	4.24	4.54	4.81	5.07	5.32	5.56	5.78	6.00	6.21
32	2.34	3.32	4.06	4.69	5.25	5.75	6.21	6.64	7.04	7.72	7.78	8.13	8.46	8.78	9.09
40	3.67	5.19	6.36	7.34	8.21	8.99	9.71	10.3	11.0	11.6	12.1	12.7	13.2	13.7	14.2
50	5.96	8.44	10.3	11.9	13.3	14.6	15.7	16.8	17.9	18.8	19.7	20.6	21.5	22.3	23.1
65	10.1	14.3	17.5	20.2	22.6	24.8	26.8	28.6	30.4	32.0	33.6	35.1	36.5	37.9	39.2
80	14.3	20.3	24.9	28.7	32.1	35.2	38.0	40.7	43.1	45.5	47.7	49.8	51.9	53.8	55.7
100	22.9	32.4	39.7	45.9	51.3	56.2	60.7	64.9	68.8	72.5	76.1	79.5	82.7	85.8	88.9
125	36.7	51.9	63.6	73.4	82.1	89.9	97.1	103	110	116	121	127	132	137	142
150	52.3	74.0	90.6	104	117	128	138	148	157	165	173	181	188	195	202

DIA	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
15	2.19	2.26	2.33	2.39	2.45	2.51	2.57	2.63	2.69	2.74	2.80	2.85	2.90	2.96	3.01
20	3.67	3.78	3.89	4.00	4.10	4.20	4.30	4.40	4.49	4.59	4.68	4.77	4.85	4.94	5.02
25	6.42	6.62	6.81	6.99	7.18	7.35	7.53	7.70	7.86	8.02	8.18	8.34	8.49	8.64	8.79
32	9.39	9.68	9.96	10.2	10.5	10.7	11.0	11.2	11.5	11.7	11.9	12.2	12.4	12.6	12.8
40	14.6	15.1	15.5	16.0	16.4	16.8	17.2	17.6	17.9	18.3	18.7	19.0	19.4	19.7	20.1
50	23.8	24.6	25.3	26.0	26.6	27.3	27.9	28.6	29.2	29.8	30.4	31.0	31.5	32.1	32.6
65	40.5	41.8	43.0	44.2	45.3	46.4	47.5	48.6	49.7	50.7	51.7	52.7	53.6	54.6	55.5
80	57.5	59.3	61.0	62.7	64.3	65.9	67.5	69.0	70.5	71.9	73.4	74.8	76.1	77.5	78.8
100	91.8	94.6	97.4	100	102	105	107	110	112	114	117	119	121	123	125
125	146	151	155	160	164	168	172	176	179	183	187	190	194	197	201
150	209	215	222	228	234	239	245	251	256	261	266	271	276	281	286

MODEL: S3S-A / S34-A / S36-A
S3S-LR / S34-LR / S36-LR

MODEL: S3F-A / S34F-A / S36F-A
S3F-LR / S34F-LR / S36F – LR

MODEL: SS316- S67
SS316-S69

Ball type duplex basket strainers cast iron, bronze, carbon steel & stainless steel body

Hayward fig 53BTX

- A dual basket strainer design that allows continuous flow of the fluid during cleaning. No shut down is required to clean the dirty basket so the process is not interrupted.
- The change over form one basket to another is made by turning the single lever.
- Threaded connections are provided on the side and bottom of both basket chambers so that the process liquid can be completely if necessary.
- Large capacity baskets increase operating time and reduce the frequency of cleaning.
- Double stem O-rings provide positive sealing even under the most arduous service conditions.
- The unique reinforced seats require no adjustment and are designed to provide the longest possible life.
- Piston seal chamber covers with quick open fixings allow the baskets to be removed quickly and easily for cleaning without any special tools.
- The 53BTX will operate effectively without any lubrication of the diverter mechanism, unlike other designs which require regular injections of grease.
- A low profile design combined with full size baskets allows easy installation without compromising the low pressure drop.

These value added features:	Give these benefits
Patented diverter cartridge	Simplifies removal and replacement of the seals and internal components
Dynamic ball sealing system	Leak tight isolation of the off-line basket chamber during cleaning. No adjustment required

Selection Chart					
Size	Body and cartridge	Connections	Seats / Seals	Diverter balls	Rating
DN 20 to 65	Iron	Threaded	PTFE / Buna N*	Stainless Steel	PN 16 13.8 bar @ 66°C ANSI 125 200 PSIG @ 150°F
DN 50 to 100		Flanged			
DN 20 to 65	Bronze Carbon Steel Stainless Steel	Threaded***			PN 16 13.8 bar @ 66°C ANSI 150 200 PSIG @ 150°F
DN 50 to 100		Flanged			

* Viton® Standard for Stainless Steel models, optional for Iron, Bronze and Carbon Steel
** Nickel plated Stainless Steel balls optional
*** DN 65 threaded is not available in Carbon Steel or Stainless Steel

Single Port Safety Valve

Discharge capacity in ***lbs/hr*** of saturated steam

NOTE: For capacity in ***kg/hr*** of saturated steam, **divide by 2.2**
For capacity in ***kPa*** of saturated steam, **divide by 14.5 and multiply by 100**

Set PR. PSIG	DN20	DN25	DN32	DN40	DN50	DN65	DN80	DN100	DN125	DN150
15	167	297	468	765	1188	1972	4323	5480	6570	16805
20	193	344	429	880	1370	2272	4986	6317	7576	19374
25	220	391	605	996	1551	2574	5649	7150	8580	21940
30	245	435	677	1117	1733	2877	6309	7992	9587	24514
40	300	536	836	1375	2134	3539	7736	9834	11795	30168
50	358	638	990	1628	2530	4202	9218	11858	14009	35822
60	413	737	1150	1889	2934	4868	10670	13519	16220	41470
70	468	836	1304	2145	3333	5530	12128	15364	18425	47127
80	423	935	1466	2406	3735	6193	13580	17204	20639	52781
90	583	1040	1623	2662	4133	6856	15037	19047	22850	58432
100	638	1139	1779	2921	4532	7521	16489	20895	25061	64086
120	748	1320	2090	3435	5332	8844	19404	24580	29480	75394
140	864	1540	2404	3949	6133	10175	22314	28265	33902	86700
160	974	1744	2723	4466	6930	11501	25223	31955	38324	98005
180	1089	1942	3036	4978	7733	12829	28133	35640	42746	109313
200	1199	2145	3350	5495	8531	14154	31042	39325	47168	120615
220	1315	2346	3663	6012	9334	15483	33954	43010	51590	131923
240	1425	2549	3977	6526	10134	16811	36864	46695	56012	143231
260	1540	2750	4290	7040	10931	18136	39773	50380	60434	154539
280	1650	2951	4606	7557	11732	19459	42680	54073	64856	165842
300	1760	3152	4917	8074	12529	20790	45590	57758	69275	177155
320	1870	3352	5231	8588	13332	22116	48505	61441	73697	188458
340	1980	3553	5544	9103	14132	23444	51414	65131	78119	199760
360	2107	3757	5858	9614	14933	24772	54324	68816	82541	211071
380	2219	3957	6177	10134	15730	26098	57233	72504	86963	222376
400	2332	4158	6490	10648	16532	27423	60153	76189	91383	233684
420	2442	4359	6804	11165	17331	28751	63055	79877	95805	244987
440	2558	4560	7117	11677	18128	30080	65962	83562	100227	256295
Orifice Designation	**DE**		**FG**		**HJ**		**KL**	**MN**		**PQR**

Orifice area and orifice designation letters:

D = 0.110 sq inch
E = 0.196 sq inch
F = 0.307 sq inch
G = 0.503 sq inch
H = 0.785 sq inch
J = 1.287 sq inch
k = 1.838 sq inch
L = 2.853 sq inch
M = 3.600 sq inch
N = 4.340 sq inch
P = 6.380 sq inch
Q = 11.050 sq inch
R = 16.000 sq inch
T = 26.000 sq inch

LIFT: The rise of the valve disc when it moves from the closed position is called LIFT.

$$\text{LIFT} = \frac{\text{Orifice area}}{\text{Circumference}}$$

Chemical Resistance Chart

Material	General Application	Service Temperature	Not recommended for:
EPDM	Water-Steam, Sea Water, Brine, Esters, Alkalis, Ozone, Ketons, Alcohols, Brake Fluid, Treated Water with Caustic Soda	-30°C to +110°C / -31°F to +230°F Continuous -35°C to +150°C / -31°F to +302°F Intermittent	Hydrocarbons Oils, Fats, Greases
NBR	Hydrocarbons, Natural Gas Oil and Fat, Air, Gasoline	-20°C to +90°C / -4°F to +194°F Continuous Cup to 100°C Intermittent	Solvents Benzene, Xylol
SBR	Acids and Alkalis	-20°C to +80°C / -4°F to +176°F	
VITON	Acids, Oils, Hydrocarbon	-10°C to +160°C / -14°F to +320°F	Steam, Ester, Freon22 Alkalis, Solvents, Kentons
SILICONE	Food, Beverage	-30°C to +150°C / -22°F to +302°F	Steam, Solvents, Hydrocarbons
TEFLON	Solvents Corrosive Products	-40°C to +180°C -40°F to +356°F	Fluid Containing Powders Alkaline, Gaseous Fluorine
NEOPRENE	Acid, Ozone, Oils Fats, Greases, Solvents	-18°C to +90°C -8°F to +194°F	Kentons, Thinners Concentrated Acid

E - Excellent
G - Good
F - Fair
U - Unsatisfactory

Chemical agents	Metal				Elastomer			
	Iron	316SS	AL-Bronze	Monel	EPDM	NBR	Viton	Natural Rubber
Acetaldihyde	U	E	U	F	G	U	-	F
Acetic acid 50% 50°C	U	E	U	F	G	U	U	U
Acetic acid - Anhydirde	U	E	U	F	U	U	U	U
Acetone	G	E	E	E	G	U	U	U
Acetylene	G	E	E	-	U	F	U	U
Acrylonitrile	G	E	E	E	U	U	U	U
Air (Duy)	E	E	E	E	E	E	-	-
Alcohol - Amyl	F	E	E	E	-	F	G	-
Alcohol - Butyl	F	E	E	E	-	F	-	-
Alcohol - Ethyl	U	E	E	E	E	G	G	G
Alcohol - Methyl	U	E	E	E	E	G	U	G
Alum - Ammonium	U	G	-	-	-	G	G	F
Alum - Chrome	U	G	-	-	-	G	G	F
Alum - Potassium	U	G	-	-	-	-	-	-
Alumina	G	G	G	G	E	E	G	G
Aluminium Chloride	U	U	U	E	E	E	E	E
Aluminium Fluoride	U	G	-	G	-	G	G	-
Aluminium Hydroxide	U	G	-	-	-	G	G	-
Aluminium Sulphate	U	G	U	-	-	E	-	-
Amines	U	E	-	-	-	F	-	-
Ammonia, Anhydrous	F	E	U	-	E	G	U	-
Ammonia gas 150°F	U	E	U	-	G	-	-	-
Ammonia solutions	F	E	U	G	E	G	U	G
Ammonium Chloride 50% 180°F	U	G	U	G	-	-	-	-
Ammonium Hydroxide	U	E	U	F	E	U	G	U
Ammonium Nitrate 5% 60°F	F	E	U	G	-	E	-	-
Ammonium Phosphate	U	G	U	G	E	E	-	G
Ammonium Sulphate	U	G	U	G	E	E	E	-
Amyl Acetate	F	E	E	G	-	U	F	U
Amylchloride	F	E	E	-	U	U	U	U
Aniline 90% 70°F	F	E	F	-	G	U	G	U
Asphalt	E	E	E	E	-	U	E	U
Barium Carbonate 60°F	U	-	G	G	E	E	-	-
Barium Chloride	U	-	-	G	E	E	E	E
Barium Hydroxide	F	E	U	-	E	-	U	-
Barium Sulphate	U	E	G	G	E	E	E	E
Barium Sulphide	F	E	U	-	-	E	-	-
Beer (beverage)	U	E	U	-	E	-	-	-
Beer sugar solution	U	E	U	-	-	E	-	-
Benzaldehyde	F	F	E	-	G	U	U	U
Benzene (benzol) 70°F	F	E	E	G	U	U	G	U
benzoic Acid 5%	U	E	-	G	-	F	-	-
Borax	U	E	U	E	-	G	-	G
Boric acid 5% 200°F	U	E	F	G	E	E	-	-
Brine	U	-	-	G	E	E	-	-

Chemical agents	Metal				Elastomer			
	Iron	316SS	AL-Bronze	Monel	EPDM	NBR	Viton	Natural Rubber
Bromine - Gas	U	U	-	F	U	U	G	U
Bromine - Water	U	U	-	F	U	U	G	U
Butadiene	F	E	-	-	-	G	G	-
Butane - Butylene	G	E	E	E	U	G	G	U
Butyl Acetate	G	E	E	-	E	U	U	U
Butyric Acid 5%	U	E	-	-	U	U	U	U
Calcium Carbonate 60°F	F	-	-	E	E	E	E	E
Calcium Chlorate 20%	-	E	-	G	-	-	-	-
Calcium Chloride	F	G	F	G	E	E	E	G
Calcium Chloride solution	F	E	F	-	E	E	E	G
Calcium Hydroxide 50% 175°F	F	E	U	E	E	E	E	E
Calcium Hypochlorite	-	G	-	-	-	F	-	-
Calcium Sulphate	F	E	E	G	E	E	E	E
Carbon Dioxide	F	E	E	-	G	G	E	G
Carbon Tetrachloride	U	G	F	G	U	U	E	U
Carbonic Acid	U	G	-	G	-	F	-	-
Chlorine gas - dry 70°F	U	G	F	F	U	U	E	U
Chlorobenzene 90%	F	E	E	E	U	U	G	U
Chromin Acid 5% 70°F	U	E	U	-	U	U	E	U
Citric acid 5% 150°F	U	E	F	G	E	G	E	U
Coffee (food)	U	E	U	-	E	U	E	E
Copper Sulphate	F	E	U	U	E	E	E	G
Cyclohexane	F	E	E	-	U	E	E	U
Dextrose (food)	U	E	-	-	-	E	-	-
Diacetone	U	-	E	-	E	U	U	U
Dichlorpethane	U	F	-	-	U	U	G	U
Diesel Fuels	F	E	G	E	U	E	E	-
Diethyl Amine	F	E	E	-	F	U	U	F
Dowtherms	G	E	E	-	U	U	E	U
Drilling Mud	G	F	-	E	U	E	-	U
Ethers	U	E	E	G	U	U	-	U
Ethyl Acetate	F	E	-	E	G	U	U	U
Ethyl Chloride 5%	F	E	E	G	F	E	E	F
Ethyl Glycol	G	E	F	E	E	E	E	G
Ethylene Oxide	G	E	-	-	U	U	U	U
Fats	E	E	E	-	U	E	-	-
Ferric Chloride	U	-	U	E	-	F	-	-
Ferric Nitrate	U	E	-	E	G	F	-	-
Ferric Sulphate 5%	U	G	U	E	-	E	E	-
Ferrous Sulphate	F	E	U	-	G	E	G	G
Fluorine	U	U	U	G	-	G	-	-
Fluosilicic Acid	U	G	E	-	-	E	-	-
Formaldehyde 70°F	U	E	E	G	E	G	E	-
Formic acid 5% 150°F	U	E	E	G	-	U	U	U
Freon	F	E	E	E	U	G	G	U

Basket strainer simplex
cast iron, bronze, carbon steel & stainless steel body

Hayward fig 72

These value added features:	Give these benefits
Quick open yoke and cover	Fast access to basket chamber
Large capacity basket	Longer service time, less cleaning
All metal fittings	Strong and rugged
Threaded drain	Basket chamber easily emptied
Flanged models with integral mounting feet	Fully supported installation

Selection Chart				
Size	**Body Material**	**End Connections**	**Seals**	**Rating**
DN 10 to 80	Iron & Bronze	Threaded BSP or NPT	Buna N	13.8 bar @ 38°C
DN 25 to 80	Carbon Steel			
	Stainless Steel		Viton®	
DN 25 to 200*	Iron	ANSI 125/DIN PN 10/16	Buna N	
	Bronze	ANSI 150/DIN PN 10/16		
	Carbon Steel			
	Stainless Steel		Viton®	

