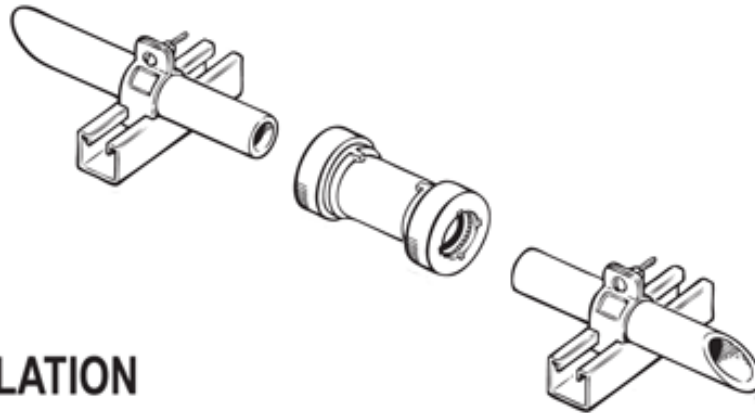


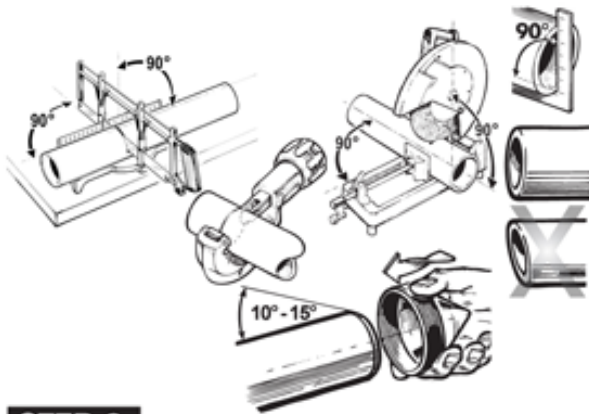


GripLoc™ Marine Coupling Installation

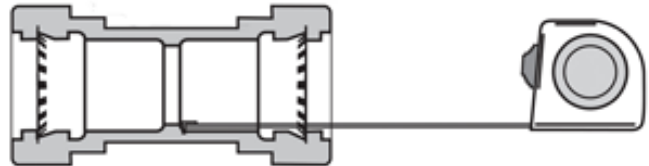


EASY INSTALLATION

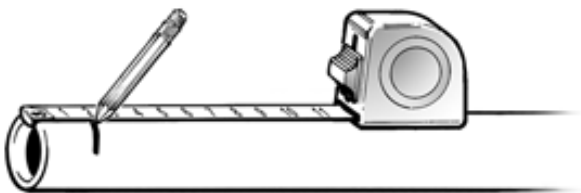
STEP 1 Cut pipe square. Deburr and bevel.



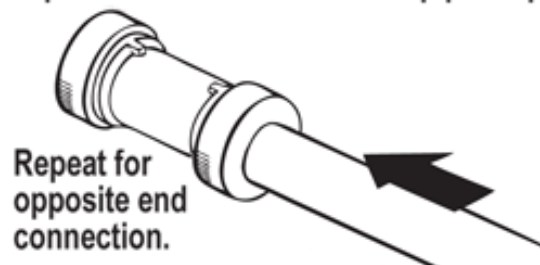
STEP 2 Measure from pipe stop to the end of the coupling.



STEP 3 Measure and mark pipe.



STEP 4 Insert pipe all the way to mark. Pipe should bottom out at the pipe stop.



WARNING: DO NOT INSERT FINGERS. ENSURE THAT PIPE AND FITTINGS ARE FREE OF DIRT AND DEBRIS PRIOR TO INSTALLATION.



Features

This multi-featured, space saving quarter-turn shutoff valve is designed to meet the demands of today's marine and chemical processing applications. CPVC marine valves are available in IPS sizes 1/2" through 6", regular thread thru 2" and 8" venturied valve socket ends.

Sample Engineering Specification

All thermoplastic 2000 marine ball valves shall be True Union 2000 manufactured to ASTM F 1970 and constructed from CPVC Type IV, ASTM D 1784 Cell Classification 23447 per ASTM D 1784. All O-rings shall be EPDM or FKM. All valves shall have Safe-T-Shear® stem with double O-ring stem seals. All valve handles shall be polypropylene with built-in lockout mechanism. All valve union nuts shall have Buttress threads. All seal carriers shall be Safe-T-Blocked®. All valve components shall be replaceable. All valves with EPDM elastomers shall be certified by NSF International for use in potable water service. All 1/2" through 4" valves shall be pressure rated to 235 psi, with a Limited Lifetime Warranty as manufactured by Spears® Manufacturing Company. CPVC marine ball valves in sizes 1/2" thru 4" shall be type approved by the American Bureau of Shipping (ABS). CPVC marine ball valves in sizes 1/2" thru 8" are suitable for use with Spears® U.S. Coast Guard Approved piping systems.

- Chemical & Corrosion Resistant CPVC Construction
- Interchangeable with all True Union 2000 Valves
Mates with Union 2000 Pipe Unions
- High Impact Polypropylene Handle
- Built-in Handle Lockout
- Schedule 80 Full-Port Design
- Strong, Buttress Thread Union Nuts
- Spears® Double O-ring Safe-T-Shear® Stem Design
- EPDM or FKM O-rings
- Spears® Safe-T-Blocked® Seal Carrier
- Self Adjusting PTFE Floating Seat Design
- Fully Serviceable, Replaceable Components
- Sizes 1/2"-4" Pressure Rated to 235 psi @ 73°F.
Sizes 6" and 8" Venturied and all Flanged to 150 psi @ 73°F.
- EPDM Valves NSF® Certified for Potable Water use
- Assembled with Silicone-Free, Water Soluble Lubricants
- Manufactured to ASTM F 1970

Quick-View Valve Selection Chart

Valve Size	O-ring Material	CPVC Part Number		Pressure Rating
		Socket	Threaded	
1/2	EPDM	CG-1829-005C	included	235 psi Non-Shock Water @ 73°F
	FKM	CG-1839-005C	included	
3/4	EPDM	CG-1829-007C	included	
	FKM	CG-1839-007C	included	
1	EPDM	CG-1829-010C	included	
	FKM	CG-1839-010C	included	
1-1/4	EPDM	CG-1829-012C	included	
	FKM	CG-1839-012C	included	
1-1/2	EPDM	CG-1829-015C	included	
	FKM	CG-1839-015C	included	
2	EPDM	CG-1829-020C	included	(Flanged 150 psi Non-Shock) Water @ 73°F
	FKM	CG-1839-020C	included	
2-1/2	EPDM	CG-1822-025C	N/A	
	FKM	CG-1832-025C	N/A	
3	EPDM	CG-1822-030C	N/A	
	FKM	CG-1832-030C	N/A	
4	EPDM	CG-1822-040C	N/A	
	FKM	CG-1832-040C	N/A	
6	EPDM	CG-1822-060C	N/A	
	FKM	CG-1832-060C	N/A	
8 ¹	EPDM	CG-1822-080C	N/A	150 psi Non-Shock Water @ 73°F
	FKM	CG-1832-080C	N/A	

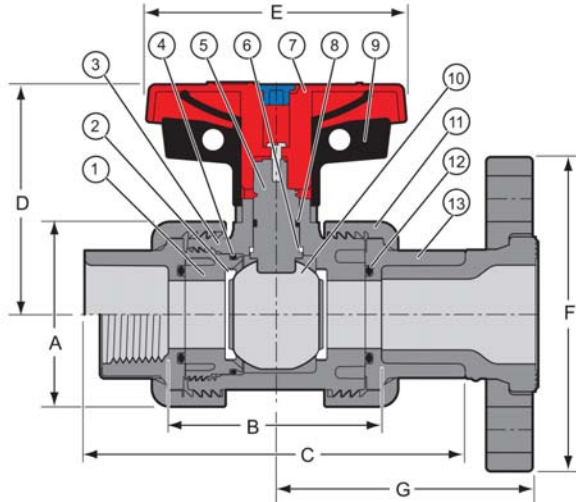
1) Venturied Valves are 6" ball valves fitted with 6x8 end connector adapters.

Optional Accessories

- Retro-Fit End Connector Sets for Valve Replacement
- Split-Nut Repair Kits for Union Nut Replacement
- Supplemental End Connectors
- Round Safety Handles
- Handle Lockout Ring
- Stem Extension Kits
- Square Operator Nuts
- Multi Mount Valve/Actuation Mounting Kits
- Mini-Mount Actuation Mounting Kits



Marine & Offshore Technical EverTUFF® CPVC Schedule 40 & 80 Marine Pressure System



Replacement Parts

No.	Component	Qty.	Material
1	Seal Carrier	1	CPVC
2	Seat	2	PTFE
3	Body	1	CPVC
4	Carrier O-ring	1	EPDM/FKM
5	Stem	1	CPVC
6	Stem Bearing	1	PP
7	Handle	1	PP
8	Stem O-ring	2	EPDM/FKM
9	Handle Lock	1	PP
10	Ball	1	CPVC
11	Union Nut	2	CPVC
12	End Connector O-ring	2	EPDM/FKM
13	End Connector	2	CPVC

1: An additional O-ring is used behind each seat on 2-1/2" or larger.

Dimensions, Weights, Operating Torque & C_v Values

Nominal Size	Dimensions Reference (inches, ± 1/16)							Approx. Wt. (Lbs.)	Oper. Torque ² (in. lbs.)	C _v ³ Values
	A	B ¹	C	D	E	F	G	CPVC		Soc/Thdx
		Soc/Thd	Socket							
1/2	1-15/16	2-1/2	4-1/4	2-9/16	2-7/8	3-1/2	2-31/32	.38	16	29
3/4	2-3/8	2-13/16	4-13/16	2-7/8	3-3/8	3-7/8	3-5/16	.58	17	63
1	2-5/8	2-15/16	5-3/16	3-1/16	3-1/2	4-1/2	3-5/8	.77	22	120
1-1/4	3-3/16	3-5/16	5-13/16	3-9/16	3-7/8	4-5/8	3-31/32	1.19	28	243
1-1/2	3-9/16	3-9/16	6-5/16	4	4-3/16	5	4-3/8	1.60	61	357
2	4-5/16	4-13/16	7-13/16	4-7/16	5-1/8	6	5-1/4	2.85	77	599
2-1/2	6-3/16	7-1/16	10-9/16	5-7/8	7-5/8	7-1/2	6	7.70	132	856
3	6-3/16	7-1/16	10-13/16	5-7/8	7-5/8	7-1/2	6-13/16	7.81	132	1416
4	7-3/4	7-3/8	11-7/8	6-3/4	9	9	7-1/2	12.48	396	2865
6	11-5/8	11-3/16	17-5/16	8-1/8	14-1/4	11-1/4	10-3/16	40.55	732	6638
8 ⁴	11-5/8	23-1/4	31-3/4	8-1/8	14-1/4	13-1/2	17-13/16	55.92	732	N/A

1: Valve Lay Length

2: Torque required at valve maximum internal pressure rating, 5ft/sec. Flow velocity; due to adjustment differences during installation, actual values may vary.

3: Gallons per minute at 1 psi pressure drop. Valves calculated from laying length, based on derivative of Hazen-Williams equation with surface roughness factor of C=150.

4: Venturied Valves are 6" ball valves fitted with 6x8 end connector adapters.

Temperature Pressure Rating

System Operating Temperature °F (°C)		100 (38)	110 (43)	120 (49)	130 (54)	140 (60)	150 (66)	160 (71)	170 (77)	180 (82)	190 (88)	200 (93)	210 (99)
Valve Pressure Rating psi (MPa)	1/2" - 4"	235 (1.62)	219 (1.51)	170 (1.17)	145 (1.00)	130 (.90)	110 (.76)	90 (.62)	80 (.55)	70 (.48)	60 (.41)	50 (.34)	-0- (-0-)
	6" - 8"	150 (1.03)	140 (.97)	130 (.90)	120 (.83)	110 (.76)	100 (.70)	90 (.62)	80 (.55)	70 (.48)	60 (.41)	50 (.34)	-0- (-0-)

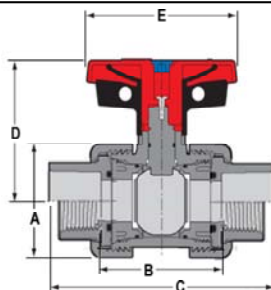
1/2" - 4" ABS Approved

1/2" - 8" U.S. Coast Guard Applications

NOTE: Flanged Valves have a base pressure rating of 150 psi.

