

**FULLY LINED, HIGH PERFORMANCE
COMPOSITE BODY BUTTERFLY VALVES**



CS®/SC Series

CS®/SC Series valves are fully lined VE-CF composite butterfly valves, features industry proven technology that has established a revolutionary performance benchmark for isolating and controlling extremely corrosive and hazardous process media. Ideally suited for **FRP** and **Dual Laminate** piping systems, our innovative technology rivals the physical properties of lined metal valves with a **60% weight savings** thus eliminating the need for expensive pipe supports.

CS®/SC Series valves are routinely specified where internal and external corrosive conditions continue to plague traditionally used lined metal valves. Our UV stabilized, vinyl ester resin matrix provides exceptional resistance to the degrading effects associated with chemically aggressive environments, electrolytic corrosion and UV rays. Our innovative, three point, live loaded stem sealing system, offers a conditional life time guarantee against the harmful effects of fugitive emissions. Our ProTef® molecular and mechanically enhanced body lining offers unparalleled performance and reliability in applications where permeation resistance is critical.

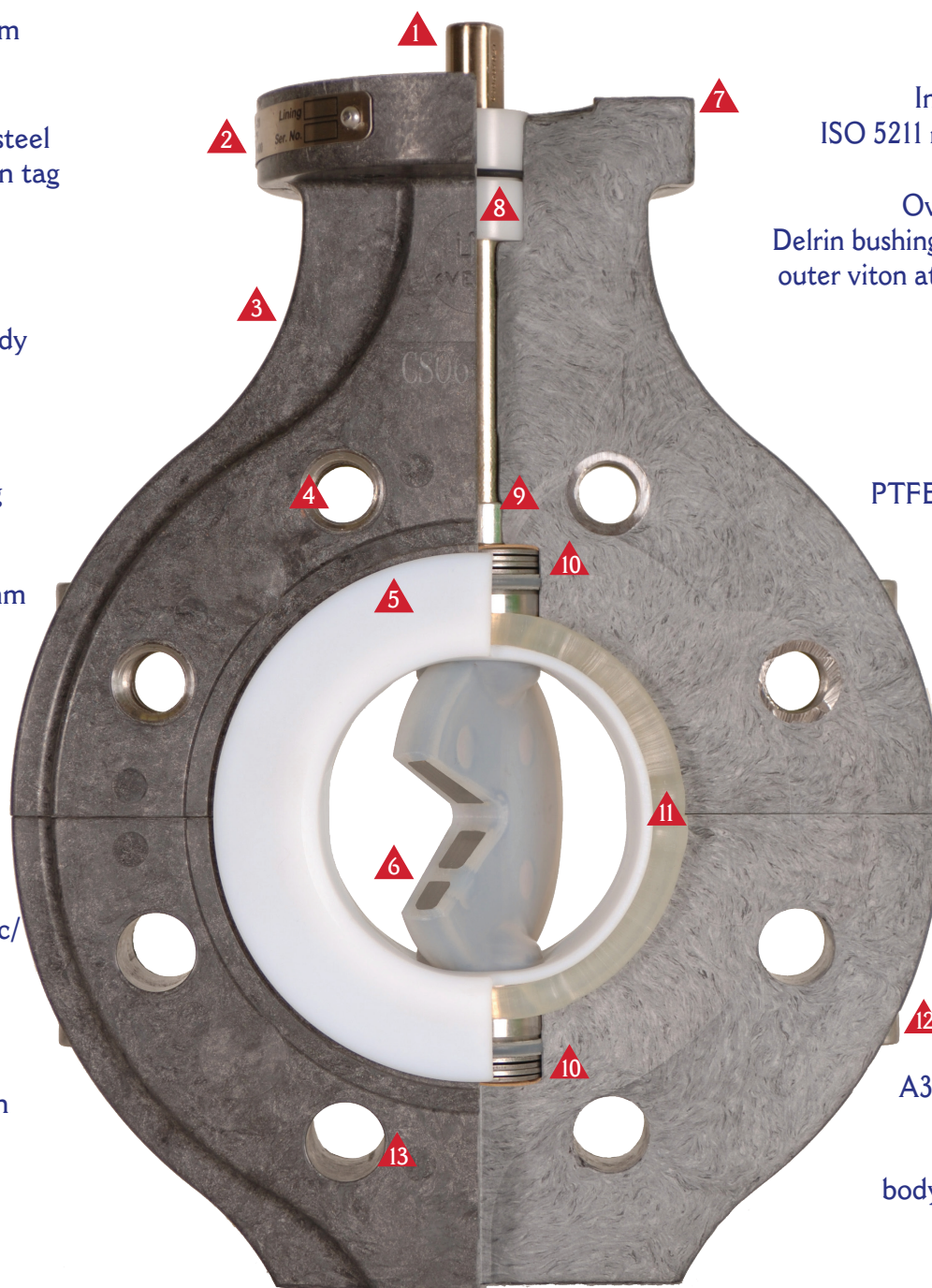
Design Features

- ▲ Industry Proven Reliability Where Isolation & Control of Corrosive Process Media is Critical
- ▲ The Ultimate Solution to Internally and Externally Corrosive Environments
- ▲ Manufactured in Accordance with ISO 5752 & DIN EN 558-1 Range 20
- ▲ Structural Composite VE-CF body Yields a 60% Weight Savings Relative to Lined Metal Valves
- ▲ Bi-directional Zero Leakage (Gas Tested per API 598/ EN12266-1/P12-Leakage Rate A)
