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**MeritPress™**  
By Merit Brass Co.

# COPPER PRESS FITTINGS

## Product Catalog



**MERIT  
BRASS**  
DIRECTING THE FLOW OF *Quality*

**Merit Brass Co.**

One Merit Dr. • PO Box 43127  
Cleveland, OH 44143

**MeritPress™ - Copper Press** fittings are Merit Brass' solution for professionals choosing to join copper tubes through the use of press technology. Copper press is focused on quality, safety, reliability, and ease of use.

- ½" – 4" including couplings, elbows, tees, adapters, caps, crossovers, reducing couplings, unions, and flange adapters.
  - » Copper press valves available in ½" – 2"
- Extensive offering of reducing tees.
- Dual leak detection feature identify uncrimped connections:
  - » **Mechanical Leak Before Press (LBP) sealing elements.**
  - » **FIRST TO MARKET Visual Indicator Press Ring (VIPR)™** – facilitates immediate identification of unpressed connections as well as application – green = EPDM (water).
- Compatible with most common pressing tools and jaws in the market.
- EPDM (Ethylene Propylene Diene Monomer) seal is factory-installed & lubricated.
- Packaged in common industry quantities.
- Box, bag and ring are color-coded to the sealing element.
- Most comprehensive package with over 350 SKUs.



Merit Brass reserves the right to change any portion of the information shown in this product catalog without obligation to change copper press products previously or subsequently sold.

See [meritbrass.com](https://meritbrass.com) for most current information.

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## WHY COPPER PRESS FITTINGS?

**MeritPress™ - Copper Press** is a ½" – 4" copper press fitting system suitable for use with ASTM B88 Type K, L, and M copper tubing in the hard drawn condition and soft copper tubing in sizes ½" – 1¼". Merit Brass stocks ¼" - 6" Copper tubing in types L, K, & M in 10 & 20 footers.

Press technology has a multi-decade history of successful use in applications including hydronic heating, fire sprinkler systems and the conveyance of fluids, gases, oils, and low pressure steam.

Copper press continues the quest of modern press technology through improved joint design, increased holding power and greater reliability. Furthermore, copper press has patented design improvements coupled with rigorous testing requirements.

We understand that press tool and jaw sets are an expensive investment for the contractors and inventory item for wholesalers. Therefore, we focused on improvements to the seal mechanics, rather than the basic design of the fitting. With our design, copper press fittings are compatible with most tools and jaws on the market, making it easy for the end user.

With copper press, we are confident that we have engineered a better, more reliable joint that will withstand higher pressures and will yield significantly improved anti-creep performance.

## FEATURES & BENEFITS

**50-Year Limited Warranty on Fittings and 5-Year on Valves.** Available in Sizes ½" – 4" Copper Tube Size (CTS). Fully Captured Grab Ring on 2½" & above. Visual Indicator Press Ring (VIPR)<sup>™</sup> facilitates immediate identification of unpressed connection as well as application.

### The first to market Visual Indicator Press Ring (VIPR)<sup>™</sup>

gives redundancy in identifying unpressed connections. The color-coded plastic sleeve can be easily removed when the connection is pressed, and also indicates the sealing element material preventing costly and potentially unsafe installation errors

**Leak Before Press (LBP) System** designed to leak before they are pressed, giving a visual indication of a connection that has not been pressed. ½" has a **3-Path** LBP, ¾" - 2" have a **4-Path** LBP System. 2.5" – 4" also have LBP

**Most Comprehensive Package** with over 350 SKUs



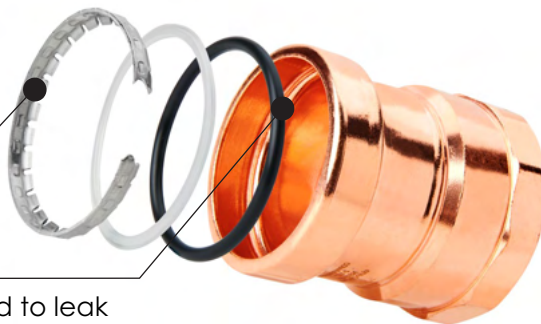
**Water application stamped** on the fitting as H2O in green



**NSF 61** on fittings

**Box, bag and VIPR** are Color-Coordinated to the Sealing Element

**Grab Ring** deforms and grips outside diameter of pipe



**Engineered sealing elements** are designed to leak before they are pressed, giving a visual indication of a connection that has not been pressed



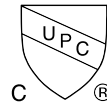
## SYSTEM DATA

### MeritPress™ - Copper Press Fitting Codes & Standards

- ASME B31.1 Power Piping, B31.3 Process Piping, B31.9 Building Services Piping
- IPC, IMC, IRC, UPC, UMC
- CPC & CMC (California Plumbing and Mechanical Codes)
- City of Los Angeles Plumbing and Mechanical Codes
- Massachusetts Regulation 248 CMR 10.00: Uniform State Plumbing Code
- Massachusetts State Building Code 780 CMR Ninth Edition: Chapter 28

### MeritPress™ - Copper Press Fitting Certifications

- ICC-ES LC 1002 Press Connection Fittings for Potable Water Tube and Radiant Heating Systems
- IAPMO/ANSI/CAN Z1117 Press Connections
- NSF/ANSI/CAN 61 Drinking Water System Components – Health Effects
- NSF/ANSI/CAN 372 Drinking Water System Components – Lead Content



### MeritPress™ - Copper Press Fitting Pressures & Temperatures

- **Temperature Range:** 0°F to 250°F
- **Operating Pressure:** 300 psi.

### MeritPress™ - Copper Press Ball Valve Certifications

- ICC-ES LC 1002 Press Connection Fittings for Potable Water Tube and Radiant Heating Systems
- IAPMO/ANSI/CAN Z1157 Ball Valves
- NSF/ANSI/CAN 61 Drinking Water System Components – Health Effects
- NSF/ANSI/CAN 372 Drinking Water System Components – Lead Content



# TOOLING REFERENCE GUIDE

| Copper Press Tools, Kits, Jaws and Rings |                  |                                               |            |               |                                       |         |                 |
|------------------------------------------|------------------|-----------------------------------------------|------------|---------------|---------------------------------------|---------|-----------------|
| Size                                     | Milwaukee Part # | Tooling Name                                  | Adapter    | Ridgid Part # | Tooling Name                          | Adapter | Profile         |
| 0.5" - 4"                                | 2773-20          | M18 Force Logic Press Tool                    |            | 67063         | RP 350 Press Tool                     |         |                 |
| 0.5" - 2"                                | 2773-22          | M18 Force Logic Press Tool w/Jaws (0.5" - 2") |            | 67053         | RP 350 Press Tool w/Jaws (0.5" - 2")  |         |                 |
| 0.5"                                     | 49-16-2650       | 0.5" M18 Jaw                                  |            | 76652         | 0.5" Press Jaw                        |         | CTS - V         |
| 0.75"                                    | 49-16-2651       | 0.75" M18 Jaw                                 |            | 76657         | 0.75" Press Jaw                       |         | CTS - V         |
| 1"                                       | 49-16-2652       | 1" M18 Jaw                                    |            | 76662         | 1" Press Jaw                          |         | CTS - V         |
| 1.25"                                    | 49-16-2653       | 1.25" M18 Jaw                                 |            | 76667         | 1.25" Press Jaw                       |         | CTS - V         |
| 1.5"                                     | 49-16-2654       | 1.5" M18 Jaw                                  |            | 76672         | 1.5" Press Jaw                        |         | CTS - V         |
| 2"                                       | 49-16-2655       | 2" M18 Jaw                                    |            | 76677         | 2" Press Jaw                          |         | CTS - V         |
| 2.5"                                     | 49-16-2656       | 2.5" M18 Ring                                 | 49-16-2659 | 20543         | 2.5" Press Ring                       | 21878   | CTS - Grab Ring |
| 3"                                       | 49-16-2657       | 3" M18 Ring                                   | 49-16-2659 | 20548         | 3" Press Ring                         | 21878   | CTS - Grab Ring |
| 4"                                       | 49-16-2658       | 4" M18 Ring                                   | 49-16-2659 | 20553         | 4" Press Ring                         | 21878   | CTS - Grab Ring |
| 2.5" - 4"                                | 49-16-2659       | Ring Jaw 1                                    |            | 21878         | V2 Press Ring Actuator                |         |                 |
| 2.5" - 4"                                | 49-16-2690       | M18 Press Ring Kit (2.5" - 4")                |            | 20483         | 2.5" - 4" Press Rings and V2 Actuator |         |                 |