TEMPERATURE CONVERSION

−459.4° to 0°			1° to 60°			61° to 290°			300° to 890°			900° to		
C	C / F	F	C	C / F	F	C	C / F	F	C	C / F	F	C	C / F	F
−273	−459.4		−17.2	1	33.8	16.1	61	141.8	149	300	572	482	900	1652
−268	−450		−16.7	2	35.6	16.7	62	143.6	154	310	590	488	910	1670
−262	−440		−16.1	3	37.4	17.2	63	145.4	160	320	608	493	920	1688
−257	−430		−15.6	4	39.2	17.8	64	147.2	166	330	626	499	930	1706
−251	−420		−15.0	5	41.0	18.3	65	149.0	171	340	644	504	940	1724
−246	−410		−14.4	6	42.8	18.9	66	150.8	177	350	662	510	950	1742
−240	−400		−13.9	7	44.6	19.4	67	152.6	182	360	680	516	960	1760
−234	−390		−13.3	8	46.4	20.0	68	154.4	188	370	698	521	970	1778
−229	−380		−12.8	9	48.2	20.6	69	156.2	193	380	716	527	980	1796
−223	−370		−12.2	10	50.0	21.1	70	158.0	199	390	734	532	990	1814
−218	−360		−11.7	11	51.8	21.7	71	159.8	204	400	752	538	1000	1832
−212	−350		−11.1	12	53.6	22.2	72	161.6	210	410	770	549	1020	1868
−207	−340		−10.6	13	55.4	22.8	73	163.4	216	420	788	560	1040	1904
−201	−330		−10.0	14	57.2	23.3	74	165.2	221	430	806	571	1060	1940
−196	−320		− 9.4	15	59.0	23.9	75	167.0	227	440	824	582	1080	1976
−190	−310		− 8.9	16	60.8	24.4	76	168.8	232	450	842	593	1100	2012
−184	−300		− 8.3	17	62.6	25.0	77	170.6	238	460	860	604	1120	2048
9	−290		− 7.8	18	64.4	25.6	78	172.4	243	470	878	616	1140	2084
−173	−280		− 7.2	19	66.2	26.1	79	174.2	249	480	896	627	1160	2120
−169	−273	−459.4	− 6.7	20	68.0	26.7	80	176.0	254	490	914	638	1180	2156
−168	−270	−454	− 6.1	21	69.8	27.2	81	177.8	260	500	932	649	1200	2192
−162	−260	−436	− 5.6	22	71.6	27.8	82	179.6	266	510	950	660	1220	2228
−157	−250	−418	− 5.0	23	73.4	28.3	83	181.4	271	520	968	671	1240	2264
−151	−240	−400	− 4.4	24	75.2	28.9	84	183.2	277	530	986	682	1260	2300
−146	−230	−382	− 3.9	25	77.0	29.4	85	185.0	282	540	1004	693	1280	2336
−140	−220	−364	− 3.3	26	78.8	30.0	86	186.8	288	550	1022	704	1300	2372
−134	−210	−346	− 2.8	27	80.6	30.6	87	188.6	293	560	1040	732	1350	2462
−129	−200	−328	− 2.2	28	82.4	31.1	88	190.4	299	570	1058	760	1400	2552
−123	−190	−310	− 1.7	29	84.2	31.7	89	192.2	304	580	1076	788	1450	2642
−118	−180	−292	− 1.1	30	86.0	32.2	90	194.0	310	590	1094	816	1500	2732
−112	−170	−274	− 0.6	31	87.8	32.8	91	195.8	316	600	1112	843	1550	2822
−107	−160	−256	0.0	32	89.6	33.3	92	197.6	321	610	1130	871	1600	2912
−101	−150	−238	0.6	33	91.4	33.9	93	199.4	327	620	1148	899	1650	3002
− 96	−140	−220	1.1	24	93.2	34.4	94	201.2	332	630	1166	927	1700	3092
− 90	−130	−202	1.7	35	95.0	35.0	95	203.0	338	640	1184	954	1750	3182
− 84	−120	−184	2.2	36	96.8	35.6	96	204.8	343	650	1202	982	1800	3272
− 79	−110	−166	2.8	37	98.6	36.1	97	206.6	349	660	1220	1010	1850	3362
− 73	−100	−148	3.3	38	100.4	36.7	98	208.4	354	670	1238	1038	1900	3452
− 68	− 90	−130	3.9	39	102.2	37.2	99	210.2	360	680	1256	1066	1950	3542
− 62	− 80	−112	4.4	40	104.0	37.8	100	212.0	366	690	1274	1093	2000	3632
− 57	− 70	− 94	5.0	41	105.8	43	110	230	371	700	1292	1121	2050	3722
− 51	− 60	− 76	5.6	42	107.6	49	120	248	377	710	1310	1149	2100	3812
− 46	− 50	− 58	6.1	43	109.4	54	130	266	382	720	1328	1177	2150	3902
− 40	− 40	− 40	6.7	44	111.2	60	140	284	388	730	1346	1204	2200	3992
− 34	− 30	− 22	7.2	45	113.0	66	150	302	393	740	1364	1232	2250	4082
− 29	− 20	− 4	7.8	46	114.8	71	160	320	399	750	1382	1260	2300	4172
− 23	− 10	14	8.3	47	116.6	77	170	338	404	760	1400	1288	2350	4262
− 17.8	− 0	32	8.9	48	118.4	82	180	356	410	770	1418	1316	2400	4352
			9.4	49	120.2	88	190	374	416	780	1436	1343	2450	4442
			10.0	50	122.0	93	200	392	421	790	1454	1371	2500	4532
			10.6	51	123.8	99	210	410	427	800	1472	1399	2550	4622
			11.1	52	125.6	100	212	413.6	432	810	1490	1427	2600	4712
			11.7	53	127.4	104	220	428	438	820	1508	1454	2650	4802
			12.2	54	129.2	110	230	446	443	820	1526	1482	2700	4892
			12.8	55	131.0	116	240	464	449	840	1544	1510	2750	4982
			13.3	56	132.8	121	250	482	454	850	1562	1538	2800	5072
			13.9	57	134.6	127	260	500	460	860	1580	1566	2850	5162
			14.4	58	136.4	132	270	518	466	870	1598	1593	2900	5252
			15.0	59	138.2	138	280	536	471	880	1616	1621	2950	5342
			15.6	60	140.0	143	290	554	477	890	1634	1649	3000	5432

Locate temperature in middle column. If in degrees Centigrade, read Fahrenheit equivalent in right hand column: if in degrees Fahrenheit, read Centigrade equivelent in left hand column

Chemical Resistance Chart continued...

E - Excellent
G - Good
F - Fair
U - Unsatisfactory

Chemical agents	Metal				Elastomer			
	Iron	316SS	AL-Bronze	Monel	EPDM	NBR	Viton	Natural Rubber
Fruit Juices (food)	U	E	U	-	G	G	-	-
Fuel Oil	F	F	E	G	U	F	E	U
Gallic Acid 5% 200°F	U	E	-	-	-	G	G	-
Gasoline	F	E	G	G	U	E	E	U
Glucose	U	E	G	G	-	E	E	-
Glycerine / Glycerol	F	E	G	G	-	E	E	-
Heptane	F	E	E	-	U	E	E	U
Hexane	F	E	E	-	U	G	E	U
Hydrobromic Acid 200°F	U	U	U	U	U	U	U	U
Hydrochloric Acid 15% 60°F	U	U	U	U	E	U	E	-
Hydrochloric Acid 37% 60°F	U	U	U	U	U	U	E	U
Hydrochloric Acid 20%	U	U	U	F	-	U	E	U
Hydrochloric Acid 20-60%	U	U	U	U	-	U	E	U
Hydrogen	F	E	F	-	E	E	E	E
Hydrogen Peroxide 90%	U	G	U	E	-	U	G	U
Hydrogen Sulfide	G	F	G	-	E	U	U	U
Iodine Solution	U	U	U	E	-	U	F	U
Iso-octane	F	E	E	E	U	E	E	-
Isopropyl Alcohol	F	E	E	E	-	G	E	-
Isopropyl Ether	F	E	E	E	U	E	E	U
Kerosene	E	E	E	E	U	E	E	U
Lactic Acid 5%	U	G	U	G	-	F	-	-
Lubricating Oil	E	E	E	E	U	E	E	U
Magnesium Chloride 4%	F	G	F	G	E	E	E	E
Magnesium Hydroxide	F	E	G	-	E	G	E	G
Magnesium Sulphate	F	E	E	E	E	E	E	G
Mercuric Chloride 3%	U	F	U	G	E	E	-	-
Mercury	E	E	U	E	E	E	E	E
Methane	U	E	E	-	U	E	E	U
Methyl Acetate	F	E	E	-	F	U	U	U
Methyl Acetone	F	E	E	-	G	U	U	U
Methyl Chloride	G	E	E	-	U	U	E	U
Methyl Ethyl Ketone	E	E	E	-	U	U	U	U
Milk (food)	U	E	-	-	E	E	E	E
Mineral Oil	F	F	-	-	U	E	E	U
Molasses (food)	U	E	U	-	E	-	-	-
Napthalene	F	E	E	-	U	U	G	U
Natural gas	G	E	E	-	U	E	E	U
Nickel Chloride	U	F	-	-	-	E	-	-
Nitric acid less 40% 70°F	U	-	U	U	U	U	E	U
Nitric acid more 40% 70°F	U	U	U	U	U	U	F	U
Nitrobenzene	U	E	-	-	U	U	G	U
Oleum	U	F	-	-	U	U	E	U
Olive Oil	-	E	-	-	G	E	E	U
Oxalic Acid	U	G	U	-	G	U	G	U
Oxygen 200°F	E	E	E	E	E	G	E	F
Oxygen 300°F	E	E	E	E	U	U	G	U
Palmitic acid	U	E	G	-	-	E	-	-
Perchloroethylene	F	E	-	-	U	F	E	U
Petroleum	U	G	F	G	U	E	E	U
Phenol	U	E	-	E	U	U	E	U
Phosphoric Acid 5%	U	G	U	G	F	F	E	F
Phosphoric Acid 85% 70°F	U	G	U	-	F	F	-	F
Picric Acid 80%	U	E	-	F	U	-	-	-
Potassium Cyanide	F	E	U	-	-	E	E	-
Potassium Hydroxide 5%	F	E	U	E	-	E	E	-
Potassium Nitrate	F	E	F	G	E	E	E	E
Potassium Phosphate	U	G	-	-	-	E	E	-
Potassium Sulfide	U	E	-	-	-	E	-	-
Potassium Sulfite	U	E	-	-	G	F	-	-
Propane	F	E	E	-	U	E	E	-
Resins	U	E	E	-	-	-	G	F
Sea Water 70°F	U	G	G	E	E	G	E	-
Soap Solution (stearate)	U	F	E	G	E	E	E	-
Sodium Acetate 5%	U	E	E	G	E	G	U	-
Sodium Bisulfate	U	E	-	-	-	E	E	-
Sodium Carbonate	U	E	G	E	E	E	E	E
Sodium Chloride 30% 180°F	U	E	F	E	E	E	E	E
Sodium Cyanide	U	E	U	-	-	E	E	-
Sodium Fluoride 5% 60°F	U	-	F	G	-	-	E	-
Sodium Hydroxide 50% 122°F	U	G	U	G	E	U	U	G
Sodium Hydroxide 50% 176°F	U	G	U	G	G	U	U	U
Sodium Hypochlorite 5% 60°F	U	G	U	E	G	U	E	U
Sodium Nitrate	U	E	G	G	E	G	-	G
Sodium Perborate	U	E	-	-	-	G	E	-
Sodium Peroxide	U	E	U	-	E	G	E	G
Sodium Phosphate 5%	U	E	-	G	E	E	E	E
Sodium Silicate	U	E	G	G	E	E	E	E
Sodium Sulfide 70%	U	E	U	-	-	-	E	-
Sodium Sulfite	U	-	U	G	G	E	-	-
Sodium Sulphate 80% 60°F	U	E	G	G	E	E	E	G
Steam 300°F	U	E	G	E	E	U	U	U
Steraric Acid 90% 200°F	U	E	F	F	-	G	-	-
Sulphur (Molten)	U	G	U	U	E	-	E	-
Sulphur Dioxide	U	E	F	E	G	U	E	U
Sulphur Trioxide	U	E	-	-	-	U	E	U
Sulfuric Acid 10%	U	G	U	U	E	U	E	F
Sulfuric Acid 60%	U	U	U	U	F	U	E	U
Sulfuric Acid 93% 70°F	U	U	U	U	U	U	E	U
Sulphurous Acid 80% 100°F	U	U	U	U	U	U	E	U
Tannic Acid 10% 150°F	U	E	G	-	-	U	E	F
Tar	F	E	E	E	U	U	G	U
Tartaric Acid 150°F	U	E	G	-	-	E	-	G
Thinners	U	E	E	E	U	U	U	U
Toluol and Toluene	U	E	E	-	U	U	G	U
Tributyl Phosphate	U	E	-	-	U	U	F	F
Trichloroethylene	-	E	E	-	U	U	E	U
Tricresyl Phosphate	U	U	U	-	G	U	E	U
Triethanolamine	U	-	-	G	E	G	U	U
Turpentine	U	E	G	-	U	U	E	U
Vinegar 70°F	U	F	-	-	G	E	E	-
Water - Demineralized	U	E	E	E	E	G	E	G
Water - Distilled	U	E	U	-	E	G	-	-
Water - Fresh	F	E	E	E	E	G	-	E
Water - Mineral	F	E	E	E	E	G	-	-
Water - Sewage	U	E	E	E	E	G	-	-
Whiskey and Wines	U	E	G	E	E	E	-	-
Xylene, Xylol	F	E	E	-	U	U	E	U
Zinc Chloride 5% 160°F	U	F	U	G	E	E	E	E
Zinc Sulphate 25% 180°F	U	E	E	G	-	E	-	-

Steam Tables continued...

GAUGE PRESSURE bar	GAUGE PRESSURE kPa	ABSOLUTE PRESSURE bar	ABSOLUTE PRESSURE kPa	TEMPERATURE °C
2.30	230.0	3.313	331.3	136.98
2.35	235.0	3.363	336.3	137.50
2.40	240.0	3.413	341.3	138.01
2.45	245.0	3.463	346.3	138.53
2.50	250.0	3.513	351.3	139.02
2.55	255.0	3.563	356.3	139.52
2.60	260.0	3.613	361.3	140.00
2.65	265.0	3.663	366.3	140.48
2.70	270.0	3.713	371.3	140.96
2.75	275.0	3.763	376.3	141.44
2.80	280.0	3.813	381.3	141.92
2.85	285.0	3.863	386.3	142.40
2.90	290.0	3.913	391.3	142.86
2.95	295.0	3.963	396.3	143.28
3.00	300.0	4.013	401.3	143.75
3.10	310.0	4.113	411.3	144.67
3.20	320.0	4.213	421.3	145.46
3.30	330.0	4.313	431.3	146.36
3.40	340.0	4.413	441.3	147.20
3.50	350.0	4.513	451.3	148.02
3.60	360.0	4.613	461.3	148.84
3.70	370.0	4.713	471.3	149.64
3.80	380.0	4.813	481.3	150.44
3.90	390.0	4.913	491.3	151.23
4.00	400.0	5.013	501.3	151.96
4.10	410.0	5.113	511.3	152.68
4.20	420.0	5.213	521.3	153.40
4.30	430.0	5.313	531.3	154.12
4.40	440.0	5.413	541.3	154.84
4.50	450.0	5.513	551.3	155.55
4.60	460.0	5.613	561.3	156.24
4.70	470.0	5.713	571.3	156.94
4.80	480.0	5.813	581.3	157.62
4.90	490.0	5.913	591.3	158.28
5.00	500.0	6.013	601.3	158.92
5.10	510.0	6.113	611.3	159.56
5.20	520.0	6.213	621.3	160.20
5.30	530.0	6.313	631.3	160.82
5.40	540.0	6.413	641.3	161.45
5.50	550.0	6.513	651.3	162.08
5.60	560.0	6.613	661.3	162.68
5.70	570.0	6.713	671.3	163.27
5.80	580.0	6.813	681.3	163.86
5.90	590.0	6.913	691.3	164.46
6.00	600.0	7.013	701.3	165.04
6.10	610.0	7.113	711.3	165.60
6.20	620.0	7.213	721.3	166.16
6.30	630.0	7.313	731.3	166.73
6.40	640.0	7.413	741.3	167.29
6.50	650.0	7.513	751.3	167.83
6.60	660.0	7.613	761.3	168.38
6.70	670.0	7.713	771.3	168.89
6.80	680.0	7.813	781.3	169.43
6.90	690.0	7.913	791.3	169.95
7.00	700.0	8.013	801.3	170.50
7.10	710.0	8.113	811.3	171.02
7.20	720.0	8.213	821.3	171.53
7.30	730.0	8.313	831.3	172.03
7.40	740.0	8.413	841.3	172.53
7.50	750.0	8.513	851.3	173.02
7.60	760.0	8.613	861.3	173.50
7.70	770.0	8.713	871.3	174.00
7.80	780.0	8.813	881.3	174.46
7.90	790.0	8.913	891.3	174.93
8.00	800.0	9.013	901.3	175.43
8.10	810.0	9.113	911.3	175.88

Continued on next page...

Steam Tables

GAUGE PRESSURE bar	GAUGE PRESSURE kPa	ABSOLUTE PRESSURE bar	ABSOLUTE PRESSURE kPa	TEMPERATURE °C
		0.05	5.0	32.88
		0.10	10.0	45.81
		0.15	15.0	53.97
		0.20	20.0	60.06
		0.25	25.0	54.97
		0.30	30.0	69.10
		0.35	35.0	72.70
		0.40	40.0	75.87
		0.45	45.0	78.70
		0.50	50.0	81.33
		0.55	55.0	83.72
		0.60	60.0	85.94
		0.65	65.0	88.01
		0.70	70.0	89.95
		0.75	75.0	91.78
		0.80	80.0	93.50
		0.85	85.0	95.14
		0.90	90.0	96.71
		0.95	95.0	98.20
		1.00	100.0	99.63
0	0	1.013	101.3	100.00
0.05	5.0	1.063	106.3	101.40
0.10	10.0	1.113	111.3	102.66
0.15	15.0	1.163	116.3	103.87
0.20	20.0	1.213	121.3	105.10
0.25	25.0	1.263	126.3	106.26
0.30	30.0	1.313	131.3	107.39
0.35	35.0	1.363	136.3	108.50
0.40	40.0	1.413	141.3	109.55
0.45	45.0	1.463	146.3	110.58
0.50	50.0	1.513	151.3	111.61
0.55	55.0	1.563	156.3	112.60
0.60	60.0	1.613	161.3	113.56
0.65	65.0	1.663	166.3	114.51
0.70	70.0	1.713	171.3	115.40
0.75	75.0	1.763	176.3	116.28
0.80	80.0	1.813	181.3	117.14
0.85	85.0	1.863	186.3	117.96
0.90	90.0	1.913	191.3	118.80
0.95	95.0	1.963	196.3	119.63
1.00	100.0	2.013	201.3	120.42
1.05	105.0	2.063	206.3	121.21
1.10	110.0	2.113	211.3	121.96
1.15	115.0	2.163	216.3	122.73
1.20	120.0	2.213	221.3	123.46
1.25	125.0	2.263	226.3	124.18
1.30	130.0	2.313	231.3	124.90
1.35	135.0	2.363	236.3	125.69
1.40	140.0	2.413	241.3	126.28
1.45	145.0	2.463	246.3	126.96
1.50	150.0	2.513	251.3	127.62
1.55	155.0	2.563	256.3	128.26
1.60	160.0	2.613	261.3	128.89
1.65	165.0	2.663	266.3	129.51
1.70	170.0	2.713	271.3	130.13
1.75	175.0	2.763	276.3	130.75
1.80	180.0	2.813	281.3	131.37
1.85	185.0	2.863	286.3	131.96
1.90	190.0	2.913	291.3	132.54
1.95	195.0	2.963	296.3	133.13
2.00	200.0	3.013	301.3	133.69
2.05	205.0	3.063	306.3	134.25
2.10	210.0	3.113	311.3	134.82
2.15	215.0	3.163	316.3	135.36
2.20	220.0	3.213	321.3	135.88
2.25	225.0	3.263	326.3	136.43

Continued on next page...

