

# SUPERVISORY VALVES FOR FIRE-PROTECTION SYSTEMS



**SLO-CLOSE, GROOVED & INDICATING  
BUTTERFLY VALVES RATED FOR  
INDOOR & OUTDOOR AND  
POTABLE WATER SYSTEMS**

**INNOVATION** IN EVERY VALVE



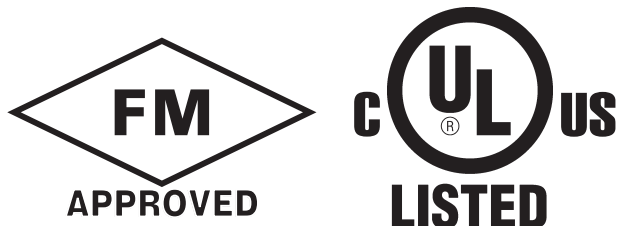
**MILWAUKEE VALVE**  
REV. 6/20



# SPECIFICATIONS FOR SLO-CLOSE

## ALL SLO-CLOSE BUTTERBALL® VALVES...

- provide slow opening and closing properties in a quarter-turn valve. The purpose is to eliminate hydraulic shock and water hammer in fire protection and other liquid systems.
- are available with or without an internal, pre-wired supervisory tamper switch assembly. When mounted on any slo-close valve and wired, the switches signal movement of the valve disc from the full open position.
- are available factory mounted to a valve or as a kit for field installation on previously installed valves.
- have switch ratings of:  
10 Amps/115 VAC-60 Hz  
0.5 Amps/28 VDC
- are equipped with tamper switch assemblies FOR INDOOR AND OUTDOOR USE.
- have UL/FM ratings to 175 psi. (Also available at 350 psi with N.Y.C.B.S.A. approval.)



For use with fire protection sprinkler systems 175psi.

Approved by the New York City Board of Stds. & Appeals under Calendar No. 996-81 -SM, for 175 psi and Calendar number 720-83-SA for 350 psi.

## BUTTERBALL® SLO-CLOSE INSTALLATION (BB-SC)

- The BBSC can be installed in any orientation in a piping system using standard National Pipe Threads. Wrench should be used to hex on the end of valve being threaded to pipe. Pipe sealants should be used sparingly.
- The valves with internal switches can be easily wired in the field. They will have two switches, switch-1 will have dual leads on the terminals. This switch is to be connected to the **supervisory** circuit of a Listed alarm control panel. Switch-2 will have single leads and may be connected to **auxiliary** equipment per direction of the local authority having jurisdiction. Cap any unused wire leads with wire nuts and tuck into junction box. All connections shall be reviewed and approved by the local authority having jurisdiction.
- A 14 gage green wire has been fastened to the interior of the housing and is to be used as a housing ground.
- Recommended type of wire to be used is No.16 Dual Rated UL 300V 80 C and 300V 105 C.
- Installation must be in compliance with NFPA 72 and 13, or bonded and grounded per Canadian Electrical Code Part 1.
- The BB-SC, BBHSC (threaded-end) and BBVSC, BVHSC (grooved-end) valves are intended for use with schedule 40 and/or 80 pipe, sizes 1", 1-1/4", 1-1/2", 2" and 2-1/2" per ASME/ANSI B36.10.
- ALL REPLACEMENT PARTS MUST BE OBTAINED FROM THE MANUFACTURER TO ASSURE PROPER OPERATION OF THE VALVE, AND TO MAINTAIN APPROVAL OF THE DEVICE.

## INSTALLATION FOR NEW YORK CITY VALVES

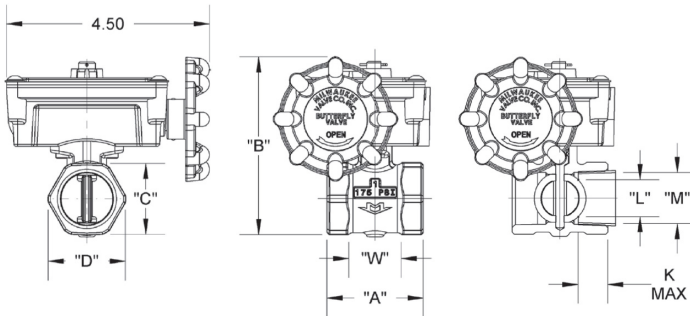
N.Y.C. special valves have a large flow indicator which points in the direction of the valve disc, indicating open or closed. The valve should be installed in a position where the indicator is readily visible.