MeritPress™ - Copper Press fittings & valves by Merit Brass Co. can be used with Milwaukee, REMS, Ridgid, and Rothenberger tools with the asso-ciated Jaws for K, L, and M Copper Tube. Please contact Merit Brass Co. for additional information.




## APPROVED APPLICATIONS

All tubing must comply with the ASTM B88 standard. Approved for installations in above and below ground applications as allowed by local code.

| Types Of Service         |                          | System Operating Conditions                            |              |              | Copper Press Seal |
|--------------------------|--------------------------|--------------------------------------------------------|--------------|--------------|-------------------|
|                          |                          | Notes                                                  | Pressure     | Temperature  | EPDM              |
| FLUIDS/<br>WATER         | Chilled Water            | Ethylene Glycol/Propylene Glycol                       | 300 psi      | 32°F - 250°F | ✓                 |
|                          | Cooling Water            | Up to 50% Ethylene Glycol or Propylene Glycol Solution | 300 psi      | 32°F - 250°F | ✓                 |
|                          | Hot & Cold Potable Water |                                                        | 300 psi      | 32°F - 250°F | ✓                 |
|                          | Hydronic Heating         | Ethylene Glycol/Propylene Glycol                       | 300 psi      | 32°F - 250°F | ✓                 |
|                          | Low-Pressure Steam       |                                                        | Up to 15 psi | 248°F        | ✓                 |
|                          | Rainwater/Gray Water     |                                                        | 300 psi      | 32°F - 250°F | ✓                 |
| FUEL, OIL &<br>LUBRICANT | Ethanol                  | Pure Grain Alcohol                                     | 300 psi      | 32°F - 250°F | ✓                 |
| GAS                      | Argon                    | Welding Use                                            | 300 psi      | Ambient      | ✓                 |
|                          | Carbon Dioxide - CO2     | Dry                                                    | 300 psi      | 32°F - 250°F | ✓                 |
|                          | Compressed Air           | Less Than 25mg/m3 Oil Content                          | 300 psi      | 32°F - 250°F | ✓                 |
|                          | Hydrogen - H2            |                                                        | 125 psi      | 0°F - 250°F  | ✓                 |
|                          | Nitrogen - N2            |                                                        | 300 psi      | 32°F - 250°F | ✓                 |
|                          | Oxygen - O2 (Non-Med)    | Keep Oil and Fat Free/Non-Liquid O2                    | 140 psi      | Up to 140°F  | ✓                 |
|                          | Vacuum                   |                                                        | 29.2 in Hg   | Call         | ✓                 |

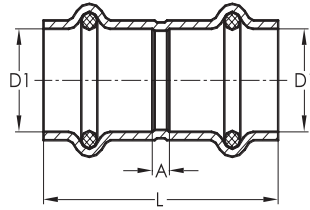
\*Contact Merit Brass for information regarding specific applications

## SEALING ELEMENT

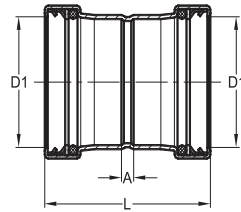
| EPDM SEALING ELEMENT        |                                             |                                                                                       |
|-----------------------------|---------------------------------------------|---------------------------------------------------------------------------------------|
| EPDM                        | Ethylene-propylene-diene monomer            |  |
| Color                       | Black                                       |                                                                                       |
| Temperature                 | 0°F to 250°F                                |                                                                                       |
| Common Applications         | Potable Water                               |                                                                                       |
|                             | Hydronic Heating (W/ Glycol)                |                                                                                       |
|                             | Chilled Water                               |                                                                                       |
| Manufacturing Process       | Synthetically manufactured & peroxide-cured |                                                                                       |
| Benefits of Sealing Element | Excellent oxidation resistance              |                                                                                       |



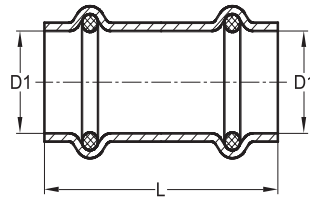
# DIMENSIONAL DATA



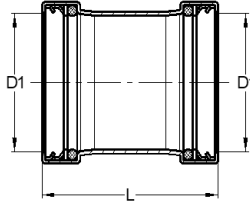
| Coupling with Stop |         |        | P x P  |
|--------------------|---------|--------|--------|
| Item Number        | D1 (in) | L (in) | A (in) |
| <b>EPDM</b>        |         |        |        |
| MB12230            | ½"      | 1.61   | 0.12   |
| MB12240            | ¾"      | 2.05   | 0.16   |
| MB12250            | 1"      | 2.05   | 0.16   |
| MB12260            | 1¼"     | 2.44   | 0.16   |
| MB12270            | 1½"     | 3.03   | 0.16   |
| MB12280            | 2"      | 3.35   | 0.16   |



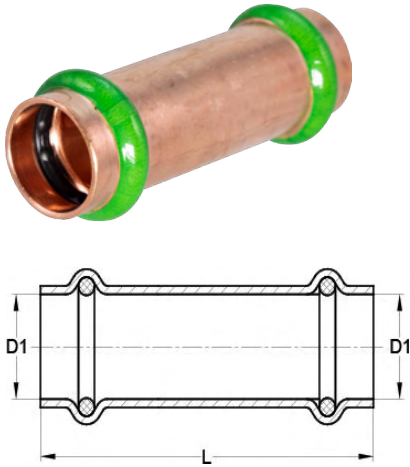
| XL Coupling with Stop |         |        | P x P  |
|-----------------------|---------|--------|--------|
| Item Number           | D1 (in) | L (in) | A (in) |
| <b>EPDM</b>           |         |        |        |
| MB22230               | 2½"     | 3.86   | 0.39   |
| MB22240               | 3"      | 4.37   | 0.35   |
| MB22250               | 4"      | 5.20   | 0.39   |



