OTHERS

TANK PROTECTION DEVICE | FOOT VALVE | KNIFE GATE VALVE | LINE VALVE & FITTING | DUCTILE IRON VALVE | BRONZE VALVE | MARINE VALVE | HVAC / FIRE FIGHTING / PLUMBING / WATER WORKS

Tank Protection Device

The filling and emptying cycles of tanks and vessels causes change to the liquid volume and vapour space and this together with fluctuating operating temperatures and pressures, results in the need for pressure protection equipment. Situations where a tank or vessel may be vulnerable to engulfment by fire could result in the need for large volumes of vapour to be rapidly vented in order to protect the tank and its environment. Safety devices, such as high level alarms or control systems, can malfunction, leading to catastrophic failure of the tank. This can result in critical injuries, loss of product and severe environmental damage. Accordingly, fail-safe devices, such as Pressure/Vacuum relief valve, Emergency Relief Vent, and/or other venting relief devices such as bursting discs should be fitted in addition to flame arrester where these may be required.

Foot Valve

A foot valve is a type of check valve that is typically installed at a pump or at the bottom of a pipe line (hence the name). Foot valve act like ball check valve, but have an open end with a shield or screen over it to block debris from entering the line.

Knife Gate Valve

Knife gate valve is used to slice through sludge or sewerage and a gate is used fro normal positive shut off. It is a get valve design that is distinguished from the standard design by the use of a simple metal plate for the gate and the absence of a bonnet; also called a slide valve. Knife gate valve is a uni-directional or bi-directional valve designed for general industrial service applications. Knife gate valve used for pressure tight isolation of solid-liquid mixes in water and waste water treatment plants and pumping stations, paper and pulp plants, power plants and mining industry.

Lined Valve & Fitting/ Ductile Iron Valves/ Bronze Valve/ Marine Valve/ HVAC/ Fire Fighting/ Plumbing/ Water Works

Various other valves & fittings for all Industries and applications are also available with international and local approvals & certifications.

VALVES MALAYSIA
Tel: 03-5569 6556 (3 Lines) Fax: 03-5569 8557
+ 6012 422 3782 | Email: sales@valvesmalaysia.com.my
www.valvesmalaysia.com.my

Pressure & Vacuum Relief Valve (Breather Valve)

Direct acting pressure/vacuum relief valves (also known as breather valves, conservation vents, or safety vents) are low pressure devices specifically designed to protect tanks, process systems and equipment from excessive pressure and vacuum.

As well as providing the primary layer of protection for tanks and process systems, pressure/vacuum valves also minimize emission losses of gases or vapors, thus protecting the environment and providing significant financial savings.

The range includes pressure only, vacuum only and combined pressure/vacuum valves, all available with flanged outlets or vented to atmosphers.

DEVICES INSTALL ILLUSTRATION

Flame Arrester

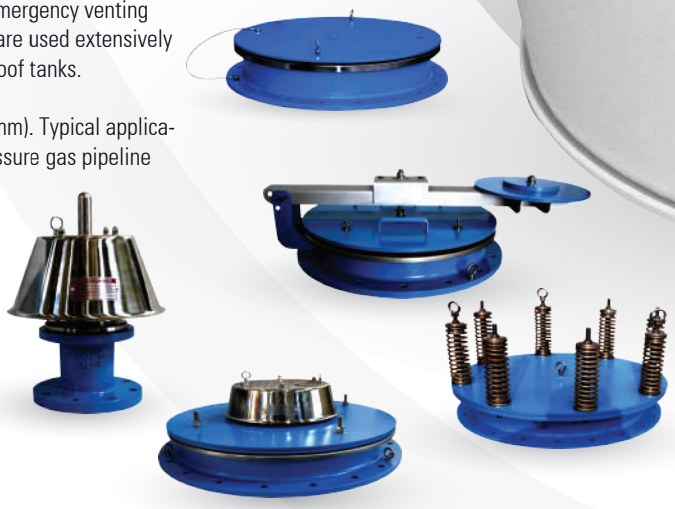
Flame arresters are fitted to the opening of an enclosure or to the connecting pipework of a system of enclosures and whose intended function is to allow flow but prevent transmission of a flame. Whenever a flammable gas or vapour is mixed with air/oxygen, there is the potential for an explosion in case of an accidental ignition. It is commonly used in fuel storage tank vents, fuel gas pipeline, burner inlet line, exhaust systems, vapour recovery systems, process pipelines, etc.

Type of flame arresters
1. End-of-line deflagration arresters
2. In-line deflagration arresters
3. in-line detonation arresters

Emergency Relief Vent & Access Mainways

Non-sparking emergency relief vents permit access to low pressure storage tanks whilst providing emergency venting capacity in the event of fire. These vents are used extensively on bulk storage tanks, including floating roof tanks.

Size range from 10" (250mm) to 24" (600mm). Typical applications include: bulk storage tanks, low pressure gas pipeline systems, digesters and gas holders.



*Specification given are subject to changed without further notice.

TANK, SAFETY & PROTECTION DEVICE

ALUMINIUM / CARBON STEEL / STAINLESS STEEL

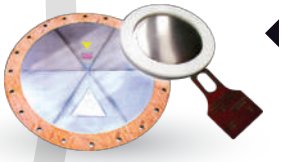
WINTECH PROSAVE FDC FDC Co., Ltd. TOPSAFE

Pilot Operated P/V Valve
The pilot operated pressure side which permits tank operating pressures closer to the maximum allowable operating pressure. This provides a more positive control over vapor generation inherent in fluids with higher vapor pressures. The vacuum side of the vent is weight loaded and allows intake of air when necessary to remain within the vacuum design rating of the tank.

1. Pressure & Vacuum Relief Valve (Breather Valve)
2. Flame Arrester
3. Emergency Relief Vent & Access Mainways
4. Gauge Hatch Cover Pressure Relief
5. Inlet Gas Blanketing Valve
6. Pilot Operated P/V Valve

Tank Blanketing Valve
Tank Blanketing valves offer complete protection to the storage tank product against contamination and to the storage tank itself against rupture or damage. This type of valve is mainly used in the chemical, bulk storage and pharmaceutical industries to reduce emissions and lower the cost of production loss.

In addition to preventing outside air and moisture from entering the storage vessel, a blanket gas pressure reduces the evaporation of the stored product to a negligible amount.



Rupture Disc
Situations that demand a Rupture Disc

- In case there is any concern that there can be an abrupt rise in pressure that cannot be endured by a spring type safety valve.
- In case there is any concern that fixtures generated by the operation state may damage the operation function of other safety materials owing to excessive pressure.
- In case the leakage of oil reserved in a tank from a safety device is not permitted during an operation.
- In case there is a need to have a protective device in preparation for a container and pipe that reserves or produces oil of a strong corrosive nature.
- In case of handling or reserving materials that are likely to undergo a synthetic reaction.
- In case there is a possibility that an excessively high or low temperature in the operational environment might inhibit the operation of a safety valve.

Gauge Hatch Cover
The sampling and gauging hatch Cover, is designed, manufactured and tested according to the KSPC standard code. It is made to take the fluid samples from the storage tank, to measure the temperature, and to take test of the stored fluids

FOOT VALVE
CAST IRON / STAINLESS STEEL

VARIMEX Valves® CO. LTD.

