SAMAMAT

SAMAMAT FLOW CONTROL L.L.C.

BUTTERFLY VALVES

SAMAMAT FLOW CONTROL L L C – COMPANY PROFILE

COMPANY LOCATION		
	Company Address:	**Plot No. 597 -4904, Warehouse No.6 & 7, P.O. Box: 96047, DIP -2, Dubai, UAE, UAE**
	Telephone No:	**+ 971 48842212**
	Fax:	**+ 971 4884 2213**
	Web:	**www.samamatuae.com**
	Contact:	**info@samamatuae.com**
	Employees:	**80**
COMPANY INFORMATION	**Product:**	**Ball Valve, DBB Ball valve, Butterfly Valve, Gate Valve, Check Valve, Globe valve, Dual Plate Check Valve**
	Product Size:	**½ "to 58 "**
COMPANY SIZE	**Machine Shop Area:**	**14,000 sq. ft.**
	Welding Shop Area:	**2,000 sq. ft.**
	Assembly & Testing Area:	**12,000 sq. ft.**
	Painting Area & Stores:	**5,000 & 12,000 sq. ft.**
TRANSPORTATION	**Airport:**	**DXB 35.1 KM. DWC 10.5 KM**
	Seaport:	**Jebel Ali 16.4 KM**
CAPABILITY	**MANUFACTURING** Ball Valve (1/2"-46"), Gate Valve (1/2"-36"), Globe Valve (1/2"-20") Check Valve (1/2"-24"), Butterfly Valve (1/2"-58"), Motor Operated Valve (MOV) Emergency Shutdown Valves (ESD), Actuated valves with Hydraulic actuator, Gas over Oil, Electro Pneumatic ETC….	
	SERVICING Refurbishment of all kind of Ball, GGC & Butterfly Valves, Integration of Actuators, Hydro Testing & FET, Machining & Painting.	
	CLADDING Welding & Overlay of Valves & Flanges Cladding from 4" to 36" Flanges and Valves. Maximum Bore Depth: up to 300mm for 4" and up to 800mm from 6" up to 32" Weldable Bore Dia.: 800mm	

Samamat Flow Control L.L.C. is a UAE-based Valve-Manufacturing and Valve-Servicing Company for the process, power, and energy-related industries. Samamat has state-of-the-art manufacturing facility, producing high-quality valves to meet specific requirements of both local and international clients. This modern facility is supported by a specialized team of highly-skilled, ingenious technicians who ensure that the valves consistently deliver high performance and adherence to international standards.

Samamat has been specially organized to meet client requirements through an in-house testing facility of MT, PT, UT, Hardness, Chemical Analysis and PMI, in line with Machining, Assembling, Testing, Inspection, Welding and Packing. The facility is situated in Dubai Investment Park, Dubai, UAE.

Samamat also excels in delivering outstanding services to its customers. All team members are trained to work in a SMART, dedicated and timely basis to ensure that they keep their promise to stakeholders like customers, colleagues, suppliers, regulators, financiers, and shareholders.

Mission

To offer a wide range of products and specialized services for Valves and Flanges while ensuring that the customer's needs are met on time and according to specifications.

Vision

To become a global leader in providing innovative products and services for the Flow-Control industry, creating value in order to meet customer expectations in terms of quality, reliability and customer service.

Values

Integrity | Building Relationships
Ownership & Commitment | Teamwork | Customer Focus

Quality Policy

It is the policy of Samamat Flow Control to achieve rapid and continual improvement in performance to ensure that Design, Development and Manufacturing of all product of Samamat Flow Control meet or exceed API/PED design specifications and customer requirements.

ABOUT US

QUALITY CONTROL

Samamat Flow Control L.L.C. is designed to achieve the goals to produce high quality of valves and flanges to meet the client requirements and complying to standards with State of the Art equipment, facilities and well skilled and trained workers supported by highly qualified and certified technical engineering staff.

Samamat Flow Control L.L.C. have been well organized to perform all testing requirements, with in-house facility to ensure the quality of the product by qualified NDT Inspector and AWS Certified Welding Inspector.

Test Performed In-house are:

- Magnetic Particle Examination (MT)
- Ultrasonic Examination (UT)
- Dye Penetrant Examination (DP)
- Positive Material Identification (PMI)
- Hardness Test
- Valve Pressure Test

Samamat Flow Control' s Quality Management System has been certified in accordance with: ISO 9001:2015, API Spec. Q1: 9th Edition, Pressure Equipment Directive 2014/68/EU (PED) and our products meets design standards API 6D, API 594, API 600, API 602 & PED 2014/68/EU and Fire Safe according to API 607, API 6FA & ISO 10497.

SAMAMAT

CERTIFICATES

ISO 9001:2015

QMS REGISTERED

Certificate of Registration

APIQR® REGISTRATION NUMBER
3622

This certifies that the quality management system of
SAMAMAT FLOW CONTROL L.L.C.
96047 Ware House # 6
Plot # 597-4904 Dubai Investment Park 2
Dubai
United Arab Emirates

has been assessed by the American Petroleum Institute Quality Registrar (APIQR®) and found it to be in conformance with the following standard

ISO 9001:2015

The scope of this registration and the approved quality management system applies to the
Design, Development, Manufacture and Servicing of Valves and Flanges

APIQR® approves the organization's justification for excluding
No Exclusions Identified as Applicable

Effective Date: MAY 1, 2018
Expiration Date: MAY 1, 2021
Registered Since: MAY 1, 2018

Executive Vice President

API SPEC Q1

API

REGISTRATION NO. Q1-3467

Certificate of Registration

The American Petroleum Institute certifies that the quality management system of
SAMAMAT FLOW CONTROL L.L.C.
96047 Ware House # 6
Plot # 597-4904 Dubai Investment Park 2
Dubai
United Arab Emirates

has been assessed by the American Petroleum Institute and found to be in conformance with the following

API Specification Q1

The scope of this registration and the approved quality management system applies to the
Design, Development, Manufacturing and Servicing of Valves and Flanges

API approves the organization's justification for excluding
No Exclusions Identified as Applicable

Effective Date: MAY 1, 2018
Expiration Date: MAY 1, 2021
Registered Since: MAY 1, 2018

Q1
API Spec Q1
Registered

Executive Vice President

API 6D - BALL VALVES

Certificate of Authority to use the Official API Monogram
License Number: 6D-1782
ORIGINAL

The American Petroleum Institute hereby grants to
SAMAMAT FLOW CONTROL L.L.C.
96047 Ware House # 6
Plot # 597-4904 Dubai Investment Park 2
Dubai
United Arab Emirates

the right to use the Official API Monogram® on manufactured products under the conditions in the official publications of the American Petroleum Institute entitled API Spec Q1® and API-6D and in accordance with the provisions of the License Agreement.

In all cases where the Official API Monogram is applied, the API Monogram shall be used in conjunction with this certificate number: 6D-1782

The American Petroleum Institute reserves the right to revoke this authorization to use the Official API Monogram for any reason satisfactory to the Board of Directors of the American Petroleum Institute.

The scope of this license includes the following: Ball Valves

QMS Exclusions: No Exclusions Identified as Applicable

Effective Date: MAY 1, 2018
Expiration Date: MAY 1, 2021

Executive Vice President

American Petroleum Institute

To verify the authenticity of this license, go to www.api.org/compositelist.

API 600 – GATE VALVES

Certificate of Authority to use the Official API Monogram
License Number: 600-0283
ORIGINAL

The American Petroleum Institute hereby grants to
SAMAMAT FLOW CONTROL L.L.C.
96047 Ware House # 6
Plot # 597-4904 Dubai Investment Park 2
Dubai
United Arab Emirates

the right to use the Official API Monogram® on manufactured products under the conditions in the official publications of the American Petroleum Institute entitled API Spec Q1® and API-600 and in accordance with the provisions of the License Agreement.

In all cases where the Official API Monogram is applied, the API Monogram shall be used in conjunction with this certificate number: 600-0283

The American Petroleum Institute reserves the right to revoke this authorization to use the Official API Monogram for any reason satisfactory to the Board of Directors of the American Petroleum Institute.

The scope of this license includes the following: Bolted Bonnet Steel Gate Valves

QMS Exclusions: No Exclusions Identified as Applicable

Effective Date: MAY 1, 2018
Expiration Date: MAY 1, 2021

Executive Vice President

American Petroleum Institute

To verify the authenticity of this license, go to www.api.org/compositelist.

API 602 – FORGED GGC VALVES

Certificate of Authority to use the Official API Monogram
License Number: 602-0094
ORIGINAL

The American Petroleum Institute hereby grants to
SAMAMAT FLOW CONTROL L.L.C.
96047 Ware House # 6
Plot # 597-4904 Dubai Investment Park 2
Dubai
United Arab Emirates

the right to use the Official API Monogram® on manufactured products under the conditions in the official publications of the American Petroleum Institute entitled API Spec Q1® and API-602 and in accordance with the provisions of the License Agreement.

In all cases where the Official API Monogram is applied, the API Monogram shall be used in conjunction with this certificate number: 602-0094

The American Petroleum Institute reserves the right to revoke this authorization to use the Official API Monogram for any reason satisfactory to the Board of Directors of the American Petroleum Institute.

The scope of this license includes the following: Compact Steel Check Valves, Compact Steel Globe Valves and Compact Steel Gate Valves

QMS Exclusions: No Exclusions Identified as Applicable

Effective Date: MAY 1, 2018
Expiration Date: MAY 1, 2021

Executive Vice President

American Petroleum Institute

To verify the authenticity of this license, go to www.api.org/compositelist.

API 594 – CHECK VALVES

Certificate of Authority to use the Official API Monogram
License Number: 594-0023
ORIGINAL

The American Petroleum Institute hereby grants to
SAMAMAT FLOW CONTROL L.L.C.
96047 Ware House # 6
Plot # 597-4904 Dubai Investment Park 2
Dubai
United Arab Emirates

the right to use the Official API Monogram® on manufactured products under the conditions in the official publications of the American Petroleum Institute entitled API Spec Q1® and API-594 and in accordance with the provisions of the License Agreement.

In all cases where the Official API Monogram is applied, the API Monogram shall be used in conjunction with this certificate number: 594-0023

The American Petroleum Institute reserves the right to revoke this authorization to use the Official API Monogram for any reason satisfactory to the Board of Directors of the American Petroleum Institute.

The scope of this license includes the following: Check Valves - Type B

QMS Exclusions: No Exclusions Identified as Applicable

Effective Date: MAY 1, 2018
Expiration Date: MAY 1, 2021

Executive Vice President

American Petroleum Institute

To verify the authenticity of this license, go to www.api.org/compositelist.

BUTTERFLY VALVE

CONCENTRIC or SYMMETRIC

The axis of the shaft is coincident with the disc seating plane.