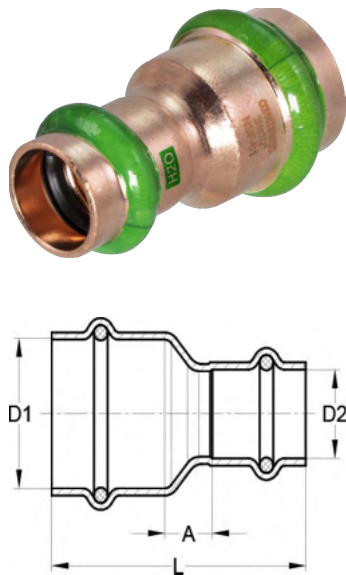
| Coupling w/o Stop |         | P x P  |
|-------------------|---------|--------|
| Item Number       | D1 (in) | L (in) |
| <b>EPDM</b>       |         |        |
| MB12290           | ½"      | 1.69   |
| MB12300           | ¾"      | 2.05   |
| MB12310           | 1"      | 2.05   |
| MB12320           | 1¼"     | 2.44   |
| MB12330           | 1½"     | 3.03   |
| MB12340           | 2"      | 3.35   |



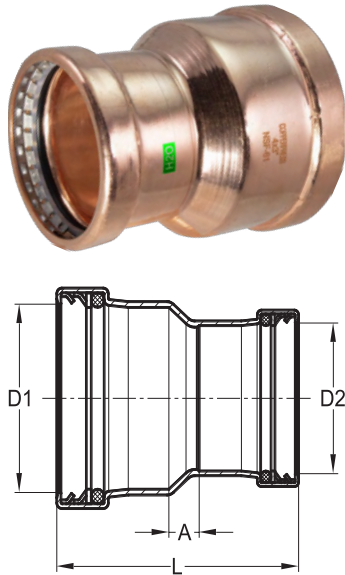
| XL Coupling w/o Stop |         | P x P  |
|----------------------|---------|--------|
| Item Number          | D1 (in) | L (in) |
| <b>EPDM</b>          |         |        |
| MB22260              | 2½"     | 3.86   |
| MB22270              | 3"      | 4.37   |
| MB22280              | 4"      | 5.20   |



| Extended Coupling w/o Stop |         | P x P  |
|----------------------------|---------|--------|
| Item Number                | D1 (in) | L (in) |
| EPDM                       |         |        |
| MB12350                    | ½"      | 2.99   |
| MB12360                    | ¾"      | 3.50   |
| MB12370                    | 1"      | 3.74   |
| MB12380                    | 1¼"     | 4.13   |
| MB12390                    | 1½"     | 4.72   |
| MB12400                    | 2"      | 5.31   |



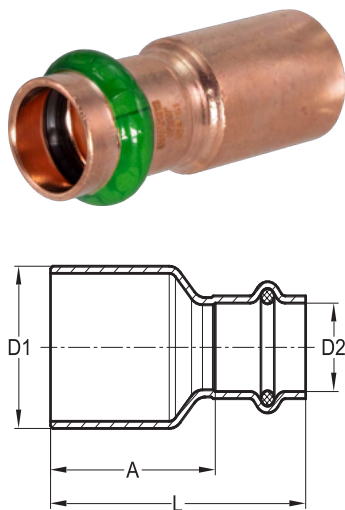
| Reducing Coupling |         |         |        | P x P  |
|-------------------|---------|---------|--------|--------|
| Item Number       | D1 (in) | D2 (in) | L (in) | A (in) |
| EPDM              |         |         |        |        |
| MB12410           | ¾"      | ½"      | 2.11   | 0.35   |
| MB12420           | 1"      | ½"      | 2.26   | 0.51   |
| MB12430           | 1"      | ¾"      | 2.24   | 0.35   |
| MB12435           | 1¼"     | ½"      | 2.68   | 0.73   |
| MB12440           | 1¼"     | ¾"      | 2.66   | 0.57   |
| MB12450           | 1¼"     | 1"      | 2.50   | 0.41   |
| MB12455           | 1½"     | ½"      | 3.27   | 0.93   |
| MB12460           | 1½"     | ¾"      | 3.23   | 0.83   |
| MB12470           | 1½"     | 1"      | 3.03   | 0.63   |
| MB12480           | 1½"     | 1¼"     | 3.07   | 0.47   |
| MB12485           | 2"      | ½"      | 3.86   | 1.36   |
| MB12490           | 2"      | ¾"      | 3.76   | 1.20   |
| MB12500           | 2"      | 1"      | 3.54   | 0.98   |
| MB12510           | 2"      | 1¼"     | 3.58   | 0.83   |
| MB12520           | 2"      | 1½"     | 3.76   | 0.69   |



### XL Reducing Coupling

P x P

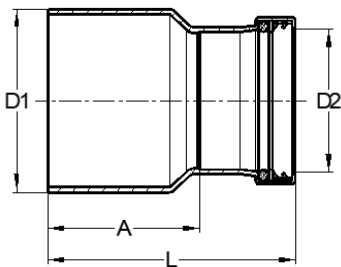
| Item Number | D1 (in) | D2 (in) | L (in) | A (in) |
|-------------|---------|---------|--------|--------|
| <b>EPDM</b> |         |         |        |        |
| MB22290     | 2½"     | 1"      | 4.07   | 1.40   |
| MB22300     | 2½"     | 1¼"     | 3.90   | 1.02   |
| MB22310     | 2½"     | 1½"     | 4.17   | 0.98   |
| MB22320     | 2½"     | 2"      | 3.98   | 0.63   |
| MB22330     | 3"      | 1¼"     | 4.76   | 1.61   |
| MB22340     | 3"      | 1½"     | 4.76   | 1.30   |
| MB22350     | 3"      | 2"      | 4.65   | 1.02   |
| MB22360     | 3"      | 2½"     | 4.29   | 0.55   |
| MB22370     | 4"      | 2"      | 5.98   | 1.97   |
| MB22380     | 4"      | 2½"     | 5.47   | 1.34   |
| MB22390     | 4"      | 3"      | 5.24   | 0.83   |



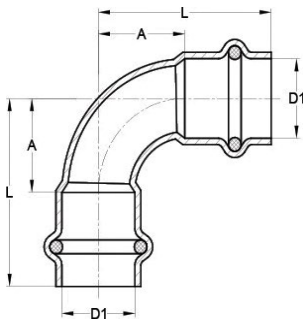
### Bushing Reducer

FTG x P

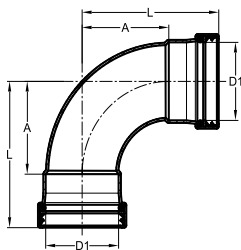
| Item Number | D1 (in) | D2 (in) | L (in) | A (in) |
|-------------|---------|---------|--------|--------|
| <b>EPDM</b> |         |         |        |        |
| MB12530     | ¾"      | ½"      | 2.15   | 1.34   |
| MB12540     | 1"      | ½"      | 2.32   | 1.52   |
| MB12550     | 1"      | ¾"      | 2.24   | 1.30   |
| MB12560     | 1¼"     | ½"      | 2.64   | 1.83   |
| MB12570     | 1¼"     | ¾"      | 2.64   | 1.69   |
| MB12580     | 1¼"     | 1"      | 2.52   | 1.57   |
| MB12585     | 1½"     | ½"      | 3.03   | 2.22   |
| MB12590     | 1½"     | ¾"      | 3.11   | 2.17   |
| MB12600     | 1½"     | 1"      | 2.95   | 2.01   |
| MB12610     | 1½"     | 1¼"     | 3.03   | 1.89   |
| MB12613     | 2"      | ½"      | 3.66   | 2.85   |
| MB12617     | 2"      | ¾"      | 3.74   | 2.80   |
| MB12620     | 2"      | 1"      | 3.54   | 2.60   |
| MB12630     | 2"      | 1¼"     | 3.58   | 2.44   |
| MB12640     | 2"      | 1½"     | 3.70   | 2.24   |