MODEL	DESCRIPTION			SIZES
BB-SC100	Valve Less Switch	175 psig - Threaded Ends	NYC BSA Approved	1", 1-1/4", 1-1/2", 2", 2-1/2"
BB-SCS02	Valve With Switch			
BBVSC100	Valve Less Switch	175 psig - Grooved Ends	NYC BSA Approved	2", 2-1/2"
BBVSCS02	Valve With Switch			
BBHSC100	Valve Less Switch	350 psig - Threaded Ends	NYC BSA Approved	1", 1-1/4", 1-1/2", 2", 2-1/2"
BBHSCS02	Valve With Switch			
BVHSC100	Valve Less Switch	350 psig - Grooved Ends	NYC BSA Approved	2", 2-1/2"
BVHSCS02	Valve With Switch			

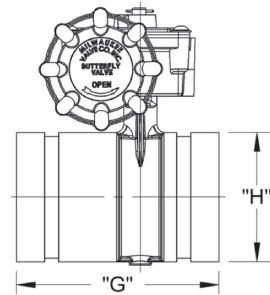
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 ⚠ State of California Prop 65 **WARNING:** Cancer and Reproductive Harm. For more information visit [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).



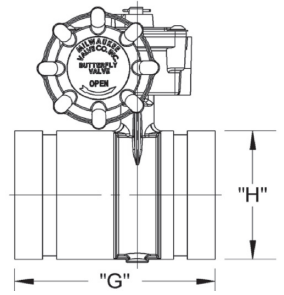
### VALVE ASSEMBLY 175 PSI



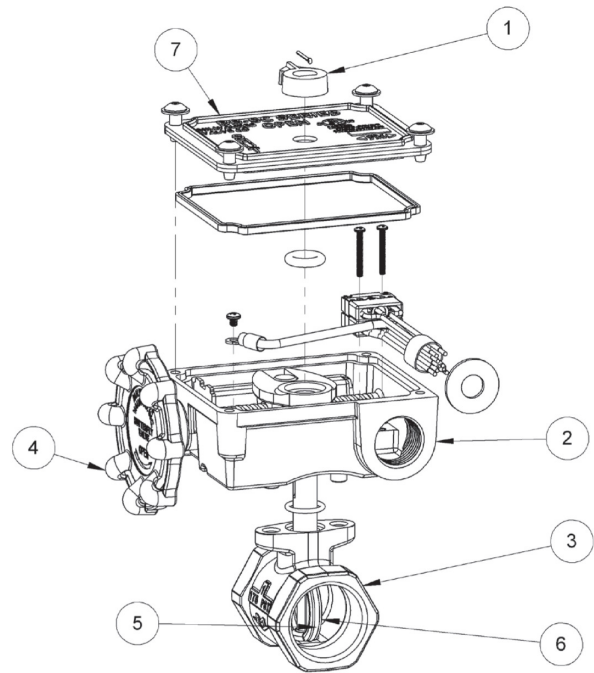
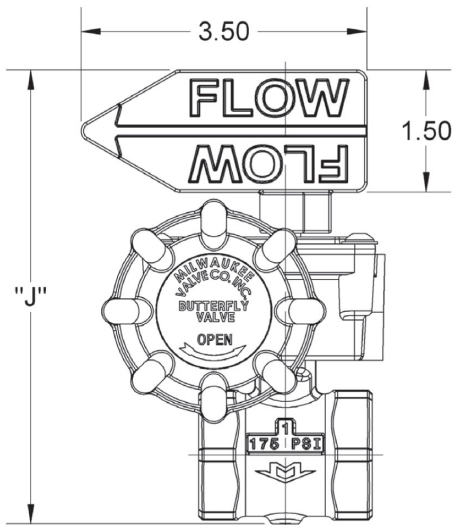
**BB-SC100 and BBSCS-02**  
(Threaded Ends)  
Sizes 1", 1-1/4", 1-1/2", 2", 2-1/2"