True Union 2000 Industrial Ball Valves - EPDM - Marine

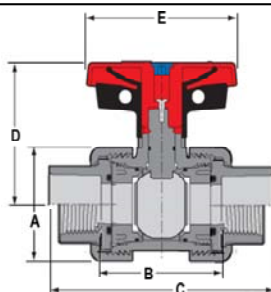
Socket



Part Number	Size	A	B	C	D	E	F	Cv Values	Approx. Wt. (Lbs.)
CG-1829-005C	1/2	1-15/16	2-1/2	4-1/4	2- 9/16	2-7/8	3-7/8	29	.48
CG-1829-007C	3/4	2-3/8	2-13/16	4-13/16	2- 7/8	3-3/8	4-1/4	63	.72
CG-1829-010C	1	2-5/8	2-15/16	5-3/16	3-1/16	3-1/2	4-3/4	120	1.00
CG-1829-012C	1-1/4	3-3/16	3-5/16	5-13/16	3-9/16	3-7/8	5-3/16	243	1.47
CG-1829-015C	1-1/2	3-9/16	3-9/16	6-5/16	4	4- 3/16	5-7/16	357	1.97
CG-1829-020C	2	4-5/16	4-13/16	7-13/16	4-7/16	5- 1/8	6-11/16	599	3.39
CG-1822-025C	2-1/2	6- 3/16	7-1/16	10- 9/16	5- 7/8	7- 5/8		856	8.54
CG-1822-030C	3	6- 3/16	7-1/16	10-13/16	5- 7/8	7- 5/8		1416	8.38
CG-1822-040C	4	7- 3/4	7-3/8	11-7/8	6- 3/4	9		2865	14.44
CG-1822-060C	6	11- 5/8	11-3/16	17-5/16	8- 1/8	14-1/4		6638	41.99
CG-1822-080C	8	11-5/8	23-1/4	31-3/4	8-1/8	14-1/4		6638	54.11

True Union 2000 Industrial Ball Valves - FKM - Marine

Socket



Part Number	Size	A	B	C	D	E	F	Cv Values	Approx. Wt. (Lbs.)
CG-1839-005C	1/2	1-15/16	2-1/2	4-1/4	2- 9/16	2-7/8	3-7/8	29	.48
CG-1839-007C	3/4	2-3/8	2-13/16	4-13/16	2- 7/8	3-3/8	4-1/4	63	.72
CG-1839-010C	1	2-5/8	2-15/16	5-3/16	3-1/16	3-1/2	4-3/4	120	1.00
CG-1839-012C	1-1/4	3-3/16	3-5/16	5-13/16	3-9/16	3-7/8	5-3/16	243	1.48
CG-1839-015C	1-1/2	3-9/16	3-9/16	6-5/16	4	4- 3/16	5-7/16	357	1.98
CG-1839-020C	2	4-5/16	4-13/16	7-13/16	4-7/16	5- 1/8	6-11/16	599	3.40
CG-1832-025C	2-1/2	6- 3/16	7-1/16	10- 9/16	5- 7/8	7- 5/8		856	8.59
CG-1832-030C	3	6- 3/16	7-1/16	10-13/16	5- 7/8	7- 5/8		1416	8.42
CG-1832-040C	4	7- 3/4	7-3/8	11-7/8	6- 3/4	9		2865	14.50
CG-1832-060C	6	11- 5/8	11-3/16	17-5/16	8- 1/8	14-1/4		6638	42.14
CG-1832-080C	8	11-5/8	23-1/4	31-3/4	8-1/8	14-1/4		6638	54.25



Marine & Offshore Technical
EverTUFF® CPVC Schedule 40 & 80 Marine Pressure System



Features

Economical, low profile quarter-turn shutoff valve is excellent for marine and many O.E.M applications. CPVC valves are available in IPS sizes 1/2" through 4".

- New Actuator-Ready Body — Accepts Spears® Improved Mini-Mount Actuator Mounting Kits
- New Double O-ring Stem Seal
- Schedule 80 Full-Port Design
- Spears® Safe-T-Shear Stem
- PTFE/HDPE Self Adjusting Floating Seats
- EPDM or FKM O-ring Seals
- Sizes 1/2" - 2" Pressure Rated to 235 psi @ 73°F. Sizes 2-1/2" - 4" and all Flanged to 150 psi @ 73°F.
- EPDM valves NSF® Certified for Use with Potable Water
- Manufactured to ASTM F 1970

Optional Accessories

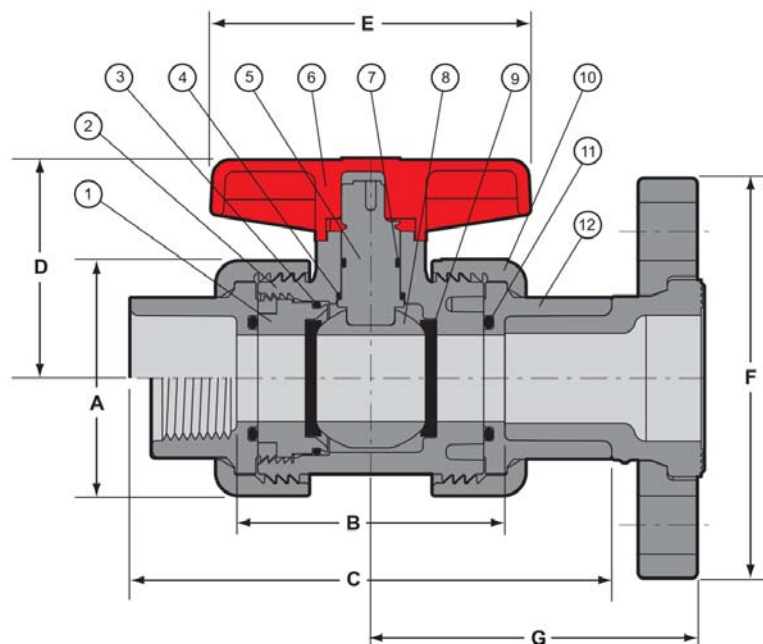
- Round Safety Handles
- Stem Extension Kits
- Square Operator Nuts
- Multi Mount Valve/Actuation Mounting Kits
- Mini-Mount Actuation Mounting Kits

Sample Engineering Specification

All thermoplastic Standard marine ball valves shall be True Union 2000 series manufactured to ASTM F 1970 and constructed from CPVC Type IV, ASTM D1784 Cell Classification 23447 per ASTM D1784. All O-rings shall be EPDM or FKM. All valves shall have Safe-T-Shear® stem with double O-ring stem seals. All valve handles shall be polypropylene. All valve union nuts shall have Buttress threads. All seal carriers shall be Safe-T- Blocked®. All valve components shall be replaceable. All valves with EPDM elastomers shall be certified by NSF International for use in potable water service. Valves 1/2" through 2" shall be pressure rated to 235 psi, 2-1/2" through 4" and all flanged valves shall be pressure rated to 150psi @ 73°F. with a Limited Lifetime Warranty as manufactured by Spears® Manufacturing Company. All CPVC Standard Marine Ball Valves 1/2" through 4" shall be type approved by the American Bureau of Shipping (ABS) and suitable for use with Spears® U.S. Coast Guard Approved piping systems.

Quick-View Valve Selection Chart

Valve Size	O-ring Material	CPVC Part Number		Pressure Rating
		Socket	Threaded	
1/2	EPDM	CG-3629-005C	Included	235 psi Non-Shock Water @73°F (Flanged 150 psi Non-Shock) Water @73°F
	FKM	CG-3639-005C	Included	
3/4	EPDM	CG-3629-007C	Included	
	FKM	CG-3639-007C	Included	
1	EPDM	CG-3629-010C	Included	
	FKM	CG-3639-010C	Included	
1-1/4	EPDM	CG-3629-012C	Included	
	FKM	CG-3639-012C	Included	
1-1/2	EPDM	CG-3629-015C	Included	
	FKM	CG-3639-015C	Included	
2	EPDM	CG-3629-020C	Included	
	FKM	CG-3639-020C	Included	
2-1/2	EPDM	CG-3622-025C	N/A	
	FKM	CG-3632-025C	N/A	
3	EPDM	CG-3622-030C	N/A	
	FKM	CG-3632-030C	N/A	
4	EPDM	CG-3622-040C	N/A	
	FKM	CG-3632-040C	N/A	



Replacement Parts

No.	Component	Qty.	Material
1	Seal Carrier	1	CPVC
2	Body	1	CPVC
3	Carrier O-ring	1	EPDM/FKM
4	Stem Bearing ^{1,2}	1	PP
5	Stem	1	CPVC
6	Handle	1	PP
7	Stem O-ring	1	EPDM/FKM
8	Ball	1	CPVC
9	Seat	2	PTFE/HDPE
10	Union Nut	2	CPVC
11	End Connector O-ring	2	EPDM/FKM
12	End Connector	2	CPVC

1: O-Ring up to 2"

2: PTFE Thrust Bearing: 2-1/2", 3" & 4"

3: An additional O-ring is used behind each seat on 2-1/2" or larger.

Dimensions, Weights, Operating Torque & C_v Values

Nominal Size	Dimensions Reference (inches, ± 1/16)							Approx. Wt. (Lbs.)	Oper. Torque ² (in. lbs.)	C _v ³ Values
	A	B ¹	C	D	E	F	G	CPVC		Soc/Thdx
		Soc/Thd	Socket							
1/2	1-15/16	2-1/2	4-1/4	1-5/8	2-1/2	3-1/2	2-31/32	.35	12	29
3/4	2-3/8	2-13/16	4-13/16	2	3	3-7/8	3-5/16	.54	20	63
1	2-11/16	2-15/16	5-3/16	2-5/16	3-5/16	4-1/4	3-5/8	.75	25	120
1-1/4	3-3/16	3-1/4	5-3/4	2-13/16	3-9/16	4-5/8	3-31/32	1.17	35	243
1-1/2	3-9/16	3-9/16	6-5/16	3-1/16	3-7/8	5	4-3/8	1.53	45	357
2	4-5/16	4-13/16	7-13/16	3-3/4	4-15/16	6	5-1/4	2.75	94	599
2-1/2	6-3/16	7-1/8	10-5/8	5-1/2	7-5/8	7	6-9/16	7.70	120	856
3	6-3/16	7-1/16	10-13/16	5-1/2	7-5/8	7-1/2	6-7/8	7.81	120	1416
4	7-3/4	7-5/16	11-13/16	6-1/8	9-1/16	9-1/16	7-1/2	12.48	336	2865

1: Valve Lay Length

2: Torque required at valve maximum internal pressure rating, 5ft/sec. flow velocity; due to adjustment differences during installation, actual values may vary.

3: Gallons per minute at 1 psi pressure drop. Valves calculated from laying length, based on derivative of Hazen-Williams equation with surface roughness factor of C=150.

Temperature Pressure Rating

System Operating Temperature °F (°C)			100 (38)	110 (43)	120 (49)	130 (54)	140 (60)	150 (66)	160 (71)	170 (77)	180 (82)	190 (88)	200 (93)	210 (99)
Valve Pressure Rating psi (MPa)	1/2" - 4"	CPVC	235 (1.62)	219 (1.51)	170 (1.17)	145 (1.00)	130 (.90)	110 (.76)	90 (.62)	80 (.55)	70 (.48)	60 (.41)	50 (.34)	-0- (-0-)
			150 (1.03)	140 (.97)	130 (.90)	120 (.83)	110 (.76)	100 (.70)	90 (.62)	80 (.55)	70 (.48)	60 (.41)	50 (.34)	-0- (-0-)

1/2" - 4" ABS Approved

1/2" - 8" U.S. Coast Guard Applications

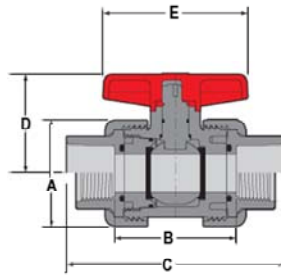
NOTE: Flanged Valves have a base pressure rating of 150 psi.



Marine & Offshore Technical
EverTUFF® CPVC Schedule 40 & 80 Marine Pressure System

True Union 2000 Standard Ball Valves - EPDM - Marine

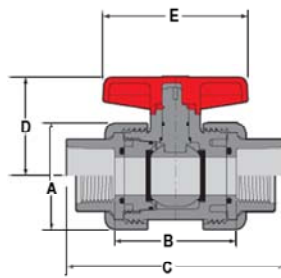
Socket



Part Number	Size	A	B	C	D	E	Cv Values	Approx. Wt. (Lbs.)
CG-3629-005C	1/2	1-15/16	2-1/2	4-1/4	1- 5/8	2- 1/2	29	.45
CG-3629-007C	3/4	2-3/8	2-13/16	4-13/16	2	3	63	.68
CG-3629-010C	1	2-5/8	2-15/16	5-3/16	2- 5/16	3-3/8	120	.96
CG-3629-012C	1-1/4	3-3/16	3-5/16	5-13/16	2-13/16	3-1/2	243	1.43
CG-3629-015C	1-1/2	3-9/16	3-9/16	6-5/16	3- 1/16	3- 7/8	357	1.90
CG-3629-020C	2	4- 5/16	4-13/16	7-13/16	3-3/4	4-15/16	599	3.28
CG-3622-025C	2-1/2	6- 3/16	7-1/16	10-9/16	5-1/2	7- 5/8	856	8.43
CG-3622-030C	3	6- 3/16	7-1/16	10-13/16	5-1/2	7- 5/8	1416	8.26
CG-3622-040C	4	7-3/4	7-1/16	11-7/8	6-1/8	9	2865	14.15

True Union 2000 Standard Ball Valves - FKM - Marine

Socket



Part Number	Size	A	B	C	D	E	Cv Values	Approx. Wt. (Lbs.)
CG-3639-005C	1/2	1-15/16	2-1/2	4-1/4	1- 5/8	2- 1/2	29	.45
CG-3639-007C	3/4	2-3/8	2-13/16	4-13/16	2	3	63	.68
CG-3639-010C	1	2-5/8	2-15/16	5-3/16	2- 5/16	3-3/8	120	.96
CG-3639-012C	1-1/4	3-3/16	3-5/16	5-13/16	2-13/16	3-1/2	243	1.44
CG-3639-015C	1-1/2	3-9/16	3-9/16	6-5/16	3- 1/16	3- 7/8	357	1.91
CG-3639-020C	2	4- 5/16	4-13/16	7-13/16	3-3/4	4-15/16	599	3.30
CG-3632-025C	2-1/2	6- 3/16	7-1/16	10-9/16	5-1/2	7- 5/8	856	8.48
CG-3632-030C	3	6- 3/16	7-1/16	10-13/16	5-1/2	7- 5/8	1416	8.30
CG-3632-040C	4	7-3/4	7-3/8	11-7/8	6-1/8	9	2865	14.21



Versatile design provides multiple port and configuration options for controlling flow distribution in marine applications. Choose Vertical 3-Way (L-Port Diverter) or Horizontal T-Port configurations with open branch (no shutoff) design. Valves are available in IPS sizes 1/2" through 4" with socket end connectors. Venturied 6" (4" valves with 4 x 6 reducers) with socket end connections.