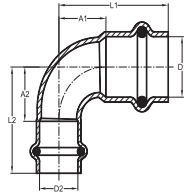
| XL Bushing Reducer |         |         |        | FTG x P |
|--------------------|---------|---------|--------|---------|
| Item Number        | D1 (in) | D2 (in) | L (in) | A (in)  |
| EPDM               |         |         |        |         |
| MB22400            | 2½"     | 1"      | 4.25   | 3.31    |
| MB22410            | 2½"     | 1¼"     | 4.06   | 2.91    |
| MB22420            | 2½"     | 1½"     | 4.29   | 2.83    |
| MB22430            | 2½"     | 2"      | 4.25   | 2.64    |
| MB22440            | 3"      | 1¼"     | 4.53   | 3.39    |
| MB22450            | 3"      | 1½"     | 4.92   | 3.46    |
| MB22460            | 3"      | 2"      | 4.80   | 3.19    |
| MB22470            | 3"      | 2½"     | 4.53   | 2.80    |
| MB22480            | 4"      | 2"      | 6.18   | 4.57    |
| MB22490            | 4"      | 2½"     | 5.79   | 4.06    |
| MB22500            | 4"      | 3"      | 5.71   | 3.70    |



| 90° Elbow   |         |        | P x P  |
|-------------|---------|--------|--------|
| Item Number | D1 (in) | L (in) | A (in) |
| EPDM        |         |        |        |
| MB11230     | ½"      | 1.56   | 0.75   |
| MB11240     | ¾"      | 1.97   | 1.02   |
| MB11250     | 1"      | 2.24   | 1.30   |
| MB11260     | 1¼"     | 2.64   | 1.50   |
| MB11270     | 1½"     | 3.23   | 1.77   |
| MB11280     | 2"      | 3.98   | 2.36   |



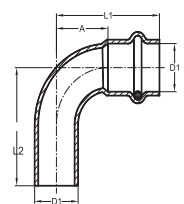
| XL 90° Elbow |         |        | P x P  |
|--------------|---------|--------|--------|
| Item Number  | D1 (in) | L (in) | A (in) |
| EPDM         |         |        |        |
| MB22110      | 2½"     | 4.84   | 3.11   |
| MB22120      | 3"      | 5.71   | 3.70   |
| MB22130      | 4"      | 7.17   | 4.76   |



### 90° Reducing Elbow

P x P

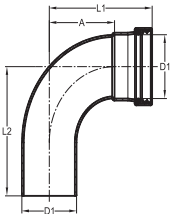
| Item Number | D1 (in) | D2 (in) | L1 (in) | A1 (in) | L2 (in) | A2 (in) |
|-------------|---------|---------|---------|---------|---------|---------|
| <b>EPDM</b> |         |         |         |         |         |         |
| MB24560     | 3/4"    | 1/2"    | 1.83    | 0.89    | 1.69    | 0.89    |
| MB24570     | 1"      | 3/4"    | 2.30    | 1.36    | 2.01    | 1.06    |



### 90° Street Elbow

FTG x P

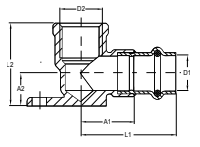
| Item Number | D1 (in) | L1 (in) | A (in) | L2 (in) |
|-------------|---------|---------|--------|---------|
| <b>EPDM</b> |         |         |        |         |
| MB11350     | 1/2"    | 1.56    | 0.75   | 1.73    |
| MB11360     | 3/4"    | 2.03    | 1.08   | 2.13    |
| MB11370     | 1"      | 2.24    | 1.30   | 2.36    |
| MB11380     | 1 1/4"  | 2.64    | 1.50   | 2.93    |
| MB11390     | 1 1/2"  | 3.23    | 1.77   | 3.54    |
| MB11400     | 2"      | 3.98    | 2.17   | 4.29    |



### XL 90° Street Elbow

FTG x P

| Item Number | D1 (in) | L1 (in) | A (in) | L2 (in) |
|-------------|---------|---------|--------|---------|
| <b>EPDM</b> |         |         |        |         |
| MB22140     | 2 1/2"  | 4.69    | 2.95   | 5.16    |
| MB22150     | 3"      | 5.55    | 3.54   | 6.06    |
| MB22160     | 4"      | 7.17    | 4.76   | 7.64    |

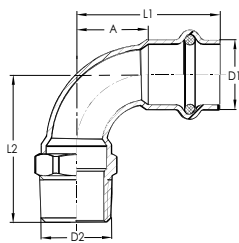


### 90° Drop Ear Elbow

FTG x P

| Item Number | D1 (in) | D2 (in)  | L1 (in) | A1 (in) | L2 (in) | A2 (in) |
|-------------|---------|----------|---------|---------|---------|---------|
| <b>EPDM</b> |         |          |         |         |         |         |
| MB24590     | 1/2"    | 3/8" FPT | 1.77    | 0.94    | 1.36    | 0.59    |
| MB24600     | 1/2"    | 1/2" FPT | 1.77    | 0.94    | 1.77    | 0.94    |
| MB24610     | 3/4"    | 3/4" FPT | 2.13    | 1.18    | 2.13    | 1.18    |

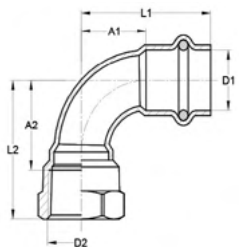




### 90° Male Elbow

FTG x P

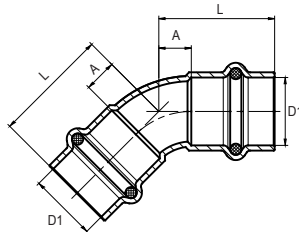
| Item Number | D1 (in) | D2 (in) | L1 (in) | A (in) | L2 (in) |
|-------------|---------|---------|---------|--------|---------|
| EPDM        |         |         |         |        |         |
| MB47990     | ½"      | ½" MPT  | 1.56    | 0.75   | 1.87    |
| MB48000     | ½"      | ¾" MPT  | 2.01    | 1.20   | 2.01    |
| MB48010     | ¾"      | ½" MPT  | 2.15    | 1.20   | 2.15    |
| MB48012     | ¾"      | ¾" MPT  | 2.03    | 1.09   | 2.11    |
| MB48015     | 1"      | 1" MPT  | 2.24    | 1.28   | 2.76    |
| MB48020     | 1¼"     | 1¼" MPT | 2.64    | 1.50   | 2.64    |
| MB48030     | 1½"     | 1½" MPT | 3.23    | 1.77   | 3.23    |
| MB48040     | 2"      | 2" MPT  | 4.25    | 2.64   | 4.25    |



### 90° Female Elbow

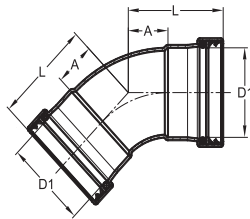
P x FPT

| Item Number | D1 (in) | D2 (in) | L1 (in) | A1 (in) | L2 (in) | A2 (in) |
|-------------|---------|---------|---------|---------|---------|---------|
| EPDM        |         |         |         |         |         |         |
| MB49000     | ½"      | ⅜" FPT  | 1.56    | 0.75    | 1.46    | 1.02    |
| MB49010     | ½"      | ½" FPT  | 1.73    | 0.93    | 1.81    | 1.30    |
| MB49020     | ½"      | ¾" FPT  | 1.73    | 0.93    | 1.93    | 1.34    |
| MB49030     | ¾"      | ½" FPT  | 2.03    | 1.08    | 1.97    | 1.46    |
| MB49040     | ¾"      | ¾" FPT  | 2.03    | 1.08    | 2.09    | 1.50    |
| MB49050     | 1"      | ½" FPT  | 2.24    | 1.30    | 2.22    | 1.71    |
| MB49060     | 1"      | 1" FPT  | 2.24    | 1.30    | 2.52    | 1.85    |
| MB49070     | 1¼"     | 1¼" FPT | 2.64    | 1.50    | 3.01    | 2.22    |
| MB49080     | 1½"     | 1½" FPT | 3.23    | 1.77    | 3.27    | 2.48    |
| MB49090     | 2"      | 2" FPT  | 3.98    | 2.36    | 4.21    | 3.27    |



