CERTIFIED BY

ISO 9001
BUREAU VERITAS
Certification

UKAS
QUALITY
MANAGEMENT
008

"Permanent Flow Control Solution"

SUNFORD®

SUNFORD VALVES COMPANY

AN ISO 9001:2015 CERTIFIED COMPANY

Mfg. of High Quality Industial Valves.

MAKE IN INDIA

COMPANY PROFILE

BUREAU VERITAS Certification

SUNFORD VALVES COMPANY

PLOT NO. D- 9/21, ROAD NO. 2, NEAR SACHIN PAPER MILL, HOJIWALA INDUSTRIAL ESTATE, SACHIN, SURAT – 394 230, GUJARAT, INDIA.

Bureau Veritas Certification Holding SAS – UK Branch certifies that the Management System of the above organization has been audited and found to be in accordance with the requirements of the Management System standard detailed below.

Standard

ISO 9001:2015

Scope of certification

MANUFACTURE AND SUPPLY OF GATE VALVE, GLOBE VALVE, MANUAL AND AUTO BALL VALVE, CHECK VALVE, CONTROL VALVE, BUTTERFLY VALVE, STRAINER, FLUSH BOTTOM VALVE

Original cycle start date: **19 November 2019**
Expiry date of previous cycle: **Not Applicable**
Certification Audit date: **19 September 2019**
Certification cycle start date: **19 November 2019**
Subject to the continued satisfactory operation of the organization's Management System, this certificate expires on: **18 November 2022**
Certificate No. **IND.19.10523U** Version : **1** Revision date: **19 November 2019**

Signed on behalf of BVCH SAS – UK Branch
Jagdheesh N. MANIAN
Head – CERTIFICATION, South Asia Commodities, Industry & Facilities Division

Sunford valves company is a Bureau Veritas Certified leading Industrial Valves Manufacturers based in Surat, India, managed by dynamic and highly technically qualified partners and professionals Sunford Valves is a truly integrated and incredible innovative company performing activities include the design, material procurement, manufacturing, assembly and testing of valves. Our experience of 3 decades in valve industry is the key to our success & recognition in the Indian market.

SUNFORD manufactures Gate, Globe, Check, Ball, Butterfly, Wafer Type Check Valve, Strainers etc. in all size and class with any material of construction as per customer requirement like Carbon Steel, Alloy Steel, Stainless Steel, Duplex, Monel etc.adhering to National and International Standards such as API 600, API 602, BS 1873, BS 1868, BS 5351, BS 5352 etc. The organization has excellent in house manufacturing and testing facilities with state of art technology for Design and Manufacture of Industrial Valves. The organization has an added advantage of experienced and trained personnel working with the motto of Quality Products, Best Services and Timely Delivery at competitive Prices to remain customer's first choice.

Design and Engineering

Sunford engineering department's mission is designinnovation. Our ability, experience and expertise through the use of sophisticated technology and CAD/CAM equipment results in the manufacturing high quality industrial valves for wide range of applications.

Manufacturing

Sunford Valves manufacturing unit is equipped with latest machineries, equipments includes CNC machines as well as semi automatic machine and test facilities spread over 14000 sq.ft area. Our production team of skilled workers ensure to employee latest state of art modern techniques in the entire cycle of production under stringent quality control procedures. All industrial valves manufactured to the highest degree of accuracy to ensure trouble free long life and guaranteed interchangeability of valves and spares.

Quality

Certified by ISO 9001:2015
Lean Manufacturing Practices Follows Six Sigma, Kaizen, 5S , TQM & Total customer Satisfation. In-houseFull Scale Testing Facility.

Customer Service

Sunford has fully integrated customer services division, which fully geared to react speedily to all customers inquiries and serve them by providing best solution suitable for their requirements.

Industries We Serve

Textile, Chemical, Pharmaceutical, Oil & Gas Processing, Petrochemical, Power Plants, Marine, Packaging, Steel and Cement, Water Treatment, Food & Beverages, Cooling Plants, Pulp & Paper Industries.

Our unit is approved by Bureau Veritas ISO 9001:2015 certification and will provide all valves with 3rd party inspection.

Sunford Valves Advantages

- Strong management team, stable company
- Products proven to offer:
- Low emissions
- Easy maintenance
- Long and reliable service
- Low total cost of ownership
- Quality that lasts

What Gives Us An Edge Over Others?

- Latest cutting edge technology
- Safe and sound operations
- Customized solutions
- Premium quality valves of variegated types
- Cost-effective
- Timely delivery
- End-to-end solutions
- Innovative products

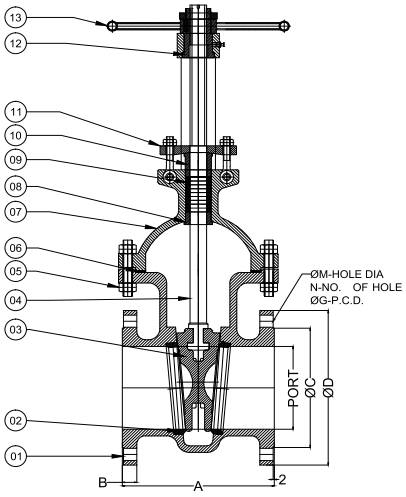
Our Commitment

- To understand costomers' NEEDs first before proposing our product.
- To keep providing competitive RATES by continuously improvement in process without compromising in quality.
- To provide continuously support to our customer and go beyond their expectations in terms of quality, delivery and after sales services.

Gate Valve Class 150/300

DESIGN & MANUFACTURING STANDARDS

VALVE DESIGN / SHELL THICKNESS	: API 600
FACE TO FACE	: ASME B 16.10
FLANGED END CONNECTIONS	: ASME B 16.5
PRESSURE TEMP. RATINGS	: ASME B 16.34
BUTT WELD DIMENSION	: API B 16.25
INSPECTION & TESTING	: API 598



PART LIST

SR. NO.	ITEM DESCRIPTION	MATERIAL
1	BODY	ASTM A 216 GR. WCB/A 352 LCB/ A 217 WC6 / A 351 CF8 / CF8M / IS 210 GR 220
2	SEAT RING	ASTM A 216 GR. WCB + 13% CR./CA15/ CF8/CF8M
3	WEDGE	ASTM A 216 GR. WCB + 13% CR./CA15/ CF8/CF8M
4	SPINDLE	AISI 410 / AISI 304 / AISI 316
5	STUD & NUT	ASTM A 193 GR. B7/194 GR 2H
6	GASKET	S.S 304 SPIRAL WOULD + CAF
7	BONNET	ASTM A 216 GR. WCB/A 352 LCB/ A 217 WC6 / A 351 CF8 / CF8M / IS 210 GR 220
8	BACK SEAT BUSH	AISI 410 / AISI 304 / AISI 316
9	GLAND PACKING	GRAFOIL / GRAPHITED ASBESTOS+INCONEL
10	GLAND BUSH	AISI 410
11	GLAND FLOWER	CAST STEEL
12	YOKE SLEEVE	AL BRONZE / SG IRON/ D2
13	HAND WHEEL	SG IRON

SPECIAL FEATURES

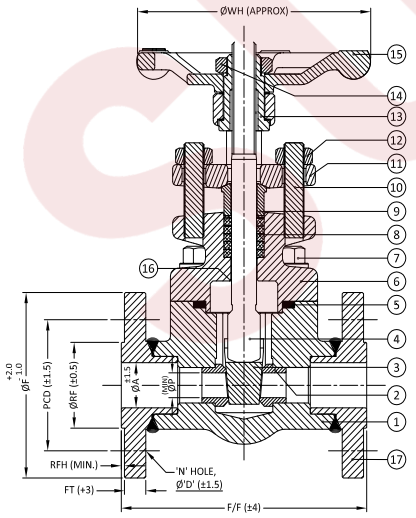
1. Non-rotating rising stem.
2. Flexible / solid wedge design.
3. Full port design.
4. Flanged / butt-welding end connections.
5. Full length wedge guides.
6. Larger dia handwheel.
7. Actuator / Automation available.
8. Stelliting on seat and wedge if required.