- Chemical & Corrosion Resistant CPVC Construction
- Vertical 3-Way or Horizontal Diverter Design (no branch shutoff)
- L-Port, & T-Port Ball Configuration Options
- Interchangeable with all True Union 2000 Valves, Mates with Union 2000 Pipe Unions
- High Impact Polypropylene Handle
- Built-in Handle Lockout
- Strong, Buttress Thread Union Nuts
- Spears® Double O-ring Safe-T-Shear® Stem Design
- EPDM or FKM O-rings
- Spears® Safe-T-Blocked® Seal Carrier
- Self Adjusting PTFE Floating Seat Design
- Fully Serviceable, Replaceable Components
- Sizes 1/2" - 2" pressure rated to 235 psi @ 73°F Sizes 2-1/2" - 4" and all Flanged to 150 psi @ 73°F
- EPDM Valves NSF® Certified for Potable Water use
- Assembled with Silicone-Free, Water Soluble Lubricants
- Manufactured to ASTM F 1970

Sample Engineering Specification

All thermoplastic marine ball valves shall be True Union 2000 3-Way specify horizontal or vertical type with specify port option manufactured to ASTM F 1970 and constructed from CPVC Type IV, ASTM D 1784 Cell Classification 23447. All O-rings shall be EPDM or FKM. All valves shall have Safe-T-Shear® stem with double O-ring stem seals. All valve handles shall be polypropylene with built-in lockout mechanism. All valve union nuts shall have Buttress threads. All seal carriers shall be Safe-T-Blocked®. All valve components shall be replaceable. All valves with EPDM elastomers shall be certified by NSF International for use in potable water service. All CPVC 1/2" through 2" valves shall be pressure rated to 235 psi, all 2-1/2" through 4" valves and all flanged valves shall be pressure rated to 150 psi for water at 73°F as manufactured by Spears® Manufacturing Company. Ball Valves shall be suitable for use with Spears® U.S. Coast Guard Approved piping systems only.



Marine & Offshore Technical
EverTUFF® CPVC Schedule 40 & 80 Marine Pressure System

Quick-View Valve Selection Chart
3-Way Vertical Ball Valve

Valve Size	O-ring Material	PVC Part Number	Pressure Rating
		Socket	
1/2	EPDM	CG-4722L1-005C	235 psi Non-Shock Water @ 73°F
	FKM	CG-4732L1-005C	
3/4	EPDM	CG-4722L1-007C	
	FKM	CG-4732L1-007C	
1	EPDM	CG-4722L1-010C	
	FKM	CG-4732L1-010C	
1-1/4	EPDM	CG-4722L1-012C	
	FKM	CG-4732L1-012C	
1-1/2	EPDM	CG-4722L1-015C	
	FKM	CG-4732L1-015C	
2	EPDM	CG-4722L1-020C	
	FKM	CG-4732L1-020C	
2-1/2	EPDM	CG-4722L1-025C	150 psi Non-Shock Water @ 73°F
	FKM	CG-4732L1-025C	
3	EPDM	CG-4722L1-030C	
	FKM	CG-4732L1-030C	
4	EPDM	CG-4722L1-040C	
	FKM	CG-4732L1-040C	

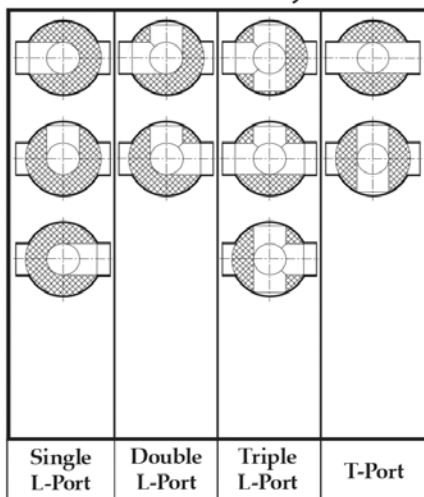
Quick-View Valve Selection Chart
3-Way Horizontal Diverter Valve (no branch shutoff)

Valve Size	O-ring Material	CPVC Part Number	Pressure Rating
		Socket	
1/2	EPDM	CG-5022L1-005C	235 psi Non-Shock Water @ 73°F
	FKM	CG-5032L1-005C	
3/4	EPDM	CG-5022L1-007C	
	FKM	CG-5032L1-007C	
1	EPDM	CG-5022L1-010C	
	FKM	CG-5032L1-010C	
1-1/4	EPDM	CG-5022L1-012C	
	FKM	CG-5032L1-012C	
1-1/2	EPDM	CG-5022L1-015C	
	FKM	CG-5032L1-015C	
2	EPDM	CG-5022L1-020C	
	FKM	CG-5032L1-020C	
2-1/2	EPDM	CG-5022L1-025C	150 psi Non-Shock Water @ 73°F
	FKM	CG-5032L1-025C	
3	EPDM	CG-5022L1-030C	
	FKM	CG-5032L1-030C	
4	EPDM	CG-5022L1-040C	
	FKM	CG-5032L1-040C	

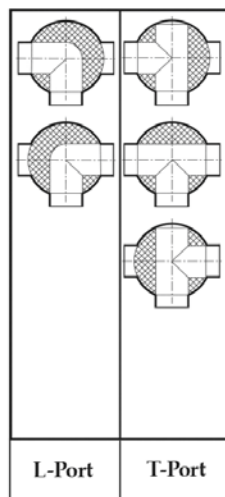
3-Way Port Options

Diverter Valves have no shut-off on branch.

Vertical 3-way



Horizontal Diverter

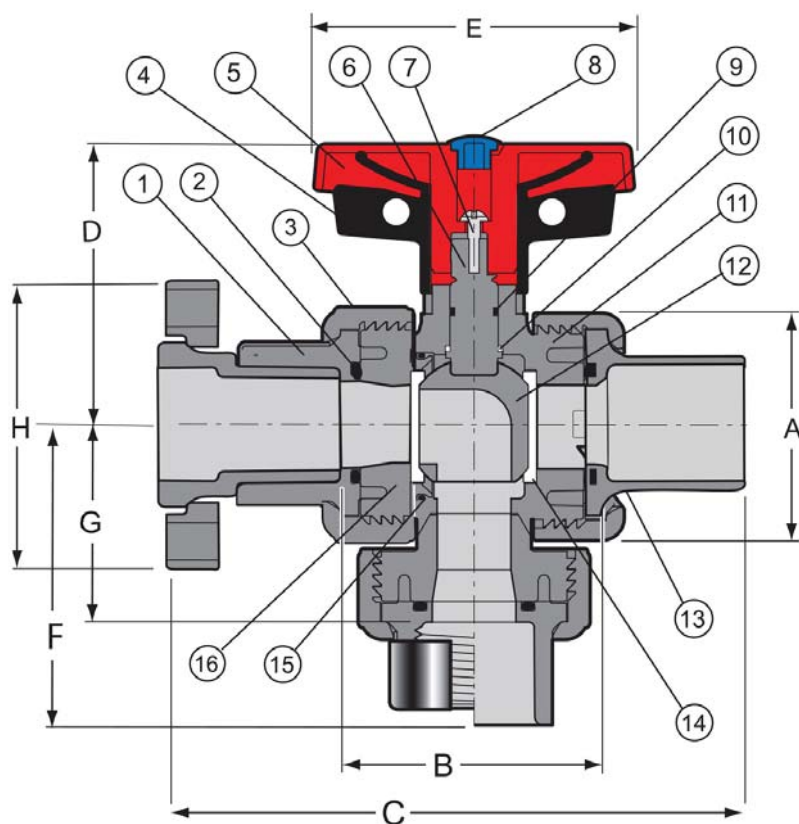


Ball Port Options viewed from top of valve.

Optional Accessories*

- Retro-Fit End Connector Sets for Valve Replacement
- Split-Nut Repair Kits for Union Nut Replacement
- Supplemental End Connectors
- Stem Extension Kits
- Square Operator Nuts
- Multi Mount Valve/Actuation Mounting Kits

* See **"BALL VALVE ACCESSORIES"** section for details of individual products.



Replacement Parts

No.	Component	Qty.	Material
1	End Connector	3	CPVC
2	End Connector O-ring	3	EPDM/FKM
3	Union Nut	3	CPVC
4	Handle Lock	1	PP
5	Handle	1	PP
6	Stem	1	CPVC
7	Screw	1	Stainless Steel
8	Handle Cover	1	PP
9	Stem O-ring	2	EPDM/FKM
10	Stem Bearing*	1	PTFE
11	Body	1	CPVC
12	Ball	1	CPVC
13	End Connector Collar	3	Stainless Steel
14	Seat	2	PTFE
15	Carrier O-ring	1	EPDM/FKM
16	Seal Carrier	1	CPVC

Note: Applies to both Vertical and Horizontal configurations.

* For sizes 2-1/2, 3 & 4 only.

NOTE: Diverter style valve has no shutoff on branch.

Vertical 3-Way Ball Valves — Dimensions & Operating Torque

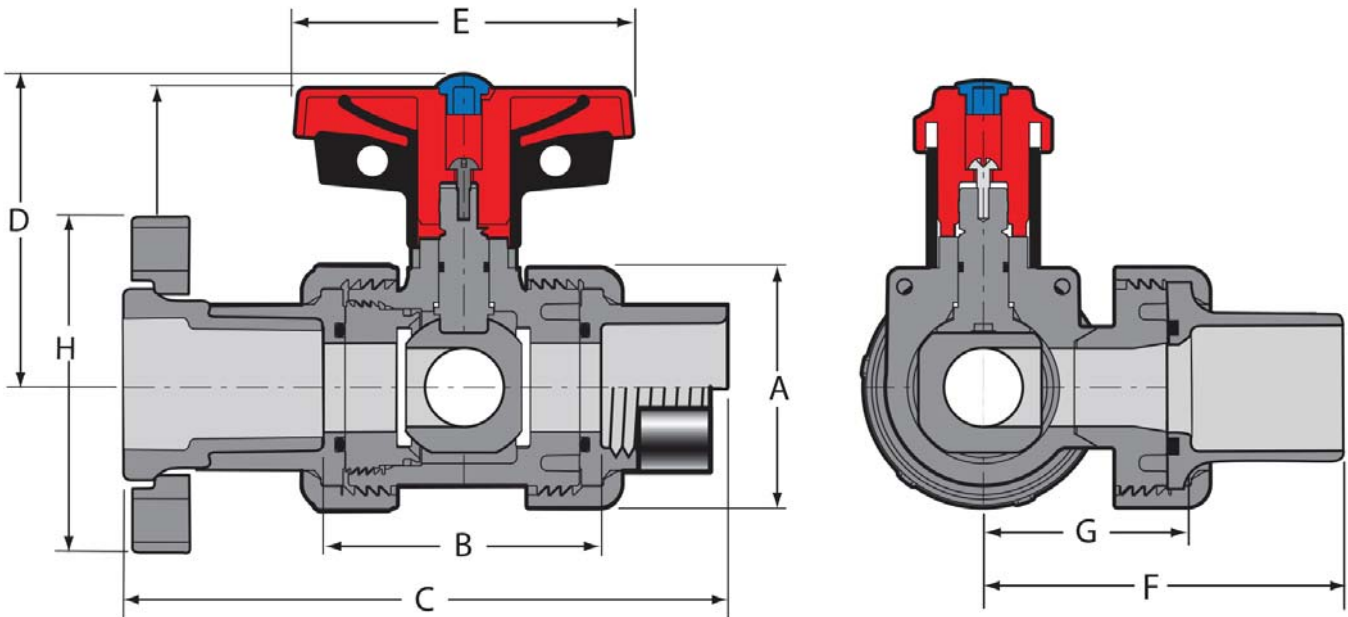
Nominal Size	Dimensions Reference (Inches, ± 1/16)							Oper. Torque ² (in. lbs.)	Approx. Wt. (lbs.) CPVC
	A	B ¹ Socket	C Socket	D	E	F	G		
1/2	1-15/16	2-1/2	4-1/4	2-17/32	2-7/8	2-11/16	1-13/16	12	0.54
3/4	2-3/8	2-3/4	4-3/4	2-7/8	3-3/8	3-1/16	2-1/16	12	0.83
1	2-11/16	2-15/16	5-3/16	3-1/16	3-1/2	3-5/16	2-3/16	20	1.12
1-1/4	3-3/16	3-5/16	5-13/16	3-5/8	3-7/8	3-3/4	2-1/2	25	1.72
1-1/2	3-5/8	3-5/8	6-3/8	4	4-3/16	4-5/16	2-15/16	40	2.30
2	4-5/16	4-7/8	7-7/8	4-7/16	5-1/16	5	3-1/2	67	4.02
2-1/2	6-3/16	7-1/8	10-5/8	5-7/8	7-5/8	6-5/8	4-7/8	120	9.92
3	6-3/16	7	10-3/4	5-7/8	7-5/8	6-3/4	4-7/8	120	10.11
4	7-3/4	7-7/16	11-15/16	6-11/16	9	8-3/8	5-15/16	336	21.72

1: Valve Lay Length

2: Torque required at valve maximum internal pressure rating, 5ft/sec. Flow velocity; due to adjustment differences during installation, actual values may vary.



Marine & Offshore Technical
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NOTE: Diverter style valve has no shutoff on branch

Horizontal Diverter 3-Way Ball Valves Dimensions & Operating Torque

Dimensions Reference (Inches, ± 1/16)								Oper. Torque ² (in. lbs.)	Approx. Wt. (lbs.) CPVC
Nominal Size	A	B ¹ Socket	C Socket	D	E	F	G		
1/2	1-15/16	2-1/2	4-1/4	2-17/32	2-7/8	2-3/4	1-7/8	12	0.55
3/4	2-3/8	2-3/4	4-3/4	2-7/8	3-3/8	3-1/8	2-1/8	12	0.84
1	2-11/16	2-15/16	5-3/16	3-1/16	3-1/2	3-5/16	2-3/16	20	1.11
1-1/4	3-3/16	3-5/16	5-13/16	3-5/8	3-7/8	3-13/16	2-9/16	25	1.72
1-1/2	3-5/8	3-5/8	6-3/8	4	4-3/16	4-5/16	2-15/16	40	2.24
2	4-5/16	4-7/8	7-7/8	4-7/16	5-1/16	5-1/16	3-9/16	67	4.04
2-1/2	6-3/16	7-1/8	10-5/8	5-7/8	7-5/8	6-5/8	4-7/8	120	9.84
3	6-3/16	7	10-3/4	5-7/8	7-5/8	6-3/4	4-7/8	120	10.03
4	7-3/4	7-7/16	11-15/16	6-11/16	9	8-1/4	6	336	17.71

1: Valve Lay Length

2: Torque required at valve maximum internal pressure rating, 5ft/sec. Flow velocity; due to adjustment differences during installation, actual values may vary.