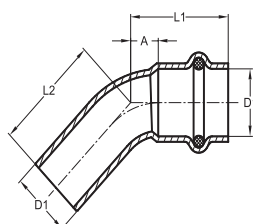
### 45° Elbow P x P

| Item Number | D1 (in) | L (in) | A (in) |
|-------------|---------|--------|--------|
| <b>EPDM</b> |         |        |        |
| MB11470     | 1/2"    | 1.10   | 0.30   |
| MB11480     | 3/4"    | 1.40   | 0.45   |
| MB11490     | 1"      | 1.42   | 0.47   |
| MB11500     | 1 1/4"  | 1.97   | 0.83   |
| MB11510     | 1 1/2"  | 2.30   | 0.85   |
| MB11520     | 2"      | 2.44   | 0.83   |



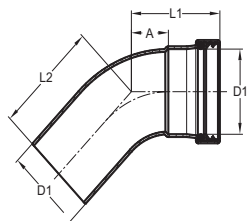
### XL 45° Elbow P x P

| Item Number | D1 (in) | L (in) | A (in) |
|-------------|---------|--------|--------|
| <b>EPDM</b> |         |        |        |
| MB22170     | 2 1/2"  | 3.15   | 1.42   |
| MB22180     | 3"      | 3.70   | 1.69   |
| MB22190     | 4"      | 4.80   | 2.40   |



### 45° Street Elbow P x P

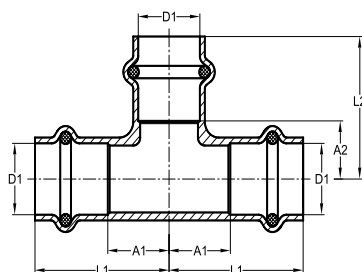
| Item Number | D1 (in) | L (in) | A (in) | L2 (in) |
|-------------|---------|--------|--------|---------|
| <b>EPDM</b> |         |        |        |         |
| MB11590     | 1/2"    | 1.10   | 0.30   | 1.22    |
| MB11600     | 3/4"    | 1.40   | 0.45   | 1.46    |
| MB11610     | 1"      | 1.52   | 0.57   | 1.57    |
| MB11620     | 1 1/4"  | 1.97   | 0.83   | 1.94    |
| MB11630     | 1 1/2"  | 2.30   | 0.85   | 2.36    |
| MB11640     | 2"      | 2.44   | 0.83   | 2.76    |



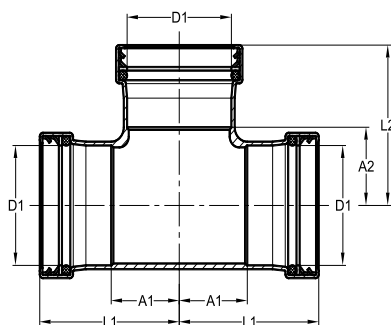
### XL 45° Street Elbow P x P

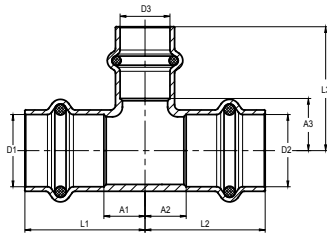
| Item Number | D1 (in) | L (in) | A (in) | L2 (in) |
|-------------|---------|--------|--------|---------|
| <b>EPDM</b> |         |        |        |         |
| MB22200     | 2 1/2"  | 3.15   | 1.42   | 3.39    |
| MB22210     | 3"      | 3.70   | 1.69   | 3.98    |
| MB22220     | 4"      | 4.80   | 2.40   | 5.08    |

| Equal Tee   |         |         |         |         | P x P x P |
|-------------|---------|---------|---------|---------|-----------|
| Item Number | D1 (in) | L1 (in) | A1 (in) | L2 (in) | A2 (in)   |
| EPDM        |         |         |         |         |           |
| MB14110     | ½"      | 1.56    | 0.75    | 1.28    | 0.47      |
| MB14140     | ¾"      | 1.79    | 0.85    | 1.59    | 0.65      |
| MB14190     | 1"      | 1.91    | 0.96    | 1.73    | 0.79      |
| MB14280     | 1¼"     | 2.13    | 0.98    | 1.97    | 0.83      |
| MB14400     | 1½"     | 2.62    | 1.16    | 2.76    | 1.30      |
| MB14510     | 2"      | 2.99    | 1.38    | 3.15    | 1.54      |

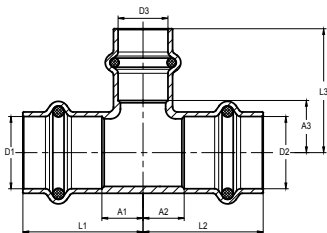


| XL Equal Tee |         |         |         |         | P x P x P |
|--------------|---------|---------|---------|---------|-----------|
| Item Number  | D1 (in) | L1 (in) | A1 (in) | L2 (in) | A2 (in)   |
| EPDM         |         |         |         |         |           |
| MB24255      | 2½"     | 3.56    | 1.83    | 3.66    | 1.93      |
| MB24440      | 3"      | 4.11    | 2.11    | 4.33    | 2.32      |
| MB24550      | 4"      | 5.00    | 2.60    | 5.12    | 2.72      |



