

To find
**The best quality of the
Iranian products,
you need to choose
Pars Regulator Co.**

INSTRUMENT
& PIPING
VALVES

**SINCE
1988**

BETER TOGETHER

We are honored to give services for
safety of people and improving
industrial equipment.



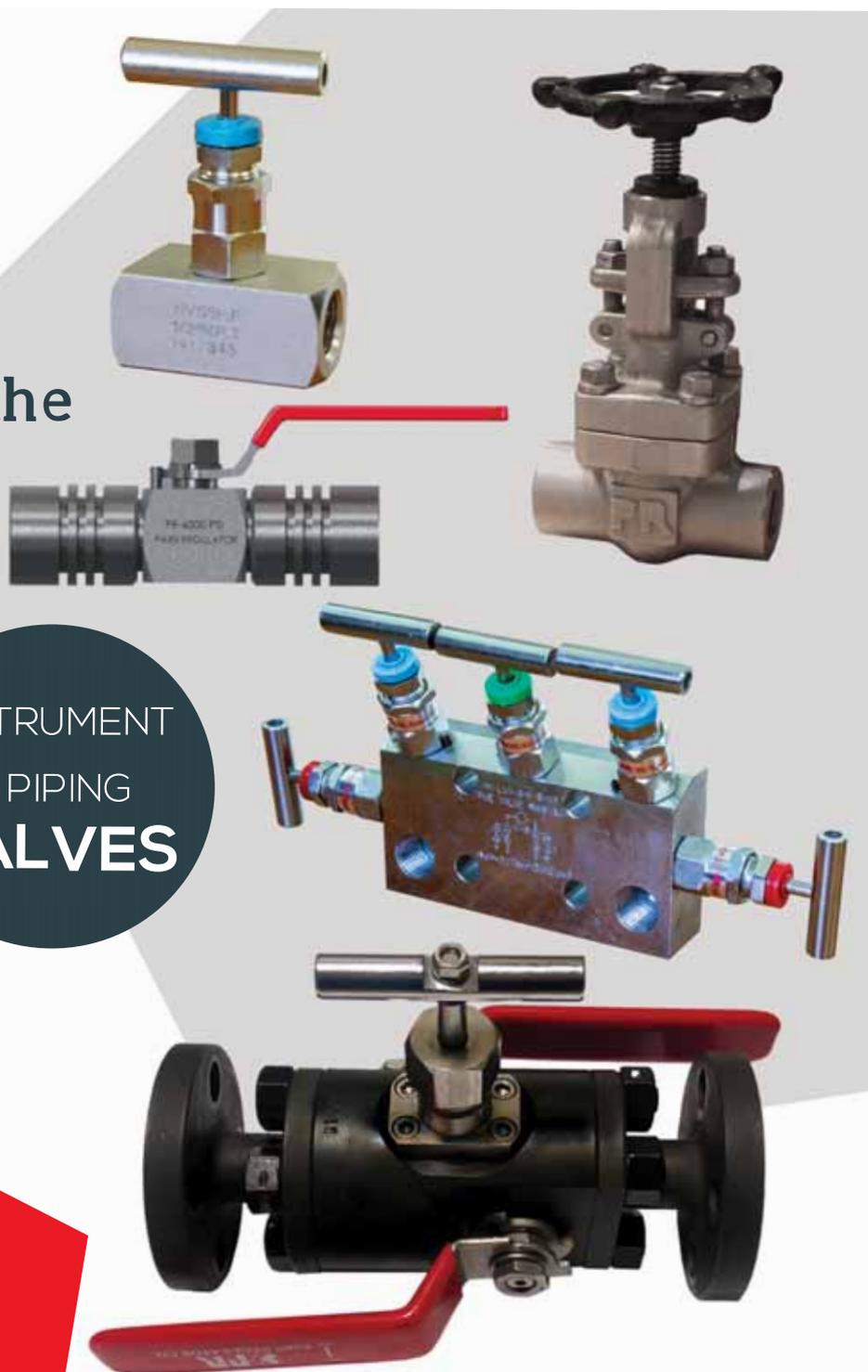
VALVES & STEAM TRAP

Here is the Catalogue of required products in oil, gas & petrochemical industries in your hands.

+98-21-8830-77-66

STANDARD:

- ASME/ANSI B 16.34
- ASME/ANSI B 16.5
- ASME B 16.10
- ASME B 16.25
- ASME B 16.11
- API 598
- API 602
- BS 1414
- BS 1873
- BS 6755
- ISO 17292



CHOOSE PARS REGULATOR

Company Brief Introduction

Welcome to Pars Regulator Corp. (Private Joint Stock, P.J.S)! Our Company was founded in 1988 is a family owned Company that has expanded in almost three decades of manufacturing from an initial 4000 square meter's area to a modern manufacturing facilities that encompasses 2500 square meters at the present. For more than 30 years, Pars Regulator Co. has been concentrating on servicing to oil, Gas, Petrochemical industry, Refinery and Power Industries.

Pars Regulator is one of the Iranian leading manufacturers and suppliers:

1. High pressure pipe and tube fittings (compression type)
2. Instrumentation high pressure valves such as: (Needle, Manifolds (2,3,5 ways), Ball)
3. Piping Valves such as: (Ball, Gate, Globe, Check)
4. Single/Double block & bleed valves
5. Flanges
6. Industrial filters
7. High pressure Vessel
8. Condensate pots
9. Steam traps
10. Low and high pressure gas and air regulator
11. Special Product



Planning, Policy and Guidance

Pars Regulator believes its most important asset is human resources. It is our excellence in skills and innovation that has driven our growth to date and ensures we are in the best position to capitalize on this for future growth. We concentrated on industrial products and trust us that you will enjoy as a partner of us to win-win on industrial products with the support of "trustable quality, short time delivery and competitive prices!"



Commercial & Raw Material Supplying

Our foreign commercial department is active in import and export of many kinds of regulators, valves, filters, tubes, pipes, industrial equipment and machines and various other products.



Control and Assurance of Quality

We are proud of our quality assurance systems which satisfies ISO 9001-2008. Compliance utilizing state of the art technology to perform the most severe tests in this industry on your Production. We understand regional market requirements that satisfy customer's needs. Pars Regulator products, meets your standard requirements in accordance with international standards and customer's specifications with:

- 1) fugitive emission
- 2) performance and functionality
- 3) high pressure fluids
- 4) high-low temperature
- 5) fire safe
- 6) NDE inspection
- 7) sour condition, etc.

We provide proper after sales services and supports. Our procedures and testing can be conducted on-site if requested. (Field Test).

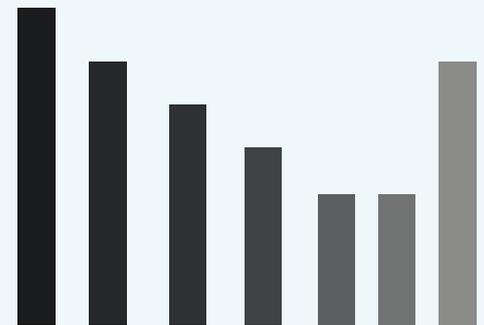
CAPABILITIES, PROCESS, FACILITIES:

1. Furnace (Frequency induction, fuel)
2. Hydraulic Pressure (Hydraulic press 600 Ton & Impact Press 200 Ton)
3. CNC machining services & Molding process engineering
4. Welding shop
5. Pickling, Cleaning, Descaling and passivation Equipment & system
6. Pleated filter process
7. Hydrostatic, gas, vibration, Impales and shock bench test
8. Laboratory filter systems

Now more than ever, the basic fundamental which guides our business is the belief that "Meeting standards is our Standard". Our employees are working to meet today's increasing demands of process improvements, new material and technologies.

Pars Regulator Co. is a member of "Approved Vendor Lists" (AVL) of major national and private Iranian oil and gas, petrochemical, refinery and power companies such as:

1. NPC (national petrochemical Co.)
2. NIGC (National Iranian gas Co. including SPGC, located in the biggest gas field in the world)
3. NIOC (National Iranian oil Co.)
4. Mapna groups PJS Co., POGC (Pars oil & gas Co.)
5. NIOPCD (National Iranian oil products distribution Co.) and so on.



Since then, we have sold remarkable quantity of products in more than 400-500 projects & orders to all main End users & EPC'S Companies.



Pars Regulator Co.

INSTRUMENT VALVES

3-6
NEEDLE VALVE

7-11
BALL VALVE

12-15
MANIFOLD

16-20
BLOCK & BLEED

PIPING VALVES

22-26
GATE VALVE

27-31
GLOBE VALVE

32-40
CHECK VALVE

41-43
BALL VALVE

45-50
STEAM TRAP

52-54
STRAINER



INDEX GUIDE

PR Valve Catalogue In 4 Categories. Instrumentation Valves are from page 3 to 20, Piping Valves are from 22-43, Steam Traps are from 45-50 and Strainers are from 52-54. PR Products code is in page 1.



Pars Regulator Co.

How to Order?



EXAMPLE BA1NN3M0020150FPH BALL VALVE ONE PIECES NPT X NPT CLASS 3000 PSI 1/8" A105N FULL BORE PHOSPHATED

Type	1
BA	Ball Valve
GA	Gate Valve
GO	Globe Valve
SC	Swing Check V.
PC	Piston Check V.
YC	Y Type Check V.
LC	Lift Check V.
NE	Needle V.

Body	2
W	Welded Bonnet
B	Bolted Bonnet
G	Globe Pattern
A	Angle Pattern
1	One Pieces
2	Two Pieces
3	Three Pieces

Connection	3
NN	NPT(F) X NPT(F)
MM	NPT(M) X NPT(M)
UU	Butt Weld X Butt Weld
CC	Socket Weld X Socket Weld
LL	Plain End X Plain End
OO	Tube Nut X Tube Nut
FF	Flanged X Flanged
NM	NPT(F) X NPT(M)
NC	NPT(F) X Socket Weld

Pre. Rating	4
3M	3000psi
6M	6000psi
10M	10000psi
1W	1000 WOG
2W	2000 WOG
1C	#150
2C	#300
3C	#600
4C	#800
5C	#1500
...	...

Size (Inch)	5
3m	3mm
6m	6mm
9m	9mm
002	1/8" 10.3mm
004	1/4" 13.7mm
006	3/8" 17.10mm
008	1/2" 21.30mm
012	3/4" 26.70mm
016	1" 33.40mm
020	1 1/4" 42.20mm
024	1 1/2" 48.30mm
032	2" 60.3mm
048	3" 88.9mm
064	4" 114.30mm
096	6" 168.30mm
128	8" 219.10mm
160	10" 273.10mm
192	12" 323.90mm

Material	6
01	A105N
02	A350 LF2
03	A182-F11
04	A182-F5
05	A182-F304
06	A182-F304L
07	A182-F316
08	A182-F316L
09	A182-F321
10	A182-F51
11	A182-F53
12	A182-F6a
13	A564 UNS S17400
14	B564 No 4400
15	B649

Seat Material	7
50	P.T.F.E
51	R.P.T.F.E/Glass
52	R.P.T.F.E/Carbon Graphite
53	POM
54	PEEK
55	NYLON 12
56	NYLON 1010
57	NYLON 6
58	FKM
59	NBR
60	Silicon
61	Graphite
62	EPDM
63	Kel-f

Bore	8
F	Full Bore
R	Reduced Bore

Treatment	9
NT	No Treatment
NR	Normalized
QT	Quenched & Tempered
AN	Anealed
SA	Solution Anealed
NP	Electroless Ni. Plated
CP	Cr. Plated
PH	Phosphated
GZ	Galvanized
PI	Pickled
...	...



INSTRUMENT VALVES

ALL TYPES

PR PRODUCT

1

The main parameters to be considered when selecting any equipment are:

- Operating conditions, including temperature, pressure and media contained
- Environment
- Legislation and Internal Regulations
- Cost
- Availability
- Lead time
- Expected life time of the equipment
- Safety

2

In terms of materials, the selection criteria normally translate into some of the following parameters:

- Mechanical properties
- Corrosion resistance to media and environment
- Temperature operating range
- Cost
- Availability on request



NEEDLE VALVES OD (TUBE END CONNECTIONS)

With more than twenty years of valve design experience, our company can offer the most complete range of Needle valve. This group of valves can handle a wide range of general purpose liquid and gas applications. PR valves find their application in different market, chemical, petrochemical and pharmaceutical industries. All needle valves are made from bar-stock and Forging and available with pressure rating of 3000, 6000, 10000 PSI. This catalogue shows you the standard design of valves but the organization flexibility and productive structure allow PR to meet all different needs of customers. Product innovation and development may require modifications and changes in the information contained in this catalogue. PR reserves the right to make such modifications at their discretion and without prior notification.

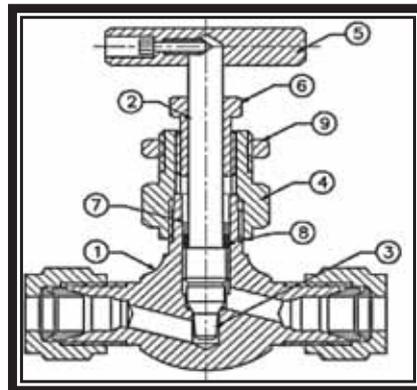
Pars Regulator Bar Stock Needle Valves are manufactured from Bar Stock and 100% factory tested for better reliability and consistency in leak proof performance. Since the orifice is small and the force advantages of the fine-threaded stem is high, needle valves are usually easy to shut off completely, with merely “finger tight” pressure. Small, simple needle valves are often used as bleed valves in hot water heating application.

Typical Applications

✓ Instrument air lines ✓ Sampling ✓ Gas chromatography ✓ Test stands ✓ Cylinder valves

Safety

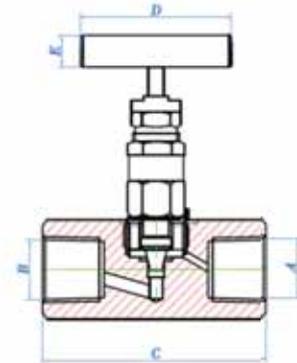
- Integral bonnet provides differential thread pitch between stem threads and packing nut thread preventing accidental stem removal.



ROW	DESCRIPTION	MATERIAL
1	BODY	316L STAINLESS STEEL
2	STEM	316L STAINLESS STEEL
3	STEM TIP	17-4PH STAINLESS STEEL
4	BONNET	316L STAINLESS STEEL
5	HANDLE	STAINLESS STEEL
6	PANEL MOUNTING NUT	316L STAINLESS STEEL
7	RING	316L STAINLESS STEEL
8	STEM PACKING	PTFE + GRAPHIT
9	BONNET NUT	316L STAINLESS STEEL

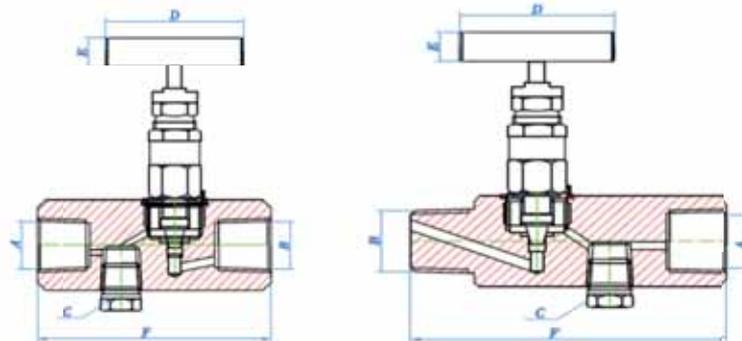


Needle Valve (Bar Stock)



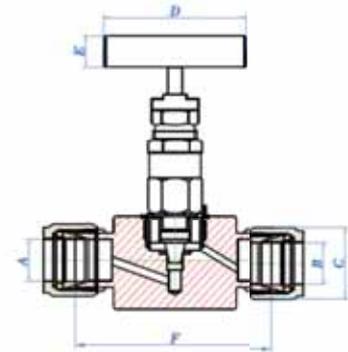
Part Number Pars Regulator	Max. Working Pressure	End Connection		Dimensions				
		Inlet	Outlet	A	B	C	D	E
NVS 4FF	3000Psi 6000 Psi 10000 Psi	1/4"NPT-Female	1/4"NPT-Female	1/4" NPT (M)	1/4" NPT (M)	55(mm)	8(mm)	Ø13
NVS 6FF		3/8"NPT-Female	3/8"NPT-Female	3/8" NPT (M)	3/8" NPT (M)	59 (mm)	8(mm)	Ø13
NVS 8FF		1/2"NPT-Female	1/2"NPT-Female	1/2" NPT (M)	1/2" NPT (M)	65(mm)	8(mm)	Ø13
NVS 4M4F		1/4" NPT male inlet	1/4" NPT female outlet	1/4" NPT(F)	1/4"NPT (M)	55(mm)	8(mm)	Ø13
NVS 6M6F		3/8" NPT male inlet	3/8" NPT female outlet	3/8" NPT(F)	3/8" NPT (M)	59 (mm)	8(mm)	Ø13
NVS 8M8F		1/2" NPT male inlet	1/2" NPT female outlet	1/2"NPT(F)	1/2" NPT (M)	65(mm)	8(mm)	Ø13
NVS 12FF		3/4" NPT female inlet	3/4" NPT female outlet	3/4" NPT (F)	3/4" NPT (F)	65(mm)	8(mm)	Ø13
NVS 16FF		1" NPT female inle	1" NPT female outlet	1" NPT (F)	1" NPT (F)	86(mm)	8(mm)	Ø13
NVS 12M8F		3/4" NPT male inlet	1/2" NPT female outlet	1/2" NPT (F)	3/4" NPT (M)	70(mm)	8(mm)	Ø13
NVS 12M12F		3/4" NPT male inlet	3/4" NPT female outlet	3/4" NPT (F)	3/4" NPT (M)	70(mm)	8(mm)	Ø13

Needle Valve (With Down Stream Vent)



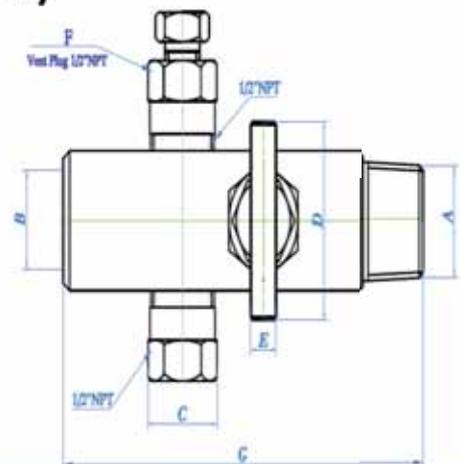
Part Number Pars Regulator	Max. Working Pressure	End Connection		Drain/test	Dimensions					
		Inlet	Outlet		A	B	C	D	E	F
NVS 4FFV	3000Psi 6000 Psi 10000 Psi	1/4" NPT female inlet	1/4" NPT female outlet	1/4" NPT female	1/4" NPT (F)	1/4" NPT (M)	Vent 1/4" NPT	58(mm)	Ø13	90.5(mm)
NVS 8FFV		1/2"NPT female inlet	1/2" NPT female outlet	1/4" NPT female	1/2" NPT (F)	1/2" NPT (M)	Vent 1/4" NPT	58(mm)	Ø13	90.5(mm)
NVS 12FFV		3/4" NPT Female inlet	3/4" NPT Female outlet	1/4" NPT female	3/4" NPT (F)	3/4" NPT (M)	Vent 1/4" NPT	58(mm)	Ø14	90.5(mm)
NVS 4M4FV		1/4"NPT-Male inlet	1/4"NPT-Female Outlet	1/4"NPT-Female	1/4" NPT (F)	1/4" NPT (M)	Vent 1/4" NPT	58(mm)	Ø13	90.5(mm)
NVS 8M8FV		1/2"NPT-Male inlet	1/2"NPT-Female Outlet	1/4"NPT-Female	1/2" NPT (F)	1/2" NPT (M)	Vent 1/4" NPT	58(mm)	Ø13	90.5(mm)
NVS 12M12FV		3/4"NPT-Male inlet	3/4" NPT Female outlet	1/4"NPT-Female	3/4" NPT (F)	3/4" NPT (M)	Vent 1/4" NPT	58(mm)	Ø14	90.5(mm)

Needle Valves (Bar Stock)

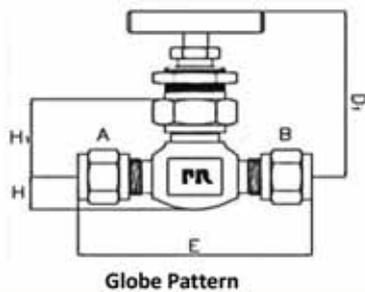


Part Number Pars Regulator	Max. Working Pressure	End Connection		Dimensions					
		Inlet	Outlet	A	B	C	D	E	F
NVS 4A	3000Psi 6000 Psi 10000 Psi	1/4"Tube O.D.	1/4"Tube O.D.	1/4" Tube O.D	1/4" Tube O.D	Hex 14	58(mm)	Ø13	50(mm)
NVS 6A		3/8"Tube O.D.	3/8"Tube O.D.	3/8" Tube O.D	3/8" Tube O.D	Hex 17	58(mm)	Ø13	55(mm)
NVS 8A		1/2"Tube O.D.	1/2"Tube O.D.	1/2" Tube O.D	1/2" Tube O.D	Hex 22	58(mm)	Ø14	65(mm)
NVS M6A		6 mm Tube O.D.	Hex 14	58(mm)	Ø13	50(mm)			
NVS M10A		10 mm Tube O.D.	Hex 17	58(mm)	Ø13	55(mm)			
NVS M12A		12mm Tube O.D.	12mm Tube O.D.	12mm Tube O.D.	12mm Tube O.D.	Hex 22	58(mm)	Ø13	65(mm)

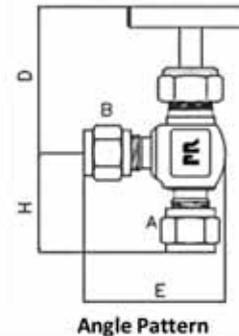
Needle Valves (Multi Port Gauge Valve)



Part Number Pars Regulator	Max. Working Pressure	End Connection		Dimensions						
		Inlet	Outlet	A	B	C	D	E	F	G
GVS 8	3000Psi 6000 Psi	1/2"NPT-Male	3x1/2"NPT-Female	1/2" NPT (M)	1/2" NPT (M)	Plug 1/2" NPT	58(mm)	Ø13	Vent Plug 1/2" NPT	120(mm)
GVS 12	10000 Psi	3/4"NPT-Male	3x1/2"NPT-Female	3/4" NPT (M)	1/2" NPT (M)	Plug 1/2" NPT	58(mm)	Ø13	Vent Plug 1/2" NPT	120(mm)



NEEDLE VALVE
OD (TUBE END CONNECTIONS)



Globe Pattern

Angle Pattern

Globe Pattern									
Part Number Pars Regulator	Max. Working Pressure	End Connection		Dimensions (mm)					
		Inlet	Outlet		D	D ¹	E	H	H ¹
NEGOO10M002*	10000Psi	1/8" TUBE	1/8" TUBE	inch	2 7/32	2 3/4	2 1/8	19/64	1 1/32
				mm	56	70	54	8	26
NEGMM10M002*		1/8" male NPT	1/8" male NPT	inch	2 1/8	2 21/32	1 3/4	2 5/64	15/16
				mm	54	67	44	10	24
NEGMN10M002*		1/8" male NPT	1/8" female NPT	inch	2 1/8	2 21/32	1 3/4	2 5/64	15/16
				mm	54	67	44	10	24
NEGNN10M002*		1/8" female NPT	1/8" female NPT	inch	2 1/8	2 21/32	1 3/4	2 5/64	15/16
				mm	54	67	44	10	24
NEGOO10M004*		1/4" TUBE	1/4" TUBE	inch	2 1/8	2 21/32	2 3/8	2 5/64	15/16
				mm	54	67	60	10	24
NEGMO10M004*		1/4" male NPT	1/4" TUBE	inch	2 1/8	2 21/32	2 3/16	25/64	15/16
				mm	54	67	56	10	24
NEGMM10M004*	1/4" male NPT	1/4" male NPT	inch	2 1/8	2 21/32	2	25/64	15/16	
			mm	54	67	51	10	24	
NEGOO10M3m*	3mm TUBE	3mm TUBE	inch	2 3/16	2 3/4	2 1/8	19/64	1 1/32	
			mm	56	70	54	8	26	
NEGOO10M6m*	6mm TUBE	6mm TUBE	inch	2 1/8	2 21/32	2 3/8	25/64	15/16	
			mm	54	67	60	10	24	
NEG0010M8m*	8mm TUBE	8mm TUBE	inch	2.125	2 21/32	2 3/8	25/64	15/16	
			mm	54	67	60	10	24	

Angle Pattern									
Part Number Pars Regulator	Max. Working Pressure	End Connection		Dimensions (mm)					
		Inlet	Outlet		D	D ¹	E	H	H ¹
NEAOO10M002*	10000Psi	1/8" TUBE	1/8" TUBE	inch	2 7/32	2 3/4	1 1/2	1 1/64	1 1/64
				mm	56	70	38	26	26
NEAMM10M002*		1/8" male NPT	1/8" male NPT	inch	2 1/8	2 21/32	1 17/64	7/8	15/16
				mm	54	67	32	22	24
NEANN10M002*		1/8" female NPT	1/8" female NPT	inch	2 1/8	2 21/32	1 17/64	7/8	15/16
				mm	54	67	32	22	24
NEAMO10M002*		1/8" male NPT	1/4" TUBE	inch	2 1/8	2 21/32	1 19/32	7/8	15/16
				mm	54	67	40	22	24
NEAOO10M004*		1/4" TUBE	1/4" TUBE	inch	2 1/8	2 21/32	1 19/32	1 3/16	15/16
				mm	54	67	40	30	24
NEAMO10M004*		1/4" male NPT	1/4" TUBE	inch	2 1/8	2 21/32	1 19/32	7/8	15/16
				mm	54	67	40	22	24
NEAMM10M004*	1/4" male NPT	1/4" male NPT	inch	2 1/8	2 21/32	1 17/64	7/8	15/16	
			mm	54	67	32	22	24	
NEAOO10M6m*	6mm TUBE	6mm TUBE	inch	2 1/8	2 21/32	1 37/64	1 3/16	15/16	
			mm	54	67	40	30	24	

All dimensions could be considered as reference.