VALVES MALAYSIA
Tel: 03-5569 6556 (3 Lines) Fax: 03-5569 8557
+ 6012 422 3782 | Email: sales@valvesmalaysia.com.my
www.valvesmalaysia.com.my

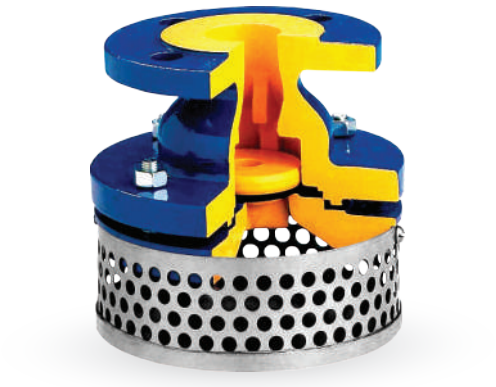
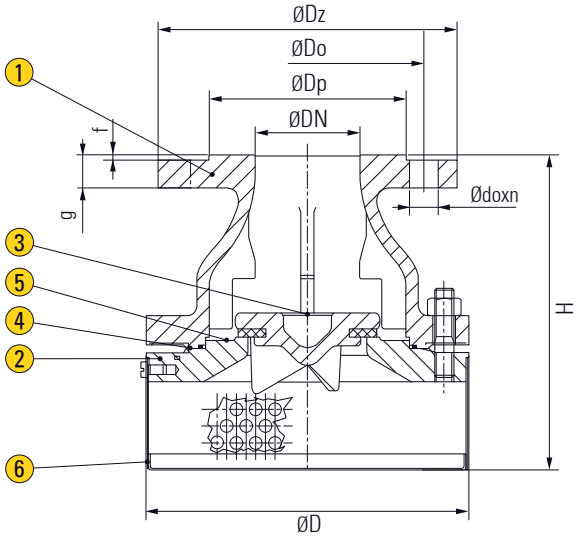


FIG 935



APPLICATION
Suitable for industrial cold and hot water, neutral fluids.

SPECIFICATION

End Connection	Flanged end to DIN 2526 PN16
Pressure Rating	PN16
Working Temperature	Up to 90°C
Test Pressure (Hydrostatic)	Body - 24 Bar Seat - 17.6 Bar

MATERIAL

	Parts	Fig. 935 - Cast Iron	Fig. 935 - Stainless Steel
1	Body	EN-GJL-250	Stainless steel 1.4031 / 1.4408
2	Bonnet		
3	Disc		
4 / 5	Gasket	EPDM	PTFE
6	Screen	Stainless steel 1.4301	Stainless steel 1.4408

* Note : Screen bottom without holes - DIN 3259

DIMENSIONS

Unit : mm

Size (DN)	D	Dz	Dp	Do	g	f	do	n	H	Weight (Kg)
40	170	150	84	110	18	3	19	4	155	8.5
50	180	165	99	125	20	3	19	4	175	9.5
65	200	185	118	145	20	3	19	4	215	12.5
80	240	200	132	160	22	3	19	8	265	18.0
100	270	220	156	180	22	3	19	8	315	26.0
125	310	250	184	210	24	3	19	8	335	32.5
150	360	285	211	240	24	3	23	8	415	43.0
200	440	340	266	295	26	3	23	8	500	74.0
250	520	395	319	350	28	3	23	12	625	107.0
300	570	445	370	400	28	4	23	12	785	150.0

* Note : Mesh = Ø 8mm

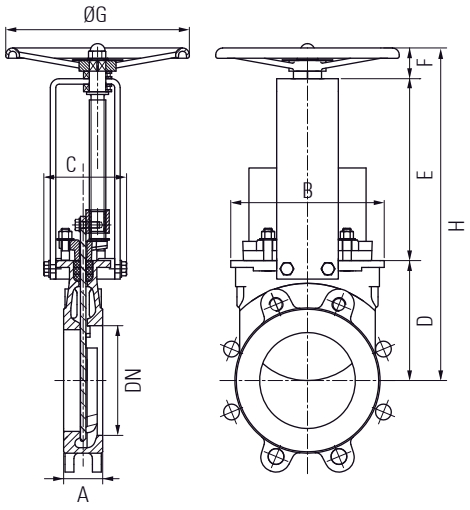
*Specification given are subject to changed without further notice.

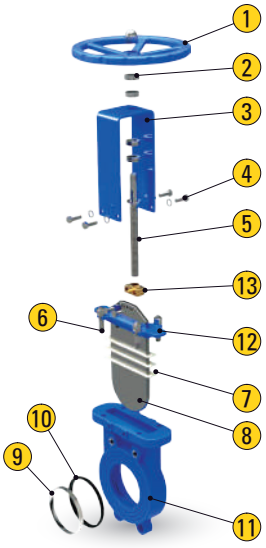
VALVES MALAYSIA
Tel: 03-5569 6556 (3 Lines) Fax: 03-5569 8557
+ 6012 422 3782 | Email: sales@valvesmalaysia.com.my
www.valvesmalaysia.com.my

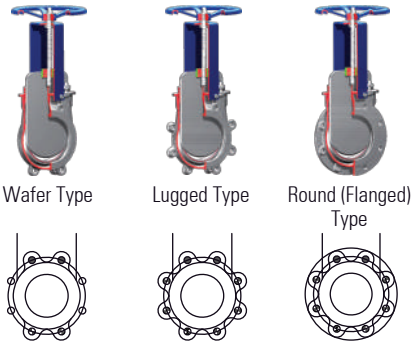
KNIFE GATE VALVE

CAST IRON / DUCTILE IRON / STAINLESS STEEL

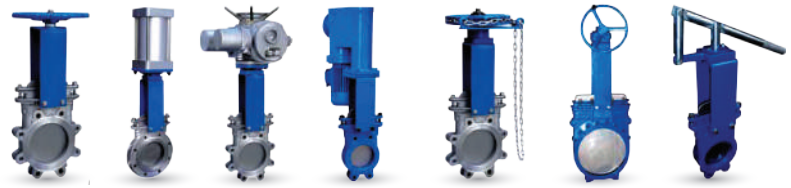
VARIMEX Valves® CO. LTD.







Options:



APPLICATION

Suitable for water, steam, oil, gases, abrasive and non-abrasive media (Refer to corrosion resistance table for valve materials selection).

SPECIFICATION

Design Standard	MSS SP-81
Flange Standard	DIN PN10, PN16, 150LB, JIS 10K, TABLE E/D
Face to Face	MSS SP-81
Testing Standard	API-598

MATERIAL

	Parts	Material
1	Hand Wheel*	Malleable Steel
2	Bearing	ZChSnSb 10-6
3	Yoke	Q235
4	Bolt	SS201 / SS304
5	Stem	2Cr13 / SS304
6	Bolt & Nut	SS201 / SS304
7	Packing	PTFE
8	Gate Disc	SS201 / SS304 / SS316
9	Metal Ring	Q235 / SS304 / SS316
10	Seat	EPDM / PTFE / Metal
11	Body	GGG40 / WCB / CF8 / CF8M / CF3M / F53 / F55
12	Gland Packing	GGG40 / WCB / CF8 / CF8M / CF3M / F53 / F55
13	Stem Nut	Brass

* Note : Electric, Pneumatic, Hydraulic, Sprocket, Electro-hydraulic, gear are available on request