**BBVSC100 and**  
**BBVSCS02 3 piece**  
with Grooved Ends  
Size 2"



**BBVSC100 and**  
**BBVSCS02 Uni-body**  
with Grooved Ends  
Size 2-1/2"



ALL DIMENSIONS - INCHES								
	THREADED						GROOVED	
SIZE	1"	1-1/4"	1-1/2"	2"	2-1/2"	SIZE	2"	2-1/2"
A	2.13	2.63	2.88	3.25	4.13	A	-	-
B	3.94	4.28	4.50	5.00	5.41	B	5.00	5.41
C	1.56	1.94	2.19	2.75	3.19	C	-	-
D	1.72	2.11	2.38	3.06	3.50	D	3.06	3.50
J	5.55	5.91	8.18	6.67	6.25	E	0.63	0.31
K	0.66	0.73	0.73	0.79	1.18	F	0.63	0.63
L	0.83	0.90	0.99	1.41	1.29	G	6.00	4.50
M-40	1.05	1.38	1.61	2.07	2.47	H	2.38	2.88
M-80	0.96	1.28	1.50	1.94	2.32	J	6.13	6.25
N-40	2.25	2.00	2.50	2.25	10.00	K	0.79	1.18
W	1.13	1.25	1.41	1.69	1.75	L	1.41	1.29
						M-40	2.07	2.47
						M-80	1.94	2.32
						N-40	2.25	10.00
						W	-	1.75

M-40 ARE DIMENSIONS USING SCHEDULE 40 PIPE

M-80 ARE DIMENSIONS USING SCHEDULE 80 PIPE

N-40 IS FLOW RESISTANCE EXPRESSED IN  
EQUIVALENT LENGTH OF SCHEDULE 40 PIPE

W IS THE WRENCH MAKE-UP LENGTH

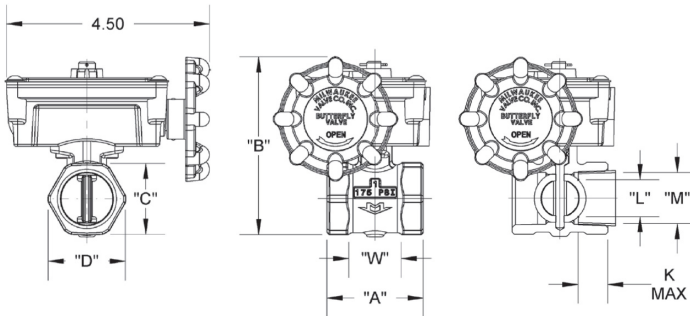
### MATERIAL LIST

NO.	PART	MATERIAL	SPECIFICATION
1	Indicator	Sintered Iron	F0008P
2	Housing	Bronze	ASTM B584
3	Body	Bronze	ASTM B584
4	Handle	Brass	
5	Disc	Stainless Steel	Type 304
6	Disc Seal	EPDM Elastomer	
7	Cover	Bronze	ASTM B584

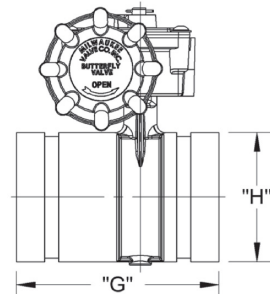
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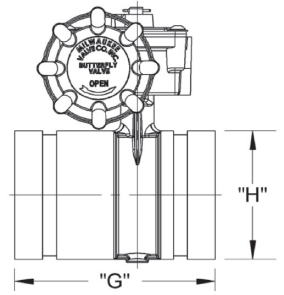
### VALVE ASSEMBLY 350 PSI