Temperature Pressure Rating

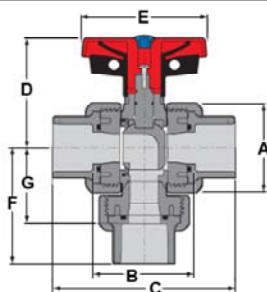
System Operating Temperature °F (°C)			100 (38)	110 (43)	120 (49)	130 (54)	140 (60)	150 (66)	160 (71)	170 (77)	180 (82)	190 (88)	200 (93)	210 (99)
Valve Pressure Rating psi (MPa)	1/2" - 2"	CPVC	235 (1.62)	219 (1.51)	170 (1.17)	145 (1.00)	130 (.90)	110 (.76)	90 (.62)	80 (.55)	70 (.48)	60 (.41)	50 (.34)	-0- (-0-)
	2-1/2" - 4"	CPVC	150 (1.03)	140 (.97)	130 (.90)	120 (.83)	110 (.76)	100 (.70)	90 (.62)	80 (.55)	70 (.48)	60 (.41)	50 (.34)	-0- (-0-)

1/2" - 4" U.S. Coast Guard Applications

Note: Flanged Valves have a base pressure rating of 150 psi.

**True Union 2000 Vertical 3-Way
Ball Valves - L-Port - EPDM -
Marine**

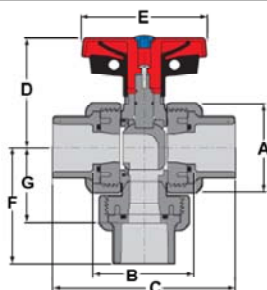
Socket



Part Number	Size	A	B	C	D	E	F	G	Approx. Wt. (Lbs.)
CG-4722L1-005C	1/2	1-15/16	2-1/2	4-1/4	2-9/16	2-7/8	2-11/16	1-13/16	.54
CG-4722L1-007C	3/4	2-3/8	2- 3/4	4- 3/4	2- 7/8	3-3/8	3-1/16	2-1/16	.83
CG-4722L1-010C	1	2-11/16	2-15/16	5-3/16	3-1/8	3-1/2	3-5/16	2-3/16	1.12
CG-4722L1-012C	1-1/4	3-3/16	3-5/16	5-13/16	3- 5/8	3-7/8	3- 3/4	2-1/2	1.74
CG-4722L1-015C	1-1/2	3-5/8	3-9/16	6-5/16	4	4- 3/16	4-5/16	2-15/16	2.31
CG-4722L1-020C	2	4-5/16	4-7/8	7-7/8	4-1/2	5-1/8	5	3- 1/2	4.11
CG-4722L1-025C	2-1/2	6-3/16	7-1/8	10-5/8	5-7/8	7-5/8	6-5/8	4-7/8	9.96
CG-4722L1-030C	3	6- 3/16	7	10-3/4	5- 7/8	7- 5/8	6-3/4	4- 7/8	10.15
CG-4722L1-040C	4	7-3/4	7-7/16	11-15/16	6-3/4	9	8-1/4	6	21.69

**True Union 2000 Vertical 3-Way
Ball Valves - L-Port - FKM -
Marine**

Socket

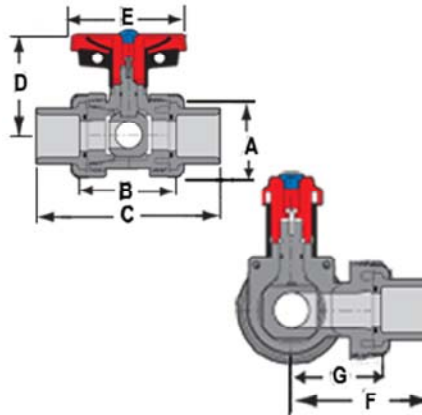


Part Number	Size	A	B	C	D	E	F	G	Approx. Wt. (Lbs.)
CG-4732L1-005C	1/2	1-15/16	2-1/2	4-1/4	2-9/16	2-7/8	2-11/16	1-13/16	.52
CG-4732L1-007C	3/4	2-3/8	2- 3/4	4- 3/4	2- 7/8	3-3/8	3-1/16	2-1/16	.83
CG-4732L1-010C	1	2-11/16	2-15/16	5-3/16	3-1/8	3-1/2	3-5/16	2-3/16	1.12
CG-4732L1-015C	1-1/2	3-5/8	3-9/16	6-5/16	4	4- 3/16	4-5/16	2-15/16	2.34
CG-4732L1-012C	1-1/4	3-3/16	3-5/16	5-13/16	3- 5/8	3-7/8	3- 3/4	2-1/2	1.75
CG-4732L1-020C	2	4-5/16	4-7/8	7-7/8	4-1/2	5-1/8	5	3- 1/2	4.13
CG-4732L1-025C	2-1/2	6-3/16	7-1/8	10-5/8	5-7/8	7-5/8	6-5/8	4-7/8	10.01
CG-4732L1-030C	3	6- 3/16	7	10-3/4	5- 7/8	7- 5/8	6-3/4	4- 7/8	10.20
CG-4732L1-040C	4	7-3/4	7-7/16	11-15/16	6-3/4	9	8-1/4	6	21.76



True Union 2000 Horizontal 3-Way Diverter Ball Valves - EPDM - T-Port - Marine

Socket



Part Number	Size	A	B	C	D	E	F	G	Approx. Wt. (Lbs.)
CG-5022T1-005C	1/2	1-15/16	2-1/2	4- 1/4	2-9/16	2-7/8	2- 3/4	1-7/8	.54
CG-5022T1-007C	3/4	2-3/8	2- 3/4	4- 3/4	2- 7/8	3-3/8	3-1/8	2-1/8	.83
CG-5022T1-010C	1	2-11/16	2-15/16	5-3/16	3-1/8	3-1/2	3-5/16	2-3/16	1.12
CG-5022T1-012C	1-1/4	3-3/16	3-5/16	5-13/16	3- 5/8	3-7/8	3-13/16	2-9/16	1.74
CG-5022T1-015C	1-1/2	3-5/8	3-5/8	6-3/8	4	4- 3/16	4-5/16	2-15/16	2.25
CG-5022T1-020C	2	4-5/16	4-7/8	7-7/8	4-1/2	5-1/8	5-1/16	3-1/2	3.92
CG-5022T1-025C	2-1/2	6-3/16	7-1/8	10-5/8	5-7/8	7-5/8	6-5/8	4-7/8	9.88
CG-5022T1-030C	3	6- 3/16	7	10-3/4	5- 7/8	7- 5/8	6-3/4	4- 7/8	10.07
CG-5022T1-040C	4	7-3/4	7-7/16	11-15/16	6-3/4	9	8-1/4	6	16.83



Sample Engineering Specification

All thermoplastic marine check valves shall be True Union 2000 Industrial Ball Check type manufactured to ASTM F 1970 and constructed from CPVC Type IV, ASTM D 1784 Cell Classification 23447. All O-rings shall be EPDM or FKM. All valve union nuts shall have Buttress threads. All valve seats shall be a standard O-ring type. All seal carriers shall be Safe-T-Blocked®. All valve components shall be replaceable. All valves with EPDM Elastomers shall be certified by NSF International for use in potable water service. All CPVC 1/2" through 4" valves shall be pressure rated to 235 psi, and all flanged valves shall be pressure rated to 150 psi for water at 73°F with a Limited Lifetime Warranty as manufactured by Spears® Manufacturing Company. All CPVC Industrial Ball Check Valves 1/2" through 4" shall be type approved by the American Bureau of Shipping (ABS). All CPVC Ball Check Valves 1/2" through 8" shall be suitable for use with Spears® U.S. Coast Guard Approved piping systems.

Quick-View Valve Selection Chart

Valve Size	O-ring Material	CPVC Part Number		Pressure Rating
		Socket	Threaded	
1/2	EPDM	CG-4529-005C	Included	235 psi Non-Shock Water @ 73°F
	FKM	CG-4539-005C	Included	
3/4	EPDM	CG-4529-007C	Included	
	FKM	CG-4539-007C	Included	
1	EPDM	CG-4529-010C	Included	
	FKM	CG-4539-010C	Included	
1-1/4	EPDM	CG-4529-012C	Included	
	FKM	CG-4539-012C	Included	
1-1/2	EPDM	CG-4529-015C	Included	
	FKM	CG-4539-015C	Included	
2	EPDM	CG-4529-020C	Included	
	FKM	CG-4539-020C	Included	
2-1/2	EPDM	CG-4522-025C	N/A	
	FKM	CG-4532-025C	N/A	
3	EPDM	CG-4522-030C	N/A	
	FKM	CG-4532-030C	N/A	
4	EPDM	CG-4522-040C	N/A	
	FKM	CG-4532-040C	N/A	
6	EPDM	CG-4522-060C	N/A	150 psi Non-Shock Water @ 73°F
	FKM	CG-4532-060C	N/A	
8 ¹	EPDM	CG-4522-080C	N/A	
	FKM	CG-4532-080C	N/A	

1) Venturied valves are 6" ball check valves with 6x8 end connectors adapters.

Made in the U.S.A.

Suitable for Oil-Free air handling to 25 psi, not for distribution of compressed air or gas

See Spears® Product Sourcebook for product offerings

Features

Flow tested design provides quick response with positive seal for prevention of system back flow in marine and chemical processing applications. Valves are available in IPS sizes 1/2" through 6" with socket end connectors and 8" venturied valve with socket ends.

- Chemical & Corrosion Resistant CPVC Construction
- Strong, Buttress Thread Union Nuts
- Schedule 80 Full-Port Design
- Spears® Safe-T-Blocked® Seal Carrier
- Uses Standard O-ring Seat
- EPDM or FKM O-rings
- Fully Serviceable, Replaceable Components
- Sizes 1/2" - 4" Pressure Rated to 235 psi @ 73°F, Sizes 6" - 8" Venturied Pressure Rated to 150 psi @ 73°F
- Suitable for Either Horizontal or Vertical Installations
- EPDM valves NSF® Certified for Potable Water use
- Assembled with Silicone-Free, Water Soluble Lubricants
- Manufactured to ASTM F 1970

Optional Accessories*

- Retro-Fit End Connector Sets for Valve Replacement
- Split-Nut Repair Kits for Union Nut Replacement
- Supplemental End Connectors

* See **"BALL VALVE ACCESSORIES"** section for detail of individual products.

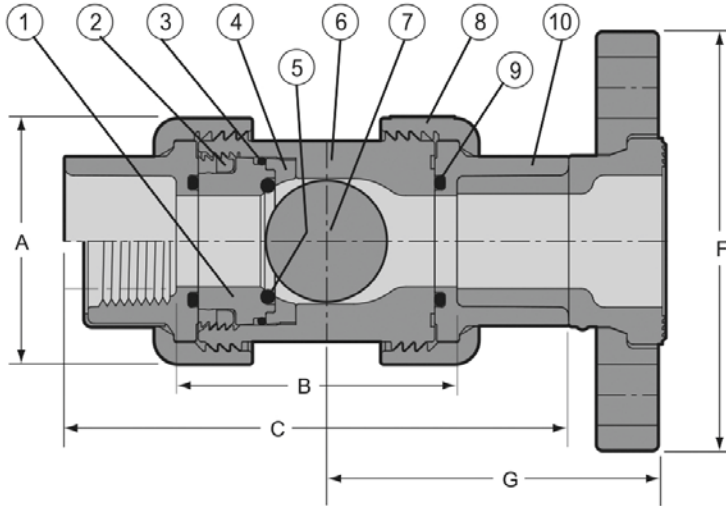
Ball Check Foot Valves



Spears® Ball Check Valves easily convert to foot valves utilizing optional Foot Valve Screen adapters found in Ball Valve Accessories section.



Marine & Offshore Technical
EverTUFF® CPVC Schedule 40 & 80 Marine Pressure System



Replacement Parts

No.	Component	Qty.	Material
1	Seal Carrier	1	CPVC
2	Seal Carrier Nut	1	CPVC
3	Carrier O-ring	1	EPDM/FKM
4	Seat Plate	1	CPVC
5	Seat O-ring	1	EPDM/FKM
6	Body	1	CPVC
7	Ball	1	CPVC
8	Union Nut	2	CPVC
9	End Connector O-ring	2	EPDM/FKM
10	End Connector	2	CPVC

Dimensions, Weights, & C_v Values

Nominal Size	Dimensions Reference (inches, ± 1/16)					Approx. Wt. (Lbs.)	C _v Values ³	Horizontal Closing	
	A	B ¹	C	F	G	CPVC	Soc/Thd	Feet of Head (water)	GPM (minimum)
		Soc/Thd	Socket						
1/2	1-15/16	2-7/16	4-3/16	3-1/2	2-31/32	.33	29	1.6	.10
3/4	2-3/8	2-3/4	4-3/4	4-3/4	3-5/16	.50	63	1.6	.10
1	2-5/8	2-15/16	5-3/16	4-1/4	3-5/8	.74	120	1.6	.25
1-1/4	3-3/16	3-5/16	5-13/16	4-5/8	3-31/32	1.09	243	1.6	.40
1-1/2	3-9/16	3-9/16	6-5/16	5	4-3/8	1.45	357	1.6	.75
2	4-5/16	4-13/16	7-13/16	6	5-1/4	2.62	599	1.6	.75
2-1/2	6-3/16	6-15/16	10-7/16	7-1/2	6	7.25	856	1.0	1.50
3	6-3/16	7	10-3/4	7-1/2	6-13/16	7.35	1416	1.0	4.00
4	7-3/4	7-1/4	11-13/16	9	7-1/2	12.96	2865	1.0	5.50
6	11-5/8	11-3/16	17-1/4	11-1/4	10-3/16	39.98	6638	N/A	N/A
8 ⁴	11-5/8	23-3/8	31-7/8	N/A	N/A	55.92	N/A	N/A	N/A

1: Valve Lay Length

2: Torque required at valve maximum internal pressure rating. 5ft/sec Flow velocity, due to adjustment difference during installation, actual may vary.