Steam Tables continued...

GAUGE PRESSURE		ABSOLUTE PRESSURE		TEMPERATURE
bar	kPa	bar	kPa	°C
19.60	1960.0	20.613	2061.3	213.99
19.80	1980.0	20.813	2081.3	214.48
20.00	2000.0	21.013	2101.3	214.96
20.50	2050.0	21.513	2151.3	216.15
21.00	2100.0	22.013	2201.3	217.35
21.50	2150.0	22.513	2251.3	218.53
22.00	2200.0	23.013	2301.3	219.65
22.50	2250.0	23.513	2351.3	220.76
23.00	2300.0	24.013	2401.3	221.85
23.50	2350.0	24.513	2451.3	222.94
24.00	2400.0	25.013	2501.3	224.02
24.50	2450.0	25.513	2551.3	225.08
25.00	2500.0	26.013	2601.3	226.12
26.00	2600.0	27.013	2701.3	228.15
27.00	2700.0	28.013	2801.3	230.14
28.00	2800.0	29.013	2901.3	232.05
29.00	2900.0	30.013	3001.3	233.93
30.00	3000.0	31.013	3101.3	235.78
31.00	3100.0	32.013	3201.3	237.55
32.00	3200.0	33.013	3301.3	239.28
33.00	3300.0	34.013	3401.3	240.97
34.00	3400.0	35.013	3501.3	242.63
35.00	3500.0	36.013	3601.3	244.26
36.00	3600.0	37.013	3701.3	245.86
37.00	3700.0	38.013	3801.3	247.42
38.00	3800.0	39.013	3901.3	248.95
39.00	3900.0	40.013	4001.3	250.42
40.00	4000.0	41.013	4101.3	251.94
41.00	4100.0	42.013	4201.3	253.34
42.00	4200.0	43.013	4301.3	254.74
43.00	4300.0	44.013	4401.3	256.12
44.00	4400.0	45.013	4501.3	257.50
45.00	4500.0	46.013	4601.3	258.82
46.00	4600.0	47.013	4701.3	260.13
47.00	4700.0	48.013	4801.3	261.43
48.00	4800.0	49.013	4901.3	262.73
49.00	4900.0	50.013	5001.3	264.00
50.00	5000.0	51.013	5101.3	265.26
51.00	5100.0	52.013	5201.3	266.45
52.00	5200.0	53.013	5301.3	267.67
53.00	5300.0	54.013	5401.3	268.84
54.00	5400.0	55.013	5501.3	270.02
55.00	5500.0	56.013	5601.3	271.20
56.00	5600.0	57.013	5701.3	272.33
57.00	5700.0	58.013	5801.3	273.45
58.00	5800.0	59.013	5901.3	274.55
59.00	5900.0	60.013	6001.3	275.65
60.00	6000.0	61.013	6101.3	276.73
61.00	6100.0	62.013	6201.3	277.80
62.00	6200.0	63.013	6301.3	278.85
63.00	6300.0	64.013	6401.3	279.89
64.00	6400.0	65.013	6501.3	280.92
65.00	6500.0	66.013	6601.3	281.95
66.00	6600.0	67.013	6701.3	282.95
67.00	6700.0	68.013	6801.3	283.95
68.00	6800.0	69.013	6901.3	284.93
69.00	6900.0	70.013	7001.3	285.90
70.00	7000.0	71.013	7101.3	286.85
71.00	7100.0	72.013	7201.3	287.80
72.00	7200.0	73.013	7301.3	288.75
73.00	7300.0	74.013	7401.3	289.69
74.00	7400.0	75.013	7501.3	290.60
75.00	7500.0	76.013	7601.3	291.51
76.00	7600.0	77.013	7701.3	292.41
77.00	7700.0	78.013	7801.3	293.91
78.00	7800.0	79.013	7901.3	294.20

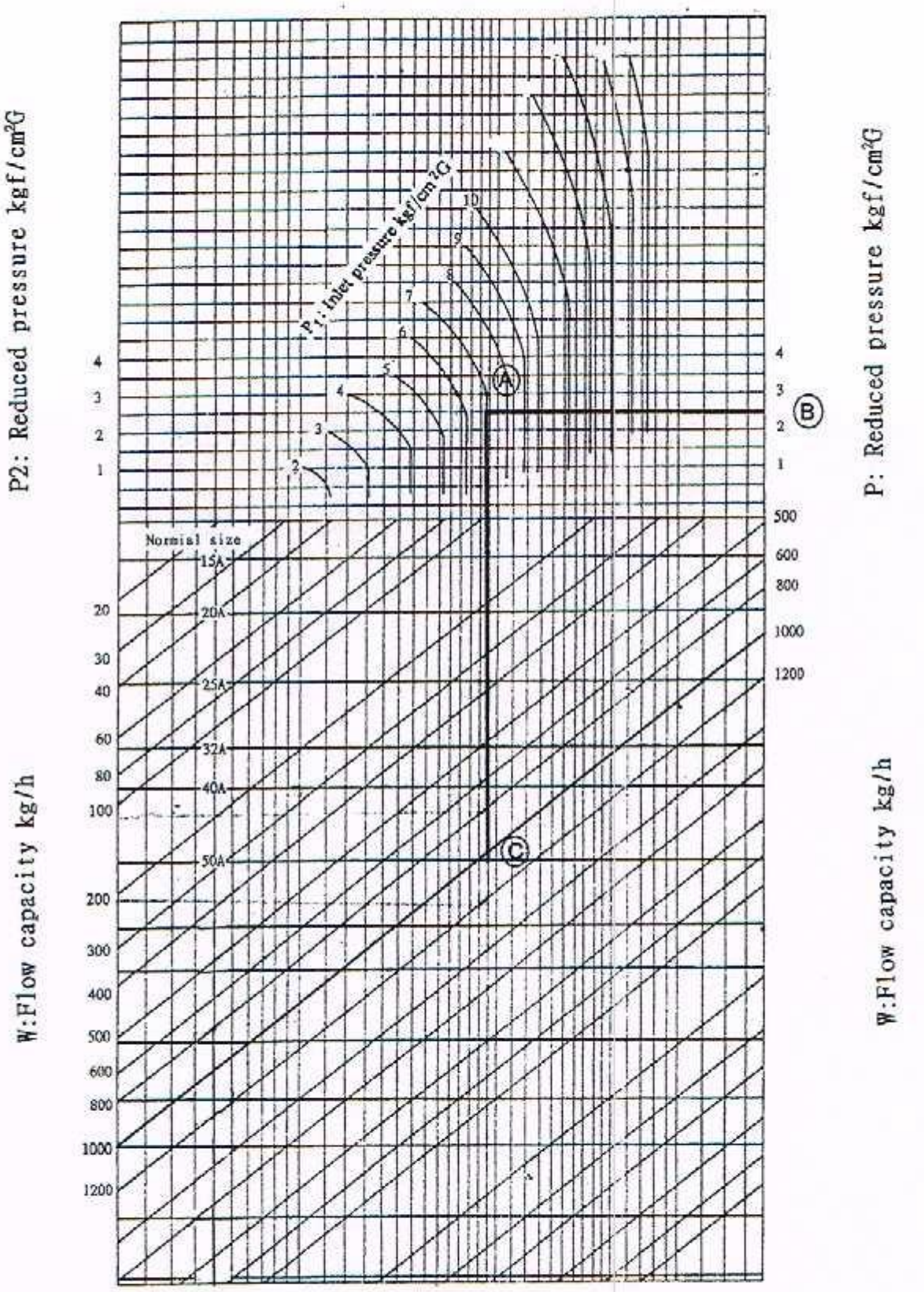
Continued on next page...

Steam Tables continued...

GAUGE PRESSURE		ABSOLUTE PRESSURE		TEMPERATURE
bar	kPa	bar	kPa	°C
8.20	820.0	9.213	921.3	176.37
8.30	830.0	9.313	931.3	176.83
8.40	840.0	9.413	941.3	177.27
8.50	850.0	9.513	951.3	177.75
8.60	860.0	9.613	961.3	178.20
8.70	870.0	9.713	971.3	178.64
8.80	880.0	9.813	981.3	179.08
8.90	890.0	9.913	991.3	179.53
9.00	900.0	10.013	1001.3	179.97
9.10	910.0	10.113	1011.3	180.41
9.20	920.0	10.213	1021.3	180.83
9.30	930.0	10.313	1031.3	181.26
9.40	940.0	10.413	1041.3	181.68
9.50	950.0	10.513	1051.3	182.10
9.60	960.0	10.613	1061.3	182.51
9.70	970.0	10.713	1071.3	182.91
9.80	980.0	10.813	1081.3	183.31
9.90	990.0	10.913	1091.3	183.72
10.00	1000.0	11.013	1101.3	184.13
10.20	1020.0	11.213	1121.3	184.92
10.40	1040.0	11.413	1141.3	185.68
10.60	1060.0	11.613	1161.3	186.49
10.80	1080.0	11.813	1181.3	187.25
11.00	1100.0	12.013	1201.3	188.02
11.20	1120.0	12.213	1221.3	188.78
11.40	1140.0	12.413	1241.3	189.52
11.60	1160.0	12.613	1261.3	190.24
11.80	1180.0	12.813	1281.3	190.97
12.00	1200.0	13.013	1301.3	191.68
12.20	1220.0	13.213	1321.3	192.38
12.40	1240.0	13.413	1341.3	193.08
12.60	1260.0	13.613	1361.3	193.77
12.80	1280.0	13.813	1381.3	194.43
13.00	1300.0	14.013	1401.3	195.10
13.20	1320.0	14.213	1421.3	195.77
13.40	1340.0	14.413	1441.3	196.43
13.60	1360.0	14.613	1461.3	197.08
13.80	1380.0	14.813	1481.3	197.72
14.00	1400.0	15.013	1501.3	198.35
14.20	1420.0	15.213	1521.3	198.98
14.40	1440.0	15.413	1541.3	199.61
14.60	1460.0	15.613	1561.3	200.23
14.80	1480.0	15.813	1581.3	200.84
15.00	1500.0	16.013	1601.3	201.45
15.20	1520.0	16.213	1621.3	202.04
15.40	1540.0	16.413	1641.3	202.62
15.60	1560.0	16.613	1661.3	203.21
15.80	1580.0	16.813	1681.3	203.79
16.00	1600.0	17.013	1701.3	204.38
16.20	1620.0	17.213	1721.3	204.94
16.40	1640.0	17.413	1741.3	205.49
16.60	1660.0	17.613	1761.3	206.05
16.80	1680.0	17.813	1781.3	206.61
17.00	1700.0	18.013	1801.3	207.17
17.20	1720.0	18.213	1821.3	207.75
17.40	1740.0	18.413	1841.3	208.30
17.60	1760.0	18.613	1861.3	208.84
17.80	1780.0	18.813	1881.3	209.37
18.00	1800.0	19.013	1901.3	209.90
18.20	1820.0	19.213	1921.3	210.43
18.40	1840.0	19.413	1941.3	210.96
18.60	1860.0	19.613	1961.3	211.47
18.80	1880.0	19.813	1981.3	211.98
19.00	1900.0	20.013	2001.3	212.47
19.20	1920.0	20.213	2021.3	212.98
19.40	1940.0	20.413	2041.3	213.49

Continued on next page...

Screwed cast iron pressure reducing valve Fig no VRS317



Steam Tables continued...

GAUGE PRESSURE		ABSOLUTE PRESSURE		TEMPERATURE
bar	kPa	bar	kPa	°C
79.00	7900.0	80.013	8001.3	295.10
80.00	8000.0	81.013	8101.3	295.96
81.00	8100.0	82.013	8201.3	296.81
82.00	8200.0	83.013	8301.3	297.66
83.00	8300.0	84.013	8401.3	298.50
84.00	8400.0	85.013	8501.3	299.35
85.00	8500.0	86.013	8601.3	300.20
86.00	8600.0	87.013	8701.3	301.00
87.00	8700.0	88.013	8801.3	301.81
88.00	8800.0	89.013	8901.3	302.61
89.00	8900.0	90.013	9001.3	303.41
90.00	9000.0	91.013	9101.3	304.20
92.00	9200.0	93.013	9301.3	305.77
94.00	9400.0	95.013	9501.3	307.24
96.00	9600.0	97.013	9701.3	308.83
98.00	9800.0	99.013	9901.3	310.32
100.00	10000.0	101.013	10101.3	311.79
102.00	10200.0	103.013	10301.3	313.24
104.00	10400.0	105.013	10501.3	314.67
106.00	10600.0	107.013	10701.3	316.08
108.00	10800.0	109.013	10901.3	317.46
110.00	11000.0	111.013	11101.3	318.83
112.00	11200.0	113.013	11301.3	320.17
114.00	11400.0	115.013	11501.3	321.50
116.00	11600.0	117.013	11701.3	322.81
118.00	11800.0	119.013	11901.3	324.10
120.00	12000.0	121.013	12101.3	325.38

Alphabetical Index

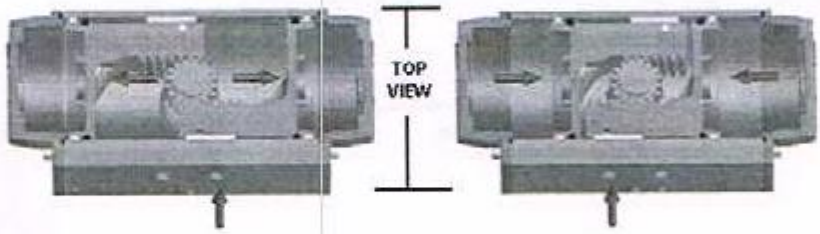
Technical information schedules
(at the back of the catalogue)

Actuator double acting pneumatic

VALBIA

Valbia fig 47E
Stock code VAVDA
Complete with extruded aluminium body, die cast aluminium pistons, stainless steel cam, steel springs and NBR o-rings.
Suitable for actuation of ball valves and butterfly valves and quick opening valves.

Sizes: Actuators available for all sizes of valves



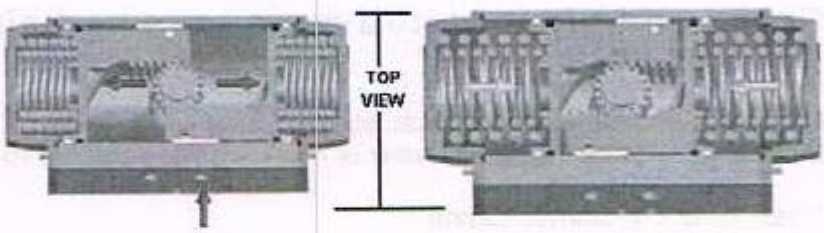
NB! We can fit the actuators to your valves at our Jhb depot

Actuator spring return pneumatic

VALBIA

Valbia fig 47F
Stock code VAVSR
Complete with extruded aluminium body, die cast aluminium pistons, stainless steel cam, steel springs and NBR o-rings.
Suitable for actuation of ball valves and butterfly valves and quick opening valves.

Sizes: Actuators available for all sizes of valves



NB! We can fit the actuators to your valves at our Jhb depot

Actuator electric

Valbia fig IVB
Stock code VAVE
Complete with body made of VO self-extinguishing class technopolymer material. The actuator is lubricated for life at the factory. Fits all ISO standard mounting pads. The actuator is fitted with manual override, position indicator, limit switches and internal cooler.
Available in 12V DC, 24V AC/DC and 100-240V AC.
Suitable for actuation of ball valves, butterfly valves and quick opening valves.

Sizes: Actuators available for all sizes of valves

NB! We can fit the actuators to your valves at our Jhb depot

Actuators can be fitted to the below valves as per pictures

Flanged Ball Valves

Screwed Ball Valves

Butterfly Valves

Brass cadmium plated male screwed air vent

317 fig AV-BC6
Stock code VAV317
Complete with propylene resin float, stainless steel spring and NBR nitrile o – rings.
Suitable for 145 PSI (1000kPa) water or non-corrosive fluids at 110°C.

Sizes: ½" to 1" (15mm to 25mm)

Brass cadmium plated male screwed air vent

Kingfisher fig 362
Stock code VAVLD
Complete with propylene resin float, stainless steel spring and NBR nitrile o-rings.
Suitable for 145PSI (1000 kPa) water or non-corrosive fluids at 110°C. Especially designed for confined spaces.
Sizes: $^{3}/_{8}$" to 1" (10mm to 25mm)

Brass cadmium plated male screwed air vent

RBM fig VASA
Stock code VAVRBM
Complete with propylene resin float, stainless steel spring and NBR nitrile o-rings.
Suitable for 145PSI (1000 kPa) water or non-corrosive fluids at 110°C.