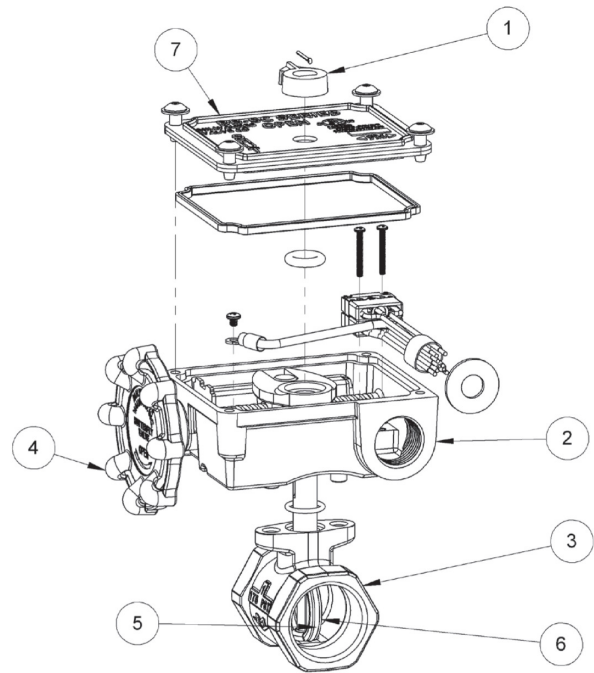
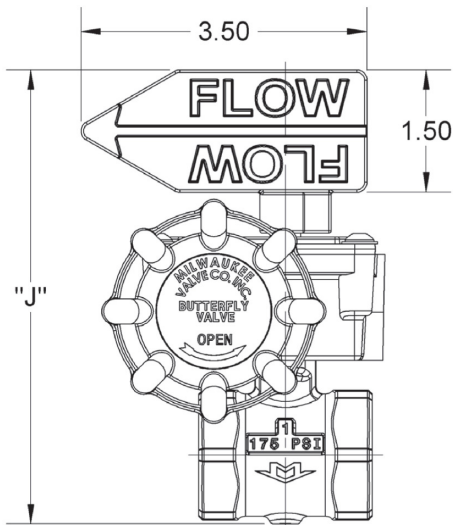
**BB-SC100 and BBSCS-02**  
(Threaded Ends)  
Sizes 1", 1-1/4", 1-1/2", 2", 2-1/2"



**BBVHSC100 and BBVHS02 3 piece**  
with Grooved Ends  
Size 2"



**BBVHSC100 and BBVHS02 Uni-body**  
with Grooved Ends  
Size 2-1/2"



### MATERIAL LIST

NO.	PART	MATERIAL	SPECIFICATION
1	Indicator	Sintered Iron	F0008P
2	Housing	Bronze	ASTM B584
3	Body	Bronze	ASTM B584
4	Handle	Brass	
5	Disc	Stainless Steel	Type 304
6	Disc Seal	EPDM Elastomer	
7	Cover	Bronze	ASTM B584

ALL DIMENSIONS - INCHES									
SIZE	THREADED					GROOVED			
	1"	1-1/4"	1-1/2"	2"	2-1/2"	SIZE	2"	2-1/2"	
A	2.13	2.63	2.88	3.25	4.13	A	-	-	
B	3.94	4.28	4.50	5.00	5.41	B	5.00	5.41	
C	1.56	1.94	2.19	2.75	3.19	C	-	-	
D	1.72	2.11	2.38	3.06	3.50	D	3.06	3.50	
J	5.55	5.91	8.18	6.67	6.25	E	0.63	0.31	
K	0.66	0.73	0.73	0.79	1.18	F	0.63	0.63	
L	0.83	0.90	0.99	1.41	1.29	G	6.00	4.50	
M-40	1.05	1.38	1.61	2.07	2.47	H	2.38	2.88	
M-80	0.96	1.28	1.50	1.94	2.32	J	6.13	6.25	
N-40	2.25	2.00	2.50	2.25	10.00	K	0.79	1.18	
W	1.13	1.25	1.41	1.69	1.75	L	1.41	1.29	
						M-40	2.07	2.47	
						M-80	1.94	2.32	
						N-40	2.25	10.00	
						W	-	1.75	

M-40 ARE DIMENSIONS USING SCHEDULE 40 PIPE

M-80 ARE DIMENSIONS USING SCHEDULE 80 PIPE

N-40 IS FLOW RESISTANCE EXPRESSED IN EQUIVALENT LENGTH OF SCHEDULE 40 PIPE

W IS THE WRENCH MAKE-UP LENGTH

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# UPBBTSCSCL/UPBBTSCS02L 1"-2"



Tested and Certified by  
IAPMO R&T to NSF/ANSI 372  
for lead free compliance.