3: Gallons per minute at 1 psi pressure drop. Valves calculated from laying length, based on derivative of Hazen-Williams equation with surface roughness factor of C=150

4: Venturied Valves are 6" ball valves fitted with 6x8 end connector adapters.

Temperature Pressure Rating

System Operating Temperature °F (°C)			100 (38)	110 (43)	120 (49)	130 (54)	140 (60)	150 (66)	160 (71)	170 (77)	180 (82)	190 (88)	200 (93)	210 (99)
Valve Pressure Rating psi (MPa)	1/2" - 4"	CPVC	235 (1.62)	219 (1.51)	170 (1.17)	145 (1.00)	130 (.90)	110 (.76)	90 (.62)	80 (.55)	70 (.48)	60 (.41)	50 (.34)	-0- (-0-)
	6" and 8"		150 (1.03)	140 (.97)	130 (.90)	120 (.83)	110 (.76)	100 (.70)	90 (.62)	80 (.55)	70 (.48)	60 (.41)	50 (.34)	-0- (-0-)

1/2" - 4" ABS Approved

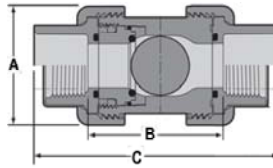
1/2" - 8" U.S. Coast Guard Applications

NOTE: Flanged valves have a base pressure rating of 150 psi

General Installation Information: Ball check valves may be installed in either horizontal or up-flow vertical applications. A minimum of ten (10) pipe diameters distance maintained from any pump or other source of turbulence. Check valves **MUST** be installed with the valves **FLOW** arrow pointing in the direction of flow.

True Union 2000 Industrial Ball Check Valves - EPDM - Marine

Socket



Part Number	Size	A	B	C	Cv Values	Approx. Wt. (Lbs.)
CG-4529-005C	1/2	1-15/16	2- 7/16	4-3/16	6.3	.39
CG-4529-007C	3/4	2-3/8	2- 3/4	4- 3/4	17	.61
CG-4529-010C	1	2-5/8	2-15/16	5- 3/16	25	.87
CG-4529-012C	1-1/4	3-3/16	3-5/16	5-13/16	65	1.38
CG-4529-015C	1-1/2	3-9/16	3-9/16	6-5/16	86	1.78
CG-4529-020C	2	4- 5/16	4-13/16	7-13/16	130	3.10
CG-4522-025C	2-1/2	6- 3/16	6-15/16	10-7/16	200	7.38
CG-4522-030C	3	6- 3/16	7	10-3/4	275	7.65
CG-4522-040C	4	7-3/4	7- 1/4	11-13/16	500	13.05
CG-4522-060C	6	11- 5/8	11-3/16	17-1/4	800	40.64
CG-4522-080C	8	11-5/8	23-3/8	31-7/8	800	52.75

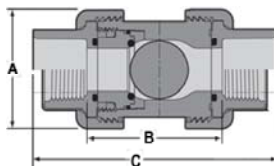


Marine & Offshore Technical
EverTUFF® CPVC Schedule 40 & 80 Marine Pressure System

**True Union 2000 Industrial Ball
Check Valves - EPDM - Marine**

(Continued)

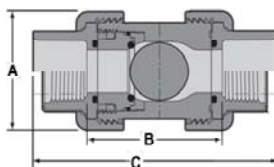
Socket



Part Number	Size	A	B	C	Cv Values	Approx. Wt. (Lbs.)
CG-4522-025C	2-1/2	6- 3/16	6-15/16	10-7/16	200	7.38
CG-4522-030C	3	6- 3/16	7	10-3/4	275	7.65
CG-4522-040C	4	7-3/4	7- 1/4	11-13/16	500	13.05
CG-4522-060C	6	11- 5/8	11-3/16	17-1/4	800	40.64
CG-4522-080C	8	11-5/8	23-3/8	31-7/8	800	52.75

**True Union 2000 Industrial Ball
Check Valves - FKM - Marine**

Socket



Part Number	Size	A	B	C	Cv Values	Approx. Wt. (Lbs.)
CG-4539-005C	1/2	1-15/16	2- 7/16	4-3/16	6.3	.39
CG-4539-007C	3/4	2-3/8	2- 3/4	4- 3/4	17	.61
CG-4539-010C	1	2-5/8	2-15/16	5- 3/16	25	.88
CG-4539-012C	1-1/4	3-3/16	3-5/16	5-13/16	65	1.39
CG-4539-015C	1-1/2	3-9/16	3-9/16	6-5/16	86	1.81
CG-4539-020C	2	4- 5/16	4-13/16	7-13/16	130	3.12
CG-4532-025C	2-1/2	6- 3/16	6-15/16	10-7/16	200	7.43
CG-4532-030C	3	6- 3/16	7	10-3/4	275	7.70
CG-4532-040C	4	7-3/4	7- 1/4	11-13/16	500	13.11
CG-4532-060C	6	11- 5/8	11-3/16	17-1/4	800	40.78
CG-4532-080C	8	11-5/8	23-3/8	31-7/8	800	52.75



Features

Economical, low profile quarter-turn shutoff valve is excellent for marine and many O.E.M applications. CPVC valves are available in IPS sizes 1/2" through 2" with socket connectors.

- New Actuator-Ready Body — Accepts Spears® Improved Mini-Mount Actuator Mounting Kits
- New Double O-ring Stem Seal
- Schedule 80 Full-Port Design
- Spears® Safe-T-Shear Stem
- PTFE/HDPE Self Adjusting Floating Seats
- EPDM or FKM O-ring Seals
- Sizes 1/2"-2" Pressure Rated to 235 psi @ 73°F
- EPDM valves NSF® Certified for Use with
- Manufactured to ASTM F 1970

Sample Engineering Specification

All thermoplastic ball valves shall be 2000 Compact type manufactured to ASTM F1970 and constructed from CPVC Type IV, ASTM D 1784 Cell Classification 23447. All O-rings shall be EPDM or FKM. All valves shall have Safe-T-Shear® stem with O-ring stem seal. All handles shall be Polypropylene. All valves with EPDM elastomers shall be certified by NSF International for use with potable water. All 1/2" - 2" valves shall be pressure rated to 235 psi, for water @ 73°F, as manufactured by Spears® Manufacturing Company. All CPVC Marine Compact Ball Valves shall be suitable for use with Spears® U.S. Coast Guard Approved piping systems only.

Optional Accessories*

- Round Safety Handles
- Stem Extension Kits
- Square Operator Nuts
- Multi Mount Valve/Actuation Mounting Kits
- Mini-Mount Actuation Mounting Kits

Quick-View Valve Selection Chart

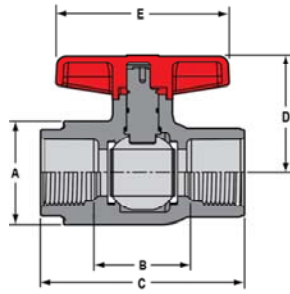
Valve Size	O-ring Material	CPVC Part Number	Pressure Rating
		Socket	
1/2	EPDM	CG-6629-005C	235 psi Non-Shock Water @73°F (Flanged 150 psi Non-Shock) Water @73°F
	FKM	CG-6639-005C	
3/4	EPDM	CG-6629-007C	
	FKM	CG-6639-007C	
1	EPDM	CG-6629-010C	
	FKM	CG-6639-010C	
1-1/4	EPDM	CG-6629-012C	
	FKM	CG-6639-012C	
1-1/2	EPDM	CG-6629-015C	
	FKM	CG-6639-015C	
2	EPDM	CG-6629-020C	
	FKM	CG-6639-020C	



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**Compact 2000 Ball Valves -
EPDM - Marine**

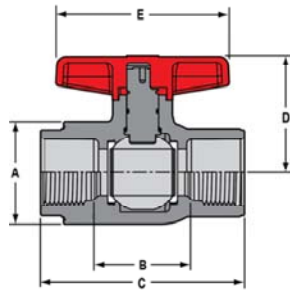
Socket



Part Number	Size	A	B	C	D	E	Cv Values	Approx. Wt. (Lbs.)
CG-6622-005C	1/2	1- 7/16	1- 1/4	3	1- 5/8	2- 1/2	42	.19
CG-6622-007C	3/4	1-3/4	1- 1/2	3-1/2	2	3	87	.31
CG-6622-010C	1	2- 1/16	1-11/16	3-15/16	2- 5/16	3-3/8	157	.46
CG-6622-012C	1-1/4	2-9/16	2-1/8	4- 5/8	2-13/16	3-1/2	311	.71
CG-6622-015C	1-1/2	2-15/16	2-1/2	5- 1/4	3- 1/16	3- 7/8	429	1.00
CG-6622-020C	2	3-9/16	3	6	3- 3/4	4-15/16	768	1.63

**Compact 2000 Ball Valves -
FKM - Marine**

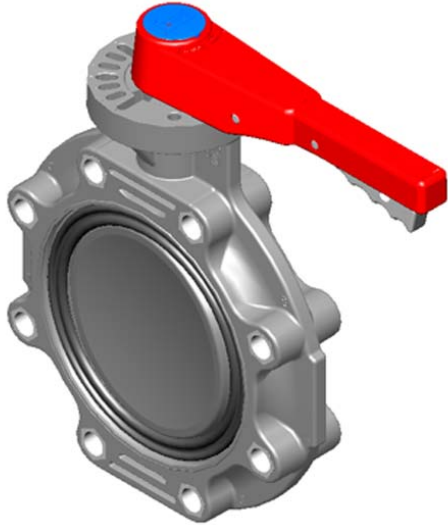
Socket



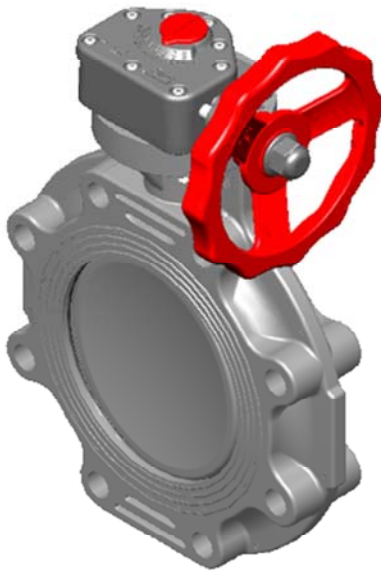
Part Number	Size	A	B	C	D	E	Cv Values	Approx. Wt. (Lbs.)
CG-6632-005C	1/2	1- 7/16	1- 1/4	3	1- 5/8	2- 1/2	42	.19
CG-6632-007C	3/4	1-3/4	1- 1/2	3-1/2	2	3	87	.31
CG-6632-010C	1	2- 1/16	1-11/16	3-15/16	2- 5/16	3-3/8	157	.46
CG-6632-012C	1-1/4	2-9/16	2-1/8	4- 5/8	2-13/16	3-1/2	311	.71
CG-6632-015C	1-1/2	2-15/16	2-1/2	5-1/4	3-1/16	3-7/8	429	1.00
CG-6632-020C	2	3-9/16	3	6	3- 3/4	4-15/16	768	1.63

USCG Application Only

Standard Butterfly Value



Lever Handle



Gear Operated

Sample Engineering Specification

All thermoplastic valves shall be marine butterfly type constructed from CPVC Type IV Cell Classification 23447. All valve seats and O-rings shall be EPDM or FKM. Valves with EPDM seats and seals shall be listed by NSF International. Seat shall be a non-liner type interlocked to valve body. Bolt hole patterns shall conform to ANSI/ASME B16.5 Class 150. Disc shall be offset design with fully isolated Type 316L stainless steel stem and Type 316 stainless steel hardware. Lever operated valves shall be equipped with high impact polypropylene handle having built-in lockout capability. Valves shall be pressure rated at 150psi for water @ 73° F, with a Limited Lifetime Warranty as manufactured by Spears® Manufacturing Company. CPVC marine butterfly valves 1-1/2" through 6" shall be type approved by the American Bureau of Shipping (ABS). CPVC marine butterfly valves 1-1/2" through 12" shall be suitable for use with Spears® U.S. Coast Guard approved piping systems.

Made in the U.S.A.

Suitable for Oil-Free air handling to 25 psi, not for distribution of compressed air or gas

See Spears® Product Sourcebook for product offerings

Features

Spears® patented marine Butterfly Valve design departs from traditional liner-seat type valve to eliminate seat creep, reduce operating torque and provide positive seal-off. Ideally suited for flow control or throttling, this high-performance valve is offered with a full variety of options for greater application versatility in marine and chemical processing applications. Available in IPS sizes 1-1/2" - 12" in Standard Lug style.