- ▲ High Precision, Injection Molded Elastomeric Energizers Yields Uniform Sealing Pressure On to the Entire Circumference of the ProTef™ Liner
- ▲ 100% Spark Tested to 10,000 Volts
- ▲ Industry Safe, One Piece Blow-out Proof Disc/ Stem Design
- ▲ Minimum 3 mm ProTef® Lining Thickness Assures Superior Permeation Resistance
- ▲ ISO 5211 Actuator Mounting Flange
- ▲ Equal Percent Control Characteristics
- ▲ Certified TA Luft VDI 2440 5.2.6.4 and ISO 15848-1 Environmentally Safe, Mechanical Shaft Sealing System
- ▲ PED 2014/68/EU Certified (European Pressure Equipment Directive)
- ▲ ATEX Compliant Version for Explosive Surroundings, Group II, Zones 0,1,2,20,21 & 22
- ▲ Conforms to the Requirements of Chlorine Institute Pamphlet 6
- ▲ Spherically Molded & Machined Disc/Liner Sealing Interface
- ▲ Individual Serial #'s Assure Complete Product Traceability
- ▲ Engineered and Individually Tested for Consistent Operating Torques
- ▲ SQS ISO 9001 Quality Management Certified
- ▲ Ideally Suited for Wet Chlorine Gas and Aqueous HCL Processes
- ▲ Temperature Range 0° - 300° F depending on material selection

CS®/SC Series valves are routinely specified for hazardous services such as:

- ▲ Wet Chlorine Gas
- ▲ Cell Effluent
- ▲ Chlorine Condensate
- ▲ Caustic
- ▲ Chlorinated Brine
- ▲ Hydrobromic Acid
- ▲ Sodium Hypochlorite
- ▲ Anolyte
- ▲ Catholyte
- ▲ Hydrochloric Acid
- ▲ Spent Acid
- ▲ Sulfuric Acid
- ▲ Chlorinated Solvents
- ▲ Bromine
- ▲ Brine

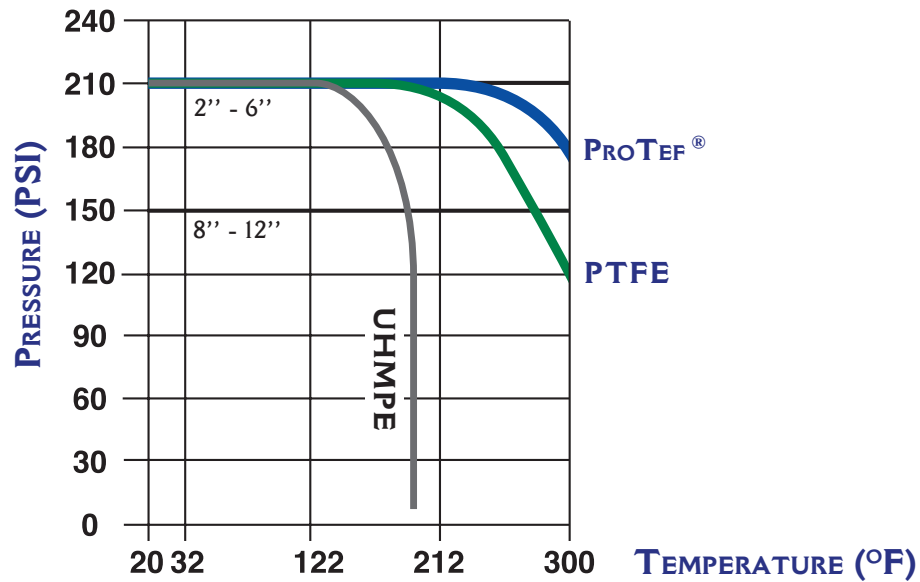
- ▲ 1 Double D stem
- ▲ 2 316 stainless steel identification tag
- ▲ 3 Structural composite body
- ▲ 4 Threaded lug style body
- ▲ 5 Minimum 3mm thickness, spherically molded extra wide ProTef® liner.
- ▲ 6 Spherically molded one piece disc/shaft with mechanically interlocked PFA encapsulation