SINGLE OFFEST

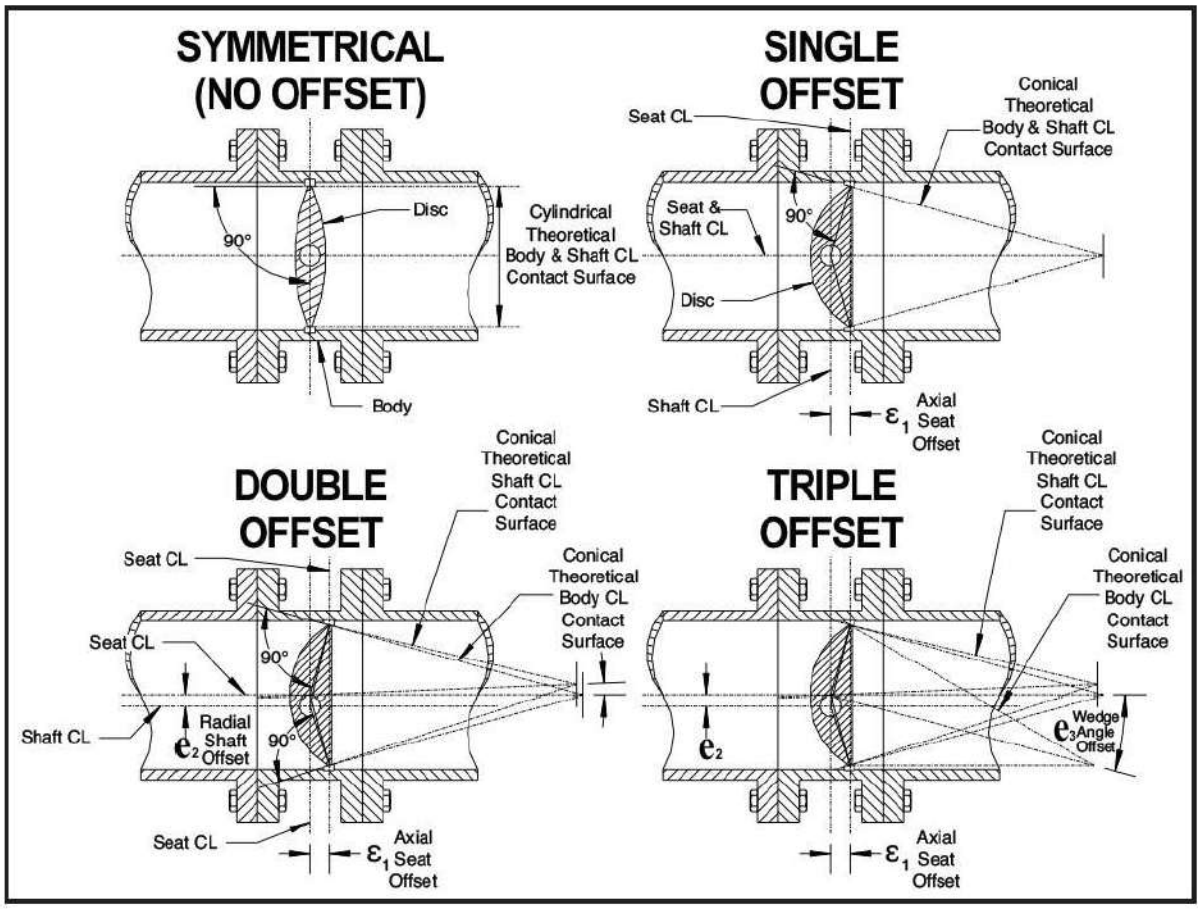
The axis of the shaft is moved behind the disc from the seating plane. This effectively allows complete sealing contact around the entire seal area, as the shaft is not the sealing area.

DOUBLE OFFSET

The axis of shaft is shifted from the pipe and valve centerline. This reduces interference and releases the seat after a few degrees of rotation only, resulting in a minimal seat-seal rubbing due to camming action. This increases seal-seat life and therefore valve life.

TRIPLE OFFSET

The centerline of the seal-seat cone is tilted away from the valve centerline resulting in an ellipsoidal profile producing a wedging effect. This results in a frictionless seating with uniform compressive sealing around the entire seal.



CONCENTRIC BUTTERFLY VALVE

TECHNICAL DATA	
Design	API 609, EN 593, AWWA C504, ISO 10631, BS 5155, IS 13095, MESC 77/134
Design Pressure	ASME B16.34, IS 13095, BS 5155
Body Wall Thickness	ASME B16.34, ASME VIII Div. 1, BS EN 12516-2, AWWA C516
Face to Face	API 609, ISO 5752, ASME B16.10, BS EN 558
End Connection	ASME B16.5, AWWA C207
Testing	API 598, EN 12266, ISO 5208
End Connection	Wafer (BTC-11), Lugged (BTC-21), Double Flanged (BTC-31), Butt Weld (BTC-41)

STANDARD FEATURE	
Construction	Single Piece
Port	Full Bore
Stem Retention	Anti-blow-out stem
Antistatic Device	The butterfly valve design includes an electric conductive connection between the shaft and body or the shaft body and disc, providing the anti-static function.

PRESSURE TEMPERATURE RATING		
BODY MATERIAL	**PN DESIGNATED VALVE**	**CLAAS -DESIGNATION VALVE**
Steel	EN 12516-1	ASME B16.34
Cast Iron	EN 1092-2	ASME B16.1
Ductile Iron	EN 1092-2	ASME B16.42
Copper Alloy	EN 1092-3	ASME B16.24

DESIGN FEATURE OF BUTTERFLY CONCENTRIC VALVE

Through years of field experience, research and development, we have designed product that is structural stable, flow efficient, compact design and effective seating coupled with advantage of light weight.

The valve can install in any position between horizontal to vertical.

1-ISOLATION FROM FLUID MEDIA

A- SEAT DESIGN

The valves are designed with integrally moulded elastomer body liner to provide perfect seating and complete isolation of body material from fluid media to prevent it from any corrosive and abrasive impact.

No gaskets are required because of body liner act as a seal between the valves body and mating pipe flanges.

The liner material can be provided to suit specific fluid service for long maintenance free life.

Body liner is integrally moulded and bonded to the body. SFC liner is inherently integrally moulded liner in place of loose line.

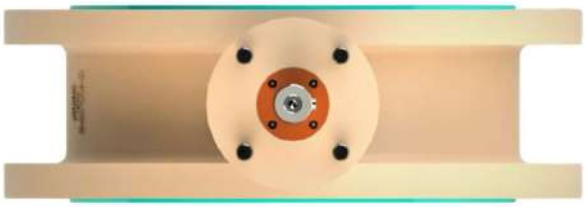
Integrally molded liner resists any stretching or distortion, but loose line cannot as a result of this frequent replacement.

B- DISC-STEM CONNECTION

In SFC design taper pin are used to connect disc-to- Stem through interference fit that precision machining of the disc and the stem connection minimizes hysteresis and produces maximum strength engagements.

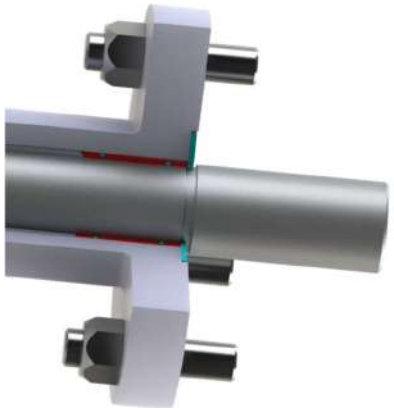
2-OPERATOR MOUNTING

In SFC butterfly concentric design top mounting flange meet ISO 5211 standard for direct mounting of manual operators and actuators. No bracket is required. This allow for simple installation in the field minimize possible misalignment and reduce overall weight and height.



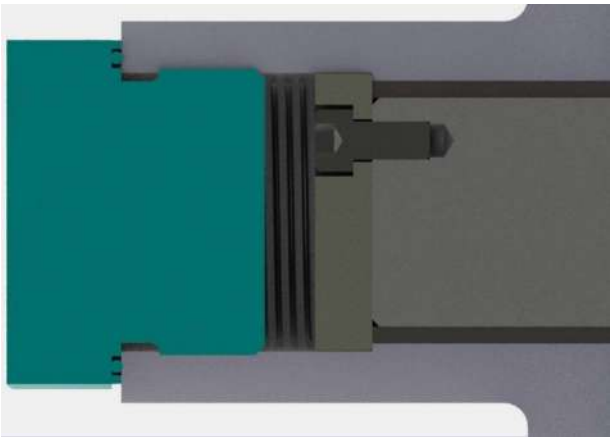
3-ANTI-BLOW OUT PROOF STEM

In SFC design anti blow out feature is inherent which provide safety from stem ejection and its meets API 609 norms.



4- ANTI-STATIC DEVICE

In butterfly valve disc and stem is isolated by rubber liner and stem bushing. Due to friction generation in between fluid and disc contact which generate static charge so prevent danger cause by static charge the Anti-static device must equipped with the butterfly valve and it also meet norms the API 609.



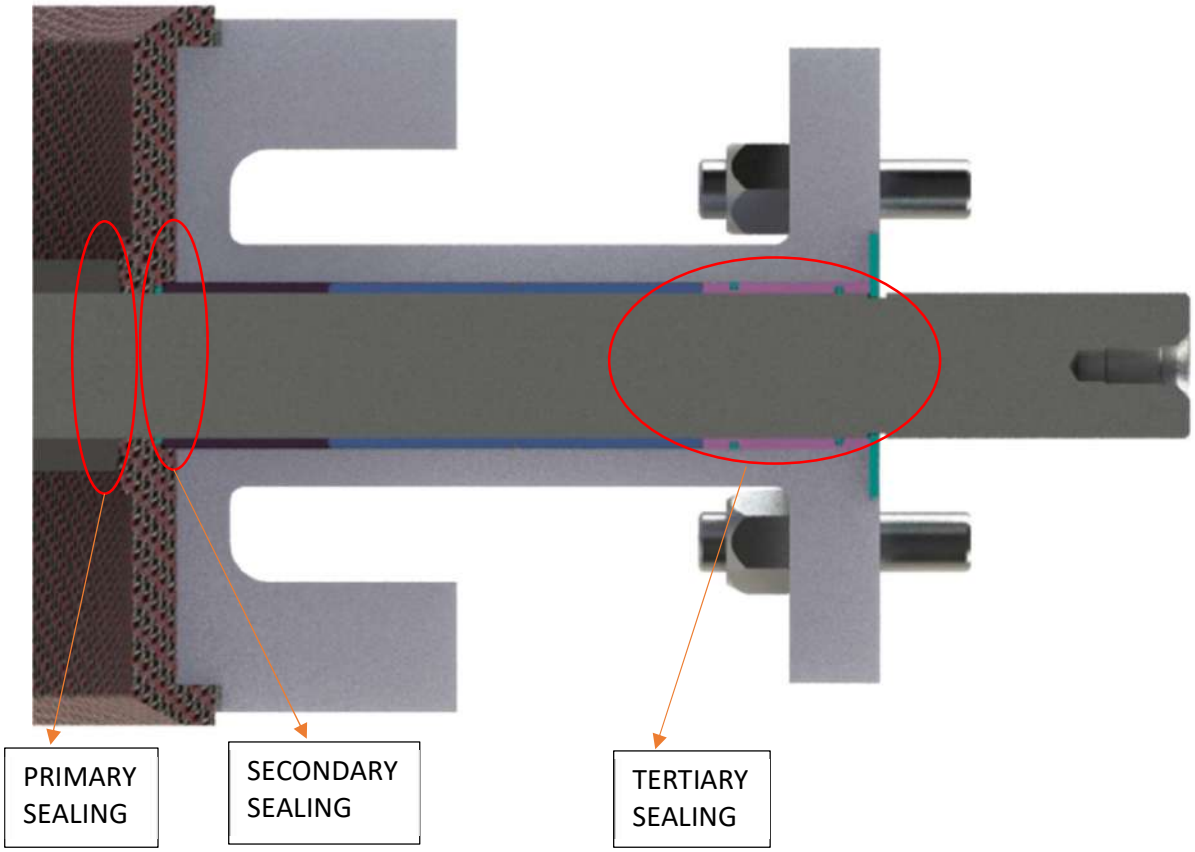
5- THREE STAGE STEM SEALING

In SFC design, to avoid the leakage from stem there are three layers of protection-

a-Primary sealing is provided by preload contact flat seat surface and rounded polished hub area

b- Secondary sealing is provided by the interference fit between stem and stem hole in seat at all positions.

c-Tertiary sealing has been provided stem and bush supported by a fitting moulded O-ring between stem and bush supported by atmosphere sealing with O-Rings.



COATING OPTION

Nylon 11 also has superior corrosion resistance and has been used successfully in many applications such as water, cement, food and seawater.

SFC also can provide Nylon 11-disc coating as per customer requirement with additional cost.

SEAT MATERIALS OFFER BY SFC

EPDM

Ethylene propylene rubber is an elastomer prepared from ethylene and propylene monomers (ethylene propylene copolymer). EPDM is a standard seat material offered in SFC resilient-seated butterfly valves. It is the most universal and economical of seat materials offered by SFC.

BUNA-N /NBR

BUNA-N is the commonly used name for Nitrile synthetic rubber. Nitrile is a copolymer of acrylonitrile and butadiene. BUNA-N is sometimes referred to as NBR or Nitrile. It should be mentioned that to obtain good resistance to low temperature, it is often necessary to sacrifice some high temperature resistance. Nitrile compounds are superior to most elastomers regarding compression set, tear, and abrasion resistance

FKM

FKM is the Fluorinated Hydrocarbon Elastomers such as Viton (DuPont). Fluorocarbon elastomers are highly fluorinated carbon-based polymers used in applications to resist harsh chemical and ozone attack. over standard seat materials.

POLYURETHENE

Urethane seats are primarily used for their ability to resist abrasive wear. Urethane can be used on a reasonably broad range of services. Urethane will withstand severe impact, recover its original shape after distortion and resist abrasion better than other elastomers such as EPDM and BUNA-N.