HYDRAULIC TEST PRESSURE 150#		
1	BODY	32 KG/CM^2
2	SEAT & BACK TEST	23 KG/CM^2
HYDRAULIC TEST PRESSURE 300#		
1	BODY	78 KG/CM^2
2	SEAT & BACK TEST	58 KG/CM^2
PNEUMATIC TEST PRESSURE		
1	AIR PRESSURE	08 KG/CM^2

Forged Steel Gate Valve F/Ends Class 150/300

DESIGN & MANUFACTURING STANDARDS

VALVE DESIGN / SHELL THICKNESS	: API 602 / ISO 15761
FACE TO FACE	: ASME B 16.10
SOCKET/SCREWED/BUTT END CONNECTIONS	: ASME B 16.11/ASME B 1.20.1/ASME B 16.25
PRESSURE TEMP. RATINGS	: ASME B 16.34
INSPECTION & TESTING	: API 598



PART LIST

SR. NO.	ITEM DESCRIPTION	MATERIAL
1	BODY	FORGE STEEL ASTM A 105 / F 182 /F 304/ F 316
2	SEAT RING	AISI 410 (13% CR.) / 304 / 316
3	WEDGE	AISI 410 (13% CR.) / 304 / 316
4	SPINDLE	AISI 410 (13% CR.) / 304 / 316
5	GASKET	S.S 316 SPIRAL WOULD + GRAPHOIL
6	BONNET	FORGE STEEL ASTM A 105 / F 182 /F 304/ F 316
7	HEX BOLT	ASTM A193Gr. B7
8	GLAND PACKING	GRAPHOIL RINGS
9	GLAND BUSH	AISI 410 (410 CR.)
10	EYE BOLT / STUD	ASTM A193Gr. B7
11	GLAND FLANGE	ASTM A 105
12/14	STUD NUT	ASTM A194Gr. 2H
13	YOKE SLEEVE	GRAPHITED ASBESTOS+INCONEL
15	HAND WHEEL	S.G. IRON
17	FLANGE	ASTM A105

SPECIAL FEATURES

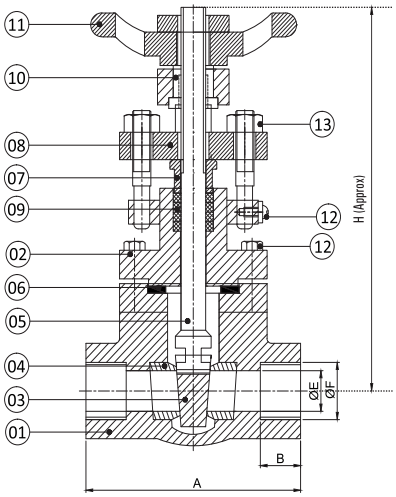
1. Bolted bonnet or welded bonnet.
2. Bolting arrangement facilitates packing maintainance.
3. Reduced or full port.
4. Fully guided solid wedge reduces wear on seating surface.
5. Spiral wound gasket of stainless steel.
6. Spcket weld or threaded ends.
7. Replaceable hardfaced seats.
8. Stelliting on seat and wedge if required.

HYDRAULIC TEST PRESSURE 150#		
1	BODY	32 KG/CM^2
2	SEAT & BACK TEST	23 KG/CM^2
HYDRAULIC TEST PRESSURE 300#		
1	BODY	78 KG/CM^2
2	SEAT & BACK TEST	58 KG/CM^2
PNEUMATIC TEST PRESSURE		
1	AIR PRESSURE	08 KG/CM^2

Forged Steel Gate Valve S/E & S/W Class 800/1500

DESIGN & MANUFACTURING STANDARDS

VALVE DESIGN / SHELL THICKNESS	: API 602 / ISO 15761
FACE TO FACE	: ASME B 16.10
SOCKET/SCREWED/BUTT END CONNECTIONS	: ASME B 16.11/ASME B 1.20.1/ASME B 16.25
PRESSURE TEMP. RATINGS	: ASME B 16.34
INSPECTION & TESTING	: API 598



PART LIST

SR. NO.	ITEM DESCRIPTION	MATERIAL
1	BODY	FORGE STEEL ASTM A 105 / F 182 /F 304/ F 316
2	BONNET	FORGE STEEL ASTM A 105 / F 182 /F 304/ F 316
3	WEDGE	AISI 410 (13% CR.) / 304 / 316
4	SEAT RING	AISI 410 (13% CR.) / 304 / 316
5	SPINDLE	AISI 410 (13% CR.) / 304 / 316
6	GASKET	S.S 316 SPIRAL WOULD + GRAPHOIL
7	GLAND BUSH	AISI 410 (410 CR.)
8	GLAND FLANGE	ASTM A 105
9	GLAND PACKING	GRAPHITED ASBESTOS+INCONEL
10	YOKE SLEEVE	M.S
11	HAND WHEEL	C.I
12	BOLT	ASTM A193Gr. B7
13	EYE BOLT	FORGED C.S
14	HANDWHEEL NUT	C.S
15	SCREW AND WASHER.	M.S

SPECIAL FEATURES

1. Bolted bonnet or welded bonnet.
2. Bolting arrangement facilitates packing maintainance.
3. Reduced or full port.
4. Fully guided solid wedge reduces wear on seating surface.
5. Spiral wound gasket of stainless steel.
6. Spcket weld or threaded ends.
7. Replaceable hardfaced seats.
8. Stelliting on seat and wedge if required.

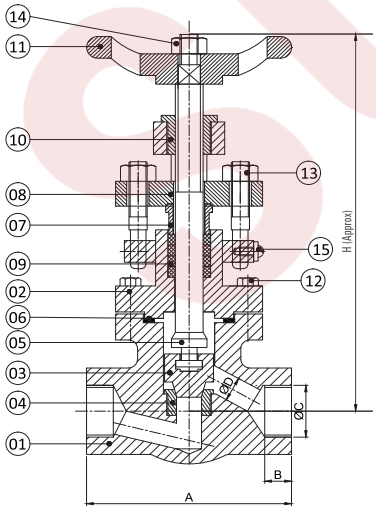
HYDRAULIC TEST PRESSURE 800#

1	BODY	2975 PSIG
2	SEAT & BACK TEST	2175 PSIG
3	AIR TEST	105 PSIG

Forged Steel Globe Valve S/E & S/W Class 800/1500

DESIGN & MANUFACTURING STANDARDS

VALVE DESIGN / SHELL THICKNESS	: ISO 15761
FACE TO FACE	: ASME B 16.10
SOCKET/SCREWED/BUTT END CONNECTIONS	: ASME B 16.11/ASME B 1.20.1/ASME B 16.25
PRESSURE TEMP. RATINGS	: ASME B 16.34
INSPECTION & TESTING	: API 598



PART LIST

SR. NO.	ITEM DESCRIPTION	MATERIAL
1	BODY	FORGE STEEL ASTM A 105 / F 182 /F 304/ F 316
2	BONNET	FORGE STEEL ASTM A 105 / F 182 /F 304/ F 316
3	DISC	AISI 410 (13% CR.) / 304 / 316
4	SEAT RING	AISI 410 (13% CR.) / 304 / 316
5	SPINDLE	AISI 410 (13% CR.) / 304 / 316
6	GASKET	S.S 316 SPIRAL WOULD + GRAPHOIL
7	GLAND BUSH	AISI 410 (410 CR.)
8	GLAND FLANGE	ASTM A 105
9	GLAND PACKING	GRAPHITED ASBESTOS+INCONEL
10	YOKE SLEEVE	M.S
11	HAND WHEEL	C.I
12	BOLT & NUT	ASTM A193Gr. B7/ASTM A194 GR. 2H
13	EYE BOLT	FORGED C.S
14	HANDWHEEL NUT	C.S
15	SCREW AND WASHER	M.S

SPECIAL FEATURES

1. Bolted bonnet or welded bonnet.
2. Bolting arrangement facilitates packing maintainance.
3. Reduced or full port.
4. Spiral wound gasket of stainless steel.
5. Spcket weld or threaded ends.
6. Replaceable hardfaced seats.
7. Stelliting on seat and plug if required.

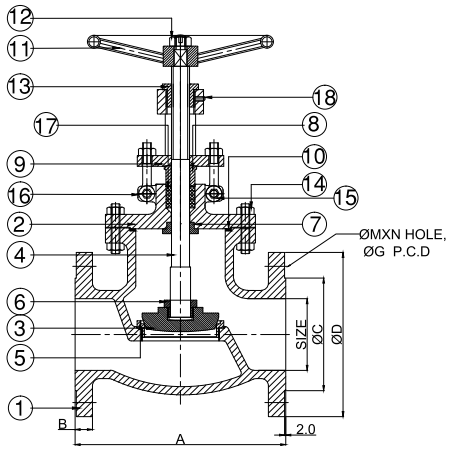
HYDRAULIC TEST PRESSURE 800#

1	BODY	2975 PSIG
2	SEAT & BACK TEST	2175 PSIG
3	AIR TEST	105 PSIG

Globe Valve Class 150/300

DESIGN & MANUFACTURING STANDARDS

VALVE DESIGN / SHELL THICKNESS	: BS 1873
FACE TO FACE	: ASME B 16.10
FLANGED END CONNECTIONS	: ASME B 16.5
PRESSURE TEMP. RATINGS	: ASME B 16.34
BUTT WELD DIMENSION	: API B 16.25
INSPECTION & TESTING	: API 598



PART LIST

SR. NO.	ITEM DESCRIPTION	MATERIAL
1	BODY	ASTM A 216 GR. WCB/A 352 LCB/ A 217 WC6 /
		A 351 CF8 / CF8M / IS 210 GR 220
2	BONNET	ASTM A 216 GR. WCB/A 352 LCB/ A 217 WC6 /
		A 351 CF8 / CF8M / IS 210 GR 220
3	DISC	AISI 410 (13%CR.)/CA15 / 304 / 316
4	SPINDLE	AISI 410 / 304 / 316
5	SEATRING	AISI 410 (13%CR.)/CA15 / 304 / 316
6	DISC NUT	AISI 410 / 304 / 316
7	BACKSEAT BUSH	AISI 410 / 304 / 316
8	GLAND BUSH	AISI 410 / 304 / 316
9	GLAND FLANGE	C.S
10	GASKET	SP. WOUND SS316 GRAPHOIL
11	HAND WHEEL	S.G. IRON
12	HAND WHEEL NUT	ASTM A 194 GR. 2H
13	YOKE BUSH	AL. BRONZE/ GM/ D2/ SGI
14	STUD NUT	ASTM A 193 GR.B7/2H
15	BOLT NUT	ASTM A 194 GR. 2H
16	EYE BOLT & NUT	ASTM A 194 GR. 2H
17	GLAND PACKING	GRAPHITE MOULDED GRAFOIL
18	GURB SCREW	C.S

SPECIAL FEATURES

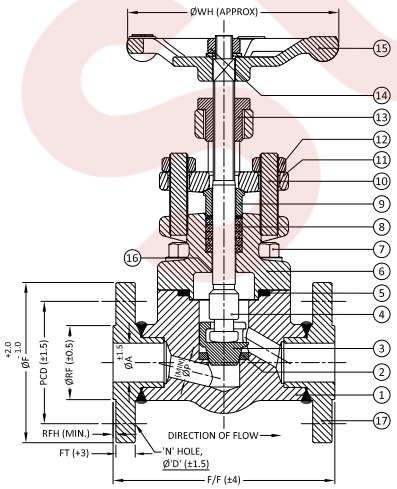
1. Plug type disc.
2. Full port design.
3. Bolted bonnet construction.
4. Flanged / butt welding end connections.
5. Larger dia handwheel.
6. Actuator / Automation available.
7. Stelliting on seat and plug if required.

