

# **MATERIAL SUBMITTAL**

**FOR**

## **TANDOORI GRILL**

4423 S MERIDIAN - SUITE 715

PUYALLUP, WA 98373

**BY**



PO BOX 206

PUYALLUP, WA 98371

CASCAFP833L2

# **TANDOORI GRILL**

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# **FIRE SPRINKLERS**



**QUICK RESPONSE  
AUTOMATIC SPRINKLERS  
GL SERIES  
UPRIGHT • PENDENT  
VERTICAL SIDEWALL  
HORIZONTAL SIDEWALL  
CONVENTIONAL (OLD STYLE)**

**DESCRIPTION AND OPERATION**

The Globe Quick Response GL Series Sprinklers are a low profile yet durable design which utilizes a 3mm frangible glass ampule as the thermosensitive element. This provides sprinkler operation approximately six times faster than ordinary sprinklers. While the Quick Response Sprinkler provides an aesthetically pleasing appearance, it can be installed wherever standard spray sprinklers are specified when allowed by the applicable standards. It offers the additional feature of greatly increased safety to life and is available in various styles, orifices, temperature ratings and finishes to meet many varying design requirements. Quick Response Sprinklers should be used advisedly and under the direction of approving authorities having jurisdiction.

The heart of Globe's GL Series sprinkler proven actuating assembly is a hermetically sealed frangible glass ampule that contains a precisely measured amount of fluid. When heat is absorbed, the liquid within the bulb expands increasing the internal pressure. At the prescribed temperature the internal pressure within the ampule exceeds the strength of the glass causing the glass to shatter. This results in water discharge which is distributed in an approved pattern depending upon the deflector style used.



**QUICK RESPONSE  
UPRIGHT**



**QUICK RESPONSE  
CONVENTIONAL**



**QUICK RESPONSE  
PENDENT**



**QUICK RESPONSE  
VERTICAL  
SIDEWALL**

**TECHNICAL DATA**

- See reverse side for Approvals and Specifications.
- Temperature Ratings - 135°F (57°C), 155°F (68°C), 175°F (79°C), 200°F (93°C), 286°F (141°C)
- Water Working Pressure Rating - 175 psi (12 Bars)
- Factory tested hydrostatically to 500 psi (34 Bars)
- Maximum low temperature glass bulb rating is -67°F (-55°C)
- Frame - bronze • Deflector - brass • Screw - brass
- Lodgement Wire - stainless steel • Bulb seat - copper
- Spring - nickel alloy • Seal - teflon
- Bulb - glass with alcohol based solution, 3mm size



**QUICK RESPONSE  
HORIZONTAL  
SIDEWALL**



**QUICK RESPONSE  
LPC/CE  
HORIZONTAL  
SIDEWALL**

**•SPRINKLER TEMPERATURE RATING/CLASSIFICATION and COLOR CODING**

| CLASSIFICATION | AVAILABLE SPRINKLER TEMPERATURES |           | BULB COLOR   | N.F.P.A. MAXIMUM CEILING TEMPERATURE |       |
|----------------|----------------------------------|-----------|--------------|--------------------------------------|-------|
| ORDINARY       | 135°F/155°F                      | 57°C/68°C | ORANGE/RED   | 100°F                                | 38°C  |
| INTERMEDIATE   | 175°F/200°F                      | 79°C/93°C | YELLOW/GREEN | 150°F                                | 66°C  |
| HIGH           | 286°F                            | 141°C     | BLUE         | 225°F                                | 107°C |

# QUICK RESPONSE AUTOMATIC SPRINKLERS GL SERIES UPRIGHT PENDENT VERTICAL SIDEWALL HORIZONTAL SIDEWALL CONVENTIONAL (OLD STYLE)

## SPECIFICATIONS

| NOMINAL "K" FACTOR | THREAD SIZE    | LENGTH <sup>1</sup> | FINISHES   |
|--------------------|----------------|---------------------|--|
| 2.8 (40 metric)    | 1/2"NPT (15mm) | 2 1/4" (5.7cm)      | Factory Bronze<br>Chrome<br>White Polyester <sup>3</sup><br>Black Polyester <sup>2,3</sup> |
| 4.2 (60 metric)    | 1/2"NPT (15mm) | 2 1/4" (5.7cm)      |  |
| 5.6 (80 metric)    | 1/2"NPT (15mm) | 2 1/4" (5.7cm)      |  |
| 8.0 (115 metric)   | 1/2"NPT (15mm) | 2 1/4" (5.7cm)      |  |
| 8.0 (115 metric)   | 3/4"NPT (20mm) | 2 7/16" (6.2cm)     |  |

NOTE: METRIC CONVERSIONS ARE APPROXIMATE.

<sup>1</sup>HORIZONTAL SIDEWALL IS 2 9/16".

<sup>2</sup>FINISHES AVAILABLE ON SPECIAL ORDER.

<sup>3</sup>AVAILABLE AS cULus LISTED COROSION RESISTANT WHEN SPECIFIED ON ORDER.

## APPROVALS

| STYLE                          | SIN MODEL | K FACTOR | HAZARD <sup>1</sup> | TEMPERATURE  |              |              |              |               | cULus | FM  | LPC | CE  | NYC - DOB MEA 101-92-E |
|--------------------------------|-----------|----------|---------------------|--------------|--------------|--------------|--------------|---------------|-------|-----|-----|-----|------------------------|
|                                |           |          |                     | 135°F (57°C) | 155°F (68°C) | 175°F (79°C) | 200°F (93°C) | 286°F (141°C) |       |     |     |     |                        |
| UPRIGHT                        | GL2815    | 2.8      | LH                  | X            | X            | X            | X            | X             | X     | --- | --- | --- | X                      |
|                                | GL4215    | 4.2      | LH                  | X            | X            | X            | X            | X             | X     | --- | --- | --- | X                      |
|                                | GL5615    | 5.6      | LH/OH               | X            | X            | X            | X            | X             | X     | X   | X   | X   | X                      |
|                                | GL8115    | 8.0*     | LH/OH               | X            | X            | X            | X            | X             | X     | --- | --- | --- | X                      |
|                                | GL8118    | 8.0      | LH/OH               | X            | X            | X            | X            | X             | X     | X   | X   | X   | X                      |
| PENDENT                        | GL2801    | 2.8      | LH                  | X            | X            | X            | X            | X             | X     | --- | --- | --- | X                      |
|                                | GL4201    | 4.2      | LH                  | X            | X            | X            | X            | X             | X     | --- | --- | --- | X                      |
|                                | GL5601    | 5.6      | LH/OH               | X            | X            | X            | X            | X             | X     | X   | X   | X   | X                      |
|                                | GL8101    | 8.0*     | LH/OH               | X            | X            | X            | X            | X             | X     | --- | --- | --- | X                      |
|                                | GL8106    | 8.0      | LH/OH               | X            | X            | X            | X            | X             | X     | X   | X   | X   | X                      |
| VERTICAL SIDEWALL <sup>†</sup> | GL5632    | 5.6      | LH                  | X            | X            | X            | X            | X             | X     | X   | --- | --- | ---                    |
|                                | GL8133    | 8.0      | LH                  | X            | X            | X            | X            | X             | X     | --- | --- | --- | ---                    |
| HORIZONTAL SIDEWALL            | GL2826§   | 2.8      | LH                  | X            | X            | X            | X            | X             | X     | --- | --- | --- | X                      |
|                                | GL4226§   | 4.2      | LH                  | X            | X            | X            | X            | X             | X     | --- | --- | --- | X                      |
|                                | GL5626§   | 5.6      | LH/OH               | X            | X            | X            | X            | X             | X     | X   | --- | --- | X                      |
|                                | GL5627¶   | 5.6      | LH/OH               | X            | X            | X            | X            | X             | ---   | --- | X   | X   | ---                    |
|                                | GL8127§   | 8.0      | LH/OH               | X            | X            | X            | X            | X             | X     | --- | --- | --- | ---                    |
| CONVENTIONAL (OLD STYLE)       | GL5624    | 5.6      | LH/OH               | X            | X            | X            | X            | X             | ---   | --- | X   | X   | ---                    |
|                                | GL8125    | 8.0      | LH/OH               | X            | X            | X            | X            | X             | ---   | --- | X   | X   | ---                    |

<sup>§</sup>SPRINKLERS SHALL BE LIMITED AS PER THE REQUIREMENTS OF NFPA13 AND ANY OTHER RELATED DOCUMENTS.

<sup>§</sup>HORIZONTAL SIDEWALL cULus LISTED FOR DEFLECTOR 4" TO 12" BELOW THE CEILING, FM APPROVED 4" TO 6" BELOW THE CEILING.

<sup>¶</sup>INSTALL IN ACCORDANCE TO BS5306 AND ANY OTHER RELATED DOCUMENTS.

<sup>†</sup>PENDENT VERTICAL SIDEWALL cULus LISTED FOR 6' MIN. SPACING.

<sup>†</sup>UPRIGHT VERTICAL SIDEWALL cULus LISTED FOR 9' MIN. SPACING.

OH: ORDINARY HAZARD

LH: LIGHT HAZARD

\*1/2" NPT

## ORDERING INFORMATION SPECIFY

- Quantity • Model Number • Style • Orifice
- Thread Size • Temperature • Finishes desired
- Quantity - Wrenches - P/N 325390 (1/2"); P/N 312366 (L.O.)

## GLOBE® PRODUCT WARRANTY

Globe agrees to repair or replace any of its own manufactured products found to be defective in material or workmanship for a period of one year from date of shipment.

For specific details of our warranty please refer to Price List Terms and Conditions of Sale (Our Price List).