Sizes: ¾" to 1" (20mm to 25mm)

Brass cadmium plated male screwed air vent (Short pattern for restricted space)

RBM fig IAAV
Stock code VAVLDKF
Complete with propylene resin float, stainless steel spring and NBR nitrile o-rings.
Suitable for 145PSI (1000 kPa) water or non-corrosive fluids at 115°C.

Sizes: $^{3}/_{8}$" to ½" (10mm to 15mm)

Cast Iron screwed air vent

317 Fig AVIOK
Stock code VAVN
Complete with stainless steel ball float and stainless steel needle and NBR seat.
Suitable for 200PSI (1400kPa) at 90°C water or non-corrosive fluid compatible with the construction of the valve.
Sizes: ½" to 1" (15mm to 25mm)

NB! When turned upside down the valve can be used as a water trap on an air receiver.

Bronze screwed air vent, Bi metallic type

JK Fig CT11
Stock code VAVJK
Complete with stainless steel seat, thermostatic element and spring.
Suitable for 180PSI (1300kPa) steam at 200°C.

Sizes: ½" to ¾" (15mm to 20mm)

Ductile iron flanged air vent

Kingfisher Fig 517
Stock code VAVFSD
Complete with ABS ball float.
Suitable for 232 PSI (1600kPa) water or non-corrosive fluids at 120°C.

Sizes: 2" to 4" (50mm to 100mm)

Bronze screwed vacuum breaker

Kingfisher MR Fig VK-70
Stock code VVBKF
Complete with stainless steel internals.
Suitable for 150PSI (1000kPa) steam or 190PSI (1300kPa) water, oil or gas.

Sizes: ½" (15mm)

Cast iron flanged equilibrium ball float valve

317 fig FT-551
Stock code VBFF317
Complete with stainless steel internals, stainless steel float and arm and NBR seat on clack.
Suitable for 150PSI (1000kPa) water at 80°C.
Sizes: 2" to 8" (50mm to 200mm)

NB! NBR seat can be changed to PTFE seat for higher working temperature 150°C

Mild steel FBE coated equilibrium flanged undrilled ball float valve

Kingfisher fig
Stock code VBFF
Complete with mild steel FBE coated body, gun metal gate, piston, plug, NBR gate seal, stainless steel arm and fiber glass float.
Suitable for 16 bar (250PSI) Liquids.
Sizes: 2" to 6" (50mm to 150mm)

Cast iron equilibrium flanged angle pattern Ball float valve. Drilled T/D outlet T10 inlet

VOSA fig 7354
Stock code VBFFAV
Complete with cast iron body, bronze and cast iron internals, nitrile washer and fiber glass float.
Suitable for 10 bar (150PSI) Liquids.
Sizes: 2" to 8" (50mm to 200mm)

Brass ball float valve screwed

Kingfisher fig BT700
Stock code VBFKF
Complete with brass body, NBR seal ring, brass internals and brass arm.
Suitable for 6 bar (87 PSI) Liquids.
Sizes: ½" to 2" (15mm to 50mm)

NB! Copper, PVC, stainless steel and polystyrene balls available for this valve.

Arm thread size: ½" to ¾" (15mm to 20mm) = 8mm
1" to 1 ¼" (25mm to 32mm) = 10mm
1 ½" to 2" (40mm to 50mm) = 12mm

Brass ball float valve

Cobra fig 700
Stock code VBFC
Complete with SABS stamp.
Suitable for 175PSI (1200kPa) water.
Sizes: ½" to 2" (15mm to 50mm)

NB! Copper, PVC and Polystyrene balls available for this valve.

Arm thread size:
½" to ¾" (15mm to 20mm) = 8mm
1" to 1 ¼" (25mm to 32mm) = 10mm
1 ½" to 2" (40mm to 50mm) = 12mm

Stainless steel screwed ball float valve

Kingfisher fig TM700
Stock code VBFSSKF
Complete with 316 stainless steel ball and ABS seal on end and Viton rubber seal on valve seat.
Suitable for 50PSI (350kPa) water, oil or acids.
Sizes: ½" to 2" (15mm to 50mm)

NB! The seal on the valve seat can be changed to PTFE if needed.

Ball and Arm size:
½" M8 x 110mm
¾" M8 x 150mm
1" M8 x 150mm
1½" M10 x 200mm
2" M10 x 200mm

Staineless steel screwed ball float valve 316

Kingfisher fig 2856
Stock code VBFSSRD

Complete with 316 stainless steel body seat and arm. Silicone seal on seat and 304 stainless steel ball. Suitable for 150 PSI (1000kPa) at 150°C.

Size ½" to 2" (15mm to 50mm)

NB! This valve is available in 304 stainless steel. Size: ½" to 1" (15mm to 25mm) at more competitive prices.

Ball Floats

Kingfisher fig 47
Stock code VBFCUKF

Copper Ball

Kingfisher fig TM200
Stock code VBFSSB

Stainless Steel Ball

Kingfisher fig 513A
Stock code VBFPVCKF

PVC Ball

Sizes: 4 ½", 5", 6", 8", 10" and 12" (110mm, 125mm, 150mm, 250mm, 300mm)

NB! The stainless steel balls are only available in 150mm and 200mm diameter with a 10mm thread

ABS High capacity float valve

Kingfisher fig BT613
Stock code VBFABS

The patented "**KINGFISHER FLOAT VALVE**" uses the differential pressure theory to allow a full flow under the diaphragm and out the main water outlet. As the set water level is reached the PVC float rises and closes the pilot valve, water then fills the upper chamber putting pressure on top of the diaphragm shutting the main water outlet.

Advantages & Technical Features

- All plastic construction therefore no corrosion or scrap value.
- Full flow discharge allowing a high flow rate.
- UV stabilisation reduces the effects of harmful UV rays.
- Adjustable float lever allows easy water level adjustment.
- Can be installed in any plane including vertically in tanks.
- Compact design allows the valve to fit into small spaces.
- Working pressure from 1 Bar up to 12 Bar.
- Working temperature -20°C to +75°C.

Sizes: ½" to 2" (15mm to 50mm)

ABS Compact float valve

Kingfisher BT fig 614
Stock code VBFABSC

Advantages & Technical Features

- All plastic construction therefore no corrosion or scrap value.
- Full flow discharge allowing a high flow rate.
- UV stabilisation reduces the effects of harmful UV rays.
- Adjustable float lever allows easy water level adjustment.
- Can be installed in any plane including vertically in tanks.
- Compact design allows the valve to fit into small spaces.
- Working pressure from 1 Bar up to 12 Bar.
- Working temperature -20°C to +75°C.

Sizes: ½" (15mm)

NB! Ideal for toilet systems

Brass cadmium plated screwed full-bore ball valve

Kingfisher BT fig 105
Stock code VBCPKF
Complete with hard chrome brass ball, Teflon seals on the seats and gland.
Suitable for 400PSI (2700kPa) water, oil or gas at 150°C.

Sizes: ¼" to 4" (8mm to 100mm)

Brass cadmium plated screwed M & F full-bore ball valve

Kingfisher GK fig 115
Stock code VBCPMF
Complete with hard chrome brass ball, Teflon seals on the seats and gland.
Suitable for 580PSI (4000kPa) water, oil or gas at 150°C.

Sizes: ¼" to 2" (8mm to 50mm)

Cast iron screwed full bore ball valve

Kingfisher fig Glen
Stock code VBCISG
Complete with stainless steel ball and rubber seals. Pressure rating as per chart.

Sizes: ½" to 2" (15mm to 50mm)

Brass cadmium plated mini ball valve screwed female female

Kingfisher BT fig 505
Stock code VBCPMFFKF
Complete with hard chrome brass ball, Teflon seals on the seats and gland.
Suitable for 150PSI (1000kPa) water, oil or gas at –10°C to +90°C.

Sizes: ¼" to ½" (8mm to 15mm)

Brass cadmium plated mini ball valve screwed male and female

Kingfisher BT fig 506
Stock code VBCPMMFKF
Complete with hard chrome brass ball, Teflon seals on the seats and gland.
Suitable for 150PSI (1000kPa) water, oil or gas at –10° C to +90°C.

Sizes: ¼" to ½" (8mm to 15mm)

Brass chrome plated ball O'stop valve screwed female female

Kingfisher fig S302
Stock code VBCPBFFKF
Complete with hard chrome brass ball, Teflon seals on the seats and gland. Screwdriver type handle.
Suitable for 150PSI (1000kPa) water, oil or gas at -10°C to +90°C

Sizes: ½" (15mm)

Brass chrome plated ball o'stop valve screwed male and female

Kingfisher fig S303
Stock code VBCPBMFKF
Complete with hard chrome brass ball, Teflon seals on the seats and gland. Screwdriver type handle.
Suitable for 150PSI (1000kPa) water, oil or gas at –10°C to
+90°C.

Sizes: ½" (15mm)

Brass cadmium plated conex connection ball valve full bore

Kingfisher BT fig 509
Stock code VBCPKFCC
Complete with hard chrome brass ball, Teflon seals on the seats and gland. Copper to Copper connections.
Suitable for 230PSI (16 Bar) water, oil or gas

Sizes: ½" to $^{3}/_{4}$" (15mm to 22mm)

Brass cadmium plated mini ball valve conex connections

Kingfisher BT fig 557
Stock code VBCPMKFCC
Complete with hard chrome brass ball, Teflon seals on the seats and gland.
Suitable for 116PSI (800 kPa) water, oil or gas

Sizes: ½" (15mm)

Brass cadmium plated mini ball valve conex connections, Screwdriver operated handle

Kingfisher fig 556
Stock code VBCPMRFCC50
Complete with hard chrome brass ball, Teflon seals on the seats and gland.
Suitable for 116PSI (800 kPa) water, oil or gas

Sizes: ½" (15mm)

Bronze screwed full-bore ball valve

Kingfisher RD fig 317
Stock code VBBNFB
Complete with stainless steel ball, Teflon seals on the seats and gland.
Suitable for 150PSI (1000kPa) steam or 400PSI (2760kPa) water, oil or gas at 40°C.

Sizes: ½" to 2" (15mm to 50mm)

Forged brass full bore screwed ball valve

Kingfisher fig kit SZA
Stock code VBFBSKSZA
Complete with forged brass ball, PTFE seats.
Suitable for 600PSI (4,14mPa) none shock water, oil or gas or 150 PSI (1000KPA) steam at 180°C.

Sizes: ¼" to 4" (8mm to 100mm)

Stainless steel 316 screwed barstock reduced-bore ball valve

Kingfisher fig 304
Stock code VBBSS
Complete with stainless steel ball, Teflon seals on the seats and gland. Lockable lever.
Suitable for 100PSI (700kPa) steam or 800PSI (5600kPa) water, oil or gas at 36°C.

Sizes: ¼" to 4" (8mm to 100mm)

NB! Also available in hex body with lockable handle

Lost wax casting body

Barstock body

Size: $^{1}/_{4}$-2" (8mm – 50mm)
NB: no lockable lever

Carbon steel screwed barstock reduced-bore ball valve

317 fig BV45C
Stock code VBBCS
Complete with stainless steel ball, Teflon seals on the seats and gland.
Suitable for 100PSI (700kPa) steam or 800PSI (5600kPa) water, oil or gas at 36°C.

Sizes: ¼" to 2" (8mm to 50mm)

Stainless steel 316 screwed 2-piece full-bore ball valve

Kingfisher fig WB-02TF
Stock code VB2SS
Complete with stainless steel ball, Teflon seals on the seats and gland.
Suitable for 150PSI (1000kPa) steam or 200PSI (1400kPa) water, oil or gas.

Sizes: ¼" to 4" (8mm to 100mm)

Carbon steel screwed 2-piece full-bore ball valve

Kingfisher RV fig I705000
Stock code VB2CS
Complete with stainless steel ball, Teflon seals on the seats and gland.
Suitable for 150PSI (1000kPa) steam or 200PSI (1400kPa) water, oil or gas.
Full range of spare balls and seals available

Sizes: ½" to 2" (15mm to 50mm)

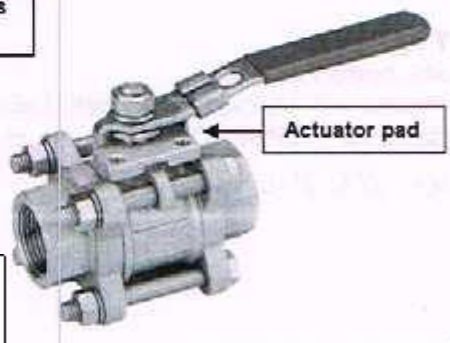
NB! Full range of spare balls and seals available

Stainless steel 316 screwed 3-piece full-bore ball valve

Kingfisher fig WB03T
Stock code VB3SS
Complete with stainless steel ball, Teflon seals on the seats and gland. Lockable lever and actuator pad or without actuator pad.
Suitable for 150PSI (1000kPa) water, oil or gas at 200°C.

Sizes: ¼" to 4" (8mm to 100mm)

NB! Full range of spare balls and seals available



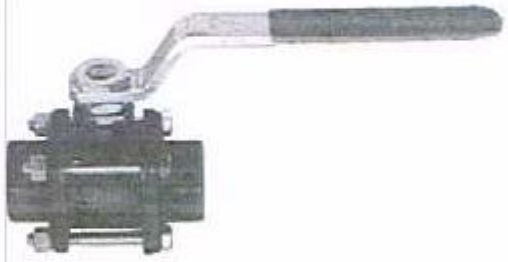
Carbon steel 3-piece full-bore ball valve screwed and socket weld

Kingfisher RV fig 713000
Stock code VB3CS
Complete with stainless steel ball, Teflon seals on the seats and gland.
Suitable for 250PSI (1600kPa) steam or 360PSI (2500kPa) water, oil or gas. Screwed and socket weld end available.

Sizes: ¼" to 4" (8mm to 100mm)

NB! Lockable plate available on request.

NB! Full range of spare balls and seals available



Brass cadmium plated full bore gas ball valve

Kingfisher PW fig 6275
Stock Code VBCPGR
Complete with brass cadmium plated body, Teflon seals and hard chromed brass ball. The handle is yellow denoting suitable for gas use.
Suitable for -20°C to +90°C at ratings as per chart.

Sizes: ¼" to 2" (8mm to 50mm)

Size	DN	I	L	ØH	Ch	R	H	MOP	Kg	Bar	PSI
½"	15	15	59	30	25	96	46	5	0.18	30	435
¾"	20	16.3	67	36	31	121	57	5	0.30	30	435
1"	25	19.1	81.5	43.5	38	121	59	5	0.44	30	435
1 ¼"	32	21.4	94	53	48	151	73	5	0.77	25	363
1 ½"	40	21.4	102.5	65	54	151	79	5	1.03	25	363
2"	50	25.7	123	80	67	160	93.5	5	1.76	25	363

Temperature range: -20°C +90°C

Brass cadmium plated screwed ball valve 3-way full-bore, L port or T port

Kingfisher S360
Stock code VB3S
Complete with hard chrome brass ball, Teflon seals on the seats and gland.
Suitable for 200PSI (1400kPa) water, oil or gas at -20°C to +150°C.

Sizes: ½" to 2" (15mm to 50mm)

Brass cadmium plated screwed ball valve 3-way reduced bore, L or T port

Kingfisher RV fig 3300 (T port) / 3400 (L port)
Stock code VB3V
Complete with hard chrome brass ball, Teflon seal on the seats and gland.
Suitable for 250PSI (1600kPa) water, oil or gas at -20°C to +150°C.

Sizes: ¼" to 2" (8mm to 50mm)

Stainless steel 316 screwed ball valve 3-way full-bore, L or T port

Kingfisher RV fig 772000
Stock code VBSS3
Complete with stainless steel ball, Teflon seals on the seats and gland.
Suitable for 725PSI (5000kPa) water, oil or gas at –20°C to +120°C.

Sizes: ¼" to 2" (8mm to 50mm)

PVC hose ball bibcock

Kingfisher BT fig 610
Stock code VBBPKF
Complete with hard chromed brass ball, PVC coated brass body and PVC spout with metallic chromed hose tailpiece.

Sizes: ½" (15mm)

Brass cadmium plated screwed ball bibcock, lock up type

Kingfisher AFG fig 323
Stock code VBBHLKF
Complete with hard chromed brass ball, Teflon seals on the seats and gland.
Suitable for 150PSI (1000kPa) water, oil or gas at -10°C to +100°C.
Supplied with lockable handle.

Sizes: ½" to ¾" (15mm to 20mm)

Brass cadmium plated screwed ball bibcock

Kingfisher BT fig 508
Stock code VBBCPKF
Complete with hard chrome brass ball, Teflon seals on the seats and gland.
Suitable for 150 PSI (1000 kPa) water, oil or gas at –10°C to +100°C.

Sizes: ½" to 1" (15mm to 25mm)

PVC screwed ball valve

Kingfisher BT fig 601
Stock code VBPVCFKF
Complete with Santoprene seals on the seats and gland.
Suitable for 150PSI (1000kPa) water.

Sizes: ½" to 4" (15mm to 100mm)

NB! Also available in socket weld

PVC screwed single union ball valve

Kingfisher BT fig 602
Stock code VBPSU
Complete with Teflon seal on the seats and EPDM o'ring on the gland.
Suitable for 250PSI (1600kPa) water or oil.

Sizes: ½" to 4" (15mm to 100mm)

NB! Also available in socket weld

PVC screwed double union ball valve

Kingfisher BT fig 603
Stock code VBPDU
Complete with Teflon seal on the seats and EPDM o' ring on the gland.
Suitable for 250PSI (1600kPa) water or oil.