HYDRAULIC TEST PRESSURE 150#		
1	BODY	32 KG/CM^2
2	SEAT & BACK TEST	23 KG/CM^2
HYDRAULIC TEST PRESSURE 300#		
1	BODY	78 KG/CM^2
2	SEAT & BACK TEST	58 KG/CM^2
PNEUMATIC TEST PRESSURE		
1	AIR PRESSURE	08 KG/CM^2

Forged Steel Globe Valve F/Ends Class 150/300

DESIGN & MANUFACTURING STANDARDS

VALVE DESIGN / SHELL THICKNESS	: ISO 15761
FACE TO FACE	: ASME B 16.10
SOCKET/SCREWED/BUTT END CONNECTIONS	: ASME B 16.11/ASME B 1.20.1/ASME B 16.25
PRESSURE TEMP. RATINGS	: ASME B 16.34
INSPECTION & TESTING	: API 598



PART LIST

SR. NO.	ITEM DESCRIPTION	MATERIAL
1	BODY	FORGE STEEL ASTM A 105 / F 182 /F 304/ F 316
2	SEAT RING	AISI 410 (13% CR.) / 304 / 316
3	PLUG	AISI 410 (13% CR.) / 304 / 316
4	SPINDLE	AISI 410 (13% CR.) / 304 / 316
5	GASKET	S.S 316 SPIRAL WOULD + GRAPHOIL
6	BONNET	FORGE STEEL ASTM A 105 / F 182 /F 304/ F 316
7	HEX BOLT	ASTM A193Gr. B7
8	GLAND PACKING	GRAPHOIL RINGS
9	GLAND BUSH	AISI 410 (410 CR.)
10	EYE BOLT / STUD	ASTM A193Gr. B7
11	GLAND FLANGE	ASTM A 105
12/14	STUD NUT	ASTM A194Gr. 2H
13	YOKE SLEEVE	GRAPHITED ASBESTOS+INCONEL
15	HAND WHEEL	S.G. IRON
17	FLANGE	ASTM A105

SPECIAL FEATURES

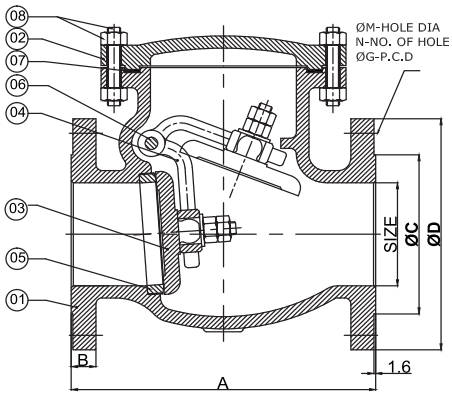
1. Bolted bonnet or welded bonnet.
2. Bolting arrangement facilitates packing maintainance.
3. Reduced or full port.
4. Spiral wound gasket of stainless steel.
5. Spcket weld or threaded ends.
6. Replaceable hardfaced seats.
7. Stelliting on seat and wedge if required.

HYDRAULIC TEST PRESSURE 150#		
1	BODY	32 KG/CM^2
2	SEAT & BACK TEST	23 KG/CM^2
HYDRAULIC TEST PRESSURE 300#		
1	BODY	78 KG/CM^2
2	SEAT & BACK TEST	58 KG/CM^2
PNEUMATIC TEST PRESSURE		
1	AIR PRESSURE	08 KG/CM^2

Swing Check Valve Class 150/300

DESIGN & MANUFACTURING STANDARDS

VALVE DESIGN / SHELL THICKNESS	: BS 1868
FACE TO FACE	: ASME B 16.10
FLANGED END CONNECTIONS	: ASME B 16.5
PRESSURE TEMP. RATINGS	: ASME B 16.34
BUTT WELD DIMENSION	: API B 16.25
INSPECTION & TESTING	: API 598/ BS 5146



PART LIST		
SR. NO.	ITEM DESCRIPTION	MATERIAL
1	BODY	ASTM A 216 GR. WCB/A 352 LCB/ A 217 WC6 /
		A 351 CF8 / CF8M / IS 210 GR 220
2	COVER	ASTM A 216 GR. WCB/A 352 LCB/ A 217 WC6 /
		A 351 CF8 / CF8M / IS 210 GR 220
3	DISC	AISI 410 / 304 / 316
4	LEVER	ASTM A 216 GR. WCB/A 352 LCB/ A 217 WC6 /
		A 351 CF8 / CF8M / IS 210 GR 220
5	SEAT RING	AISI 410 / 304 / 316
6	LEVER PIN	AISI 410 / 304 / 316
7	GASKET	SS 304 SPIRAL WOUND WITH GRAPHITE
8	STUD & NUT	ASTM A 193 Gr B7 / 194 Gr 2H

SPECIAL FEATURES

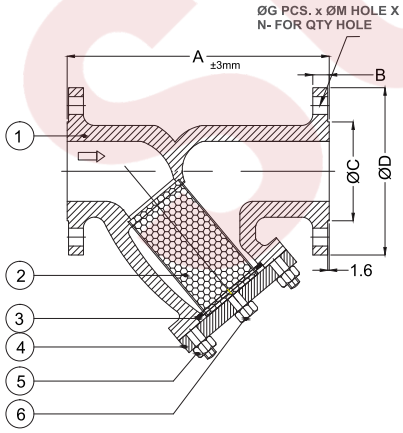
1. Valves meet API 594 requirements.
2. Self aligning free floating disc ensure perfect sealing.
3. Body full bore to ensures streamlined flow hence no
4. pressure drop.
5. Hardened seats minimizes on line erosion & provide
6. maximum service life.
7. Variety of materials available to suit special application requirement.

HYDRAULIC TEST PRESSURE 150#		
1	BODY	32 KG/CM^2
2	SEAT & BACK TEST	23 KG/CM^2
HYDRAULIC TEST PRESSURE 300#		
1	BODY	78 KG/CM^2
2	SEAT & BACK TEST	58 KG/CM^2
PNEUMATIC TEST PRESSURE		
1	AIR PRESSURE	08 KG/CM^2

Strainers Y Type Class 150/300

DESIGN & MANUFACTURING STANDARDS

VALVE DESIGN / SHELL THICKNESS	: ISO 15761
FACE TO FACE	: ASME B 16.10
SOCKET/SCREWED/BUTT END CONNECTIONS	: ASME B 16.11/ASME B 1.20.1/ASME B 16.25
PRESSURE TEMP. RATINGS	: ASME B 16.34
INSPECTION & TESTING	: API 598



PART LIST		
SR. NO.	ITEM DESCRIPTION	MATERIAL
1	BODY	ASTM A 216 GR. WCB/A 352 LCB/ A 217 WC6 /
		A 351 CF8 / CF8M / IS 210 GR 220
2	SCREEN	S.S 304 40mesh x 37 SWG.
3	GASKET	SPIRAL WOUND SS304
4	COVER	ASTM A 216 GR. WCB/A 352 LCB/ A 217 WC6 /
		A 351 CF8 / CF8M / IS 210 GR 220
5	STUD & NUT	ASTM A 193 GR.B7/194 GR.2H
6	PLUG	C.S

SPECIAL FEATURES

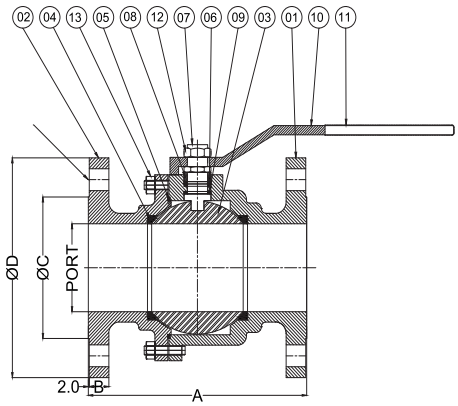
1. Very low pressure drop.
2. Double or triple layers mesh.
3. Easy maintenance.
4. High performance.