PTFE LINED EPDM

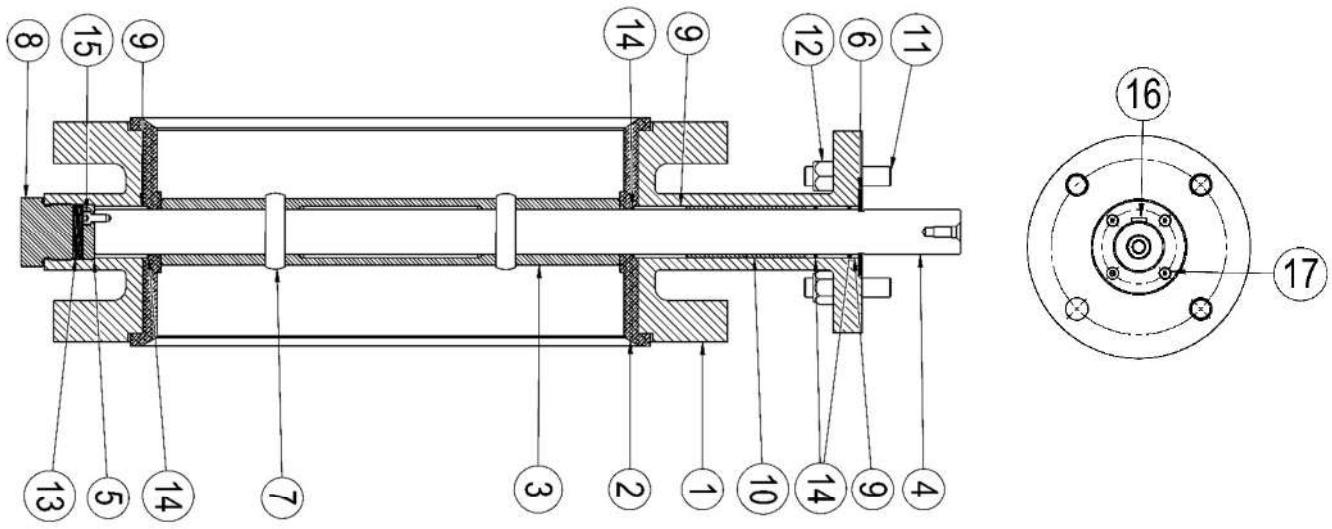
PTFE lined EPDM seat consists of a PTFE liner which forms the faces and the flow way of the seat and is molded on to an EPDM elastomer backing. Only the inert non-stick PTFE liner surface is exposed to the line media. The EPDM backing acts as a resilient support to the relatively rigid PTFE. These seats are generally used where BUNA-N and EPDM seats are not chemically suitable, especially in corrosive services.

SEAT MATERIAL	
MATERIAL	**TEMPERATURE RANGES**
EPDM	-26°C to +125°C
BUNA-N/NBR	-18°C to +100°C
FKM	-26°C to +205°C
POLYURETHENE	-29°C to +80°C
PTFE LINED EPDM	-29°C to +150°C

CONCENTRIC BUTTERFLY VALVE PARTS AND MATERIAL OF CONSTRUCTION

PART LIST & MATERIAL OF CONSTRUCTION			
SR. NO.	**PART NAME**	**QTY.**	**MATERIAL**
1	BODY	1	CARBON STEEL/ALLOY STEEL/NI & COPPER ALLOY/CAST IRON/DUCTILE IRON
2	BODY LINING	1	EPDM/NBR/FKM/POLYURETHENE
3	DISC	1	CARBON STEEL/ALLOY STEEL/NI & COPPER ALLOY/CAST IRON/DUCTILE IRON
4	VALVE STEM	1	SS431/17-4-PH
5	THRUST PAD	1	SS431/17-4-PH
6	LOCK PLATE	1	CS
7	TAPER PIN	2	SS431/17-4-PH
8	BOTTOM PLUG	1	ASTM A108 GR. 1020
9	BEARING	AS REQ.	ASTM A216 GR. 316+PTFE
10	SPACER	AS REQ.	ASTM A516 GR.70 (CS)
11	STUD	AS REQ.	ASTM A193 GR. B7
12	NUT	AS REQ.	ASTM A193 GR. 2H
13	SPRING	1	ASTM A313 TYPE SS 316
14	O-RING	AS REQ.	VITON-B
15	ALLEN BOLT	AS REQ.	ASTM A193 GR. B8M CL-2
16	KEY	AS REQ.	EN-8
17	SOCKET COUNTER SUNK SCREW	AS REQ.	ASTM A193 GR. B7

BASIC CONFIGURATION SECTION DRAWING



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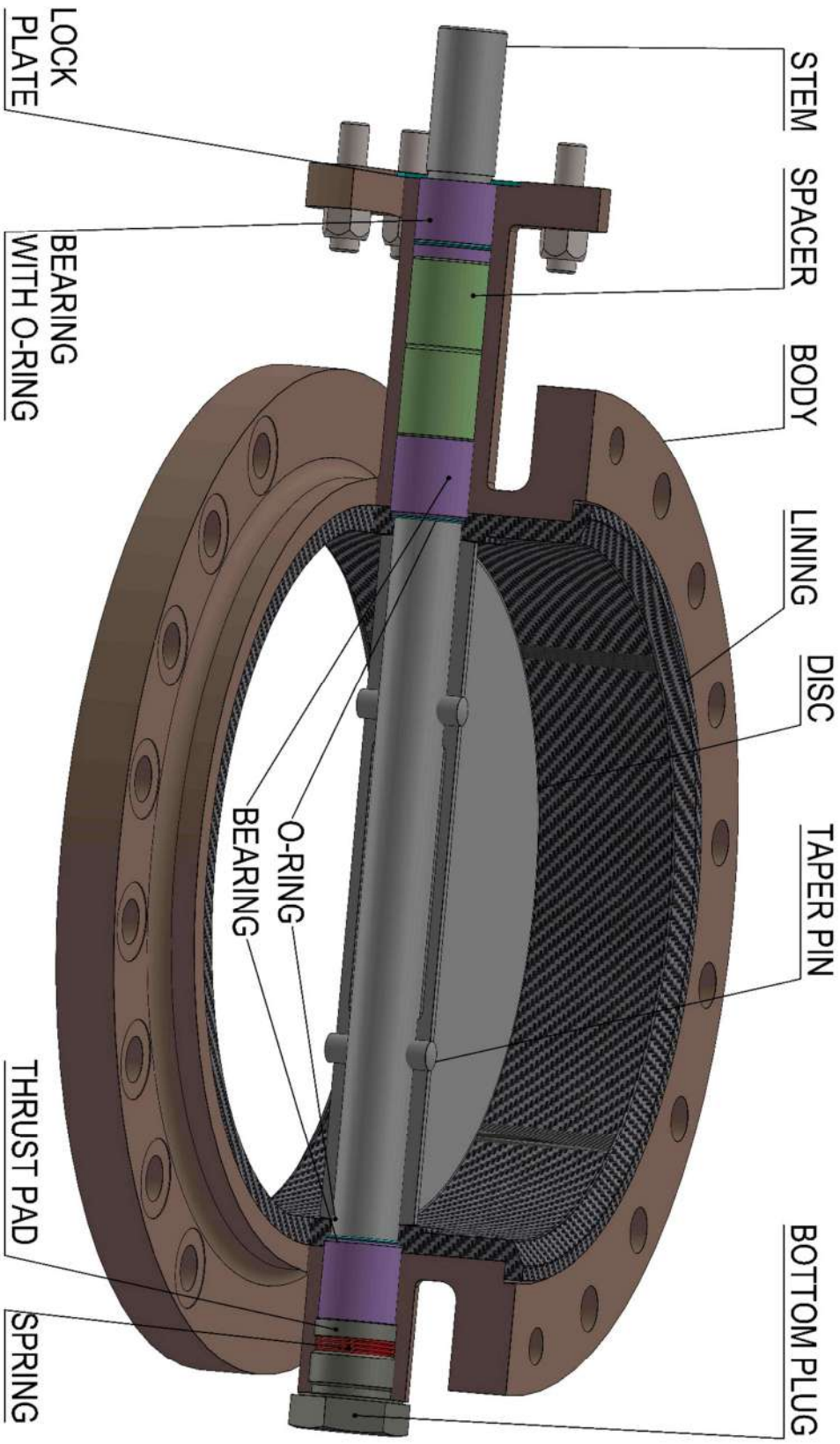
LOCK PLATE
BEARING WITH O-RING
THRUST PAD
SPRING
STEM
SPACER
BODY
LINING
DISC
O-RING
BEARING
TAPER PIN
BOTTOM PLUG

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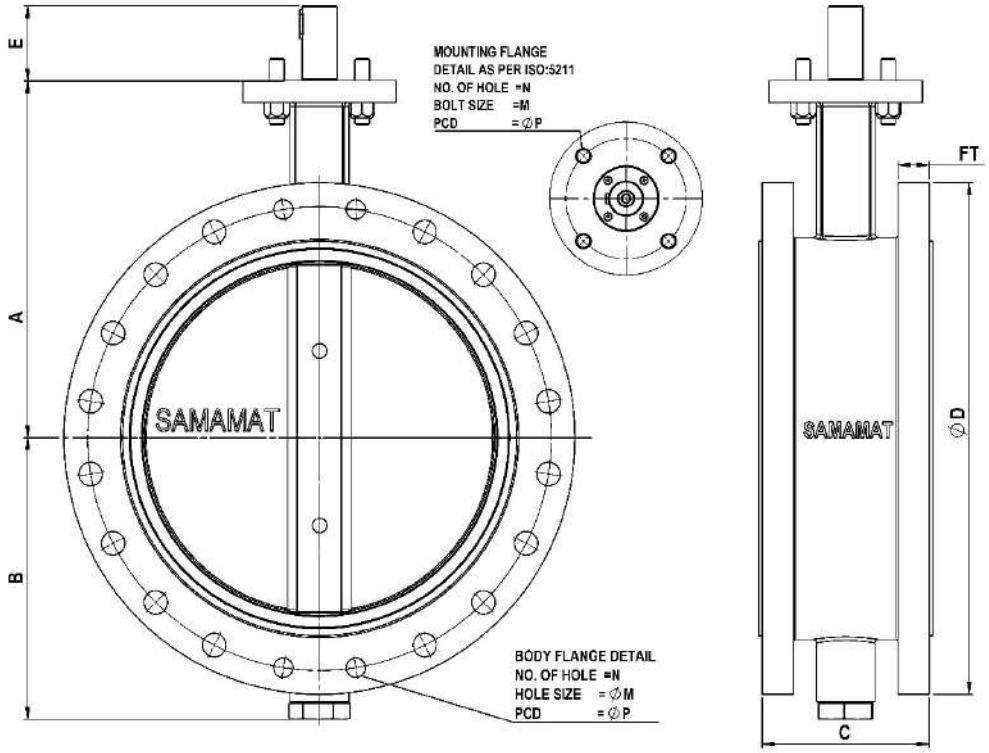
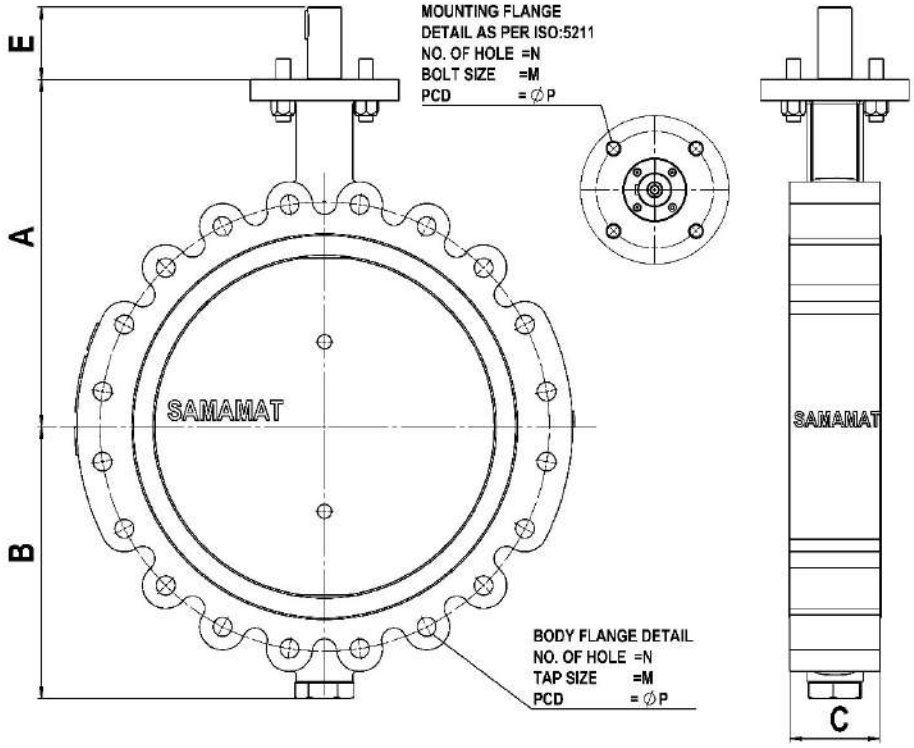
DIMENSION AND WEIGHT OF DOUBLE FLNAGE BTC-31