*D¹ and H¹ For valves with panel mounting.

*Please for Insert the other Part Number(Material, Seat Material, etc.) see page 1

Instrument Ball Valve Introduction

Pars Regulator is one of the World's Leading Manufacturers of Instrumentation Valves and Manifolds.

Selection can be made from a comprehensive range of bodies with a variety of connections and material options, optimizing installation and access opportunities. Many of the valves shown in this catalogue are available from stock or within a short period of time. The dimensions shown in this catalogue apply to standard types. If you need the dimensions for your individual type please contact us.

Continuous product development may from time to time necessitate changes in the details contained in this catalogue. Pars Regulator reserves the right to make such changes at their discretion and without prior notice.

All dimensions shown in this catalogue are approximate and subject to change.

Features:

Bore Size:

The difference between a standard ball valve and a full-port ball valve is in the size of the ball and bore in relation to the nominal pipe size of the valve. For example, the bore size in a 3/4-inch full-port ball valve is 3/4-inch in diameter, while the bore diameter in a standard ball valve is 1/2-inch in diameter.

Ball sizes are in proportion to bore sizes. The 1/2-inch diameter is the nominal size of the next smaller pipe. This is typical. Full-port bore size equals pipe size; standard-port bore size is the next smaller pipe size.

Flow Coefficient

The flow coefficient is a measure of the resistance to flow of a given part of a fluid system. It is used to calculate the length of straight pipe equivalent to an elbow or valve or anything else that affects the flow. The flow coefficient for a full-port ball valve is almost as low as that of straight pipe so it provides

minimal resistance to flow and thus creates only a small pressure drop. The standard-port ball valve has a higher flow coefficient and thus causes a larger pressure drop for a given flow.

Main reference codes:

- National Association of Corrosion Engineers (NACE MR0175/ISO 15156-3) and MR0103
- ASME/ANSI B1.20.1 General Pipe Threads
- ASME/ANSI B16.34 Valves Flanged, Threaded
- ASME/ANSI B16.11 Fittings/Socket Weld, etc.
- ASME/ANSI B31.3 Process Piping (except M Fluid Service)
- MSS SP-25 Standard Valve Markings
- MSS SP-82 Valve Pressure Testing Methods
- MSS SP-99 Instrument Valves

Seat Material:

- Soft seated
- METAL-TO-METAL SEAT: for high temperatures (larger than 250°C) or dirt/slurry service, Floating Ball Valves can be provided with a spring-energized seat, and hard facing on seat and ball contact surfaces (Tungsten or Chromium Carbide).

INSPECTION AND TESTING:

Every valve is subjected on routine base to different non-destructive testing, like the dye penetrant test on butt weld ends, on all hard faced and cladding areas. Non-destructive tests are also carried out on the critical areas as defined by ASME B16.34.

Optional examinations like:

Magnetic particples ✓ Hydrostatic test ✓ Air test

Personnel performing NDT are trained and qualified to EN 473/ ASNT-SNT-TC-1A.

Every valve is subject to a pressure test in accordance with the standard API 598 or BS 6755 Part.1.

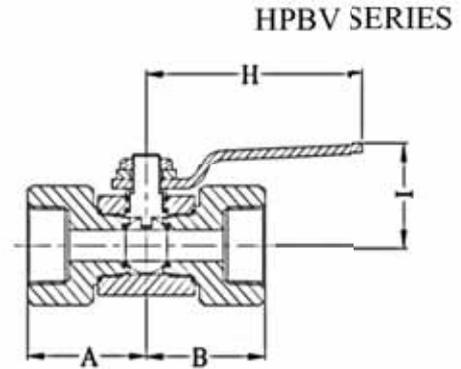
The rated pressure for the applicable pressure class is in accordance with ASME B16.34 and EN 12516-1/-2.

MARKING AND IDENTIFICATION

Each valve is identified on proper name plate and on valve body as required by MSS SP-25 and ASME B16.34. Name plate carries all information or rating, size, valve body and trim material, customer tags.

On body, marking includes material designations (per ASTM) and heat code and for course the trade mark.

**INSTRUMENTATION BALL VALVE
NPT F.F (FEMALE PIPE THREAD END CONNECTIONS)**



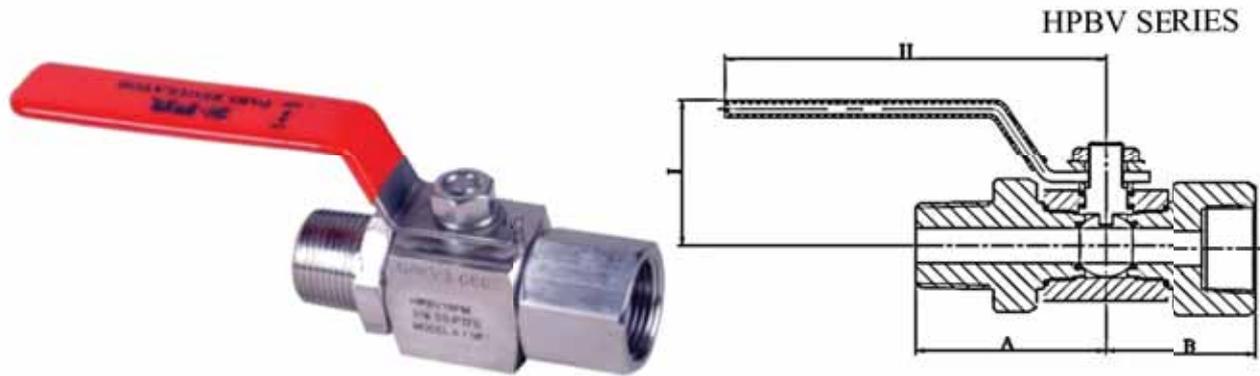
Part Number Pars Regulator	Max. Working Pressure	End Connection	Dimensions (mm)			
			A	B	I	H
BA1NN3M004*	3000Psi	1/4 Female NPT	46	46	43	105
BA1NN3M006*		3/8 Female NPT	46	46	43	105
BA1NN3M008*		1/2 Female NPT	46	46	43	105
BA1NN3M012*		3/4 Female NPT	46	46	43	105
BA1NN3M016*		1 Female NPT	59	59	54	155

Part Number Pars Regulator	Max. Working Pressure	End Connection	Dimensions (mm)			
			A	B	I	H
BA1NN6M004*	6000Psi	1/4 Female NPT	46	46	43	105
BA1NN6M006*		3/8 Female NPT	46	46	43	105
BA1NN6M008*		1/2 Female NPT	46	46	43	105
BA1NN6M012*		3/4 Female NPT	59	59	54	155
BA1NN6M016*		1 Female NPT	59	59	54	155

*All dimensions could be considered as reference.

*Please for Insert the other Part Number(Material, Seat Material, etc.) see page 1

INSTRUMENTATION BALL VALVE
NPT F.M(FEMALE& MALE PIPE THREAD END CONNECTIONS)



Part Number	Max. Working Pressure	End Connection	Dimensions (mm)			
			A	B	I	H
BA1NM3M004*	3000Psi	1/4 Female*Male NPT	46	46	42	105
BA1NM3M006*		3/8 Female*Male NPT	46	48	42	105
BA1NM3M008*		1/2 Female*Male NPT	46	48	42	105
BA1NM3M012*		3/4 Female*Male NPT	48	48	42	105
BA1NM3M016*		1 Female*Male NPT	59	59	54	155

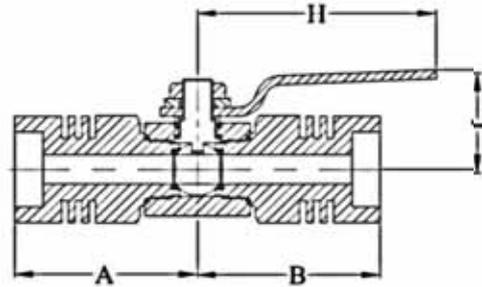
Part Number	Max. Working Pressure	End Connection	Dimensions (mm)			
			A	B	I	H
BA1NM6M004*	6000Psi	1/4 Female*Male NPT	46	46	43	105
BA1NM6M006*		3/8 Female*Male NPT	46	46	43	105
BA1NM6M008*		1/2 Female*Male NPT	46	46	43	105
BA1NM6M012*		3/4 Female*Male NPT	59	59	54	155
BA1NM6M016*		1 Female*Male NPT	59	59	54	155

*All dimensions could be considered as reference.

*Please for Insert the other Part Number(Material, Seat Material, etc.) see page 1

**INSTRUMENTATION BALL VALVE
SW(SOCKET WELD END CONNECTIONS)**

HPBV SERIES



Part Number Pars Regulator	Max. Working Pressure	End Connection	Dimensions (mm)			
			A	B	I	H
BA1CC3M004*	3000Psi	1/4 SW	62	62	43	105
BA1CC3M006*		3/8 SW	62	62	43	105
BA1CC3M008*		1/2 SW	62	62	43	105
BA1CC3M012*		3/4 SW	62	62	43	105
BA1CC3M016*		1 SW	79	79	54	155

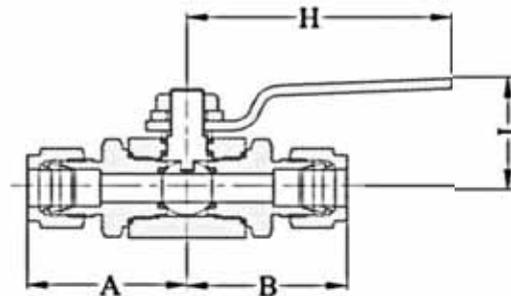
Part Number Pars Regulator	Max. Working Pressure	End Connection	Dimensions (mm)			
			A	B	I	H
BA1CC6M004*	6000Psi	1/4 SW	62	62	43	105
BA1CC6M006*		3/8 SW	62	62	43	105
BA1CC6M008*		1/2 SW	62	62	43	105
BA1CC6M012*		3/4 SW	79	79	54	155
BA1CC6M016*		1 SW	79	79	54	155

*All dimensions could be considered as reference.

*Please for Insert the other Part Number(Material, Seat Material, etc.) see page 1.

**INSTRUMENTATION BALL VALVE
OD (TUBE END CONNECTIONS)**

HPBV SERIES



Inst. Ball Valve

Part Number Pars Regulator	Max. Working Pressure	End Connection	Dimensions (mm)			
			A	B	I	H
BA1003M004*	3000Psi	1/4 OD	43	43	43	105
BA1003M006*		3/8 OD	45	45	43	105
BA1003M008*		1/2 OD	48	48	43	105
BA1003M012*		3/4 OD	50	50	43	105
BA1003M016*		1 OD	55	55	54	155
BA1003M096*		6 OD	43	43	43	105
BA1003M128*		8 OD	45	45	43	105
BA1003M160*		10 OD	48	48	43	105
BA1003M192*		12 OD	50	50	43	105

Part Number Pars Regulator	Max. Working Pressure	End Connection	Dimensions (mm)			
			A	B	I	H
BA1006M004*	6000Psi	1/4 OD	43	43	43	105
BA1006M006*		3/8 OD	45	45	43	105
BA1006M008*		1/2 OD	48	48	43	105
BA1006M012*		3/4 OD	50	50	54	155
BA1006M016*		1 OD	55	55	54	155
BA1006M096*		6 OD	43	43	43	105
BA1006M128*		8 OD	45	45	43	105
BA1006M160*		10 OD	48	48	43	105
BA1006M192*		12 OD	50	50	54	155

*All dimensions could be considered as reference.

*Please for Insert the other Part Number(Material, Seat Material, etc) see page 1

Introduction of Manifold

Pars Regulator manufactures offers a variety of 2-3 and 5 way valve instrument manifolds. The 2 valve manifolds are designed for static pressure and liquid level applications; 3 and 5 valve manifolds are designed for differential pressure applications.

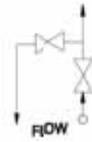
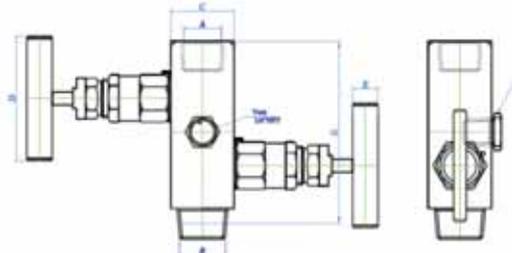
Inspection and Testing

Hydrostatic Proof Test=1.5×Max Working Pressure
(strength test body and gland seal)
Sealing Test Max= 1.1×Working Pressure

Valve Manifold	For 6000 psi Working Pressure	For 3000 psi Working Pressure
Max. pre. Rating	6000 psi (413 bar)	3000 psi (207 bar)
Hydrostatic pre. Test (Seat)	6600 psi (455 bar)	3300 psi (228 bar)
Hydrostatic pre. Test (body)	9000 psi (620 bar)	4500 psi (310 bar)
Temp rating	-55 to 200C	-55 to 200C

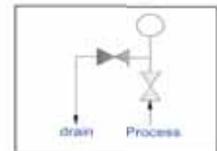
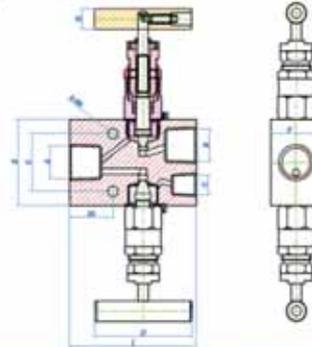


MANIFOLD NPT (PIPE THREAD END CONNECTIONS) Two Valve Manifold for gauge



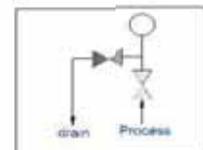
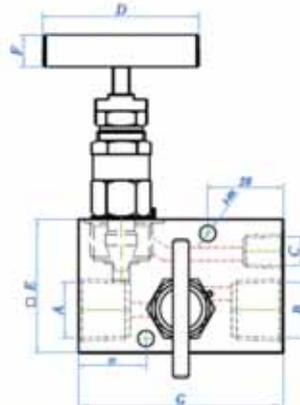
Part Number Pars Regulator	Max. Working Pressure	End Connection		Dimensions						
		Inlet	Outlet	A	B	C	D	E	F	G
2VG2NS	3000Psi	1/4"NPT-Male inlet	1/4"NPT-Female outlet	1/4" NPT(F)	1/4"NPT (M)	SQ32×32	58(mm)	Ø13	Vent 1/4" NPT	89(mm)
2VG4NS		1/2"NPT-Male inlet	1/2"NPT-Female outlet	1/2" NPT(F)	1/2" NPT (M)	SQ32×33	58(mm)	Ø13	Vent 1/4" NPT	95(mm)
2VG2NS-F	6000Psi	1/4"NPT-Female outlet	1/4"NPT-Female outlet	1/4" NPT(F)	1/4"NPT (M)	SQ32×32	58(mm)	Ø13	Vent 1/4" NPT	85(mm)
2VG4NS-F		1/2"NPT-Female outlet	1/2"NPT-Female outlet	1/2" NPT(F)	1/2" NPT (M)	SQ32×33	58(mm)	Ø13	Vent 1/4" NPT	95(mm)

MANIFOLD Two Valve Manifold(Vertical Port Inlet)



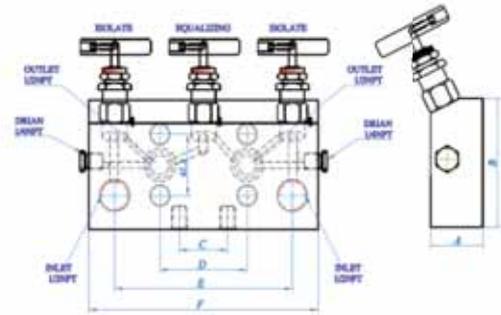
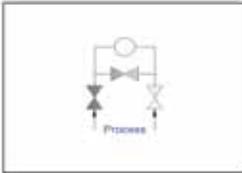
Part Number Pars Regulator	Max. Working Pressure	End Connection		Dimensions							
		Inlet	Outlet	A	B	C	D	E	F	G	H
LS2V	3000Psi 6000Psi	1/2" NPT Female inlet	1/2 NPT-Female	1/2" NPT (F)	1/2" NPT (F)	1/4" NPT (F)	58(mm)	50(mm)	32(mm)	33.5(mm)	Ø13

MANIFOLD Two Valve Manifold (for panel mounting)



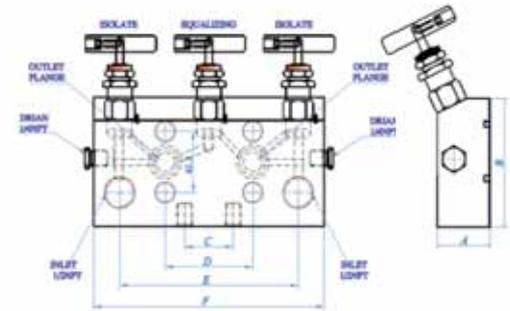
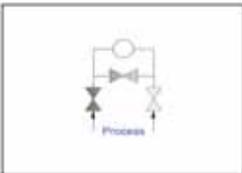
Part Number Pars Regulator	Max. Working Pressure	End Connection			Dimensions						
		Inlet	Outlet	Drain/Test	A	B	C	D	E	F	G
LS2H	3000Psi 6000Psi	1/2 NPT-Female	1/2 NPT-Female	1/4 NPT-Female	1/2"NPT (F)	1/2"NPT (F)	1/4"NPT (F)	58(mm)	50×32	Ø13	76(mm)

MANIFOLD 3Way Manifold



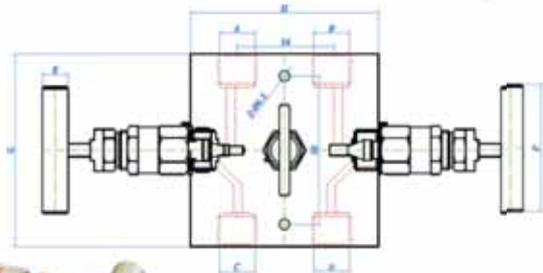
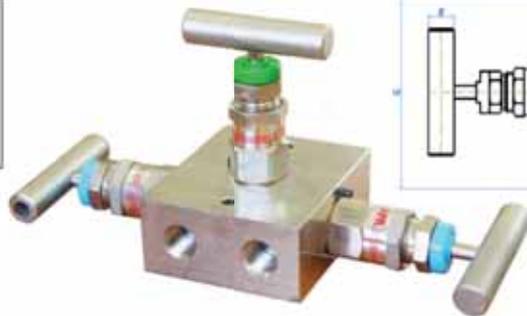
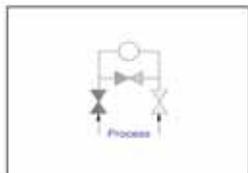
Part Number	Max. Working Pressure	End Connection		Dimensions					
		Inlet	Outlet	A	B	C	D	E	F
LS3	3000Psi 6000Psi	1/2" NPT Female Inlet	1/2" NPT Female Outlet	32(mm)	76(mm)	30(mm)	54(mm)	110(mm)	142(mm)

MANIFOLD 3 Way Manifold (for divert)



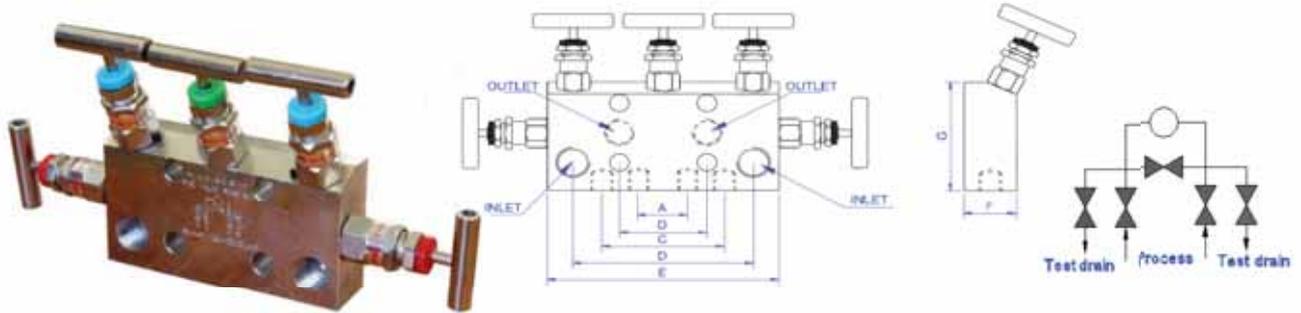
Part Number	Max. Working Pressure	End Connection		Dimensions					
		Inlet	Outlet	A	B	C	D	E	F
D53	3000Psi 6000Psi	1/2" NPT Female Inlet	Flange	32(mm)	76(mm)	30(mm)	54(mm)	110(mm)	142(mm)