HYDRAULIC TEST PRESSURE 150#		
1	BODY	32 KG/CM^2
2	SEAT & BACK TEST	-
HYDRAULIC TEST PRESSURE 300#		
1	BODY	78 KG/CM^2
2	SEAT & BACK TEST	-
PNEUMATIC TEST PRESSURE		
1	AIR PRESSURE	08 KG/CM^2

Ball Valve Full Bore 2pcs F/Ends Class 150/300

DESIGN & MANUFACTURING STANDARDS

VALVE DESIGN / SHELL THICKNESS	: BS 5351
FACE TO FACE	: ASME B 16.10
FLANGED END CONNECTIONS	: ASME B 16.5
PRESSURE TEMP. RATINGS	: ASME B 16.34
INSPECTION & TESTING	: API 598



PART LIST

SR. NO.	ITEM DESCRIPTION	MATERIAL
1	BODY	ASTM A 216 GR. WCB/A 352 LCB/ A 217 WC6 /
		A 351 CF8 / CF8M / CF 3 / CF 3M
2	SIDE PIECE	ASTM A 216 GR. WCB/A 352 LCB/ A 217 WC6 /
		A 351 CF8 / CF8M / CF 3 / CF 3M
3	BALL	AISI 304 / 316 / ASTM A351 GR. CF8/ CF8M
4	SEAT RING	VIRGIN PTFE / GFT / CFT
5	BODY RING	VIRGIN PTFE / GFT / CFT
6	GLAND RING	VIRGIN PTFE / GFT / CFT
7	STEM	S.S. 304 / 316
8	GLAND	S.S. 304 / 316
9	STEM SEAL	VIRGIN PTFE / GFT / CFT
10	HANDLE	S.S. 202 / 304 / 316
11	SLEEVE	PVC
12	LEVER NUT	S.S. 202 / 304 / 316
13	STUD & NUT	S.S. 202 / 304 / 316

SPECIAL FEATURES

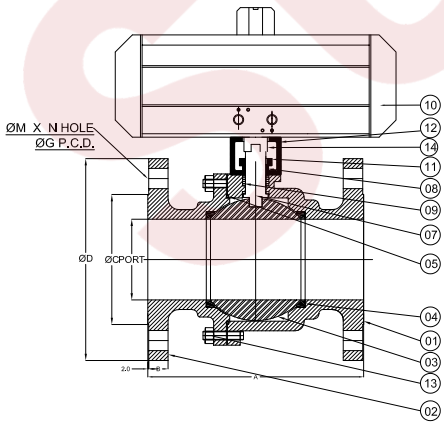
1. Full bore design.
2. Low torque.
3. Fire safe design.
4. Easy maintenance.
5. 3way L port and T port design available.

HYDRAULIC TEST PRESSURE 150#		
1	BODY	32 KG/CM^2
2	SEAT TEST	23 KG/CM^2
HYDRAULIC TEST PRESSURE 300#		
1	BODY	78 KG/CM^2
2	SEAT TEST	58 KG/CM^2
PNEUMATIC TEST PRESSURE		
1	AIR PRESSURE	08 KG/CM^2

Pneumatic / Electrical Actuated Ball Valve Full Bore 2pcs F/Ends Class 150/300

DESIGN & MANUFACTURING STANDARDS

VALVE DESIGN / SHELL THICKNESS	: BS 5351
FACE TO FACE	: ASME B 16.10
FLANGED END CONNECTIONS	: ASME B 16.5
PRESSURE TEMP. RATINGS	: ASME B 16.34
INSPECTION & TESTING	: API 598



PART LIST

SR. NO.	ITEM DESCRIPTION	MATERIAL
1	BODY	ASTM A351 CF8M, CF8, WCB
2	SIDE PIECE	ASTM A351 CF8M, CF8, WCB
3	BALL	ASTM A351 CF8M, CF8
4	SEAT RING	PTFE
5	BODY RING	PTFE
6	GLAND RING	PTFE
7	STEM	S.S. 316, S.S. 304
8	GLAND	S.S. 316, S.S. 304
9	STEM SEAL	PTFE
10	ACTUATOR	ALUMINUM
11	GLAND FLANGE	S.S.304,316,202
12	ACTUATOR PADE	S.S.316,304,202
13	STUD & NUT	S.S.316,304,202
14	CONECTOR	S.S. 316, S.S. 304

SPECIAL FEATURES

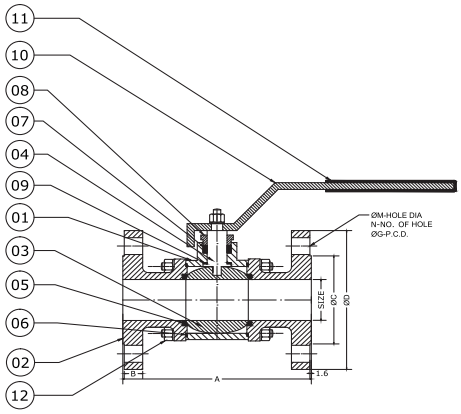
1. Full bore design.
2. Low torque.
3. Fire safe design.
4. Easy maintenance.
5. 3way L port and T port design available.

HYDRAULIC TEST PRESSURE 150#		
1	BODY	32 KG/CM^2
2	SEAT TEST	23 KG/CM^2
HYDRAULIC TEST PRESSURE 300#		
1	BODY	78 KG/CM^2
2	SEAT TEST	58 KG/CM^2
PNEUMATIC TEST PRESSURE		
1	AIR PRESSURE	08 KG/CM^2

Ball Valve Full Bore 3pcs F/Ends Class 150/300

DESIGN & MANUFACTURING STANDARDS

VALVE DESIGN / SHELL THICKNESS	: BS 5351
FACE TO FACE	: ASME B 16.10
FLANGED END CONNECTIONS	: ASME B 16.5
PRESSURE TEMP. RATINGS	: ASME B 16.34
INSPECTION & TESTING	: API 598



PART LIST

SR. NO.	ITEM DESCRIPTION	MATERIAL
1	BODY	ASTM A 216 GR. WCB/A 352 LCB/ A 217 WC6 /
		A 351 CF8 / CF8M / CF 3 / CF 3M
2	ADOPTER	ASTM A 216 GR. WCB/A 352 LCB/ A 217 WC6 /
		A 351 CF8 / CF8M / CF 3 / CF 3M
3	BALL	AISI 304 / 316 / ASTM A351 GR. CF8/ CF8M
4	STEM	S.S. 316 / 304
5	SEAT RING	VIRGIN PTFE / GFT / CFT
6	BODY RING	VIRGIN PTFE / GFT / CFT
7	GLAND RING	VIRGIN PTFE / GFT / CFT
8	GLAND NUT	S.S. 316 / 304
9	STEM SEAL	VIRGIN PTFE / GFT / CFT
10	HANDLE	AISI 202 / 304 / 316
11	SLEEVE	PVC

SPECIAL FEATURES

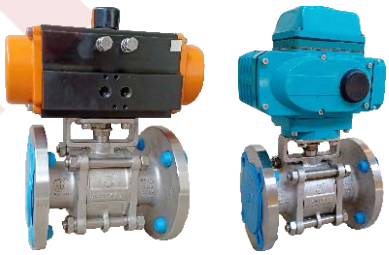
1. Full bore design.
2. Low torque.
3. Fire safe design.
4. Easy maintenance.
5. 3way L port and T port design available.

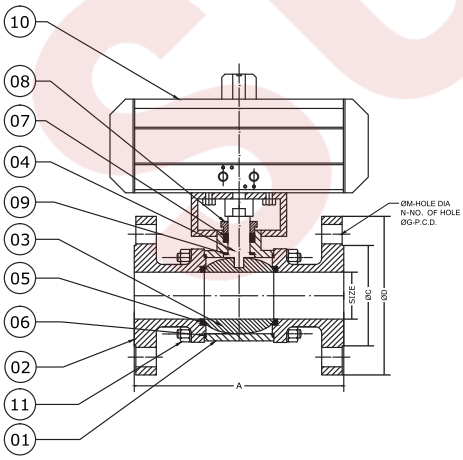
HYDRAULIC TEST PRESSURE 150#		
1	BODY	32 KG/CM^2
2	SEAT TEST	23 KG/CM^2
HYDRAULIC TEST PRESSURE 300#		
1	BODY	78 KG/CM^2
2	SEAT TEST	58 KG/CM^2
PNEUMATIC TEST PRESSURE		
1	AIR PRESSURE	08 KG/CM^2

Pneumatic / Electrical Actuated Ball Valve Full Bore 3pcs F/Ends Class 150/300

DESIGN & MANUFACTURING STANDARDS

VALVE DESIGN / SHELL THICKNESS	: BS 5351
FACE TO FACE	: ASME B 16.10
FLANGED END CONNECTIONS	: ASME B 16.5
PRESSURE TEMP. RATINGS	: ASME B 16.34
INSPECTION & TESTING	: API 598