DIMENSIONS

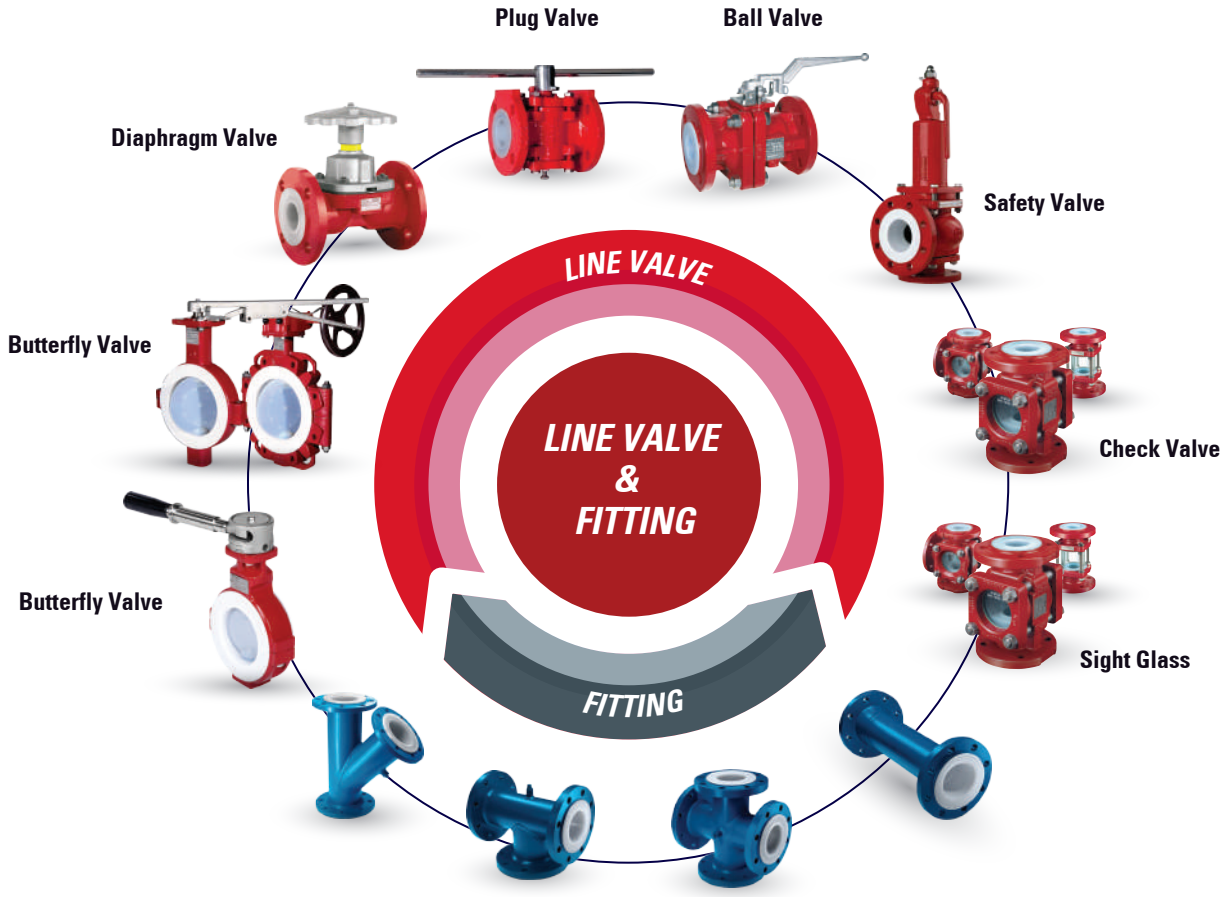
Unit : mm

Size (DN)	A	B	C	D	E	F	ØG	H
50	48	130	112	115	158	47	180	320
65	48	150	117	115	172	53	180	340
80	51	176	117	127	190	53	220	370
100	51	192	127	140	210	60	240	410
125	57	221	127	160	235	65	240	460
150	57	225	131	175	270	65	280	510
200	70	283	141	205	320	65	300	590
250	70	350	151	245	390	65	340	700
300	76	402	151	295	443	65	340	803
350	76	454	160	335	494	70	400	899
400	89	500	175	392	552	76	450	1020
450	89	564	190	435	585	80	530	1100

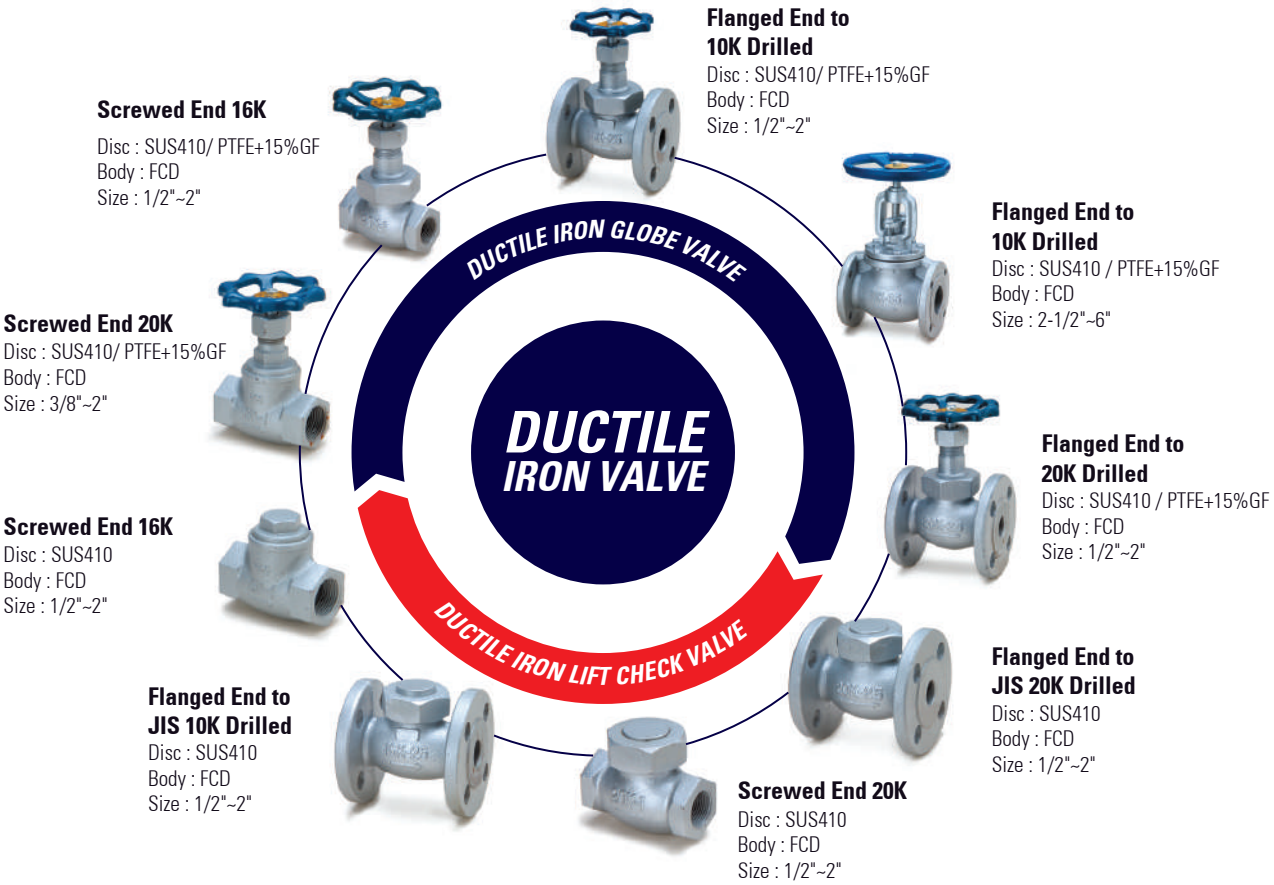
*Specification given are subject to changed without further notice.