CLASS 150														All Dimensions are in mm unless specified
NPS	A	B	C	E	BODY FLANGE DETAILS					MOUNTING FLANGE DETAILS:ISO 5211				Approx. Weight (KG)
					ØD	ØP	N	ØM (in.)	FT	FLANGE TYPE	ØP	N	M	
2"	167	74	108	20	150	120.7	4	3/4"	17.5	F07	70	4	M8	6
2.5"	185	92	112	20	180	139.7	4	3/4"	20.7	F07	70	4	M8	8
3"	200	100	114	20	190	152.4	4	3/4"	22.3	F07	70	4	M8	10
4"	220	120	127	24	230	190.5	8	3/4"	22.3	F07	70	4	M8	16
5"	230	130	140	28	255	215.9	8	7/8"	22.3	F07	70	4	M8	20
6"	255	140	140	28	280	241.3	8	7/8"	23.9	F07	70	4	M8	23
8"	290	191	152	40	345	298.5	8	7/8"	27	F07	70	4	M8	35
10"	320	224	165	55	405	362	12	1"	28.6	F10	102	4	M10	54
12"	365	259	178	61.5	485	431.8	12	1"	30.2	F12	125	4	M12	105
14"	396	292	190	61.5	535	476.3	12	1-1/8"	33.4	F12	125	4	M12	115
16	435	324	216	149	595	539.8	16	1-1/8"	35	F14	140	4	M16	145
18"	455	344	222	149	635	577.9	16	1-1/4"	38.1	F14	140	4	M16	160
20"	490	384	229	152.5	700	635	20	1-1/4"	41.3	F16	165	4	M20	205
24"	550	437	267	152.5	815	749.3	20	1-3/8"	46.1	F16	165	4	M20	320
28"	605	481	170	61.5	927.1	863.6	28	1-3/8"	33.3	F16	165	4	M20	350
56"	1040	966	530	147	1855	1759	52	1-7/8"	65	F35	165	4	M20	3100

DIMENSION AND WEIGHT OF LUGGED BTC-21



CLASS 150													All Dimensions are in mm unless specified
NPS	A	B	C	E	BODY FLANGE DETAILS				MOUNTING FLANGE DETAILS:ISO 5211				Approx. Weight (KG)
					ØP	N	ØM (in.)	FT	FLANGE TYPE	ØP	N	M	
2"	167	74	43	20	120.7	4	5/8"	17.5	F07	70	4	M8	5
2.5"	185	92	46	20	139.7	4	5/8"	20.7	F07	70	4	M8	7
3"	200	100	46	20	152.4	4	5/8"	22.3	F07	70	4	M8	9
4"	220	120	52	24	190.5	8	5/8"	22.3	F07	70	4	M8	14
5"	230	130	56	28	215.9	8	3/4"	22.3	F07	70	4	M8	18
6"	255	140	56	28	241.3	8	3/4"	23.9	F07	70	4	M8	21
8"	290	191	60	40	298.5	8	3/4"	27	F07	70	4	M8	32
10"	320	224	68	55	362	12	7/8"	28.6	F10	102	4	M10	49
12"	365	259	78	61.5	431.8	12	7/8"	30.2	F12	125	4	M12	95
14"	396	292	78	61.5	476.3	12	1"	33.4	F12	125	4	M12	104
16	435	324	102	149	539.8	16	1"	35	F14	140	4	M16	131
18"	455	344	114	149	577.9	16	1-1/8"	38.1	F14	140	4	M16	144
20"	490	384	127	152.5	635	20	1-1/8"	41.3	F16	165	4	M20	185
24"	550	437	154	152.5	749.3	20	1-1/4"	46.1	F16	165	4	M20	288

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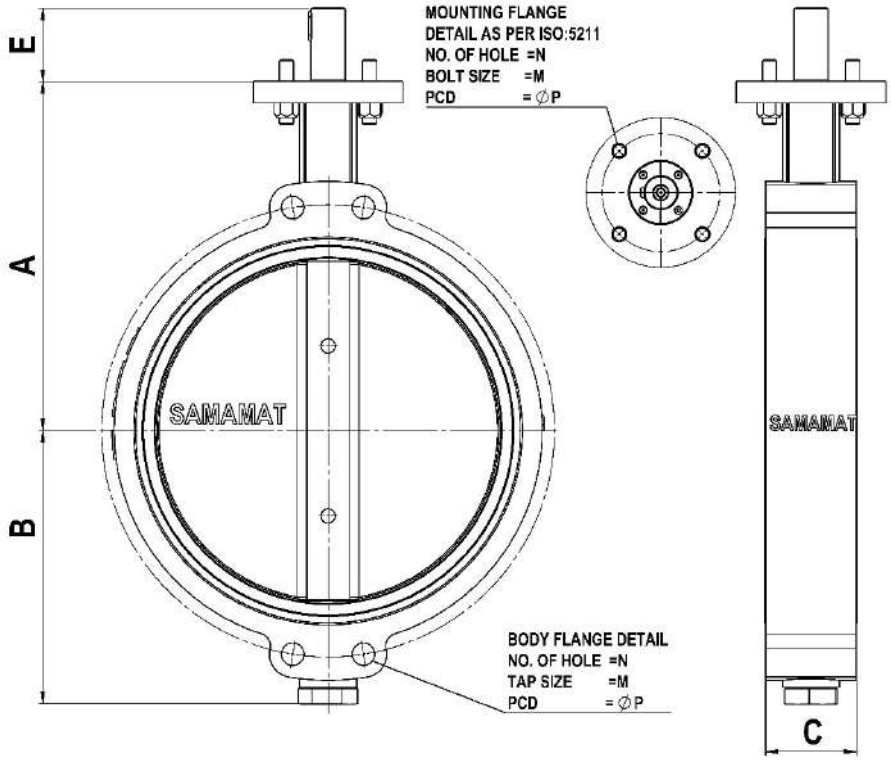
DIMENSION AND WEIGHT OF WAFER BTC-11



CLASS 150

All Dimensions are in mm unless specified

NPS	A	B	C	E	BODY FLANGE DETAILS				MOUNTING FLANGE DETAILS:ISO 5211				Approx. Weight (KG)
					ØP	N	ØM (in.)	FT	FLANGE TYPE	ØP	N	M	
2"	167	74	43	20	120.7	4	3/4"	17.5	F07	70	4	M8	5
2.5"	185	92	46	20	139.7	4	3/4"	20.7	F07	70	4	M8	7
3"	200	100	46	20	152.4	4	3/4"	22.3	F07	70	4	M8	9
4"	220	120	52	24	190.5	4	3/4"	22.3	F07	70	4	M8	14
5"	230	130	56	28	215.9	4	7/8"	22.3	F07	70	4	M8	18
6"	255	140	56	28	241.3	4	7/8"	23.9	F07	70	4	M8	21
8"	290	191	60	40	298.5	4	7/8"	27	F07	70	4	M8	32
10"	320	224	68	55	362	4	1"	28.6	F10	102	4	M10	49
12"	365	259	78	61.5	431.8	4	1"	30.2	F12	125	4	M12	95
14"	396	292	78	61.5	476.3	4	1-1/8"	33.4	F12	125	4	M12	104
16	435	324	102	149	539.8	4	1-1/8"	35	F14	140	4	M16	131
18"	455	344	114	149	577.9	4	1-1/4"	38.1	F14	140	4	M16	144
20"	490	384	127	152.5	635	4	1-1/4"	41.3	F16	165	4	M20	185
24"	550	437	154	152.5	749.3	4	1-3/8"	46.1	F16	165	4	M20	288

VALVE PERFORMACE

VALVE FLOW COEFFICIENT (CVGI)

Valve Flow Coefficient (CVGI) is a valve's capacity for a liquid or gas to flow through it. It is technically defined as "the volume of water at 60°F (in US gallons) that will flow through a valve per minute with a pressure drop of 1 psi across the valve."

Based on ISA-S75.01-1985 for Fully developed turbulent flow.

The flow coefficient shall be determined by

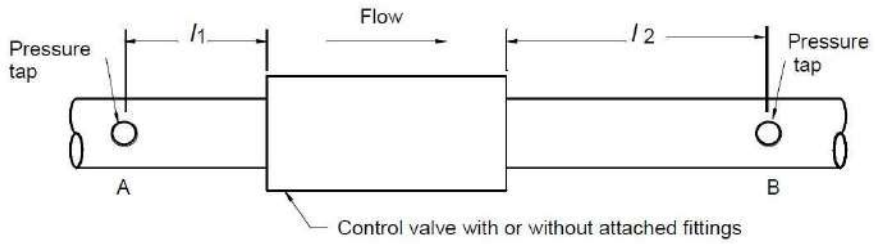
$$Cv = Q * \sqrt{\frac{\Delta P}{S.G.}}$$

Where

CVS= Valve Flow Coefficient
Q= Flow rate through pipeline in GPM
S.G.= Specific Gravity of fluid
$\Delta \boldsymbol{P}$ = Pressure drops in PSI (in between A and B)

In simpler, the larger the opening in a valve, the larger the Cv. As a valve is opening, the CVGI increases until the valve is fully open, where it reaches its highest possible C, or 100% open Cv.

In sizing control valves, using the relationships presented herein, the flow coefficients calculated are assumed to include all head losses between points A and B as per below image



l_1 = two nominal pipe diameters

l_2 = six nominal pipe diameters

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TORQUE VALUES FOR SFC BUTTERFLY CONCENTRIC VALVES

SR. NO.	SIZE(Inch)	SIZE (mm)	TORQUE (N-m)					
			PN 10		PN 16		PN20/CLASS 150	
			5 Bar	10 Bar	8 Bar	16Bar	10 Bar	20 Bar
1	2	50	11	12	13	14	14	15
2	2.5	65	13	14	18	20	18	20
3	3	80	20	21	24	27	25	28
4	4	100	28	31	75	80	76	82
5	5	125	39	44	56	66	59	70
6	6	150	48	56	132	144	135	151
7	8	200	89	105	181	208	188	221
8	10	250	248	286	299	361	315	392
9	12	300	382	441	436	530	459	577
10	14	350	501	574	727	844	756	902
11	16	400	655	764	840	1015	883	1102
12	18	450	783	948	1195	1460	1261	1592
13	20	500	965	1170	1437	1765	1519	1929
14	24	600	1195	1535	2092	2636	2228	2908

Cv VALUES FOR SFC BUTTERFLY CONCENTRIC VALVES

SR. NO.	SIZE(Inch)	SIZE (mm)	C at Full Opening
1	2	50	224
2	2.5	65	366
3	3	80	494
4	4	100	1243
5	6	150	2250
6	8	200	4064
7	10	250	6712
8	12	300	10300
9	14	350	12030
10	16	400	16388
11	18	450	21705
12	20	500	27908
13	24	600	43116

TRIPLE OFFSET BUTTERFLY VALVE

TECHNICAL DATA	
Design	API 609, ASME B16.34, MESC 77/134
Design Pressure	ASME B16.34, IS 13095, BS 5155
Body Wall Thickness	ASME B16.34, ASME VIII Div. 1, BS EN 12516-2, AWWA C516
Face to Face	API 609, ISO 5752, ASME B16.10, BS EN 558
End Connection	ASME B16.5, AWWA C207
Testing	API 598, EN 12266, ISO 5208, BS 6364 (CRYOGENIC UP TO -196℃)
Fire Safe	API 607, ISO 10497
Fugitive Emission Testing	ISO 15848-I
End Connection	Wafer (BTC-11), Lugged (BTC-21), Double Flanged (BTC-31), Double Flanged Long Pattern (BTC-51), Butt Weld (BTC-41)
Buttweld End	ASME B16.25

STANDARD FEATURE	
Construction	Single Piece
Port	Full Bore
Stem Retention	Anti-blow-out stem
Antistatic Device	The butterfly valve design includes an electric conductive connection between the shaft and body or the shaft body and disc, providing the anti-static function.
Fire Safe	Fire resistant to all metal construction
Cryogenic Testing	Testing of Valve down to -196℃ up to 100 bar of helium pressure
Fugitive Emission	Gland packing minimize external emission risk

PRESSURE TEMPERATURE RATING		
BODY MATERIAL	**PN DESIGNATED VALVE**	**CLAAS -DESIGNATION VALVE**
Steel	EN 12516-1	ASME B16.34
Ductile Iron	EN 1092-2	ASME B16.42
Copper Alloy	EN 1092-3	ASME B16.24

DESIGN FEATURE OF TRIPLE OFFSET BUTTERFLY VALVE

SFC Valves offers a comprehensive range of Triple-offset Butterfly Valves in a variety of body styles and materials to address critical process requirements in diverse industries such as hydrocarbon, power, chemicals & fertilizer, water, etc.