Sizes: ½" to 4" (15mm to 100mm)

NB! Also available in socket weld

Nylon screwed full bore ball valve

VIR Fig 220
Stock code VBNV
Complete with Teflon seals on the seats and gland, chrome platec brass ball.
Suitable for 232PSI (1600kPa) water.

Sizes: ½" to 2" (15mm to 50mm)

Brass cadmium plated butter ball valve

Kingfisher PW fig I600001
Stock code VBB
Complete with brass chrome plated body, NBR seal on disc, PTFE seals on stem. Combination of a ball valve and a butterfly valve. Regulating plate on handle allows easy regulation of flow.
Suitable for 250PSI (1600kPa) WOG.

Sizes: ½" to 2" (15mm to 50mm)

Cast iron flanged 2 piece full-bore ball valve drilled table 16

Kingfisher RV fig 730000
Stock code VBFV
Complete with hard chrome brass ball, Teflon seals on the seats and gland.
Suitable for 250PSI (1600kPa) water, oil or gas at –20°C to +120°C

Sizes: ½" to 6" (15mm to 150mm)

NB! Full range of spare balls and seals available

Stainless steel 316 flanged 2 piece full-bore ball valve Table 16 undrilled

317 fig BV36F
Stock code VBFSS
Complete with stainless steel 316 ball, Teflon seals on the seats and gland.
Suitable for 232PSI (1600kPa) water, oil or gas.

Sizes: ½" to 10" (15mm to 250mm)

Cast iron flanged reduced-bore ball valve drilled table 16

Kingfisher RV fig 750000
Stock code VBFVRB
Complete with hard chrome brass ball, Teflon seals on the seats and gland.
Suitable for 250PSI (1600kPa) water, oil or gas at –20°C to +120°C

Sizes: 2" to 4" (50mm to 100mm)

NB! Full range of spare balls and seals available

Cast iron flanged full-bore ball valve, Table 16 undrilled

317 fig BV13F
Stock code VBFR
Complete with stainless steel 316 ball, Teflon seals on the seats and gland.
Suitable for 232PSI (1600kPa) water, oil or gas.

Sizes: ½" to 8" (15mm to 200mm)

Carbon steel flanged ASA150 full bore ball valve Fire safe

Kingfisher TM fig 2020
Stock code VBFCS
Complete with stainless steel ball, blow out proof stem, PTFE seals and packing.
Suitable for 150PSI (1000kPa) @ 200°C.

Sizes: 1" to 4" (25mm to 100mm)

Brass screwed female mini ball valves reduced bore

SS

SS fig C20
Stock code VBBMMFF
Complete with brass cadmium plated ball and teflon seals.
Suitable for 150PSI (1000kPa) water, oil or gas.

Sizes: $^{1}/_{8}$" to ½" (6mm to 15mm)

Brass screwed male/hose mini ball valves reduced bore

SS

SS fig C40
Stock code VBBMMH
Complete with brass cadmium plated ball and Teflon seals.
Suitable for 150PSI (1000kPa) water, oil or gas.

Sizes: $^{1}/_{4}$" male X $^{5}/_{16}$" hose, $^{1}/_{4}$" male X $^{3}/_{8}$" hose, $^{3}/_{8}$" male X $^{3}/_{8}$" hose, $^{1}/_{2}$" male X $^{3}/_{8}$" hose.

Brass screwed male/nylon mini ball valves reduced bore

SS

SS fig C70
Stock code VBBMMN
Complete with brass cadmium plated ball and Teflon seals.
Suitable for 150PSI (1000kPa) water, oil or gas.

Sizes: $^{1}/_{4}$" male X $^{1}/_{4}$" nylon tube, $^{1}/_{4}$" male X $^{3}/_{8}$" nylon tube, $^{1}/_{2}$" male X $^{1}/_{4}$" nylon tube, $^{1}/_{8}$" male X $^{1}/_{4}$" nylon tube.

Brass screwed male/copper tube mini ball valves reduced bore

SS

SS fig C80
Stock code VBBMMC
Complete with brass cadmium plated ball and Teflon seals.
Suitable for 150PSI (1000kPa) water, oil or gas.

Sizes: $^{1}/_{4}$" male X $^{1}/_{4}$" copper tube, $^{3}/_{8}$" male X $^{1}/_{4}$" copper tube, $^{1}/_{4}$" male X $^{3}/_{8}$" copper tube.

Cast iron wafer pattern butterfly valve, Trigger lever operated, with chrome ductile iron pinned and pinless disc

Kingfisher GK fig 826C
Stock code VBTL10VT
Complete with trigger lever, ductile iron chrome plated disc and EPDM or Nitrile liner.
Suitable for 250PSI (1600kPa) water, oil or gas at 100°C.

Sizes: 2" to 12" (50mm to 300mm)

NB! 2" – 6" (50mm – 150mm) PTFE liners are available

Cast iron wafer pattern butterfly valve, Trigger Lever operated, with stainless steel pinned and pinless disc

Kingfisher GK fig 826NS
Stock code VBTL10VTSS
Complete with trigger lever and stainless steel disc, EPDM or Nitrile liner.
Suitable for 250PSI (1600kPa) water, oil or gas at 100°C.

Sizes: 2" to 12" (50mm to 300mm)

NB! 2" – 6" (50mm – 150mm) PTFE liners available

Stainless Steel CF8M wafer pattern butterfly valve, Trigger Lever operated

Kingfisher GM fig BVSS
Stock code VBSSTL
Complete with all CF8M stainless steel internals 13% chrome stainless steel shaft.
Suitable for 250 PSI (1600kPa) water, oil, gas or chemicals. Temperatures depend on liner. Liners available in Nitrile, Hyfrolon, EPDM, neoprene, NBR, Viton, heat resistant rubber and PTFE.

Sizes: 2" to 10" (50mm to 250mm)

Cast iron wafer pattern butterfly valve, Trigger Lever operated with stainless steel pinned and pinless disc and stainless steel hexagon shaft

Kingfisher MB fig SL3116
Stock code VBTL10SSPL
Complete with trigger lever and stainless steel pinless disc 316, EPDM or Nitrile liner.
Suitable for 250PSI (1600kPa) water, oil or gas at 100°C.

Sizes: 2" to 12" (50mm to 300mm)

NB! 2" – 6" (50mm – 150mm)
PTFE liners available

Cast iron wafer pattern butterfly valve, Gearbox operated with chrome ductile iron pinned and pinless disc

Kingfisher GK fig 826C-GB
Stock code VBGB10VT
Complete with gearbox, ductile iron disc and EPDM or Nitrile liner.
Suitable for 250PSI (1600kPa) water, oil or gas at 100°C

Sizes: 2" to 28" (50mm to 700mm)

NB! 2" – 6" (50mm – 150mm)
PTFE liners available

Stainless steel CF8M wafer pattern butterfly valve, Gearbox operated with stainless steel disc

Kingfisher GM fig 316NS-GB
Stock code VBSSGB
Complete with gearbox, stainless steel disc and EPDM or Nitrile liner.
Suitable for 250PSI (1600kPa) water, oil or gas at 100°C.

Sizes: 2" to 28" (50mm to 700mm)

Cast iron wafer pattern butterfly valve, Gearbox operated with stainless steel pinned and pinless disc

Kingfisher GK fig 826NS-GB
Stock code VBGB10VTSS
Complete with gearbox, stainless steel disc and EPDM or Nitrile liner.
Suitable for 250PSI (1600kPa) water, oil or gas at 100°C.

Sizes: 2" to 28" (50mm to 700mm)

NB! 2" – 6" (50mm – 150mm) PTFE liners are available

Cast iron wafer pattern butterfly valve, Gearbox operated with stainless steel pinless disc and stainless steel shaft

Kingfisher MB fig SL316
Stock code VBGB10SSPL
Complete with gearbox, square stainless steel pinless 316 disc and EPDM or Nitrile liner.
Suitable for 250PSI (1600kPa) water, oil or gas at 100°C.

Sizes: 2" to 28" (50mm to 700mm)

NB! 2" – 6" (50mm – 150mm) PTFE liners are available

NB! Spare liners are available in Nitrile, EPDM and PTFE for all of the above Butterfly valves

Brass screwed flap check valve

Kingfisher BT fig 504
Stock code VCFKF
Complete with brass flap and seat.
Suitable for 120 to 180PSI (800 to 1200kPa) water, oil or gas.

Sizes: ½" to 4" (15mm to 100mm)

NB! Also available with rubber insertion on flap

Brass screwed spring loaded Inline check valve

Kingfisher GK fig 103
Stock code VCSS
Complete with stainless steel spring, NBR seat on a nylon stem.
Suitable for 120 to 180PSI (800 to 1200kPa) water, oil or gas at 110°C (depending on size).

Sizes: ⅜" to 4" (10mm to100mm)

Size	Working pressure
⅜" to 1" (10mm to 25mm)	1200kPa (175PSI)
1 ¼" to 2" (32mm to 50mm)	1000kPa (150PSI)
2 ½" to 4" (65mm to 100mm)	800kPa (116PSI)

Stainless steel screwed spring loaded check valve

Kingfisher PWISSSPR
Stock code VCSSS
Complete with CF8M body, 316 stainless steel spring, stem and Viton seal on stainless steel disc.
Gasket on body joint is Viton.
Suitable for 800PSI (5515kPa) steam or 800PSI (5515kPa) water, oil or gas.

Sizes: $^{1}/_{4}$" to 4" (8mm to 100mm)

Brass In-line spring loaded check valve with brass clack

Kingfisher BT fig 516
Stock code VCSBSKF
Complete with stainless steel spring, NBR seat on a brass stem.
Suitable for 120 to 180PSI (800 to 1200kPa) water, oil or gas at 110°C (depending on size).

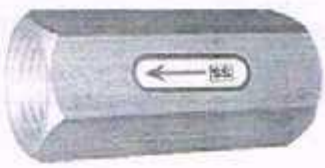
Sizes: ½" to 4" (15mm to100mm)

Size	Working pressure
½" to 1" (15mm to 25mm)	2500kPa (360PSI)
1 ¼" to 2" (32mm to 50mm)	1800kPa (260PSI)
2 ½" to 4" (65mm to 100mm)	1200kPa (170PSI)

Brass screwed inline check valve

SS fig K004
Stock code VCK004
Complete with stainless steel spring, NBR o-ring on needle brass seal.
Suitable for 25 Bar (362 PSI) Water, oil or gas

Sizes: ¼" to ½" (8mm to 15mm)



PVC spring loaded check valve

Kingfisher TBT fig 608
Stock code VCSPVCKF
Complete with stainless steel spring.
Suitable for acids, water at 116PSI (800kPa)

Sizes: ½" to 2" (15mm to 50mm)

NB! Also available in weld on

Cobra "Y" pattern check

Cobra fig 1025
Stock code VCSC
Complete with brass y pattern body and brass spring loaded flap with rubber disc.
Suitable for 290PSI (2000kPa) non-shock.

Sizes: ½" to 2" (15mm to 50mm)

Brass spring loaded in line check valve

Kingfisher MB fig 104
Stock code VCSR
Complete with brass body, aluminium stem, viton seat and stainless steel spring.

Sizes: ½" to 2" (15mm to 50mm)

Sizes	Working pressure	
½" to 1" (15mm to 25mm)	360 PSI	2500 kPa
1 ¼" to 2" (32mm to 50mm)	260 PSI	1800 kPa

Ductile iron screwed mushroom check valve

Top fig DG 162
Stock code VCMD
Complete with stainless steel spring loaded clack and seat.
Suitable for 180PSI (1242kPa) steam or 250PSI (1600kPa) water, oil or gas.

Sizes: ½" to 2" (15mm to 50mm)

Bronze screwed mushroom check valve

DECA

Deca/Mipel fig 044
Stock code VM044
Complete with Teflon clack, bronze seat and union bonnet.
Suitable for 200PSI (1400kPa) steam or 400PSI (2800kPa) water, oil or gas.

Sizes: ¼" to 2" (8mm to 50mm)

Fig 044 Renewable PTFE disc

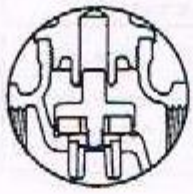
Bronze screwed mushroom check valve

DECA

Deca/Mipel fig 041
Stock code VM041
Complete with Teflon clack and bronze seat.
Suitable for 150PSI (1000kPa) steam or 300PSI (2000kPa) water, oil or gas.

Sizes: ¼" to 4" (8mm to 100mm)

Fig 041 Renewable PTFE disc



Bronze screwed mushroom check valve

DECA

Deca/Mipel fig 046
Stock code VM046
Complete with replaceable stainless steel seat and clack and bronze union bonnet.
Suitable for 200PSI (1400kPa) steam or 400PSI (2800kPa) water, oil or gas.

Sizes: ¼" to 2" (8mm to 50mm)

Fig 046 Disc and seat of AISI 410 stainless steel

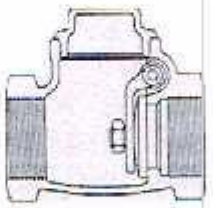
Bronze screwed flap check valve

DECA

Deca/Mipel fig 049
Stock code VM049
Complete with bronze flap and bronze seat.
Suitable for 125PSI (862kPa) steam or 200PSI (1400kPa) water, oil or gas.

Sizes: ½" to 3" (15mm to 80mm)

Fig 049 Regrindable metal disc



Ductile iron screwed mushroom check valve

Top fig DG202
Stock code VCMD20
Complete with stainless steel spring loaded clack and seat and union bonnet.
Suitable for 290PSI (2000kPa) steam or 406PSI (2800kPa) water, oil or gas.

Sizes: ½" to 2" (15mm to 50mm)

Bronze screwed flap check valve

317 fig BGT25
Stock code VCFB317
Complete with bronze flap and bronze seat.
Suitable for 150PSI (1000kPa) steam or 300PSI (2000kPa) water, oil or gas.

Sizes: ½" to 2" (15mm to 50mm)

Bronze screwed mushroom check valve with Stainless steel internals

Mega fig 046
Stock code VMG046
Complete with internal bonnet, stainless steel seat and clack.
Suitable for 150PSI (1000kPa) steam or 300PSI (2000kPa) water, oil or gas.

Sizes: ¼" to 2" (8mm to 50mm)

NB! Can be spring loaded

Bronze screwed mushroom check valve with Bronze internals

Toho fig ST402
Stock code VCMS317
Complete with bronze seat and clack.
Suitable for 150PSI (1000kPa) steam or 300PSI (2000kPa) water, oil or gas.

Sizes: ½" to 4" (15mm to 100mm)

NB! Can be spring loaded

Bronze screwed mushroom check valve with PTFE clack

Mega fig 041
Stock Code VMG041
Complete with internal bonnet Teflon clack and bronze seat.
Suitable for 150PSI (1000kPa) steam or 300 PSI (2000kPa) water, oil or gas.

Sizes: ¼" to 2" (8mm to 50mm)

NB: Can be spring loaded

Forge steel screwed or socket weld spring loaded check valve

Kingfisher fig A115
Stock code VCSFSSD
Complete with stainless steel piston, clack and seat.
Suitable for 750PSI (5200kPa) steam or 1972PSI (13600kPa) water, oil or gas.

Sizes: ½" to 2" (15mm to 50mm)

Stainless steel CF8M screwed flap check valve

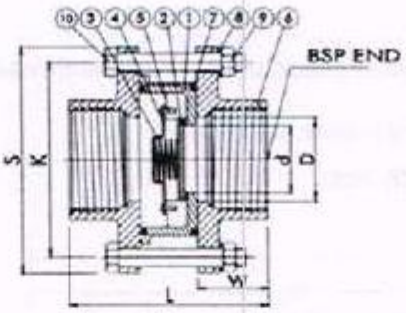
Kingfisher fig WZ-04T
Stock code VCFSS
Complete with stainless steel flap and seat.
Suitable for 200PSI (1400kPa) water, oil, gas or acid.

Sizes: ½" to 2" (15mm to 50mm)

316 Stainless steel screwed 3-piece spring loaded check valves

317 fig V3WC
Stock code VC3SS
Complete with disco type metal to metal stainless steel spring loaded check valve.
Suitable for 300PSI (2000kPa) steam or 600PSI (4000kPa) water, oil or gas.

Sizes: ½" to 4" (15mm to 100mm)



Cast iron wafer type check valve single door

Kingfisher GK fig 302
Stock code VWSD
Complete with stainless steel single door, stainless steel spring and viton seat.
Suitable for 250PSI (1600kPa) water, oil or gas.

Sizes: 2" to 16" (50mm to 400mm)

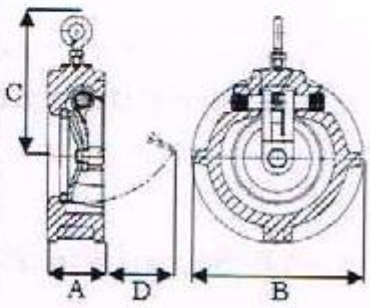
Dimensions mm

Size	50	65	80	100	125	150	200	250	300	350	400
Length	45	48	50	57	64	70	73	79	86	108	108
Outside Diam	98	111	130	162	194	218	273	336	384	447	499
Wt. Kg	1.8	2.4	3.2	5.4	7.3	9.8	14.6	23.6	34.4	75	91

Cast iron wafer type check valve ASA125 single door

Checkrite fig 210/125
Stock code VWSDCRCI
Complete with cast iron body and stainless steel disc.
Suitable for 285PSI (1966kPa) cold working pressure.