MANIFOLD 3Way Manifold (for line remote installation)



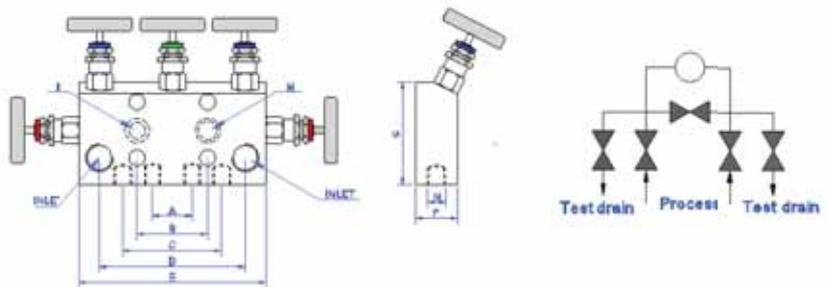
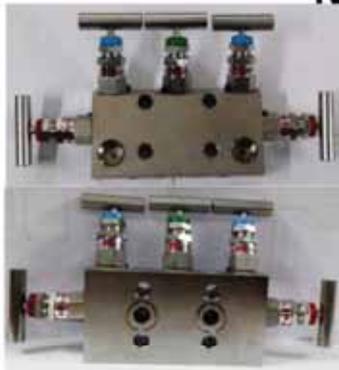
Part Number	Max. Working Pressure	End Connection		Dimensions							
		Inlet	Outlet	A	B	C	D	E	F	G	H
LS3H	3000Psi 6000Psi	1/2" NPT Female Inlet	1/2" NPT Female outlet	1/2"NPT (F)	1/2"NPT (F)	1/2"NPT (F)	1/2"NPT (F)	Ø13	58(mm)	76(mm)	86(mm)

MANIFOLD NPT (PIPE THREAD END CONNECTIONS)



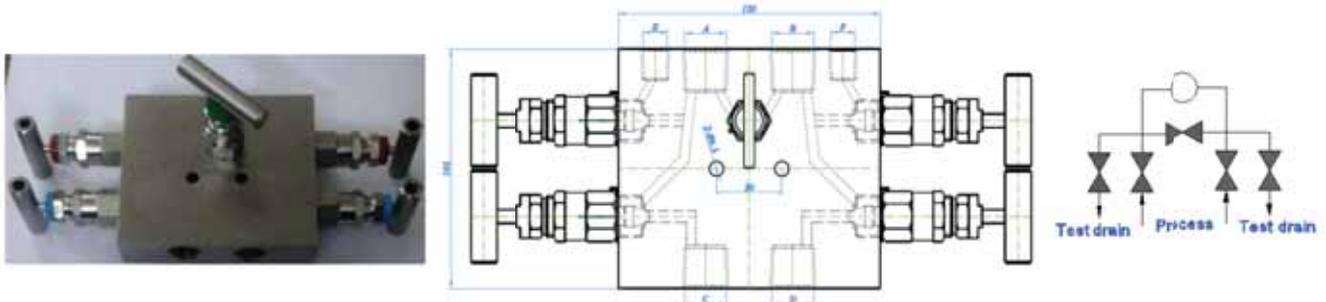
Part Number	Max. Working Pressure	End Connection		Dimensions							
		Inlet	Outlet	A	B	C	D	E	F	G	H
L55	3000Psi 6000Psi	1/2" NPT Female inlet	1/2" NPT Female	30(mm)	54(mm)	75(mm)	110(mm)	142(mm)	32(mm)	7(mm)	1/2" NPT Female

MANIFOLD NPT (PIPE Flange END CONNECTIONS)



Part Number	Max. Working Pressure	End Connection		Dimensions							
		Inlet	Outlet	A	B	C	D	E	F	G	H
D55	3000Psi 6000Psi	1/2" NPT Female inlet	Flanged	30(mm)	54(mm)	75(mm)	110(mm)	142(mm)	32(mm)	7(mm)	1/2" Flange

MANIFOLD 5Way Manifold (for line mounting)



Part Number	Max. Working Pressure	End Connection		Dimensions					
		Inlet	Outlet	A	B	C	D	E	F
L55H	3000 Psi 6000Psi	1/2" NPT Female inlet	1/2" NPT Female outlet	1/2"NPT (F)	1/2"NPT (F)	1/2"NPT (F)	1/2"NPT (F)	1/4"NPT (F)	1/4"NPT (F)

DOUBLE BLOCK & BLEED VALVE

The Double Block and Bleed Valve can perform the tasks of 3 separate valves (2 separate isolations and 1 drain valve) which apart from being hugely space saving can also save on weight and time due to installation and maintenance practices requiring much less work and the operator being able to locate and operate all 3 valves in one location. It has been customary for manifold systems and other process piping, where inter-contamination of products was undesirable, to position two valves back to back with a small bleed valve located between them. This is commonly referred to as a "Double Block and Bleed System" or "Block and Bleed Service". Using PTFE or Nylon as a seat material has permitted the substitution of a single valve for the two valves which made up the previous system. A bleed valve is required and is connected to the body cavity around the ball of the ball valve. A Double Block and Bleed application requires that both seats be tight and act as upstream seals when there is pressure on one or both sides of the valve, with the cavity around the ball being bleed to atmosphere by opening the body drain valve. Design Features a Special Block and Bleed seat design has been developed in valve size ½" through 2" inclusive, which will act as an upstream seat without impairing its ability to act also as a downstream seat.

Double Block and Bleed Concept

The increases activity in the offshore sector of the energy industry has led to additional factors that have to be taken into consideration when designing piping systems. Space in these modern locations is always at a premium and the design of piping systems and their associated components must therefore be more compact. There are structural constraints that are also very important, such as keeping the structure as light as possible, and there are obvious benefits from making components smaller and lighter. Construction site job is also very expensive and any reduction in installation manpower is also beneficial. The above situation has led to the modification of the patterns of valve components to incorporate saving in space, weigh, and labor costs where possible, while still retaining the original function of the valve. The greatest saving is to be seen in the reduction of leak to atmosphere because the potential leak points are minimized compared to the conventional design.

Process isolation philosophy has become more complex as safety issues have to be addressed and the requirement for double block and bleed isolation has become more commonly used. Double Block and Bleed isolation requires two in line isolation valve, used to drain or vent trapped fluid between the two closure elements.

Benefits of Block and Bleed Valves

Block and bleed valves are beneficial for preventing leakages or mixing of fluids with critical components. This makes it ideal for use in petrochemical environments where there is a need to handle and manage toxic waste and other dangerous chemicals. The interlocking provided in the valve allows easy venting of the liquids and provides considerable safety in high-risk environments. Furthermore, block and bleed valves are important for bringing operation and production costs to a minimum. The efficiency of the valves prevents the need for multivalve systems and ensures high project operational efficiency in a range of industries from LNG and petrochemical to natural gas processing.

Types of Block and bleed Valves

Different types of block and bleed valves offer different features. Block and bleed valves are also known as isolation valves or isolation manifolds. A manifold that features a number of valves is useful for using it in gas trains, as well as in various industrial contexts. Other types of block and bleed valves include the double block and bleed valves, three piece nonstandard length double block and bleed valves, block and bleed needle valves, single unit double block and bleed valves, and cartridge type length double block and bleed valves. The standard double block and bleed valves, for instance, are used for chemical injections under high pressure environments or for handling toxic fluid processes. Needle valves, on the other hand, are used in pneumatic and hydraulic systems.

Double Block & Bleed – Floating Type

The design of PR ball valves is based on the "Floating ball" principle which allows the ball to turn freely between the ball seals. A positive seal is attained by fluid pressure acting on the upstream surface of the ball and producing a constant uniform contact between the downstream ball seal and the ball. The ball is operated by a sealed spindle with a projecting square end to which the control handle or optional actuator is attached. Ball valves are intended to be used as on/off flow control devices and are not to be used to throttle fluid flow. The valves should always be either fully open or fully closed.

Example-1) : PR -DB-D11 - F 8 R1 N 8 - P -SS
1 3 4 5 3 4 6 7

Example-2) : PR -DB-D11 - FB - F 8 R3- P -SS
1 2 3 4 5 6 7

1.VALVE SERIES

SERIES IDENTIFY				1ts ISOLATE	2ts ISOLATE	VENT
SB	SINGLE BLOCK & BLEED VALVES	S1	1	BALL	-	NEEDLE
		S1	2	BALL	-	OS & Y
		S1	3	BALL	-	BAIL
		S2	1	OS & Y	-	OS & Y
		S2	2	OS & Y	-	NEEDLE
		S2	3	NEEDLE	-	NEEDLE
DB	DOUBLE BLOCK & BLEED VALVES	D1	1	BALL	BALL	NEEDLE
		D1	2	BALL	BALL	OS & Y
		D1	3	BALL	BALL	BAIL
		D1	4	BALL	NEEDLE	NEEDLE
		D1	5	BALL	BALL	-
		D1	6	BALL	NEEDLE	
		D2	1	OS & Y	OS & Y	OS & Y
		D2	2	OS & Y	OS & Y	NEEDLE
		D2	3	OS & Y	NEEDLE	NEEDLE
		D2	4	NEEDLE	NEEDLE	NEEDLE

DBBV

2. Bore size (mm)
 (STD) - 10mm (standard)
 15- 15mm
 RB- Reducer Bore
 FB- Full Bore

3. Connection type
 F- RAISED FACE FLANGE
 J- RING JOINT FLANGE
 N- FEMAIL NPT
 M- MALE NPT
 FF- FLAT FACE FLANGE
 BW- BUTT WELD
 SW- SOCKET WELD

4. Connection size(inch)
 4- 1/4" 16- 1"
 6- 3/8" 24- 1.1/2"
 8- 1/2" 32- 2"
 12- 3/4"

5. Flange rating (class)
 R1- 150 R4- 900
 R2- 300 R5- 1500
 R3- 600 R6- 2500

6. Ball seat material
 RP- R.PTFE
 P- PTFE

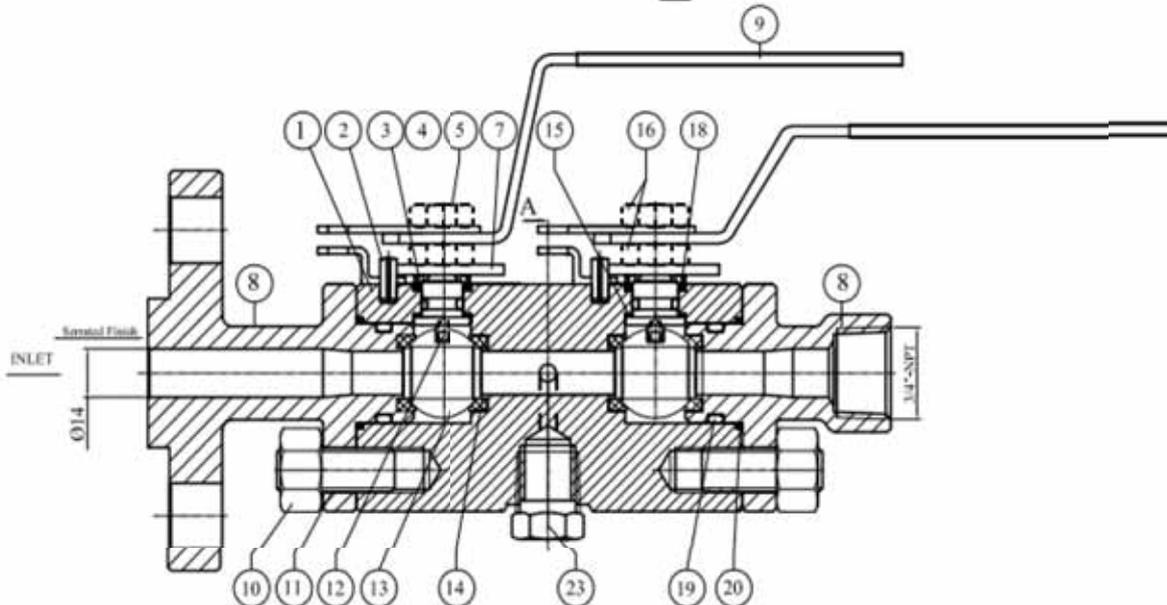
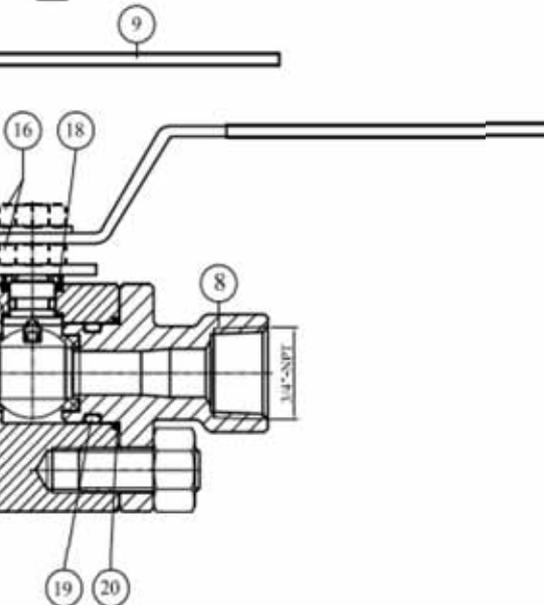
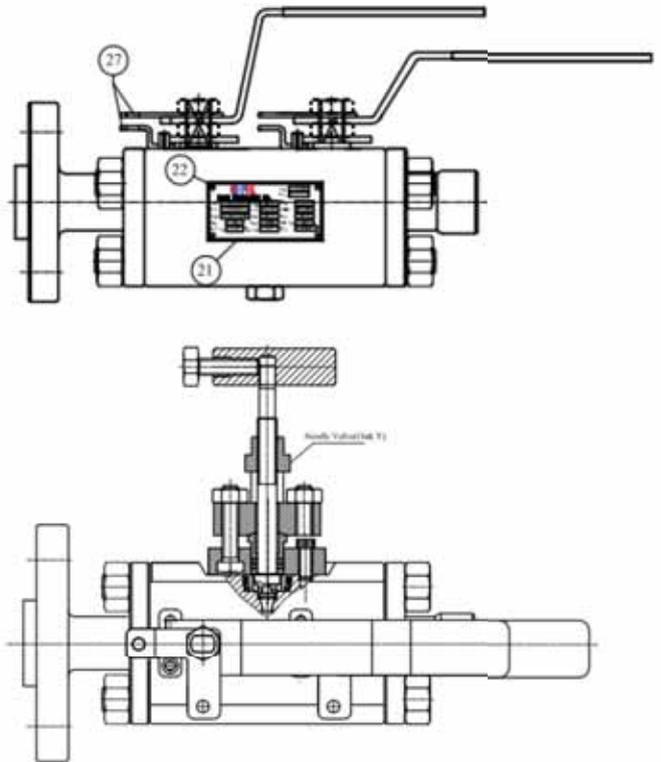
7. Body material
 SS- ASTM A182 GR 316L
 105- ASTM A105
 LF2- ASTM A350 LF2

- Reduced or full port
- Construction: B.B , OS & Y
- Socket Welding & Threaded ends
- Material for hard trim is Depend on Client notice & operating condition



Materials of

Row	PART NAME	Row	PART NAME
1	Body	14	Seat
2	Stopn Pin	15	Thrust Washer
3	Steam O-Ring	16	Stem Nut
4	Ring	18	Stem Gasket
5	Stem	19	Bonnet O-ring
7	Indicator	20	Body Gasket
8	Closure	21	Name Plate
9	Wrench	22	Pin
10	Body Nut	23	Hex Plug 1.4 npt
11	Body Stud Bolt	24	Needle Valve (Type 3)
12	Spring	27	Locking Device
13	Ball		

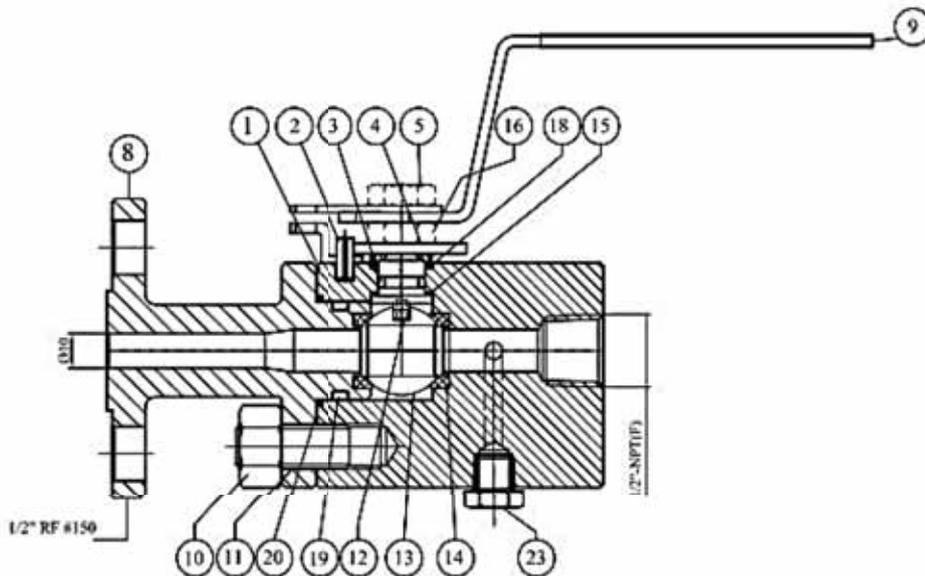
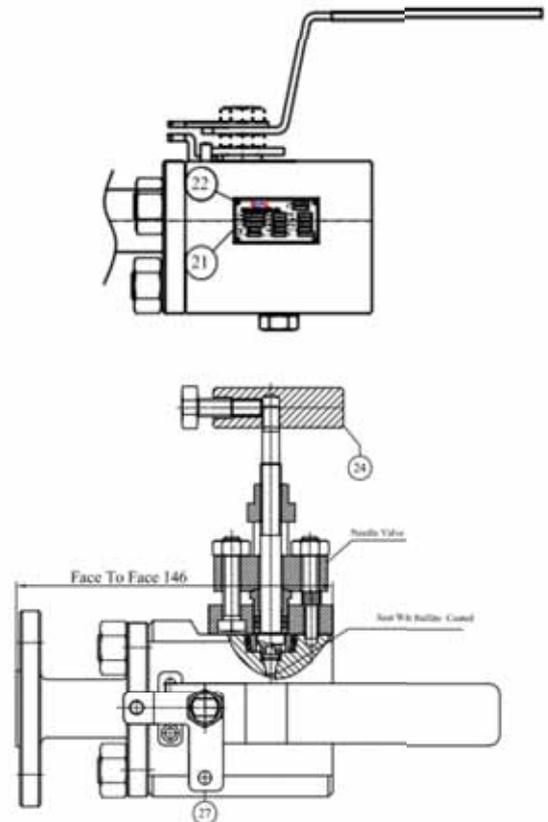


- Reduced or full port
- Construction :B.B , OS & Y
- Socket Welding & Threaded ends
- Material for hard trim is Depend on Client notice & oprating condition



Materials of Construction

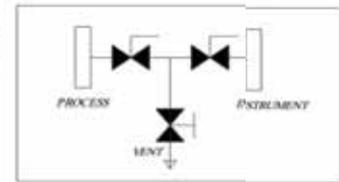
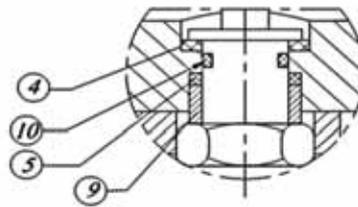
Row	PART NAME	Row	PART NAME
1	Body	14	Seat
2	Stopn Pin	15	Thrust Washer
3	Steam O-Ring	16	Stem Nut
4	Ring	18	Stem Gasket
5	Stem	19	Bcnnet O-ring
7	Indicator	20	Body Gasket
8	Closure	21	Name Plate
9	Wrench	22	Pin
10	Body Nut	23	Hex Plug 1.4 npt
11	Body Stud Bolt	24	Needle Valve (Type 3)
12	Spring	27	Locking Device
13	Ball		



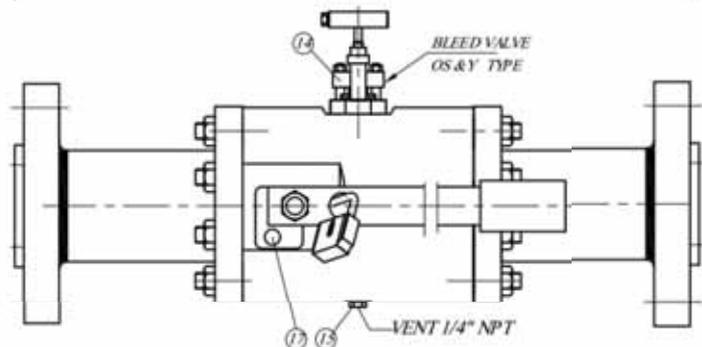
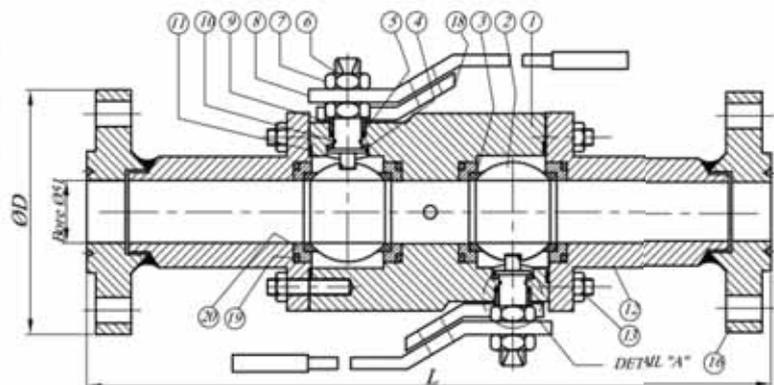
- ASME B 16.5
- FACE CONDITION 125-250 AARH
- WRENCH OPERATION
- BALL ARRANGEMENT: FLOATING
- ANTI-BLOWOUT BECAUSE OF BODY AND STEM CONDITION



BOM		
1	BODY	A105N
2	BALL	S.S316
3	SEAT	PTFE
4	THRUST BEARING	PTFE
5	STEM PACKING	PTFE
6	STEM	S.S316L
7	NUT	S.S304
8	HANDEL (STOPPER)	C.S
9	GLAND	S.S316L
10	O-RING	VITON
11	BODY SEAL	PTFE
12	BONNET	A105N
13	BOLT/NUT	A194-GR2HM/A193 GR.B7M
14	OS & Y	SEAT:17-4PH BONNET:A182 F316L SEAL: PTFE
15	PLUG	A105L
16	FLANGE	A105L
17	STOP PIN	S.S316L
18	LOCKING DEVICE	S.S
19	RETAINER SEAL	PTFE
20	SEAT RETAINER	S.S316L



DETAIL A



DBBV



PIPING VALVES

SMALL VALVES

PR PRODUCT Memos

- 1 Various types of valves are required in any piping system in order to regulate the fluid flow within that system.
- 2 Valves are installed on equipment/piping to perform any of the following functions,
 - Isolation
 - Regulation
 - Non-Return
 - Special Purpose

- 3 It is imperative that process piping engineer should be familiar with all types of valves and the advent of any new designs. Thorough knowledge of the operation, maintenance, and adjustment of valves is equally important since the success of the process plant and its total activity will depend on it.