PART LIST

SR. NO.	ITEM DESCRIPTION	MATERIAL
1	BODY	ASTM A 216 GR. WCB/A 352 LCB/ A 217 WC6 /
		A 351 CF8 / CF8M / CF 3 / CF 3M
2	ADOPTER	ASTM A 216 GR. WCB/A 352 LCB/ A 217 WC6 /
		A 351 CF8 / CF8M / CF 3 / CF 3M
3	BALL	AISI 304 / 316 / ASTM A351 GR. CF8/ CF8M
4	STEM	S.S. 316 / 304
5	SEAT RING	VIRGIN PTFE / GFT / CFT
6	BODY RING	VIRGIN PTFE / GFT / CFT
7	GLAND RING	VIRGIN PTFE / GFT / CFT
8	GLAND NUT	S.S. 316 / 304
9	STEM SEAL	VIRGIN PTFE / GFT / CFT
10	ACTUATOR	PNEUMATIC ROTARY / ELECTRICAL ACTUATOR
11	NUT & WASHER	S.S. 316 / 304 / 202

SPECIAL FEATURES

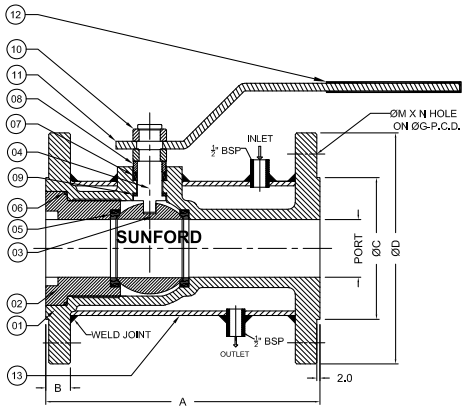
1. Full bore design.
2. Low torque.
3. Fire safe design.
4. Easy maintenance.
5. 3way L port and T port design available.

HYDRAULIC TEST PRESSURE 150#		
1	BODY	32 KG/CM^2
2	SEAT TEST	23 KG/CM^2
HYDRAULIC TEST PRESSURE 300#		
1	BODY	78 KG/CM^2
2	SEAT TEST	58 KG/CM^2
PNEUMATIC TEST PRESSURE		
1	AIR PRESSURE	08 KG/CM^2

Ball Valve Jacketed Full Bore 1pc F/Ends Class 150/300

DESIGN & MANUFACTURING STANDARDS

VALVE DESIGN / SHELL THICKNESS	: BS 5351
FACE TO FACE	: ASME B 16.10
FLANGED END CONNECTIONS	: ASME B 16.5
PRESSURE TEMP. RATINGS	: ASME B 16.34
INSPECTION & TESTING	: API 598



PART LIST

SR. NO.	ITEM DESCRIPTION	MATERIAL
1	BODY	ASTM A351 GR. CF8M/CF8
2	END NUT	ASTM A351 GR. CF8M/CF8
3	BALL	ASTM A351 GR. CF8M/CF8/AISI 304/316
4	STEM	AISI 304/316
5	SEAT RING	VIRGIN PTFE / GFT / CFT / PEEK
6	BODY RING	VIRGIN PTFE / GFT / CFT
7	GLAND RING	VIRGIN PTFE / GFT / CFT
8	GLAND	AISI 304 / 316
9	STEM SEAL	VIRGIN PTFE
10	LEVER NUT	SS 304/316
11	HANDLE	SS 304/316/202/MS
12	SLEEVE	P.V.C.
13	FABRICATED JACKET	CS

SPECIAL FEATURES

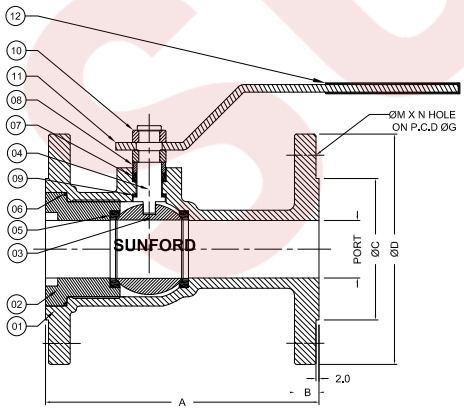
1. Full bore design.
2. Low torque.
3. Fire safe design.
4. Easy maintenance.
5. 3way L port and T port design available.

HYDRAULIC TEST PRESSURE 150#		
1	BODY	32 KG/CM^2
2	SEAT TEST	23 KG/CM^2
HYDRAULIC TEST PRESSURE 300#		
1	BODY	78 KG/CM^2
2	SEAT TEST	58 KG/CM^2
PNEUMATIC TEST PRESSURE		
1	AIR PRESSURE	08 KG/CM^2

Ball Valve Full Bore / Reduce Bore Single Piece Ends Class 150/300

DESIGN & MANUFACTURING STANDARDS

VALVE DESIGN / SHELL THICKNESS	: BS 5351
FACE TO FACE	: ASME B 16.10
FLANGED END CONNECTIONS	: ASME B 16.5
PRESSURE TEMP. RATINGS	: ASME B 16.34
INSPECTION & TESTING	: API 598



PART LIST

SR. NO.	ITEM DESCRIPTION	MATERIAL
1	BODY	ASTM A 216 GR. WCB/A 352 LCB/ A 217 WC6 /
		A 351 CF8 / CF8M / CF 3 / CF 3M
2	END NUT	ASTM A 216 GR. WCB/A 352 LCB/ A 217 WC6 /
		A 351 CF8 / CF8M / CF 3 / CF 3M
3	BALL	AISI 304 / 316 / ASTM A351 GR. CF8/ CF8M
4	STEM	S.S. 304 / 316
5	SEAT RING	VIRGIN PTFE / GFT / CFT
6	BODY RING	VIRGIN PTFE / GFT / CFT
7	GLAND RING	VIRGIN PTFE / GFT / CFT
8	GLAND	S.S. 304 / 316
9	STEM SEAL	VIRGIN PTFE
10	LEVER NUT	S.S. 304 / 316
11	HANDLE	S.S. 202 / 304 / 316
12	SLEEVE	PVC

SPECIAL FEATURES

1. Full bore design.
2. Low torque.
3. Fire safe design.
4. Easy maintenance.
5. 3way L port and T port design available.

HYDRAULIC TEST PRESSURE 150#		
1	BODY	32 KG/CM^2
2	SEAT TEST	23 KG/CM^2
HYDRAULIC TEST PRESSURE 300#		
1	BODY	78 KG/CM^2
2	SEAT TEST	58 KG/CM^2
PNEUMATIC TEST PRESSURE		
1	AIR PRESSURE	08 KG/CM^2

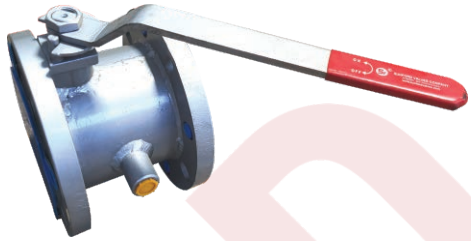
Flush Bottom Ball Valves Class 150/300

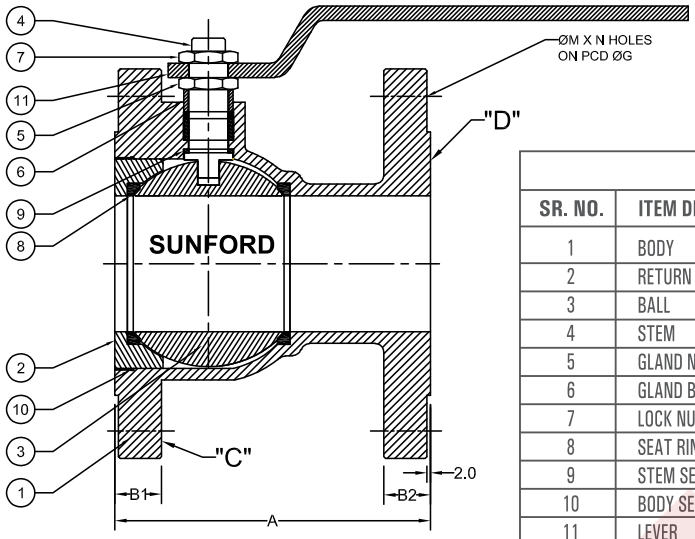
DESIGN & MANUFACTURING STANDARDS

FLANGED END CONNECTIONS : ASME B 16.5

PRESSURE TEMP. RATINGS : ASME B 16.34

INSPECTION & TESTING : API 598





PART LIST		
SR. NO.	ITEM DESCRIPTION	MATERIAL
1	BODY	CF8M
2	RETURN NUT	SS 316
3	BALL	SS 316
4	STEM	SS 316
5	GLAND NUT	SS 316
6	GLAND BUSH	SS 316
7	LOCK NUT	SS 316
8	SEAT RING	CFT
9	STEM SEAL	VIRGIN PTFE
10	BODY SEALENT RING	VIRGIN PTFE
11	LEVER	MS FABRICATED
12	PIPE JACKET	MS FABRICATED

SPECIAL FEATURES		
1. Full port / Reduce port design. 2. Low Torque. 3. Easy Maintenance. 4. Actuator / Automation available.		
HYDRAULIC TEST PRESSURE 150#		
1	BODY	32 KG/CM^2
2	SEAT TEST	23 KG/CM^2
HYDRAULIC TEST PRESSURE 300#		
1	BODY	78 KG/CM^2
2	SEAT TEST	58 KG/CM^2
PNEUMATIC TEST PRESSURE		
1	AIR PRESSURE	08 KG/CM^2