The valves are designed using state-of-the-art 3D design, simulation and analysis software. Finite Element Analysis (FEA) and Computational Fluid Dynamics (CFD) are used to fine-tune product performance.

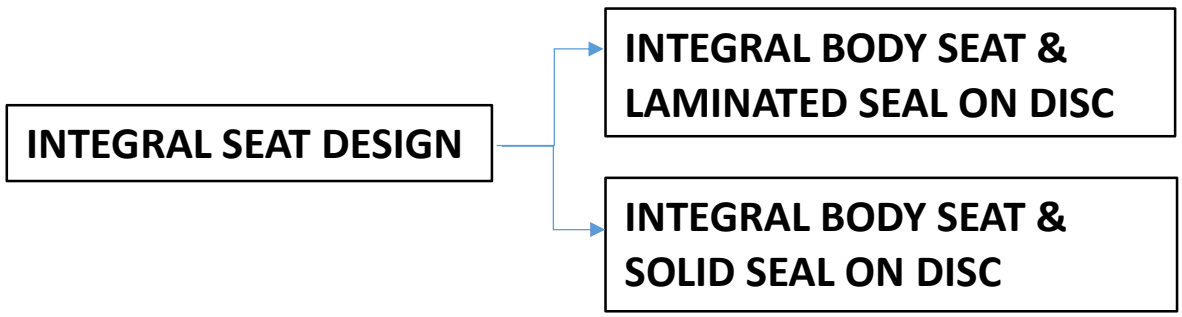
The product range covers valves in ASME classes up to 900, in sizes up to 24" (600 mm), in carbon steel, stainless steel and alloy steels, suitable for temperatures from -196°C to 538°C. Based on customer requirements, valves in higher pressure classes, larger sizes and other materials are also offered.

The metal-seated valves conform to API 609 Category B and offer high integrity bi-directional sealing.

Sr. No.	FEATURES	Sr. No.	FEATURES
1	Integral Seat Design	4	SWG End Cover Sealing
2	Dual Stem Anti-Blow out Design	5	Friction Free Operation
3	SWG Seat & Disc Sealing	6	Maximized Flow Area

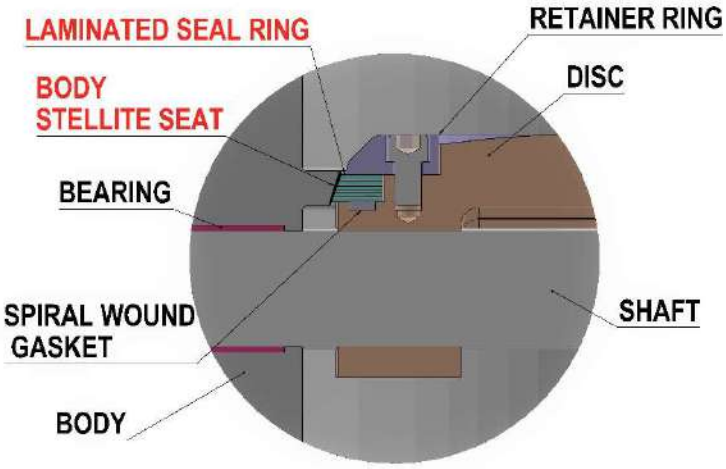
1-INTEGRAL SEAT DESIGN

SFC Triple offset butterfly valve is classified in two categories based on seating design as below-



A- INTEGRAL BODY SEAT & LAMINATED SEAL ON DISC

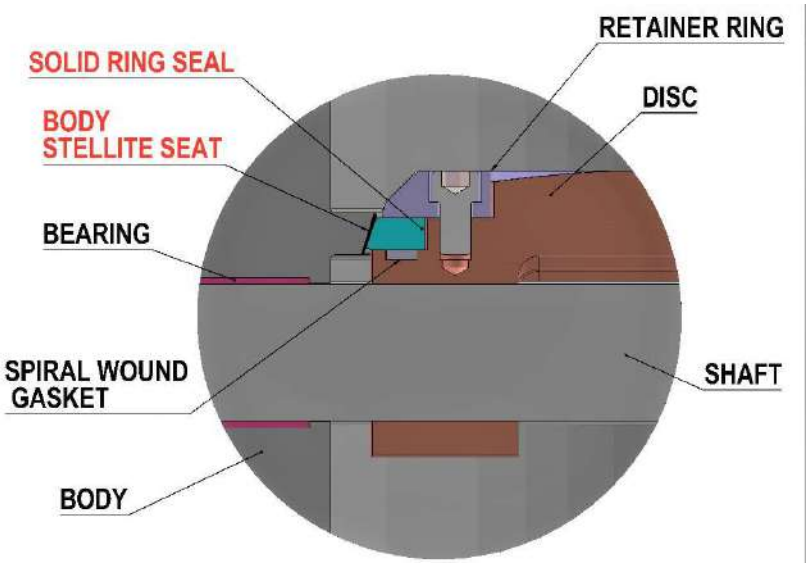
Torque seating during closing of the valve provides uniform forces around entire circumference of the valve seat (surface contact). The self-adjusting, resilient seal flexes and energies, assuming the shape of the seat. The compression forces equally distributed around the perimeter provides a tight bi-directional shut off repeatedly with constant sealing performance. The resiliency of the seal allows the valve body and disc to contract or expand, without the risk of jamming due to the temperature fluctuation.



B- INTEGRAL BODY SEAT & SOLID SEAL ON DISC

Solid seat design provides line contact with the corresponding integral body seat to achieve constant sealing performance.

The spiral wound gasket provided below the laminated / solid seat, is energized with the retainer ring bolting to block the leak path between the disc and seal.

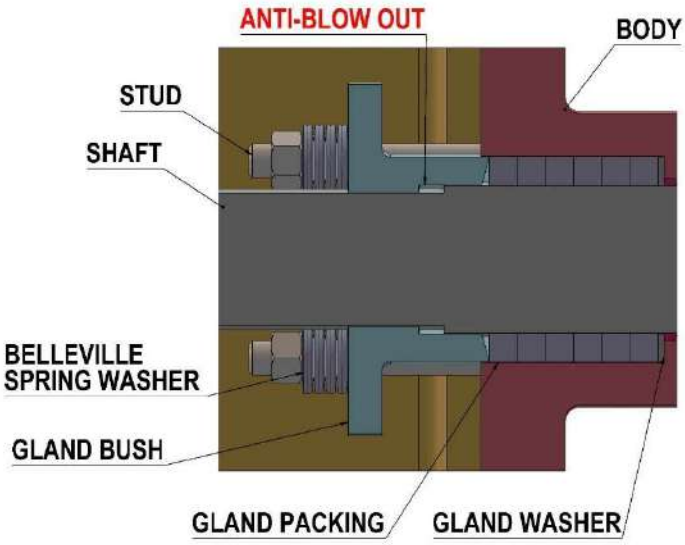


2-DUAL ANTI-BLOW OUT DESIGN

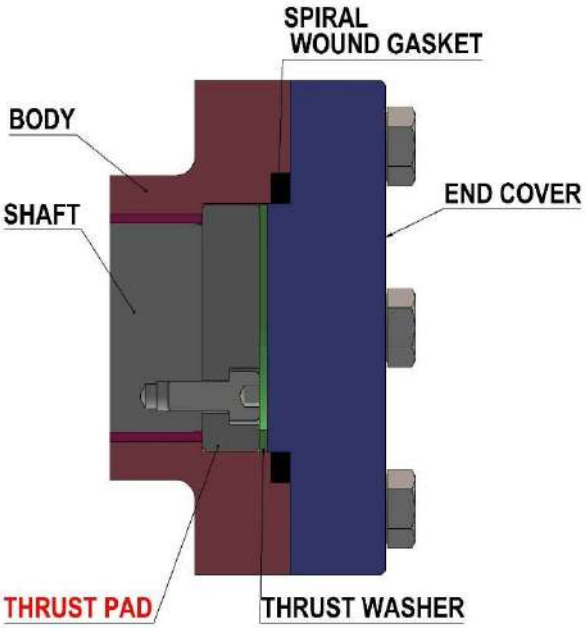
Seat Design	Service	Pressure Class
Integral Seat + laminated seal on Disc	General Service, Medium Temperature and Cryogenics	Pressure Class 150, 300 & 600
Integral Seat + Solid seal on Disc	Cryogenic and High Temperature	All pressure classes

Two features of SFC valve triple offset valve provides safety from stem ejection

1- BY STEPPED SHAFT

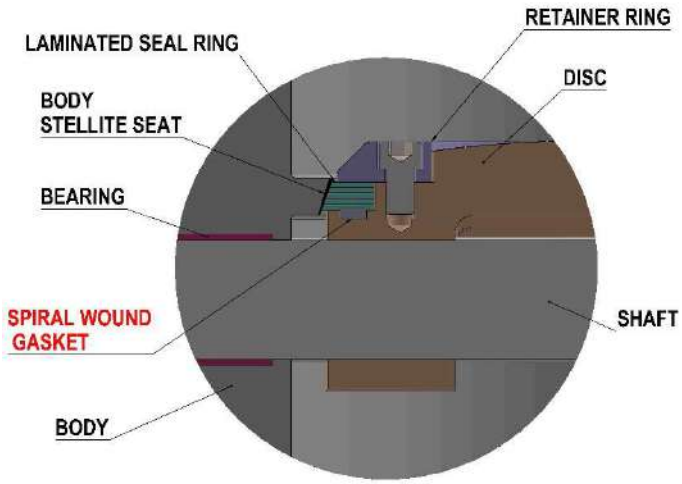


2- BY BOLTED THRUST PAD



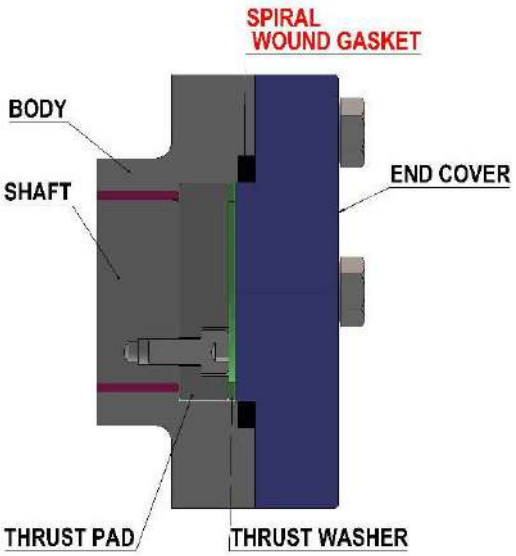
3- SWG SEAT & DISC SEALING

Energized spiral Wound gasket between seat and Disc blocks the leakage path



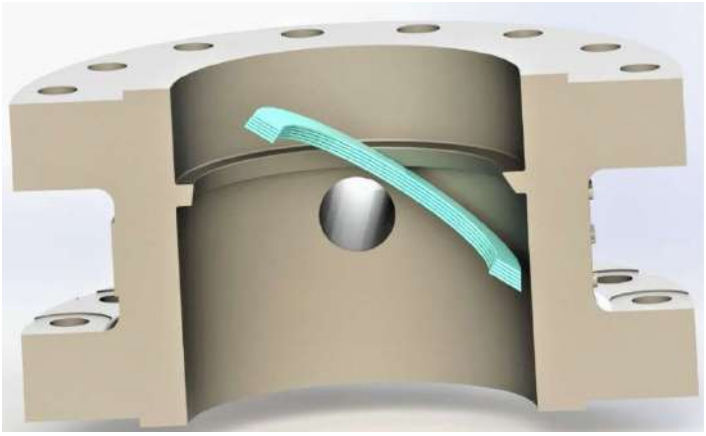
4- SWG END COVER SEALING

to avoid leakage from end cover there is a placement of spiral wound gasket in between end cover and Body



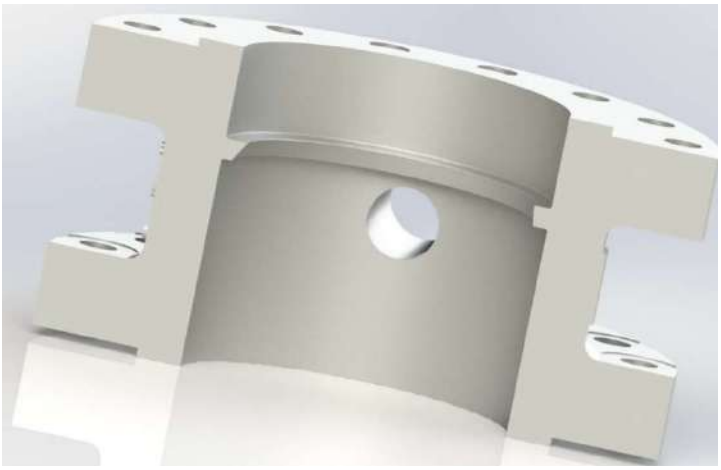
5- FRICTION FREE OPERATION

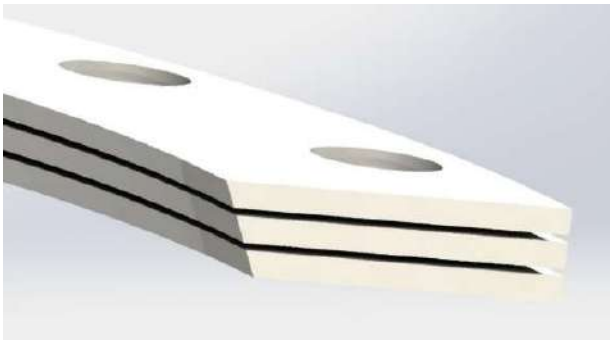
With the special design of seal-Seat third angle combination, SFC Valves can achieve friction Free seating avoiding rubbing between seal and seat during the closing operation. Seal comes in contact with Seat only for last fraction degree of operation.