- Integrally molded ISO 5211 mounting flange ▲ 7
- Oversized press fit Delrin bushing with inner and outer viton atmospheric seals ▲ 8
- PTFE/316SS Bushing ▲ 9
- Spherically machined dynamically loaded mechanical shaft seal ▲ 10
- Enhanced 360° elastomeric energizer ▲ 11
- High strength zinc plated A324 8.8 fasteners ▲ 12
- Wafer style body through holes ▲ 13

Ratings, Values / Flow Curve

Pressure / Temperature Curve of Linings

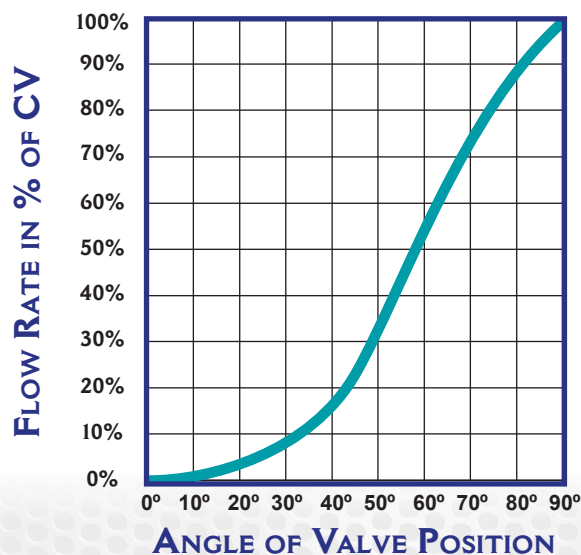


Degrees Open of Valve Disc

Valve Size	20	30	40	50	60	70	80	90
2	9	22	46	77	116	164	215	241
3	20	43	89	162	235	332	434	518
4	27	64	130	219	353	530	657	807
6	83	178	320	534	876	1314	1677	2067
8	130	311	629	1075	1625	2498	3320	4180
10	232	466	944	1568	2177	3270	4932	6087
12	352	703	1344	2297	3600	5356	8054	9740

