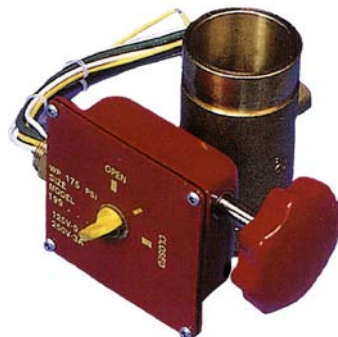
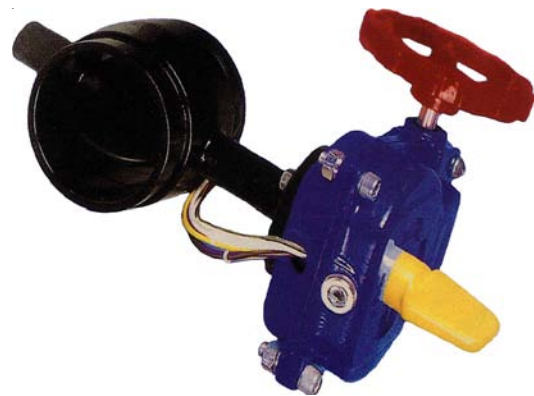
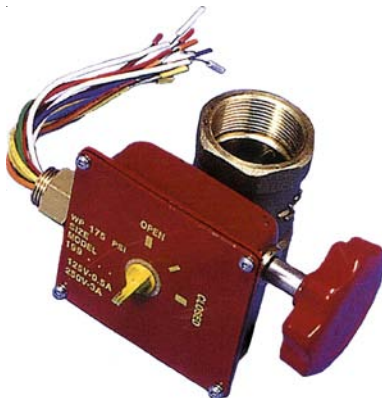


# **GLOBE**

**FIRE SPRINKLER CORPORATION**

## **Butterfly Valves**



4077 AIRPARK DRIVE • STANDISH, MICHIGAN 48658  
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# GLOBE BUTTERFLY VALVE INSTALLATION AND MAINTENANCE GUIDE

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## Design Requirements

The Globe grooved butterfly valve should be connected to the piping system with approved couplings or flange adapters. Flow may be from either direction, and the valve may be positioned in any direction.

Globe butterfly valves have been designed with a slow close hand wheel operator, which effectively minimizes water hammer. These valves feature minimum flow restriction and pressure loss when in the fully open position.

## Installation

When the valves are received from the manufacturer they should be handled carefully to avoid breakage and damage to the seating area. Before installation of the valve, clean piping, flange and coupling. When the valve closes hard, it is usually due to debris lodged in the sealing area. Often this may be corrected by backing off the hand wheel and closing again.

The valve should never be forced to seat by applying a wrench to the hand wheel as this may distort the valve components or score the sealing surface. The use of excessive force to open or close the valve violates all warranties whether express or implied.

The inlet and outlet pipe adjacent to the valve should be properly supported to prevent excessive stress on the valve body. The valves should not be used to force a pipeline into position as this may result in distortion of the valve body.

Conduit and electrical connections to the optional tamper switch must be in accordance with National Electrical Code (NFPA 72) and requirements of the local authority having jurisdiction.

## Care and Maintenance

Globe butterfly valves require no regular maintenance, however, it is advisable to inspect and verify proper operation of the unit annually or in accordance with the authority having jurisdiction.

The inspection should include a visual check for leakage at the valve pipe connection and body to operator connection. Inspection and maintenance should be performed by a qualified inspection service.

## Switch Installation

Globe butterfly valves are provided with internal supervisory position switches. The tamper switch operates by a cam connected to the valve stem. The switch will change position within two (2) full turns of the hand wheel from the fully open position.

### Switch #1

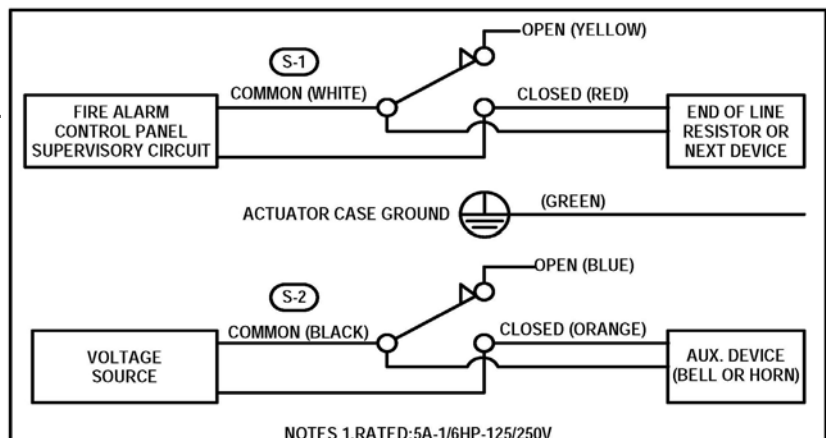
For connection to the supervisory circuit.