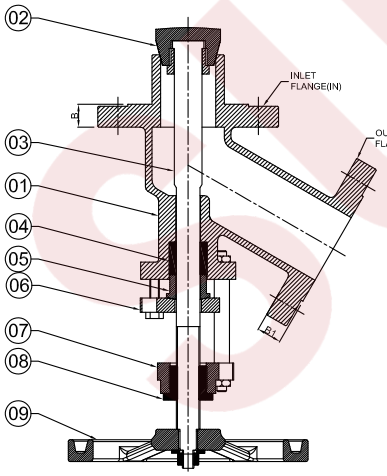
Flush Bottom Valve F/Ends Class 150/300

DESIGN & MANUFACTURING STANDARDS

FLANGED END CONNECTIONS : ASME B 16.5

PRESSURE TEMP. RATINGS : ASME B 16.34

INSPECTION & TESTING : API 598



SECTION A-A

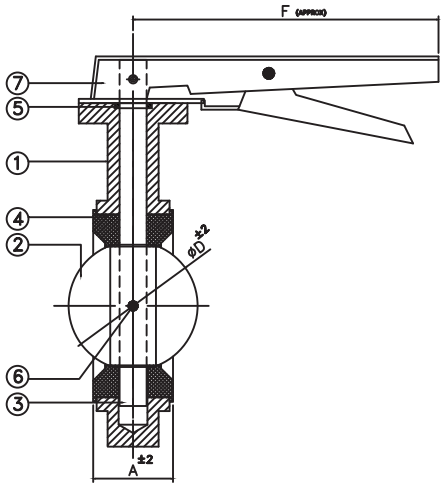
PART LIST		
SR. NO.	ITEM DESCRIPTION	MATERIAL
1	BODY	ASTM S.S. 304, S.S. 316, ASTM A216 WCB
2	PLUG	AISI S.S. 304, S.S. 316
3	STEM	AISI S.S. 304, S.S. 316
4	GLAND PAKING	PTFE, GRAFOILE
5	GLAND	CS, SS 304
6	GLAND FLANGE	CS, SS 304
7	YOKE BUSH HOUSING	CS, SS 304
8	YOKE BUSH	GUNMETAL
9	HAND WHEEL	CI, SS 304

SPECIAL FEATURES		
1. Longer life & durability. 2. Low torque. 3. Standard design. 4. Easy maintenance.		
HYDRAULIC TEST PRESSURE PN 10		
1	BODY	15 KG/CM^2
2	SEAT TEST	10 KG/CM^2
HYDRAULIC TEST PRESSURE PN 16		
1	BODY	22 KG/CM^2
2	SEAT TEST	16 KG/CM^2
PNEUMATIC TEST PRESSURE		
1	AIR PRESSURE	08 KG/CM^2

Wafer Type Butterfly Valve PN 10 / PN 16

DESIGN & MANUFACTURING STANDARDS

VALVE DESIGN / SHELL THICKNESS	: BS 5155 / API 609 / EN 593 / IS 13095
FACE TO FACE	: BS 5155 / ISO 5752 / API 609
FLANGED END CONNECTIONS	: ASME B 16.5 / BS 10 TAB D & E IS 6392 NP 0.6 / 1.0 / 1.6 \
INSPECTION & TESTING	: API 598 / BS 6755 Part-1 / EN 12266-1



PART LIST

SR. NO.	ITEM DESCRIPTION	MATERIAL
1	BODY	CAST IRON / SGI / CS / SS 304 / SS 316
2	DISC	CAST IRON / SGI / CS / SS 304 / SS 316
3	SPINDLE	SS 410 / 304 / 316
4	BODY LINING	NITRILE / E.P.D.M. / SILICON / VITON / HYPALON
5	'O' RING	NITRILE / E.P.D.M.
6	PIN	SS 304 / 316
7	LEVEL	MS FABRICATED

SPECIAL FEATURES

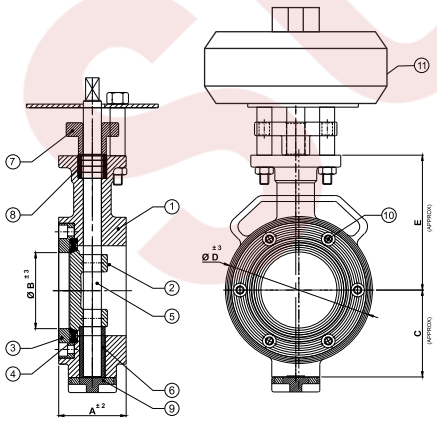
1. Longer life & durability.
2. Low torque.
3. Standard design.
4. Easy maintenance.

HYDRAULIC TEST PRESSURE PN 10		
1	BODY	15 KG/CM^2
2	SEAT TEST	10 KG/CM^2
HYDRAULIC TEST PRESSURE PN 16		
1	BODY	22 KG/CM^2
2	SEAT TEST	16 KG/CM^2
PNEUMATIC TEST PRESSURE		
1	AIR PRESSURE	08 KG/CM^2

Pneumatic / Electrical Actuated Butterfly Valve

DESIGN & MANUFACTURING STANDARDS

VALVE DESIGN / SHELL THICKNESS	: BS 5351
FACE TO FACE	: ASME B 16.10
FLANGED END CONNECTIONS	: ASME B 16.5
PRESSURE TEMP. RATINGS	: ASME B 16.34
INSPECTION & TESTING	: API 598



PART LIST

SR. NO.	ITEM DESCRIPTION	MATERIAL
1	BODY	WCB / CF8 / CF8M
2	DISC	CF8 / CF8M
3	RETAINER	WCB / CF8/CF8M
4	SEAT RING	PTFE / GFT / VITON
5	SHAFT	AISI 410 / 304 / 316
6	SHAFT BEARING BUSH	AISI 410 / 304 / 316
7	GLAND	WCB/CF8
8	GLAND PACKING	PTFE
9	BOTTOM COVER	WCB / Cf8
10	L.N. BOLT	SS 202 / SS 304
11	ACTUATOR	PNEUMATIC / ELECTRICAL ACTUATOR

SPECIAL FEATURES

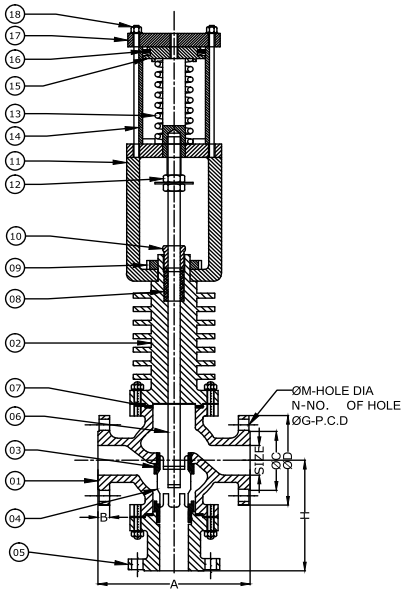
1. Longer life & durability.
2. Low torque.
3. Standard design.
4. Easy maintenance.

HYDRAULIC TEST PRESSURE PN 10		
1	BODY	15 KG/CM^2
2	SEAT TEST	10 KG/CM^2
HYDRAULIC TEST PRESSURE PN 16		
1	BODY	22 KG/CM^2
2	SEAT TEST	16 KG/CM^2
PNEUMATIC TEST PRESSURE		
1	AIR PRESSURE	08 KG/CM^2

Control Valve 3way / 2way Class 150/300

DESIGN & MANUFACTURING STANDARDS

FACE TO FACE	: As per Below Table
FLANGED END CONNECTIONS	: ASME B 16.5
PRESSURE TEMP. RATINGS	: ASME B 16.34
BUTT WELD DIMENSION	: API B 16.25
INSPECTION & TESTING	: API 598/ BS 5146



PART LIST

SR. NO.	ITEM DESCRIPTION	MATERIAL
1	BODY	ASTM A216 GR. WCB/ASTM A351 GR. CF8/CF8M
2	BONNET	ASTM A216 GR. WCB/ASTM A351 GR. CF8/CF8M
3	SEAT	AISI 304/316/410
4	PLUG	AISI 304/316/410
5	TAIL PIECE	ASTM A216 GR. WCB/ASTM A351 GR. CF8/CF8M
6	STEM	AISI 304/316
7	GASKET	S.S. 304 SPW+GRAPHITE
8	GLAND	GRAPHOIL
9	CHECK NUT	MS
10	GLAND NUT	AISI 304/316/410
11	ACTUATOR STAND	SG IRON/ASTM A216 GR. WCB
12	SETTING NUT	ASTM A193 B7/A194 2H
13	SPRING	STAINLESS STEEL
14	CYLINDER	ALUMINUM / S.S. 316 / S.S. 304
15	PISTON	SG IRON
16	"V" RING	NITRILE RUBBER/VITTON RUBBER
17	ACTUATOR COVER	SG IRON/ASTM A216 GR. WCB
18	STUD & NUT	ASTM A193 B7/A194 2H

SPECIAL FEATURES

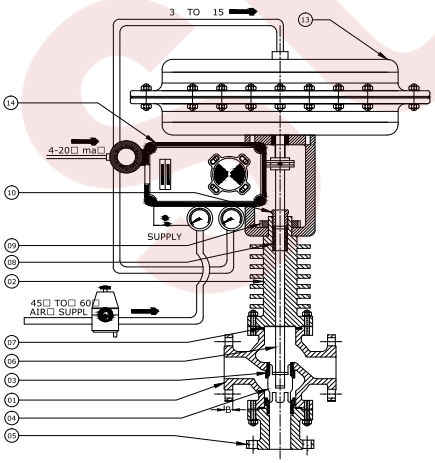
1. High rated Valve capacity and range ability.
2. Heavy – Duty ground and polished stems.
3. Wide range of interchangeable trim sizes.
4. Bellow seals available for positive stem sealing.
5. Comprehensively designed and tested to ensure its optimum performance for the tough process parameters specified.
6. Motorized Actuator Available.