APR 2017

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4077 AIRPARK DRIVE, STANDISH, MICHIGAN 48658  
989-846-4583 FAX 989-846-9231  
1-800-248-0278 www.globesprinkler.com

GFS-100a (Formerly A-20)

**QUICK RESPONSE**  
**AUTOMATIC SPRINKLERS**  
**GL SERIES**  
**DRY TYPE PENDENT**

**DESCRIPTION AND OPERATION**

The Globe Quick Response Series GL-QR/DRY Pendent Sprinkler is designed for use in special applications such as freezing environments and conditions where sediment or foreign materials might accumulate in ordinary drop nipples.

The Globe Quick Response Series GL-QR/DRY Pendent Sprinkler utilizes a 3mm frangible glass ampule as the thermosensitive element. This provides sprinkler operation approximately six times faster than ordinary sprinklers. At the ampule's rated temperature, the sprinkler opens releasing the bulb seat, causing the inner tube assembly to move, allowing the spring assembly to pivot alongside the inner tube. At this time, water flows through the sprinkler and is distributed by the deflector in an approved discharge pattern. It can be installed wherever standard spray sprinklers are specified but offers the additional feature of greatly increased safety to life. Quick Response Sprinklers should be used advisedly and under the direction of approving authorities having jurisdiction.

The heart of Globe's Series GL-QR/DRY sprinkler proven actuating assembly is a hermetically sealed frangible glass ampule that contains a precisely measured amount of fluid. When heat is absorbed, the liquid within the bulb expands increasing the internal pressure. At the prescribed temperature the internal pressure within the ampule exceeds the strength of the glass causing the glass to shatter. This results in water discharge which is distributed in an approved pattern.

**TECHNICAL DATA**

- See reverse side for Approvals and Specifications.
- Temperature Ratings -  
135°F (57°C), 155°F (68°C), 175°F (79°C)  
200°F (93°C), 286°F (141°C)
- Water Working Pressure Rating - 175 psi (12 Bars)
- Factory tested hydrostatically to 500 psi (34 Bars)
- Maximum low temperature glass bulb rating is -67°F (-55°C)
- Frame - bronze • Deflector - brass • Screw - brass
- Bulb Seat - brass • Spring - nickel alloy • Seal - teflon
- Retainer - brass • Pin - stainless steel
- Torsion Spring - stainless steel • Orifice Insert - brass
- Bulb - glass with alcohol based solution, 3mm size
- 3/4"NPT or 1"NPT • Outer Tube - galvanized steel pipe • Inner Tube - stainless steel

**• SPRINKLER TEMPERATURE RATING/CLASSIFICATION and COLOR CODING**

| CLASSIFICATION | AVAILABLE SPRINKLER TEMPERATURES |           | BULB COLOR   | N.F.P.A. MAXIMUM CEILING TEMPERATURE |       |
|----------------|----------------------------------|-----------|--------------|--------------------------------------|-------|
| ORDINARY       | 135°F/155°F                      | 57°C/68°C | ORANGE/RED   | 100°F                                | 38°C  |
| INTERMEDIATE   | 175°F/200°F                      | 79°C/93°C | YELLOW/GREEN | 150°F                                | 66°C  |
| HIGH           | 286°F                            | 141°C     | BLUE         | 225°F                                | 107°C |

**SERIES GL-QR/DRY**



**SURFACE MOUNT**



**SLEEVE & SKIRT**



**EXTENDED**



**RECESSED**

# QUICK RESPONSE AUTOMATIC SPRINKLERS GL SERIES DRY TYPE PENDENT

## SPECIFICATIONS

| NOMINAL "K" FACTOR | THREAD SIZE   | LENGTH                                      | FINISHES   |
|--------------------|---------------|---|--|
| 5.6 (80 metric)    | 3/4" or 1"NPT | cULus Variable to 48"<br>FM Variable to 36" | Factory Bronze<br>Chrome<br>White Polyester <sup>2</sup><br>Black Polyester <sup>1,2</sup> |
| 8.0 (115 metric)   | 1"NPT         |   |  |

NOTE: METRIC CONVERSIONS ARE APPROXIMATE.

<sup>1</sup>FINISHES AVAILABLE ON SPECIAL ORDER.

<sup>2</sup>cULus LISTED CORROSION RESISTANT WHEN SPECIFIED ON ORDER.

## APPROVALS

| STYLE    | SIN    | K FACTOR | THREAD SIZE | HAZARD <sup>1</sup> | 135°F (57°C) | 155°F (68°C) | 175°F (79°C) | 200°F (93°C) | 286°F (141°C) | *FM | cULus | NYC-DOB MEA 101-92-E |
|----------|--------|----------|-------------|---------------------|--------------|--------------|--------------|--------------|---------------|-----|-------|----------------------|
| PENDENT  | GL5635 | 5.6      | 1"NPT       | LH/OH               | X            | X            | X            | X            | X             | X   | X     | X                    |
| RECESSED | GL5636 | 5.6      | 3/4"NPT     | LH/OH               | X            | X            | X            | X            | X             | --- | X     | X                    |
| PENDENT  | GL8135 | 8.0      | 1"NPT       | LH/OH               | X            | X            | X            | X            | X             | --- | X     | X                    |

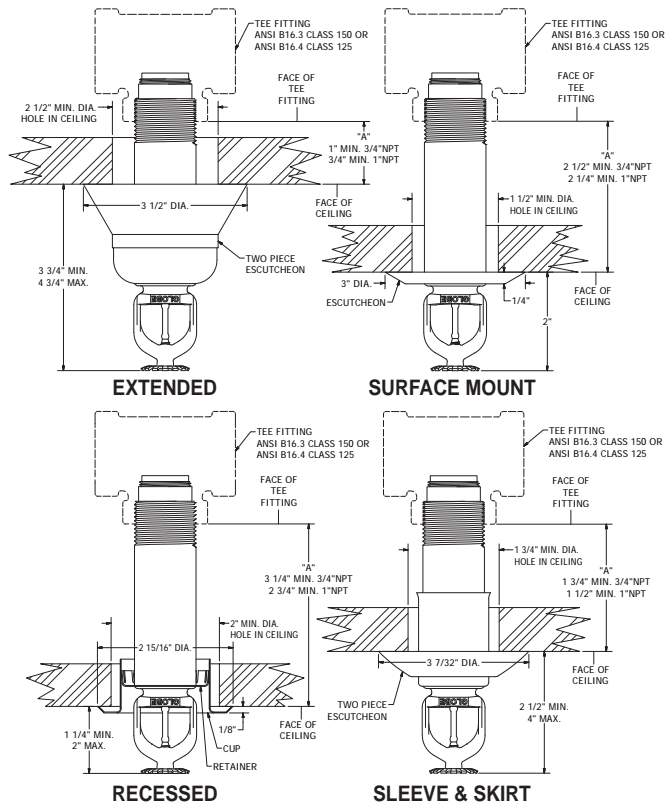
<sup>1</sup>SPRINKLERS SHALL BE LIMITED AS PER THE REQUIREMENTS OF NFPA13 AND ANY OTHER RELATED DOCUMENTS.

\*PENDENT STYLE - FM APPROVED 155°F (68°C), 200°F (93°C), AND 286°F (141°C)

\*RECESSED PENDENT STYLE - FM APPROVED 155°F (68°C) AND 200°F (93°C)

LH: LIGHT HAZARD; OH: ORDINARY HAZARD

## CROSS SECTIONS



## IMPORTANT INSTALLATION DATA

Globe GL Series Dry Pendant Sprinklers should be installed in accordance with the requirements set forth in NFPA 13. These sprinklers are to be installed using a pipe wrench applied to the outer tube. When this is not possible, the proper sprinkler head wrench may be used with extreme care for lengths up to approximately 18". Excessive force may distort the frame thus destroying the unit.

When installed in a wet system extending into a freezing area see chart on Dry Caution Sheet for minimum exposed barrel length to prevent ice plugs. Please refer to our Dry Caution Sheet for further important installation data.

## ORDERING INFORMATION

### SPECIFY

- Quantity • SIN • Style • Orifice • Temperature • Finishes
  - Quantity - Wrenches - P/N 333010
  - Quantity Recessed Wrenches - P/N 337014
  - Escutcheons Desired
  - Quantity - Protective Caps - P/N 327109-cap (*Friction Fit Recessed*)
- "A" Dimension - Distance from face of fitting to the finished ceiling line regardless of escutcheon used.

## GLOBE® PRODUCT WARRANTY

Globe agrees to repair or replace any of its own manufactured products found to be defective in material or workmanship for a period of one year from date of shipment.

For specific details of our warranty please refer to Price List Terms and Conditions of Sale (Our Price List).



# STANDARD RESPONSE AUTOMATIC SPRINKLERS GL SERIES DRY TYPE PENDENT

## SERIES GL-SR/DRY

### DESCRIPTION AND OPERATION

The Globe Series GL-SR/DRY Pendent Sprinkler is designed for use in special applications such as freezing environments and conditions where sediment or foreign materials might accumulate in ordinary drop nipples.

The Globe Series GL-SR/DRY Pendent Sprinkler utilizes a frangible glass ampule sprinkler. At the ampule's rated temperature, the sprinkler opens releasing the bulb seat, causing the inner tube assembly to move, allowing spring assembly to pivot alongside the inner tube. At this time, water flows through the sprinkler and is distributed by the deflector, in an approved discharge pattern.

The heart of Globe's Series GL-SR sprinkler proven actuating assembly is a hermetically sealed frangible glass ampule that contains a precisely measured amount of fluid. When heat is absorbed, the liquid within the bulb expands increasing the internal pressure. At the prescribed temperature the internal pressure within the ampule exceeds the strength of the glass causing the glass to shatter. This results in water discharge which is distributed in an approved pattern.