LINE VALVE & FITTING

VALVES MALAYSIA
Tel: 03-5569 6556 (3 Lines) Fax: 03-5569 8557
+ 6012 422 3782 | Email: sales@valvesmalaysia.com.my
www.valvesmalaysia.com.my



DUCTILE IRON VALVE



*Specification given are subject to changed without further notice.

VALVES MALAYSIA
Tel: 03-5569 6556 (3 Lines) Fax: 03-5569 8557
+ 6012 422 3782 | Email: sales@valvesmalaysia.com.my
www.valvesmalaysia.com.my

BRONZE VALVE

Gate Valve - No Rising / Rising Stem

Materials
Body, Bonnet and Wedge disc : Bronze
Stem : Brass
Packing : PTFE
Size Range : 1/2" to 6"
Class : 125/200 (PN16)
150/300/600 (PN20/25/50)

Production Standard MSS SP-80

Gate Valve - No Rising Stem

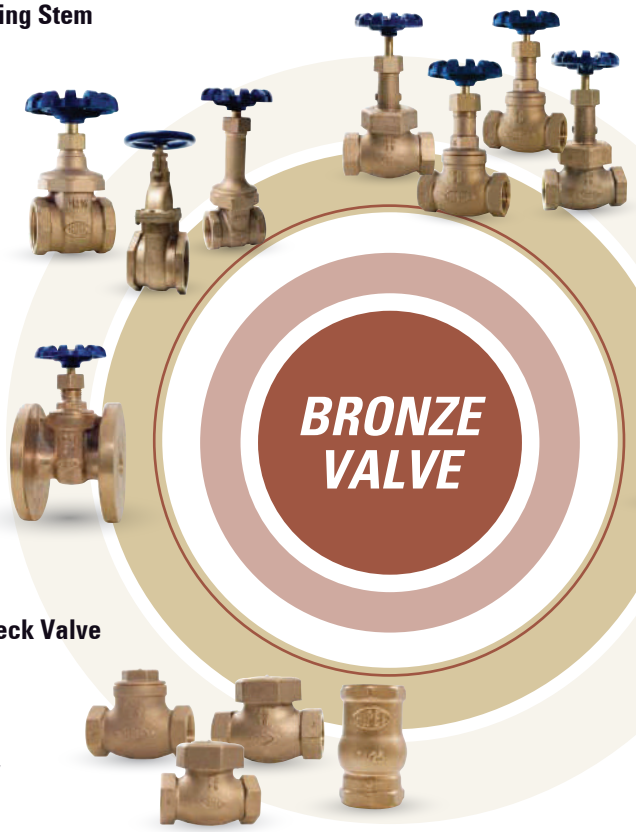
Materials
Body, Bonnet and Wedge disc : Bronze
Stem : Brass
Packing : PTFE
Size Range : 1/2" to 8"
Class : 125/200 (PN16)
150/300/600 (PN20/25/50)

Production Standard MSS SP-80

Lift / Swing / Vertical Lift Check Valve

Materials
Body, Bonnet and Disc : Bronze
Size Range : 1/2" to 4"
Threaded ends BSP or NPT
Class : 125/200 (PN16), 150/300 (PN20),
200/400 (PN25), 300/600 (PN50)

Production Standard MSS SP-80



Globe Valve

Materials
Body, Bonnet and Disc : Bronze
Stem : Brass
Packing : PTFE
Size Range : 1/2" to 4"
Threaded ends BSP or NPT
Class : 125/200 (PN16), 150/300 (PN20),
200/400 (PN25), 300/600 (PN50)
Option : Metallic disc
PTFE Renewable disc

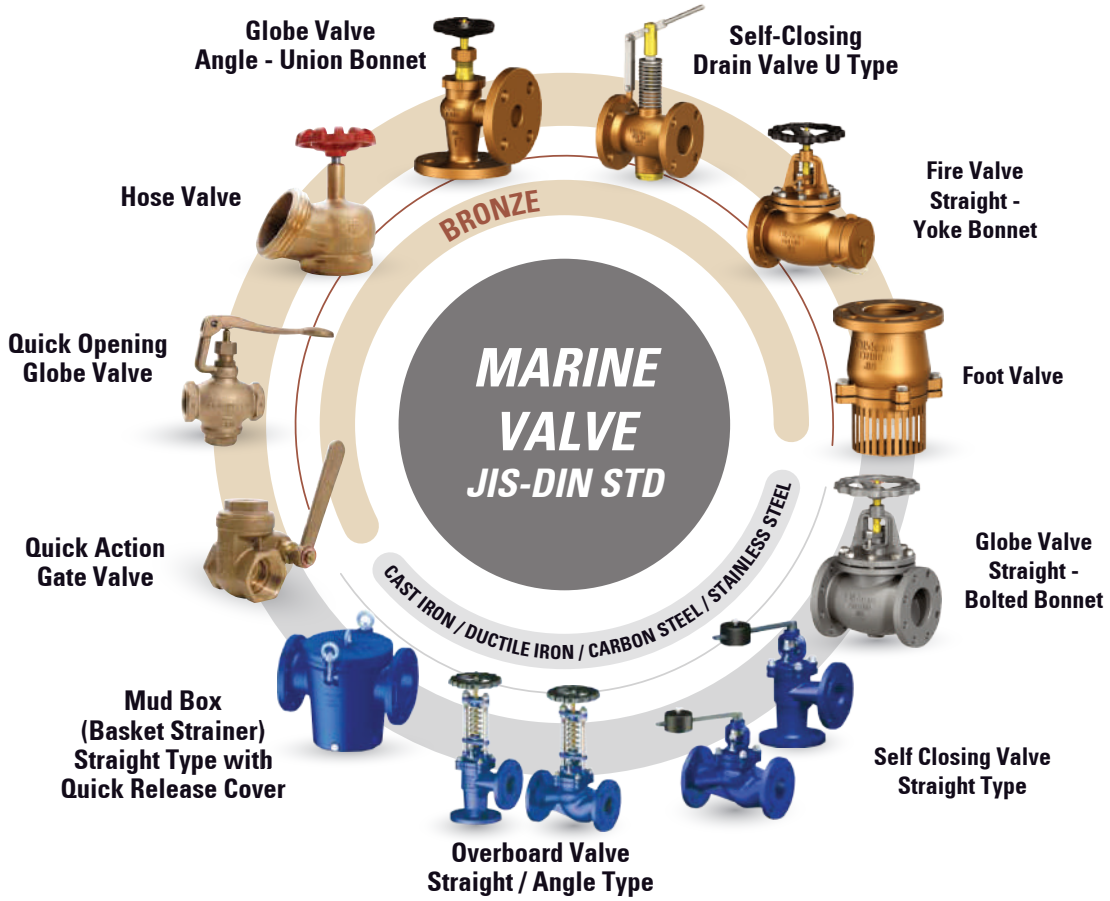
Production Standard MSS SP-80

Globe Valve / Angle Valve

Materials
Body, Metallic disc and Bonnet : Bronze
Stem : Brass
Packing : PTFE
Size Range : 1/2" to 4"
Flanged ends
Class : 150/225 (PN20)
Option : Screwed in bonnet
Stop check type disc

Production Standard MSS SP-80

MARINE VALVE



*Specification given are subject to changed without further notice.