## MATERIAL LIST

ITEM	PART	MATERIAL	ASTM SPEC
1	Indicator	Sintered Iron	F0008P
2	Housing	Bronze	ASTM 584
3	Body	Bronze	ASTM 584
4	Handle	Brass	
5	Disc	Stainless Steel	Type 304
6	Disc Seal	EPDM	
7	Cover	Die Cast Aluminum	

## ALL DIMENSIONS-INCHES

SIZE	1"	1-1/4"	1-1/2"	2"
A	2.13	2.63	2.88	3.25
B	3.94	4.28	4.5	5
C	1.56	1.94	2.19	2.75
D	1.72	2.11	2.38	3.07
K	0.66	0.73	0.73	0.79
L	0.83	0.9	0.1	1.41
M-40	1.1	1.38	1.61	2.07
M-80	0.96	1.28	1.5	1.94
N-40	2.25	2	2.5	2.25
W	1.13	1.25	1.41	1.69

**M-40** ARE DIMENSIONS USING  
SCHEDULE 40 PIPE

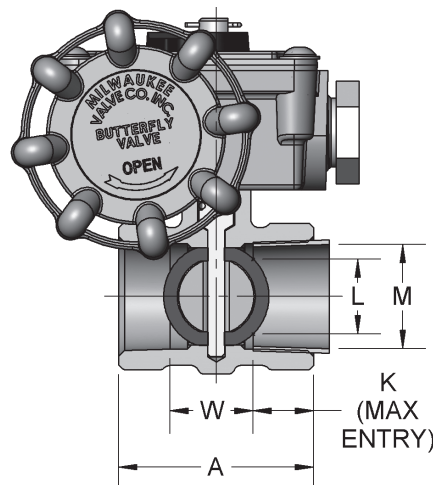
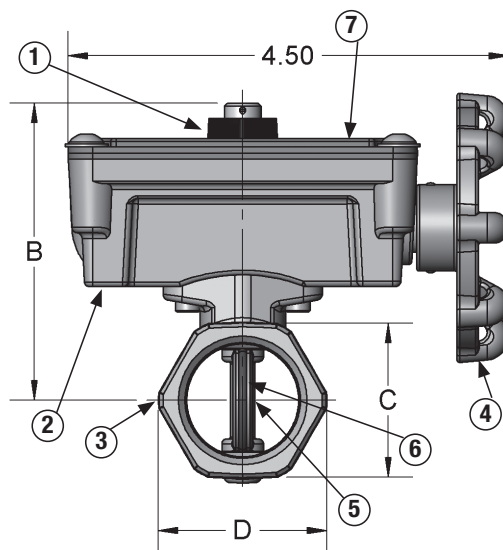
**M-80** ARE DIMENSIONS USING  
SCHEDULE 80 PIPE

**N-40** IS FLOW RESISTANCE  
EXPRESSED IN EQUIVALENT LENGTH OF  
SCHEDULE 40 PIPE

**W** IS THE WRENCH MAKE-UP LENGTH

## FEATURES

- Slow opening and closing
- Quarter turn operation
- Water Hammer elimination
- Optional internal tamper switch  
(Indoor/Outdoor use).
  - Signals disc movement
  - Factory or Field installation
  - 10 Amp / 115 VAC-60 Hz
  - 0.5 Amp / 28 VDC



**UPBBTSCSCL**  
**SIZES 1", 1-1/4", 1-1/2", 2"**

**UPBBTSCS02L**  
**(INCLUDES SWITCH)**  
**SIZES 1", 1-1/4", 1-1/2", 2"**

**Note:** Lead free refers to the wetted surface of the pipe, fittings and fixtures in potable water systems that have a weighted average lead content  $\leq 0.25\%$ . Source: California Health and Safety Code (116875).

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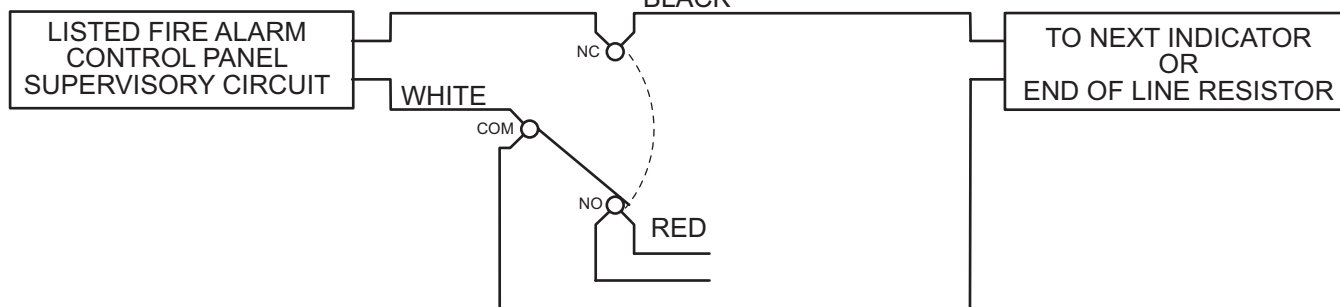