### TECHNICAL DATA

- See reverse side for Approvals and Specifications.
- Temperature Ratings -  
135°F (57°C), 155°F (68°C), 175°F (79°C)  
200°F (93°C), 286°F (141°C)
- Water Working Pressure Rating - 175 psi (12 Bars)
- Factory tested hydrostatically to 500 psi (34 Bars)
- Maximum low temperature glass bulb rating is -67°F (-55°C)
- Frame - bronze • Deflector - brass • Screw - brass
- Bulb Seat - brass • Spring - nickel alloy • Seal - teflon
- Retainer - brass • Pin - stainless steel
- Torsion Spring - stainless steel • Orifice Insert - brass
- Bulb - glass with glycerin solution, 5mm size
- 3/4"NPT or 1"NPT • Outer Tube - galvanized steel pipe • Inner Tube - stainless steel

### • SPRINKLER TEMPERATURE RATING/CLASSIFICATION and COLOR CODING

| CLASSIFICATION | AVAILABLE SPRINKLER TEMPERATURES |           | BULB COLOR   | N.F.P.A. MAXIMUM CEILING TEMPERATURE |       |
|----------------|----------------------------------|-----------|--------------|--------------------------------------|-------|
| ORDINARY       | 135°F/155°F                      | 57°C/68°C | ORANGE/RED   | 100°F                                | 38°C  |
| INTERMEDIATE   | 175°F/200°F                      | 79°C/93°C | YELLOW/GREEN | 150°F                                | 66°C  |
| HIGH           | 286°F                            | 141°C     | BLUE         | 225°F                                | 107°C |



# STANDARD RESPONSE AUTOMATIC SPRINKLERS GL SERIES DRY TYPE PENDENT

## SPECIFICATIONS

| SIN    | NOMINAL "K" FACTOR | THREAD SIZE | LENGTH                                      | FINISHES   |
|--------|--------------------|-------------|---|--|
| GL5679 | 5.6 (80 metric)    | 1"NPT       | cULus Variable to 48"<br>FM Variable to 36" | Factory Bronze<br>Chrome<br>White Polyester <sup>2</sup><br>Black Polyester <sup>1,2</sup> |
| GL5680 | 5.6 (80 metric)    | 3/4"NPT     |   |  |
| GL8179 | 8.0 (115 metric)   | 1"NPT       |   |  |

NOTE: METRIC CONVERSIONS ARE APPROXIMATE.

<sup>1</sup>FINISHES AVAILABLE ON SPECIAL ORDER.

<sup>2</sup>cULus LISTED CORROSION RESISTANT WHEN SPECIFIED ON ORDER.

## APPROVALS

| STYLE    | SIN    | HAZARD <sup>1</sup> | 135°F<br>(57°C) | 155°F<br>(68°C) | 175°F<br>(79°C) | 200°F<br>(93°C) | 286°F<br>(141°C) | *FM | cULus | NYC-DOB<br>MEA<br>101-92-E | MIN.<br>DISTANCE<br>BETWEEN<br>SPRINKLERS<br>Feet (Meters) |
|----------|--------|---------------------|-----------------|-----------------|-----------------|-----------------|------------------|-----|-------|----------------------------|--|
| Pendent  | GL5679 | ALL                 | X               | X               | X               | X               | X                | X   | X     | X                          | 6 (1.8)  |
| Recessed | GL5680 | ALL                 | X               | X               | X               | X               | X                | --- | X     | X                          |  |
| Pendent  | GL8179 | ALL                 | X               | X               | X               | X               | X                | --- | X     | X                          |  |

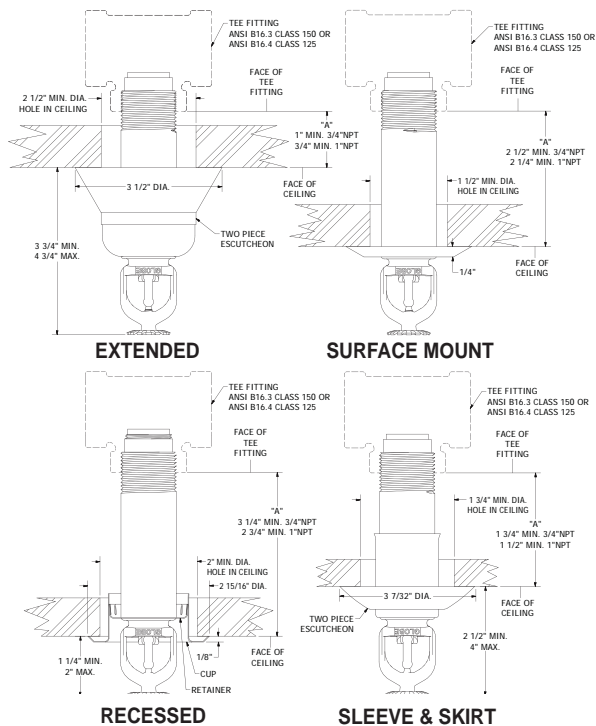
<sup>1</sup>SPRINKLERS SHALL BE LIMITED AS PER THE REQUIREMENTS OF NFPA13 AND ANY OTHER RELATED DOCUMENTS.

\*PENDENT STYLE - FM APPROVED 155°F (68°C), 200°F (93°C), AND 286°F (141°C)

\*RECESSED PENDENT STYLE - FM APPROVED 155°F (68°C) AND 200°F (93°C)

ALL: ALL HAZARDS

## CROSS SECTIONS



## IMPORTANT INSTALLATION DATA

Globe GL Series Dry Pendent Sprinklers should be installed in accordance with the requirements set forth in NFPA 13. These sprinklers are to be installed using a pipe wrench applied to the outer tube. When this is not possible, the proper sprinkler head wrench may be used with extreme care for lengths up to approximately 18". Excessive force may distort the frame thus destroying the unit.

When installed in a wet system extending into a freezing area see chart on Dry Caution Sheet for minimum exposed barrel length to prevent ice plugs. Please refer to our Dry Caution Sheet for further important installation data.

## ORDERING INFORMATION SPECIFY

- Quantity • SIN • Style • Orifice • Temperature • Finishes
  - Quantity - Wrenches - P/N 333010
  - Quantity Recessed Wrenches - P/N 337014
  - Escutcheons Desired
  - Quantity - Protective Caps - P/N 327109-cap (Friction Fit Recessed)
- "A" Dimension - Distance from face of fitting to the finished ceiling line regardless of escutcheon used.

## GLOBE® PRODUCT WARRANTY

Globe agrees to repair or replace any of its own manufactured products found to be defective in material or workmanship for a period of one year from date of shipment.

For specific details of our warranty please refer to Price List Terms and Conditions of Sale (Our Price List).

**PIPE**

# EASY FLOW<sup>®</sup> SPRINKLER PIPES

## PRODUCT OPTIONS

|                      | O.D<br>(mm) | O.D<br>(inches) | W.T<br>(mm) | W.T<br>(inches) | Uncoated Unit Weight |         | Galvanised  | FM |
|----------------------|-------------|-----------------|-------------|-----------------|----------------------|---------|-------------|----|
|                      |             |                 |             |                 | (kg/m)               | (lb/ft) | Unit Weight |    |
|                      |             |                 |             |                 |                      |         | (kg/m)      |    |
| Easy Flow Light Wall | 33.7        | 1"              | 2           | 0.079           | 1.56                 | 1.05    | 1.62        | X  |
|                      | 33.7        | 1"              | 2.6         | 0.102           | 1.99                 | 1.34    | 2.06        | X  |
|                      | 42.4        | 1 1/4"          | 2           | 0.079           | 1.99                 | 1.34    | 2.06        | X  |
|                      | 42.4        | 1 1/4"          | 2.3         | 0.091           | 2.27                 | 1.53    | 2.35        | X  |
|                      | 42.4        | 1 1/4"          | 2.6         | 0.102           | 2.55                 | 1.71    | 2.64        | X  |
|                      | 48.3        | 1 1/2"          | 2           | 0.079           | 2.28                 | 1.53    | 2.36        | X  |
|                      | 48.3        | 1 1/2"          | 2.6         | 0.102           | 2.93                 | 1.97    | 3.03        | X  |
|                      | 60.3        | 2"              | 2           | 0.079           | 2.88                 | 1.94    | 2.98        | X  |
|                      | 60.3        | 2"              | 2.9         | 0.114           | 4.1                  | 2.76    | 4.25        | X  |
|                      | 76.1        | 2 1/2"          | 2.18        | 0.086           | 3.97                 | 2.67    | 4.11        | X  |
|                      | 76.1        | 2 1/2"          | 2.9         | 0.114           | 5.23                 | 3.51    | 5.42        | X  |
|                      | 88.9        | 3"              | 2.36        | 0.093           | 5.04                 | 3.39    | 5.21        | X  |
|                      | 88.9        | 3"              | 3.2         | 0.126           | 6.76                 | 4.54    | 7           | X  |
|                      | 114.3       | 4"              | 2.6         | 0.102           | 7.16                 | 4.81    | 7.41        | X  |
|                      | 114.3       | 4"              | 3.6         | 0.142           | 9.83                 | 6.61    | 10.17       | X  |
| 139.7                | 5"          | 3.4             | 0.134       | 11.43           | 7.68                 | 11.83   | X           |    |

## TECHNICAL SPECIFICATIONS

- Roll Grooved,
- FM approved,
- UL/C-UL Listed,
- NFS certified,
- Selection of Schedule 7, Schedule 10, Schedule 30/40, Easy Flow - Light Wall,
- ASTM A 795 and ASTM A 53 production standards,
- Tight tolerances,
- Consistent roundness,
- Consistent wall thickness,
- Consistent straightness,
- Standard length 21 feet,
- Weldable,
- Pressure tested,
- Reliable high steel quality,
- Galvanised or shop primer coated black, red (RAL 3009) or grey (RAL 7012),
- CE, PED Certified.