Normally closed: 2 Red  
 Normally open: 2 Yellow  
 Common: 2 White

### Switch #2

Auxiliary switch connected per authority.

Normally closed: 1 Orange  
 Normally open: 1 Blue  
 Common: 1 Black  
 Ground Lead: 1 Green



Shown with valve in closed position.



# GL175T

## Bronze Butterfly Valves

Threaded End, Sizes :

1", 1 1/4", 1 1/2", 2" and 2 1/2"

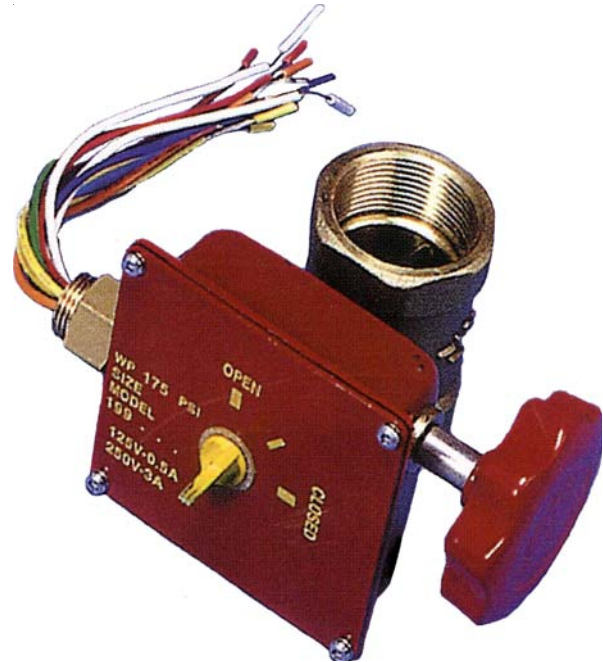
### Specifications

Working Pressure : 175 PSI (12.5 Bars)  
 Max. Test Pressure : 350 PSI (25.0 Bars)  
 Max. Working Temp : 250°F (120°C)

Factory installed UL Listed Double Tamper Switch For Indoor and Outdoor Use.

### Materials of Primary Components

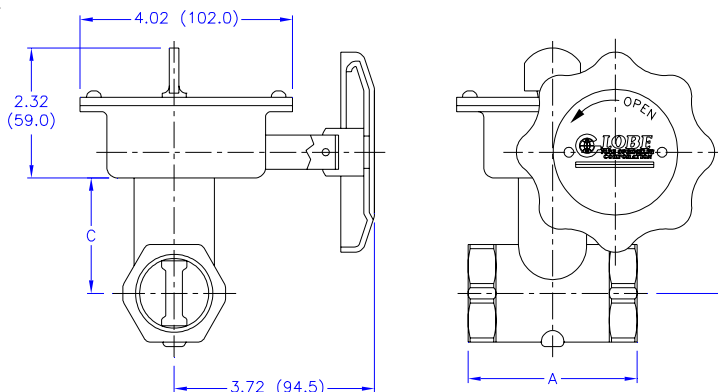
Body : ASTM B-505  
 Disc : ASTM B-584 EPDM Encapsulated  
 Upper Stem : ASTM A-564 Type XM 12  
 Lower Stem : ASTM A-564 Type XM 12  
 Gear Housing, Cover : ASTM A-619  
 Hand Wheel : ASTM A-619  
 Flag Indicator : ASTM B-16  
 York Mechanism : ASTM A-283  
 Stem Bushing : ASTM B-16  
 Conduit Connector : ASTM A-307  
 O-Rings (All) : EPDM Grade "E"  
 Cover Gasket : NBR