* Inches

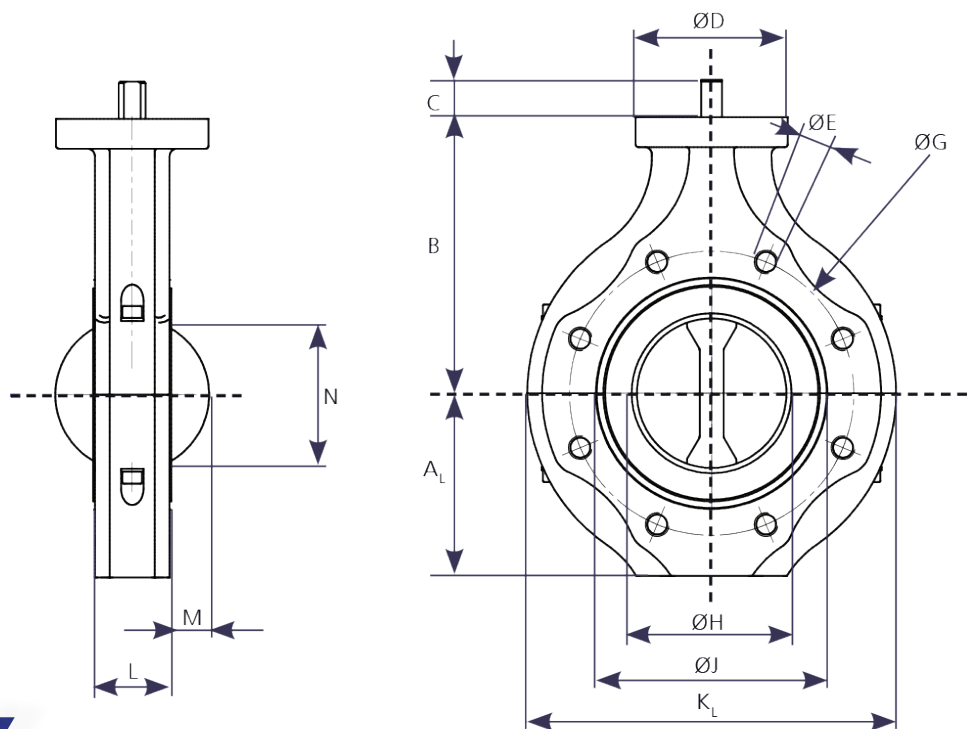
Flow Curve



Torque Values / Weights / Bolt Torque

Valve Size	MPTFE		Cv 90° Open		Max. Allowable		Installation	
	Nm	In Lbs.			Nm	In Lbs.	Nm	In Lbs.
2	31	294		241	159	1407	25	221
3	54	480		518	159	1407	25	221
4	72	640		807	335	2965	25	221
6	132	1170		2067	608	5380	50	443
8	200	1990		4180	456	4036	50	443
10	334	2956		6087	664	5877	50	443
12	400	3540		9740	664	5877	60	531

Note: To ensure proper installation, conformance to the installation process is critical. (See back cover)

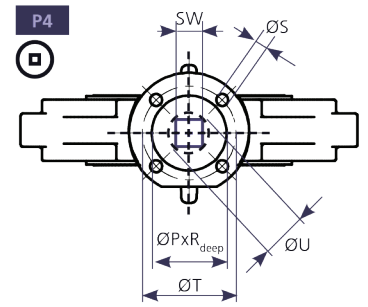
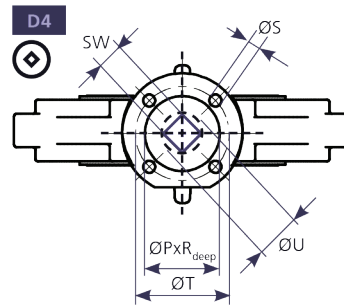
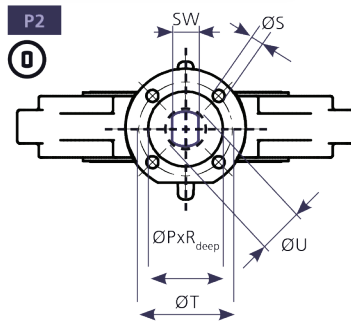


Dimensions

DN (mm)	50	65	80	100	150	200	250	300
DN (inch)	2"	2-1/2"	3"	4"	6"	8"	10"	12"
A _L	3.15	3.35	4.25	4.86	5.94	7.17	8.86	10.31
B	5.12	5.75	6.5	7.28	8.54	9.65	10.63	12.17
C _{P2}	0.75	0.75	0.75	0.98	1.18	-	-	-
C _{D4/P4}	0.67	0.67	0.67	0.67	0.87	1.02	1.18	1.18
ØD	4.02	4.02	4.02	4.02	4.02	5.98	5.96	5.98
ØE _{DIN}	4xM16	-	8xM16	8xM16	8xM20	8xM20	12xM20	12xM20
ØE _{ANSI}	4x5/8"-11 UNC	4x5/8"-11 UNC	4x5/8"-11 UNC	8x5/8"-11 UNC	8x3/4"-10 UNC	8x3/4"-10 UNC	12x7/8"-9 UNC	12x7/8"-9 UNC
ØG _{DIN}	125	145	160	180	240	295	350	400
ØG _{ANSI}	4.75	5.50	6.00	7.50	9.50	11.75	14.25	17.00
ØH	2.36	2.36	3.15	3.94	5.91	3.92	9.80	11.81
K _L	7.13	7.87	8.50	9.72	11.89	14.33	17.72	20.63
ØJ	3.35	4.17	4.80	5.63	7.60	9.88	11.85	13.74
L	1.69	1.81	1.81	2.05	2.20	2.36	2.68	3.07
M	0.433	0.39	0.79	1.06	1.97	2.83	3.70	4.49
N	1.93	1.81	2.80	3.58	5.71	7.72	9.69	11.65
Weight/lbs	3.97	4.63	5.51	7.94	15.00	23.80	42.77	68.34

* Inches

ISO Mounting Flange



DN (mm)	50	65	80	100	150	200	250	300
DN (inch)	2"	2-1/2"	3"	4"	6"	8"	10"	12"
SW _{P2}	0.433	0.433	0.433	0.551	0.669	-	-	-
SW _{D4/P4}	0.433	0.433	0.433	0.551	0.669	0.748	0.866	0.866
ØU	0.551	0.551	0.551	0.709	0.866	0.945	1.10	1.10
ISO	F07	F07	F07	F07	F07	F10	F10	F10
ØT	2.76	2.76	2.76	2.76	2.76	4.02	4.02	4.02
ØS	.157x.354	.157x.354	.157x.354	.157x.354	.157x.354	.157x.433	.157x.433	.157x.433
ØP x R _{DEEP}	2.20 x .138	2.20 x .138	2.20 x .138	2.20 x .138	2.20 x .138	2.80 x .138	2.80 x .138	2.80 x .138