## SLO-CLOSE WIRING DIAGRAM

(SWITCH POSITION VALVE FULL OPEN)

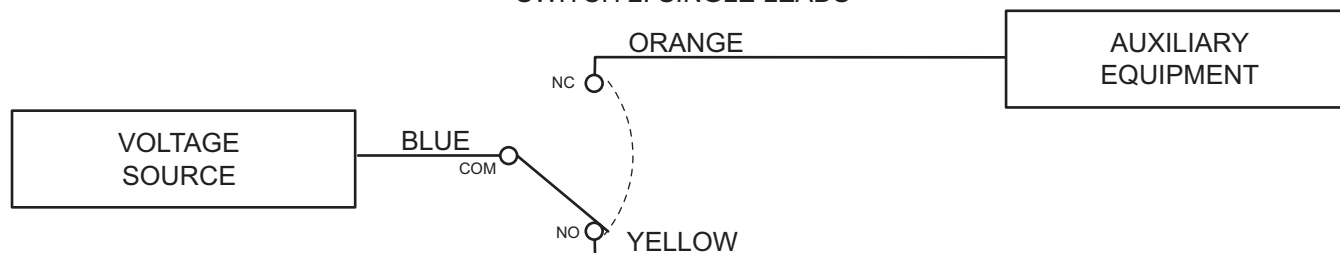
SWITCH 1: DUAL LEADS

BLACK



SWITCH 2: SINGLE LEADS

ORANGE



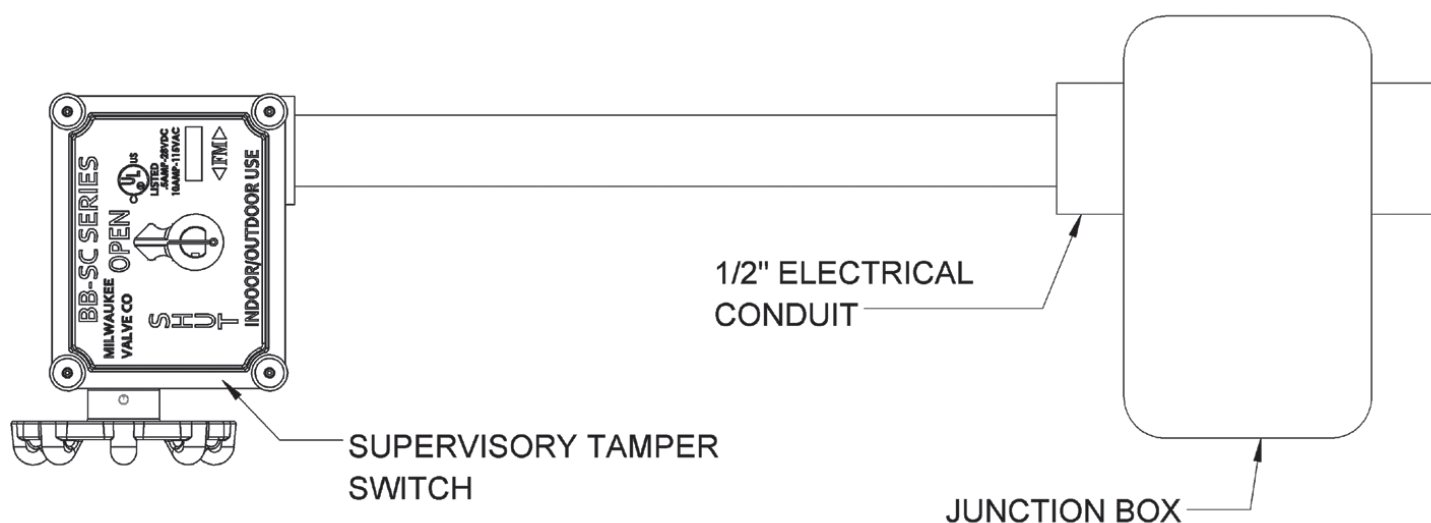
Green Lead provided is ground for switch housing