THERMOPLASTIC VALVE & FITTING

VALVES MALAYSIA
Tel: 03-5569 6556 (3 Lines) Fax: 03-5569 8557
+ 6012 422 3782 | Email: sales@valvesmalaysia.com.my
www.valvesmalaysia.com.my

MATERIAL - CPVC / UPVC (Type I, Grade I, NFS approved) / PVC / PVDF / PP, PP Fiberglass / ABS / EPDM, FPM, NBR

APPLICATION - Industrial production / Chemical production / Water treatment / Irrigation / Fish cultivation / Pool and spa / General plumbing

SANITARY VALVE & FITTING

*Specification given are subject to changed without further notice.

VALVES MALAYSIA
Tel: 03-5569 6556 (3 Lines) Fax: 03-5569 8557
+ 6012 422 3782 | Email: sales@valvesmalaysia.com.my
www.valvesmalaysia.com.my

HVAC / FIRE FIGHTING / PLUMBING / WATERWORKS

HVAC

Control Valve

Balancing Valve

Three-Port Control Valve

Differential Pressure Controller

FIRE FIGHTING

Deluge Valve

Swing Check Valve

Y-Type Strainer

System Equipment & Valve

UL LISTED

FM APPROVED

PLUMBING

Angle Style Water Hammer Arrester

"I" Style Water Hammer Arrester

"L" Style Water Hammer Arrester

Full Open Silence Check Valve

Piston Pressure Reducing Valve

Pump Control Valve

Pump Control Valve

WATERWORKS

Butterfly Valve

Float Valve

Pressure Reducing Valve

Gate Valve

SPAN

MS SIRIM

IKRAM QA

*Specification given are subject to changed without further notice.

FLANGES | PIPES | FITTINGS

Distributor for pipe, flanges, and fittings for industries ranging from Oil & Gas to Construction and Mechanical. Our wide range of products include welded pipes in stainless steel and carbon, high pressure tube fittings, industrial pipe flanges and much more. All products we supply meet industrial standards such as ASTM, ASME, API, UNS, SB, DIN and JIS to ensure that we can serve every customer's project standards and requirements.

In addition to our full line of steel pipes, fittings, and flanges, we offer a wide range of services to tailor products to your specifications. Our services include threading, fabricating, & coating.

VALVES MALAYSIA
Tel: 03-5569 6556 (3 Lines) Fax: 03-5569 8557
+ 6012 422 3782 | Email: sales@valvesmalaysia.com.my
www.valvesmalaysia.com.my

FLANGES / PIPES / FITTINGS AND ACCESSORIES

FLANGES

Slip-on, Weld neck, Blind type, Socket weld, Threaded type, Lap joint type & etc.

Size Range	1/2" to 60" (15mm to 1500mm)
Material	Forged steel A105N, Carbon steel, Stainless steel, Mild steel and etc.

Standards
ANSI B16.5 Class150, Class 300, Class 600 and etc.
DIN PN16, PN40
JIS 10K, 20K
BS 10 Table "E", "H", "K" and etc.

Country of Origin **Japan, USA, Korea, China and etc.**

SEAMLESS & WELDED PIPE

CARBON STEEL / STAINLESS STEEL / MILD STEEL

Carbon Steel Pipes
API 5L Gr.b, A106B, SA 106, X42, X52, X60 & etc.

Size Range	3/8" to 48" (10mm to 1200mm)
Wall Thickness	Sch 10 - Sch 160, xs,xxs & etc.

Stainless Steel Pipes
304/304L, 316/316L

Size Range	1/2" to 24" (15mm to 600mm)
Wall Thickness	Sch 10 - Sch 160, xs,xxs & etc.

Mild Steel Pipes
304/304L, 316/316L

Size Range	1/2" to 16" (15mm to 400mm)
Wall Thickness	Light (Class A), Medium (Class B), Heavy (Class C)

Country of Origin **Japan, Europe, USA, Korea, China, South Africa, Romania, Brazil, Argentina and etc.**

FITTINGS

ANSI B16.9, ASTM A234WPB and ASTM A420WLP 6

Size Range	1/2" to 48" (15mm to 1200mm)
Material	Carbon steel, Stainless steel, Mild steel and etc.
Wall Thickness	Sch 10 - Sch 160, xs,xxs & etc.

Type of Fitting Available

Elbow (90° & 45°)	Union
Con Reducer & Eccentric Reducer	Coupling
Equal Tee & Reducing Tee	Weldolet
End Cap	Threadolet
Nipple	Nipolet
and etc.	

Country of Origin **Japan, USA, Korea, China and etc.**

ACCESSORIES

Spiral Wound Gasket

Ring Gasket

Hoses & Couplings

Stud Bolt

Insulating Kits

*Specification given are subject to changed without further notice.

CORROSION RESISTANCE TABLE

VALVES MALAYSIA
Tel: 03-5569 6556 (3 Lines) Fax: 03-5569 8557
+ 6012 422 3782 | Email: sales@valvesmalaysia.com.my
www.valvesmalaysia.com.my

Chemical Agents	Metal					Elastomer			
	Carbon Steel	Cast Iron	AISI 304	AISI 316	Bronze	EPDM	NBR	Viton	Natural Rubber
ACETALDIHYDE	U	E	E	E	U	G	U	-	F
ACETIC ACID 50% 50°C	U	U	E	E	F	U	U	U	U
ACETONE	E	G	E	E	E	G	U	U	U
ACETYLENE	E	G	E	E	E	G	U	U	U
AIR	E	E	E	E	E	E	E	-	E
ALCOHOL - BUTYL	G	F	E	E	E	-	F	-	-
ALCOHOL - ETHYL	G	U	E	E	G	E	G	G	G
ALCOHOL - METHYL	F	U	E	E	E	E	G	U	G
ALUMINUM CHLORIDE 10%	U	U	U	F	U	E	E	E	E
ALUMINUM FLUORIDE	U	U	G	G	U	-	G	G	-
ALUMINUM HYDROXIDE	U	U	G	G	U	-	G	G	-
ALUMINUM SULPHATE	U	U	F	G	U	-	E	-	-
AMINES	G	U	E	E	U	-	F	-	-
AMMONIA (ANHYDROUS)	G	F	G	E	U	E	G	U	-
AMMONIUM HYDROXIDE	U	U	G	E	U	E	U	G	U
AMMONIUM NITRATE 5%	U	F	G	E	U	-	E	-	-
AMMONIUM PHOSPHATE	F	U	G	G	U	E	E	-	G
AMMONIUM SULPHATE	F	U	G	G	U	E	E	E	-
AMYL ACETATE	F	F	G	E	E	-	U	F	U
ANILINE 90% 20°C	F	F	G	E	F	G	U	G	U
ASPHALT	E	E	E	E	E	-	U	E	U
BARIUM CARBONATE 15°C	G	U	E	E	G	E	E	-	-
BARIUM CHLORIDE	F	U	G	G	G	E	E	E	E
BARIUM HYDROXIDE	F	F	G	E	U	-	E	-	U
BARIUM SULPHATE	F	F	G	E	F	E	E	E	E
BARIUM SULPHIDE	F	F	G	E	F	-	E	-	-
BEER SUGAR SOLUTION	G	U	E	E	G	-	E	-	-
BENZENE (BENZOL) 20°C	G	U	E	E	G	U	U	G	U
BENZOIC ACID 5%	U	U	E	E	U	-	F	-	-
BORIC ACID 5% 90°C	U	U	G	E	F	E	E	-	-
BROMINE - DRY	U	U	U	U	U	U	U	G	U
BROMINE - WET	U	U	U	U	U	U	U	G	U
BUTADIENE	F	F	G	E	U	-	G	G	-
BUTANE - BUTYLEAE	G	G	G	E	E	U	G	G	U
CALCIUM CARBONATE	F	F	E	E	F	E	E	E	E
CALCIUM CHLORIDE	F	F	F	G	G	E	E	E	G
CALCIUM HYDROXIDE 50%	F	F	E	E	U	E	E	E	E
CALCIUM SULPHATE	F	F	E	E	E	E	E	E	E
CARBON DIOXIDE - WET	F	F	E	E	G	G	G	E	G
CARBON TETRACHLORIDE	F	U	G	G	F	U	U	E	U
CARBONIC ACID	U	U	G	G	U	-	E	-	-
CHLORINE GAS - DRY 20°C	G	U	G	G	F	U	U	E	U
CHLOROBENZENE - DRY	F	F	E	E	F	U	U	G	U
CHROMIN ACID 5% 20°C	U	U	G	G	U	U	U	E	U
COPPER SULPHATE	U	F	G	E	U	E	E	E	G
DIESEL FUEL	E	G	E	E	G	U	E	E	-
ETHERS	G	U	E	E	G	U	U	-	U
ETHYL ACETATE	G	F	G	G	F	G	U	U	U
ETHYL CHLORIDE 5%	G	F	E	E	G	E	E	E	F
ETHYL GLYCOL	G	G	G	E	G	E	E	E	G
ETHYLENE OXIDE	G	G	G	E	G	U	U	U	U
FATTY ACID	U	U	G	E	-	U	E	-	-
FERRIC NITRATE	U	U	G	E	-	G	F	-	-
FERRIC SULPHATE 5%	U	U	G	G	U	-	E	E	-
FERROUS SULPHATE	U	F	E	E	U	G	E	G	G
FORMALDEHYDE 20°C	U	U	F	G	F	E	G	U	-
FORMIC ACID 5% 65°C	U	U	F	E	G	U	U	U	U
FRUIT JUICES	U	U	E	E	G	G	G	-	-
FUEL OIL	G	F	E	E	G	U	F	E	U
GASOLINE	E	U	E	E	G	U	E	E	U