* Inches

Control Valve



Control Valve Accessories



Actuator/ Position Indicator
with Beacon Indicator



Instrument
Enclosure



Actuator/
Pneumatic Positioner



Electro-Pneumatic
Positioner with Gauges



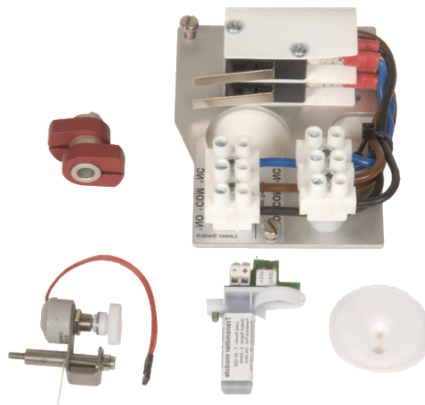
Pneumatic
Positioner



Digital Positioner
with Gauges



Position Indicator with
Beacon Indicator



Feedback
Module



Pressure Regulator
with Gauge

Ordering Information

1-Disc

T - PFA
A - PFA-AS
S - 316 SS
N - Titanium
Y - Hastelloy

2-Liner

M - ProTef®
A - ProTef®/AS
T - PTFE
U - UHMPE
E - ETFE

3-Elastomer

V - Viton
L - Silicone
E - EPDM

4-Body Material

C - Structural
Composite

5-Body Style

L - Lug
W - Wafer

6-Class

A - ANSI 150#
B - DIN PN 10
C - DIN PN 16

7-Operator

SB - Bare Stem
HL - Locking Handle
MG - Manual Gear
DA - DA Actuator
FC - FC Actuator
FO - FO Actuator

8-Accessories (optional)

PP - Pneumatic Positioner
EP - Electro Pneumatic Positioner
PS - Proximity Switch Box
MS - Micro Limit Switches
SV - Solenoid Valve
FR - Filter Regulator with Gauge
MO - Manual Override

9-Cleaning (optional)

C1 - Chlorine
C2 - UPW

*ProTef® = Molecular/Mechanically Enhanced TFM

ChemValve-Schmid AG

Duennerstrasse 540
CH-4716
Welschenrohr, Switzerland
Corporate Office
www.chemvalve-schmid.com
sales@chemvalve-schmid.com
41-(0)326395010

ChemValve-Schmid Americas LLC

34990 Emerald Coast Parkway
Suite 367
Destin, FL 32541 USA
North America Office
www.chemvalve-schmid-americas.com
sales@chemvalve-schmid-americas.com
850-842-0045



Installation Bolt Torque



DN050-100 / 2"-4"	T* = 3 Nm	2 lbf-ft
DN150-250 / 6"-10"	T* = 5 Nm	4 lbf-ft
DN300 / 12"	T* = 6 Nm	4 lbf-ft



DN050-100 / 2"-4"	T* = 8 Nm	6 lbf-ft
DN150-250 / 6"-10"	T* = 17 Nm	12 lbf-ft
DN300 / 12"	T* = 20 Nm	15 lbf-ft

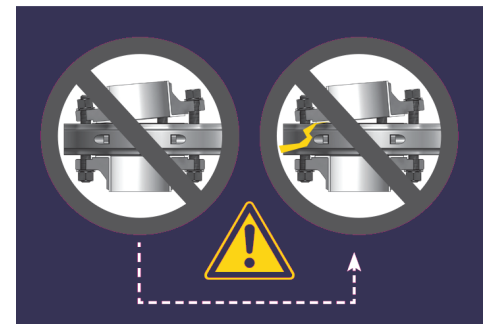


DN050-100 / 2"-4"	T* = 17 Nm	12 lbf-ft
DN150-250 / 6"-10"	T* = 33 Nm	24 lbf-ft
DN300 / 12"	T* = 40 Nm	29 lbf-ft



DN050-100 / 2"-4"	T* = 25 Nm	19 lbf-ft
DN150-250 / 6"-10"	T* = 50 Nm	37 lbf-ft
DN300 / 12"	T* = 60 Nm	44 lbf-ft

T* = Torque



The information and specifications contained within the literature are believed to be accurate. The data is for informative purposes only and should not be considered certified or as a guarantee of satisfactory results by reliance thereon. Nothing contained herein is to be construed as a warranty or guarantee, express or implied, regarding any matter with respect to this product.