- Special off-set Disc lifts quickly from seat to reduce wear and reduce operating torque
- Patented Limited Contact Seat design provides free travel - eliminates seat creep, extrusion and wear. Field replaceable without full valve disassembly
- Interlocking Body & Seat prevents wash-out or blow-out
- Fully Isolated Solid Type 316L Stainless Steel Stem
- Reversible High Impact Polypropylene Lever Handle with 7-Position stops & Built-in Lockout (standard handle on 1-1/2" – 8" valves; not available on 10" & larger valves)
- High Efficiency Submersible Gear Operator with 316 Stainless Steel Acme Screw and CPVC Housing. Polypropylene Handwheel, and Built-in Position Indicator (available for all sizes; standard on 10" & larger valves)
- Standard valve through 12" accepts field-installable Lug Inserts Set option
- Pressure Rated to 150 psi @ 73°F including Dead-End Service through 12"
- ANSI/ASME B16.5 Class 150 Bolt Pattern
- Valves with EPDM Seals & Seats are NSF® Certified for Potable water use

Optional Accessories

- Stem Extension Kit
- PTFE Seat Sleeve
- Lever Handle Kit (standard on 1-1/2" - 8" valves)
- Gear Operator Kit (standard on 10" & larger valves)
- T-Handle Kit
- Field Installable Lug Insert Sets (for Standard valve)
- Speed Handle (for gear operated valves)
- 2" Square/T-Style Operator Nut (for gear operated valves)
- Chainwheel Operator Kit (for gear operated valves)
- Positive Stem Stop (for gear operated valves)



Marine & Offshore Technical
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Standard & Gear Operator Style Quick-View Valve Selection Chart

Valve Size	O-ring Material	CPVC Part Number		Pressure
		With Level Handle	With Gear Operator	
1-1/2	EPDM	CG-722311-015C	N/A	150 psi Non-Shock Water @ 73°F
	FKM	CG-723311-015C	N/A	
2	EPDM	CG-722311-020C	N/A	
	FKM	CG-723311-020C	N/A	
2-1/2	EPDM	CG-722311-025C	N/A	
	FKM	CG-723311-025C	N/A	
3	EPDM	CG-722311-030C	N/A	
	FKM	CG-723311-030C	N/A	
4	EPDM	CG-722311-040C	N/A	
	FKM	CG-723311-040C	N/A	
6	EPDM	CG-722311-060C	N/A	
	FKM	CG-723311-060C	N/A	
8	EPDM	CG-722311-080C	N/A	
	FKM	CG-723311-080C	N/A	
10	EPDM	N/A	CG-722321-100C	
	FKM	N/A	CG-723321-100C	
12	EPDM	N/A	CG-722321-120C	
	FKM	N/A	CG-723321-120C	

Temperature Pressure Rating

System Operating Temperature °F (°C)		100 (38)	110 (43)	120 (49)	130 (54)	140 (60)	150 (66)	160 (71)	170 (77)	180 (82)	190 (88)	200 (93)	210 (99)
Valve Pressure Rating psi (MPa)	CPVC	150 (1.03)	140 (.97)	130 (.90)	120 (.83)	110 (.76)	100 (.70)	90 (.62)	80 (.55)	70 (.48)	60 (.41)	50 (.34)	-0- (-0-)

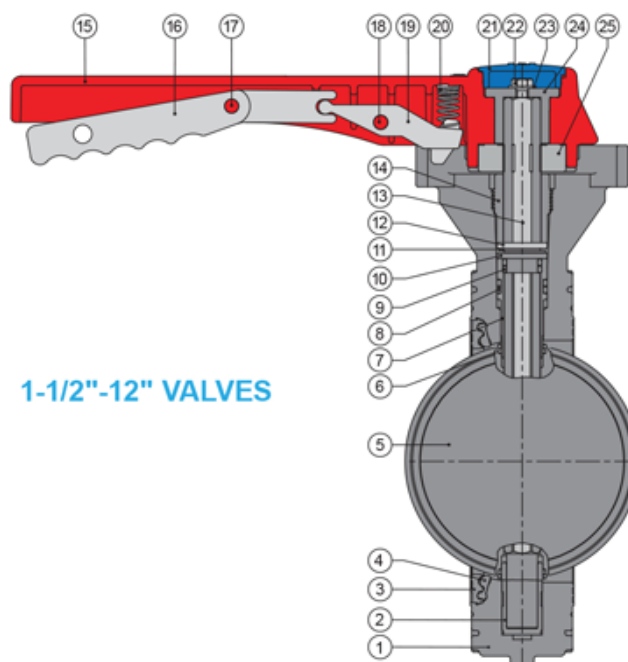
1-1/2" - 6" ABS Approved

1-1/2" - 12" U.S. Coast Guard Applications

Note: Flanged valves have a base pressure rating of 150 psi.

Replacement Parts for 1-1/2" - 12" CPVC Standard Marine BFV Valves

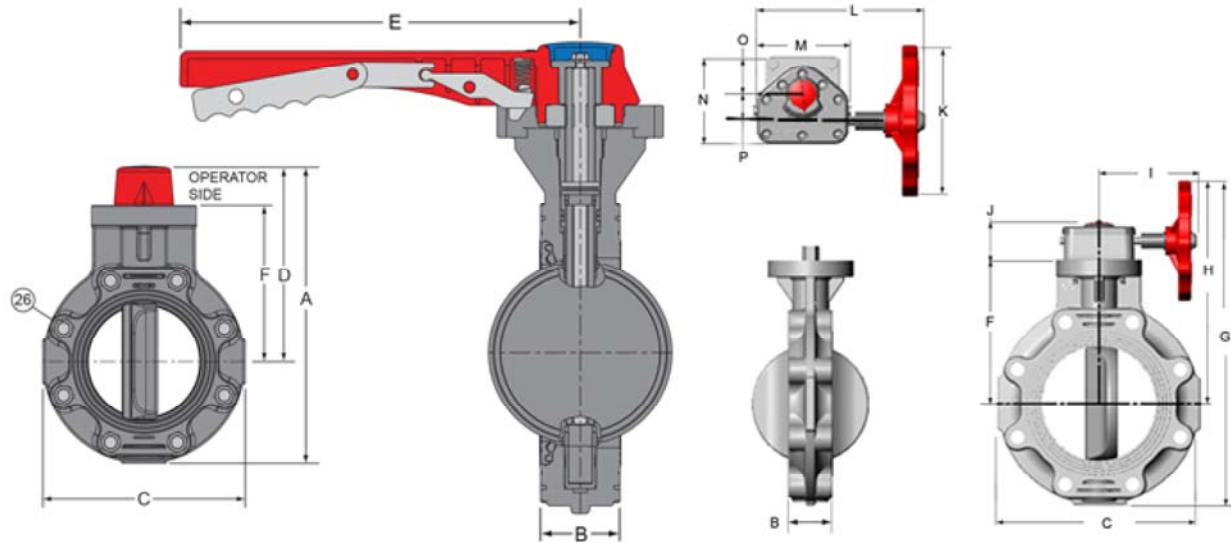
No	Component	Qty.	Material
1	Body	1	CPVC
2	Stem Bearing	1	PTFE/GFPP
3	Seal Carrier	1	CPVC/PP
4	Seat	1	EPDM, FKM
5	Disc	1	CPVC/PP
6	Disc O-ring	2	EPDM, FKM
7	Stem Bushing	1	PTFE/GFPP
8	Stem Bushing O-ring	2	EPDM, FKM
9	Stem O-ring	2	EPDM, FKM
10	Stem Washer - Hex	1	PTFE
11	Stem Washer - Slot*	1-2	SS 316
12	Stem Washer - Round	1	PTFE/GFPP
13	Stem	1	SS 316
14	Stem Nut	1	CPVC
15	Handle Body	1	PP
16	Handle Grip	1	GFPVC
17	Grip Pin	1	PP
18	Lock Pin	1	PP
19	Handle Lock	1	GFPVC
20	Handle Spring	1	SS 316
21	Handle Cover	1	PP
22	Hex Bolt	1	SS 316
23	Flat Washer	1	SS 316
24	Handle Bushing	1	GFPVC
25	Disc Timing Stop	1	CPVC
26	Lug Insert	1	SS/Zinc Plated Steel
27	Gear Operator Assembly	1	Cast Aluminum
28	Hand Wheel	1	PP





Marine & Offshore Technical
EverTUFF® CPVC Schedule 40 & 80 Marine Pressure System

Standard Lug Style Marine Butterfly Valve Dimensions



Dimensions

Nominal Size	Pressure Rating ¹ (psi)	A	B Standard Lug Mount	C	D	E	F	G	Approx. Wt. (lbs)
1-1/2	150	8-3/16	1-9/16	5	5-11/16	9	4-1/8	11-31/32	2.59
2	150	9-5/16	1-15/16	6	6-5/16	9	4-3/4	12-13/16	3.33
2-1/2	150	9-15/16	2-1/16	6-3/4	6-9/16	9	5	13-7/16	4.10
3	150	11-1/2	2-3/16	7-1/2	7-3/4	12	5-1/2	14-21/32	6.28
4	150	13	2-5/16	9	8-1/2	12	6-1/4	15-15/16	7.90
6	150	16-3/8	2-13/16	11	10-7/8	13-15/16	8-9/16	19-9/16	13.29
8	150	18-5/8	3	13-1/2	11-7/8	13-15/16	9-9/16	20-9/16	19.64
10	150	N/A	3-5/16	16	N/A	N/A	11	24-11/16	33.42
12	150	N/A	3-9/16	19	N/A	N/A	12	27-3/16	46.93

Nominal Size	H	I	J	K	L	M	N	O	P
1-1/2	9-3/16	6-9/16	2-1/4	8	8-7/8	4-3/8	4-3/8	2	2-3/8
2	9-13/16	6-9/16	2-1/4	8	8-7/8	4-3/8	4-3/8	2	2-3/8
2-1/2	10-1/32	6-9/16	2-1/4	8	8-7/8	4-3/8	4-3/8	2	2-3/8
3	10-7/8	6-5/8	2-3/4	8	9-1/4	4-7/8	4-11/16	2	2-11/16
4	11-7/16	6-5/8	2-3/4	8	9-1/4	4-7/8	4-11/16	2	2-11/16
6	14	6-5/8	2-3/4	8	9-1/4	4-7/8	4-11/16	2	2-11/16
8	13-23/32	6-5/8	2-3/4	8	9-1/4	4-7/8	4-11/16	2	2-11/16
10	16-11/16	7-7/16	3-5/8	7-15/16	10-7/8	6-13/16	6-5/16	2-3/8	2-1/8
12	17-11/16	7-7/16	3-5/8	7-15/16	10-7/8	6-13/16	6-5/16	2-3/8	2-1/8

1: Maximum Internal Pressure Rating @ 73°F

C_v Values & Operating Torque

Valve Size	C _v ¹ Degrees Open						Operating ² Torque (in.-lbs.)
	15°	30°	45°	60°	75°	90°	
1-1/2	2	8	20	36	61	81	100
2	3	11	27	49	82	109	110
2-1/2	5	19	48	86	144	192	206
3	9	35	86	155	259	345	360
4	10	41	103	185	308	411	420
6	28	113	281	506	844	1125	720
8	56	225	562	1012	1687	2249	1200
10	111	444	1110	1998	3330	4440	1320
12	158	631	1577	2839	4732	6309	1920

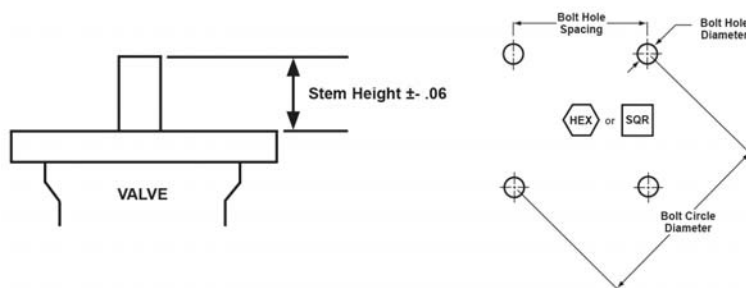
1: Gallons per minute at 1 psi pressure drop.

2: Operating torque for large diameter valves varies significantly with system operating pressure, flow direction and velocity.
 Contact Spears® for torque requirement based on application.

Actuator Mounting Dimensions For Custom Actuation

Size	Bolt Hole Spacing		Bolt Hole Diameter		Bolt Circle Diameter		Hex +.000 -.006	Square +.000 -.002	Stem Height	
	Standard	Wafer	Standard	Wafer	Standard	Wafer	Standard	Wafer	Standard	Wafer
1-1/2	1.95	N/A	.34	N/A	2.75	N/A	.375	N/A	.75	N/A
2	1.95	2.47	.34	.40	2.75	3.50	.500	.375	.75	1.30
2-1/2	1.95	2.47	.34	.40	2.75	3.50	.500	.375	.75	1.34
3	2.65	2.47	.41	.40	3.75	3.50	.563	.500	1.00	1.34
4	2.65	2.47	.41	.40	3.75	3.50	.625	.500	1.04	1.37
6	3.17	2.83	.41	.40	4.48	4.00	.875	.750	1.27	1.80
8	3.17	3.17	.41	.40	4.48	4.48	1.000	.875	1.29	1.96
10	3.54	3.54	.41	.41	5.00	5.00	1.125	1.000	1.38	1.38
12	3.54	3.54	.41	.41	5.00	5.00	1.250	1.000	1.38	1.38

Note: Hex = Standard, Lug Style Valves
 SQR = Wafer Style Valves





Marine & Offshore Technical EverTUFF® CPVC Schedule 40 & 80 Marine Pressure System

General Installation Information

Spears® CPVC Marine Butterfly Valves are designed for system connections either between two flanges, or with single-side (flange one-side only) connection for dead-end service using lug style valves. Lug Insert Valves require attention to flow direction; True Lug valves may be installed either direction. The valve handle (or gear operator) is reversible 180° for either left or right side operation. Spears® Butterfly Valves are designed for installation with user supplied 1/8" full-faced gaskets, hex bolts, nuts and flat washers.

Caution: Spears® Butterfly Valves are designed for use with flanges or flanged equipment having minimum waterway inside diameter no less than that of Schedule 80 PVC pipe (ASTM D 1785). *Use of smaller inside diameter flange connections may result in obstruction and damage to the valve disc.*

CPVC Marine Butterfly Valve Torque and Hardware Requirements

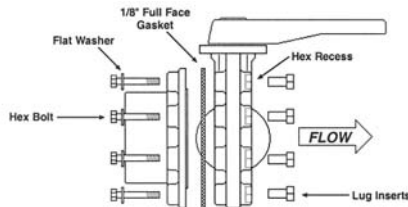
Valve Size (in.)	No. of Bolt Holes	Bolt Torque (ft.-lb.)	Standard Valve					Valve with Lug Inserts				
			Bolt Lengths ¹ (in.)		Bolt Diameter (in.)	Bolt Threads per inch	Flat Washer O.D. (in.)	Bolt Lengths ¹ (in.)		Bolt Diameter (in.)	Lug Threads per inch	Flat Washer O.D. (in.)
			Single Side	Dual Flange ³				Single Side	2nd Flange ²			
1-1/2	4	12	3-1/4	4-1/4	1/2	13	1-3/8	1-3/4	1-1/2	1/2	13	1-3/8
2	4	25	3-3/4	4-3/4	5/8	11	1-3/4	2	1-3/4	5/8	11	1-3/4
2-1/2	4	25	4-1/4	5-1/4	5/8	11	1-3/4	2-1/4	2	5/8	11	1-3/4
3	4	25	4-1/4	5-1/2	5/8	11	1-3/4	2-1/4	2	5/8	11	1-3/4
4	8	25	4-1/2	5-3/4	5/8	11	1-3/4	2-1/2	2	5/8	11	1-3/4
6	8	40	5-1/4	6-3/4	3/4	10	2	3-1/4	2-1/4	3/4	10	2
8	8	40	5-3/4	7-1/4	3/4	10	2	3-3/4	2-1/4	3/4	10	2
10	12	64	6-1/2	8-1/4	7/8	9	2-1/4	4	3	7/8	9	2-1/4
12	12	95	6-3/4	8-1/2	7/8	9	2-1/4	4-1/4	3	7/8	9	2-1/4

1: Minimum bolt lengths based on use of Spears® flanges, 1/8" full faced gaskets, standard S.A.E. hex bolts and Standard Plate Series flat washers.