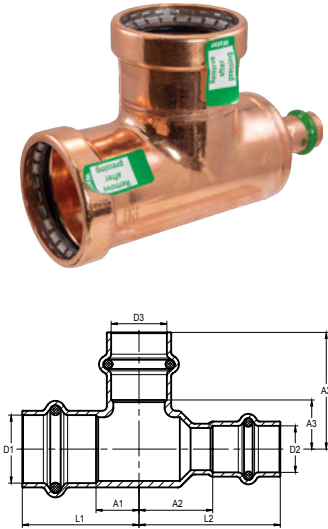


| Unequal Tee |         |         |         |         |         |         |         |         | P x P x P |  |
|-------------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|--|
| Item Number | D1 (in) | D2 (in) | D3 (in) | L1 (in) | A1 (in) | L2 (in) | A2 (in) | L3 (in) | A3 (in)   |  |
| EPDM        |         |         |         |         |         |         |         |         |           |  |
| MB14120     | ½"      | ½"      | ¾"      | 1.71    | 0.91    | 1.71    | 0.91    | 1.54    | 0.59      |  |
| MB14130     | ½"      | ½"      | 1"      | 2.22    | 1.42    | 2.22    | 1.42    | 1.73    | 0.79      |  |
| MB14150     | ¾"      | ½"      | ½"      | 1.63    | 0.69    | 1.75    | 0.95    | 1.44    | 0.63      |  |
| MB14160     | ¾"      | ½"      | ¾"      | 1.79    | 0.85    | 1.87    | 1.06    | 1.59    | 0.65      |  |
| MB14170     | ¾"      | ¾"      | ½"      | 1.63    | 0.69    | 1.63    | 0.69    | 1.44    | 0.63      |  |
| MB14180     | ¾"      | ¾"      | 1"      | 1.91    | 0.97    | 1.91    | 0.97    | 2.03    | 1.08      |  |
| MB14195     | 1"      | ½"      | ½"      | 1.63    | 0.69    | 2.01    | 1.20    | 1.59    | 0.79      |  |
| MB14200     | 1"      | ½"      | ¾"      | 1.79    | 0.85    | 2.13    | 1.32    | 1.73    | 0.79      |  |
| MB14210     | 1"      | ½"      | 1"      | 1.91    | 0.97    | 2.22    | 1.42    | 1.73    | 0.79      |  |
| MB14220     | 1"      | ¾"      | ½"      | 1.63    | 0.69    | 1.91    | 0.96    | 1.59    | 0.79      |  |
| MB14230     | 1"      | ¾"      | ¾"      | 1.63    | 0.69    | 1.63    | 0.69    | 1.59    | 0.79      |  |
| MB14240     | 1"      | ¾"      | 1"      | 1.79    | 0.85    | 1.79    | 0.85    | 1.73    | 0.79      |  |
| MB14250     | 1"      | 1"      | ½"      | 1.79    | 0.85    | 2.01    | 1.06    | 1.73    | 0.79      |  |
| MB14260     | 1"      | 1"      | ¾"      | 1.91    | 0.96    | 2.17    | 1.22    | 1.73    | 0.79      |  |
| MB14270     | 1"      | 1"      | 1¼"     | 1.93    | 0.98    | 1.93    | 0.98    | 2.32    | 1.18      |  |
| MB14290     | 1¼"     | ½"      | 1¼"     | 2.13    | 0.98    | 2.62    | 1.81    | 1.91    | 0.83      |  |
| MB14300     | 1¼"     | ¾"      | ½"      | 1.77    | 0.63    | 2.19    | 1.24    | 1.93    | 1.12      |  |
| MB14310     | 1¼"     | ¾"      | ¾"      | 1.87    | 0.73    | 2.28    | 1.34    | 1.97    | 1.02      |  |
| MB14320     | 1¼"     | ¾"      | 1"      | 1.99    | 0.85    | 2.38    | 1.44    | 2.05    | 1.10      |  |
| MB14330     | 1¼"     | ¾"      | 1¼"     | 2.13    | 0.98    | 2.44    | 1.50    | 1.97    | 0.83      |  |
| MB14340     | 1¼"     | 1"      | ½"      | 1.77    | 0.63    | 2.09    | 1.14    | 1.93    | 1.12      |  |
| MB14350     | 1¼"     | 1"      | ¾"      | 1.87    | 0.73    | 2.11    | 1.16    | 1.97    | 1.02      |  |
| MB14360     | 1¼"     | 1"      | 1"      | 1.99    | 0.85    | 2.22    | 1.28    | 2.05    | 1.10      |  |
| MB14365     | 1¼"     | 1"      | 1¼"     | 2.13    | 0.98    | 2.24    | 1.30    | 1.97    | 0.83      |  |
| MB14370     | 1¼"     | 1¼"     | ½"      | 1.77    | 0.63    | 1.77    | 0.63    | 1.93    | 1.12      |  |
| MB14380     | 1¼"     | 1¼"     | ¾"      | 1.87    | 0.73    | 1.87    | 0.73    | 1.97    | 1.02      |  |
| MB14390     | 1¼"     | 1¼"     | 1"      | 1.99    | 0.85    | 1.99    | 0.85    | 2.05    | 1.10      |  |

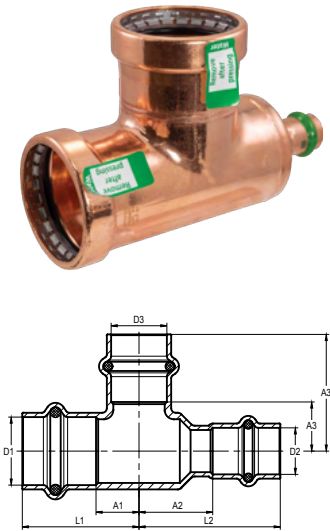


| Unequal Tee (continued) |         |         |         |         |         |         |         |         | P x P x P |  |
|-------------------------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|--|
| Item Number             | D1 (in) | D2 (in) | D3 (in) | L1 (in) | A1 (in) | L2 (in) | A2 (in) | L3 (in) | A3 (in)   |  |
| EPDM                    |         |         |         |         |         |         |         |         |           |  |
| MB14395                 | 1 1/2"  | 1/2"    | 1 1/2"  | 2.61    | 1.16    | 2.91    | 2.11    | 2.76    | 1.30      |  |
| MB14410                 | 1 1/2"  | 1"      | 3/4"    | 2.13    | 0.67    | 2.36    | 1.42    | 2.09    | 1.14      |  |
| MB14420                 | 1 1/2"  | 1"      | 1"      | 2.26    | 0.81    | 2.38    | 1.44    | 2.09    | 1.14      |  |
| MB14430                 | 1 1/2"  | 1"      | 1 1/2"  | 2.62    | 1.16    | 2.70    | 1.75    | 1.91    | 1.10      |  |
| MB14435                 | 1 1/2"  | 1 1/4"  | 1/2"    | 1.93    | 0.47    | 2.15    | 1.00    | 1.91    | 1.10      |  |
| MB14440                 | 1 1/2"  | 1 1/4"  | 3/4"    | 2.13    | 0.67    | 2.28    | 1.14    | 2.09    | 1.14      |  |
| MB14450                 | 1 1/2"  | 1 1/4"  | 1"      | 2.26    | 0.81    | 2.34    | 1.20    | 2.09    | 1.14      |  |
| MB14460                 | 1 1/2"  | 1 1/4"  | 1 1/4"  | 2.38    | 0.93    | 2.54    | 1.40    | 2.24    | 1.10      |  |
| MB14465                 | 1 1/2"  | 1 1/4"  | 1 1/2"  | 2.62    | 1.16    | 2.78    | 1.63    | 2.76    | 1.30      |  |
| MB14470                 | 1 1/2"  | 1 1/2"  | 1/2"    | 1.93    | 0.47    | 1.93    | 0.47    | 1.91    | 1.10      |  |
| MB14480                 | 1 1/2"  | 1 1/2"  | 3/4"    | 2.13    | 0.67    | 2.13    | 0.67    | 2.09    | 1.14      |  |
| MB14490                 | 1 1/2"  | 1 1/2"  | 1"      | 2.26    | 0.81    | 2.26    | 0.81    | 2.09    | 1.14      |  |
| MB14500                 | 1 1/2"  | 1 1/2"  | 1 1/4"  | 2.38    | 0.93    | 2.38    | 0.93    | 2.24    | 1.10      |  |
| MB14515                 | 2"      | 1"      | 1"      | 2.66    | 1.04    | 2.62    | 1.67    | 2.44    | 1.50      |  |
| MB14520                 | 2"      | 1 1/4"  | 1 1/4"  | 2.66    | 1.04    | 2.89    | 1.75    | 2.60    | 1.46      |  |
| MB14530                 | 2"      | 1 1/2"  | 3/4"    | 2.42    | 0.81    | 2.85    | 1.40    | 2.40    | 1.46      |  |
| MB14540                 | 2"      | 1 1/2"  | 1"      | 2.54    | 0.93    | 2.93    | 1.48    | 2.44    | 1.50      |  |
| MB14550                 | 2"      | 1 1/2"  | 1 1/4"  | 2.66    | 1.04    | 3.09    | 1.63    | 2.60    | 1.46      |  |
| MB14560                 | 2"      | 1 1/2"  | 1 1/2"  | 2.78    | 1.16    | 3.25    | 1.79    | 2.99    | 1.54      |  |
| MB14570                 | 2"      | 1 1/2"  | 2"      | 2.99    | 1.38    | 3.43    | 1.97    | 3.15    | 1.54      |  |
| MB14580                 | 2"      | 2"      | 1/2"    | 2.42    | 0.81    | 2.42    | 0.81    | 2.52    | 1.71      |  |
| MB14590                 | 2"      | 2"      | 3/4"    | 2.42    | 0.81    | 2.42    | 0.81    | 2.40    | 1.46      |  |
| MB14600                 | 2"      | 2"      | 1"      | 2.54    | 0.93    | 2.54    | 0.93    | 2.44    | 1.50      |  |
| MB14610                 | 2"      | 2"      | 1 1/4"  | 2.66    | 1.04    | 2.66    | 1.04    | 2.60    | 1.46      |  |
| MB14620                 | 2"      | 2"      | 1 1/2"  | 2.78    | 1.16    | 2.78    | 1.16    | 2.99    | 1.54      |  |