Introduction

Forged steel Gate valves are mainly used for the pipelines on various systems of thermal power station, especially for non-corrosive mediums like water and steam with high temperature and high pressure. In service, these valves generally are either fully open or fully closed. When fully open, the fluid or gas flows through the valve in a straight line with very little resistance. Gate valves should not be used in the regulation or throttling of flow because accurate control is not possible. Furthermore, high-flow velocity in partially opened valves may cause erosion of the discs and seating surfaces. Vibration may also result in chattering of the partially opened valve disc. An exception to the above are specially designed gate valves that are used for low-velocity throttling; for example, guillotine gate valves for pulp stock.

Advantages of Gate Valves

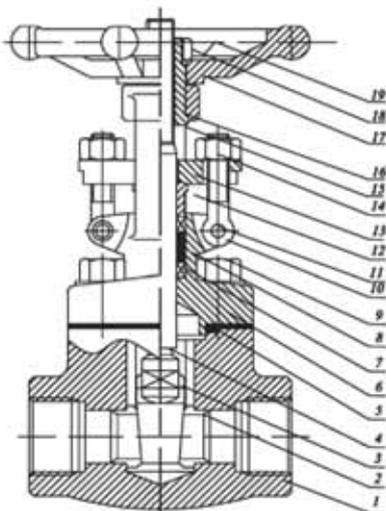
1. They have good shutoff characteristics.
2. They are bidirectional.
3. The pressure loss through the valve is minimal.

Type Wedge of Gate Valve

Four types of wedges: 1. solid 2. hollow 3. split 4. flexible wedge.

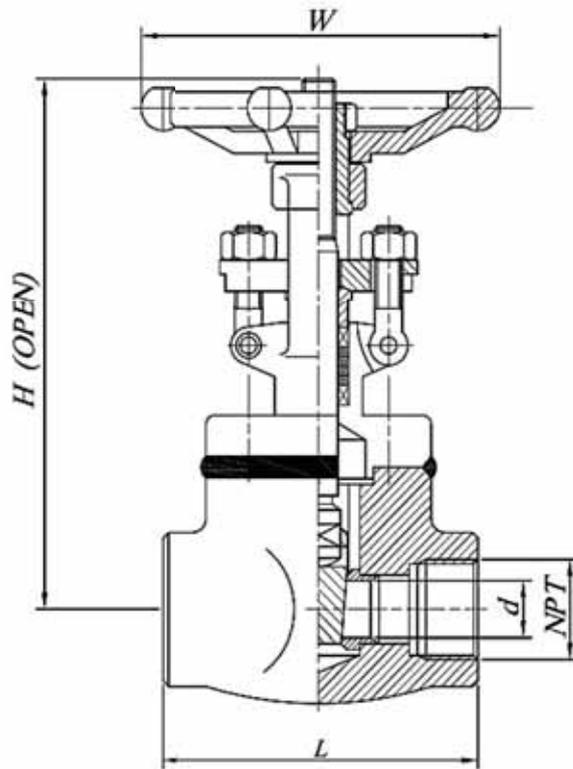
Features Solid wedge

- A single-piece solid construction
 - It is most susceptible to leakage
 - Generally used in moderate to lower pressure-temperature applications
 - the disc cannot be jammed into the body, an action that might make it difficult to open the valve. This is particularly important where motors are used for opening and closing the valve.
 - It does not compensate for changes in seat alignment due to pipe end loads or thermal fluctuations.
 - Considered the most economical
- the body, an action that might make it difficult to open the valve. This is particularly important where motors are used for opening and closing the valve.
- It does not compensate for changes in seat alignment due to pipe end loads or thermal fluctuations.
 - Considered the most economical



No.	Component	Material/ASTM SPECIFICATION
1	Body	A105N
2	SEAT RING	ASTM A276-420
3	WEDGE	ASTM A182-F6a
4	STEM	ASTM A276-410
5	GASKET	S.S 304+Graphite
6	BONNET	A105N
7	PACKING	Fiber
8	BONNET BOLT	Graphite
9	GLAND BOLT (EYE BOLT)	ASTM A193-B7M
10	GLAND BOLT PIN	ASTM A193-B7M
11	GLAND	S.S 304 (ISO 8740)
12	GLAND FLANGE	ASTM A276-410
13	GLAND NUT	A105N
14	YOKE SLEEVE	ASTM A194-2HM
15	SLEEVE WASHER	CR.13
16	HANDWHEEL	AISI 1025
17	H/W NUT	Malleable Iron
18	NAMEPLATE	AISI 1025+Cr. Plated
19		S.S 304

GATE VALVE
 NPT (PIPE THREAD END CONNECTIONS)
 SW(SOCKET WELD END CONNECTIONS)



Features and Applications

W.B

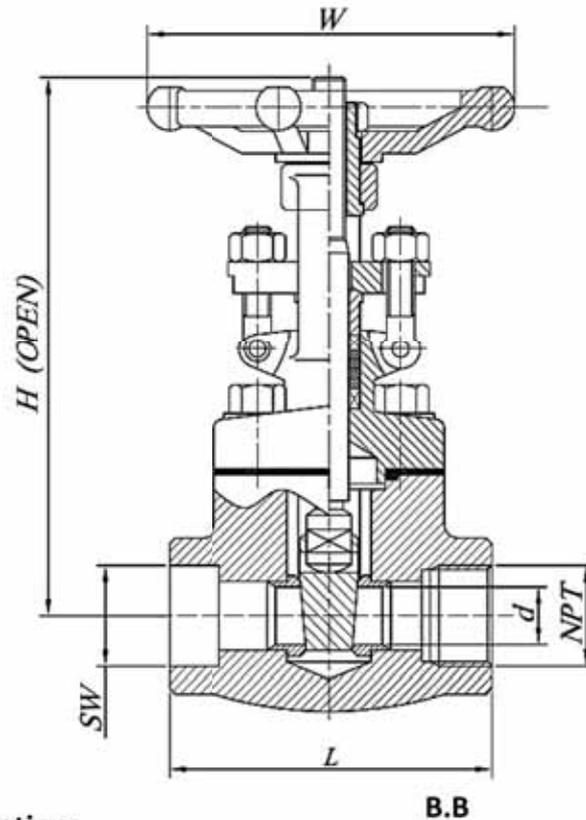
- Reduced or full port
- Construction :W.B (OS & Y)
- Gasket: Stainless Steel+graphite
- Socket Welding & Threaded ends
- Material for hard trim is Depend on Client notice & operating condition

- Design & manufacture: API 602 & ANSI B 16.34
- Socket welding dimension :ANSI B 16.11
- Screw end dimension :ANSI B1.20.1
- Inspect and test :API 598
- Body material:A105,LF2,F5,F11,F22,F304L,F316L
- All dimensions could be considered as reference.

Part Number		CLASS	Size		Dimension				Weight	
Pars Regulator			Reducer Bore	Full Bore	d	L	H(Open)	W	W.W	W.W
NPT	SW				mm	mm	mm	mm	Kg	
GAWNN4C*	GAWCC4C*	800	1/4"	-	7	79	166	100	2.5	-
GAWNN4C*	GAWCC4C*		3/8"	-	7	79	166	100	2.4	-
GAWNN4C*	GAWCC4C*		1/2"	3/8"	10	79	166	100	2.3	2.4
GAWNN4C*	GAWCC4C*		3/4"	1/2"	12.7	92	169	100	2.6	2.7
GAWNN4C*	GAWCC4C*		1"	3/4"	18	111	193	125	4.5	4.6
GAWNN4C*	GAWCC4C*		1 1/4"	1"	23	120	230	160	5.9	6.1
GAWNN4C*	GAWCC4C*		1 1/2"	1 1/4"	28.5	120	246	160	7.2	7.4
GAWNN4C*	GAWCC4C*		2"	1 1/2"	36	140	283	180	11.2	11.4
GAWNN4C*	GAWCC4C*		-	2"	43	170	332	200	18.8	19.1

*Please for Insert the other Part Number(Material, Seat Material, etc.) see page 1

GATE VALVE
NPT (PIPE THREAD END CONNECTIONS)
SW (SOCKET WELD END CONNECTIONS)



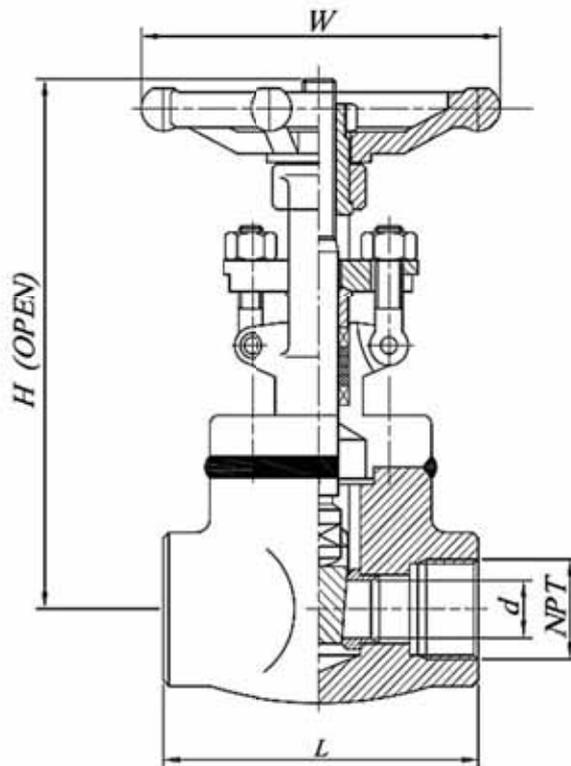
Features and Applications

- Reduced or full port
- Construction :B.B (OS & Y)
- Gasket: Stainless Steel+graphite
- Socket Welding & Threaded ends
- Material for hard trim is Depend on Client notice & operating condition
- B.B : BOLTED BONNET
- Design & manufacture: API 602 & ANSI B 16.34
- Socket welding dimension :ANSI B 16.11
- Screw end dimension :ANSI B1.20.1
- Inspect and test :API 598
- Body material:A105,LF2,F5,F11,F22,F304L,F316L
- All dimensions could be considered as reference.

Part Number		CLASS	Size		Dimension				Weight	
Pars Regulator			Reducer Bore	Full Bore	d	L	H(Open)	B	W.B	B.B
NPT	SW				mm	mm	mm	mm	Kg	
GABNN4C*	GABCC4C*	800	1/4"	-	7	79	166	100	2.5	-
GABNN4C*	GABCC4C*		3/8"	-	7	79	166	100	2.4	-
GABNN4C*	GABCC4C*		1/2"	3/8"	10	79	166	100	2.3	2.4
GABNN4C*	GABCC4C*		3/4"	1/2"	12.7	92	169	100	2.6	2.7
GABNN4C*	GABCC4C*		1"	3/4"	18	111	193	125	4.5	4.6
GABNN4C*	GABCC4C*		1 1/4"	1"	23	120	230	160	5.9	6.1
GABNN4C*	GABCC4C*		1 1/2"	1 1/4"	28.5	120	246	160	7.2	7.4
GABNN4C*	GABCC4C*		2"	1 1/2"	36	140	283	180	11.2	11.4
GABNN4C*	GABCC4C*		-	2"	43	170	332	200	18.8	19.1

*Please for Insert the other Part Number(Material, Seat Material, etc.) see page 1

GATE VALVE
 NPT (PIPE THREAD END CONNECTIONS)
 SW(SOCKET WELD END CONNECTIONS)



Features and Applications

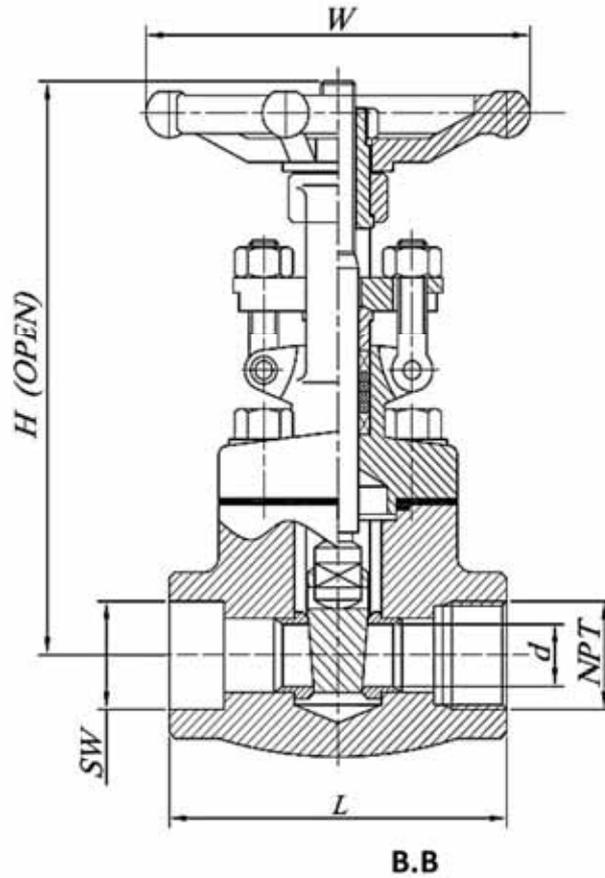
W.B

- Reduced or full port
- Construction :W.B(OS & Y)
- Gasket: Stainless Steel+graphite
- Socket Welding & Threaded ends
- Material for hard trim is Depend on Client notice & oeprating condition
- W.B : WELDED BONNET
- Design & manufacture: API 602 & ANSI B 16.34
- Socket welding dimension :ANSI B 16.11
- Screw end dimension :ANSI B1.20.1
- Inspect and test :API 598
- Body material:A105,LF2,F5,F11,F22,F304L,F316L
- All dimensions could be considered as reference.

Part Number		CLASS	Nominal Diameter	Dimension				Weight	
Pars Regulator				d	L	H(Open)	W	B.B	W.B
NPT	SW			mm	mm	mm	mm	Kg	
GAWNN5C*	GAWCC5C*	1500	3/8"	10	79	170	100	4.7	4.8
GAWNN5C*	GAWCC5C*		1/2"	12.7	92	193	100	4.7	4.8
GAWNN5C*	GAWCC5C*		3/4"	18	111	230	100	6.8	6.9
GAWNN5C*	GAWCC5C*		1"	23	120	246	125	9.0	9.2
GAWNN5C*	GAWCC5C*		1 1/4"	28.5	120	283	160	12.4	12.6
GAWNN5C*	GAWCC5C*		1 1/2"	36	140	325	160	17.5	17.7
GAWNN5C*	GAWCC5C*		2"	43	170	334	180	18.0	17.9

*Please for Insert the other Part Number(Material, Seat Material, etc.) see page 1

GATE VALVE
NPT (PIPE THREAD END CONNECTIONS)
SW(SOCKET WELD END CONNECTIONS)



Features and Applications

- Reduced or full port
- Construction :W.B (OS & Y)
- Gasket: Stainless Steel+graphite
- Socket Welding & Threaded ends
- Material for hard trim is Depend on Client notice & oeprating condition
- W.B : WELDED BONNET
- Design & manufacture: API 602 & ANSI B 16.34
- Socket welding dimension :ANSI B 16.11
- Screw end dimension :ANSI B1.20.1
- Inspect and test :API 598
- Body material:A105,LF2,F5,F11,F22,F304L,F316L
- All dimensions could be considered as reference.

Part Number		CLAS S	Nominal Diameter	Dimension				Weight	
Pars Regulator				d	L	H(Open)	W	B.β	W.B
NPT	SW			mm	mm	mm	mm	Kg	
GABNN5C*	GABCC5C*	1500	3/8"	10	79	170	100	4.7	4.8
GABNN5C*	GABCC5C*		1/2"	12.7	92	193	100	4.7	4.8
GABNN5C*	GABCC5C*		3/4"	18	111	230	100	6.8	6.9
GABNN5C*	GABCC5C*		1"	23	120	246	125	9.0	9.2
GABNN5C*	GABCC5C*		1 1/4"	28.5	120	283	160	12.4	12.6
GABNN5C*	GABCC5C*		1 1/2"	36	140	325	160	17.5	17.7
GABNN5C*	GABCC5C*		2"	43	170	334	180	18.0	17.9

*Please for Insert the other Part Number(Material, Seat Material, etc.) see page 1

Introduction

The globe valve is suitable for use on a wide variety of applications, from flow rate control to open/close operation. flow rate control is determined not by the size of the opening in the valve seat, but rather by the lift of the valve plug (the distance the valve plug is from the valve seat). Globe valves usually have rising stems, and the larger sizes are of the outside screw-and-yoke construction. Components of the globe valve are similar to those of the gate valve.

Maintenance of globe valves is relatively easy, as the discs and seats are readily refurbished or replaced. This makes globe valves particularly suitable for services which require frequent valve maintenance. Where valves are operated manually, the shorter disc travel offers advantages in saving operator time, especially if the valves are adjusted frequently. Generally, the maximum differential pressure across the valve disc should not exceed 20 percent of the maximum upstream pressure or 200 psi (1380 kPa), whichever is less.

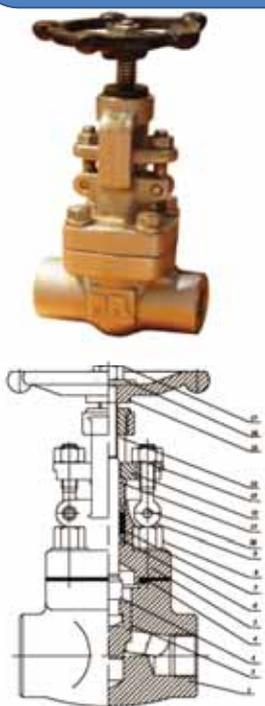
Features of Globe Valve

- Good shut-off capability
- Globe valves are extensively employed to control flow
- High-differential pressure-throttling service require specially designed valve trim.
- Moderate to good throttling capability
- Shorter stroke (compared to a gate valve)
- Available in tee, wye, and angle patterns, each offering unique capabilities
- Easy to machine or resurface the seats
- With disc not attached to the stem, valve can be used as a stop-check valve
- There is less risk of damage to the valve seat or valve plug by the fluid than with other types of manual valves
- Needle type globe valves are particularly well suited for flow rate control.

Typical Applications of Globe Valves

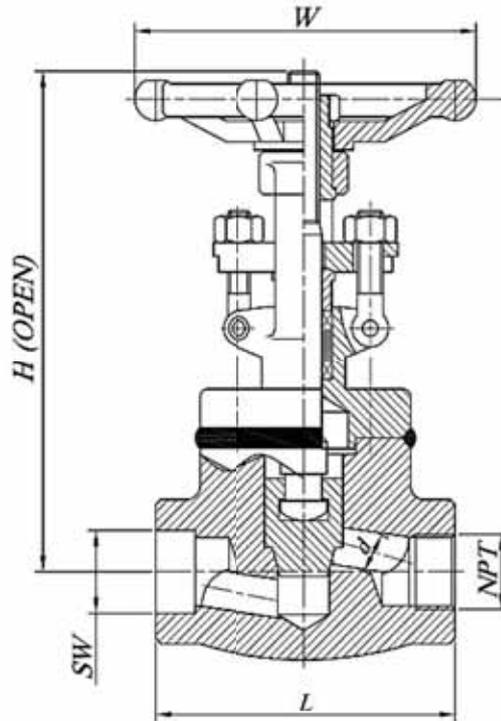
The following are some of the typical applications of globe valves:

- Cooling water systems where flow needs to be regulated
- Fuel oil system where flow is regulated and leak tightness is of importance
- High-point vents and low-point drains when leak tightness and safety are major considerations
- Feed water, chemical feed, condenser air extraction, and extraction drain systems
- Boiler vents and drains, main steam vents and drains, and heater drains
- Turbine seals and drains
- Turbine lube oil system and others.



No.	Component	Material/ASTM SPECIFICATION
1	Body	A105N
2	SEAT RING	ASTM A276-420
3	WEDGE	ASTM A182-F6a
4	STEM	ASTM A276-410
5	GASKET	S.S 304+Graphite
6	BONNET	A105N
7	PACKING	Fiber
8		Graphite
9	BONNET BOLT	ASTM A193-B7M
10	GLAND BOLT (EYE BOLT)	ASTM A193-B7M
11	GLAND BOLT PIN	S.S 304 (ISO 8740)
12	GLAND	ASTM A276-410
13	GLAND FLANGE	A105N
14	GLAND NUT	ASTM A194-2HM
15	YOKE SLEEVE	CR.13
16	SLEEVE WASHER	AISI 1025
17	HANDWHEEL	Malleable Iron
18	H/W NUT	AISI 1025+Cr. Plated
19	NAMEPLATE	S.S 304

GLOBE VALVE
NPT (PIPE THREAD END CONNECTIONS)
SW(SOCKET WELD END CONNECTIONS)



Features and Applications

W.B

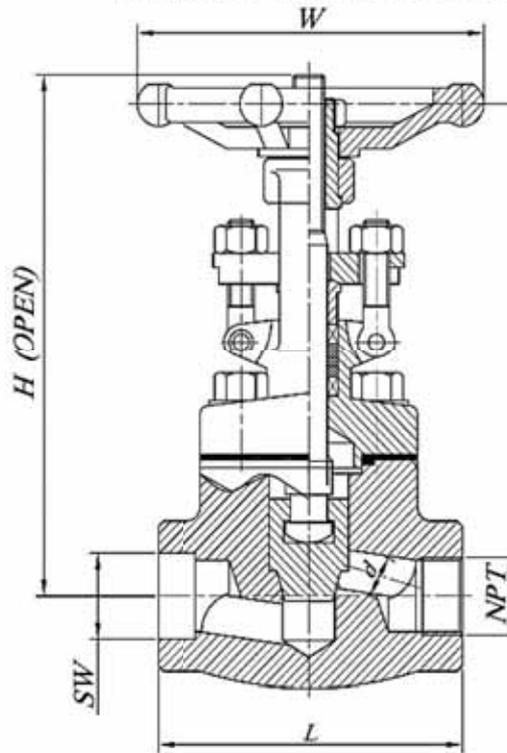
- Reduced or full port
 - Construction :W.B(OS & Y)
 - Gasket: Stainless Steel+graphite
 - Socket Welding & Threaded ends
 - Integral seat
 - Design & manufacture: API 602 & ANSI B 16.34
 - W.B : WELDED BONNET
- Socket welding dimension :ANSI B 16.11
 - Screw end dimension :ANSI B1.20.1 (NPT)
 - Inspect and test :API 598
 - Body material:A105,LF2,F5,F11,F22,F304L,F316L
 - All dimensions could be considered as reference.