|           | DN  | Nominal Sizes (inches) | OD (mm) | Wall Thickness inches | Wall Thickness mm | Weight Plain End |       | UL | FM |
|-----------|-----|------------------------|---------|-----------------------|-------------------|------------------|-------|----|----|
|           |     |                        |         |                       |                   | lb/ft            | kg/mt |    |    |
|           |     |                        |         |                       |                   |                  |       |    |    |
| SCH 10    | 20  | 3/4"                   | 26,7    | 0.083                 | 2.11              | 0.86             | 1.28  | X  |    |
|           | 25  | 1"                     | 33,4    | 0.109                 | 2.77              | 1.41             | 2.09  | X  | X  |
|           | 32  | 1 1/4"                 | 42,2    | 0.109                 | 2.77              | 1.81             | 2.69  | X  | X  |
|           | 40  | 1 1/2"                 | 48,3    | 0.109                 | 2.77              | 2.09             | 3.11  | X  | X  |
|           | 50  | 2"                     | 60,3    | 0.109                 | 2.77              | 2.64             | 3.93  | X  | X  |
|           | 65  | 2 1/2"                 | 73,0    | 0.120                 | 3.05              | 3.53             | 5.26  | X  | X  |
|           | 80  | 3"                     | 88,9    | 0.120                 | 3.05              | 4.34             | 6.46  | X  | X  |
|           | 90  | 3 1/2"                 | 101,6   | 0.120                 | 3.05              | 4.98             | 7.41  | X  | X  |
|           | 100 | 4"                     | 114,3   | 0.120                 | 3.05              | 5.62             | 8.37  | X  | X  |
|           | 125 | 5"                     | 141,3   | 0.134                 | 3.40              | 7.78             | 11.58 | X  | X  |
|           | 150 | 6"                     | 168,3   | 0.134                 | 3.40              | 9.30             | 13.85 | X  | X  |
| 200       | 8"  | 219,1                  | 0.148   | 3.76                  | 13.41             | 19.97            | X     | X  |    |
| 250       | 10" | 273,1                  | 0.165   | 4.19                  | 18.67             | 27.78            | X     | X  |    |
| SCH 30/40 | 15  | 1/2"                   | 21,3    | 0.109                 | 2.77              | 0.85             | 1.27  | X  |    |
|           | 20  | 3/4"                   | 26,7    | 0.113                 | 2.87              | 1.13             | 1.69  | X  |    |
|           | 25  | 1"                     | 33,4    | 0.133                 | 3.38              | 1.68             | 2.50  | X  | X  |
|           | 32  | 1 1/4"                 | 42,2    | 0.140                 | 3.56              | 2.27             | 3.39  | X  | X  |
|           | 40  | 1 1/2"                 | 48,3    | 0.145                 | 3.68              | 2.72             | 4.05  | X  | X  |
|           | 50  | 2"                     | 60,3    | 0.154                 | 3.91              | 3.66             | 5.45  | X  | X  |
|           | 65  | 2 1/2"                 | 73,0    | 0.203                 | 5.16              | 5.80             | 8.64  | X  | X  |
|           | 80  | 3"                     | 88,9    | 0.216                 | 5.49              | 7.58             | 11.29 | X  | X  |
|           | 90  | 3 1/2"                 | 101,6   | 0.226                 | 5.74              | 9.12             | 13.58 | X  | X  |
|           | 100 | 4"                     | 114,3   | 0.237                 | 6.02              | 10.80            | 16.09 | X  | X  |
|           | 125 | 5"                     | 141,3   | 0.258                 | 6.55              | 14.63            | 21.79 | X  | X  |
|           | 150 | 6"                     | 168,3   | 0.280                 | 7.11              | 18.99            | 28.29 | X  | X  |
|           | 200 | 8"                     | 219,1   | 0.277                 | 7.04              | 24.72            | 36.82 | X  | X  |
|           | 250 | 10"                    | 273,1   | 0.307                 | 7.80              | 34.27            | 51.05 | X  | X  |



# **FITTINGS AND COUPLINGS**

**90° ELBOW****Ductile Iron****MATERIAL SPECIFICATIONS**

Ductile iron threaded fittings are UL & ULC Listed & FM Approved for 500 psi service.

Ductile iron per ASTM A536 Class 65-45-12.

Dimensions conform to ASME B16.3

Threads are NPT per ANSI/ASME B1.20.1.

**NOTICE:** Ductile iron fittings have higher tensile strength than that of steel pipe. Therefore, over tightening can cause damage to pipe threads which may cause leakage. Ductile iron fittings should be tightened three turns beyond hand tight, but no more than four turns.

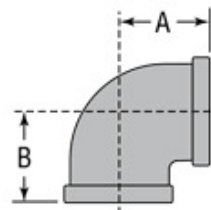


For Listings/Approval Details and Limitations, visit our website at [www.anvilintl.com](http://www.anvilintl.com) or contact an Anvil® Sales Representative.

**90° ELBOW**

| Nominal Size    | Max. Working Pressure▲ | Dimensions      |                 | Approx. Wt. Each |
|-----------------|------------------------|-----------------|-----------------|------------------|
|                 |                        | A               | B               |                  |
| <i>In. (mm)</i> | <i>PSI (kPa)</i>       | <i>In. (mm)</i> | <i>In. (mm)</i> | <i>Lbs. (kg)</i> |
| 1<br>20         | 500<br>3450            | 1.50<br>38.10   | 1.50<br>38.10   | 0.62<br>0.28     |
| 1¼<br>32        | 500<br>3450            | 1.75<br>44.45   | 1.75<br>44.45   | 0.90<br>0.41     |
| 1½<br>40        | 500<br>3450            | 1.94<br>49.276  | 1.94<br>49.276  | 1.20<br>0.54     |
| 2<br>50         | 500<br>3450            | 2.25<br>57.15   | 2.25<br>57.15   | 1.85<br>0.84     |

▲ – Working Pressure Ratings are for reference only and based on Sch. 40 pipe. For the latest UL/ULC, and FM pressure ratings versus pipe schedule, please visit [anvilintl.com](http://anvilintl.com) or contact your local Anvil Representative.



# REDUCING COUPLING



Ductile Iron



## MATERIAL SPECIFICATIONS

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Ductile iron per ASTM A536 Class 65-45-12.

Dimensions conform to ASME B16.3

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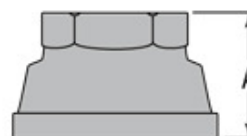


For Listings/Approval Details and Limitations, visit our website at [www.anvilintl.com](http://www.anvilintl.com) or contact an Anvil® Sales Representative.

## REDUCING COUPLING

| Nominal Size    | Max. Working Pressure▲ | Dimensions      | Approx. Wt. Each |
|-----------------|------------------------|-----------------|------------------|
|                 |                        | A               |                  |
| <i>In. (mm)</i> | <i>PSI (kPa)</i>       | <i>In. (mm)</i> | <i>Lbs. (kg)</i> |
| 1 x 1/2         | 500                    | 1.69            | 0.39             |
| 25 x 15         | 3450                   | 42.92           | 0.18             |
| 1 x 3/4         | 500                    | 1.69            | 0.53             |
| 25 x 20         | 3450                   | 42.92           | 0.24             |

▲ - Working Pressure Ratings are for reference only and based on Sch. 40 pipe. For the latest UL/ULC, and FM pressure ratings versus pipe schedule, please visit [anvilintl.com](http://anvilintl.com) or contact your local Anvil Representative.





# REDUCING 90° ELBOW



Ductile Iron



## MATERIAL SPECIFICATIONS

Ductile iron threaded fittings are UL & ULC Listed & FM Approved for 500 psi service.

Ductile iron per ASTM A536 Class 65-45-12.

Dimensions conform to ASME B16.3

Threads are NPT per ANSI/ASME B1.20.1.

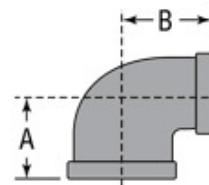
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## REDUCING 90° ELBOW

| Nominal Size       | Max. Working Pressure▲ | Dimensions      |                 | Approx. Wt. Each |
|--------------------|------------------------|-----------------|-----------------|------------------|
|                    |                        | A               | B               |                  |
| <i>In. (mm)</i>    | <i>PSI (kPa)</i>       | <i>In. (mm)</i> | <i>In. (mm)</i> | <i>Lbs. (kg)</i> |
| 1 x ½<br>25 x 15   | 500<br>3450            | 1.26<br>32.00   | 1.36<br>34.54   | 0.44<br>0.20     |
| 1 x ¾<br>25 x 20   | 500<br>3450            | 1.37<br>34.79   | 1.45<br>36.83   | 0.52<br>0.24     |
| 1¼ x ½<br>32 x 15  | 500<br>34550           | 1.34<br>34.03   | 1.53<br>38.86   | 0.64<br>0.29     |
| 1¼ x ¾<br>32 x 20  | 500<br>3450            | 1.45<br>36.83   | 1.62<br>41.14   | 0.72<br>0.33     |
| 1¼ x 1<br>32 x 25  | 500<br>3450            | 1.58<br>40.13   | 1.67<br>42.41   | 0.75<br>0.34     |
| 1½ x 1<br>40 x 25  | 500<br>3450            | 1.65<br>41.91   | 1.80<br>45.72   | 0.92<br>0.42     |
| 1½ x 1¼<br>40 x 32 | 500<br>3450            | 1.82<br>46.22   | 1.88<br>47.75   | 1.08<br>0.49     |
| 2 x ½<br>50 x 15   | 500<br>3450            | 1.49<br>37.84   | 1.88<br>47.75   | 1.08<br>0.49     |
| 2 x ¾<br>50 x 20   | 500<br>3450            | 1.60<br>40.64   | 1.97<br>50.03   | 1.24<br>0.56     |
| 2 x 1<br>50 x 25   | 500<br>3450            | 1.73<br>43.94   | 2.02<br>51.30   | 1.40<br>0.64     |
| 2 x 1¼<br>50 x 32  | 500<br>3450            | 1.90<br>48.26   | 2.10<br>53.34   | 1.52<br>0.70     |
| 2 x 1½<br>50 x 40  | 500<br>3450            | 2.02<br>51.30   | 2.16<br>54.86   | 1.65<br>0.75     |

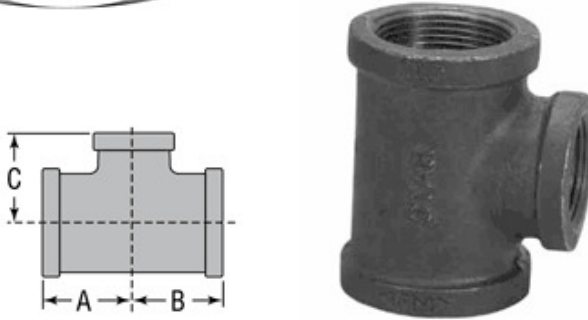


▲ - Working Pressure Ratings are for reference only and based on Sch. 40 pipe. For the latest UL/ULC, and FM pressure ratings versus pipe schedule, please visit [anvilintl.com](http://anvilintl.com) or contact your local Anvil Representative.