Chemical Agents	Metal					Elastomer			
	Carbon Steel	Cast Iron	AISI 304	AISI 316	Bronze	EPDM	NBR	Viton	Natural Rubber
GLUCOSE	-	U	E	E	G	-	E	E	-
GLYCERINE / GLYCEROL	F	F	E	E	G	-	E	E	-
HEPTANE	U	F	G	G	F	U	E	E	U
HYDROGEN	F	F	E	E	F	E	E	E	E
HYDROGEN PEROXIDE 90%	U	U	G	G	U	-	U	G	U
HYDROGEN SULFIDE	F	F	G	G	F	E	U	U	U
IODINE SOLUTION	U	U	U	U	U	-	U	F	U
KEROSENE	G	G	E	E	E	U	E	E	U
LACTIC ACID 5%	U	U	G	G	F	-	F	-	-
LUBRUCATING OIL	E	E	E	E	E	U	E	E	U
MAGNESIUM CHLORIDE 4%	G	F	F	G	F	E	E	E	E
MAGNESIUM HYDROXIDE	G	F	E	E	G	E	G	E	G
MAGNESIUM SULPHATE	G	F	E	E	G	E	E	E	G
MERCURY	E	E	E	E	U	E	E	E	E
METHYL CHLORIDE	G	G	G	E	E	U	U	E	U
MILK	U	U	E	E	E	E	E	E	E
MINERAL OIL	F	F	E	E	-	U	E	E	U
NAPTHALENE	E	F	G	G	G	U	U	G	U
NATURAL GAS	G	G	E	E	E	U	E	E	U
NICKEL CHLORIDE	U	U	G	G	-	-	E	-	-
NITRIC ACID < 40% 20°C	U	U	E	E	U	U	U	E	U
NITRIC ACID > 40% 20°C	U	U	G	E	U	U	U	F	U
NITROBENZENE	G	U	G	G	-	U	U	G	U
OLEUM	G	U	F	G	-	U	U	E	U
OXALIC ACID	F	U	G	E	G	G	U	G	U
PALMITIC ACID	-	U	G	E	G	-	E	-	-
PETROLEUM	-	U	G	G	F	U	E	E	U
PHENOL	U	U	E	E	E	U	U	E	U
PHOSPHORIC ACID 5%	U	U	G	G	U	F	E	E	F
POTASSIUM CYANIDE	G	F	G	G	U	-	E	E	-
POTASSIUM HYDROXIDE 5%	F	F	G	G	G	-	E	E	-
POTASSIUM NITRATE	F	F	G	E	F	-	E	E	-
POTASSIUM SULFITE	E	U	G	G	G	E	F	E	E
PROPANE	G	F	G	G	E	G	E	-	-
RESINS	G	U	G	G	G	U	-	E	-
SEA WATER 20°C	F	U	G	G	G	-	G	G	F
SODIUM ACETATE 5%	U	U	E	E	G	E	G	E	-
SODIUM CHLORIDE 30%	F	U	G	G	G	E	E	U	-
SODIUM FLUORIDE	F	U	F	G	F	E	-	E	E
SODIUM HYDROXIDE 50%	U	U	G	G	U	-	U	E	-
SODIUM HYPOCHLORITE 5%	F	U	U	G	U	G	U	U	U
SODIUM NITRATE	U	U	G	E	G	G	G	E	U
SODIUM PEROXIDE	G	U	G	E	U	E	G	-	G
SODIUM PHOSPHATE 5%	F	U	G	E	F	E	E	E	G
SODIUM SILICATE	F	U	G	E	G	E	E	E	E
SODIUM SULFITDE 70%	G	U	G	E	U	E	-	E	E
STEAM 150°C	G	G	E	E	G	-	U	E	-
STERARIC ACID 90% 90°C	E	U	E	E	F	G	G	G	U
SULPHUR DIOXIDE	-	U	G	E	F	-	U	-	-
SULPHUROUS ACID 80%	G	U	F	U	F	G	U	E	U
TARTARIC ACID 65°C	U	U	G	E	G	U	E	E	U
TRICHLOROETHYLENE	U	-	G	E	E	-	U	-	G
TURPEMTINE	G	U	G	E	G	U	U	E	U
WATER - DEMINERALIZED	G	U	E	E	E	U	G	E	U
WATER - DISTILLED	U	U	E	E	U	E	G	E	G
WATER - FRESH	U	F	E	E	E	E	G	-	-
WATER - SEWAGE	F	F	E	E	E	E	G	-	E
XYLENE, XYLOL	F	F	E	E	G	E	U	-	-
ZINC CHLORDE 5% 70°C	G	U	F	F	U	U	E	E	U
ZINC SULPHATE 25% 80°C	U	U	E	E	G	E	E	E	E

E : Excellent | G : Good | F : Fair | U : Unsatisfactory | - : No data

*Specification given are subject to changed without further notice.