2: Specified bolt lengths are maximum allowable for maintaining proper clearance in initial Single-Side installation with Lugs where anticipated 2nd Flange installation option is to be retained without removal of valve.

3: Minimum bolt length through 2-flanges, 2-gaskets, 2-flat washers and 1-valve body.

Single-Side (flange one side) Installation Using Standard Valve with Lug Inserts (for field installable Insert Sets)

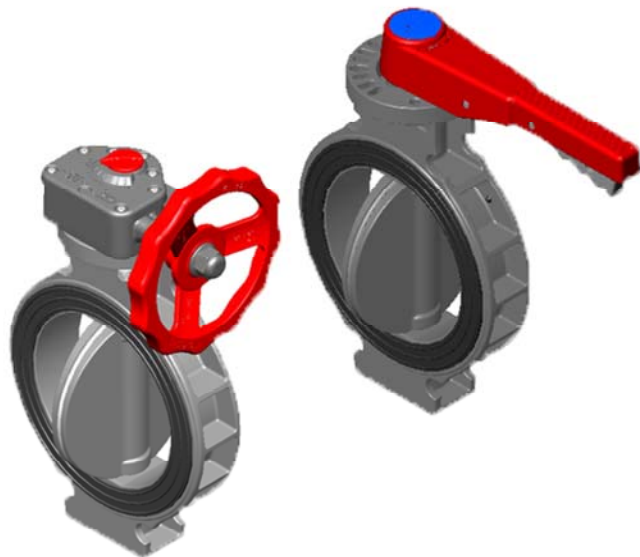


CAUTION: Flange must be installed on side of valve **opposite** the hex nut recesses for Single-Side Installation as illustrated.

(Flange, bolts, nuts, washers and gaskets not included.
Lug inserts may be ordered separately.)

Wafer Butterfly Quick-View Selection Chart

Valve Size	O-ring Material	CPVC Part Number		Pressure Rating
		w/Lever Handle	w/Gear Operator	
2	EPDM	CG-752311-020C	N/A	150 psi Shock Water @ 73 °F
	FKM	CG-753311-020C	N/A	
2-1/2	EPDM	CG-752311-025C	N/A	
	FKM	CG-753311-025C	N/A	
3	EPDM	CG-752311-030C	N/A	
	FKM	CG-753311-030C	N/A	
4	EPDM	CG-752311-040C	N/A	
	FKM	CG-753311-040C	N/A	
6	EPDM	CG-752311-060C	N/A	
	FKM	CG-753311-060C	N/A	
8	EPDM	CG-752311-080C	N/A	
	FKM	CG-753311-080C	N/A	
10	EPDM	N/A	CG-752321-100C	
	FKM	N/A	CG-753321-100C	
12	EPDM	N/A	CG-752321-120C	
	FKM	N/A	CG-753321-120C	



Sample Engineering Specification

All thermoplastic marine valves shall be Wafer Butterfly type constructed from CPVC Type IV Cell Classification 23447 per ASTM D1784. All valve seats and O-rings shall be EPDM or FKM Seat shall be a non-liner type mounted to the valve disc. All valves shall have built-in Santoprene™ Thermoplastic Elastomer (TPE) flange gaskets. Wafer style valves shall be for mounting between two flanges having bolt hole pattern that conform to ANSI/ ASME B16.5 CL 150. Disc shall be offset design with Type 316L stainless steel stem. Stem shall be isolated from the process medium for dry operation. Lever operated valves shall be equipped with high impact polypropylene handle having 7-position stops and built-in lockout capability. Valves shall be pressure rated at 150 psi for water at 73° F, with a Limited Lifetime Warranty as manufactured by Spears® Manufacturing Company. CPVC Marine Wafer Butterfly Valves 2" through 6" shall be type approved by the American Bureau of Shipping (ABS). CPVC Marine Wafer Butterfly Valves 2" through 12" shall be suitable for use with Spears® U.S. Coast Guard approved piping systems.

Features

Spears® CPVC Marine Wafer Butterfly Valve is a multi-featured design incorporating laying lengths that allow direct replacement of common Cast Iron valves such as Keystone Model 228 and Bray Series 30 Butterfly Valves. Wafer Valves feature built-in Santoprene™ Thermoplastic Elastomer (TPE) flange gaskets, easy operating disc-mounted seat, and fully isolated stem design. Available in sizes 2" through 12", with choice of EPDM or FKM Seats on CPVC Valves.

CPVC Marine Wafer Butterfly Valves Pressure Rated to 150 psi for water @ 73°F(23° C)

General Installation Information

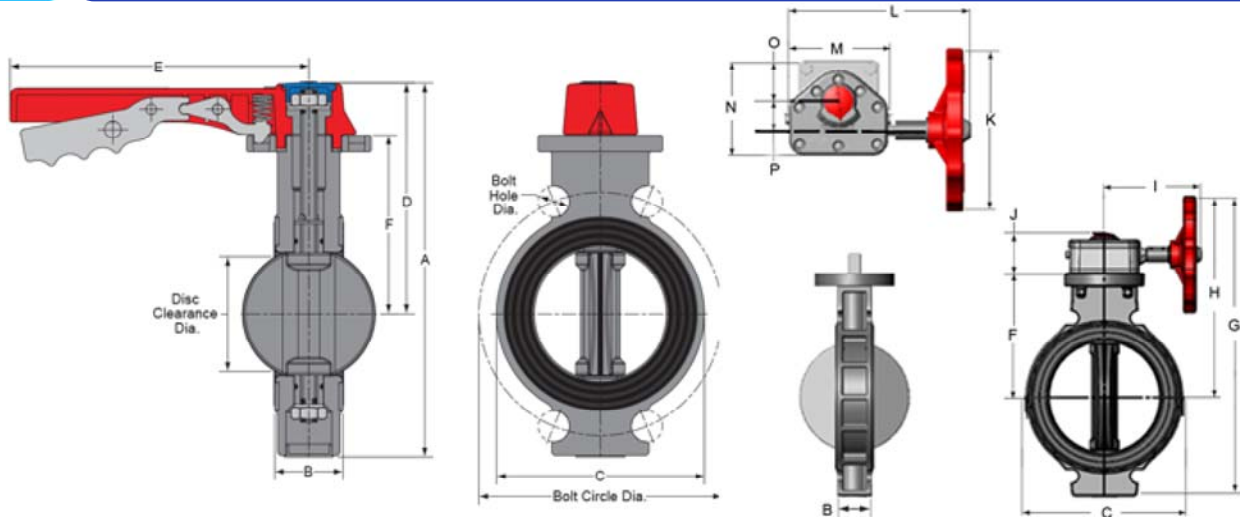
Spears® CPVC Marine Wafer Butterfly Valves are designed for system connections between two flanges having ANSI B16.5 Class 150 bolt hole patterns. The valve handle (or gear operator) is reversible 180° for either left or right side operation. Wafer Butterfly Valves have built-in flange gaskets and are designed for installation with user supplied hex bolts, nuts and flat washers. The valve must be positioned with gasket areas evenly located between mating flange sealing surfaces. Valve Bolt Specification bolt lengths in table below are minimums based on use of two (2) Spears® flanges, valve with built-in gaskets, standard S.A.E. hex bolts and Standard Plate "W" Series flat washers.

Caution: Spears® CPVC Marine Wafer Butterfly Valves are designed for use with flanges or flanged equipment having minimum waterway inside diameter no less than that of Schedule 80 CPVC pipe (ASTM D 1785). **Use of smaller inside diameter flange connections may result in obstruction and damage to the valve disc and seat.**

- Chemical & Corrosion Resistant CPVC Construction
- Special Designed Laying Lengths for Direct Replacement of Common Cast Iron Butterfly Valves
- Built-in Santoprene Thermoplastic Elastomer (TPE) gaskets on Valve Flanges
- Easy Operating Disc Mounted Seat in Choice of EPDM, or FKM
- Fully Isolated (Dry) Solid Type 316L Stainless Steel Stem
- Reversible High Impact Polypropylene Lever Handle with 7-Position Stops and Built-in Lockout Capability
- Optional High Efficiency Submersible Gear Operator with 316 Stainless Steel Acme screw and CPVC Housing, Polypropylene Handwheel and Built-in Position Indicator
- Compatible with ANSI/ASME B16.5 Class 150 Bolt Pattern Flanges



Marine & Offshore Technical
EverTUFF® CPVC Schedule 40 & 80 Marine Pressure System



CPVC Marine Wafer Butterfly Valve Bolt Specifications & Dimensions

Valve Size	Bolt Diameter (in.)	Bolt Length (in.)	No. of Bolt Holes
2	5/8	4-1/2	4
2-1/2	5/8	5	4
3	5/8	5	4
4	5/8	5-1/2	4
6	3/4	6	4
8	3/4	6-1/2	4
10	7/8	7	4
12	7/8	7-1/2	4

Size	A	B	C	D	E	F	Bolt Circle Diameter ²			No. of Bolts ³	Bolt Hole Dia.	Disc Clearance Dia.	Approx. Wt. (lbs.)
							ANSI	PN16 (mm)	PN10 ISO DIN (mm)				
2	8-9/16	1-11/16	3-3/4	5-9/16	9	4	4-3/4	125	125	4	13/16	1-1/2	2.66
2-1/2	9-9/16	1-13/16	4-1/2	6-1/16	9	4-1/2	5-1/2	145	145	4	13/16	1-15/16	3.18
3	10-1/8	1-13/16	5	6-7/16	9	4-7/8	6	160	160	4	7/8	2-3/4	3.60
4	11-3/16	2-1/16	6-1/4	6-15/16	9	5-3/8	7-1/2	180	180	4 (8)	15/16	3-7/16	3.80
6	14-3/4	2-1/4	8-9/16	9-1/4	12	7-1/16	9-1/2	240	240	4 (8)	7/8	5-7/16	6.25
8	17-1/2	2-5/8	10-3/4	10-11/16	13-15/16	8-3/8	11-3/4	NA	295	4 (8)	15/16	7-3/16	14.67
10 ¹	NA	2-9/16	12-7/8	NA	NA	10-11/16	14-1/4	355	350	4 (12)	1-1/8	9-3/16	26.84
12 ¹	NA	3-1/16	15-9/16	NA	NA	11-11/16	17	410	400	4 (12)	1-1/2	11-1/8	32.46

1: 10" and 12" valves are only available with gear operator.

2: Holes are oversized to accommodate different bolt patterns — ASME/ANSI B16.1 — Cast Iron Pipe Flanges and Flanged Fittings - Class 150 Bolt Patterns; PN10 & PN16 = B54504 — Circular Flanges for Pipes, Valves and Fittings (PN - Designated); DIN = DIN8063 Part 4 — Pipe Joint Assemblies and Fittings for Unplasticized Polyvinyl Chloride (PVC-U) Pressure Pipe.

3: Valve is positioned with 4 of 8 required Flange Bolts in sizes 4 to 8 inches and 4 of 12 in sizes 10 and 12 inches.