# REDUCING TEE



Ductile Iron



## MATERIAL SPECIFICATIONS

Ductile iron threaded fittings are UL & ULC Listed & FM Approved for 500 psi service.

Ductile iron per ASTM A536 Class 65-45-12.

Dimensions conform to ASME B16.3

Threads are NPT per ANSI/ASME B1.20.1.

**NOTICE:** Ductile iron fittings have higher tensile strength than that of steel pipe. Therefore, over tightening can cause damage to pipe threads which may cause leakage. Ductile iron fittings should be tightened three turns beyond hand tight, but no more than four turns.



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| REDUCING TEE          |                        |            |          |          |                  |
|-----------------------|------------------------|------------|----------|----------|------------------|
| Nominal Size          | Max. Working Pressure▲ | Dimensions |          |          | Approx. Wt. Each |
|                       |                        | A          | B        | C        |                  |
| In. (mm)              | PSI (kPa)              | In. (mm)   | In. (mm) | In. (mm) | Lbs. (kg)        |
| 1 x 1/2 x 1           | 500                    | 1.50       | 1.36     | 1.50     | 0.64             |
| 25 x 15 x 25          | 3450                   | 38.10      | 34.54    | 38.10    | 0.29             |
| 1 x 3/4 x 1           | 500                    | 1.50       | 1.45     | 1.50     | 0.73             |
| 25 x 20 x 25          | 3450                   | 38.10      | 36.83    | 38.10    | 0.33             |
| 1 x 1 x 1/2           | 500                    | 1.26       | 1.26     | 1.36     | 0.71             |
| 25 x 25 x 15          | 3450                   | 32.00      | 32.00    | 34.54    | 0.32             |
| 1 x 1 x 3/4           | 500                    | 1.37       | 1.37     | 1.45     | 0.76             |
| 25 x 25 x 20          | 3450                   | 34.80      | 34.80    | 36.83    | 0.34             |
| 1 x 1 x 1 1/4         | 500                    | 1.67       | 1.67     | 1.58     | 0.98             |
| 25 x 25 x 32          | 3450                   | 42.41      | 42.41    | 40.13    | 0.44             |
| 1 x 1 x 1 1/2         | 500                    | 1.80       | 1.80     | 1.65     | 1.16             |
| 25 x 25 x 40          | 3450                   | 45.72      | 45.72    | 41.91    | 0.53             |
| 1 1/4 x 1 x 1/2       | 500                    | 1.34       | 1.26     | 1.53     | 0.82             |
| 32 x 25 x 15          | 3450                   | 34.04      | 32.00    | 38.86    | 0.37             |
| 1 1/4 x 1 x 3/4       | 500                    | 1.45       | 1.37     | 1.62     | 0.90             |
| 32 x 25 x 20          | 3450                   | 36.83      | 34.80    | 41.15    | 0.41             |
| 1 1/4 x 1 x 1         | 500                    | 1.58       | 1.50     | 1.67     | 1.00             |
| 32 x 25 x 25          | 3450                   | 40.13      | 38.10    | 42.42    | 0.45             |
| 1 1/4 x 1 x 1 1/4     | 500                    | 1.75       | 1.67     | 1.75     | 1.08             |
| 32 x 25 x 32          | 3450                   | 44.45      | 42.42    | 44.45    | 0.49             |
| 1 1/4 x 1 x 1 1/2     | 500                    | 1.88       | 1.80     | 1.82     | 1.42             |
| 32 x 25 x 40          | 3450                   | 47.75      | 45.72    | 46.22    | 0.64             |
| 1 1/4 x 1 1/4 x 1/2   | 500                    | 1.34       | 1.34     | 1.53     | 0.86             |
| 32 x 32 x 15          | 3450                   | 34.04      | 34.04    | 38.86    | 0.39             |
| 1 1/4 x 1 1/4 x 3/4   | 500                    | 1.45       | 1.45     | 1.62     | 0.92             |
| 32 x 32 x 20          | 3450                   | 36.83      | 36.83    | 41.15    | 0.42             |
| 1 1/4 x 1 1/4 x 1     | 500                    | 1.58       | 1.58     | 1.67     | 0.95             |
| 32 x 32 x 25          | 3450                   | 40.13      | 40.13    | 42.42    | 0.43             |
| 1 1/4 x 1 1/4 x 1 1/2 | 500                    | 1.88       | 1.88     | 1.82     | 1.45             |
| 32 x 32 x 40          | 3450                   | 47.75      | 47.75    | 46.22    | 0.66             |
| 1 1/4 x 1 1/4 x 2     | 500                    | 2.10       | 2.10     | 1.90     | 1.75             |
| 32 x 32 x 50          | 3450                   | 53.34      | 53.34    | 48.26    | 0.79             |
| 1 1/2 x 1 x 1/2       | 500                    | 1.41       | 1.34     | 1.66     | 0.95             |
| 40 x 25 x 15          | 3450                   | 35.81      | 34.04    | 42.16    | 0.43             |
| 1 1/2 x 1 x 3/4       | 500                    | 1.52       | 1.37     | 1.75     | 1.14             |
| 40 x 25 x 20          | 3450                   | 38.61      | 34.80    | 44.45    | 0.52             |
| 1 1/2 x 1 x 1         | 500                    | 1.65       | 1.50     | 1.80     | 1.17             |
| 40 x 25 x 25          | 3450                   | 41.91      | 38.10    | 45.72    | 0.53             |
| 1 1/2 x 1 x 1 1/4     | 500                    | 1.82       | 1.67     | 1.88     | 1.34             |
| 40 x 25 x 32          | 3450                   | 46.23      | 42.42    | 47.75    | 0.61             |
| 1 1/2 x 1 x 1 1/2     | 500                    | 1.94       | 1.80     | 1.94     | 1.45             |
| 40 x 25 x 40          | 3450                   | 49.28      | 45.72    | 49.28    | 0.66             |
| 1 1/2 x 1 1/4 x 1/2   | 500                    | 1.41       | 1.34     | 1.66     | 1.05             |
| 40 x 32 x 15          | 3450                   | 35.81      | 34.04    | 42.16    | 0.48             |
| 1 1/2 x 1 1/4 x 3/4   | 500                    | 1.52       | 1.45     | 1.75     | 1.15             |
| 40 x 32 x 20          | 3450                   | 38.61      | 36.83    | 44.45    | 0.5              |
| 1 1/2 x 1 1/4 x 1     | 500                    | 1.65       | 1.58     | 1.80     | 1.25             |
| 40 x 32 x 25          | 3450                   | 41.91      | 40.13    | 45.72    | 0.57             |
| 1 1/2 x 1 1/4 x 2     | 500                    | 2.16       | 2.10     | 2.02     | 1.90             |
| 40 x 32 x 50          | 3450                   | 54.86      | 53.34    | 51.30    | 0.86             |
| 1 1/2 x 1 1/2 x 1/2   | 500                    | 1.41       | 1.41     | 1.16     | 1.15             |
| 40 x 40 x 15          | 3450                   | 35.81      | 35.81    | 29.46    | 0.52             |