VALVES MALAYSIA
Tel: 03-5569 6556 (3 Lines) Fax: 03-5569 8557
+ 6012 422 3782 | Email: sales@valvesmalaysia.com.my
www.valvesmalaysia.com.my

PRESSURE - TEMPERATURE
HYDROSTATIC TEST PRESSURE ACCORDING TO ANSI B16.34

Service Temperature		Class 150 / PN 20					Class 300 / PN 50					Class 600 / PN 100					Class 600 / PN 100				
°F	°C	WCB	WC6	WC9	CF8	CF8M	WCB	WC6	WC9	CF8	CF8M	WCB	WC6	WC9	CF8	CF8M	WCB	WC6	WC9	CF8	CF8M
-20 to100	-29 to38	284	290	290	276	284	741	750	750	719	719	1480	1499	1499	1438	1340	2221	2249	2249	2159	2159
122	50	278	278	278	267	278	726	741	742	693	697	1453	1483	1485	1388	1396	2178	2224	2227	2081	2094
212	100	257	257	257	228	257	673	708	711	593	612	1346	1414	1422	1186	1224	2017	2121	2133	1778	1836
302	150	229	229	229	202	229	655	673	676	526	558	1312	1344	1353	1054	1117	1968	2017	2029	1581	1675
392	200	203	203	203	183	203	632	660	650	476	518	1270	1320	1301	950	1034	1907	1978	1950	1425	1552
482	250	175	175	175	170	175	605	645	641	443	484	1209	1344	1282	886	969	1815	1934	1924	1328	1453
572	300	148	148	148	148	148	561	615	615	422	458	1124	1231	1231	842	918	1685	1846	1846	1264	1376
622	350	122	122	122	122	122	537	583	583	408	441	1072	1167	1167	813	882	1608	1750	1750	1221	1324
707	375	107	107	107	107	107	529	563	563	403	431	1057	1125	1125	805	861	1586	1688	1688	1208	1292
752	400	94	94	94	94	94	500	531	531	399	422	1001	1061	1061	796	844	1501	1592	1592	1195	1266
797	425	81	81	81	81	81	418	509	509	394	416	834	1081	1081	787	831	1251	1527	1527	1182	1247
842	450	68	68	68	68	68	290	490	490	391	407	581	980	980	779	815	871	1470	1470	1169	1221
887	475	54	54	54	54	54	196	460	460	386	397	383	918	918	770	793	589	1378	1378	1156	1190
932	500	41	41	41	41	41	128	403	403	378	389	255	806	806	755	779	383	1209	1209	1134	1167
Shell Test		450 PSIG			425 PSIG		1125 PSIG			1100 PSIG		2225 PSIG			2175 PSIG		3350 PSIG			3250 PSIG	
Seat Test	Fluid	325 PSIG					825 PSIG			800 PSIG		1650 PSIG			1600 PSIG		2450 PSIG			2400 PSIG	
	Gas	80 PSIG					80 PSIG					80 PSIG					80 PSIG				

PRESSURE - TEMPERATURE
RATING ACCORDING TO DIN EN 1092-1/2

Valves Material	Pressure	-60°C	-10°C	120°C	200°C	250°C	300°C	350°C	400°C	450°C
Cast Iron GJL-250	PN16	-	16 Bar	16 Bar	13 Bar	11 Bar	10 Bar	-	-	-
Ductile Iron GJS-400-18	PN25	-	25 Bar	25 Bar	20 Bar	18 Bar	16 Bar	15 Bar	-	-
Cast Steel GP240GH+N	PN40	20 Bar	40 Bar	40 Bar	35 Bar	32 Bar	28 Bar	24 Bar	21 Bar	18 Bar
Valves Material	**Pressure**	**-60°C**	**-20°C**	**100°C**	**150°C**	**200°C**	**250°C**	**300°C**	**350°C**	**350°C**
Stainless Steel 1.4408	PN16	8 Bar	16 Bar	13 Bar	11.5 Bar	10.5 Bar	9.5 Bar	9 Bar	8.3 Bar	8 Bar
Stainless Steel 1.4408	PN40	20 Bar	40 Bar	32 Bar	29 Bar	26 Bar	24 Bar	22 Bar	21 Bar	20 Bar

SHELL MATERIAL

Material	Symbol	Classification Steel	ASTM REF.	Recommended Temperature Limits		Application
				°C	°F	
WCB	A	Carbon	A216 Grade WCB	-29 to 425	-20 to 800	Steam, Water oil, Oil vapour gas and general service
LCB	B	Carbon	A352 Grade LCB	-46 to 350	-50 to 650	Low Temperature
LCC	C	Carbon	A352 Grade LLC	-46 to 350	-50 to 650	
WC6	D	Chromium moly 1.25% Cr, 0.5% Mo	A217 Grade WC6	-29 to 590	-20 to 1100	Steam, Water oil, Oil vapour gas and general service
WC9	E	Chromium moly 2.25% Cr, 1% Mo	A217 Grade WC9	-29 to 590	-20 to 1100	
C5	F	Chromium moly 5% Cr, 0.5% Mo	A217 Grade C5	-29 to 650	-20 to 1200	Corrosive / Erosive oil refinery service
CF8M	G	Stainless 18% Cr, 10% Ni, 2% Mo	A351 Grade CF8M	-29 to 590	-20 to 1100	High and low temperature corrosion resistance, Cryogenic is also available upon request
CF8	H	Stainless 18% Cr, 10% Ni	A351 Grade CF8	-29 to 590	-20 to 1100	
CF3M	I	Low carbon stainless 18% Cr, 10% Ni, 2% Mo	A351 Grade CF3M	-29 to 454	-20 to 850	
CF3	J	Low carbon stainless 18% Cr, 10% Ni	A351 Grade CF3	-29 to 425	-20 to 800	
CN7M	P	Stainless 19% Cr, 29% Ni	A351 Grade CNM	-29 to 425	-20 to 800	Corrosion resistance

*Specification given are subject to changed without further notice.

COMPARISON LIST FOR CASTING & FORGING

VALVES MALAYSIA
Tel: 03-5569 6556 (3 Lines) Fax: 03-5569 8557
+ 6012 422 3782 | Email: sales@valvesmalaysia.com.my
www.valvesmalaysia.com.my