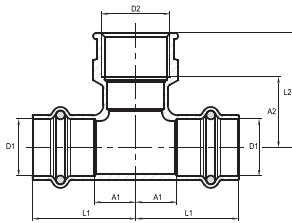




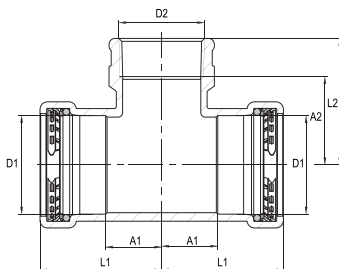
| XL Unequal Tee |         |         |         |         |         |         |         |         | P x P x P |
|----------------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|
| Item Number    | D1 (in) | D2 (in) | D3 (in) | L1 (in) | A1 (in) | L2 (in) | A2 (in) | L3 (in) | A3 (in)   |
| EPDM           |         |         |         |         |         |         |         |         |           |
| MB24110        | 2½"     | ¾"      | 2½"     | 3.56    | 1.83    | 4.17    | 3.23    | 3.66    | 1.93      |
| MB24120        | 2½"     | 1"      | 2½"     | 3.56    | 1.83    | 4.19    | 3.25    | 3.60    | 1.87      |
| MB24130        | 2½"     | 1¼"     | 2½"     | 3.56    | 1.83    | 4.35    | 3.21    | 3.60    | 1.87      |
| MB24140        | 2½"     | 1½"     | 2½"     | 3.56    | 1.83    | 4.61    | 3.15    | 3.60    | 1.87      |
| MB24150        | 2½"     | 2"      | ¾"      | 3.25    | 1.52    | 3.72    | 2.11    | 3.74    | 2.80      |
| MB24160        | 2½"     | 2"      | 1"      | 3.25    | 1.52    | 3.72    | 2.11    | 3.54    | 2.60      |
| MB24165        | 2½"     | 2"      | 1¼"     | 3.25    | 1.52    | 3.72    | 2.11    | 3.58    | 2.44      |
| MB24170        | 2½"     | 2"      | 1½"     | 3.25    | 1.52    | 3.72    | 2.11    | 3.74    | 2.28      |
| MB24180        | 2½"     | 2"      | 2"      | 3.25    | 1.52    | 3.72    | 2.11    | 3.43    | 1.81      |
| MB24190        | 2½"     | 2"      | 2½"     | 3.56    | 1.83    | 3.56    | 1.95    | 3.66    | 1.93      |
| MB24200        | 2½"     | 2½"     | ½"      | 3.25    | 1.52    | 3.25    | 1.52    | 3.66    | 2.85      |
| MB24210        | 2½"     | 2½"     | ¾"      | 3.25    | 1.52    | 3.25    | 1.52    | 3.70    | 2.76      |
| MB24220        | 2½"     | 2½"     | 1"      | 3.25    | 1.52    | 3.25    | 1.52    | 3.58    | 2.64      |
| MB24230        | 2½"     | 2½"     | 1¼"     | 3.25    | 1.52    | 3.25    | 1.52    | 3.58    | 2.44      |
| MB24240        | 2½"     | 2½"     | 1½"     | 3.25    | 1.52    | 3.25    | 1.52    | 3.74    | 2.28      |
| MB24250        | 2½"     | 2½"     | 2"      | 3.25    | 1.52    | 3.25    | 1.52    | 3.43    | 1.81      |
| MB24270        | 3"      | ¾"      | 3"      | 4.11    | 2.11    | 5.10    | 4.15    | 4.31    | 2.30      |
| MB24280        | 3"      | 1"      | 3"      | 4.11    | 2.11    | 4.92    | 3.98    | 4.31    | 2.30      |
| MB24290        | 3"      | 1¼"     | 3"      | 4.11    | 2.11    | 5.02    | 3.88    | 4.31    | 2.30      |
| MB24300        | 3"      | 1½"     | 3"      | 4.11    | 2.11    | 5.10    | 3.64    | 4.31    | 2.30      |
| MB24310        | 3"      | 2"      | 2"      | 3.64    | 1.63    | 4.35    | 2.74    | 3.76    | 2.15      |
| MB24320        | 3"      | 2"      | 2½"     | 3.98    | 1.97    | 4.69    | 3.07    | 4.00    | 2.26      |
| MB24330        | 3"      | 2"      | 3"      | 4.11    | 2.11    | 4.55    | 2.93    | 4.31    | 2.30      |
| MB24340        | 3"      | 2½"     | 2"      | 3.64    | 1.63    | 4.15    | 2.42    | 3.76    | 2.15      |
| MB24350        | 3"      | 2½"     | 2½"     | 3.98    | 1.97    | 4.49    | 2.76    | 4.00    | 2.26      |
| MB24360        | 3"      | 2½"     | 3"      | 4.11    | 2.11    | 4.74    | 3.01    | 4.31    | 2.30      |
| MB24370        | 3"      | 3"      | ½"      | 3.64    | 1.63    | 3.64    | 1.63    | 4.07    | 3.27      |