| REDUCING TEE          |                        |            |          |          |                  |
|-----------------------|------------------------|------------|----------|----------|------------------|
| Nominal Size          | Max. Working Pressure▲ | Dimensions |          |          | Approx. Wt. Each |
|                       |                        | A          | B        | C        |                  |
| In. (mm)              | PSI (kPa)              | In. (mm)   | In. (mm) | In. (mm) | Lbs. (kg)        |
| 1 1/2 x 1 1/2 x 3/4   | 500                    | 1.52       | 1.52     | 1.75     | 1.24             |
| 40 x 40 x 20          | 3450                   | 38.61      | 38.61    | 44.45    | 0.56             |
| 1 1/2 x 1 1/2 x 1     | 500                    | 1.65       | 1.65     | 1.80     | 1.30             |
| 40 x 40 x 25          | 3450                   | 41.91      | 41.91    | 45.72    | 0.59             |
| 1 1/2 x 1 1/2 x 1 1/4 | 500                    | 1.82       | 1.82     | 1.88     | 1.48             |
| 40 x 40 x 32          | 3450                   | 46.23      | 46.23    | 47.75    | 0.67             |
| 1 1/2 x 1 1/2 x 2     | 500                    | 2.16       | 2.16     | 2.02     | 1.98             |
| 40 x 40 x 50          | 3450                   | 54.86      | 54.86    | 51.30    | 0.90             |
| 2 x 1 x 2             | 500                    | 2.25       | 2.02     | 2.25     | 2.15             |
| 50 x 25 x 50          | 3450                   | 57.15      | 51.31    | 57.15    | 0.98             |
| 2 x 1 1/4 x 2         | 500                    | 2.25       | 2.10     | 2.25     | 2.30             |
| 50 x 32 x 50          | 3450                   | 57.15      | 53.34    | 57.15    | 1.04             |
| 2 x 1 1/2 x 1/2       | 500                    | 1.49       | 1.41     | 1.88     | 1.50             |
| 50 x 40 x 15          | 3450                   | 37.85      | 35.81    | 47.75    | 0.68             |
| 2 x 1 1/2 x 3/4       | 500                    | 1.60       | 1.52     | 1.97     | 1.62             |
| 50 x 40 x 20          | 3450                   | 40.64      | 38.61    | 50.04    | 0.73             |
| 2 x 1 1/2 x 1         | 500                    | 1.73       | 1.65     | 2.02     | 1.64             |
| 50 x 40 x 25          | 3450                   | 43.94      | 41.91    | 51.31    | 0.74             |
| 2 x 1 1/2 x 1 1/4     | 500                    | 1.90       | 1.82     | 2.10     | 1.80             |
| 50 x 40 x 32          | 3450                   | 48.26      | 46.23    | 53.34    | 0.82             |
| 2 x 1 1/2 x 1 1/2     | 500                    | 2.02       | 1.94     | 2.16     | 2.00             |
| 50 x 40 x 40          | 3450                   | 51.31      | 49.28    | 54.86    | 0.91             |
| 2 x 1 1/2 x 2         | 500                    | 2.25       | 2.16     | 2.25     | 2.35             |
| 50 x 40 x 50          | 3450                   | 57.15      | 54.86    | 57.15    | 1.07             |
| 2 x 2 x 1/2           | 500                    | 1.49       | 1.49     | 1.88     | 1.60             |
| 50 x 50 x 15          | 3450                   | 37.85      | 37.85    | 47.75    | 0.73             |
| 2 x 2 x 3/4           | 500                    | 1.60       | 1.60     | 1.97     | 1.68             |
| 50 x 50 x 20          | 3450                   | 40.64      | 40.64    | 50.04    | 0.76             |
| 2 x 2 x 1             | 500                    | 1.73       | 1.73     | 2.02     | 1.85             |
| 50 x 50 x 25          | 3450                   | 43.94      | 43.94    | 51.31    | 0.84             |
| 2 x 2 x 1 1/4         | 500                    | 1.90       | 1.90     | 2.10     | 2.04             |
| 50 x 50 x 32          | 3450                   | 44.45      | 42.42    | 44.45    | 0.93             |
| 2 x 2 x 1 1/2         | 500                    | 2.02       | 2.02     | 2.16     | 2.18             |
| 50 x 50 x 40          | 3450                   | 44.45      | 42.42    | 44.45    | 0.99             |
| 2 x 2 x 2 1/4         | 500                    | 2.60       | 2.60     | 2.39     | 3.61             |
| 50 x 50 x 65          | 3450                   | 44.45      | 42.42    | 44.45    | 1.64             |
| 2 1/2 x 2 x 3/4       | 500                    | 1.74       | 1.60     | 2.32     | 2.28             |
| 65 x 50 x 20          | 3450                   | 44.45      | 42.42    | 44.45    | 1.03             |

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**STRAIGHT TEE****Ductile Iron****MATERIAL SPECIFICATIONS**

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Ductile iron per ASTM A536 Class 65-45-12.

Dimensions conform to ASME B16.3

Threads are NPT per ANSI/ASME B1.20.1.

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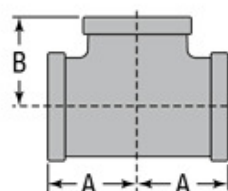


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**STRAIGHT TEE**

| Nominal Size    | Max. Working Pressure▲ | Dimensions      |                 | Approx. Wt. Each |
|-----------------|------------------------|-----------------|-----------------|------------------|
|                 |                        | A               | B               |                  |
| <i>in. (mm)</i> | <i>PSI (kPa)</i>       | <i>in. (mm)</i> | <i>in. (mm)</i> | <i>Lbs. (kg)</i> |
| 1<br>25         | 500<br>3450            | 1.50<br>38.10   | 1.50<br>38.10   | 0.85<br>0.39     |
| 1¼<br>32        | 500<br>3450            | 1.75<br>44.45   | 1.75<br>44.45   | 1.22<br>0.55     |
| 1½<br>40        | 500<br>3450            | 1.94<br>49.27   | 1.94<br>49.27   | 1.55<br>0.70     |
| 2<br>50         | 500<br>3450            | 2.25<br>57.15   | 2.25<br>57.15   | 2.45<br>1.11     |

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# FlexHead<sup>®</sup> Commercial Fire Sprinkler Connections

## Highest Quality Available

FlexHead Industries manufactures the highest quality products available for use in fire protection systems. We pride ourselves in providing the very best products to our customers. In fact, we were the first company to offer flexible fire protection technology to the market over 20 years ago. We continue to develop new products and are *the pioneers in flexible fire protection*.

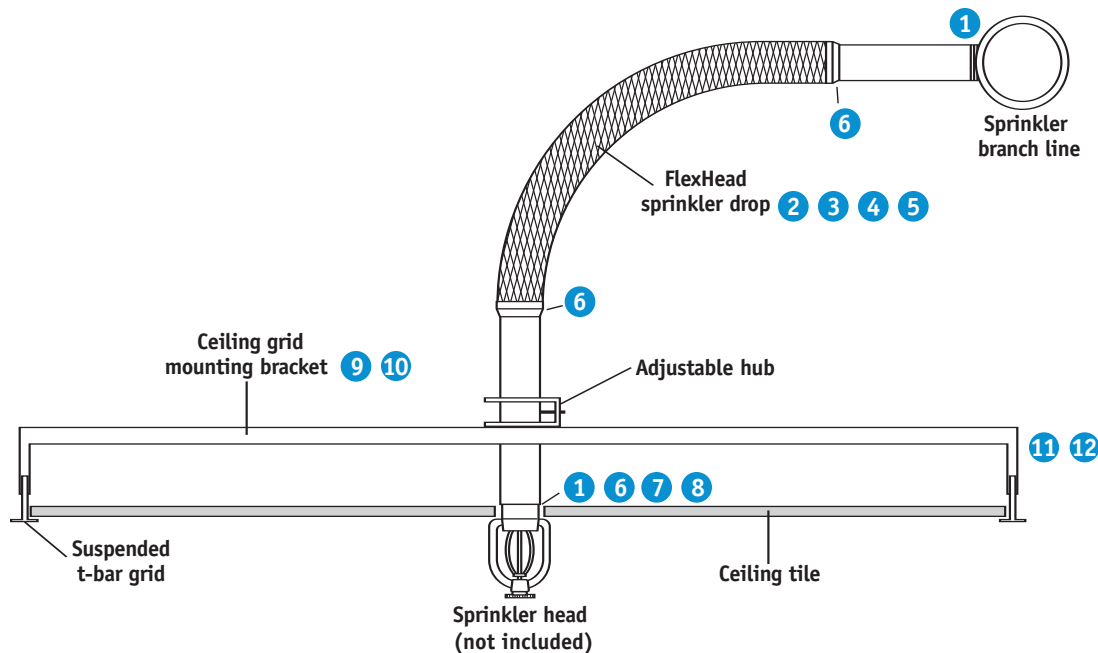
### FlexHead is the **ONLY** product that:

- Has undergone full-scale head deployment testing
- Is seismically qualified for use in Seismic Design Categories C, D, E & F
- Eliminates the need for an oversized ring in seismic areas
- Is made of 100% 304 stainless steel including end fittings
- Fully welded without the need for o-rings or gaskets
- Is dual listed by both Factory Mutual (FM) and Underwriters Laboratories (UL)
- Is covered by a AAA rated insurance company providing over \$10 million in coverage
- 100% factory leak tested ready to install out of the box requiring virtually no in-field assembly
- Has been tested for compatibility with Blazemaster<sup>®</sup> CPVC pipe
- Is compatible with both semi-recessed and concealed sprinklers without different bracketing systems
- Comes with tamper-resistant screws to permanently attach the bracket to the ceiling
- Has a warning label to discourage unlicensed personnel from tampering with the system after it has been installed
- Has a proven design with over twenty years in-field use
- Can be produced domestically to meet all your project requirements
- Has a bracket system with a full 6 inch base providing extra stability to the sprinkler head to ensure proper alignment when the system is installed, pressurized, or activated
- Can have 4 bends at the minimum bend radius
- Comes with a minimum bend radius tool to ensure proper installation
- Has a nominal hose size (ID) of 1 inch true-bore producing the best friction loss values
- Is rated up to 300 psig and has a burst pressure exceeding 3,000 psig
- Was the first flexible sprinkler connection to be used in typical suspended ceilings without additional supports or hangers
- Has serial number identification with complete audit tracking of finished goods and component parts used in the manufacturing process





# FlexHead Suspended Ceiling Detail



## FlexHead Product features

- 1 Threads are machined to ANSI standards to ensure no leaks or call backs
- 2 Made of 100% 304 stainless steel for best corrosion resistance
- 3 One inch true-bore internal diameter producing the best friction loss values
- 4 Fully braided to protect against pressure surges and improve pressure retention
- 5 Rated up to 300 psig for high pressure applications
- 6 Welded connections eliminating the need for O-rings or gaskets
- 7 Available in 1/2, 3/4 and 1 inch outlet sizes to accommodate standard, quick response, extended coverage and dry sprinkler heads
- 8 Outlet threads are machined from solid bar stock to achieve the tightest tolerances possible
- 9 Brackets are compatible with both semi-recessed and concealed sprinkler heads
- 10 Can be installed in both t-bar suspended and Sheetrock ceilings having studs or hat channels
- 11 Permanently attached to the ceiling using tamper-resistant screws
- 12 Has a full 6 inch base providing extra stability to the sprinkler head during installation, pressurization, or activation

## Let FlexHead make your connection today.

### Engineers

- Stainless steel quality at black iron costs
- Fast-track construction
- Simplified project management
- Cost-effective code compliance
- Seismically qualified

### Contractors

- Lower installation costs
- More productive installers
- No punch list items
- Highest quality available
- More flexible scheduling
- Competitive advantage for your company

### Owners

- Shorter time to occupancy
- Lower reconfiguration costs
- Cost effective code compliance
- Lower total costs of ownership