### Approvals

NYC - DOB MEA Approved 155-06-E

UL, ULC Listed  
 FM Approved



DIMENSION		UNIT: IN (mm)		
SIZE	A	B	C	Part No.
1"	2.16 (54)	2.08 (52)	1.48 (52)	311725-G
1 1/4"	2.68 (67)	2.24 (56)	1.64 (41)	311735-G
1 1/2"	2.92 (73)	2.36 (59)	2.45 (61.3)	311745-G
2"	3.3 (82.4)	2.56 (64)	1.96 (49)	311755-G
2 1/2"	4.16 (104)	2.78 (69.5)	2.18 (54.5)	311760-G



# GL175G

## Bronze Butterfly Valves

Grooved End, Sizes :  
2" and 2½"

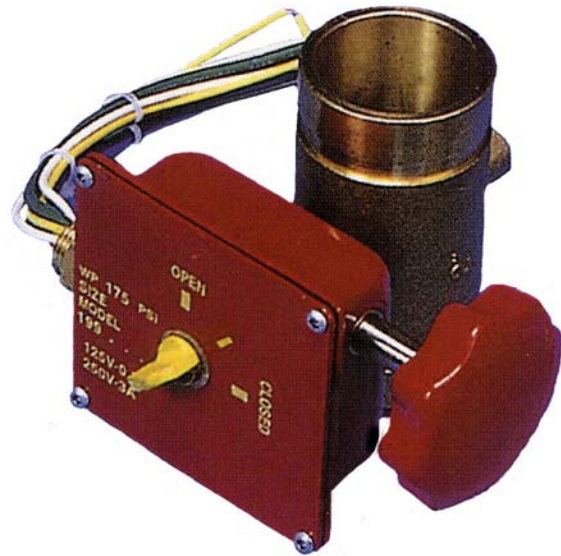
### Specifications

Working Pressure : 175 PSI (12.5 Bars)  
 Max. Test Pressure : 350 PSI (25.0 Bars)  
 Max. Working Temp : 250°F (120°C)

Factory installed UL Listed Double Tamper Switch For Indoor and Outdoor Use.

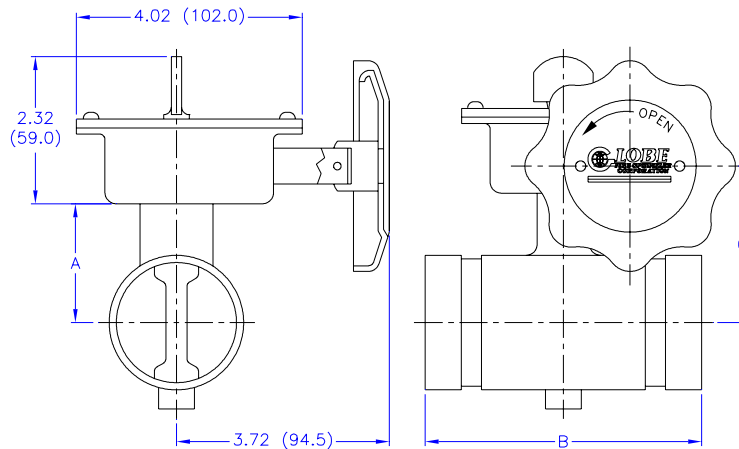
### Materials of Primary Components

Body : ASTM B-505  
 Disc : ASTM B-584 EPDM Encapsulated  
 Upper Stem : ASTM A-564 Type XM 12  
 Lower Stem : ASTM A-564 Type XM 12  
 Gear Housing, Cover : ASTM A-619  
 Hand Wheel : ASTM A-619  
 Flag Indicator : ASTM B-16  
 York Mechanism : ASTM A-283  
 Stem Bushing : ASTM B-16  
 Conduit Connector : ASTM A-307  
 O-Rings (All) : EPDM Grade "E"  
 Cover Gasket : NBR



### Approvals

NYC - DOB MEA Approved 155-06-E  
 UL, ULC Listed  
 FM Approved



DIMENSION		UNIT: IN (mm)		
SIZE	A	B	C	Part No.
2"	1.96(49)	4.56 (114)	3.62 (90.5)	311765-G
2 ½"	2.18 (54.5)	4.56 (114)	3.82 (95.5)	311775-G