Globe

Part Number		CLASS	Size		Dimension				Weight	
Pars Regulator			Reducer Bore	Full Bore	d	L	H(Open)	W	B.B	W.B
NPT	SW				mm	mm	mm	mm	Kg	
GOWNN4C*	GOWCC4C*	800	1/4"	-	8	79	166	100	2.6	-
GOWNN4C*	GOWCC4C*		3/8"	-	10	79	166	100	2.5	-
GOWNN4C*	GOWCC4C*		1/2"	3/8"	11	79	166	100	2.4	2.5
GOWNN4C*	GOWCC4C*		3/4"	1/2"	13	92	175	100	2.6	2.7
GOWNN4C*	GOWCC4C*		1"	3/4"	18	111	206	125	4.5	4.7
GOWNN4C*	GOWCC4C*		1 1/4"	1"	23	120	228	160	5.9	6.1
GOWNN4C*	GOWCC4C*		1 1/2"	1 1/4"	28.5	152	262	160	8.3	8.5
GOWNN4C*	GOWCC4C*		2"	1 1/2"	33	172	300	180	12.4	12.6
GOWNN4C*	GOWCC4C*		-	2"	43	220	340	240	20	20.4

*Please for Insert the other Part Number(Material, Seat Material, etc.) see page 1

GLOBE VALVE
NPT (PIPE THREAD END CONNECTIONS)
SW(SOCKET WELD END CONNECTIONS)



Features and Applications

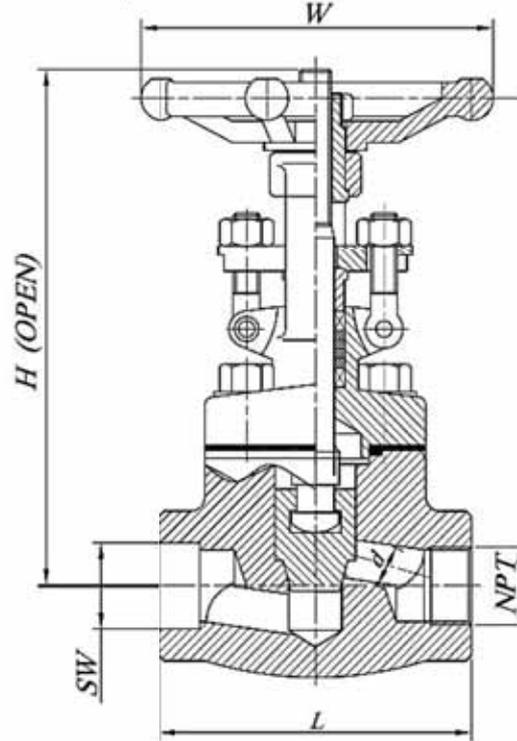
B.B

- Reduced or full port
- Construction :B.B (OS & Y)
- Gasket: Stainless Steel+graphite
- Socket Welding & Threaded ends
- Integral seat
- Design & manufacture: API 602 & ANSI B 16.34
- B.B : BOLTED BONNET
- Socket welding dimension :ANSI B 16.11
- Screw end dimension :ANSI B1.20.1 (NFT)
- Inspect and test :API 598
- Body material:A105,LF2,F5,F11,F22,F304L,F316L
- All dimensions could be considered as reference.

Part Number		CLASS	Size		Dimension				Weight	
Pars Regulator			Reducer Bore	Full Bore	d	L	H(Open)	W	B.B	W.B
NPT	SW				mm	mm	mm	mm	Kg	
GOBNN4C*	GOBCC4C*	800	1/4"	-	8	79	166	100	2.6	-
GOBNN4C*	GOBCC4C*		3/8"	-	10	79	166	100	2.5	-
GOBNN4C*	GOBCC4C*		1/2"	3/8"	11	79	166	100	2.4	2.5
GOBNN4C*	GOBCC4C*		3/4"	1/2"	13	92	175	100	2.6	2.7
GOBNN4C*	GOBCC4C*		1"	3/4"	18	111	206	125	4.5	4.7
GOBNN4C*	GOBCC4C*		1 1/4"	1"	23	120	228	160	5.9	6.1
GOBNN4C*	GOBCC4C*		1 1/2"	1 1/4"	28.5	152	262	160	8.3	8.5
GOBNN4C*	GOBCC4C*		2"	1 1/2"	33	172	300	180	12.4	12.6
GOBNN4C*	GOBCC4C*		-	2"	43	220	340	240	20	20.4

*Please for Insert the other Part Number(Material, Seat Material, etc.) see page 1

GLOBE VALVE
NPT (PIPE THREAD END CONNECTIONS)
SW(SOCKET WELD END CONNECTIONS)



Features and Applications

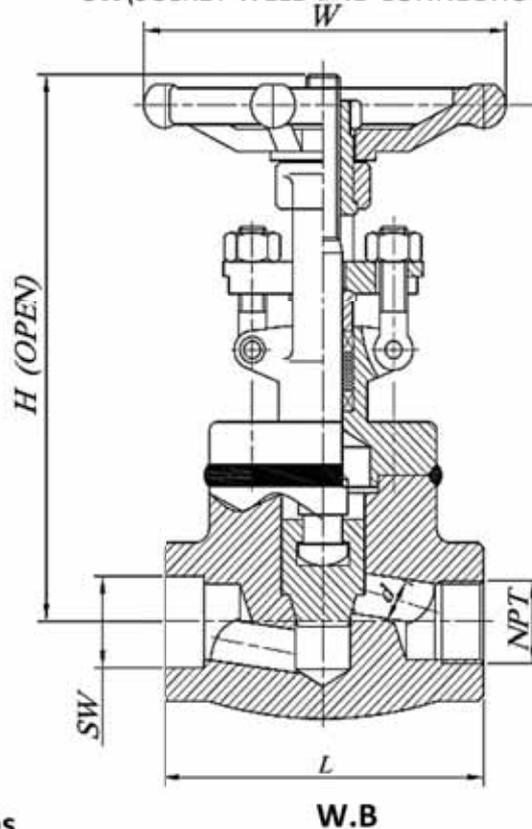
B.B

- Construction :B.B (OS & Y)
- Gasket: Stainless Steel+graphite
- Socket Welding & Threaded ends
- Integral seat
- Design & manufacture: API 602 & ANSI B 16.34
- B.B : BOLTED BONNET
- Socket welding dimension :ANSI B 16.11
- Screw end dimension :ANSI B1.20.1 (NPT)
- Inspect and test :API 598
- Body material:A105,LF2,F5,F11,F22,F304L,F316L
- All dimensions could be considered as reference.

Part Number		CLASS	Nominal Diameter	Dimension				Weight	
Pars Regulator				d	L	H(Open)	W	B.F	W.B
NPT	SW			mm	mm	mm	mm	Kg	
GOBNN5C*	GOBCC5C*	1500	3/8"	10	79	166	100	4.8	4.5
GOBNN5C*	GOBCC5C*		1/2"	13	92	170	100	4.7	4.1
GOBNN5C*	GOBCC5C*		3/4"	18	111	193	125	4.7	4.1
GOBNN5C*	GOBCC5C*		1"	23	120	230	160	6.3	6.7
GOBNN5C*	GOBCC5C*		1 1/4"	29	152	246	160	8.8	9.0
GOBNN5C*	GOBCC5C*		1 1/2"	33	172	283	180	12.4	12.1
GOBNN5C*	GOBCC5C*		2"	43	220	325	200	17.5	17

*Please for Insert the other Part Number(Material, Seat Material, etc.) see page 1

GLOBE VALVE
NPT (PIPE THREAD END CONNECTIONS)
SW(SOCKET WELD END CONNECTIONS)



Features and Applications

- Construction : W.B(OS & Y)
- Gasket: Stainless Steel+graphite
- Socket Welding & Threaded ends
- Integral seat
- Design & manufacture: API 602 & ANSI B 16.34
- W.B : WELDED BONNET
- Socket welding dimension :ANSI B 16.11
- Screw end dimension :ANSI B1.20.1 (NPT)
- Inspect and test :API 598
- Body material:A105,LF2,F5,F11,F22,F304L,F316L
- All dimensions could be considered as reference.

Globe

Part Number		CLASS	Nominal Diameter	Dimension				Weight	
Pars Regulator				d	L	H(Open)	W	BB	W.B
NPT	SW			mm	mm	mm	mm	Kg	
GOWNNSC*	GOWCCSC*	1500	3/8"	10	79	166	100	4.8	4.5
GOWNNSC*	GOWCCSC*		1/2"	13	92	170	100	4.7	4.1
GOWNNSC*	GOWCCSC*		3/4"	18	111	193	125	4.7	4.1
GOWNNSC*	GOWCCSC*		1"	23	120	230	160	6.3	6.7
GOWNNSC*	GOWCCSC*		1 1/4"	29	152	246	160	8.8	9.0
GOWNNSC*	GOWCCSC*		1 1/2"	33	172	283	180	11.4	12.1
GOWNNSC*	GOWCCSC*		2"	43	220	325	200	17.5	17

*Please for insert the other Part Number(Material, Seat Material, etc.) see page 1

Description

Check valves are designed to pass flow in one direction with minimum resistance and to prevent reverse or back flow with minimal leakage. The principal types of check valves used are the tee-pattern lift check, the swing check, the tilting-disc check, the Wye-pattern lift check, and the ball check. Check valves are available in sizes from NPS 1/4 (DN 8) through NPS 2 (DN 50). Other sizes may be made available to meet specific size requirements. Depending upon the design requirements of a piping system, a check valve may have butt welding, socket welding, threaded, or flanged ends. They are self-actuated and require no external means to actuate the valve either to open or close. They are fast acting.

Types of Check Valves

There are several types of check valves having varying body configurations. The following are some commonly used types of check valves:

1. Swing Check Valve

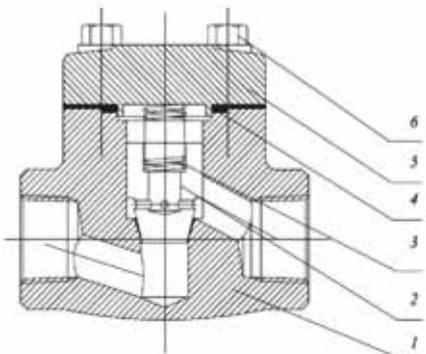
- The disc is unguided when it moves to fully open position or to fully closed position.
- Many different disc and seat designs are available to satisfy requirements of varying applications.
- Soft seated swing check valves provide improved leak tightness compared to metal to metal seating surfaces.
- Combination seats consisting of a metal seat ring with resilient insert also offer better leak tight characteristics.
- The seating angle, the angle between the seat and the vertical plane, may vary from 0 to 45 degrees. Vertical seats have a 0 angle. Larger seat angles reduce the disc travel, resulting in quick closing, thus minimizing the possibility of water hammer. Usually the seat angles are in the range of 5 to 7 degrees.

2. Lift Check Valve

- Adapted for high-pressure service where velocity of flow is high.
- The piston disc is accurately guided by long contact and a close sliding fit with the perfectly centered dash pot.
- The walls of the piston and dash pot are of approximately equal thickness.
- Large steam jackets are located outside of the dash pot and inside the piston to eliminate sticking because of differential expansion.

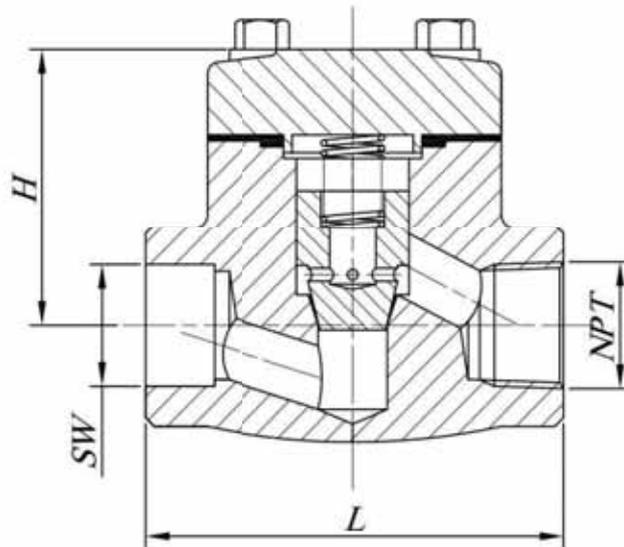
Application Considerations

- The flow velocity of the fluid through the valve has a significant effect on the life of the check valve.
- The valve should be sized such that the fluid velocity under normal conditions is sufficient to keep the disc fully open and pressed against the stop.
- A swing check valve may be used in the vertical run of a pipe only when the flow is upward.
- In addition, the flow velocity and the fluid pressure must be adequate to overcome the disc weight and swing it to the fully open position.
- A check valve should not be located immediately downstream of a source of turbulence, such as a pump, elbow, control valve, or a tee-branch connection.
- When the flow is suspected to be pulsating and low, use of a swing check valve is not recommended



No.	Component	Material/ASTM SPECIFICATION
1	Body	A105N
2	DISC	A276-419
3	SPRING	S.S 304
4	GASKET	S.S 304+Graphite
5	BONNET	A105N
6	BOLT	ASTM A193-B7M

CHECK VALVES
NPT (PIPE THREAD END CONNECTIONS)
SW(SOCKET WELD END CONNECTIONS)



Features and Applications

B.C

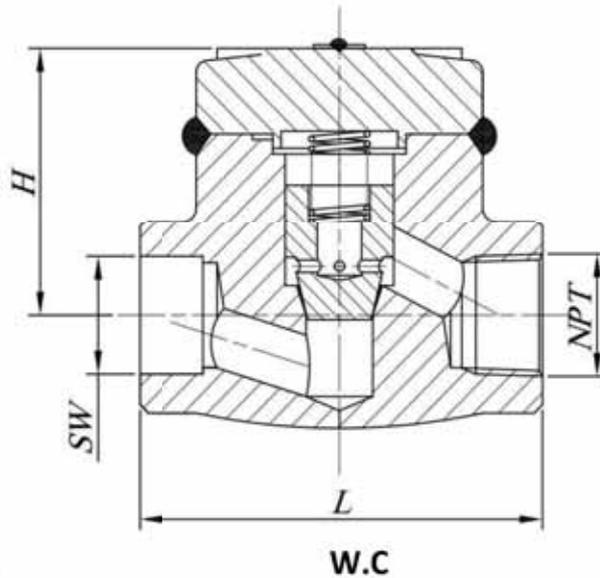
- Reduced or full port
- Construction :B.C (lift check valve)
- Gasket: Stainless Steel+graphite
- Socket Welding & threaded ends
- Integral seat
- Socket Welding dimension : ANSI B 16.11
- B.C : Bolted Cap
- Screw end dimension: ANSI B 1.20.1(NPT)
- Design & manufacture : ANSI B16.34,A^{PI} 602
- Inspect and test: API 598
- Body material: A105,LF2,F5,F11,F22,F304L,F316L
- All dimensions could be considered as reference.

Part Number		CLASS	Size		Dimension		
Pars Regulator			Reducer Bore	Full Bore	d	L	H
NPT	SW				mm	mm	mm
LCBNN4C*	LCBCC4C*	800	1/4"	-	7	79	62
LCBNN4C*	LCBCC4C*		3/8"	-	7	79	62
LCBNN4C*	LCBCC4C*		1/2"	3/8"	11	79	62
LCBNN4C*	LCBCC4C*		3/4"	1/2"	13	92	63
LCBNN4C*	LCBCC4C*		1"	3/4"	18	111	78
LCBNN4C*	LCBCC4C*		1 1/4"	1"	23	120	82
LCBNN4C*	LCBCC4C*		1 1/2"	1 1/4"	28	152	102
LCBNN4C*	LCBCC4C*		2"	1 1/2"	33	172	120
LCBNN4C*	LCBCC4C*		-	2"	42	220	147

* Please for insert the other Part Number (Material, Seat Material, etc.) see page 1

Check

CHECK VALVES
NPT (PIPE THREAD END CONNECTIONS)
SW(SOCKET WELD END CONNECTIONS)



Features and Applications

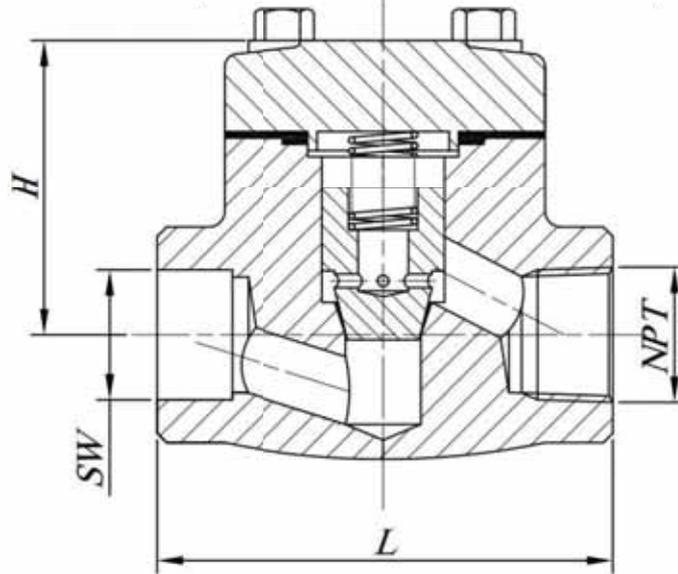
- Reduced or full port
- Construction :W.C (lift check valve)
- Gasket: Stainless Steel+graphite
- Socket Welding & threaded ends
- Integral seat
- Socket Welding dimension : ANSI B 16.11
- W.C : Welded Cap
- Screw end dimension: ANSI B 1.20.1(NPT)
- Design & manufacture : ANSI B16.34,API 602
- Inspect and test: API 598
- Body material: A105,LF2,F5,F11,F22,F304L,F316L

Part Number		CLASS	Size		Dimension		
Pars Regulator			Reducer Bore	Full Bore	d	L	H
NPT	SW				mm	mm	mm
LCWNN4C*	LCWCC4C*	800	1/4"	-	7	79	62
LCWNN4C*	LCWCC4C*		3/8"	-	7	79	62
LCWNN4C*	LCWCC4C*		1/2"	3/8"	11	79	62
LCWNN4C*	LCWCC4C*		3/4"	1/2"	13	92	63
LCWNN4C*	LCWCC4C*		1"	3/4"	18	111	78
LCWNN4C*	LCWCC4C*		1 1/4"	1"	23	120	82
LCWNN4C*	LCWCC4C*		1 1/2"	1 1/4"	28	152	102
LCWNN4C*	LCWCC4C*		2"	1 1/2"	33	172	120
LCWNN4C*	LCWCC4C*		-	2"	42	220	147

*Please for Insert the other Part Number(Material, Seat Material, etc.) see page 1

Check

CHECK VALVE
NPT (PIPE THREAD END CONNECTIONS)
SW(SOCKET WELD END CONNECTIONS)



Features and Applications

B.C

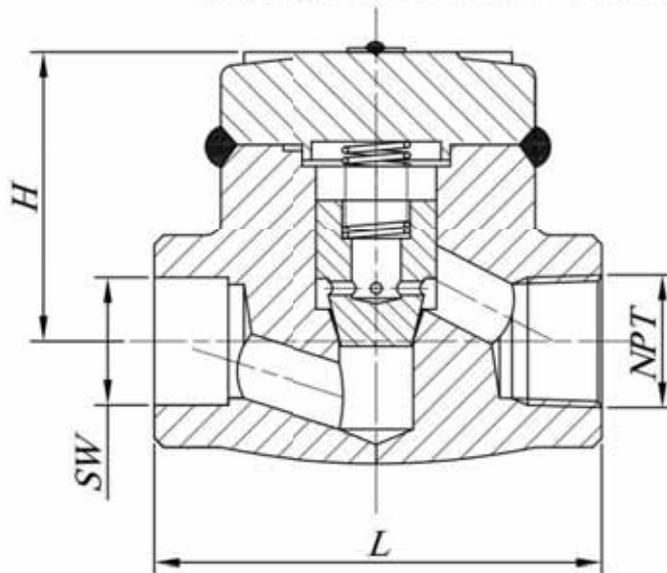
- Construction :B.C (lift check valve)
- Gasket: Stainless Steel+graphite
- Socket Welding & threaded ends
- Integral seat
- Socket Welding dimension : ANSI B 16.11
- Screw end dimension: ANSI B 1.20.1(NPT)
- Design & manufacture : ANSI B16.34,API 602
- Inspect and test: API 598
- Body material: A105,LF2,F5,F11,F22,F304L,F316L
- All dimensions could be considered as reference.

Part Number		CLASS	Nominal Diameter	Dimensions	
Pars Regulator				L	H
NPT	SW			mm	mm
LCBNN5C*	LCBCC5C*	1500	1/2"	92	63
LCBNN5C*	LCBCC5C*		3/4"	111	98
LCBNN5C*	LCBCC5C*		1"	120	104
LCBNN5C*	LCBCC5C*		1 1/4"	152	120
LCBNN5C*	LCBCC5C*		1 1/2"	172	140
LCBNN5C*	LCBCC5C*		2"	220	158

*Please for Insert the other Part Number(Material, Seat Material, etc.) see page 1

Check

CHECK VALVE
NPT (PIPE THREAD END CONNECTIONS)
SW(SOCKET WELD END CONNECTIONS)



Features and Applications

- Construction :W.C (lift check valve)
- Gasket: Stainless Steel+graphite
- Socket Welding & threaded ends
- Integral seat
- Socket Welding dimension : ANSI B 16.11
- W.C : Welded Cap

W.C

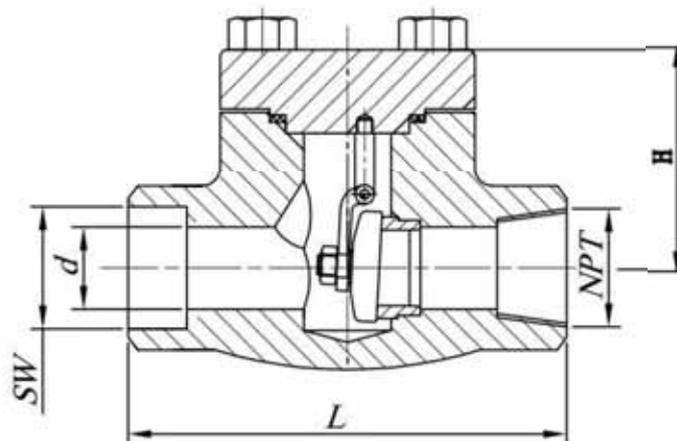
- Screw end dimension: ANSI B 1.20.1(NPT)
- Design & manufacture : ANSI B16.34,API 602
- Inspect and test: API 598
- Body material: A105,LF2,F5,F11,F22,F304L,F316L
- All dimensions could be considered as reference.

Part Number		CLASS	Nominal Diameter	Dimensions	
Pars Regulator				L	H
NPT	SW			mm	mm
LCWNN5C*	LCWCC5C*	1500	1/2"	92	63
LCWNN5C*	LCWCC5C*		3/4"	111	98
LCWNN5C*	LCWCC5C*		1"	120	104
LCWNN5C*	LCWCC5C*		1 1/4"	152	120
LCWNN5C*	LCWCC5C*		1 1/2"	172	140
LCWNN5C*	LCWCC5C*		2"	220	158

*Please for Insert the other Part Number(Material, Seat Material, etc.) see page 1

Check

SWING CHECK VALVE
NPT (PIPE THREAD END CONNECTIONS)
SW(SOCKET WELD END CONNECTIONS)



Features and Applications

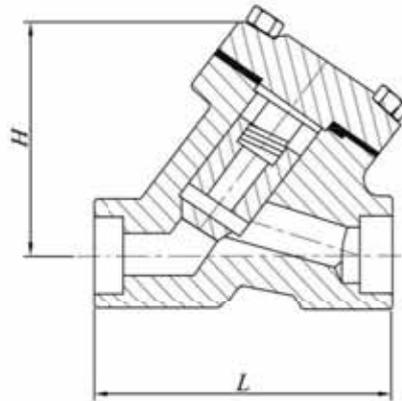
- Reduced or full port
- Construction :B.C swing check valve
- Gasket: Stainless Steel+graphite
- Socket Welding & threaded ends
- Replaceable hard-face seats
- Socket Welding dimension : ANSI B 16.11
- Screw end dimension: ANSI B 1.20.1(NPT)
- Design & manufacture : ANSI B16.34,API 602
- Inspect and test: API 598
- Body material: A105,LF2,F5,F11,F22,F304L,F316L
- All dimensions could be considered as reference.