**FLEXHEAD**<sup>®</sup>  
INDUSTRIES  
*The pioneers in flexible fire protection*

#### HeadQuarters/Manufacturing

56 Lowland Street, Holliston, MA 01746  
toll-free 800-829-6975/(508) 893-9596  
fax (508) 893-6020/www.flexhead.com

*U.S. and international patents pending:  
#6,123,154, #6,119,784, #6,752,218,  
#7,032,680, #6,488,097.*

*The FlexHead name and logo are trademarks  
of FlexHead Industries.*

*FGG/BM and Blazemaster are registered  
trademarks of Noveen IP Holding Corp.*

*USGBC and LEED are registered trademarks  
of the U.S. Green Building Council.*

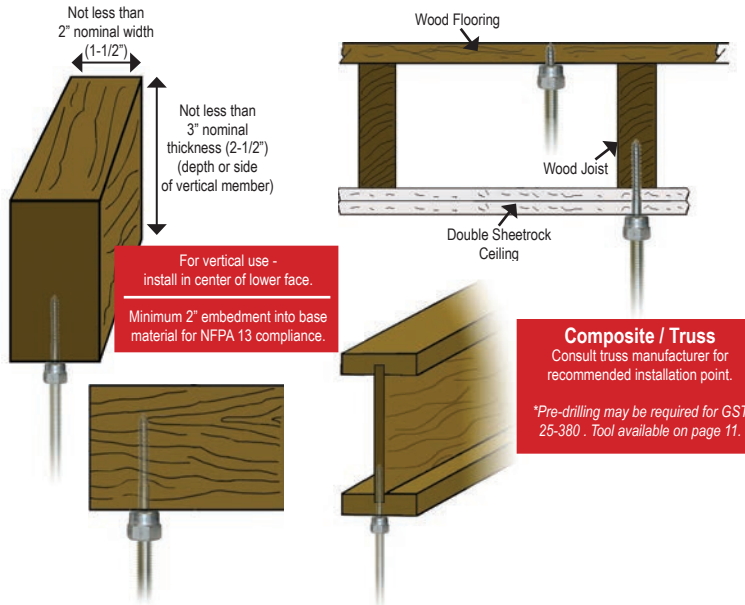
# **HANGER AND SUPPORTS**



## SAMMYS® FOR WOOD - Vertical Application



### Application



### Product Features

- No pre-drilling required.
- Quick to install using the Sammy Nut Driver with an 18V cordless drill/driver.
- Saves time from traditional methods.
- Reduces installation costs.
- Manufactured in the U.S.A.

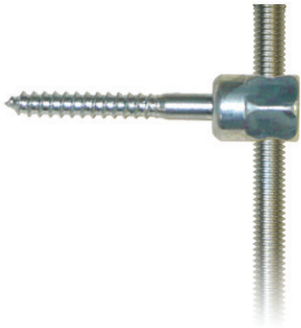


| Approvals             | Rod Size | Part Number | Model      | Screw Descriptions | Ultimate Pullout (lbs)            | UL Test Load (lbs) | FM Test Load (lbs) | Box Qty | Case Qty |
|-----------------------|----------|-------------|------------|--------------------|-----------------------------------|--------------------|--------------------|---------|----------|
| <b>VERTICAL MOUNT</b> |          |             |            |                    |                                   |                    |                    |         |          |
|                       | 1/4"     | 8002957     | GST 100    | 1/4 x 1"           | 210 (7/16" OSB)<br>670 (3/4" Ply) |                    |                    | 25      | 125      |
|                       | 1/4"     | 8003957     | GST 200    | 1/4 x 2"           | 1760 (Fir)                        |                    |                    | 25      | 125      |
|                       | 3/8"     | 8007957     | GST 10     | 1/4 x 1"           | 210 (7/16" OSB)<br>670 (3/4" Ply) | 300                |                    | 25      | 125      |
|                       | 3/8"     | 8008957     | GST 20     | 1/4 x 2"           | 1760 (Fir)                        | 850                | 1475               | 25      | 125      |
|                       | 3/8"     | 8068925     | GST 20-SS  | 1/4 x 2"           | 1760 (Fir)                        | 850                |                    | 25      | 125      |
|                       | 3/8"     | 8009925     | GST 25-380 | 3/8 x 2-1/2"       | 2113 (Fir)                        | 1500               |                    | 25      | 125      |
|                       | 3/8"     | 8010957     | GST 30     | 1/4 x 3"           | 2060 (Fir)                        | 1500               | 1475               | 25      | 125      |
|                       | 3/8"     | 8069925     | GST 30-SS  | 1/4 x 3"           | 2060 (Fir)                        |                    |                    | 25      | 125      |
|                       | 1/2"     | 8013925     | GST 2      | 1/4 x 2"           | 1760 (Fir)                        |                    |                    | 25      | 125      |
|                       | 1/2"     | 8015925     | GST 3      | 1/4 x 3"           | 2275 (Fir)                        |                    |                    | 25      | 125      |



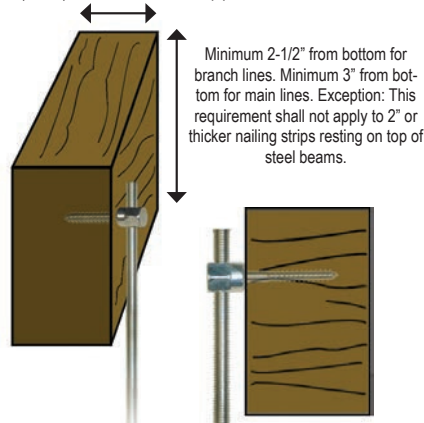
**SPECIAL NUT DRIVER SYSTEM:** The nut drivers were designed with a unique spin-off feature which provides a fast and safe installation each time. When the face of the driver comes into contact with the material you are installing into, continue drilling until nut driver spins free. Installation is then complete. Warranty requires the use of the appropriate nut driver for installations.

## SIDEWINDER® FOR WOOD - Horizontal Application



### Application

Not less than 2" nominal width (1-1/2" up to 3-1/2" pipe; not less than 3" (2-1/2") nominal width 4" & 5" pipe



Floor Joist

### Product Features

- No pre-drilling required.
- Quick to install using the Sammy Nut Driver with an 18V cordless drill/driver.
- Saves time from traditional methods.
- Reduces installation costs.
- Manufactured in the U.S.A.

### Composite / Truss

Consult truss manufacturer for recommended installation point.

\*Pre-drilling may be required for Model SWG 25-380. Tool available on page 11.

Watch a video demonstration at [www.itwbuildex.com](http://www.itwbuildex.com)



#14 SW Red Nut Driver Part # 8114910

| Approvals               | Rod Size | Part Number | Model      | Screw Descriptions | Ultimate Pullout (lbs) | UL Test Load (lbs) | Box Qty | Case Qty |
|-------------------------|----------|-------------|------------|--------------------|------------------------|--------------------|---------|----------|
| <b>HORIZONTAL MOUNT</b> |          |             |            |                    |                        |                    |         |          |
|                         | 1/4"     | 8019957     | SWG 200    | 1/4 x 2"           | 1725 (Fir)             |                    | 25      | 125      |
|                         | 3/8"     | 8020957     | SWG 10     | 1/4 x 1"           | 622 (Fir)              | 300                | 25      | 125      |
|                         | 3/8"     | 8021957     | SWG 20     | 1/4 x 2"           | 1725 (Fir)             | 1050               | 25      | 125      |
|                         | 3/8"     | 8073925     | SWG 20-SS  | 1/4 x 2"           | 1725 (Fir)             | 850                | 25      | 125      |
|                         | 3/8**    | 8022925     | SWG 25-380 | 3/8 x 2-1/2"       | 2249 (Fir)             | 1500               | 25      | 125      |
|                         | 3/8"     | 8023925     | SWG 30     | 1/4 x 3"           | 1884 (Fir)             |                    | 25      | 125      |

\* May require pre-drilling; consult joist manufacturer.

## SAMMYS SWIVEL HEAD™ FOR WOOD - Swivel Application

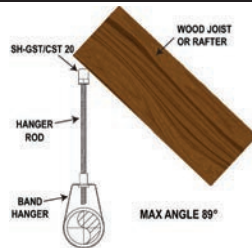


#14 Black Nut Driver Part # 8113910



#14 SH Orange Nut Driver Part # 8273910

### Application



### Product Features

- Eliminates distortion of threaded rod.
- Accommodates up to 3 1/2" x 12 pitch roof.
- Allows 17° deflection from vertical.
- Saves time from traditional methods.
- Reduces installation costs.
- Manufactured in the U.S.A.

| Approvals           | Rod Size | Part Number | Model          | Screw Descriptions | Ultimate Pullout (lbs)                                     | UL Test Load (lbs) | FM Test Load (lbs) | Min Thickness | Box Qty | Case Qty |
|---------------------|----------|-------------|----------------|--------------------|--|--------------------|--------------------|---------------|---------|----------|
| <b>SWIVEL MOUNT</b> |          |             |                |                    |  |                    |                    |               |         |          |
|                     | 3/8"     | 8139957     | SH-GST 20      | 1/4 x 2"           | 1257 (Fir)   | 1050               | 1475               |               | 25      | 125      |
|                     | 3/8**    | 8269957     | SH-GST/CST 20  | 5/16 x 1-3/4"      | 1903 Dim. Lumber<br>1406 @ 45° off vertical<br>Dim. Lumber | 1500<br>850 @ 45°  |                    |               | 25      | 125      |
|                     | 1/2"     | 8303957     | SH-GST/CST 2.0 | 5/16 x 1-3/4"      | 903 Dim. Lumber<br>1406 @ 45° off vertical<br>Dim. Lumber  |                    |                    |               | 25      | 125      |

\* May require pre-drilling; consult joist manufacturer.