HYDRAULIC TEST PRESSURE 150#		
1	BODY	32 KG/CM^2
2	SEAT & BACK TEST	23 KG/CM^2
HYDRAULIC TEST PRESSURE 300#		
1	BODY	78 KG/CM^2
2	SEAT & BACK TEST	58 KG/CM^2
PNEUMATIC TEST PRESSURE		
1	AIR PRESSURE	08 KG/CM^2

Modulating Control Valve 3way / 2way Class 150/300

DESIGN & MANUFACTURING STANDARDS

FACE TO FACE	: As per Below Table
FLANGED END CONNECTIONS	: ASME B 16.5
PRESSURE TEMP. RATINGS	: ASME B 16.34
BUTT WELD DIMENSION	: API B 16.25
INSPECTION & TESTING	: API 598/ BS 5146



PART LIST

SR. NO.	ITEM DESCRIPTION	MATERIAL
1	BODY	ASTM A216 GR. WCB/ASTM A351 GR. CF8/CF8M
2	BONNET	ASTM A216 GR. WCB/ASTM A351 GR. CF8/CF8M
3	SEAT	AISI 410 304/316
4	PLUG	AISI 410 304/316
5	TAIL PIECE	ASTM A216 GR. WCB/ASTM A351 GR. CF8/CF8M
6	STEM	AISI 410 304/316
7	GASKET	S.S. 304 SPW+GRAPHITE
8	GLAND	GRAPHOIL
9	CHECK NUT	MS
10	GLAND NUT	AISI 410 304/316
11	ACTUATOR STAND	SG IRON/ASTM A216 GR. WCB
12	SETTING NUT	ASTM A193 B7/A194 2H
13	ACTUATOR	MULTI SPRING OPERATED DIAPHRAGM ACTUATOR
14	POSITIONER	ELECTRO PNEUMATIC SMART POSITIONER

SPECIAL FEATURES

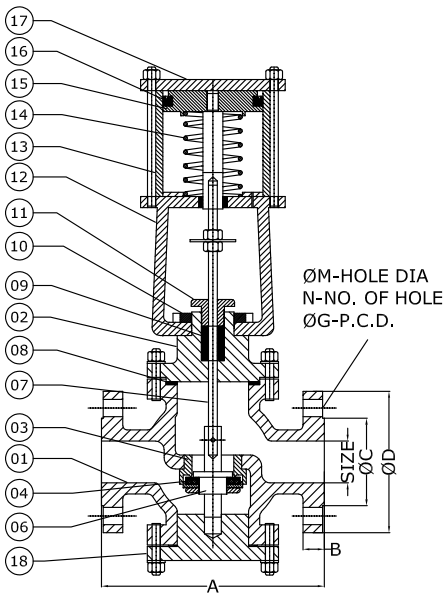
1. High rated Valve capacity and range ability.
2. Heavy – Duty ground and polished stems.
3. Wide range of interchangeable trim sizes.
4. Bellow seals available for positive stem sealing.
5. Comprehensively designed and tested to ensure its optimum performance for the tough process parameters specified.
6. Motorized Actuator Available.

HYDRAULIC TEST PRESSURE 150#		
1	BODY	32 KG/CM^2
2	SEAT & BACK TEST	23 KG/CM^2
HYDRAULIC TEST PRESSURE 300#		
1	BODY	78 KG/CM^2
2	SEAT & BACK TEST	58 KG/CM^2
PNEUMATIC TEST PRESSURE		
1	AIR PRESSURE	08 KG/CM^2

Control Valve 2way Class 150/300

DESIGN & MANUFACTURING STANDARDS

FACE TO FACE	: As per Below Table
FLANGED END CONNECTIONS	: ASME B 16.5
PRESSURE TEMP. RATINGS	: ASME B 16.34
BUTT WELD DIMENSION	: API B 16.25
INSPECTION & TESTING	: API 598/ BS 5146



PART LIST

SR. NO.	ITEM DESCRIPTION	MATERIAL
1	BODY	ASTM A216 GR. WCB / CF8 / CF8M
2	BONNET	ASTM A216 GR. WCB / CF8 / CF8M
3	SEAT	AISI 304 / 316
4	PLUG TEFLON	VIRGIN PTFE / GFT / CFT
5	TAIL PIECE	ASTM A216 GR. WCB / CF8 / CF8M
6	PLUG	AISI 304 / 316
7	STEM	AISI 304 / 316
8	GASKET	SS 304 SPW+GRAPHITE
9	GLAND	GRAPHOIL
10	LOCK NUT	MS
11	GLAND NUT	AISI 304/316/410
12	ACTUATOR STAND	SG IRON / ASTM A216 GR. WCB
13	CYLINDER	ALUMINUM
14	SPRING	STAINLESS STEEL
15	PISTON	SG IRON
16	"V" RING	NITRILE / VITTON RUBBER
17	ACTUATOR COVER	SG IRON / ASTM A216 GR. WCB

SPECIAL FEATURES

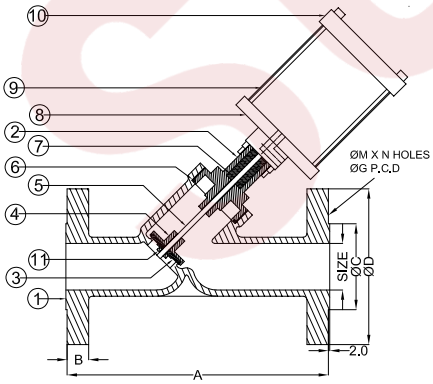
1. High rated Valve capacity and range ability.
2. Heavy – Duty ground and polished stems.
3. Wide range of interchangeable trim sizes.
4. Bellow seals available for positive stem sealing.
5. Comprehensively designed and tested to ensure its optimum performance for the tough process parameters specified.
6. Motorized Actuator Available.

HYDRAULIC TEST PRESSURE 150#		
1	BODY	32 KG/CM^2
2	SEAT & BACK TEST	23 KG/CM^2
HYDRAULIC TEST PRESSURE 300#		
1	BODY	78 KG/CM^2
2	SEAT & BACK TEST	58 KG/CM^2
PNEUMATIC TEST PRESSURE		
1	AIR PRESSURE	08 KG/CM^2

Y Type Control Valve With Pneumatic Cylinder Class 150

DESIGN & MANUFACTURING STANDARDS

FACE TO FACE	: As per Below Table
FLANGED END CONNECTIONS	: ASME B 16.5
PRESSURE TEMP. RATINGS	: ASME B 16.34
BUTT WELD DIMENSION	: API B 16.25
INSPECTION & TESTING	: API 598/ BS 5146



PART LIST

SR. NO.	ITEM DESCRIPTION	MATERIAL
1	BODY	SS 304 / 316
2	BONNET	SS 304 / 316
3	SEAT	PTFE
4	PLUG	SS 304 / 316
5	STEM	SS 304 / 316
6	GASKET	PTFE / SPIRAL WOUND
7	GLAND	PTFE / GRAFOIL
8	BOTTOM PLATE	SS 304
9	CYLINDER	ALUMINUM
10	TOP PLATE	SS 304
11	NUT	SS 304

SPECIAL FEATURES

1. High rated Valve capacity and range ability.
2. Heavy – Duty ground and polished stems.
3. Wide range of interchangeable trim sizes.
4. Bellow seals available for positive stem sealing.
5. Comprehensively designed and tested to ensure its optimum performance for the tough process parameters specified.

HYDRAULIC TEST PRESSURE 150#		
1	BODY	31 KG/CM^2
2	SEAT & BACK TEST	22 KG/CM^2
PNEUMATIC TEST PRESSURE		
1	AIR PRESSURE	07 KG/CM^2

3 Way Ball Valve With Rotary Actuator

Three Way Ball Valve is available in either "L" Port or "T" Port.
"L" Port Three Way Ball Valve is used for pipelines to switch the flow direction of two flow lines perpendicular with each other.
"T" Port Three Way Ball Valve is used for diverting, mixing or switching the flow direction. Ball passage is able to switch on three flow lines or switch on two of the three flow lines.

FEATURES

- Four Seat for equal seat loading
- Multiple Gland Packing, Seals & Spring Washer for zero leakage from gland.