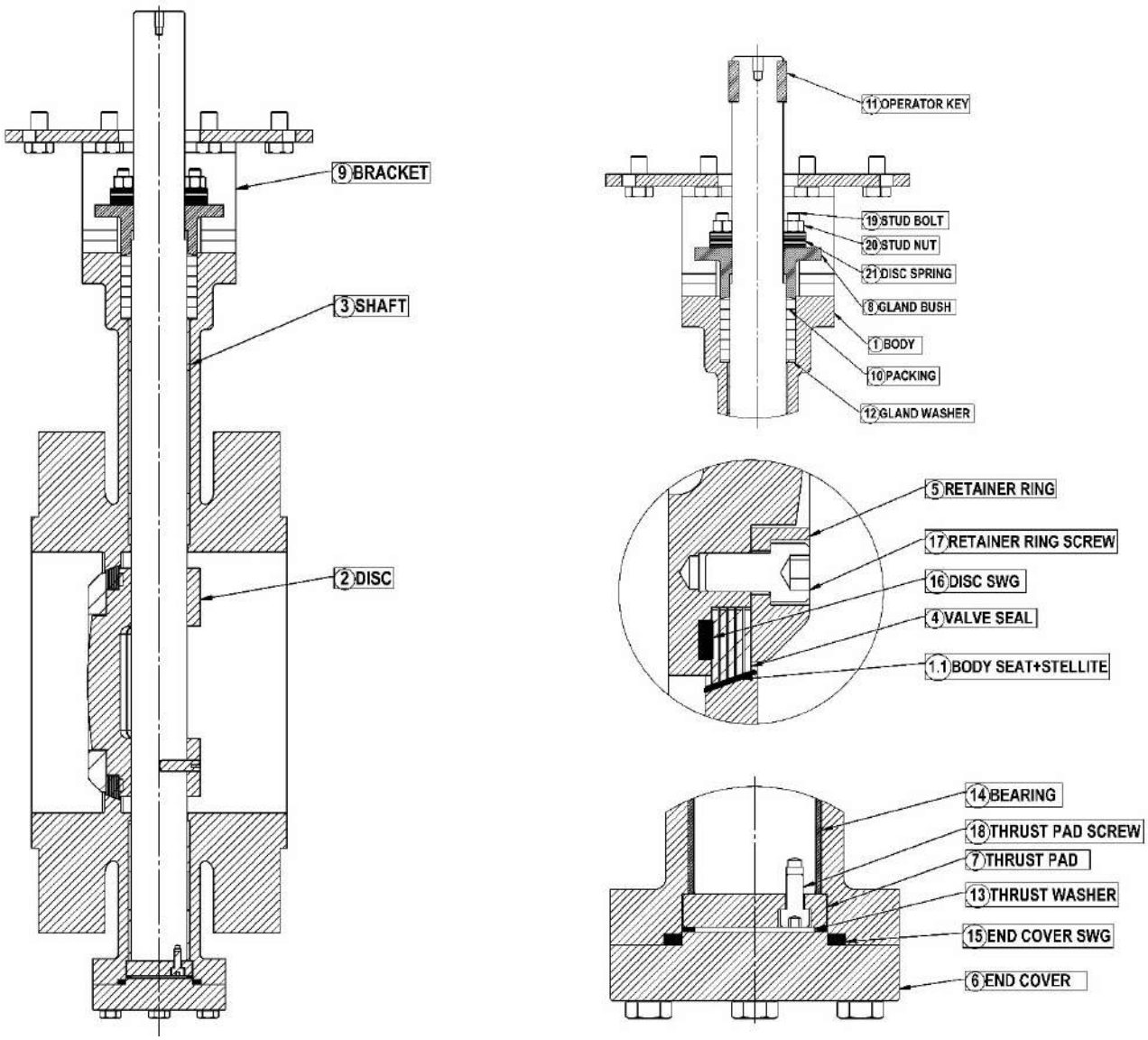
6- MAXIMIZE FLOW AREA

SFC Integral seat design provides maximum flow area which enhances flow - characteristics of valves.

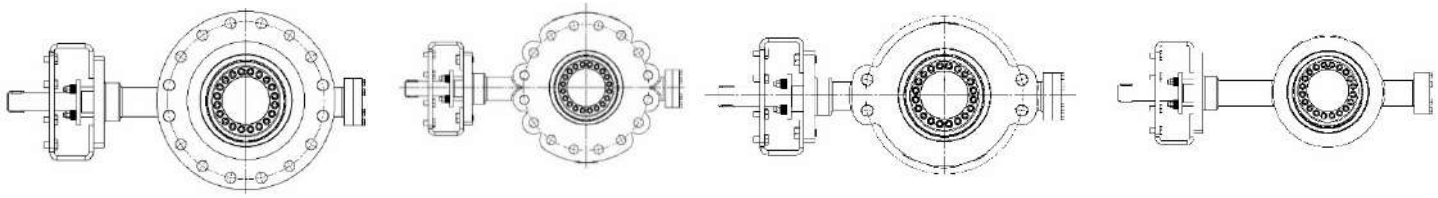




BASIC CONFIGUARTION SECTION DRAWING



AVAILABLE BODY STYLE:



DOUBLE FLANGED LUGGED WAFER BUTT WELD

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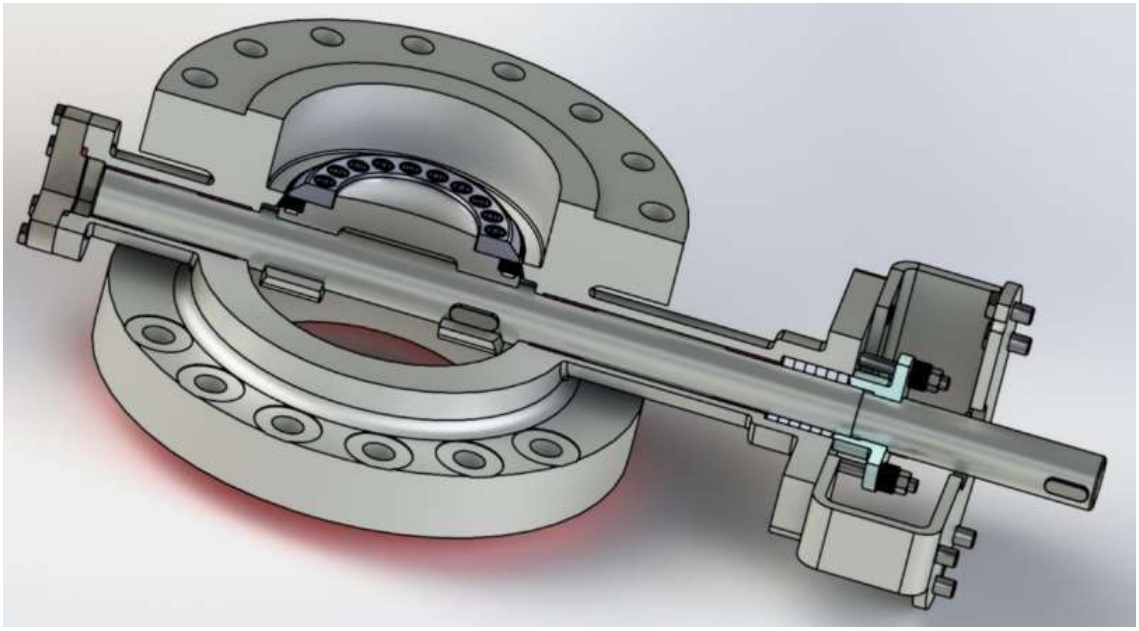
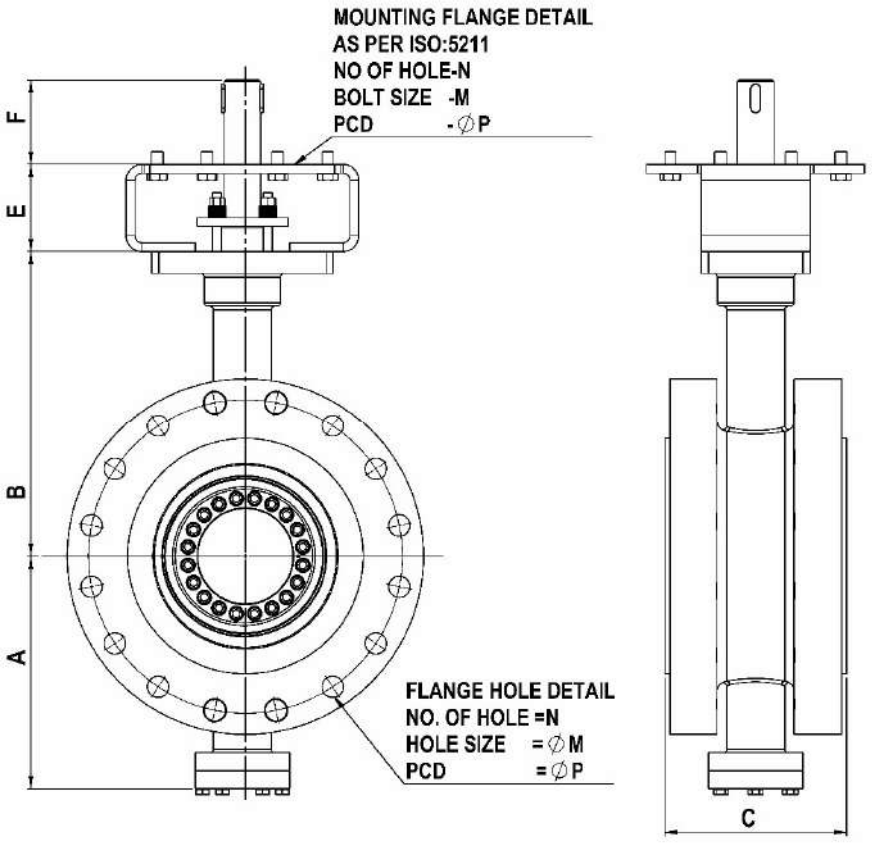
TRIPLE OFFSET BUTTERFLY VALVE PARTS AND MATERIAL OF CONSTRUCTION