Sizes: 2" to 20" (50mm to 500mm)



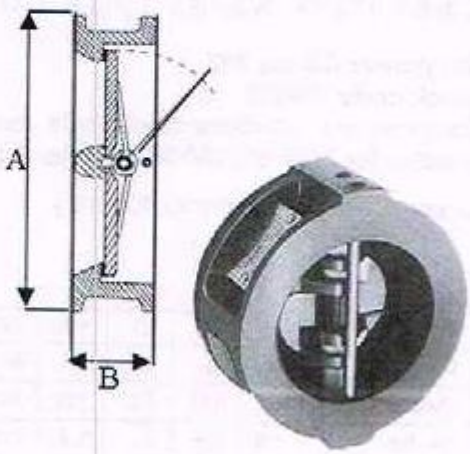
Nominal Pipe Size		A		B		C		D	
Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm
2	50	2 1/8	54.0	4 1/8	104.8	4 1/4	108.0	1 3/16	30.0
2 1/2	65	2 3/8	60.3	4 7/8	123.8	4 1/2	114.0	1 1/2	38.0
3	80	2 5/8	66.7	5 3/8	136.5	5	127.0	1 11/16	43.0
4	100	2 1/4	57.2	6 7/8	174.6	5 3/4	146.0	2 7/16	62.0
5	125	2 1/2	63.5	7 3/4	196.9	6 1/2	165.0	3 3/8	86.0
6	150	2 3/4	69.9	8 3/4	222.3	7 1/4	184.0	4 1/4	108.0
8	200	2 7/8	73.0	11	279.4	8 1/4	210.0	5 3/8	136.0
10	250	3 1/8	79.4	13 3/8	339.7	9 5/8	244.0	7	178.0
12	300	3 3/8	85.7	16 1/8	409.6	10 3/4	273.0	8 1/8	206.0
14	350	4 1/4	108.0	17 5/8	447.7	13	330.0	7 1/4	184.0
16	400	4 1/4	108.0	20 1/8	511.2	14 1/2	368.0	8 1/4	210.0
18	450	4 1/4	108.0	21 1/2	546.1	15 1/4	387.0	10 1/2	267.0
20	500	5 1/2	139.7	23 3/4	603.3	18 3/4	476.0	11	280.0

Cast iron wafer type check valve double door

Kingfisher fig R16CI
Stock code VWDD317
Complete with ductile iron nickel plated double door, stainless steel spring, Teflon bushes and NBR seat.
Suitable for 250PSI (1600kPa) water, oil or gas.

Sizes: 2" to 24" (50mm to 600mm)

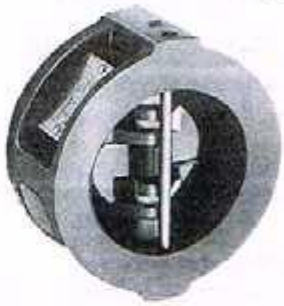
Dimensions				
DN	A			B
	DIN 2501 PN16/PN25	Table D	ANSI 125/150	EN558-1
50	109/109	98	4-1/8"	43
65	129/129	111	4-7/8"	46
80	144/144	130	5-3/8"	64
100	164/170	162	6-7/8"	64
125	194/196	194	7-3/4"	70
150	220/226	219	8-3/4"	76
200	275/286	276	11"	89
250	330/343	337	13-3/8"	114
300	380/403	387	16-1/8"	114
350	440	448	17-3/4"	127
400	491	499	20-1/4"	140
450	541	562	21-5/8"	152
500	600	619	23-7/8"	152
600	698	731	28-1/4"	178



Cast iron wafer type check valve double door

Kingfisher fig R16CF8
Stock code VWDDSS
Complete with stainless steel double door, stainless steel spring, Teflon bushes and EPDM seat.
Suitable for 250PSI (1600kPa) water, oil or gas.

Sizes: 2" to 24" (50mm to 600mm)

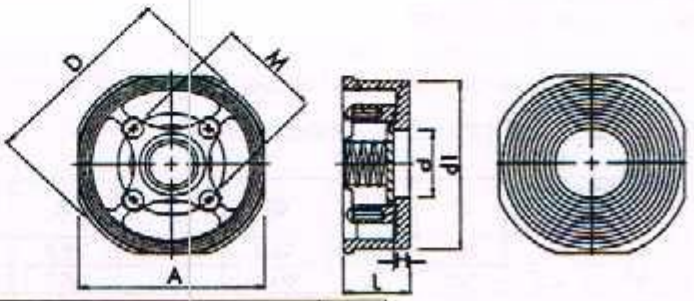


Dimensions
Refer chart on previous page (29) as per VWDD317

Stainless steel 316 disc wafer pattern check valve spring loaded single door

Kingfisher VS fig 2026
Stock code VWCDISCO
Suitable for 580PSI (4000kPa) at 350°C.
Suitable to fit between ASA150, PN10, PN16 and
PN25 flanges.

Sizes: ½" to 6" (15mm to 150mm)



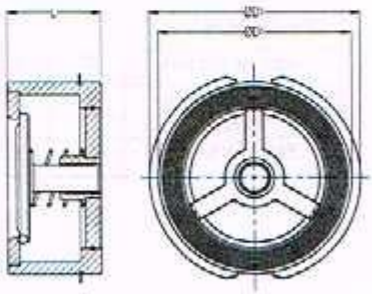
Dimensions in mm											
size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	6
	mm	15	20	25	32	40	50	65	80	100	150
d		15	20	25.4	30	38	47	62.5	77	96	138
d1		43	53	63	75	86	96	115	130	151	217
A		45	55	65	78	88	98	118	134	154	220
D		53	63	73	84	94	107	126	144	164	196
L		16.5	19.5	22	28	32	40	46	50	60	106
M		27.7	34.2	39.4	43.7	54.0	63.5	82.8	98.8	119.8	
H		4.4	4.8	5.4	6.0	6.6	7.1	7.8	8.4	9.0	

Carbon steel body wafer pattern check valve spring loaded single door

Kingfisher RD fig 40
Stock code VCSDCS
Complete with internal spring and stainless steel disc.
Suitable for 580PSI (4000kPa) at 350°C.

Sizes: 5" to 8" (125mm to 200mm)

Dimensions (mm)							
DN	D1 PN10/16	D2 PN25	D2 PN40	D2 ANSI150	D2 ANSI300	L	Weight Kgs
125	192	192	192	192	216	90	11
150	218	226	226	218	251	106	13.5
200	273	286	293	273	308	140	24



Stainless steel CF8M wafer check valve ASA150 single door

Checkrite fig 210/150SS
Stock code VWSDCRSS
Complete with stainless steel CF8M body and disc.
Suitable for 285PSI (1966kPa) cold working pressure.

Sizes: 2" to 42" (50mm to 1050mm)

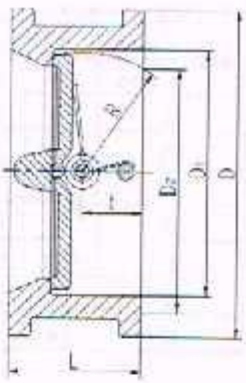
Dimensions
Refer chart on previous page (29) as per VWSDCRCI

Stainless steel double door wafer check valve

Kingfisher fig R511
Stock code VWDDASS
Complete with stainless steel 316 body, double door and spring, and metal to viton seat.
Suitable for 250PSI (1600kPa) water, oil, gas and steam.

Sizes: 2" to 28" (50mm to 700mm)

Size		D	D1	D2	L	R	t	Weight Kg
mm	Inch							
50	2"	107	65	43.3	43	28.8	19	1.5
65	2.5"	127	80	60.2	46	36.1	20	2.4
80	3"	142	94	66.4	64	43.4	28	3.6
100	4"	162	117	90.8	64	52.8	27	5.7
125	5"	192	145	116.9	70	65.7	30	7.3
150	6"	218	170	144.6	76	78.6	31	9
200	8"	273	224	198.2	89	104.4	33	17
250	10"	328	265	233.7	114	127	50	26
300	12"	378	310	283.9	114	148.3	43	42
350	14"	438	360	332.9	127	172.4	45	55
400	16"	489	410	381	140	197.4	52	75
450	18"	539	450	419.9	152	217.8	58	101
		555						107
500	20"	594	505	467.8	152	241	58	111
600	24"	690	624	572.6	178	295.4	73	172
700	28"	800	720	680	229	354	98	219



Cast steel double door wafer check valve

Kingfisher RD fig 80-470/460/
Stock code VWCDDCS
Complete with stainless steel spring loaded double doors and stainless steel seats.
Suitable for 410PSI (2830kPa) steam at 425°C or 740PSI (5110kPa) water, oil or gas at 38°C.

Sizes: 2" to 12" (50mm to 300mm)

Dimensions								
Size in inches	2"	2 ½"	3"	4"	6"	8"	10"	12"
Face to Face in mm	60	67	73	73	98	127	146	181
Weight in kg	4.0	6.0	7.0	9.0	20.0	34.0	51.0	66.2

Cast steel wafer check valve ASA150 and ASA300 single door

Checkrite fig 210 ASA150 / ASA300
Stock code VWSDCRCS150 and VWSDCRCS300
Complete with cast steel body and stainless steel disc.
ASA150 suitable for 285PSI (1966kPa) cold working pressure.
ASA300 suitable for 740PSI (5100kPa) cold working pressure.

Sizes: 2" to 42" (50mm to 1050mm)

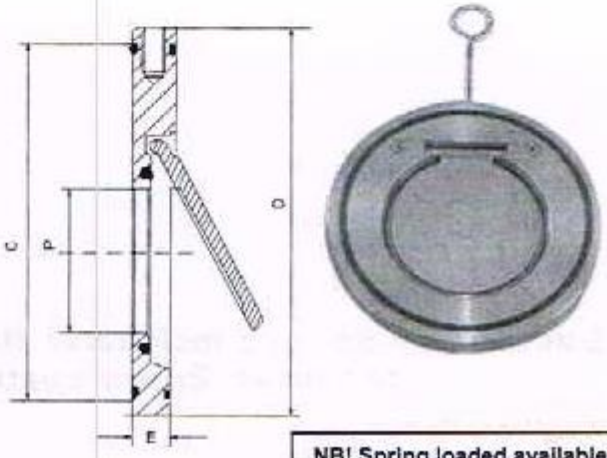
Dimensions
Refer chart on page 29 as per VWSDCRCI

Mild steel Electro galvanized thin wafer check valve

Kingfisher fig R513
Stock code VWCKFSD
Complete with mild steel Electro plated single door flap and NBR o-ring seat.
Suitable for 250PSI (1600kPa) water at 80°C.

Sizes: 2" to 16" (50mm to 400mm)

Dimensions in mm					
DN	D	P	E	C	Weight in kg
50	109	32	14	87	0.8
65	129	40	14	109	1.2
80	144	54	14	119	1.45
100	164	70	18	147	2.3
125	194	92	18	167	3.5
150	220	114	20	198	4.15
200	275	154	22	248	7
250	330	200	26	308	12.1
300	380	235	28	352	17.5
350	440	280	38	416	28
400	491	316	44		



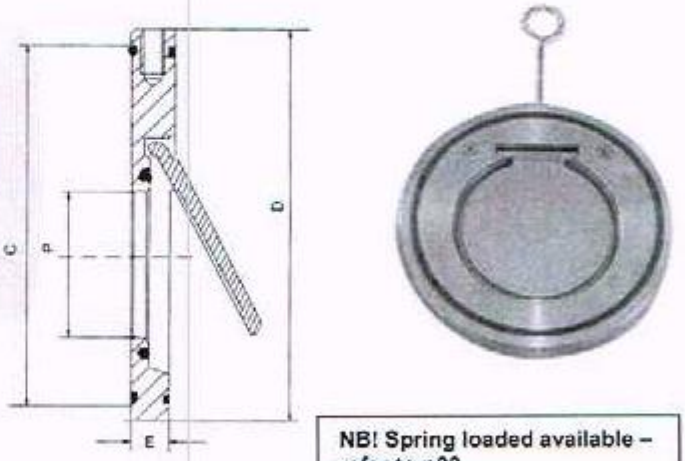
NB! Spring loaded available – refer to p33

Stainless steel 316 thin wafer check valve

Kingfisher fig R513
Stock code VWCKFSDSS
Complete with single door flap and Viton o-ring seat.
Suitable for 250PSI (1600kPa) liquids at 110°C.

Sizes: 2" to 12" (50mm to 300mm)

Dimensions in mm					
DN	D	P	E	C	Weight in kg
50	109	32	14	87	0.8
65	129	40	14	109	1.2
80	144	54	14	119	1.45
100	164	70	18	147	2.3
125	194	92	18	167	3.5
150	220	114	20	198	4.15
200	275	154	22	248	7
250	330	200	26	308	12.1
300	380	235	28	352	17.5
350	440	280	38	416	28
400	491	316	44		



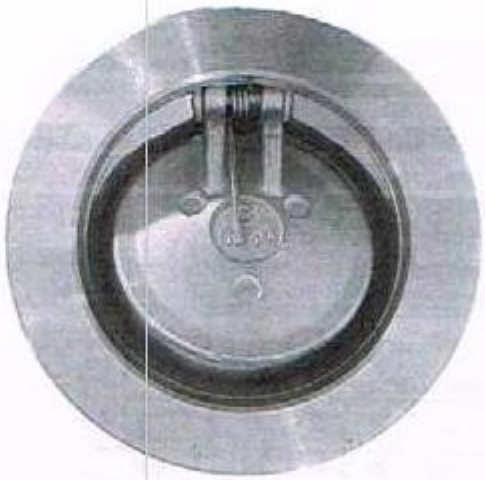
NB! Spring loaded available – refer to p33

316 Stainless steel single door wafer check valve

Kingfisher fig GM
Stock code VWCSDSS

Complete with 316 stainless steel body and disc with viton seat and Inconel spring.
Suitable for 16 bar (250 PSI) Liquids

Size: 2" – 12" (50mm- 300mm)

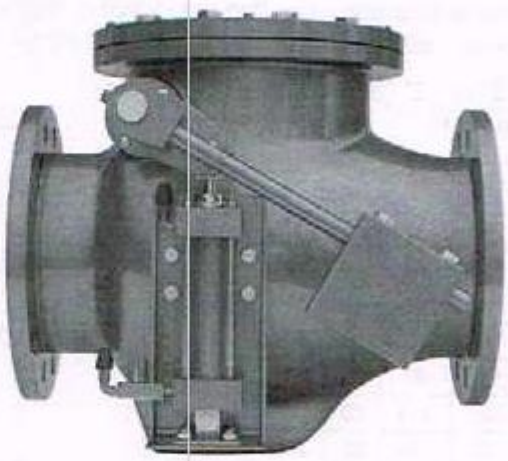


Ductile iron swing check valve flanged with counter weight and lever, Epoxy coated

Kingfisher fig V-103
Stock code VWCFCWKF

Complete with ductile iron body and counter weight and lever, EPDM encapsulated disc up to 300mm. From 350mm it has a Brass disc.
Suitable for 16 bar (250 PSI) water and neutral liquids up to 70^{0c}

Size: 2" -12" (50mm- 300mm)



Mild steel electro spring loaded galvanized thin wafer check valve

Kingfisher fig 513
Stock code VWCKFSLSD
Complete with mild steel electro plated spring loaded single door flap and NBR o-ring seat.
Suitable for 250PSI (1600kPa) water at 80°C.

Sizes: 2" to 16" (50mm to 400mm)

Dimensions in mm					
DN	D	P	E	C	Weight in kg
50	109	32	14	87	0.8
65	129	40	14	109	1.2
80	144	54	14	119	1.45
100	164	70	18	147	2.3
125	194	92	18	167	3.5
150	220	114	20	198	4.15
200	275	154	22	248	7
250	330	200	26	308	12.1
300	380	235	28	352	17.5
350	440	280	38	416	28
400	491	316	44		

Stainless steel 316 spring loaded thin wafer check valve

Kingfisher fig 513
Stock code VWCKFSLSDSS
Complete with spring loaded stainless steel single door and Viton o-ring seat.
Suitable for 250PSI (1600kPa) liquids at 110°C.

Sizes: 2" to 12" (50mm to 300mm)

Dimensions in mm					
DN	D	P	E	C	Weight in kg
50	109	32	14	87	0.8
65	129	40	14	109	1.2
80	144	54	14	119	1.45
100	164	70	18	147	2.3
125	194	92	18	167	3.5
150	220	114	20	198	4.15
200	275	154	22	248	7
250	330	200	26	308	12.1
300	380	235	28	352	17.5
350	440	280	38	416	28
400	491	316	44		

Cast iron silent check valve flanged

Kingfisher fig R514
Stock code VCFSSD050
Complete with ductile iron internals brass sealing, with NBR seal and stainless steel spring.
Suitable for 232PSI (1600kPa) sewage water, sea water and oil at -20-135°C.

Sizes: 2" to 10" (50mm to 250mm)

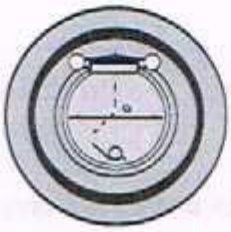
PVC – PP – PVDF Wafer check valve PN10

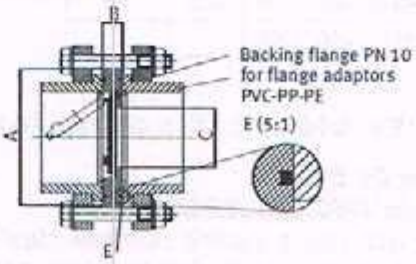
Praher fig S4
Stock code VWCPPP

With this valve you have a choice of PVC or PP or PVDF body material. With EPDM or FPM o-rings. The valve can be ordered with or without a spring return. The spring material is special steel Hastelloy®, depends on the application.

Suitable for 150PSI (1000kPa) for sizes from 1 ¼" (32mm) to 8" (200mm) and 87PSI for sizes from 10" (250mm) to 12" (300mm).