MOUTING

Interface	:	ISO 5211
Body MOC	:	CS, CF8, CF8M
Trim MOC	:	CF8, CF8M
Seat MOC	:	PTFE, GFT, PEK (Special on Request)
Size	:	1" (25mm) to 8" (200mm)

Technical Data

Flange Dimension as per ASME B 16.5 & F to F as per ASME B 16.10

ASME CLASS 150														
SIZE	15	20	25	40	50	65	80	100	125	150	200	250	300	350
GATE VALVE	108	117	127	165	178	190	203	229	254	267	292	330	356	381
GLOBE VALVE	108	117	127	165	203	216	241	292	356	406	495	622	699	787
BALL VALVE	108	117	127	165	178	190	203	229	-	394	457	533	610	686
CHECK VALVE	108	117	127	165	203	216	241	292	330	356	495	622	699	787
STRAINER	108	117	127	165	203	216	241	292	356	406	495	622	699	787
2/3WAY CV	108	117	186	223	254	279	300	365	356	406	495	622	-	-
Bore	12.7	19.1	25.4	38.1	50.8	63.5	76.2	101.6	127	152	203	254	304.8	336.5
Flange Od	90	100	110	125	150	180	190	230	255	280	345	405	485	533
Flange. Th. with RF.	9.6	10.6	11.1 (14)	14.3 (17.9)	16 (19)	17.5 (22.3)	19.1 (24)	24	24	25	28.5	30	32	35
RF Dia	34.9	42.9	51	73	92	105	127	157	186	216	270	324	381	413
RF Height.	2	2	2	2	2	2	2	2	2	2	2	2	2	2
P.C.D.	60.3	69.9	79	98.5	121	140	152	191	216	241	298	362	432	476
No. of Hole	4	4	4	4	4	4	4	8	8	8	8	12	12	16
Hole Dia	16	16	16	16	19	19	19	19	22	22	22	25	25	29

ASME CLASS 300											
25	40	50	65	80	100	125	150	200	250	300
165	190	216	241	282	305	381	403	419	457	502
203	229	267	292	318	356	400	444	559	622	711
165	190	216	241	282	305	403	-	-	-	-
216	241	267	292	318	356	400	444	533	622	711
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
25.4	38.1	50.8	63.5	76.2	101.6	127	152.4	203	254	304.8
125	155	165	190	210	255	280	320	380	445	520
17.5	20.7	22.3	25.4	28.6	31.8	35	36.5	41	47.5	51
51	73	92	105	127	157	186	216	270	324	381
2	2	2	2	2	2	2	2	2	2	2
89	114.5	127	149	168	200	235	270	330	387	451
4	4	8	8	8	8	8	12	12	16	16
19	19	19	22	22	22	22	22	25	19	32

ASME B16.34/B16.5 (-29 TO +38°C) MAX. WORKING & TEST PRESSURES

ITEM	150	300	600	900	1500	2500
Working Pressure	285	740	990	2220	3705	6170
Shell Test	450	1125	1500	3350	5575	9275
Shell Test	315	815	1090	2445	4047	6790

ANSI -American National Standards Institute

B16.34:	"Valves - Flanged, Threaded, and Welding End"
B16.10:	"Face-to-Face and End-to-End Dimensions of Valves"
B 16.5:	"Pipe Flanges and Flanged Fittings"

API - American Petroleum Institute

API 600:	"Bolted Bonnet Steel Gate Valve for Petroleum and Natural Gas Industries"
API 602:	"Compact Steel Gate Valves - Flanged, Threaded, Welding, and Extended-Body Ends"
API 598:	"Valve Inspection and Testing"

TECHNICAL DATA

ANSI B16.34 / 16.5 - Pressure and Temperature Ratings

A216-WCB (Carbon Steel)

Temperature °F (°C)	Pressure, psig (kg/cm2g)					
	150	300	600	900	1500	2500
-20 ~ 100 (-30 ~ 38)	285 (20.0)	740 (52.0)	1480 (104.1)	2220 (156.1)	3705 (260.5)	6170 (433.8)
200 (93)	260 (18.3)	675 (47.5)	1350 (94.9)	2025 (142.4)	3375 (237.3)	5625 (395.5)
300 (149)	230 (16.2)	655 (46.1)	1315 (92.5)	1970 (138.5)	3280 (230.6)	5470 (384.6)
400 (204)	200 (14.1)	635 (44.6)	1270 (89.3)	1900 (133.6)	3170 (222.9)	5280 (371.2)
500 (260)	170 (12.0)	600 (42.2)	1200 (84.4)	1795 (126.2)	2995 (210.5)	4990 (350.8)
600 (316)	140 (9.8)	550 (38.7)	1095 (77.0)	1640 (115.3)	2735 (192.3)	4560 (320.6)
650 (343)	125 (8.8)	535 (37.6)	1075 (75.6)	1610 (113.2)	2685 (188.8)	4475 (314.6)
700 (371)	110 (7.7)	535 (37.6)	1065 (74.9)	1600 (112.5)	2665 (187.4)	4440 (312.2)
750 (399)	95 (6.7)	505 (35.5)	1010 (71.0)	1510 (106.2)	2520 (177.2)	4200 (295.3)
800 (427)	80 (5.6)	410 (28.8)	825 (58.0)	1235 (86.8)	2060 (144.8)	3430 (241.2)

A182-F316, A351-CF3M, CF8M (Stainless Steel)

Temperature °F (°C)	Pressure, psig (kg/cm2g)					
	150	300	600	900	1500	2500
-20 ~ 100 (-30 ~ 38)	275 (19.3)	720 (50.6)	1440 (101.2)	2160 (151.9)	3600 (253.1)	6000 (421.9)
200 (93)	235 (16.5)	620 (43.6)	1240 (87.2)	1860 (130.8)	3095 (217.6)	5160 (362.8)
300 (149)	215 (15.1)	560 (39.4)	1120 (78.7)	1680 (118.1)	2795 (196.5)	4660 (327.6)
400 (204)	195 (13.7)	515 (36.2)	1025 (72.1)	1540 (108.3)	2570 (180.7)	4280 (300.9)
500 (260)	170 (12.0)	480 (33.7)	955 (67.1)	1435 (100.9)	2390 (168.0)	3980 (279.8)
600 (316)	140 (9.8)	450 (31.6)	900 (63.3)	1355 (95.3)	2255 (158.5)	3760 (264.4)
650 (343)	125 (8.8)	445 (31.3)	890 (61.6)	1330 (93.5)	2220 (156.1)	3700 (260.1)
700 (371)	110 (7.7)	430 (30.2)	870 (61.2)	1305 (91.8)	2170 (152.6)	3620 (254.5)
750 (399)	95 (6.7)	425 (29.9)	1010 (71.0)	1280 (90.0)	2135 (150.1)	3560 (250.3)
800 (427)	80 (5.6)	415 (29.2)	845 (59.4)	1265 (88.9)	2110 (148.4)	3320 (247.5)

ASTM MATERIALS COMPOSITION

MATERIAL GRADE SPECIFICATION

METAL GRADE	STANDARD		CHEMICAL COMPOSITION												MECHANICAL PROPERTIES (MPa)			
			C	Si	Mn	S	P	Cr	Ni	Mo	Cu	V	CE	N	Ts	Ys	% Elong.	% Red. Area
WCB	ASTM A 216	MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	485	250	22	35
		MAX	0.300	0.600	1.000	0.035	0.035	0.500	0.500	0.200	0.300	0.030	0.500	-	655			
WCC	ASTM A 216	MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	485	275	22	35
		MAX	0.250	0.600	1.200	0.035	0.035	0.500	0.500	0.200	0.300	0.030	0.500	-	655			
CF8	ASTM A 351	MIN	0.000	0.000	0.000	0.000	0.000	18.000	8.000	0.000	-	-	-	-	485	205	35	
		MAX	0.080	2.000	1.500	0.040	0.040	21.000	11.000	0.500	-	-	-	-				
CF3	ASTM A 351	MIN	0.000	0.000	0.000	0.000	0.000	17.000	8.000	0.000	-	-	-	-	485	205	35	
		MAX	0.030	2.000	1.500	0.040	0.040	21.000	12.000	0.500	-	-	-	-				
CF8M	ASTM A 351	MIN	0.000	0.000	0.000	0.000	0.000	18.000	9.000	2.000	-	-	-	-	485	205	30	
		MAX	0.080	1.500	1.500	0.040	0.040	21.000	12.000	3.000	-	-	-	-				
CF3M	ASTM A 351	MIN	0.000	0.000	0.000	0.000	0.000	17.000	9.000	2.000	-	-	-	-	485	205	35	
		MAX	0.030	1.500	1.500	0.040	0.040	21.000	13.000	3.000	-	-	-	-				
Gr.4 A	ASTM A 890	MIN	0.000	0.000	0.000	0.000	0.000	21.000	4.500	2.500	0.000	-	-	0.100	620	415	25	
		MAX	0.030	1.000	1.500	0.020	0.040	23.500	6.500	3.500	1.000	-	-	0.300				
A105	ASTM A 105 NACE	MIN	0.30	0.10	0.60	0.000	0.035	0.30	0.40	-	-	-	-	-	485	250	22	
		MAX	0.35	0.35	1.05	0.04	0.035	0.30	0.40	0.12	0.40	-	-	-	-	-		

DURATION OF TEST

VALVE SIZE (MM)	Minimum Test Duration (Seconds)				
	SHELL		Backseat	CLOSURE	
	Check Valves	Other Valves		Check Valves	Other Valves
≤50MM	60	15	15	60	15
65MM - 150MM	60	60	60	60	60
200MM - 300MM	60	120	60	60	120
≤350MM	120	300	60	120	120

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