Part Number		CLASS	Size		Dimension		
Pars Regulator			Reducer Port	Full Port	d	L	H
NPT	SW				mm	mm	mm
SC1NN4C*	SC1CC4C*	800	1/2"	3/8"	10	79	62
SC1NN4C*	SC1CC4C*		3/4"	1/2"	13	92	63
SC1NN4C*	SC1CC4C*		1"	3/4"	18	111	78
SC1NN4C*	SC1CC4C*		1 1/4"	1"	23	120	82
SC1NN4C*	SC1CC4C*		1 1/2"	1 1/4"	28.5	120	1102
SC1NN4C*	SC1CC4C*		2"	1 1/2"	36	140	120
SC1NN4C*	SC1CC4C*		-	2"	42	170	140

*Please for Insert the other Part Number(Material, Seat Material, etc.) see page 1

Check

Y-Type CHECK VALVE
NPT (PIPE THREAD END CONNECTIONS)



B.C

Features and Applications

- Reduced or full port
- Construction :B.C
- Ytype lift check valve with spring & piston
- Gasket: Stainless Steel+graphite
- Socket Welding & threaded ends
- Integral seat
- Socket Welding dimension : ANSI B 16.11
- B.C : Bolted Cap

- Screw end dimension: ANSI B 1.20.1(NPT)
- Design & manufacture : ANSI B16.34,API 602
- Inspect and test: API 598
- Body material: A105,LF2,F5,F11,F22,F304L,F316L
- All dimensions could be considered as reference.

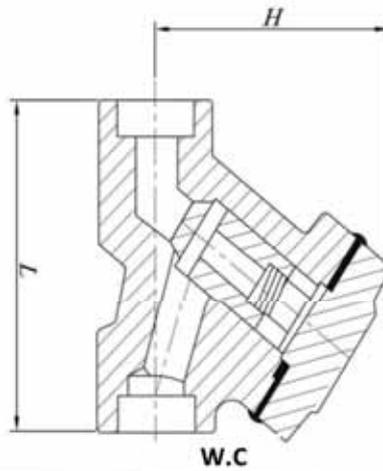
Part Number		CLASS	Nominal Diameter	Dimensions	
Pars Regulator				L	H
NPT	SW			mm	mm
YCBNN4C*	YCBCC4C*	800	3/8"	98	84
YCBNN4C*	YCBCC4C*		1/2"	98	84
YCBNN4C*	YCBCC4C*		3/4"	98	84
YCBNN4C*	YCBCC4C*		1"	120	102
YCBNN4C*	YCBCC4C*		1 1/4"	140	114
YCBNN4C*	YCBCC4C*		1 1/2"	140	115
YCBNN4C*	YCBCC4C*		2"	170	145

Part Number		CLASS	Nominal Diameter	Dimensions	
Pars Regulator				L	H
NPT	SW			mm	mm
YCBNN5C*	YCBCC5C*	1500	3/8"	120	90
YCBNN5C*	YCBCC5C*		1/2"	120	90
YCBNN5C*	YCBCC5C*		3/4"	120	101
YCBNN5C*	YCBCC5C*		1"	140	125
YCBNN5C*	YCBCC5C*		1 1/4"	140	132
YCBNN5C*	YCBCC5C*		1 1/2"	170	143
YCBNN5C*	YCBCC5C*		2"	220	203

*Please for insert the other Part Number(Material, Seat Material, etc.) see page 1

Check

Y.Type CHECK VALVE
NPT (PIPE THREAD END CONNECTIONS)
SW(SOCKET WELD END CONNECTIONS)



Features and Applications

- Reduced or full port
- Construction : W.C
- Ytype lift check valve with spring & piston
- Gasket: Stainless Steel+graphite
- Socket Welding & threaded ends
- Integral seat
- Socket Welding dimension : ANSI B 16.11
- Screw end dimension: ANSI B 1.20.1(NPT)
- Design & manufacture : ANSI B16.34,API 602
- Inspect and test: API 598
- Body material: A105,LF2,F5,F11,F22,F304L,F316L

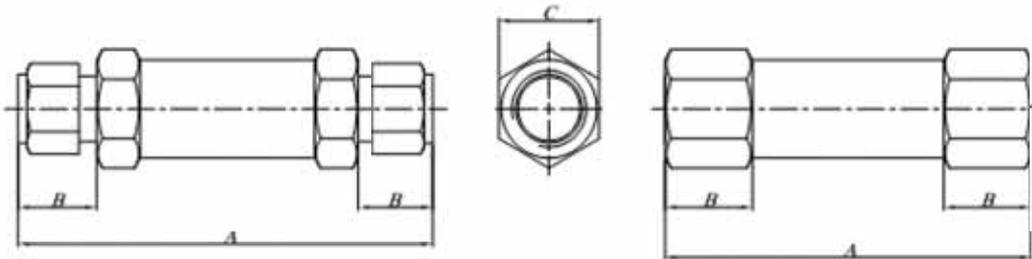
Part Number		CLASS	Nominal Diameter	Dimensions	
Pars Regulator				L	H
NPT	SW			mm	mm
YCWNN4C*	YCWCC4C*	800	3/8"	98	84
YCWNN4C*	YCWCC4C*		1/2"	98	84
YCWNN4C*	YCWCC4C*		3/4"	98	84
YCWNN4C*	YCWCC4C*		1"	120	102
YCWNN4C*	YCWCC4C*		1 1/4"	140	114
YCWNN4C*	YCWCC4C*		1 1/2"	140	115
YCWNN4C*	YCWCC4C*		2"	170	145

Part Number		CLASS	Nominal Diameter	Dimensions	
Pars Regulator				L	H
NPT	SW			mm	mm
YCWNN5C*	YCWCC5C*	1500	3/8"	120	90
YCWNN5C*	YCWCC5C*		1/2"	120	90
YCWNN5C*	YCWCC5C*		3/4"	120	101
YCWNN5C*	YCWCC5C*		1"	140	125
YCWNN5C*	YCWCC5C*		1 1/4"	140	132
YCWNN5C*	YCWCC5C*		1 1/2"	170	143
YCWNN5C*	YCWCC5C*		2"	220	203

*Please for insert the other Part Number(Material, Seat Material, etc.) see page 1

Check

CHECK VALVE
NPT (PIPE THREAD END CONNECTIONS)
OD (TUBE END CONNECTIONS)



Part Number Pars Regulator	CLASS	End Connection		Dimensions (mm)		
		Inlet	Outlet	A	B	C
CV01S2FF	6000	1/8" NPT female	1/8" NPT female	55	14	17
CV01S4FF		1/4" NPT female	1/4" NPT female	62	16	22
CV01S6FF		3/8" NPT female	3/8" NPT female	72	20	24
CV01S8FF		1/2" NPT female	1/2" NPT female	80	23	28
CV01S12FF		3/4" NPT female	3/4" NPT female	85	22	41
CV01S16FF		1" NPT female	1" NPT female	97	23	45
CV01S2OD		1/8" O.D.	1/8" O.D.	65	15.5	17
CV01S4OD		1/4" O.D.	1/4" O.D.	73	17.5	20
CV01S6OD		3/8" O.D.	3/8" O.D.	80	19.5	24
CV01S8OD		1/2" O.D.	1/2" O.D.	90	22	28
CV01SM6OD		6mm O.D.	6mm O.D.	73	17.5	20
CV01SM12OD		12MM O.D.	12MM O.D.	90	22	28

All dimensions could be considered as reference.



Check valve		
Component	Valve material	Grade/ASTM Specification
1	inlet Body	316 ss/A276
2	ou:let Body	316 ss/A276
3	Disk	316 ss
4	Spring	302 ss/A313
5	O-Ring	Viton

Check

Introduction

The ball valve is basically a plug valve with a spherical plug and a round hole. Over recent years the materials of construction of the ball valve have been developed such that the ball valve is becoming the most popular valve for most process applications. There are two primary options for the ball valve design

- ✓ Floating Ball Design- This is low cost option for the lower duties
- ✓ Trunnion Ball Design- This is a more costly option for the higher duties

The engineering of the ball valve has to include for fitting and removing the ball and seat system. Ideally this has to be engineered to enable the valve to be maintained inline.. One method of achieving this is to use the top-entry

version - all of the internals are accessible by removing the top flange. Another method is to use a three piece body based on a central piece sandwiched between two pieces connecting the valve to the pipework. The central piece can be released and pivoted away from the two outer pieces allowing access to all of the valve components.

The ball valve can be engineered as a multi-port valve for flow diverting duties. An important advantage of all full bore valves is that the valve allows certain pipe cleaning operations e.g rodding . Ball valves can also be used on branches to enable instruments to be fed into pipe systems during perating periods.

Features:

- Provides positive shut-off of fluids and gases under extreme service conditions
- Forging material has increased strength under maximum rated operation pressure compared with cast
- When Forging material properties include great impact resistance, resistance to fatigue cracking, particularly when cycling a tether high or cryogenic temperature.
- A positive seal is attained by fluid pressure acting on the upstream surface of the ball and producing a constant uniform contact between the downstream ball seal and the ball.
- Floating ball valves can be manual operated (lever depending on valve size)
- Blowout-proof stem
- Swing-away body for maintenance ease
- Choice of threaded ends:
 - Rc threads to BS 21
 - NPT threads to ASME B1.20.1
 - Socket welding ends to BS 5351
 - Socket welding ends to ASME B16.11 (Fig. AWSC3TZF)

Main reference codes:

- Standard design in accordance with API 6D and ISO 17292/BS 5351.
- Antistatic design as per API 6D and ISO 17292
- Valve ends can be flanged (RF, FF, MF or RTG) according to ASME B16.5, Socket Welding, Butt-Welding, Female & Male Threaded etc.
- Fire Safe according to BS 6755/ API 6FA/ API 607, Since each sealing point is provided by a secondary fire-safe seal in graphite. Valve soft seats also are provided with secondary metal-to-metal seal in case of fire.)

Seat Material:

- Soft seated
- METAL-TO-METAL SEAT: for high temperatures (larger than 250°C) or dirt/slurry service, Floating Ball Valves can be provided with a spring-energized seat, and hard facing on seat and ball contact surfaces (Tungsten or Chromium Carbide).

INSPECTION AND TESTING:

Every valve is subjected on routine base to different non-destructive testing, like the dye penetrant test on butt weld ends, on all hard faced and cladding areas. Non-destructive tests are also carried out on the critical areas as defined by ASME B16.34.

Optional examinations like:

- ✓ Magnetic particples ✓ Hydrostatic test ✓ Air test

Personnel performing NDT are trained and qualified to EN 473/ ASNT-SNT-TC-1A.

Every valve is subject to a pressure test in accordance with the standard API 598 or BS 6755 Part.1.

The rated pressure for the applicable pressure class is in accordance with ASME B16.34 and EN 12516-1/-2.

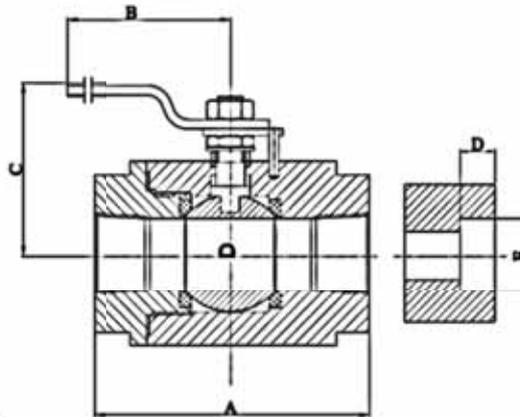
MARKING AND IDENTIFICATION

Each valve is identified on proper name plate and on valve body as required by MSS SP-25 and ASME B16.34. Name plate carries all information or rating, size, valve body and trim material, customer tags.

On body, marking includes material designations (per ASTM) and heat code and for course the trade mark.

PIPING TWO PIECES FORGED BALL VALVE

NPT (PIPE THREAD END CONNECTIONS) , SW(SOCKET WELD END CONNECTIONS)



Features and Applications

- Socket Welding & threaded ends
- Socket welding dimension :ANSI B 16.11
- Screw end dimension: ANSI B 1.20.1(NPT)
- Design & manufacture : ANSI B 16.34
- Inspect and test: API 598
- Body material: A105,F304L,F316L
- For service at temperatures -29°C and lower, materials shall be specified by the purchaser.
- all dimensions shown are for reference and subject to change without prior notice.

Part Number	CLASS	Size		Dimension							
				End to End		Lever		Center to Top		Ball Bore	
				A		B		C		D	
Pars Regulator	Reducer Bore	Full Bore	mm	in	mm	in	mm	in	mm	in	
BA2NN8C*	800	-	1/4"	75	2.95	155	6.1	74	2.91	10	0.39
BA2NN8C*		1/2"	3/8"	75	2.95	155	6.1	74	2.91	10	0.39
BA2NN8C*		3/4"	1/2"	87	3.42	155	6.1	76	2.99	14	0.55
BA2NN8C*		1"	3/4"	105	4.13	170	6.69	98	3.86	19	0.75
BA2NN8C*		1 1/4"	1"	120	4.72	170	6.69	100	3.94	25	0.98
BA2NN8C*		1 1/2"	1 1/4"	130	5.11	230	9.05	120	4.72	32.5	1.29
BA2NN8C*		2"	1 1/2"	140	5.51	230	9.05	124	4.88	38	1.5
BA2NN8C*		-	2"	170	6.69	310	12.2	150	5.9	51	2

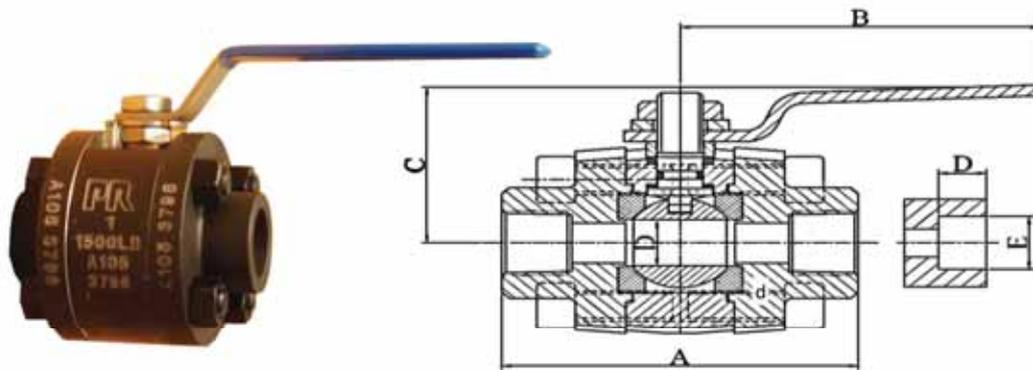
Part Number	CLASS	Size		Dimension							
				End to End		Lever		Center to Top		Ball Bore	
				A		B		C		D	
Pars Regulator	Reducer Bore	Full Bore	mm	in	mm	in	mm	in	mm	in	
BA2NN5C*	1500	-	1/4"	80	3.15	155	6.1	76	2.99	10	0.39
BA2NN5C*		1/2"	3/8"	80	3.15	155	6.1	76	2.99	10	0.39
BA2NN5C*		3/4"	1/2"	85	3.34	170	6.69	91	3.58	14	0.55
BA2NN5C*		1"	3/4"	110	4.33	170	6.69	96	3.86	19	0.75
BA2NN5C*		1 1/4"	1"	120	4.75	230	9.05	119	4.68	25	0.98
BA2NN5C*		1 1/2"	1 1/4"	140	5.51	230	9.05	124	4.88	32.5	1.29
BA2NN5C*		2"	1 1/2"	160	6.3	310	12.2	147	5.79	38	1.5
BA2NN5C*		-	2"	200	7.87	400	15.75	168	6.61	51	2

SOCKET WELD DIMENSION	6		10		15		20		25		32		40		50	
	1/4		3/8		1/2		3/4		1		1-1/4		1-1/2		2	
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
	11	0.44	11	0.44	12.7	0.5	14.5	0.57	16	0.63	19	0.75	22	0.86		
	14.2	0.555	17.6	0.69	21.8	0.855	27.02	1.067	33.9	1.33	42.7	1.675	48.3	1.915	61.2	2.4

*Please for Insert the other Part Number(Material, Seat Material, etc.) see page 1



PIPING THREE PIECES FORGED BALL VALVE



Features and Applications

- Socket Welding & threaded ends
- Socket welding dimension :ANSI B 16.11
- Screw end dimension: ANSI B 1.20.1(NPT)
- Design & manufacture : ANSI B 16.34
- Inspect and test: API 598
- Body material: A105,F304L,F316L
- For service at temperatures -29 °C and lower, materials shall be specified by the purchaser.

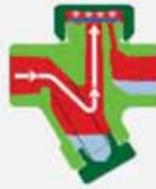
Part Number	CLAS	Size		Dimension							
				End to End		Lever		Center to Top		Ball Bore	
				A		B		C		D	
Pars Regulator	S	Reducer Bore	Full Bore	mm	in	mm	in	mm	in	mm	in
BA3NN8C*	800	-	1/4"	75	2.95	155	6.1	74	2.83	10	0.39
BA3NN8C*		1/2"	3/8"	75	2.95	155	6.1	74	2.83	10	0.39
BA3NN8C*		3/4"	1/2"	75	2.95	155	6.1	76	2.99	14	0.55
BA3NN8C*		1"	3/4"	87	3.42	155	6.1	98	3.86	19	0.75
BA3NN8C*		1 1/4"	1"	110	4.33	170	6.69	100	3.94	25	0.98
BA3NN8C*		1 1/2"	1 1/4"	120	4.72	230	9.05	120	4.72	32.5	1.29
BA3NN8C*		2"	1 1/2"	140	5.51	230	9.05	130	5.12	38	1.5
BA3NN8C*		-	2"	160	6.29	310	12.2	150	5.9	51	2

Part Number	CLASS	Size		Dimension							
				End to End		Lever		Center to Top		Ball Bore	
				A		B		C		D	
Pars Regulator		Reducer Bore	Full Bore	mm	in	mm	in	mm	in	mm	in
BA3NN5C*	1500	-	1/4"	75	2.95	155	6.1	76	2.99	10	0.39
BA3NN5C*		1/2"	3/8"	75	2.95	155	6.1	76	2.99	10	0.39
BA3NN5C*		3/4"	1/2"	87	3.42	170	6.69	91	3.58	14	0.55
BA3NN5C*		1"	3/4"	110	4.33	170	6.69	96	3.86	19	0.75
BA3NN5C*		1 1/4"	1"	120	4.75	230	9.05	119	4.68	25	0.98
BA3NN5C*		1 1/2"	1 1/4"	140	5.51	230	9.05	124	4.88	32.5	1.29
BA3NN5C*		2"	1 1/2"	160	6.3	310	12.2	147	5.79	38	1.5
BA3NN5C*		-	2"	200	7.87	400	15.75	168	6.61	51	2

SOCKET WELD DIMENSION	6		10		15		20		25		32		40		50	
	1/4		3/8		1/2		3/4		1		1-1/4		1-1/2		2	
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
	11	0.44	11	0.44	12.7	0.5	14.5	0.57	16	0.63	75.5	0.69	19	0.75	22	0.86
	14.2	0.555	17.6	0.69	21.8	0.855	27.02	1.067	33.9	1.33	42.7	1.675	48.8	1.915	61.2	2.4

*Please for Insert the other Part Number(Material, Seat Material, etc.) see page 1

Piping Ball Valve



STEAM TRAPS

Thermodynamics

PR PRODUCT Memos

1

The Thermo-Dynamic® disc trap is one of the most popular steam traps on the market today. The cost effective, compact design makes the TD ideal for drainage of steam mains, steam tracing lines and small process equipment where size, as well as efficient operation are important.

2

Discharge from the TD is close to steam temperature; therefore, the steam space is kept free from condensate. The tight shut-off the TD provides prevents valuable steam from being wasted. These factors combine to optimize the steam system efficiency.





Thermodynamic Steam Traps

Series 711/721 Disc Trap -UniBody (Thermodynamic)

The Series 711/721 Unibody Plus disc trap is designed for light load applications such as steam tracing, steam line drip, and turbine drain. These traps are fully renewable in-line, energy efficient and easy to check.

The 711 is a simple straightway body.

The 721 is a straightway body and has an integral wye strainer and blowoff valve.