Size	G	H	I	J	K	L	M	N	O	P
2	12-1/8	9-1/16	6-9/16	2-1/4	8	8-7/8	4-3/8	4-3/8	2	2-3/8
2-1/2	13-1/8	9-9/16	6-9/16	2-1/4	8	8-7/8	4-3/8	4-3/8	2	2-3/8
3	13-29/32	10-1/4	6-5/8	2-3/4	8	9-1/4	4-7/8	4-11/16	2	2-11/16
4	15	10-23/32	6-5/8	2-3/4	8	9-1/4	4-7/8	4-11/16	2	2-11/16
6	18	12-1/2	6-5/8	2-3/4	8	9-1/4	4-7/8	4-11/16	2	2-11/16
8	20-1/2	13-5/8	6-5/8	2-3/4	8	9-1/4	4-7/8	4-11/16	2	2-11/16
10	24-1/2	16-3/8	7-7/16	3-5/8	7-15/16	10-7/8	6-13/16	6-5/16	2-3/8	2-1/8
12	26-7/8	17-3/8	7-7/16	3-5/8	7-15/16	10-7/8	6-13/16	6-5/16	2-3/8	2-1/8

Temperature Pressure Rating

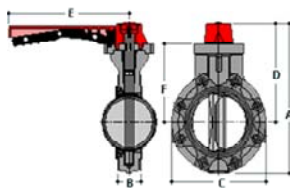
System Operating Temperature °F (°C)	100 (38)	110 (43)	120 (49)	130 (54)	140 (60)	150 (66)	160 (71)	170 (77)	180 (82)	190 (88)	200 (93)	210 (99)
Valve Pressure Rating psi (MPa)	150 (1.03)	140 (.97)	130 (.90)	120 (.83)	110 (.76)	100 (.70)	90 (.62)	80 (.55)	70 (.48)	60 (.41)	50 (.34)	-0- (-0-)

2" - 6" ABS Approved

2" - 12" U.S. Coast Guard Applications

Butterfly Valve - Standard - EPDM - Marine

Lever Handle

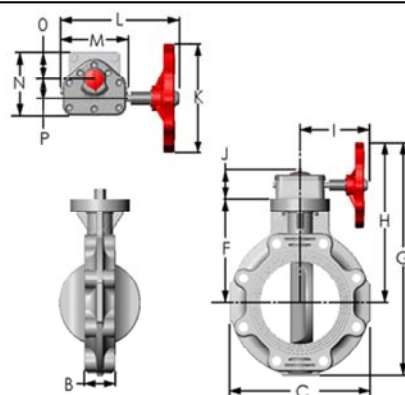


Part Number	Size	A	B	C	D	E	F	Bolt Circle Dia.	Bolt Size	No of Bolts	Approx. Wt. (Lbs.)
CG-722311-015C	1-1/2	8-3/16	1- 9/16	5	5-11/16	9	4-1/8	3- 7/8	1/2	4	2.59
CG-722311-020C	2	9-5/16	1-15/16	6	6-5/16	9	4- 3/4	4- 3/4	5/8	4	3.74
CG-722311-025C	2-1/2	9-15/16	2-1/16	6- 3/4	6-9/16	9	5	5- 1/2	5/8	4	4.10
CG-722311-030C	3	11- 1/2	2-3/16	7- 1/2	7-3/4	12	5-1/2	6	5/8	4	6.17
CG-722311-040C	4	13	2-5/16	9	8- 1/2	12	6- 1/4	7- 1/2	5/8	8	7.78
CG-722311-060C	6	16-3/8	2-13/16	11	10- 7/8	13-15/16	8-9/16	9- 1/2	3/4	8	13.11
CG-722311-080C	8	18- 5/8	3	13- 1/2	11-7/8	13-15/16	9-9/16	11- 3/4	3/4	8	19.46

1-1/2" - 6" ABS type approved 1-1/2" - 12 USCG applications

Butterfly Valve - Standard - EPDM - Marine

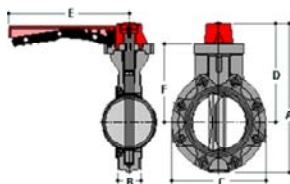
Gear Operator



Part Number	Size	B	C	F	G	H	I	J	K	L	M	N	O	P	Bolt Circle Dia.	Bolt Size	No of Bolts	Approx. Wt. (Lbs.)
CG-722321-100C	10	3-5/16	16 1/2	11	24-11/16	16-11/16	7-9/16	3-5/8	7-15/16	10-7/8	6-13/16	6-5/16	2-3/8	2-1/8	14- 1/4	7/8	12	34.34
CG-722321-120C	12	3-9/16	19 1/2	12	27-3/16	17-11/16	7-7/16	3-5/8	7-15/16	10-7/8	6-13/16	6-5/16	2-3/8	2-1/8	17	7/8	12	47.79

Butterfly Valves - Standard - FKM - Marine

Lever Handle



Part Number	Size	A	B	C	D	E	F	Bolt Circle Dia.	Bolt Size	No of Bolts	Approx. Wt. (Lbs.)
CG-723311-015C	1-1/2	8-3/16	1- 9/16	5	5-11/16	9	4-1/8	3- 7/8	1/2	4	2.59
CG-723311-020C	2	9-5/16	1-15/16	6	6-5/16	9	4- 3/4	4- 3/4	5/8	4	3.75
CG-723311-030C	3	11- 1/2	2-3/16	7- 1/2	7-3/4	12	5-1/2	6	5/8	4	6.20

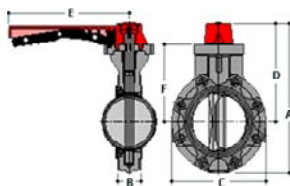


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EverTUFF® CPVC Schedule 40 & 80 Marine Pressure System

Butterfly Valve - Standard - EPDM - Marine

(Continued)

Lever Handle

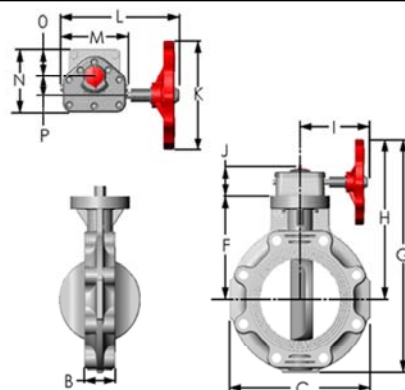


Part Number	Size	A	B	C	D	E	F	Bolt Circle Dia.	Bolt Size	No of Bolts	Approx. Wt. (Lbs.)
CG-722311-040C	4	13	2-5/16	9	8- 1/2	12	6- 1/4	7- 1/2	5/8	8	7.78
CG-722311-060C	6	16-3/8	2-13/16	11	10- 7/8	13-15/16	8-9/16	9- 1/2	3/4	8	13.11
CG-722311-080C	8	18- 5/8	3	13- 1/2	11-7/8	13-15/16	9-9/16	11- 3/4	3/4	8	19.46

1-1/2" - 6" ABS type approved 1-1/2" - 12 USCG applications

Butterfly Valve - Standard - EPDM - Marine

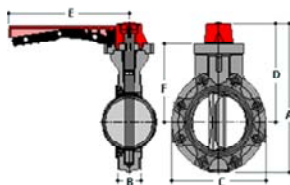
Gear Operator



Part Number	Size	B	C	F	G	H	I	J	K	L	M	N	O	P	Bolt Circle Dia.	Bolt Size	No of Bolts	Approx. Wt. (Lbs.)
CG-722321-100C	10	3-5/16	16	11	24-11/16	16-11/16	7-9/16	3-5/8	7-15/16	10-7/8	6-13/16	6-5/16	2-3/8	2-1/8	14- 1/4	7/8	12	34.34
CG-722321-120C	12	3-9/16	19	12	27-3/16	17-11/16	7-7/16	3-5/8	7-15/16	10-7/8	6-13/16	6-5/16	2-3/8	2-1/8	17	7/8	12	47.79

Butterfly Valves - Standard - FKM - Marine

Lever Handle

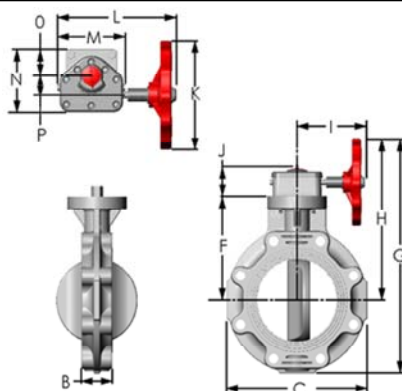


Part Number	Size	A	B	C	D	E	F	Bolt Circle Dia.	Bolt Size	No of Bolts	Approx. Wt. (Lbs.)
CG-723311-015C	1-1/2	8-3/16	1- 9/16	5	5-11/16	9	4-1/8	3- 7/8	1/2	4	2.59
CG-723311-020C	2	9-5/16	1-15/16	6	6-5/16	9	4- 3/4	4- 3/4	5/8	4	3.75
CG-723311-030C	3	11- 1/2	2-3/16	7- 1/2	7-3/4	12	5-1/2	6	5/8	4	6.20
CG-723311-040C	4	13	2-5/16	9	8- 1/2	12	6- 1/4	7- 1/2	5/8	8	7.81
CG-723311-060C	6	16-3/8	2-13/16	11	10- 7/8	13-15/16	8-9/16	9- 1/2	3/4	8	13.18
CG-723311-080C	8	18- 5/8	3	13- 1/2	11-7/8	13-15/16	9-9/16	11- 3/4	3/4	8	25.58

1-1/2" - 6" ABS type approved 1-1/2" - 12 USCG applications

Butterfly Valve - Standard - FKM - Marine

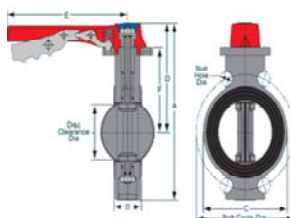
Gear Operator



Part Number	Size	B	C	F	G	H	I	J	K	L	M	N	O	P	Bolt Circle Dia.	Bolt Size	No of Bolts	Approx. Wt. (Lbs.)
CG-723321-100C	10	3-5/16	16	11	24-11/16	16-11/16	7-9/16	3-5/8	8	10-7/8	6-13/16	6-5/16	2-3/8	2-1/8	14- 1/4	7/8	12	34.48
CG-723321-120C	12	3-9/16	19	12	27-3/16	17-11/16	7-9/16	3-5/8	7-15/16	10-7/8	6-13/16	6-5/16	2-3/8	2-1/8	17	7/8	12	47.39

Wafer Butterfly Valves - EPDM - Marine

Lever Handle



Part Number	Size	A	B	C	D	E	F	Bolt Circle Dia.	Bolt Size	No of Bolts	Approx. Wt. (Lbs.)
CG-752311-020C	2	8-9/16	1-11/16	3- 3/4	5- 9/16	9	4	4-3/4	5/8	4	2.68
CG-752311-025C	2-1/2	9-9/16	1-13/16	4-1/2	6- 1/16	9	4- 1/2	5-1/2	5/8	4	3.18
CG-752311-030C	3	10- 1/8	1-13/16	5	6- 7/16	9	4- 7/8	6	5/8	4	3.60
CG-752311-040C	4	11-3/16	2- 1/16	6- 1/4	6-15/16	9	5- 3/8	7-1/2	5/8	4	3.81
CG-752311-060C	6	14-3/4	2-1/4	8- 9/16	9-1/4	12	7-1/16	9-1/2	3/4	4	8.78
CG-752311-080C	8	17-1/2	2-5/8	10- 3/4	10-11/16	13-15/16	8-3/8	11-3/4	3/4	4	12.65

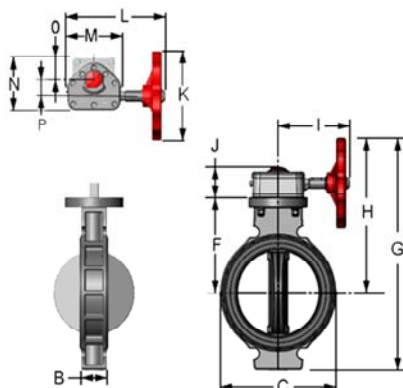
2" - 6" ABS type approved 2" - 12 USCG applications



Marine & Offshore Technical
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Wafer Butterfly Valve - Standard - Marine

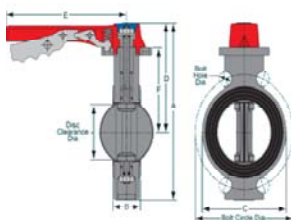
Gear Operator



Part Number	Size	B	C	F	G	H	I	J	K	L	M	N	O	P	Bolt Circle Dia.	Bolt Size	No of Bolts	Approx. Wt. (Lbs.)
CG-752321-100C	10	2- 9/16	12- 7/8	10-11/16	24-1/2	16-3/8	7-7/16	2-5/8	7-15/16	10-7/8	6-13/16	6-5/16	2-3/8	2-1/8	14-1/4	7/8	4	27.75
CG-752321-120C	12	3- 1/16	15- 9/16	11-11/16	26-7/8	17-3/8	7-7/16	3-5/8	7-15/16	10-7/8	6-13/16	6-5/8	2-3/8	2-1/8	17	7/8	4	33.37

Wafer Butterfly Valves -FKM - Marine

Lever Handle



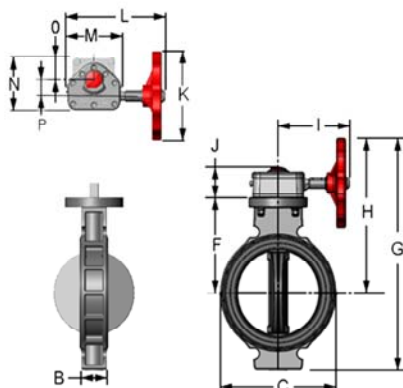
Part Number	Size	A	B	C	D	E	F	Bolt Circle Dia.	Bolt Size	No of Bolts	Approx. Wt. (Lbs.)
CG-753311-020C	2	8-9/16	1-11/16	3- 3/4	5- 9/16	9	4	4-3/4	5/8	4	2.68
CG-753311-025C	2-1/2	9-9/16	1-13/16	4-1/2	6- 1/16	9	4- 1/2	5-1/2	5/8	4	3.19
CG-753311-030C	3	10- 1/8	1-13/16	5	6- 7/16	9	4- 7/8	6	5/8	4	3.62
CG-753311-040C	4	11-3/16	2- 1/16	6- 1/4	6-15/16	9	5- 3/8	7-1/2	5/8	4	3.83
CG-753311-060C	6	14-3/4	2-1/4	8- 9/16	9-1/4	12	7-1/16	9-1/2	3/4	4	8.75
CG-753311-080C	8	17-1/2	2-5/8	10- 3/4	10-11/16	13-15/16	8-3/8	11-3/4	3/4	4	12.66

2" - 6" ABS type approved 2" - 12 USCG applications



Wafer Butterfly Valve - Standard - FKM - Marine

Gear Operator



Part Number	Size	B	C	F	G	H	I	J	K	L	M	N	O	P	Bolt Circle Dia.	Bolt Size	No of Bolts	Approx. Wt. (Lbs.)
CG-753321-100C	10	2- 9/16	12- 7/8	10-11/16	24-1/2	16-3/8	7-7/16	3-5/8	7-15/16	10-7/8	6-13/16	6-5/16	2-3/8	2-1/8	14-1/4	7/8	4	27.75
CG-753321-120C	12	3- 1/16	15- 9/16	11-11/16	26-7/8	17-3/8	7-7/16	3-5/8	7-15/16	10-7/8	11-13/16	11-5/16	2-3/8	2-1/8	17	7/8	4	33.25

CPVC Marine-24 Solvent Cement - Gray - Marine

Requires primer



Part Number	Size	Approx. Wt. (Lbs.)
CG-MARINE24-030	Quart	2.29
CG-MARINE24-040	Gallon	9.03

PRIMER21-70 Purple Industrial Strength Primer - Marine



Part Number	Size	Approx. Wt. (Lbs.)
PRIM21-70P-030	1 Quart	2.02
PRIM21-70P-040	1 Gallon	7.94