Dimensions in mm												
d	mm	40	50	63	75	90	110	140	160	225	280	315
DN	mm	32	40	50	65	80	100	125	150	200	250	300
G	Zoll	1 ¼"	1 ½"	2"	2 ½"	3"	4"	5"	6"	8"	10"	12"
A	mm	85.0	95.0	109.0	129.0	144.0	164.0	195.0	220.0	275.0	330.0	380.0
B	mm	15.0	16.0	20.0	20.0	20.0	22.0	22.0	26.0	35.0	40.0	45.0
C	mm	18.0	22.0	32.0	40.0	52.0	70.0	92.0	112.0	150.0	190.0	216.0
Open pressure	m bar S4.60 ↑	10.0	10.0	14.3	12.3	12.0	10.0	9.6	12.5	18.8	17.3	21.0
	m bar S4.60 →	1.0	1.0	1.5	1.2	1.0	1.0	1.0	1.0	1.2	1.0	1.2
	m bar S4.70 →	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
PN	bar	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	6.0	6.0	6.0





Forge steel flanged check valve flanged ASA150 ASA300 or ASA600

Kingfisher fig FL840
Stock code VCFSF

Complete with stainless steel piston and seat.
Suitable for pressures according to the specific flanging

Sizes: ½" to 2" (15mm to 50mm)

ASA150	ASA300	ASA600
20 Bar @ 38°C	52 Bar @ 38°C	104 Bar @ 38°C
Or	Or	Or
10.5 Bar @ 288°C	20.5 Bar @ 454°C	42 Bar @ 454°C

Refer face to face chart on page 50 as per VAV73

Cast iron flanged flap check valve Table 16 undrilled

Kingfisher fig B203
Stock code VCFFKSD

Complete with bronze trim on flap and seat.
Suitable for 150PSI (1000kPa) water, oil or gas.

Sizes: 2" to 12" (50mm to 300mm)

Size		Face to Face	Size		Face to Face
2"	50mm	203mm	6"	150mm	356mm
2½"	65mm	216mm	8"	200mm	496mm
3"	80mm	241mm	10"	250mm	622mm
4"	100mm	292mm	12"	300mm	699mm
5"	125mm	330mm			

Cast iron flanged mushroom check valve Table 16 undrilled

GRO fig 287
Stock code VCSST16FKFSD
Complete with stainless steel spring loaded clack and seat.
Suitable for 200PSI (1400kPa) steam or 300PSI (2069kPa) water, oil or gas.

Sizes: ½" to 8" (15mm to 200mm)

Size		Face to Face	Size		Face to Face
½"	15mm	130mm	2 ½ "	65mm	290mm
¾"	20mm	150mm	3"	80mm	310mm
1"	25mm	160mm	4"	100mm	350mm
1¼"	32mm	180mm	5"	125mm	400mm
1 ½"	40mm	200mm	6"	150mm	480mm
2"	50mm	230mm	8"	200mm	600mm

Cast steel flanged mushroom check valve Table 40 undrilled

Kingfisher RD fig 287CS
Stock code VCSST40F
Complete with stainless steel spring loaded clack and seat.
Suitable for 300PSI (2069kPa) steam or 450PSI (3104kPa) water, oil or gas.

Sizes: ½" to 8" (15mm to 200mm)

Size		Face to Face	Size		Face to Face
½"	15mm	130mm	2 ½ "	65mm	290mm
¾"	20mm	150mm	3"	80mm	310mm
1"	25mm	160mm	4"	100mm	350mm
1¼"	32mm	180mm	5"	125mm	400mm
1 ½"	40mm	200mm	6"	150mm	480mm
2"	50mm	230mm	8"	200mm	600mm

Cast iron flanged ball check valve Table 16 undrilled

Kingfisher GK fig BCV
Stock Code VCBFSD
Complete with rubber ball. Silent closing, no water hammer.
Suitable for water, sewerage, heavy thick viscous liquids at 150PSI (1000kPa) at 80°C.

Sizes: 2" to 12" (50mm to 300mm)

Dimensions (flanged end)										
DN		50	65	80	100	125	150	200	250	300
	PN10/16	200	240	260	300	350	400	500	600	700
L(mm)	CL125	203	216	241	292	330	356	495	622	698
H(mm)		126	145	173	186		287.5	320	443.7	529.4
FACE TO FACE DIMENSIONS "L" ARE PER DIN3202 F6 (EN558-1 BASIC SERIES 48)										
FLANGES CAN BE AS DIN2501,BS4504, ANSI CL125, ETC										

Bronze screwed plug cock

ATAM fig 200
Stock code VAV64
Complete with bronze taper plug.
Suitable for 200PSI (1400kPa) water, oil or gas.

Sizes: ¼" to 2" (8mm to 50mm)

Bronze screwed barrel nose petcock

Kingfisher RD fig 326
Stock code VCBAE
Suitable for 230PSI (1600kPa) water, oil or gas at 80°C.

Sizes: ¼" to ½" (8mm to 15mm)

Bronze screwed bent nose petcock

Kingfisher RD fig 331
Stock code VCBE
Suitable for 230PSI (1600kPa) water, oil or gas at 80°C.

Sizes: ¼" to ½" (8mm to 15mm)

Bronze screwed drain cock

Kingfisher RD fig16
Stock code VCDE
Complete with swivel drain nut for easy connection of drain hose.
Suitable for 250PSI (1600kPa) steam, water oil or gas

Sizes: ¼" (8mm)

Brass screwed hose bibcock

Kingfisher BT fig S16
Stock code VBHKF

Sizes: ½" to 1" (15mm to 25mm)

Bronze screwed plug cock

Toho fig 200
Stock code VCPS317
Complete with bronze taper plug.
Suitable for 200PSI (1400kPa) water, oil or gas.

Sizes: ½" to 4" (15mm to 100mm)

Bronze screwed gland cock

ATAM AV-57
Stock Code VAV57
Straight pattern gland with a taper plug on a taper seated body.

Sizes: ½" to 2" (15mm to 50mm)

Brass screwed tank lockup cock

Kingfisher BT Fig 507
Stock code VCTLKF
Complete with brass body and locking arm.

Sizes: ½" to 1" (15mm to 25mm)

PVC screwed garden tap

Kingfisher BT fig 72
Stock code VBHPVC
Complete with PVC body and santoprene seals on the seats and gland.

Sizes: ½" to ¾" (15mm to 20mm)

Brass screwed stop cock

Kingfisher BT Fig 550
Stock code VGSCKF
Complete with brass body and replaceable rubber clack.

Sizes: ½" to 1" (15mm to 25mm)

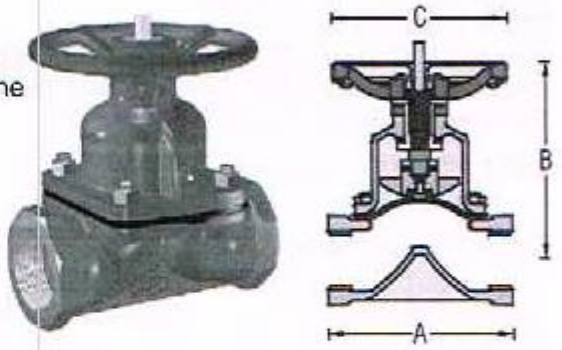
Cast iron screwed A type diaphragm valve straight pattern

Kingfisher fig DV-S-107-114
Stock code VDSA

This valve has no stuffing box. The travel stop serves as an indicating device and grease nipple for lubrication of the stem and bush.

Sizes: ¼" to 2" suitable for 230PSI (1600kPa) water

Sizes: 2½" to 4" suitable for 150PSI (1000kPa) water

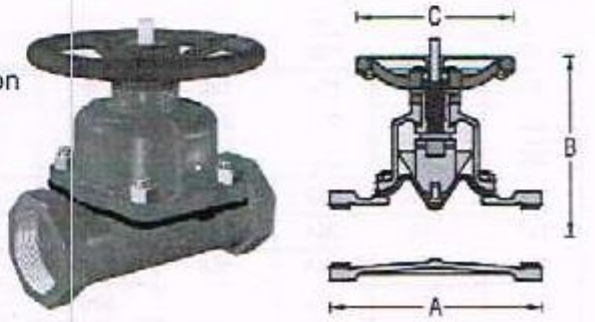


Cast iron screwed KB type diaphragm valve straight pattern

Kingfisher fig DV-S-107-114
Stock code VDSKB

This valve has no stuffing box. The travel stop serves as an indicating device and grease nipple for lubrication of the stem and bush.
Suitable for 150PSI (1000kPa) water.

Sizes: ½" to 12" (15mm to 300mm)

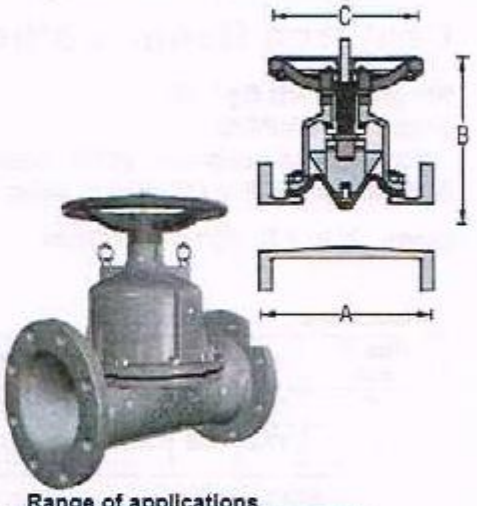


Cast iron flanged KB type diaphragm valve straight pattern Table 16 undrilled

Kingfisher fig DV-G-126-129
Stock code VDFKB

This valve has no stuffing box. The travel stop serves as an indicating device and grease nipple for lubricating the stem and bush.

Sizes: ½" to 12" (15mm to 300mm)



Dimensions in mm						
Size	Face to face		Height	Flange	Handwheel	Weight
mm	Unlined	Lined		diameter	diameter	kg
15	108	114	85	95	70	3.0
25	127	133	105	121	100	4.2
40	159	165	105	150	100	5.5
50	190	196	135	165	140	10.5
65	216	222	165	185	180	15.5
80	254	260	190	200	225	25.5
100	305	313	230	229	225	32.0
150	406	414	415	285	370	84.0
200	521	529	560	345	470	145.0
250	635	645	660	406	690	250.0
300	749	759	660	483	690	330.0

Range of applications

Size mm	Pressure Rating bar
15 to 100	10.5
150 to 300	5.25

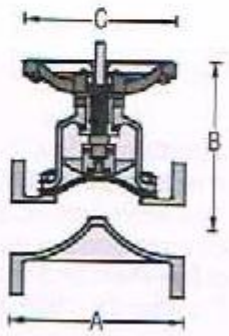
Cast iron flanged A type diaphragm valve straight pattern Table 16 undrilled

Kingfisher fig DV-S-101-106
Stock code VDFA
This valve has no stuffing box. The travel stop serves as an indicating device and grease nipple for lubrication of the stem and bush.
Suitable for 150PSI (1000kPa) water.

Sizes: ½" to 14" (15mm to 300mm)

Range of Application

Dimensions in mm							
Size	Face to face			Height	Flange	Handwheel	Weight
mm	Unlined	Lined	Glass Lined		diameter	diameter	kg
15	108	114	110	85	95	70	2.5
20	117	123	119	95	105	70	2.6
25	127	133	129	105	121	100	3.5
40	159	165	161	145	150	140	7.0
50	190	196	192	155	165	140	10.0
65	216	222	218	170	185	180	15.0
80	254	260	256	220	200	225	22.0
100	305	313	307	245	229	225	37.0
125	356	364	358	295	254	310	62.0
150	406	414	408	350	285	370	91.0
200	521	529	-	470	345	470	163.0
250	635	645	-	560	406	590	240.0
300	749	759	-	660	483	690	418.0
350	749	759	-	800	533	690	480.0



Size mm	Pressure Rating bar
15 to 50	16.00
65 to 100	10.50
125 to 150	10.00
200	7.00
250 to 350	6.00

Cast iron flanged pinch valve Table 10 drilled

Kingfisher RD fig VPF
Stock code VPFKF
Complete with neoprene rubber sleeve.
Suitable for 150PSI (1000kPa) water, cement, slurry or similar substance.

Sizes: 2" to 12" (50mm to300mm)

Dimensions

Size in mm	25	40	50	65	80	100	125	150	200	250	300
F	133	152	197	222	265	311	362	412	527	640	760
H	176	216	246	279	323	379	460	508	612	733	860

NB! Spare sleeves are available

Brass cadmium plated screwed self-cleaning filter

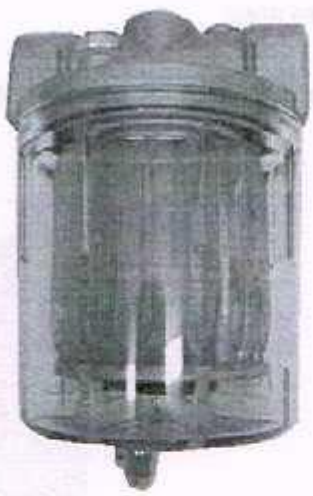
Kingfisher RV fig 126
Stock code VFSC
Complete with stainless steel screen, pressure gauge and ball valve for flushing system.
Suitable for 250PSI (1600kPa) water at 100°C.

Sizes: ½" to 4" (15mm to 100mm)

Aluminium in line filter

Kingfisher BT fig AIF
Stock code VFAI
Complete with polycarbonate bowl and stainless steel reinforce mesh.
With flush and drain port on $^{1}/_{2}$" (15mm filter). The $^{3}/_{8}$ (10mm filter) is as below, but has no flush and drain port.
Suitable for 100PSI (700kPa) water, oil, air and diesel.

Size: $^{3}/_{8}$ (10mm) and ½" (15mm)



NB! Drain Point

Ball type duplex basket strainers cast iron, bronze, carbon steel & stainless steel body

Hayward fig 53BTX
Stock code VFDBS
Complete with dual stainless steel baskets that allow continuous flow of the fluid during cleaning.
Suitable for 200PSI (1380kPa) at 66°C.

Sizes: ¾" to 2 ½" (20mm to 65mm) screwed in cast iron
2" to 4" (50mm to 100mm) flanged ASA125

Screwed version and flanged version in cast iron.

Other ratings on different materials refer technical sheet page T/25 and T/26

Basket strainer simplex cast iron, bronze, carbon steel & stainless steel bodies available

Hayward fig 72
Stock code VFS
Complete with single stainless steel basket and a choice of screwed or flanged body.
Suitable for 200PSI (1380kPa) at 38°C.

Screwed
Sizes: ⅜" to 3" (10mm to 80mm) in cast iron or bronze
1" to 3" (25mm to 80mm) in carbon steel or stainless steel

Flanged
Sizes: 1" to 8" (25mm to 200mm) in cast iron, bronze, carbon steel or stainless steel

See page T/25 for technical specs.

Mild steel Electro galvanized foot valve flanged / screwed

Kingfisher fig 4
Stock code VWCFKF
Consisting of mild steel pump strainer, mild steel wafer check valve, and mild steel flange, either weld on or screwed. All components are Electro galvanized.
Suitable for 250PSI (1600kPa) water.

Sizes: 2" to 36" (50mm to 900mm)

NB! Spring loaded check valve can be fitted if needed

Brass screwed foot valve

Kingfisher BT 511
Stock code VCFOKF
Complete with brass plunger.
Suitable for 150PSI (1000kPa) water, oil or gas.

Sizes: ½" to 4" (15mm to 100mm)

Brass screwed spring loaded foot valve

Kingfisher BT fig 510
Stock code VCSFO
Complete with stainless steel spring, NBR seat on a brass stem and stainless steel screen.
Suitable for 87 to 150PSI (600 to 1000kPa) water, oil or gas at 110°C.

Sizes: ⅜" to 4" (10mm to 100mm)

Cast iron screwed foot valve

Kingfisher RT fig 361
Stock code VFCI
Complete with cast iron flap.
Suitable for 150PSI (1000kPa) water, oil or liquids.

Sizes: 2" to 6" (50mm to 150mm)

Aluminum flanged Foot Valve Table D

Kingfisher A fig 159KKV
Stock code VFFA
Complete with stainless steel internals including the spring.
Suitable for 150PSI (1000kPa) water.

Sizes: 4", 6", 8", 10", 12" (100mm, 150mm, 200mm, 250mm and 300mm)

Aluminum screwed Foot Valve

Kingfisher A fig 159KKV
Stock code VFSA
Complete with stainless steel internals including the spring.
Suitable for 150PSI (1000kPa) water.

Sizes: 3", 4", 6" (80mm, 100mm and 150mm)

Stainless steel 304 flanged/screwed foot valve

Kingfisher fig 4SS
Stock code VWCFKFSS
Consisting of 304 stainless steel pump strainer, stainless steel wafer check valve and stainless steel flange either weld on or screwed.
Suitable for 250PSI (1600kPa) fluids

Sizes: 2" to 12" (50mm to 300mm)

NB! Spring loaded check valve can be fitted if needed

Stainless steel 316 screwed foot valve

Kingfisher RD fig CSSSFV
Stock code VFSSKF
Complete with all stainless steel spring loaded internals, stainless steel screen.
Suitable for 150PSI (1000kPa) fluids suitable to make up materials.

Sizes: ⅜" to 4" (10mm to 100mm)

Cast iron flanged silent foot valve

Kingfisher fig
Stock code VCFSSD
Complete with ductile iron internals brass sealing, NBR seal and stainless steel spring. The screen is electro galvanized mild steel.
Suitable for 16 bar (232PSI) water, sewage, sea water and oil at -20-135°C.

Sizes: 2" to 10" (50mm to 250mm)

Cast iron flanged foot valve

Kingfisher fig
Stock code VFFCISD
Complete with cast iron seal plate, NBR rubber seal.
Suitable for 232 PSI (1600kPa) water 150°C.