PART LIST & MATERIAL OF CONSTRUCTION		
SR. NO.	**PART NAME**	**MATERIAL**
1	BODY	CARBON STEEL/ALLOY STEEL/NI & COPPER ALLOY/CAST IRON/DUCTILE IRON
1.1	BODY SEAT STELLITE	STELLITE06/21
2	DISC	CARBON STEEL/ALLOY STEEL/NI & COPPER ALLOY/CAST IRON/DUCTILE IRON
3	SHAFT	SS431/17-4-PH/XM-19/INC. 718
4	VALVE SEAL	SS 316+GRAPHITE
5	RETAINER RING	CS
6	END COVER	CS
7	THRUST PAD	SS431/17-4-PH/XM-19/INC. 718
8	GLAND BUSH	SS 316
9	BRACKET	CS
10	PACKING	BRAIDED GRAPHITE+INC. WIRE
11	OPERATOR KEY	EN 8
12	GLAND WASHER	SS 316
13	THRUST WASHER	SS 316
14	BEARING	SS 316+PTFE
15	END COVER SWG	SS 316+GRAPHITE
16	DISC SWG	SS 316+GRAPHITE
17	RETAINER RING SCREW	ASTM A193 GR.B8M CL-2/A4-80
18	THRUST PAD SCREW	ASTM A193 GR.B8M CL-2/A4-80
19	STUD BOLT	ASTM A193 GR. B8/A4-80
20	STUD NUT	ASTM A194 GR.8 /A4-81
21	DISC SPRING	SS 304



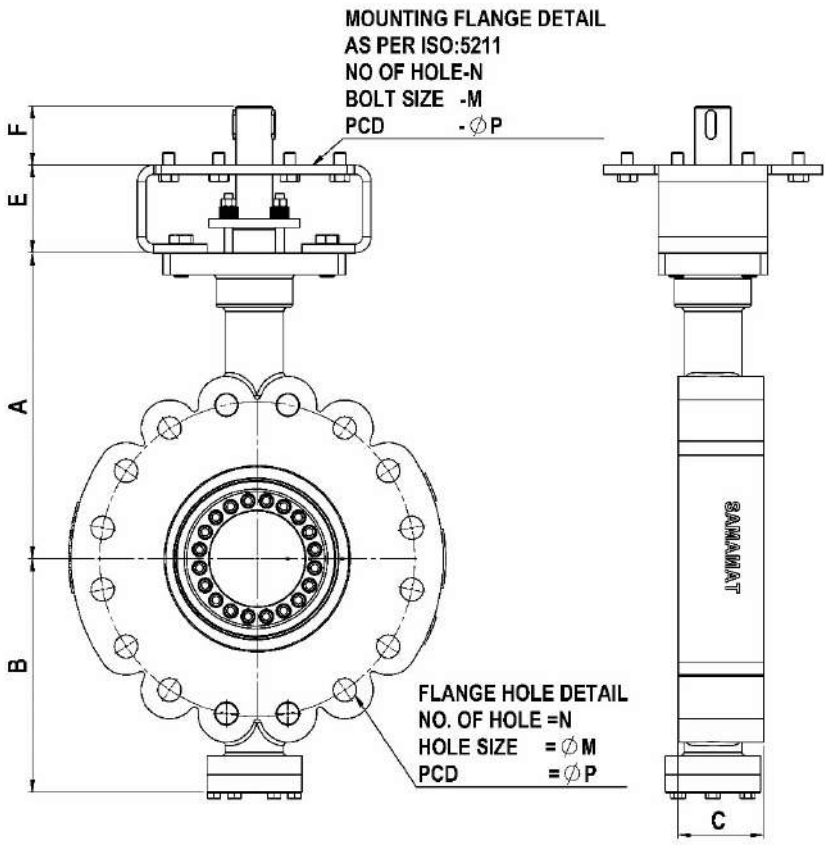
SAMAMAT

DIMENSION AND WEIGHT OF DOUBLE FLANGE #150



CLASS 150															All Dimensions are in mm unless specified
NPS	A	B	C	E	F	BODY FLANGE DETAILS					MOUNTING FLANGE DETAILS:ISO 5211				Approx. Weight (KG)
						ØD	ØP	N	ØM (in.)	FT	FLANGE TYPE	ØP	N	M	
3"	200	135	114	50	21	190	152.4	4	3/4"	22.3	F07	70	4	M8	28
4"	220	155	127	65	26	230	190.5	8	3/4"	22.3	F07	70	4	M8	40
6"	255	180	140	65	27	280	241.3	8	7/8"	23.9	F07	70	4	M8	48
8"	290	215	152	85	38	345	298.5	8	7/8"	27	F10	102	4	M10	80
10"	320	245	165	85	45	405	362	12	1"	28.6	F10	102	4	M10	100
12"	365	295	178	125	53	485	431.8	12	1"	30.2	F12	125	4	M12	110
14"	400	320	190	125	60	535	476.3	12	1-1/8"	33.4	F12	125	4	M12	175
16	435	360	216	125	68	595	539.8	16	1-1/8"	35	F14	140	4	M16	230
18"	455	375	222	135	75	635	577.9	16	1-1/4"	38.1	F14	140	4	M16	280
20"	490	420	229	155	83	700	635	20	1-1/4"	41.3	F16	165	4	M20	400
24"	550	480	267	155	90	815	749.3	20	1-3/8"	46.1	F16	165	4	M20	498

DIMENSION AND WEIGHT OF LUGGED #150



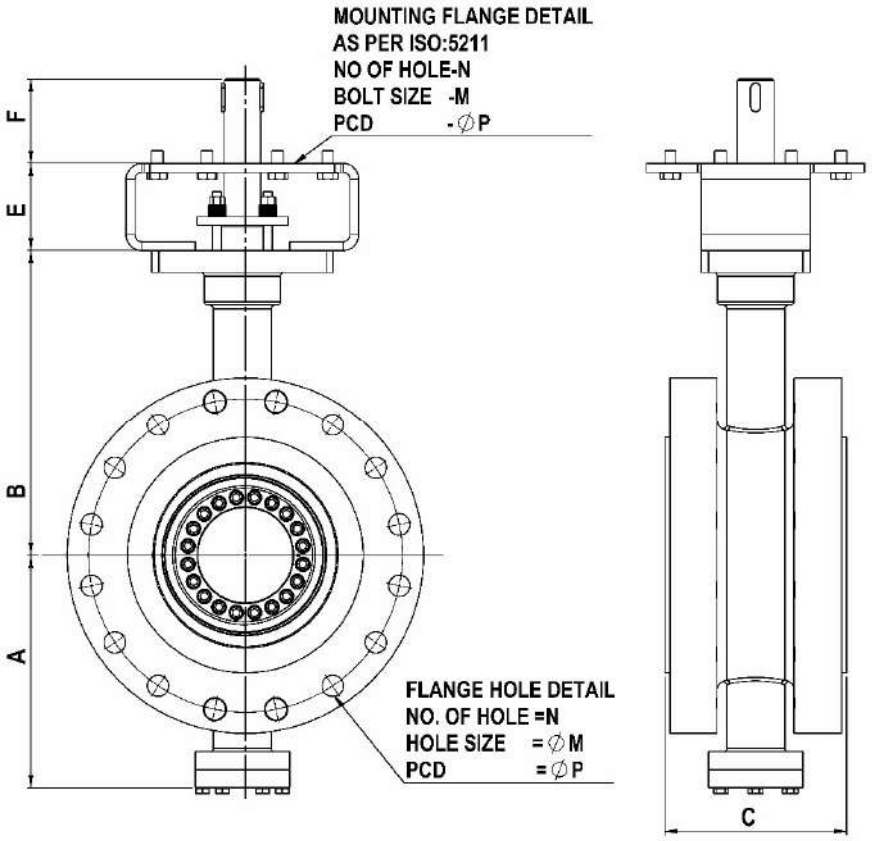
CLASS 150

All Dimensions are in mm unless specified

NPS	A	B	C	E	F	BODY FLANGE DETAILS					MOUNTING FLANGE DETAILS:ISO 5211				Approx. Weight (KG)
						ØD	ØP	N	ØM (in.)	FT	FLANGE TYPE	ØP	N	M	
3"	200	135	48	50	21	190	152.4	4	5/8"	22.3	F07	70	4	M8	25
4"	220	155	54	65	26	230	190.5	8	5/8"	22.3	F07	70	4	M8	36
6"	255	180	57	65	27	280	241.3	8	3/4"	23.9	F07	70	4	M8	43
8"	290	215	64	85	38	345	298.5	8	3/4"	27	F10	102	4	M10	72
10"	320	245	71	85	45	405	362	12	7/8"	28.6	F10	102	4	M10	90
12"	365	295	81	125	53	485	431.8	12	7/8"	30.2	F12	125	4	M12	99
14"	400	320	92	125	60	535	476.3	12	1"	33.4	F12	125	4	M12	158
16	435	360	102	125	68	595	539.8	16	1"	35	F14	140	4	M16	207
18"	455	375	114	135	75	635	577.9	16	1-1/8"	38.1	F14	140	4	M16	252
20"	490	420	127	155	83	700	635	20	1-1/8"	41.3	F16	165	4	M20	360
24"	550	480	154	155	90	815	749.3	20	1-1/4"	46.1	F16	165	4	M20	448

SAMAMAT

DIMENSION AND WEIGHT OF DOUBLE FLANGE #300

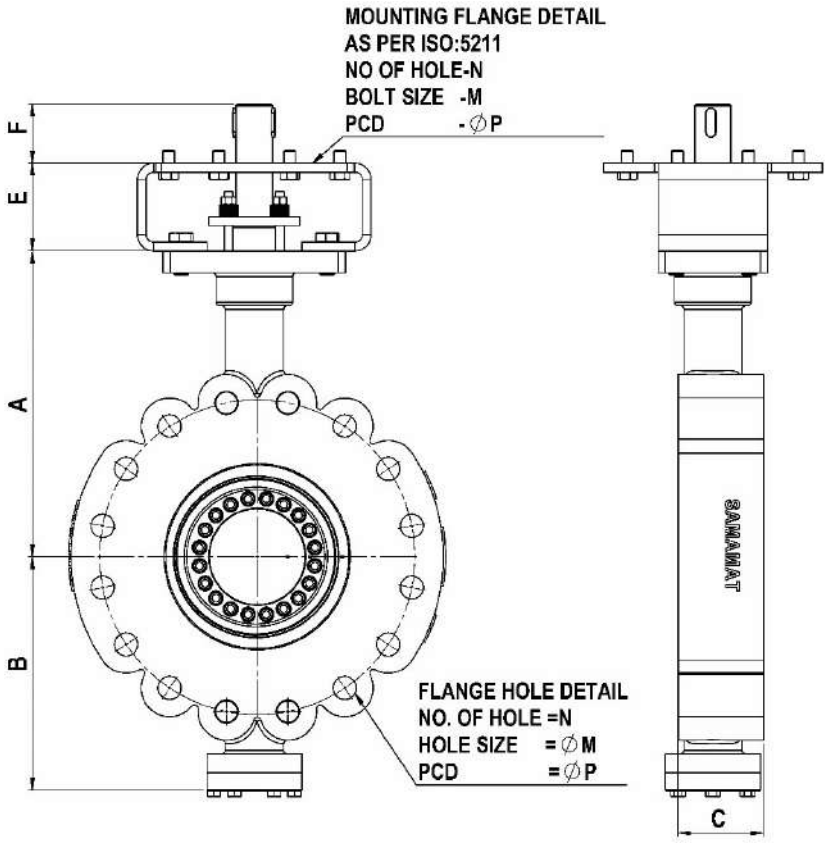


CLASS 300 — All Dimensions are in mm unless specified

NPS	A	B	C	E	F	BODY FLANGE DETAILS					MOUNTING FLANGE DETAILS:ISO 5211				Approx. Weight (KG)
						ØD	ØP	N	ØM (in.)	FT	FLANGE TYPE	ØP	N	M	
3"	200	145	114	50	27	210	168.3	4	7/8"	27	F07	70	4	M8	35
4"	235	168	127	65	30	255	200	8	7/8"	30.2	F07	70	4	M8	40
6"	275	200	140	85	38	320	269.9	12	7/8"	35	F10	102	4	M10	75
8"	310	240	152	115	45	380	330.2	12	1"	39.7	F12	125	4	M12	110
10"	350	283	165	125	60	445	387.4	16	1-1/8"	46.1	F14	140	4	M16	150
12"	385	320	178	135	68	520	450.8	16	1-1/4"	49.3	F14	140	4	M16	210
14"	435	363	190	135	90	585	514.4	20	1-1/4"	52.4	F16	165	4	M20	285
16	465	395	216	155	90	650	571.5	20	1-3/8"	55.6	F25	254	8	M16	365
18"	495	425	222	155	113	710	628.6	24	1-3/8"	58.8	F25	254	8	M16	445
20"	530	458	229	160	120	775	628.6	24	1-3/8"	58.8	F25	254	8	M16	530
24"	600	528	267	160	135	915	812.8	24	1-5/8"	68.3	F30	298	8	M20	780