Switch Rating: 10 AMP/115 VAC

.5 AMP/28 VDC

Cap unused leads with wire nuts and tuck inside junction box (not provided)

NOTE: Valves incorporating supervisory tamper switches are for **indoor and outdoor use.**



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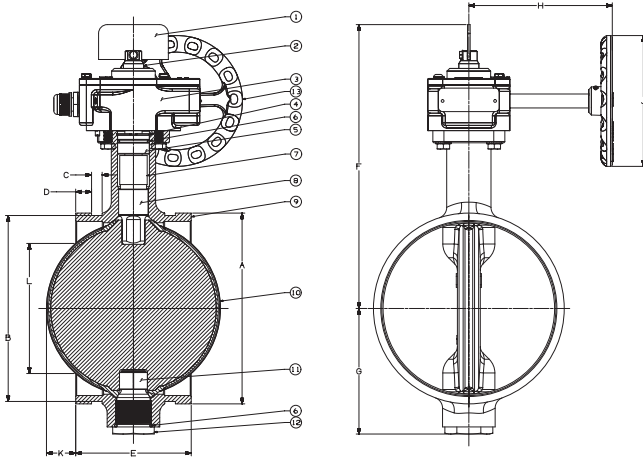
# GG-SCS2 2 1/2"-10"



**Nylon Coated Ductile Iron Grooved End Butterfly, 300 psi**  
**Grooved Mechanical Style**  
**Extended Neck, Elastomer Encapsulated Disc**  
**Accepts Internal Supervisory Switches**  
**Grooved End Compatible with IPS Pipe**  
**UL/FM Rating**



**GG-SCS2**  
 Grooved  
 2 1/2", 3", 4", 6", 8", 10"



## DIMENSIONS

	INCHES DN	VALVE SIZE					
		2 1/2	3	4	6	8	10
A	INCHES	2.88	3.50	4.50	6.63	8.63	10.77
	mm	73	89	114	168	219	274
B	INCHES	2.72	3.34	4.33	6.45	8.44	10.55
	mm	69	85	110	164	214	268
C	INCHES	.31	.31	.38	.38	.44	.50
	mm	8	8	10	10	11	13
D	INCHES	.63	.63	.63	.63	.75	.75
	mm	16	16	16	16	19	19
E	INCHES	3.81	3.81	4.56	5.81	5.25	6.25
	mm	97	97	116	148	133	159
F	INCHES	8.95	9.16	10	11.92	12.85	15
	mm	227	233	254	303	326	381
G	INCHES	2.20	2.47	3.00	4.33	5.67	6.77
	mm	56	63	76.2	110	144	172
H	INCHES	4.92	4.92	4.92	6.48	6.48	8.74
	mm	125	125	125	165	165	222
J	INCHES	4.25	4.25	4.25	6	6	6
	mm	108	108	108	152	152	152
K	INCHES	-	-	-	-	1.32	1.74
	mm	-	-	-	-	34	44
L	INCHES	-	-	-	-	5.87	7.44
	mm	-	-	-	-	149	189

## MATERIALS LIST

ITEM	PART	MATERIALS	MATERIALS
1	INDICATOR FLAG	PAINTED STEEL	-
2	STEM ADAPTER	STEEL	-
3	GEAR OPERATOR	CAST IRON AND STEEL	-
4	RETAINING RING	CARBON STEEL	-
5	CARTRIDGE SEAL	BRASS	ASTM C36000
6	STEM STEALS	EPDM	-
7	UPPER STEM	STAINLESS STEEL	ASTM A582 TYPE 416
8	UPPER BUSHING	PLATED STEEL WITH PTFE LINING	-
9	BODY	DUCTILE IRON	ASTM A395 WITH POLYAMINDE COATING
10	DISC	DUCTILE IRON	ASTM A536 WITH EPDM ENCAPSULATION
11	LOWER BUSHING	STEEL WITH PTFE LINING	-
12	LOWER STEM	STAINLESS STEEL	ASTM A582 TYPE 416
13	HANDWHEEL	CAST IRON	-

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