# Pipe Hangers



**Fig. 200 - “Trimline” Adjustable Band Hanger (Cooper B-Line Fig. B3170NF)**

**Fig. 200F - “Trimline” Adjustable Band Hanger with Felt Lining (Cooper B-Line Fig. B3170NFF)**

**Fig. 200C - “Trimline” Adjustable Band Hanger with Plastic Coated (Cooper B-Line Fig. B3170NFC)**

**Fig. 200S - “Trimline” Adjustable Band Hanger with Non-Captured Nut**

**Size Range:**

Fig. 200 - 1/2” (15mm) thru 8” (200mm) pipe

**Material:** Steel, Pre-Galvanized to G90 specifications

**Function:** For fire sprinkler and other general piping purposes. Knurled swivel nut design permits hanger adjustment after installation.

**Features:**

- (1/2” (15mm) thru 2” (50mm)) Flared edges ease installation for all pipe types and protect CPVC plastic pipe from abrasion. Captured design keeps adjusting nut from separating with hanger. Hanger is easily installed around pipe.
- For hanger with non-captured nut order Fig. 200S.
- (2 1/2” (65mm) thru 8” (200mm)) Spring tension on nut holds it securely in hanger before installation. Adjusting nut is easily removed.

**Approvals:** Underwriters Laboratories listed (1/2” (15mm) thru 8” (200mm)) in the USA (UL) and Canada (cUL) for steel and CPVC plastic pipe and Factory Mutual Engineering Approved (FM) (3/4” (20mm) thru 8” (200mm)). Conforms to Federal Specifications WW-H-171E & A-A-1192A, Type 10 and Manufacturers Standardization Society ANSI/MSS SP-69 & SP-58, Type 10.

**Maximum Temperature:** 650°F (343°C)

**Finish:** Pre-Galvanized. Stainless Steel materials will be supplied with (2) hex nuts in place of a knurl.

**Order By:** Figure number and pipe size

Designed to meet or exceed requirements of FM DS 2-0.

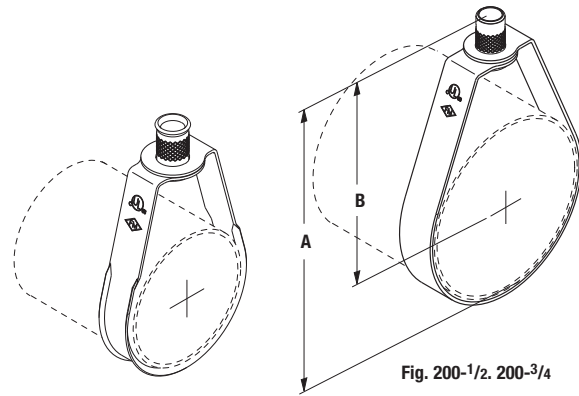


Fig. 200-1 to 200-2

Fig. 200-1/2, 200-3/4

Fig. 200-2 1/2 to 200-8

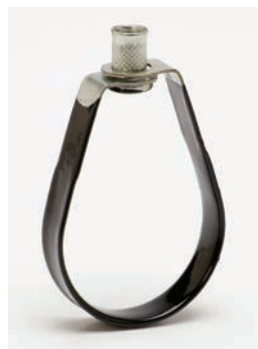


Fig. 200C



Fig. 200F



Fig. 200



Fig. 200S

| Part No.  | Pipe Size |       | Rod Size | A       |         | B      |         | Approx. Wt./100 |        |
|-----------|-----------|-------|----------|---------|---------|--------|---------|-----------------|--------|
|           | in.       | (mm)  |          | in.     | (mm)    | in.    | (mm)    | lbs.            | (kg)   |
| 200-1/2   | 1/2"      | (15)  | 3/8"-16  | 3 1/8"  | (79.4)  | 2 5/8" | (66.7)  | 11              | (5.0)  |
| 200-3/4   | 3/4"      | (20)  | 3/8"-16  | 3 1/8"  | (79.4)  | 2 1/2" | (63.5)  | 11              | (5.0)  |
| 200-1     | 1"        | (25)  | 3/8"-16  | 3 3/8"  | (85.7)  | 2 5/8" | (66.7)  | 12              | (5.5)  |
| 200-1 1/4 | 1 1/4"    | (32)  | 3/8"-16  | 3 3/4"  | (94.0)  | 2 7/8" | (73.0)  | 13              | (5.9)  |
| 200-1 1/2 | 1 1/2"    | (40)  | 3/8"-16  | 3 7/8"  | (98.4)  | 2 7/8" | (73.0)  | 14              | (6.4)  |
| 200-2     | 2"        | (50)  | 3/8"-16  | 4 1/2"  | (114.3) | 3"     | (76.3)  | 15              | (6.9)  |
| 200-2 1/2 | 2 1/2"    | (65)  | 3/8"-16  | 5 5/8"  | (142.9) | 4 1/8" | (104.7) | 27              | (12.3) |
| 200-3     | 3"        | (75)  | 3/8"-16  | 5 7/8"  | (149.1) | 4"     | (101.6) | 29              | (13.3) |
| 200-3 1/2 | 3 1/2"    | (90)  | 3/8"-16  | 7 3/8"  | (187.3) | 5 1/4" | (133.3) | 34              | (15.6) |
| 200-4     | 4"        | (100) | 3/8"-16  | 7 3/8"  | (187.3) | 5"     | (127.0) | 35              | (16.0) |
| 200-5     | 5"        | (125) | 1/2"-13  | 9 1/8"  | (231.8) | 6 1/4" | (158.7) | 66              | (30.2) |
| 200-6     | 6"        | (150) | 1/2"-13  | 10 1/8" | (257.2) | 6 3/4" | (171.4) | 73              | (33.4) |
| 200-8     | 8"        | (200) | 1/2"-13  | 13 1/8" | (333.4) | 8 3/4" | (222.2) | 136             | (62.3) |

All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.

# Threaded Accessories

**Fig. B3205 - Threaded Rod (right-hand threads - both ends) (TOLCO Fig. 103)**

**Fig. B3205L - Threaded Rod (right & left hand threads)**

**Size Range:** 3/8"-16 thru 3"-4 rod

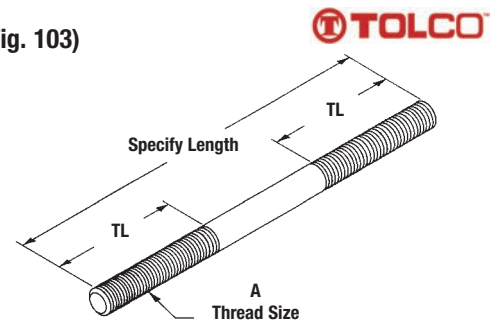
**Material:** Steel

**Function:** Recommended for use as a hanger support in hanger assemblies. Rod is threaded on both ends with right hand threads of the length shown. Also available with left and right hand threads - specify Fig. B3205L when ordering.

**Maximum Temperature:** 750°F (399°C)

**Finish:** Plain. Contact Cooper B-Line for alternative finishes and materials.

**Order By:** Figure number, rod size, length and finish



| Part No.        | Thread Size<br>A | Standard<br>Thread Length TL |        | Design Load   |         |               |         |
|-----------------|------------------|------------------------------|--------|---------------|---------|---------------|---------|
|                 |                  | in.                          | (mm)   | 650°F (343°C) |         | 750°F (399°C) |         |
|                 |                  |                              |        | Lbs.          | (kN)    | Lbs.          | (kN)    |
| B3205-3/8 x 'L' | 3/8"-16          | 2 1/2"                       | (63.5) | 730           | (3.25)  | 572           | (2.54)  |
| B3205-1/2 x 'L' | 1/2"-13          | 2 1/2"                       | (63.5) | 1350          | (6.00)  | 1057          | (4.70)  |
| B3205-5/8 x 'L' | 5/8"-11          | 2 1/2"                       | (63.5) | 2160          | (9.61)  | 1692          | (7.52)  |
| B3205-3/4 x 'L' | 3/4"-10          | 3"                           | (76.2) | 3230          | (14.37) | 2530          | (11.25) |
| B3205-7/8 x 'L' | 7/8"-9           | 3 1/2"                       | (88.9) | 4480          | (19.93) | 3508          | (15.60) |

For larger sizes consult full line pipe hanger catalog.

Threaded Accessories

**Fig. ATR - All Threaded Rod (TOLCO Fig. 99 & Fig. 100)**

**Size Range:** 3/8"-16 thru 1 1/2"-6 rod in 10' (3.05m) lengths

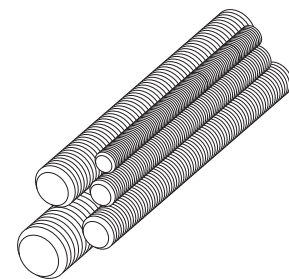
**Material:** Steel

**Maximum Temperature:** 750°F (399°C)

**Finish:** Plain. Contact Cooper B-Line for alternative finishes and materials.

**Order By:** Figure number, rod size, length and finish

**Note:** Fig. 99 is cut to length all threaded rod. Fig. 100 is full length.



| Part No.<br>& Size | Threads<br>Per Inch | Recommended Load |         | Approx. Wt./100 Ft. |         |
|--------------------|---------------------|------------------|---------|---------------------|---------|
|                    |                     | Lbs.             | (kN)    | Lbs.                | (kg)    |
| ATR 1/4" x 'L'     | 20                  | 240              | (1.07)  | 12                  | (5.44)  |
| ATR 3/8" x 'L'     | 16                  | 730              | (3.24)  | 29                  | (13.15) |
| ATR 1/2" x 'L'     | 13                  | 1350             | (6.00)  | 53                  | (24.04) |
| ATR 5/8" x 'L'     | 11                  | 2160             | (9.60)  | 89                  | (40.37) |
| ATR 3/4" x 'L'     | 10                  | 3230             | (14.37) | 123                 | (55.79) |
| ATR 7/8" x 'L'     | 9                   | 4480             | (19.93) | 170                 | (77.11) |

For larger sizes consult full line pipe hanger catalog.

All dimensions in charts and on drawings are in inches. Dimensions shown in parentheses are in millimeters unless otherwise specified.