# GLR300G

## Grooved Butterfly Valves

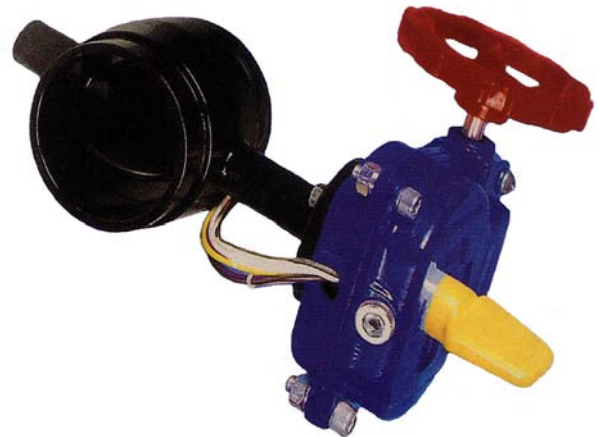
Grooved End, Sizes :

2½", 65mm, 3", 4", 6", 150mm, 8"

### Specifications

Working Pressure : 300 PSI (21.4 Bars)  
 Max. Test Pressure : 600 PSI (42.8 Bars)  
 Max. Working Temp : 250°F (120°C)

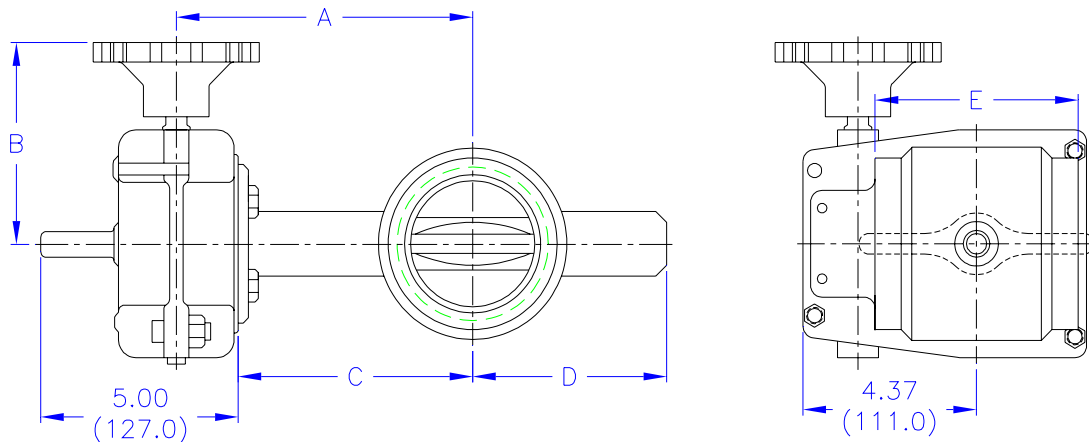
Factory installed UL Listed Double Tamper Switch For Indoor and Outdoor Use.



### Materials of Primary Components

Body : ASTM A-536 Nylon-11 Coated  
 Disc : ASTM A-536 EPDM Encapsulated  
 Upper and Lower Stems : AISI 420-SS  
 Worm Gear Shaft : AISI 410-SS  
 Housing : ASTM A-536  
 Hand Wheel : ASTM A-536  
 Flag Indicator : ASTM A-536  
 Sheer Pin : ASTM A-510  
 Segment Gear : ASTM B-148 or B-584  
 Housing Gasket : EPDM Grade "E"  
 O-Rings (All) : EPDM Grade "E"

SIZE	APPROVALS		
	cULus	FM	NYC - DOB MEA Approved 155-06-E
2½"	X	X	X
65MM	X	X	—
3"	X	X	X
4"	X	X	X
6"	X	X	X
150MM	X	X	—
8"	X	—	X



SIZE	DIMENSION					Part No.
	A	B	C	D	E	
2 ½"	5.31 (135)	5.04 (128)	4.13 (105)	3.30 (85)	3.80 (96.4)	311785-G
65MM (DIN)	5.31 (135)	5.04 (128)	4.13 (105)	3.30 (85)	3.80 (96.4)	311785-GD
3"	5.59 (142)	5.04 (128)	4.41 (112)	3.60 (92)	3.80 (96.4)	311790-G
4"	6.89 (175)	5.04 (128)	5.71 (145)	4.30 (108)	4.54 (115.4)	311795-G
6"	8.23 (209)	8.66 (220)	7.05 (179)	5.71 (145)	5.21 (132.4)	311805-G
150MM (DIN)	8.23 (209)	8.66 (220)	7.05 (179)	5.71 (145)	5.21 (132.4)	311805-GD
8"	9.21 (234)	8.66 (220)	8.03 (204)	6.70 (170)	5.80 (147.4)	311815-G