SAMAMAT

DIMENSION AND WEIGHT OF LUGGED #300

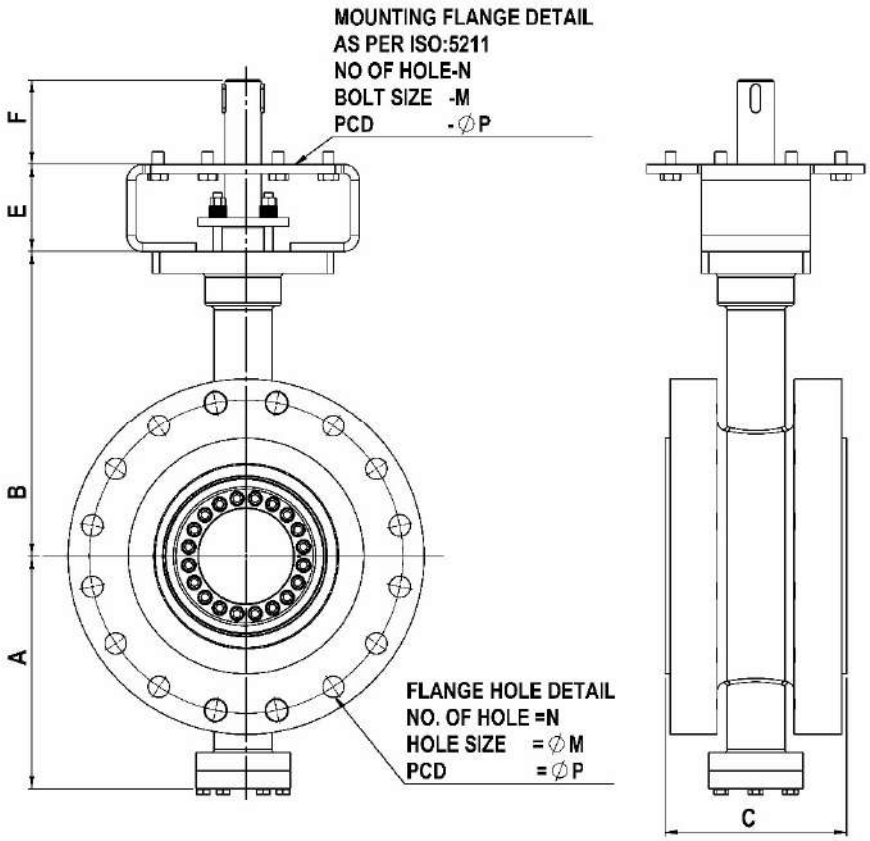


CLASS 300 — All Dimensions are in mm unless specified

NPS	A	B	C	E	F	BODY FLANGE DETAILS					MOUNTING FLANGE DETAILS:ISO 5211				Approx. Weight (KG)
						ØD	ØP	N	ØM (in.)	FT	FLANGE TYPE	ØP	N	M	
3"	200	145	48	50	27	210	168.3	4	7/8"	27	F07	70	4	M8	32
4"	235	168	54	65	30	255	200	8	7/8"	30.2	F07	70	4	M8	36
6"	275	200	59	85	38	320	269.9	12	7/8"	35	F10	102	4	M10	68
8"	310	240	73	115	45	380	330.2	12	1"	39.7	F12	125	4	M12	99
10"	350	283	83	125	60	445	387.4	16	1-1/8"	46.1	F14	140	4	M16	135
12"	385	320	92	135	68	520	450.8	16	1-1/4"	49.3	F14	140	4	M16	189
14"	435	363	117	135	90	585	514.4	20	1-1/4"	52.4	F16	165	4	M20	257
16	465	395	133	155	90	650	571.5	20	1-3/8"	55.6	F25	254	8	M16	329
18"	495	425	149	155	113	710	628.6	24	1-3/8"	58.8	F25	254	8	M16	401
20"	530	458	159	160	120	775	628.6	24	1-3/8"	58.8	F25	254	8	M16	477
24"	600	528	181	160	135	915	812.8	24	1-5/8"	68.3	F30	298	8	M20	702

SAMAMAT

DIMENSION AND WEIGHT OF DOUBLE FLANGE #600



CLASS 600 — All Dimensions are in mm unless specified

NPS	A	B	C	E	F	BODY FLANGE DETAILS					MOUNTING FLANGE DETAILS:ISO 5211				Approx. Weight (KG)
						ØD	ØP	N	ØM (in.)	FT	FLANGE TYPE	ØP	N	M	
3"	210	145	180	65	32	210	168.3	8	7/8"	31.8	F10	102	4	M10	45
4"	250	188	190	65	38	275	215.9	8	1"	38.1	F12	125	4	M12	60
6"	300	228	210	85	53	355	292.1	12	1-1/8"	47.7	F12	125	4	M12	115
8"	335	270	230	135	60	420	349.2	12	1-1/4"	55.6	F14	140	4	M16	185
10"	385	325	250	155	75	510	431.8	16	1-3/8"	63.5	F16	165	4	M20	290
12"	410	350	270	155	83	560	489	20	1-3/4"	66.7	F25	254	8	M16	400
14"	445	373	290	155	98	605	527	20	1-1/2"	69.9	F25	254	8	M16	440
16	485	413	310	155	105	685	603.2	20	1-5/8"	76.2	F30	298	8	M20	650
18"	515	443	330	155	120	745	654	20	1-3/4"	82.6	F30	298	8	M20	830
20"	565	508	350	155	120	815	723.9	24	1-3/4"	88.9	F35	356	8	M30	1164
24"	625	570	390	160	150	940	838.2	24	2"	101.6	F35	356	8	M30	1580

SAMAMAT

TORQUE VALUES FOR SFC TRIPLE OFFSET BUTTERFLY VALVE

SR. NO.	SIZE(Inch)	SIZE (mm)	TORQUE (N-m)		
			#150	#300	#600
			20 Bar	52 Bar	100 Bar
1	3	80	88	122	400
2	4	100	121	188	575
3	6	150	158	426	974
4	8	200	279	842	1915
5	10	250	493	1379	3710
6	12	300	735	2030	6109
7	14	350	1001	2626	7371
8	16	400	1370	4490	10724
9	18	450	1815	5124	19346
10	20	500	2131	6662	25823
11	24	600	2305	10257	34822

Cv VALUES FOR SFC TRIPLE OFFSET BUTTERFLY VALVES

SR. NO.	SIZE(Inch)	SIZE (mm)	Cv at Full Opening		
			#150	#300	#600
1	3	50	132	132	150
2	4	65	228	228	250
3	6	80	800	650	600
4	8	100	1530	1310	1090
5	10	150	2630	2430	1720
6	12	200	4024	3673	2652
7	14	250	5240	4801	4070
8	16	300	7120	6442	5380
9	18	350	9255	8622	7475
10	20	400	11718	11463	9830
11	24	450	18621	16456	14940

VALVE OPERATOR FOR BUTTERFLY VALVE

1-Manual (Hand Lever Operated)

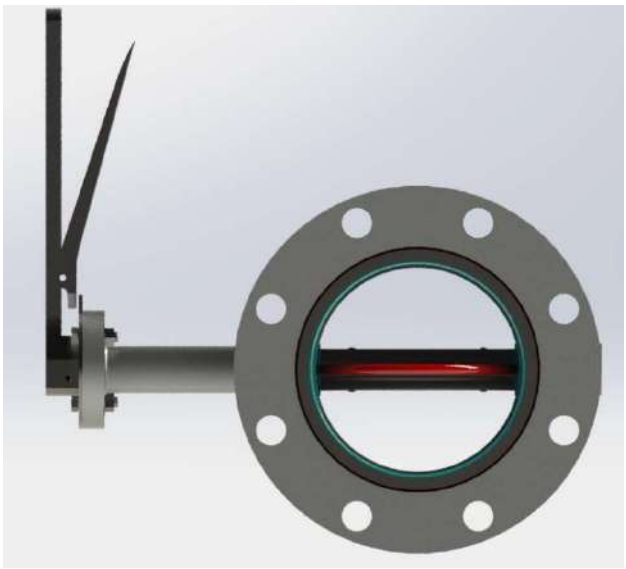
Hand lever operator for SFC butterfly valve attached with self-locking lever operation from fully open to fully closed position with intermediate position marked on the indicator plate mounted on the top flanges.

2-Manual (Gear Operated)

Gear Operator can be used for on/off and throttling control of SFC butterfly valve. All models are weatherproof and usable for above ground or buried service. The durable housing completely enclosed the worm gear. A position indicator is standard on all models. The integral ISO 5211 platform facilitates direct mounting of actuators and gear units, thereby improving system reliability and efficiency.

3-Actuator

SFC Butterfly valve are also supplied with electrical/Pneumatic actuators as per customer specification and requirements. The integral ISO 5211 platform facilitates direct mounting of actuators and gear units, thereby improving system reliability and efficiency.



CLADDING

Cladding is a process that provides protection for metallic components by welding a layer of corrosion-resistant alloy to areas at risk of corrosion and wear exists. It can be applied to an entire component, or only to specific areas of concern.

PURPOSE OF CLADDING:

The main purpose of cladding on components is for corrosion resistance or wear resistance. While most components will have corrosion allowance built into their wall thickness the wastage rate can still be excessive for certain materials such as carbon steels or low alloy steels. Cladding provides a surface protection which then allows the substrate material to provide strength requirements to meet codes and standards.

BENEFITS OF CLADDING:

- Cladding offers superior corrosion and wear resistance properties extending the part life dramatically and reducing the risk of corrosion and wear exists.
- Another very important consideration is the dilution of the clad layer by the substrate material, as dilution can have a dramatic effect on the corrosion resistance of the cladding.
- And improve the life span of material and reducing the maintenance & shutdown operations in working severe conditions.
- Fully cladding a carbon steel component with alloy 625, as opposed to producing it in solid alloy 625, can reduce costs by as much as 50 to 60%.

CLADDING PROCESS & CAPACITY:

Samamat Flow Control L.L.C. has the capacity to process from 4" to 36" Flanges and Valves.
Maximum Bore Depth: up to 600mm
Weldable Bore Dia.: 800mm
Welding Speed: 340 to 450mm/min.
Deposition Rate: 1.7 to 2.5kg/hr

The process is usually applied to increase the availability work sources for Gas Metal Arc Welding (GMAW) & Gas Tungsten Arc Welding (GTAW) cladding of the walls with metal alloys that are more resistant to wear.

HOW CLADDING WILL IMPROVE QUALITY OF COMPONENTS:

- Unusual alloy castings can include sub-surface defects, Cladding the surface produces a very high-Quality layer with minimal imperfections.

- Cladding process that builds up the corrosion resistant alloy (CRA) layer of 1.5 to 3 mm on the welded parts of flange and Valve. It protects the piping system's integrity and provides a low cost and long-term solution.

- A full range of NDT provides reassurance of quality.


GLOBAL

FACILITY DETAILS

SL.NO.	MACHINE NAME	MACHINE TYPE	QUANTITY
1	Horizontal Turning Center	CNC	1 No.
2	Horizontal Turning Mill Center	CNC	1 No.
3	Vertical Machining Center	CNC	1 No.
4	Vertical Turning Lathe	CNC	1 No.
5	Surface Grinding Machine	Semi-Automatic	1 No.
6	Radial Drilling Machine	Manual	1 No.
7	Pillar Drilling Machine	Manual	1 No.
8	Heavy Duty Lathe	Manual	2 No's.
9	Medium Duty Lathe	Manual	2 No's
10	Light Duty Lathe	Manual	3 No's.
11	Universal Milling Machine	Manual	1 No.
12	Band Saw Cutting Machine	Semi-Automatic	2 No's.
13	Horizontal Boring Machine	Manual	1 No.
14	Vertical Slotting Machine	Manual	2 No's.
15	Thread Cutting Machine	Manual	2 No's.
16	Air Compressor	Automatic	1 No.
17	MIG Welding Machine	Semi-Automatic	1 No.
18	TIG Welding Machine	Manual	1 No.
19	ARC Welding Machine	Manual	1 No.
20	Vertical Hydro Testing Machine	Manual	1 No.
21	Horizontal Hydro Testing Machine	Manual	1 No.
22	Mobile Hydro Testing Machine	Manual	1 No.
23	Wedge Lapping Machine	Manual	1 No.
24	Body Lapping Machine 2" - 12"	Manual	1 No.
25	Body Lapping Machine 14" - 24"	Manual	1 No.
26	Marking Machine	Manual	1 No.
27	A Frame Crane	6 Tons	1 No.
28	A Frame Crane	3 Tons	3 No's.


OKUMA OSP-P300L-R
AUTO OPERATION
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MATERIAL DRAWING
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AUTO SCALE
SCALE DOWN

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