General Classification	Casting			Forgings		
	ASTM	JIS	BS	ASTM	JIS	BS
Cast Iron	A126-Class A	G5501-FC20	1452-14	-	-	-
	-Class B	-FC25	-17	-	-	-
	-Class C	-FC30	-20	-	-	-
Malleable Iron	A197	G5702-FCMB28	310-B18/6	-	-	-
	A47-32510	-FCMB35	-B22/14	-	-	-
	-35108	-FCMB37	-	-	-	-
Ductile Iron	A395	G5502-FCD40	-	-	-	-
	-	-FCD45	-	-	-	-
	A536	-FCD55	-	-	-	-
CarbonSteel	A216-WCA	G5151-SCPH1	-	A105	G3201-SF45	1503-161B
	-	G5101-SC46	1504-161	-	-	-
	A216-WCB	G5151-SCPH2	-B	A105	G3201-SF50	1503-161C
	-WCC	-	-	-	-	-
	-	G5101-SC55	-C	-	-	-
Carbon - 1/2Mo	A217-WC1	G5111-SCA41	1504-240	A182-F1	-	1503-240B
½Cr-½ Mo½ Ni	-WC4	-	-	-	-	-
1Cr-½ Mo-½ Ni	-WC5	-	-	-	-	1503-620
1¼Cr-½ Mo	-WC6	G5111-SCA51	1504-621	A182-12	-	-
2¼Cr-1 Mo	-WC9	-	-622	-F11	-	1503-622
3Cr-1 Mo	-	-	-	-F22	-	-
5Cr-½ Mo (C 0.15)	-	-	-	-F21	-	-
5Cr-½ Mo (C 0.25)	A217-C5	G5111-SCA52	1504-625	-F5	-	1503-625
7Cr-½ Mo	-	-	-	-F5a	-	-
9Cr-1 Mo	A217-C12	-	1504-629	-F7	-	-
Carbon Steel for Low Temp	A352-LCB	-	4242-GRA	-F9	-	-
Carbon - Si	-	-	-	A350-LF1	-	-
Carbon-1 Mo Steel for Low Temp	A352-LC1	-	-	-LF2	-	-
2½ Ni	-LC2	-	-	-	-	-
3½ Ni	-LC3	-	-	-	-	-
Cr - Ni - Cu - Al	-	-	-	A350-LF3	-	-
13Cr	A217CA15	G51212-SCS1	-	-LF4	G4303-SUS51B	1503-713
18Cr-8Ni (C 0.03)	A351-CF3	-	-	A128-F6	-SUS28B	-
18Cr-8Ni (C 0.08)	-CF8	G5121-SCS13	-	-F304L	-SUS27B	1503-801
18Cr-8Ni (C 0.10)	-	-	1504-801	-F304	-	-
18Cr-8Ni-2Mo (C 0.03)	A351-CF3M	G5121-SCS16	-	-F304H	G4303-SUS33B	-
18Cr-8Ni-2Mo (C 0.08)	-CF8M	-SCS14	1632-GRC	-F316L	-SUS32B	1503-845B
18Cr-8Ni-2Mo (C 0.10)	-	-	-	-F316	-	-
18Cr-8Ni-Ti (C 0.08)	-	-	-	-F316H	G303-SUS29B	-
18Cr-8Ni-Ti (C 0.10)	-	-	1504-821Ti	-F321	-F321H	1503-821Ti
18Cr-8Ni-Cb (C 0.08)	A351-CF8C	-	-	-	G4303-SUS43B	-821Nb
18Cr-8Ni-Cb (C 0.10)	-	-	1504-821Nb	-F347	-	-
18Cr-8Ni-Ti-Cb (C 0.08)	-	-	-	-F347H	-	-
18Cr-8Ni-Ti-Cb (C 0.10)	-	-	-	-F348	-	-
25Cr-2Ni (C 0.15)	-	-	-	-F348H	-	-
22Cr-12Ni (C 0.08)	A351-CH18	-	-	-F310	-	-
22Cr-12Ni (C 0.10)	-CH10	-	-	-	-	-
22Cr-12Ni (C 0.20)	-CH20	-	-	-	-	-
23Cr-19Ni (C 0.20)	-CK20	-	-	-	-	-
23Cr-19Ni (C 0.35)	-HK30	-	-	-	-	-
23Cr-19Ni (C 0.45)	-HK40	-	-	-	-	-
13Cr-19Ni-Mo (C 0.35)	-HT30	-	-	-	-	-
15Cr-13Ni-2Mo-Cb (C 0.10)	CF10MC	-	-	-	-	-
19Cr-27Ni-2Mo-3Cb (C 0.07)	-CN7M	-	-	-	-	-
8Cr-20Ni (C 0.20)	-	-	-	A182-F10	-	-
Hastelloy B	A494-N-12MV	-	-	-	-	-

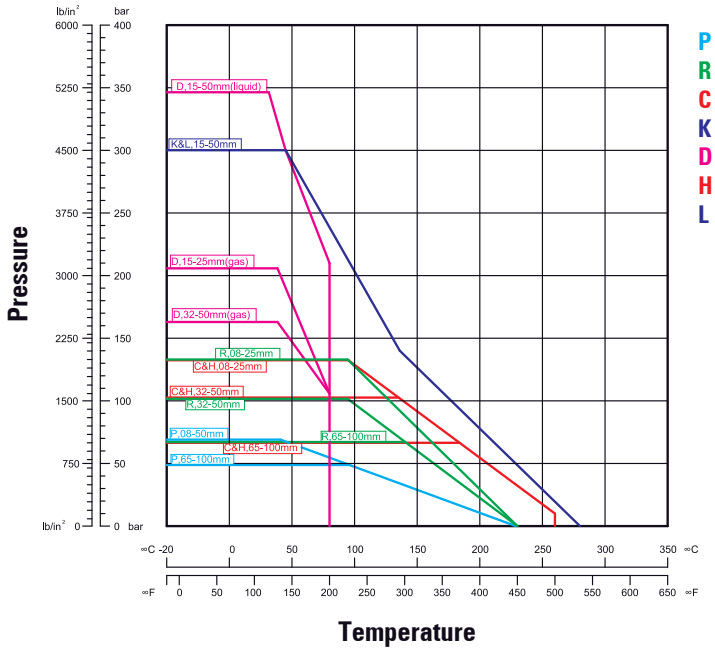
TRIM MATERIAL (API STD. 600)

Trim No.	Seat Ring of Surface	Wedge / Disc or Surface	Stem
01	13% CR.	13% CR.	13% CR.
02	304 S.S.	304 S.S.	304 S.S.
03	F310 (CR. 25-NI 20)	F310 (CR. 25-NI 20)	F310 (CR. 25-NI 20)
04	HARD 13% CR.	HARD 13% CR.	13% CR.
05	STELLITE	STELLITE	13% CR.
05A	NI-CR.	NI-CR.	13% CR.
06	CU-NI	13% CR.	13% CR.
07	13% CR.	HARD 13% CR.	13% CR.
08	STELLITE	13% CR.	13% CR.
08A	NI-CR.	13% CR.	13% CR.
09	MONEL	MONEL	13% CR.
10	316 S.S.	316 S.S.	316 S.S.
11	MONEL	STELLITE	MONEL
12	STELLITE	316 S.S	316 S.S
13	ALLOY 20	ALLOY 20	ALLOY 20
14	STELLITE	ALLOY 20	ALLOY 20
15	MONEL	MONEL	MONEL
16	BRONZE	BRONZE	BRONZE
17	HASTELLOY B	HASTELLOY B	HASTELLOY B
18	HASTELLOY C	HASTELLOY C	HASTELLOY C

*Specification given are subject to changed without further notice.

VALVES MALAYSIA
Tel: 03-5569 6556 (3 Lines) Fax: 03-5569 8557
+ 6012 422 3782 | Email: sales@valvesmalaysia.com.my
www.valvesmalaysia.com.my

SCREWED BALL VALVES
Pressure/Temperature Graph



- **P** Virgin PTFE
- **R** 15% Glass filled PTFE
- **C** Carbon filled PTFE (25%)
- **K** Carbon filled PTFE (33%)
- **D** Delrin
- **H** Glass and metal oxide filled PTFE
- **L** Virgin PEEK

P VIRGIN PTFE
Inert to most chemicals, lowcoeficient of friation recommended for water foodsult and corrosive chemicals

R 15% GLASS FILLED PTFE
Withstands higher pressure than virgin PTFE. Good resistance to wear and deformation under load

C 25% CARBON FILLED PTFE
Specially for steam and thermal oil, low coefficient of friction inert to most media

H GLASS AND METAL OXIDE FILLED PTFE
Withstands higher temperature and pressure than filled PTFE. Good resistance under load. Not recommended for food stuff

K 33% CARBON FILLED PTFE
Suitable for elevated temperatures. Good resistance under high pressure loads, low coefficient of friction, suitable for many corrosive applications

L VIRGIN PEEK
Similar to filled PEEK but higher coefficient of friction, suitable for nuclear, tobacco FDA and clean applications

D DELRIN
Suitable for high pressures, good resistance to wear and deformation under load. Temperature limit 80ºC. Must not be used in presence of oxygen

*Specification given are subject to changed without further notice.