# GLR300W

## Wafer Type Butterfly Valves Wafer Type End, Sizes : 2½", 3", 4", 6" and 8"

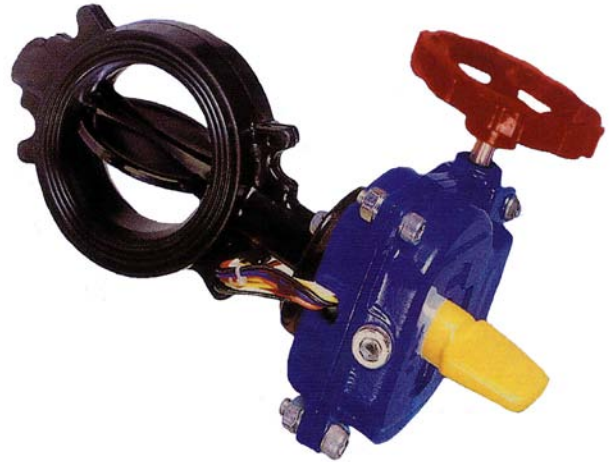
### Specifications

Working Pressure : 300 PSI (21.4 Bars)  
 Max. Test Pressure : 600 PSI (42.8 Bars)  
 Max. Working Temp : 250°F (120°C)

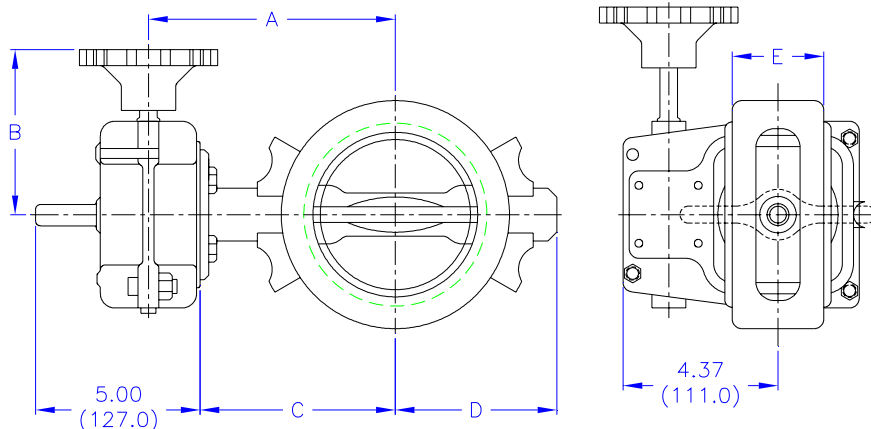
Factory installed UL Listed Double Tamper Switch For Indoor and Outdoor Use.

### Materials of Primary Components

Body : ASTM A-536 Nylon-11 Coated  
 Disc : ASTM A-536 EPDM Encapsulated  
 Upper and Lower Stems : AISI 420-SS  
 Worm Gear Shaft : AISI 410-SS  
 Housing : ASTM A-536  
 Hand Wheel : ASTM A-536  
 Flag Indicator : ASTM A-536  
 Sheer Pin : ASTM A-510  
 Segment Gear : ASTM B-148 or B-584  
 Housing Gasket : EPDM Grade "E"  
 O-Rings (All) : EPDM Grade "E"



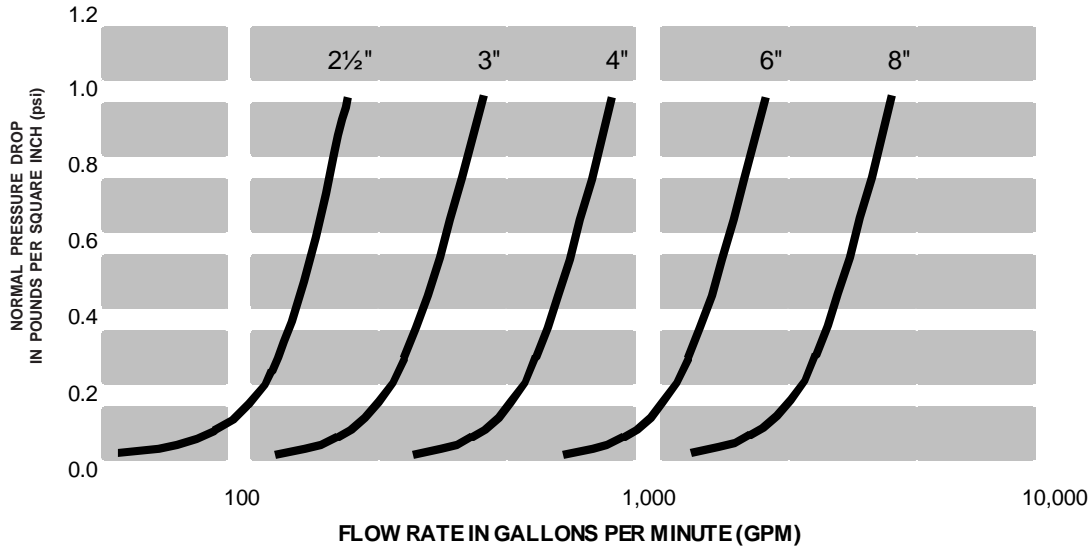
SIZE	APPROVALS		
	cULus	FM	NYC - DOB MEA Approved 155-06-E
2½"	X	X	X
3"	X	X	X
4"	X	X	X
6"	X	X	X
8"	X	—	X