Sizes: 3" to 12" (80mm to 300mm)

Cast iron flanged non-rising spindle gate valve Table 16 undrilled

Kingfisher GK fig 68
Stock code VGNRSFKF
Complete with CR13 stainless steel spindle, seat and wedge.
Suitable for 100PSI (660kPa) steam or 150PSI (1000kPa) water, oil or gas.

Sizes: 2" to 36" (50mm to 900mm)

Size		Face to Face	Size		Face to Face
2"	50mm	178mm	12"	300mm	356mm
2 ½"	65mm	191mm	14"	350mm	381mm
3"	80mm	203mm	16"	400mm	406mm
4"	100mm	229mm	18"	450mm	432mm
5"	125mm	254mm	20"	500mm	457mm
6"	150mm	267mm	24"	600mm	500mm
8"	200mm	292mm	30"	800mm	610mm
10"	250mm	330mm	36"	900mm	711mm

Cast iron flanged non-rising spindle gate valve Table 16 undrilled

Kingfisher GK fig 110
Stock code VGNRSFK
Complete with stainless steel spindle and bronze wedge and seat.
Suitable for 150PSI (1000kPa) water, oil or gas.

Sizes: 2" to 12" (50mm to 300mm)

Size		Face to Face	Size		Face to Face
2"	50mm	146mm	6"	150mm	210mm
2 ½"	65mm	159mm	8"	200mm	241mm
3"	80mm	165mm	10"	250mm	273mm
4"	100mm	171mm	12"	300mm	305mm
5"	125mm	190mm			

Cast iron non-rising spindle gate valve flanged or socket end

Kingfisher GK Fig no 664
Stock code VGNRS664
Complete with stainless steel spindle, bronze seat on wedge and body.
Suitable for 250PSI (1724kPa) water, oil and gas **SABS 664.**

Sizes: 2" to 12" (50 to 300mm)

Size		Face to Face
2"	50mm	216mm
3"	80mm	229mm
4"	100mm	254mm
6"	150mm	280mm
8"	200mm	317mm
10"	250mm	356mm
12"	300mm	380mm

SABS approved

Cast iron flanged non-rising spindle resilient seal gate valve flanged or socket end

Kingfisher GK fig RSV
Stock code VGNRSRSV
Complete with stainless steel spindle.
Suitable for 250PSI (1724kPa) water, oil or gas.

Sizes: 2" to 8" (50mm to 300mm)

Dimensions for flanged end (in mm)		
Size	Face to Face	
	BS5163	SABS664
50mm	178mm	216mm
65mm	190mm	
80mm	203mm	228mm
100mm	229mm	254mm
125mm	254mm	
150mm	267mm	280mm
200mm	292mm	317mm

Dimensions for socket end (in mm)	
Size	Face to face
50/63	335mm
65/75	335mm
80/90	335mm
100/110	335mm
150/160	405mm
200/200	450mm

Cast iron flanged rising spindle gate valve Table 16 undrilled

Kingfisher GK fig 84
Stock code VGRSFKF
Complete with CR13 stainless steel spindle, seat and wedge.
Suitable for 125PSI (860kPa) steam or 200PSI (1400kPa) water, oil or gas.

Sizes: 2" to 24" (50mm to 600mm)

Size		Face to Face	Size		Face to Face
2"	50mm	178mm	10"	250mm	330mm
2 ½"	65mm	191mm	12"	300mm	356mm
3"	80mm	203mm	14"	350mm	381mm
4"	100mm	229mm	16"	400mm	406mm
5"	125mm	254mm	18"	450mm	432mm
6"	150mm	267mm	20"	500mm	457mm
8"	200mm	292mm	24"	600mm	500mm

Cast steel flanged rising spindle gate valve ASA150 undrilled

Kingfisher RD Fig CSG150
Stock code VGNRSFCS150
Complete with stainless steel spindle, F6 wedge and seat.
Suitable for 150PSI (1000kPa) steam or 275PSI (1900kPa) water, oil or gas.

Sizes: 2" to 16" (50mm to 400mm)

Size		Face to Face	Size		Face to Face
2"	50mm	178mm	10"	250mm	330mm
3"	80mm	203mm	12"	300mm	356mm
4"	100mm	229mm	14"	350mm	381mm
6"	150mm	267mm	16"	400mm	406mm
8"	200mm	292mm			

Cast steel flanged rising spindle gate valve ASA300 undrilled

Kingfisher RD Fig CSG300
Stock code VGNRSFCS300
Complete with stainless steel spindle and F6 stainless steel seat and wedge.
Suitable for 300PSI (2000kPa) steam or 740PSI (5100kPa) water, oil or gas.

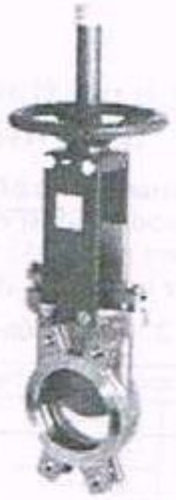
Sizes: 2" to 8" (50mm to 200mm)

Size		Face to Face	Size		Face to Face
2"	50mm	216mm	6"	150mm	403mm
3"	80mm	283mm	8"	200mm	419mm
4"	100mm	305mm			

Stainless steel flanged knife gate valve drilled Table 10

Kingfisher MB fig TL
Stock code VGKTL
Complete with bottom cleaning door.
Stainless steel body with stainless steel slide.
Suitable for 150PSI (1000kPa) water, oil or gas at 100°C

Sizes: 2" to 16" (50mm to 400mm)



Size		Face to Face	Size		Face to Face
2"	50mm	40	8"	200mm	60
3"	80mm	50	10"	250mm	70
4"	100mm	50	12"	300mm	70
6"	150mm	60	14"	350mm	96
			16"	400mm	100

Stainless steel flanged knife gate valve drilled Table 10

Kingfisher RD Fig SS
Stock code VGNNSS
Complete with 304 stainless steel body, bonnet and blade.
Suitable for 150PSI (1000kPa) fluids related to 304 stainless steel.

Sizes: 2" to 18" (50mm to 450mm)

Size		Face to Face	Size		Face to Face
2"	50mm	40mm	8"	200mm	60mm
2 ½"	65mm	40mm	10"	250mm	70mm
3"	80mm	50mm	12"	300mm	70mm
4"	100mm	50mm	14"	350mm	76mm
5"	125mm	50mm	16"	400mm	89mm
6"	150mm	60mm	18"	500mm	89mm

Carbon steel flanged knife gate, drilled Table 10

Kingfisher RD fig 1500
Stock code VGKN
Complete with stainless steel blades and non-rising stainless steel spindle.
These valves are leak tight and are suitable for pressures up to 150PSI (1000kPa) depending on the size.

Sizes: 2" to 18" (50mm to 450mm)

Size		Face to Face	Size		Face to Face
2"	50mm	40mm	8"	200mm	60mm
2 ½"	65mm	40mm	10"	250mm	70mm
3"	80mm	50mm	12"	300mm	70mm
4"	100mm	50mm	14"	350mm	76mm
5"	125mm	50mm	16"	400mm	89mm
6"	150mm	60mm	18"	450mm	89mm

Ductile Iron flanged knife gate valve, drilled Table 10

Kingfisher GK fig NG
Stock code VGKKF
Complete with ductile iron body with baked epoxy coating, 316 stainless steel wedge and EPDM seat ring.
Suitable for 150PSI (1000kPa) water at 120°C. Flanged and drilled PN16.

Sizes: 2" to 16" (50mm to 400mm)

Size		Face to Face	Size		Face to Face
2"	50mm	43mm	8"	200mm	60mm
2 ½"	65mm	46mm	10"	250mm	68mm
3"	80mm	46mm	12"	300mm	78mm
4"	100mm	52mm	14"	350mm	78mm
5"	125mm	56mm	16"	400mm	102mm
6"	150mm	56mm			

Bronze flanged gate valve, Table 16 undrilled

Kingfisher RD fig 211
Stock code VN0065
Complete with bronze internal seat and wedge.
Suitable for 125PSI (862kPa) steam or 200PSI (1400kPa) water oil or gas.

Sizes: ½" to 4" (15mm to 100mm)

Size		Face to Face	Size		Face to Face
½"	15mm	73mm	2"	50mm	120mm
¾"	20mm	82mm	2 ½"	65mm	127mm
1"	25mm	90mm	3"	80mm	142mm
1 ¼"	32mm	92mm	4"	100mm	147mm
1 ½"	40mm	100mm			

Bronze flanged gate valve, Table D undrilled

ATAM

ATAM fig AV73
Stock code VAV73
Complete with bronze seat and wedge.
Suitable for 125PSI (862kPa) steam or 200PSI (1400kPa) water oil or gas.

Sizes: ½" to 4" (15mm to 100mm)

Size		Face to Face	Size		Face to Face
½"	15mm	73mm	2"	50mm	120mm
¾"	20mm	82mm	2 ½"	65mm	127mm
1"	25mm	90mm	3"	80mm	142mm
1 ¼"	32mm	92mm	4"	100mm	147mm
1 ½"	40mm	100mm			

Bronze screwed handy lever gate valve

DECA

Deca/Mipel fig 067
Stock code VM067
Complete with quick acting open and close action, bronze seat and wedge.
Suitable for 125PSI (862kPa) steam or 200PSI (1400kPa) water, oil or gas.

Sizes: ½" to 4" (15mm to 100mm)

Bronze screwed gate valve

DECA

Deca/Mipel fig 601
Stock code VM601
Complete with union bonnet, bronze seat and wedge.
Suitable for 125PSI (862kPa) steam or 200PSI (1400kPa) water, oil or gas.

Sizes: ½" to 4" (15mm to 100mm)

Bronze screwed gate valve

ATAM fig AV75
Stock code VAV75
Complete with internal screwed bronze bonnet, seat and wedge.
Suitable for 125PSI (860kPa) steam or 200PSI (1380kPa) water, oil or gas.

Sizes: ½" to 4" (15mm to 100mm)

Bronze screwed gate valve

317 Fig BG-P41
Stock code VG317
Complete with internal screwed bonnet, seat and wedge.
Suitable for 150PSI (1500kPa) steam or 300PSI (2000kPa) water, oil or gas.

Sizes: ½" to 2" (15mm to 50mm)

Brass screwed gate valve full bore

Kingfisher BT fig 502
Stock code VG10KF
Complete with internal bonnet, brass seat, and wedge.
Suitable for 230PSI (1600kPa) water.

Sizes: ½" to 4" (15mm to 100mm)

316 stainless steel screwed gate valve

Kingfisher fig WG-01T
Stock code VGSSS
Complete with internal bonnet and stainless steel seat, wedge and spindle.
Suitable for 200PSI (1400kPa) water, oil, gas, chemicals or acids suited to 316 stainless steel.

Sizes: ½" to 2" (15mm to 50mm)

Forge steel gate valve, screwed, socket or butt weld

Kingfisher fig A113
Stock code VGSFSSD
Complete with stainless steel seat, wedge and rising spindle.
Suitable for 360PSI(5600kPa) steam at 450°C or 940PSI (13600kPa) water, oil or gas at 38°C.

Sizes: ¼" to 2" (8mm to 50mm)

Forge steel flanged gate valve drilled ASA 150, ASA 300 or ASA 600

Kingfisher HV fig FI 810
Stock code VGFSF
Complete with stainless steel seat, wedge and spindle.

Sizes: ½" to 2" (15mm to 50mm)

ASA150	ASA300	ASA600
20 Bar @ 38°C	52Bar @ 38°C	102 Bar @ 38°C
Or	Or	Or
10.5 Bar @ 450°C	20.5 Bar @ 450°C	40 Bar @450°C

Size		Face to Face		
		ASA150	ASA300	ASA600
½"	15mm	108mm	140mm	165mm
¾"	20mm	117mm	152mm	191mm
1"	25mm	127mm	165mm	216mm
1 ½"	40mm	165mm	190mm	241mm
2"	50mm	178mm	216mm	291mm

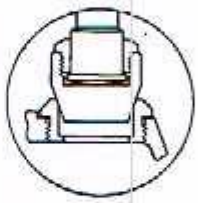
Bronze screwed globe valve

DECA

Deca/Mipel fig 012
Stock code VM012
Complete with union bonnet, back seat for repacking under pressure, replaceable stainless steel seat and clack, and bronze spindle.
Suitable for 300PSI (2200kPa) steam or 600PSI (4200kPa) water, oil or gas.

Sizes: ¼" to 2" (8mm to 50mm)

Fig 012 Disc and seat of AISI 410 stainless steel



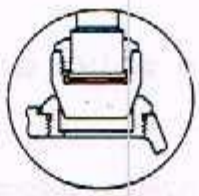
Bronze screwed globe valve

DECA

Deca/Mipel fig 010
Stock code VM010
Complete with union bonnet, back seat for repacking under pressure, replaceable stainless steel seat and clack, and bronze spindle.
Suitable for 200PSI (1400kPa) steam or 400PSI (2800kPa) water, oil or gas.

Sizes: ½" to 2" (15mm to 50mm)

Fig 010 Disc and seat of AISI 410 stainless steel



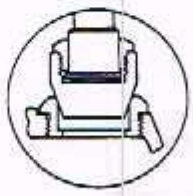
Bronze screwed globe valve

DECA

Deca/Mipel fig 005
Stock code VM005
Complete with internal bonnet, back seat for repacking under pressure, replaceable stainless steel seat and clack, and bronze spindle.
Suitable for 150PSI (1000kPa) steam or 300PSI (2100kPa) water, oil or gas.

Sizes: ¼" to 3" (8mm to 80mm)

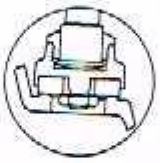
Fig 005 Disc and seat of AISI 410 stainless steel



Bronze screwed globe valve c/w teflon clack

317 fig BG-22V
Stock code VGTS317
Complete with union bonnet, back seat for repacking under pressure, replaceable glass-filled Teflon clack, and bronze seat and spindle.
Suitable for 150PSI (1000kPa) steam or 225PSI (1550kPa) water, oil or gas.

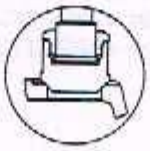
Sizes: ½" to 2" (15mm to 50mm)



Bronze screwed globe valve c/w bronze clack

317 fig BGC-17
Stock code VGBS317
Complete with internal bonnet, back seat for repacking under pressure bronze seat, clack and spindle.
Suitable for 125PSI (860kPa) steam or 200PSI (1400kPa) water, oil or gas.

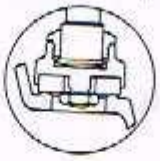
Sizes ¼" to 4" (8mm to 100mm).



Bronze screwed globe valve c/w teflon clack

317 fig BGC-17
Stock code VGBS317
Complete with internal bonnet, back seat for repacking under pressure bronze seat, Teflon clack and bronze spindle.
Suitable for 125PSI (860kPa) steam or 200PSI (1400kPa) water, oil or gas.

Sizes: ½" to 2" (15mm to 50mm)



Bronze screwed angle pattern globe valve

Mega fig 027
Stock code VMG027
Complete with union bonnet, back seat for repacking under pressure, stainless steel seat and clack, and bronze spindle.
Suitable for 200PSI (1400kPa) steam or 400PSI (2800kPa) water, oil or gas.

Sizes: ½" to 2" (15mm to 50mm)

Fig 027 Disc and seat of AISI 410 stainless steel

Ductile iron screwed globe valve

Top fig DG-200
Stock code VGDS20
Complete with union bonnet, back seat for repacking under pressure, stainless steel seat, clack and spindle.
Suitable for 406PSI (2800kPa) at 120°C
363PSI (2500kPa) at 220°C
334PSI (2300kPa) at 300°C
290PSI (2000kPa) at 350°C steam, water, oil or gas.

Sizes: ½" to 2" (15mm to 50mm)

Ductile iron screwed globe valve

Top fig DG-160
Stock code VGDS16
Complete with internal bonnet, back seat for repacking under pressure, stainless steel seat, clack and spindle.
Suitable for 180PSI (1240kPa) steam or 250PSI (1720kPa) water, oil or gas.

Sizes: ⅜" to 2" (10mm to 50mm)

Bronze screwed globe valve

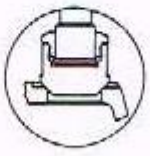
Mega fig 005
Stock code VMG005
Complete with internal bonnet, back seat for repacking under pressure, replaceable stainless steel seat, clack and spindle.
Suitable for 150PSI (1000kPa) steam or 300PSI (2000kPa) water, oil or gas.

Sizes: ¼" to 2" (8mm to 50mm)

Bronze screwed globe valve complete with stainless steel seat and clock

Kingfisher fig BG-22VSS
Stock code VGSSSV
Complete with union bonnet, back seat for repacking, under pressure, stainless steel seat and clock and bronze spindle.
Suitable for 150PSI (1000kPa) steam or 300PSI (2000kPa) water, oil or gas.

Sizes: 1/2" to 2" (15mm to 50mm)



Bronze screwed globe valve

Mega fig 004
Stock code VMG004
Complete with internal bonnet, back seat for repacking under pressure, replaceable Teflon clack, and stainless steel seat.
Suitable for 150PSI (1000kPa) steam or 300PSI (2000kPa) water, oil or gas

Sizes: ¼" to 2" (8mm to 50mm)

Stainless steel screwed globe valve

Kingfisher VS fig 200
Stock code VGLSSS
Complete with internal screwed bonnet, stainless steel seat, clack and spindle.
Suitable for 200PSI (1400kPa) water, oil or gas.

Sizes: ½" to 2" (15mm to 50mm)

Forge steel globe valve screwed, socket weld or butt-welded

Kingfisher A114
Stock code VGLSFSSD
Complete with bolted or welded bonnet, stainless steel seat, clack and spindle.
Suitable for 754PSI (5200kPa) steam or 1972PSI (13600kPa) water, oil or gas.

Sizes: ¼" to 2" (8mm to 50mm)