Both bodies accept the same renewal capsules without removing the bodies from the line. The standard capsule performs best when applied in service up to 450 psig. The HP capsule has been designed for 150-650 psig service to handle



Ratings

Design: 600 psig, 750°F
Operating: 4 to 450 psig/750°F
[0.3 to 31 bar/400°C]

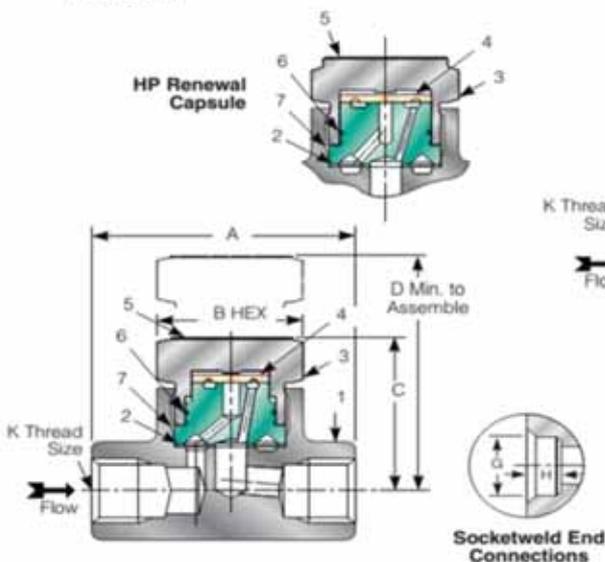
711HP/721HP only

Design: 650 psig, 750°F
Operating: 150 to 650 psig/750°F
[10.3 to 45 Bar/400°C]

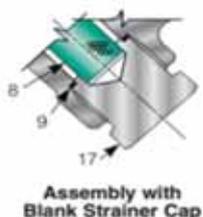
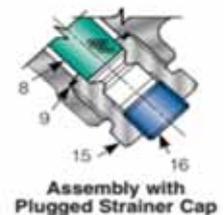
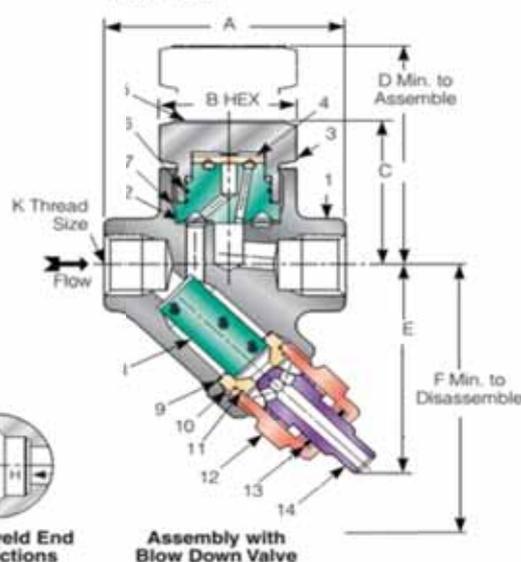
Applicable Codes and Standards

End connections per ANSI B1.20.1 for threaded ends, per

Series 711



Series 721



Series 711/721 Disc Trap -UniBody

item	Part	Material
1 ¹	Body	Carbon Steel A105
2 ²	Seat Gasket	Stainless Steel
3 ²	Bonnet	ASTM A-582 Type 416/ASTM A276 TYPE410 or 420/ ASTM A276 TYPE 403 OR EQU.
4 ²	Disc	Stainless Steel HT
5 ²	Name Plate	Stainless Steel
6 ²	Retaining ring	ASTM A313 TYPE 302 OR EQU.
7 ²	Seat	Stainless Steel HT
8	Screen	Stainless Steel 304\304L
9 ³	Cap Gasket	ASTM A276 TYPE 316L/304L With Silver Coated
10 ³	Blowdown Seat	ASTM A-582 Type 416/ASTM A276 TYPE410 or 420/ ASTM A276 TYPE 403 OR EQU.
11 ³	Retaining ring	ASTM A313 TYPE 302 OR EQU.
12 ³	Blowdown Body	ASTM A-582 Type 416/ASTM A276 TYPE410 or 420/ ASTM A276 TYPE 403 OR EQU.
13 ³	O-Ring	Silicon
14 ³	Blowdown Valve	ASTM A-582 Type 416/ASTM A276 TYPE410 or 420/ ASTM A276 TYPE 403 OR EQU.
15 ⁴	Strainer Cap	ASTM A-582 Type 416/ASTM A276 TYPE410 or 420/ ASTM A276 TYPE 403 OR EQU.
16 ⁴	Plug 3/8 NPT	Carbon Steel A105
17 ⁴	Blank Strainer Cap	Stainless Steel

- 1.Optional Weather Cap for Outdoor use
- 2.Part of factory assembled renewal capsule
- 3.Factory assembled blowdown valve renewal kit
- 4.Optional Strainer Caps

Unit Dimensions * : mm

Trap Size inch	A	B	C	D	E	F	G	H	K
3/8	80	38	49	68	73	100	17.6	9.5	NPT
1/2	80	38	49	68	73	100	21.8	9.5	NPT
3/4	81	38	49	68	73	100	27.2	12.7	NPT
1	100	38	49	68	86	113	33.9	12.7	NPT

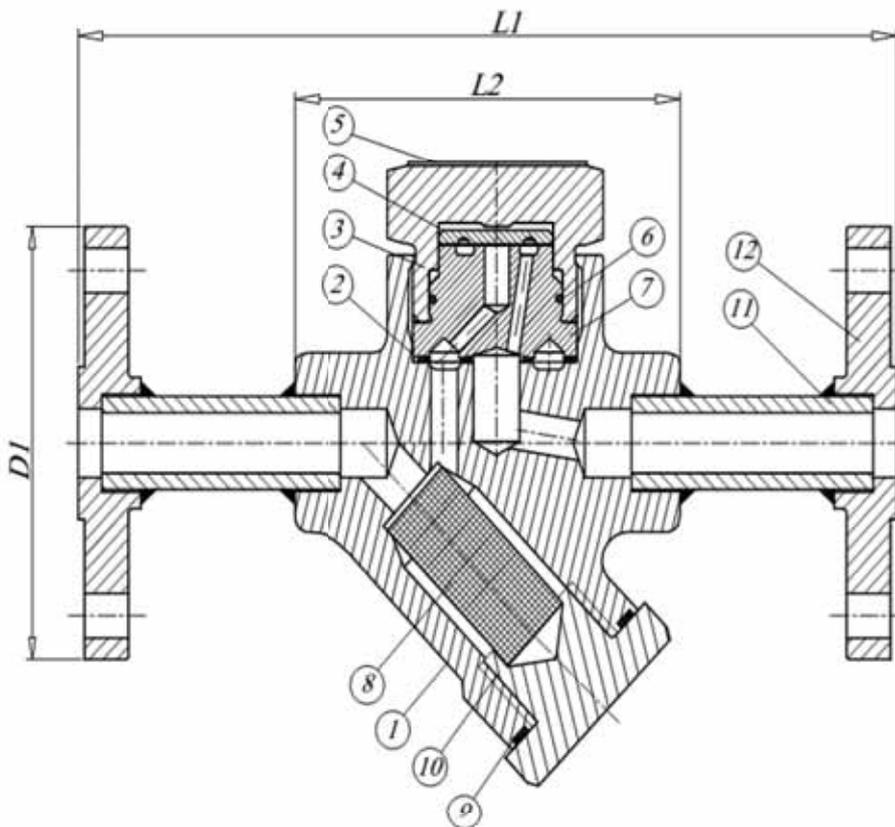
* All dimensions could be considered as reference

Series 129Y Impulse Trap -UniBody

The series 129Y disc traps are designed for light loads such as steam tracing and steam line drip. The 129Y trap may also be used for small process applications

Applicable Codes and Standards
End connections per ANSI B1.20.1 for threaded ends, per ANSI

Operating:
3/8", 1/2", 3/4" 129Y 400 psi, 750°F



Series 129Y Impulse Trap -UniBody

item	Part	Material
1	Body	Carbon Steel A105
2	Seat Gasket	Stainless Steel
3	Bonnet	ASTM A-582 Type 416/ASTM A276 TYPE410 or 420/ ASTM A276 TYPE 403 OR EQU.
4	Disk	Stainless Steel HT
5	Name Plate	Stainless Steel
6	Retaining Ring	ASTM A313 TYPE 302 OR EQU.
7	Seat	Stainless Steel
8	Screen	Stainless Steel 304/304L
9	Cap Gasket	ASTM A276 TYPE 316L/304L With Silver Coated
10	Screen Cap	Carbon Steel A105
11	Pipe	ASTM A106 Grade B
12	Flange	Carbon Steel A105

Unit Dimensions * : mm

Trap Size inch	L1	L2	D1*
1/2	210	80	89
3/4	220	81	99

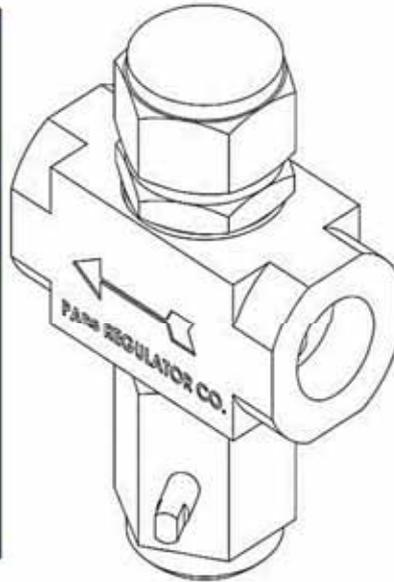
*D1: FLANGE #150

* All dimensions could be considered as refrence



Series 121/131 Disc Trap Thermodynamdic (Tilting Disc Impulse)

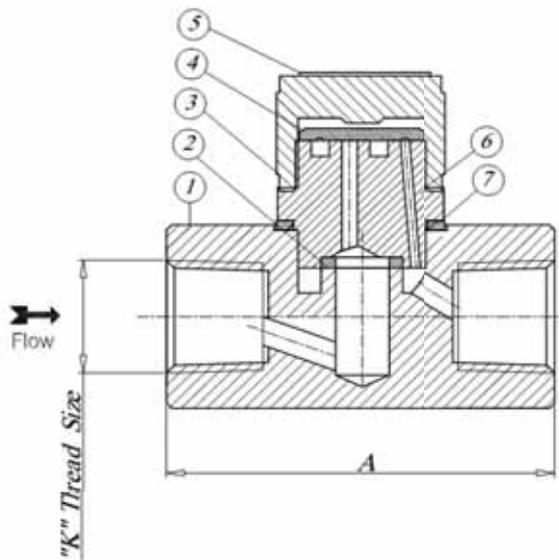
The Series 121/131 Tilting Disc Impulse disc trap is designed for light load applications such as steam tracing, steam line drip, and turbine drain. These traps are fully renewable in-line, energy efficient and easy to check. The 121 is a simple straightway body. The 131 is a straightway body and blowoff valve. Both bodies accept the same renewal capsules without removing the bodies from the line. The standard capsule performs best when applied in service up to 450 psig. The HP capsule has been designed for 150-650 psig service to



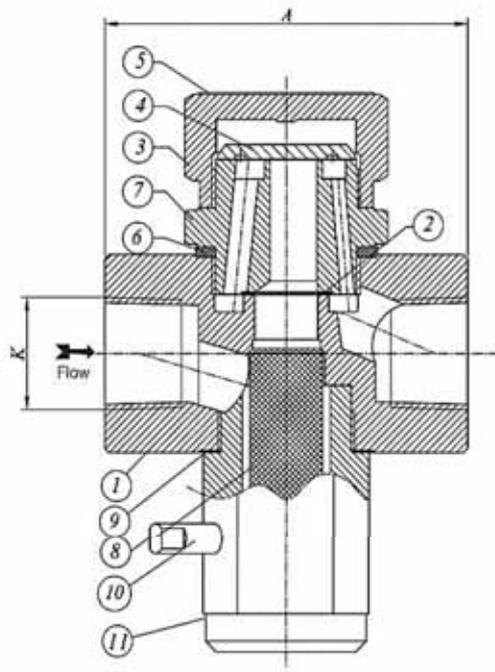
Ratings
Design: 600 psig, 750°F
Operating: 4 to 450 psig/750°F
[0.3 to 31 bar/400°C]
130 HP only
Design: 650 psig, 750°F
Operating: 150 to 650 psig/750°F
[10.3 to 45 Bar/400°C]

Applicable Codes and Standards
End connections per ANSI
B1.20.1 for threaded ends, per ANSI
B16.11 for socket-welding ends

SERIES 121



SERIES 131



Series 121/131 Disc Trap Thermodynamic (Tilting Disc Impulse)

Item	121		131	
	Part	Material	Part	Material
1	Body	Carbon Steel A105	Body	Carbon Steel A105
2	Seat Gasket	Stainless Steel	Seat Gasket	Stainless Steel
3	Bonnet	**	Bonnet	**
4	Disc	Stainless Steel HT	Disc	Stainless Steel HT
5	Name Plate	Stainless Steel	Name Plate	Stainless Steel
6	Seat	Stainless Steel HT	Gasket	Stainless Steel
7	Screen	Stainless Steel 304/304L	Seat	Stainless Steel HT
8	Cap Gasket	ASTM A276 TYPE 316L/304L With Silver Coated	Screen	Stainless Steel 304/304L
9	Blowdown Body	**	Cap Gasket	ASTM A276 TYPE 316L With Silver Coated
10	Blowdown Seat	**	Blowdown Valve	**
11	/	/	Blowdown Body	**
12	/	/	**	**
13	/	/	**	**

**ASTM A-582 Type 416/ASTM A276 TYPE410 or 420/ ASTM A276 TYPE 403 OR EQU.

SERIES 121

Unit Dimensions * : mm

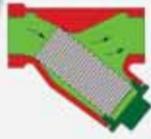
Trap Size inch	A	K
1/2	65	1/2" NPT
3/4	85	3/4" NPT

SERIES 131

Unit Dimensions * : mm

Trap Size	A	K
3/8	80	3/8" NPT
1/2	80	1/2" NPT
3/4	81	3/4" NPT
1	100	1" NPT

* All dimensions could be considered as reference



INDUSTRIAL STRAINER

Basket, Conical, Tee and YType

PR PRODUCT Memos

1

T-Strainers are compact and used in applications where space is restricted. The standard T-strainer includes a screen suitable for high pressures, which is easy to maintain and replace and capable of filtration of more than 200% of the inlet area. Tee Type Strainers are a low cost solution to large nominal bore straining requirements. This strainer can be easily installed and requires minimal maintenance. T Type Strainer can be used in both vertical and horizontal installations.

2

Y Strainers are designed to protect piping system components such as pumps, meters, control valves, steam traps, regulators etc. from damage caused by dirt or debris in flowing liquids or gases. Y Strainers may be installed in either a vertical or horizontal position, however it is important to ensure the screening element is located on the "down-side" of the strainer body so the entrapped material can properly collect in it.



Strainers Types

TYPES OF STRAINERS

- ✓ Conical strainers
- ✓ T-type strainers
- ✓ Disc or Plate type strainers
- ✓ Permanent Strainers
- ✓ Y-type strainers
- ✓ Basket strainers
- ✓ Duplex strainers
- ✓ Cartridge strainers
- ✓ Self-cleaning strainers
- ✓ TEMPORARY STRAINERS

Y Type Strainers

Y Strainers are designed to protect piping system components such as pumps, meters, control valves, steam traps, regulators etc. from damage caused by dirt or debris in flowing liquids or gases. These particles are removed by means of a perforated or wire mesh straining component. This mesh is generally available in either a fine or coarse grade, depending on the size of the particles to be filtered.

The Y Strainer has a removable nut, allowing the wire mesh to be removed, cleaned out and then re-installed into the body. Y Strainers are mostly installed into lines where frequent clean-out of the lines is not required. In lines where there is heavy sediment it is advisable to install a basket strainer.

Y Strainers may be installed in either a vertical or horizontal position, however it is important to ensure the screening element is located on the "down-side" of the strainer body so the entrapped material can properly collect in it.

They are most commonly used in pressurized lines, gas or liquid, but can also be used in suction or vacuum conditions. Y-Strainer has the advantage of being able to be installed in either a horizontal or vertical position. However, in both cases, the screening element or "leg" must be on the "downside" of the strainer body so that entrapped solids can be properly collected and held for disposal.

T Type Strainers

T-strainers are compact and used in applications where space is restricted. The standard T-strainer includes a screen suitable for high pressures, which is easy to maintain and replace and capable of filtration of more than 200% of the inlet area. Filter elements are made of stainless steel perforated sheet or wire mesh supported by perforated sheet. Tee Type Strainers are a low cost solution to large nominal bore straining requirements. This strainer can be easily installed and requires minimal maintenance. Tee strainers are provided with either bolted cover or quick opening covers for application suitability. T Type Strainer can be used in both vertical and horizontal installations.

Conical Strainers

Conical Strainers are used in steam, water, oil or gas service, and are installed between two flanges for protection of downstream equipment. They are used either temporarily, or where cost is of prime importance. The pipe must be disassembled to inspect, clean, or remove these strainers. A conical strainer is installed with the tip of the cone facing the direction of flow. Conical strainers are designed to collect debris around the outer edges of the cone because this is a mechanically stronger orientation.

Basket Type Strainers

Strainers are specifically excluded from the requirements of ASME Section VIII, Division I, under paragraph UI. Nevertheless, due to the similarity of pressure boundary parts, today's quality manufacturers use the ASME design for guidelines. In fact, most of the strainers cast or fabricated can be "U" stamped pressure vessels.

Industrial Strainer Selection Considerations:

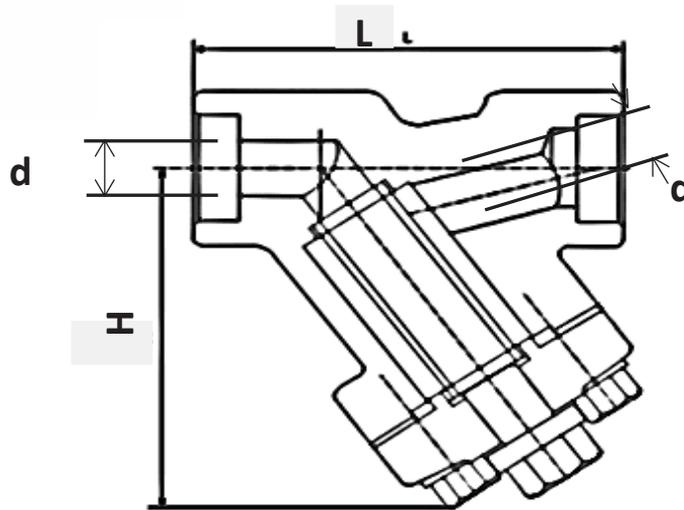
- ✓ Pressure Drop and Velocity
- ✓ Maximum Allowable Working Pressure
- ✓ Perforation, Slot or Mesh Size
- ✓ Open Area Ratio
- ✓ Viscosity
- ✓ Dirt Loading
- ✓ Flow Rate
- ✓ Particle Size
- ✓ Service Temperature
- ✓ Life Cycle Cost
- ✓ Limited Downtime
- ✓ Material Selection

Basket Selection:

- ✓ Perforated Plate
- ✓ Wire Cloth
- ✓ Wedgewire (Well Screen)

S.W (NPT) Y Strainer

CL 800



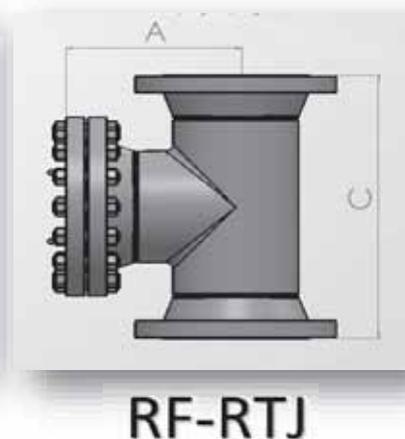
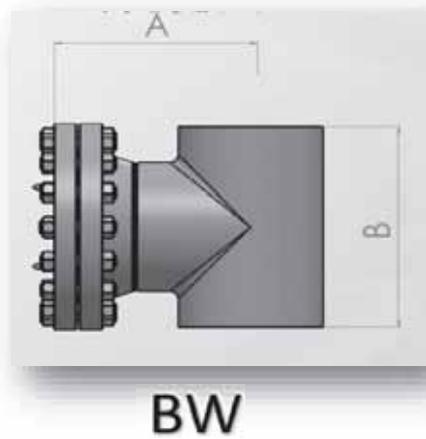
Features and Applications

- Construction :B.C Y Type
- Gasket:Stainless steel + graphite
- Socket Welding & threaded ends
- Socket welding dimension :ANSI B 16.11
- Screw end dimension: ANSI B 1.20.1(NPT)
- Design & manufacture : API 602, ANSI B 16.34
- Inspect and test: API 598
- Body material: A105,LF2,F5,F11,F22,F304L,F316L
- All dimensions could be considered as reference.

Dimensions

Norminal diameter	mm(in)	15(1/2)	20(3/4)	25(1)	32(11/4)	40(11/2)	50(2)
d	mm	11	13	18	23	28	33
L	mm	98	98	120	140	140	170
H	mm	86	86	105	118	120	145
Weight	Kg	2.7	2.5	6.3	8.2	9.2	10.3

Tee Type Strainer



Dimensions And Weights

SIZE	Class 150 lb					Class 300 lb				Class 600 lb				Class 900 lb				Class 1500 lb			
	B	A	c	Kg BW	Kg RF	A	c	Kg BW	Kg RF	A	c	Kg BW	Kg RF	A	c	Kg BW	Kg RTJ	A	c	Kg BW	Kg RTJ
2"	127	148	254	9	15	159	267	13	20	177	286	15	25	223	346	31	43	223	346	31	43
3"	172	182	312	16	26	197	331	23	37	215	350	24	41	246	391	36	66	269	422	58	78
4"	210	207	363	24	38	225	382	38	62	259	426	52	88	284	455	60	108	300	473	87	117
6"	286	260	464	43	65	280	483	71	111	323	534	100	172	359	581	126	226	416	648	201	272
8"	356	310	559	71	107	333	578	109	171	382	636	158	270	424	696	211	381	505	804	342	467
10"	432	351	635	111	161	384	667	181	269	448	750	269	451	492	816	330	585	600	963	568	772
12"	508	403	737	161	239	438	768	256	384	492	832	340	550	555	924	455	795	686	1102	854	1157
14"	560	445	814	222	324	480	846	354	530	530	903	438	692	603	1008	583	980	740	1187	1188	1615
16"	610	472	864	273	393	511	902	449	675	575	979	589	945	635	1065	700	1148	795	1268	1593	2163
18"	686	526	966	332	474	565	1004	553	821	626	1067	744	1176	700	1169	940	1540	865	1375	2096	2836
20"	762	572	1051	422	598	609	1086	688	1038	676	1156	928	1464	764	1283	1171	1920	948	1508	2689	3624
24"	864	635	1169	600	838	673	1201	982	1458	753	1283	1311	2071	895	1480	2040	3400	1080	1718	4254	5770

- Dimensions and weights are approximate.
- Standard blow off plug Vt" 3/4"NPT
- Flanged ends to ANSI B16.5
- BW ends to ANSI B 16.25.



CERTIFICATIONS & Acknowledgements



1

CERTIFICATES OF PR COMPANY

- ISO 9001:2008 Quality Assurance System
- HSE-MS Health, Safety and Environmental Management System

2

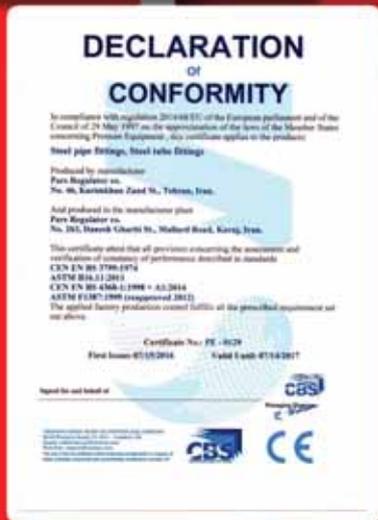
CERTIFICATES OF THE PRODUCT

- CE Quality Assurance System
- API 607 Fire Safe For Ball Valve
- ASTM-F1387 TYPE APPROVAL
- INSPECTION for NEEDLE VALVE(SGS)

MAJOR AVL:

3

- NIOC (National Iranian Oil Company)
- NIGC (National Iranian Gas Company)
- NPC (National Petrochemical Company)
- POGC (Pars Oil & Gas Company)
- NISOC (National Iranian South Oil Company)
- SPGC (Iran's South Pars Gas Complex)
- NIOEC (National Iranian Oil Engineering & Construction Co.)
- ICOFC (Iranian Central Oil Fields Company)
- IOOC (National Iranian Offshore Oil Company)
- OIEC (Oil Industries Engineering and Construction)
- Others....