DIMENSION						UNIT: IN (mm)
SIZE	A	B	C	D	E	Part No.
2 ½"	6.54 (166)	5.31 (135)	5.35 (136)	3.43 (87)	1.81 (46)	311836-G
3"	6.81 (173)	5.31 (135)	5.63 (143)	3.66 (93)	1.81 (46)	311839-G
4"	7.32 (186)	5.31 (135)	6.14 (156)	4.29 (109)	2.05 (52)	311846-G
6"	8.58 (218)	8.66 (193)	7.40 (188)	5.67 (144)	2.20 (56)	311861-G
8"	9.92 (252)	8.66 (193)	8.74 (222)	6.54 (166)	2.28 (58)	311871-G

## GROOVED END

### Flow Characteristics



## WAFER AND GROOVED END

### Friction Loss

Valve Model	Valve Size in. (mm)	Friction Loss in Equiv. Feet of Pipe
DW (Wafer)	2½ (65)	4.8
	3 (76.2)	3.5
	4 (100)	2.4
	6 (150)	5.1
	8 (200)	5.4

Valve Model	Valve Size in. (mm)	Friction Loss in Equiv. Feet of Pipe
DG (Grooved)	2½ (65)	6.9
	3 (76.2)	4.1
	4 (100)	3
	6 (150)	5.5
	8 (200)	5.4

## GROOVED END

### Flow coefficient : Cv

DN (mm)	SIZE (in)	Disk Open Angle						
		30°	40°	50°	60°	70°	80°	90°
65	2½"	12	27.4	53.1	96	138	156	163
80	3"	18.9	39.4	78.9	144	210	243	249
100	4"	30	65.1	129	226	377	488	514
150	6"	84	184	369	634	964	1196	1286
200	8"	165	339	677	1230	2002	2850	3129

## WAFER TYPE

### Flow coefficient : Cv at full open

DN (mm)	65	80	100	150	200
Size (in.)	2½"	3"	4"	6"	8"
Cv	222	389	1000	1998	4619

$$Cv = \frac{\text{flow (gpm)}}{\sqrt{\text{pressure loss (psi)}}} = \frac{Q}{\sqrt{\Delta P}}$$

# GLOBE WARRANTY

Listed and approved sprinkler products and devices manufactured by Globe Fire Sprinkler Corporation are produced in strict accordance with standard quality control procedures. We warrant our products to be free from defects in material and workmanship under normal use and service. Our obligation under this warranty shall be limited to replacing, at our plant, any parts thereof which shall, within one year after delivery to the ORIGINAL PURCHASER, be demonstrated to be defective. In order to accomplish demonstration of defectiveness, the parts claimed to be defective must be sent by the original purchaser to Globe Fire Sprinkler Corporation, 4077 Airpark Drive, Standish, MI 48658. Globe's warranty does not extend to incidental or consequential damages of any nature. In no event shall Globe Fire Sprinkler Corporation be liable, in contract, tort, strict liability or under any other legal theory, for incidental, indirect, special or consequential damages, including but not limited to labor charges, regardless of whether Globe Fire Sprinkler Corporation was informed about the possibility of such damages, and in no event shall Globe Fire Sprinkler Corporation liability exceed an amount equal to the sales price. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED INCLUDING MERCHANT ABILITY AND FITNESS for purpose intended. No person, firm or corporation is authorized to assume for us any other liability in connection with the sale of our products.