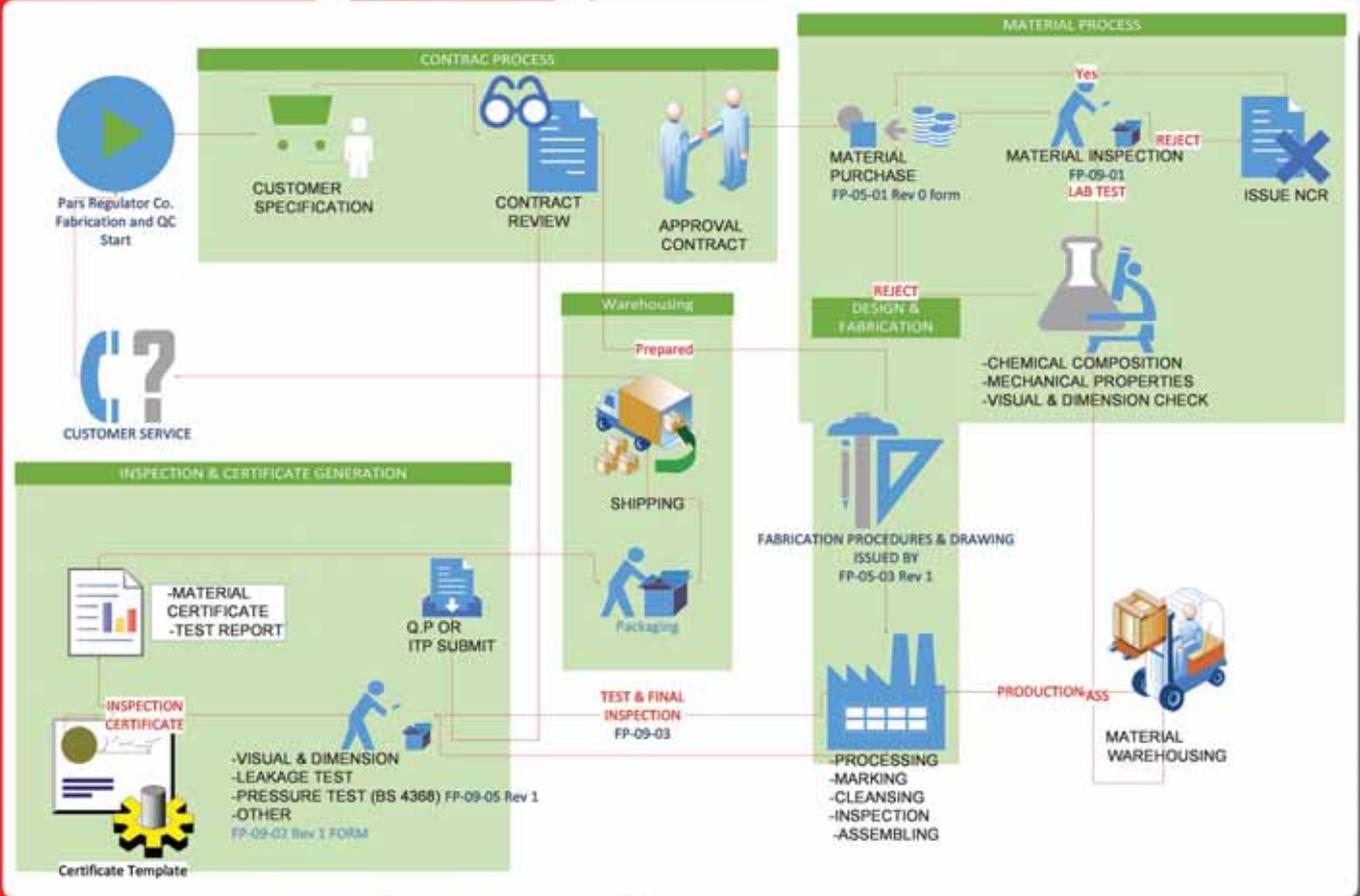


تعداد آمار بر اساس منطقه ای

تعداد آمار بر اساس منطقه ای

ردیف	نام منطقه	تعداد آمار	تعداد آمار
1	تهران	1	1
2	اصفهان	1	1
3	مشهد	1	1
4	تبریز	1	1
5	شیراز	1	1
6	چابهار	1	1
7	بندرعباس	1	1
8	بوشهر	1	1
9	اصفهان	1	1
10	اصفهان	1	1
11	اصفهان	1	1
12	اصفهان	1	1
13	اصفهان	1	1
14	اصفهان	1	1
15	اصفهان	1	1
16	اصفهان	1	1
17	اصفهان	1	1
18	اصفهان	1	1
19	اصفهان	1	1
20	اصفهان	1	1

PARS REGULATOR QC FLOWCHART



PR SAMPLE CERTIFICATE

MILL TEST & INSPECTION CERTIFICATE

According to EN10204 3.1
 Customer: شرکت مهندسی گاز پارس تهران
 Order No.: 03111
 Cert.No.: PR-1208-CE01111-1
 REQ.NO.: G-9340043-MRS
 BLOCK & BLEED VALVE
 Date: 12/17/2017



Pars Regulator Co.
 2nd Floor, 846 Building, Karimkhan St.
 158493117, Tehran - IRAN
 Tel: (+98-21) 88 38 77 66(pbx)
 Fax: (+98-21) 88 33 41 49
 URL: www.parsregulator.com
 Email: info@parsregulator.com

As ISO 9001: 2008 Registered Manufacturer



Raw	Item no.	Qty. (pcs)	Serial NO:	Description	Valve Component Part	Valve Component Material	Raw MaterialTraceability No.	Raw MaterialHeat NO.									
1	1	8	665-694	SINGLE BLOCK & BLEED VALVES SIZE: 2" FLG *3/4" NPTF BS 5351/API 6D CLASS 150LB, RF NACE MR0175	BODY	ASTM A182 F321 NACE MR0175	14675-1	7056									
					CLOSURE	ASTM A182 F321 NACE MR0175	14480-1	69701									
					BALL	AISI S.S 316/316L	LY101004	C-17									
					STEM	AISI S.S 316/316L	10612-3	6042									
					SEAT	PTFE	11400-1	6981									
					NEEDLE VALVE	ASTM A182 F316/316L	15993-3	3892									
					NEEDLE VALVE (STEM)	17-4PH	2545-1	443567									
					NEEDLE VALVE (DISC)	17-4PH+STL	2545-1, 18331-1	443567, 239920									
				PLUG	AISI S.S 316/316L	6104-1	3467										
Chemical Composition ASTM A182 F321 (Percent)					Mechanical Properties												
2-1	Elements	Product Code	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	Fe	Tensile Strength(Mpa)	Yield Strength (Mpa)	Hardness (HB)	Elongation (%)	Reduction Area(%)
	(Body)	7056	0.015	0.42	1.77	0.038	<0.005	17.35	0.29	9.20	0.51	BASE	350	302	180	33	69
	(Closure)	69701	0.017	0.49	1.88	0.031	0.006	17.82	0.26	9.52	0.39	BASE	320	200	193	50	45
Chemical Composition ASTM A182 F316/316L (Percent)					Mechanical Properties												
2-2	Elements	Product Code	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	Fe	Tensile Strength(Mpa)	Yield Strength (Mpa)	Hardness (HB)	Elongation (%)	Reduction Area(%)
	(Ball)	C-17	0.022	0.727	0.714	0.031	0.004	18.298	2.759	9.143	-	BASE	-	-	-	-	-
	(Stem)	4642	0.018	0.54	1.48	0.040	0.021	16.90	2.10	10.76	0.41	BASE	683	539	322	42	25
	(Needle valve)	3892	0.014	0.37	1.59	0.039	0.023	15.89	2.03	10.46	0.41	BASE	618	355	172	31	27
	(Plug)	3467	0.02	0.55	1.03	0.025	<0.003	16.3	2	10.1	0.48	BASE	629	490	191	43	27
Chemical Composition 17-4PH (Percent)					Mechanical Properties												
2-3	Elements	Product Code	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	Fe	Tensile Strength(Mpa)	Yield Strength (Mpa)	Hardness (HB)	Elongation (%)	Reduction Area(%)
	(Needle valve-Stem)	443567	0.018	0.39	0.86	0.023	0.016	15.98	0.16	4.43	3.29	BASE	1213	1151	378	14	58
	(Needle valve-Disc)	443567	0.018	0.39	0.86	0.023	0.016	15.98	0.16	4.43	3.29	BASE	1213	1151	378	14	58
Chemical Composition Stainless Wires					Mechanical Properties												
2-4	Elements	Heat NO	C	Si	Mn	P	S	Cr	Mo	Ni	Cu	Fe	Tensile Strength(Mpa)	Yield Strength (Mpa)	Hardness (HB)	Elongation (%)	Reduction Area(%)
	(Stainless)	239920	1.2	1.1	0.01	0.007	0.004	30	0.03	2.8	0.003	2.8	-	-	533(HV)	-	-
Test Standard		Pressure/Shell Test				Pressure/Seat Test				Pressure/Air Test				Inspection			
3	API 596/ASME B16.34	Pressure	Fluid	Duration	Results	Pressure	Fluid	Duration	Results	Pressure	Fluid	Duration	Results	DIMENSIONAL	OK		
		30 bar	WATER	120 Sec	OK	22 bar	WATER	120 Sec	OK	6 bar	AIR	120 Sec	OK	VISUAL	OK		
														OPERATIONAL	OK		
														COATING	N/A		

Remarks: NACE MR 0175/ISO 15156 - Fire Safe API 607/ BS 6753 Final & Dimensional is Satisfactory.
 Pars Regulator Co. Herby Declares that the Product(s) Supplied are in Compliance with the Related Standards(s), Requirement(s) of the Order and Supplier Test Result(s). The Certificate is Filled with Hologram.

Pars Regulator valves are manufactured in a wide range of materials, supplied by the best available steel mills, forged by well-known forgery with outstanding equipment and experience. All the material in the chemical composition and the mechanical characteristic.

Material Group	Common Name	Pars Regulator Code	Nominal Type	UNS	Forging Spec. (ASTM)	Casting Spec. Equivalent	DIN	DIN W.No	Application Notes
Carbon Steel	CS	A105N	C-Mn-Fe	K03504	A105N	A216-WCB	C22.8	1.046	General non-corrosive from -20F(-29C) to 800F(427C)
Low Temperature Carbon Steel	LTCs	LF2	C-Mn-Si	K03011	A350-LF2	A352-LCA A352-LCB A352-LCC	TSTE 355	1.0566	General non-corrosive from -50F(-46C) to 650F(340C), LF2 to 800F(427C)
Low Alloy Steel	Alloy Steel Chrome Moly	F11 CL2	1.1/4 Cr-1/2Mo	K11572	A182-F11	A217-WC6	13CRMO44	1.735	UP to 1100F(593C)
High Alloy Steel		F5	5Cr-1/2Mo	K41545	A 182-F5	A217-C5	12CR MO 195	1.7362	High temp refinery service
Stainless Steel	Austenitic S.Steel 300 series S.Steel	F304	18Cr-8Ni	S30400	A182-F304	A351-CF8	DIN X5Cr Ni 18 9	1.4301	0.04% min. carbon for temp.>1000F(538C)
		F304L	18Cr-8Ni (C 0.03)	S30403	A182-F304L	A351-CF3	X 2 Cr Ni 19 11	1.4306	Up to 800F(427C)
		F316	16 Cr-12 Ni- 2 Mo (C 0.08)	S31600	A182-F316	A351-CF8M	DIN X5Cr Ni Mo 18 10	1.4401	0.04% min. carbon for temp.>1000F(538C)
		F316L	16 Cr-12 Ni- 2 Mo (C 0.03)	S31603	A182-F316L	A351-CF3M	X 5 Cr Ni Mo 17 122	1.4404	Up to 800F(427C)
		F321	18Cr-10Ni-Ti	S32100	A182-F321		X 6 Cr Ni Mo18 10	1.4541	0.04% min. carbon (grade F321H) and Heat treat at 2000F(1100C) for service temp.>1000F(538C)
		F6	13Cr	S41000	A182F6	A351-CA15			
Martensitic Stainless steel	F6a-13Cr-410 17-4PH	17-4 PH		S17400	A564 UNS S17400	ASTM A494 CU5MCUC	X 5 Cr Ni Cu Nb 16-4	1.4542	
Super Austenitic Steel	Super Austenitic 6Mo	904L	44Fe-25Ni-21Cr-Mo	N08904	B649-NO 8904		Z2NCDU 25-20	1.4539	
Duplex Steel	Duplex 2205	F51	22Cr-5Ni-3Mo-N	S31803 S32205	A182-F51	A890-Grade 4A(UNS J92205)-A955 CD3MN	X2Cr Ni Mo N 22 5 3	1.4462	Service to 600F(316C)-The original S31803 UNS designation has been supplemented by S32205 which has higher minimum N,Cr, and Mo.
Super Duplex Steel	Super Duplex 2507	F53	25Cr-7Ni-4Mo-N	S32750	A182-F53	A351-CD4MCu A890 5A	X2Cr Ni Mo N 25 7 4	1.4441	Service to 600F(316C)
Nickel-Copper	Monel 400	Monel	67Ni-3Cu	N04400	B564-NO4400	A494-M35-1	DIN 17730	2.4365	

SOFT SEAT MATERIAL

CODE	P.R. Co. DESIGNATION	CHEMICAL NAME/ DESIGNATION	TEMPERATURE RANGE	APPLICATION
50	P.T.F.E	Polytetrafluoroethylene	-200 to 260°C	Virgin PTFE is used as a standard material for its high lubricity and superior sealing up to 180°C. It is white in colour.
51	R.P.T.F.E/Glass	Polytetrafluoroethylene glass filled	-60 to 220°C	Reinforced PTFE seats are made with glass filled PTFE (20%). They are harder than virgin PTFE white colour with green or blue speckles.
52	R.P.T.F.E/Carbon Graphite	Polytetrafluoroethylene carbon-graphite filled	-190 to 250°C	Reinforced PTFE with (20%) carbon and 5% Graphite. These seats are black in colour.
53	POM	Polyoxymethylene acetal resin	-50 to 100	This material is very rigid it has a combination of strength, stiffness, hardness dimensional stability, toughness, fatigue resistance, abrasion resistance low wear and low friction. It can withstand pressure up to 5000 PSIG depending on valve size. Do not use on oxygen service.
54	PEEK	Polyetheretherketone	-80 to 220°C	Peek is recommended for high temperature (up to 260°C) but it is very hard compared to other non metallic materials. Not application for concentrated sulphuric acid.
55	NYLON 12	Polyamide 12	-61 to 223°C	Nylon 12 is more suitable than PTFE for higher pressure but has a limited range in temperature.
56	NYLON 13	Polyamide 13	-61 to 223°C	Nylon 12 is more suitable than PTFE for higher pressure but has a limited range in temperature.
57	NYLON 6	Polyamide 6	-40 to 110°C	Nylon 6 fibers are tough, possessing high tensile strength, as well as elasticity and lustre. They are wrinkleproof and highly resistant to abrasion and chemicals such as acids and alkalis.
58	FKM	Fluor elastomer	-30 to 200°C	They have further improved resistance to high temperatures and chemicals and even withstand environments where Oxygen-Plasma are present for many hours.
59	NBR	Nitrile butadiene rubber	-30 to 100°C	Nitrile rubber is more resistant than natural rubber to oils and acids, and has superior strength, but has inferior flexibility.
60	Silicon	-	-60 to 200°C	Silicon is a semi-organic elastomer with outstanding resistance to low temperatures. Silicon also has good resistance to compression set. Low physical strength and abrasion resistance combined with high friction limit silicone to low pressure applications. Silicone is used primarily for dry heat static seals.
61	Graphite	-	-100 to 600°C	Hard carbon with excellent heat resistance. Not suitable as seat material when presence of oxidized service is expected.
62	EPDM	Ethylene propylene diene monomer	-50 to 150°C	The main properties of EPDM are its outstanding heat, ozone, and weather resistance. The resistance to polar substances and steam are also good. It has excellent electrical insulating properties. It has good resistance to ketones, ordinary diluted acids, and alkalis.
63	Kel-f	Polychlorotrifluoroethylene	-200 to 204°C	PTCFE has high tensile strength and good thermal characteristics. It is non-flammable and the heat resistance is up to 175 °C. It has a low coefficient of thermal expansion.

General Specification and Standard

Valve Type	Gate	Globe	Ball	Check
	Shell Wall Thickness	API 600	API 600	API 600
General Valve Design Specifications	BS 1414	BS 1873		BS 1868
Pressure-Temperature rating	ASME/ANSI B16.34			
Face to face or End to end dimensions	ASME B16.10			
End flange dimensions Gasket Contact Facing	Size 1/4"-2"			
	Size 2"-4"			
Buttwelding end dimensions	ASME B16.25			
welding end dimensions	ASME B16.11			
Bolt and Nut, thread	ASME/ANSI B1.1, B18.2.1, B18.2.2			
Test and Inspection	Chemical Composition	Relevant ASTM		
	Mechanical property test	Relevant ASTM		
	Pressure test	API 598, BS 5146 and ASME/ANSI B16.34		
	Dimensional inspection	Relevant valve Standard		
	Visual Inspection	MSS-SP 55		

Nace Valves: For Servicing sour gases or other Hydrogen Sulfide bearing hydrocarbon fluids, PR offers NACE valves made of component material specially heat treated and hardness controlled in conformity with NACE MR-01-75 standard.

BODY, BONNET AND CAP MATERIAL

Description	Carbon steel ASTM A105	Low Temp. Steel per ASTM A350 LF2	Alloy Steel ASTM A182	Austenitic S.S ASTM A182			
				304	316	304L	316L
Carbon %	0.35 max.	0.30 max.	F11	0.08 max.	0.08 max.	0.035 max.	0.035 max.
Manganese %	0.6-1.5	1035 max.		20 max.	20 max.	20 max.	20 max.
Phosphor max. %	0.04	0.035		0.040	0.040	0.040	0.040
Sulphur max. %	0.05	0.04		0.03	0.03	0.030	0.030
Silicon %	0.35 max.	0.15-0.30		1.0 max.	1.0 max.	1.0 max.	1.0 max.
Nickel %	0.04 max.	0.040 max.		8.00-11.00	10.00-14.00	8.00-13.00	8.00-15.00
Chromium %	0.30 max.	0.30 max.		18.00-20.00	16.00-18.00	18.0-20.0	16.00-18.00
Molybdenum %	0.12 max.	0.12 max.		-	2.0-3.0	-	2.00-3.00
Copper %	0.4 max.	0.40 max.		-	-	-	-
Vanadium %	0.03 max.	0.03 max.		-	-	-	-
Columbium %	0.02 max.	0.02 max.		-	-	-	-
Tensile min. [Mpa]	485	485-655	515	515	515	485	485
Yield min [Mpa]	250	250	310	205	205	170	170
Elongation min. %	22	22	20	30	30	30	30
Reduction %	30	30	30	50	50	50	50
HB max.	187	187	156-207	-	-	-	-
PREN				17.5-20.8	23.1-28.5	19.4-23.0	23.1-28.5

CHEMICAL COMPOSITION

MECHANICAL PROPERTIES



PRESSURE-TEMPERATURE RATING

The following table indicates rated values of temperature and pressure for main materials of valves. These valve are determined according to American standard ASME/ANSI B16.34.

Temperature (°C)	Max. Working Pressure (bar)																								
	150					300					600					900					1500				
	A350 LF2	A182 F304	A182 F304L	A182 F316	A182 F316L	A350 LF2	A182 F304	A182 F304L	A182 F316	A182 F316L	A350 LF2	A182 F304	A182 F304L	A182 F316	A182 F316L	A350 LF2	A182 F304	A182 F304L	A182 F316	A182 F316L	A350 LF2	A182 F304	A182 F304L	A182 F316	A182 F316L
-29 to 38	19.6	19.0	15.9	15.9	15.9	51.1	49.6	41.4	41.4	41.4	102.1	99.3	82.7	82.7	82.7	153.2	148.9	124.1	124.1	124.1	255.3	248.2	206.8	206.8	206.8
50	19.2	18.3	15.3	15.3	15.3	50.1	47.8	40.0	40.0	40.0	100.2	95.6	80.0	80.0	80.0	150.4	143.5	120.1	120.1	120.1	250.6	239.1	200.1	200.1	200.1
100	17.7	15.7	13.3	13.3	13.3	46.6	40.9	34.8	34.8	34.8	93.2	81.7	69.6	69.6	69.6	139.8	122.6	104.4	104.4	104.4	233.0	204.	173.9	173.9	173.9
150	15.8	14.2	12.0	12.0	12.0	45.1	37.0	31.4	31.4	31.4	90.2	74.0	62.8	62.8	62.8	135.2	111.0	94.2	94.2	94.2	225.4	185.0	157.0	157.0	157.0
200	13.8	13.2	11.2	11.2	11.2	43.8	34.5	29.2	29.2	29.2	87.6	69.0	58.3	58.3	58.3	131.4	103.4	87.5	87.5	87.5	219.0	172.4	145.8	145.8	145.8
250	12.1	12.1	10.5	10.5	10.5	41.9	32.5	27.5	27.5	27.5	83.9	65.0	54.9	54.9	54.9	125.8	97.5	82.4	82.4	82.4	209.7	162.4	137.3	137.3	137.3
300	10.2	10.2	10.0	10.0	10.0	39.8	30.9	26.1	26.1	26.1	79.6	61.8	52.1	52.1	52.1	119.5	92.7	78.2	78.2	78.2	199.1	154.6	130.3	130.3	130.3
325	9.3	9.3	9.3	9.3	9.3	38.7	30.2	25.5	25.5	25.5	77.4	60.4	51.0	51.0	51.0	116.1	90.7	76.4	76.4	76.4	193.6	151.1	127.4	127.4	127.4
350	8.4	8.4	8.4	8.4	8.4	37.6	29.6	25.	25.	25.	75.1	59.3	50.1	50.1	50.1	112.7	88.9	75.2	75.2	75.2	187.8	148.1	125.4	125.4	125.4
375	7.4	7.4	7.4	7.4	7.4	36.4	29.0	24.8	24.8	24.8	72.7	58.1	49.5	49.5	49.5	109.1	87.1	74.3	74.3	74.3	181.8	145.2	123.8	123.8	123.8
400	6.5	6.5	6.5	6.5	6.5	34.7	28.4	24.3	24.3	24.3	69.4	56.9	48.6	48.6	48.6	102.	85.3	72.9	72.9	72.9	173.6	142.2	121.5	121.5	121.5
425	5.5	5.5	5.5	5.5	5.5	28.8	28.0	23.9	23.9	23.9	57.5	56.0	47.7	47.7	47.7	86.3	84.0	71.6	71.6	71.6	143.8	140.0	119.3	119.3	119.3
450	4.6	4.6	4.6	4.6	4.6	23.0	27.4	23.4	23.4	23.4	46.0	54.8	46.8	46.8	46.8	69.0	82.2	70.2	70.2	70.2	115.0	137.0	117.1	117.1	117.1
475	3.7	3.7	3.7	3.7	3.7	17.4	26.9	28.7	28.7	28.7	34.9	53.9	57.3	57.3	57.3	52.3	80.8	86.0	86.0	86.0	87.2	134.7	143.4	143.4	143.4
500	2.8	2.8	2.8	2.8	2.8	11.8	26.5	28.2	28.2	28.2	23.5	53.0	56.5	56.5	56.5	35.3	79.5	84.7	84.7	84.7	58.8	132.4	140.9	140.9	140.9



TEST BENCHES

& Reporting

TEST TYPES:

1

- Hydrostatic testing
- Proof and Leak Testing
- Gas or Air testing
- Vibration testing
- Impulse and shock testing

CONCEPT OF PR TEST BENCHES

2

- Pars Regulator test benches are designed for durability, ease of use and accessibility. These test benches can be equipped for use with oil, water, air, gas or any combination of test medium. Pars Regulator test bench could be set up for hydrostatic testing with water and/or leak testing with gas or air.

PR TEST BENCH FEATURES:

3

- Operators of the Pars Regulator's Test Bench can't change any initial config data (according to related test standards values and conditions). Test Report will be prepared for print, after test result approved by Test Bench.





MALARD WAREHOUSE



FITTING WAREHOUSE



ABBAS ABAD, PLANT 3,4

PARS REGULATOR CORP. (PJS)

MANUFACTURER, STOCKIST AND TRADING PRIVATE JOINT STOCK (PJS) COMPANY SINCE 1988



High Pressure Instrumentation Tube Fitting, Valve, Manifold
Ball Valves, Single/Double Block and Bleed Valve, Pipe Fitting, thermodynamic
Steam Traps, Filters, etc



**STRAINER
& STEAM
TRAP**

Design,
Manufacturing
& Testing of
VALVES

Speed, **Service,**
System, Quality & Delivery.
Our Concern is Quality not Quantity

We become stronger as much as your request gets more sophisticated, so it makes us grant your wishes with highest quality.

Pars Regulator is able to manufacture many varieties of Valves, Strainer, Steam Trap, Filtration Equipment, Flange, Pipe & Tube Fitting, different types of Sampling Packages, etc and Petrochemical Refineries tools according to customer's request.

Contact us:

2 nd Floor, No. 46, Karimkhan St. Tehran, Iran

Fax: (+98) 021 88 83 41 40

info@parsregulator.com

parsregulator@yahoo.com

www.parsregulator.com

+98-21-8830-77-66