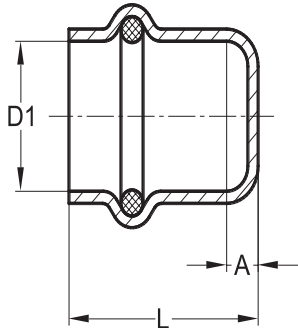
| XL Unequal Tee (continued) |         |         |         |         |         |         |         |         | P x P x P |  |
|----------------------------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|--|
| Item Number                | D1 (in) | D2 (in) | D3 (in) | L1 (in) | A1 (in) | L2 (in) | A2 (in) | L3 (in) | A3 (in)   |  |
| EPDM                       |         |         |         |         |         |         |         |         |           |  |
| MB24380                    | 3"      | 3"      | ¾"      | 3.64    | 1.63    | 3.64    | 1.63    | 4.15    | 3.21      |  |
| MB24390                    | 3"      | 3"      | 1"      | 3.64    | 1.63    | 3.64    | 1.63    | 3.96    | 3.01      |  |
| MB24400                    | 3"      | 3"      | 1¼"     | 3.64    | 1.63    | 3.64    | 1.63    | 4.07    | 2.93      |  |
| MB24410                    | 3"      | 3"      | 1½"     | 3.64    | 1.63    | 3.64    | 1.63    | 4.31    | 2.85      |  |
| MB24420                    | 3"      | 3"      | 2"      | 3.64    | 1.63    | 3.64    | 1.63    | 3.76    | 2.15      |  |
| MB24430                    | 3"      | 3"      | 2½"     | 3.98    | 1.97    | 3.98    | 1.97    | 4.00    | 2.26      |  |
| MB24450                    | 4"      | 3"      | 2"      | 4.02    | 1.61    | 4.80    | 2.80    | 3.25    | 1.63      |  |
| MB24460                    | 4"      | 3"      | 3"      | 4.51    | 2.11    | 4.82    | 2.81    | 4.63    | 2.62      |  |
| MB24470                    | 4"      | 4"      | ½"      | 4.02    | 1.61    | 4.02    | 1.61    | 4.63    | 3.82      |  |
| MB24480                    | 4"      | 4"      | ¾"      | 4.02    | 1.61    | 4.02    | 1.61    | 4.59    | 3.64      |  |
| MB24490                    | 4"      | 4"      | 1"      | 4.02    | 1.61    | 4.02    | 1.61    | 4.43    | 3.48      |  |
| MB24500                    | 4"      | 4"      | 1¼"     | 4.02    | 1.61    | 4.02    | 1.61    | 4.43    | 3.29      |  |
| MB24510                    | 4"      | 4"      | 1½"     | 4.02    | 1.61    | 4.02    | 1.61    | 4.59    | 3.13      |  |
| MB24520                    | 4"      | 4"      | 2"      | 4.02    | 1.61    | 4.02    | 1.61    | 4.23    | 2.62      |  |
| MB24530                    | 4"      | 4"      | 2½"     | 4.17    | 1.77    | 4.17    | 1.77    | 4.47    | 2.74      |  |
| MB24540                    | 4"      | 4"      | 3"      | 4.51    | 2.11    | 4.51    | 2.11    | 4.59    | 2.58      |  |



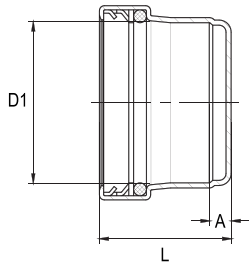
| Reducing Tee (P x FPT) |         |         |         |         |         |         |
|------------------------|---------|---------|---------|---------|---------|---------|
| P x P x FPT            |         |         |         |         |         |         |
| Item Number            | D1 (in) | D2 (in) | L1 (in) | A1 (in) | L2 (in) | A2 (in) |
| EPDM                   |         |         |         |         |         |         |
| MB40000                | ½"      | ½" FPT  | 1.56    | 0.75    | 1.44    | 0.89    |
| MB40010                | ¾"      | ¼" FPT  | 1.63    | 0.69    | 1.34    | 0.93    |
| MB40020                | ¾"      | ½" FPT  | 1.79    | 0.85    | 1.38    | 0.83    |
| MB40030                | ¾"      | ¾" FPT  | 1.79    | 0.85    | 1.61    | 0.98    |
| MB40040                | 1"      | ½" FPT  | 1.63    | 0.69    | 1.71    | 1.16    |
| MB40050                | 1"      | ¾" FPT  | 1.91    | 0.96    | 1.85    | 1.22    |
| MB40060                | 1¼"     | ½" FPT  | 1.87    | 0.73    | 1.67    | 1.12    |
| MB40070                | 1¼"     | ¾" FPT  | 1.99    | 0.85    | 1.81    | 1.18    |
| MB40080                | 1½"     | ½" FPT  | 2.13    | 0.67    | 1.83    | 1.28    |
| MB40100                | 1½"     | ¾" FPT  | 2.26    | 0.81    | 1.97    | 1.34    |
| MB40110                | 2"      | ½" FPT  | 2.54    | 0.93    | 2.09    | 1.54    |
| MB40120                | 2"      | ¾" FPT  | 2.54    | 0.93    | 2.30    | 1.67    |



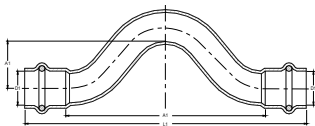
| XL Reducing Tee (P x FPT) |         |         |         |         |         |         |
|---------------------------|---------|---------|---------|---------|---------|---------|
| P x P x FPT               |         |         |         |         |         |         |
| Item Number               | D1 (in) | D2 (in) | L1 (in) | A1 (in) | L2 (in) | A2 (in) |
| EPDM                      |         |         |         |         |         |         |
| MB42000                   | 2½"     | ¾" FPT  | 3.25    | 1.52    | 3.50    | 2.87    |
| MB42010                   | 2½"     | 2" FPT  | 3.25    | 1.52    | 3.43    | 2.48    |
| MB42030                   | 3"      | ¾" FPT  | 3.64    | 1.63    | 4.02    | 3.39    |
| MB42040                   | 3"      | 2" FPT  | 3.64    | 1.63    | 3.58    | 2.64    |
| MB42050                   | 4"      | ¾" FPT  | 4.02    | 1.61    | 3.90    | 3.27    |
| MB42060                   | 4"      | 2" FPT  | 4.02    | 1.61    | 3.70    | 2.76    |



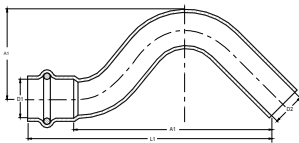
| Cap <span>P</span> |         |        |        |
|--------------------|---------|--------|--------|
| Item Number        | D1 (in) | L (in) | A (in) |
| EPDM               |         |        |        |
| MB13110            | ½"      | 0.94   | 0.14   |
| MB13120            | ¾"      | 1.06   | 0.12   |
| MB13140            | 1"      | 1.06   | 0.12   |
| MB13150            | 1¼"     | 1.26   | 0.12   |
| MB13160            | 1½"     | 1.69   | 0.24   |
| MB13170            | 2"      | 1.85   | 0.24   |



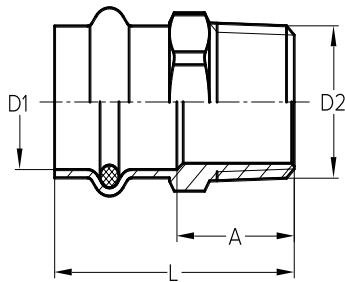
| XL Cap <span>P</span> |         |        |        |
|-----------------------|---------|--------|--------|
| Item Number           | D1 (in) | L (in) | A (in) |
| EPDM                  |         |        |        |
| MB23110               | 2½"     | 2.17   | 0.43   |
| MB23120               | 3"      | 2.44   | 0.43   |
| MB23130               | 4"      | 2.87   | 0.47   |



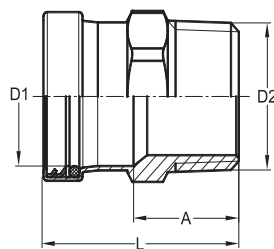
| Crossover <span>P x P</span> |         |         |        |        |
|------------------------------|---------|---------|--------|--------|
| Item Number                  | D1 (in) | D2 (in) | L (in) | A (in) |
| EPDM                         |         |         |        |        |
| MB23140                      | ½"      | 5.20    | 3.58   | 0.77   |
| MB23150                      | ¾"      | 6.34    | 4.45   | 0.91   |



| Street Crossover <span>P x P</span> |         |         |        |        |
|-------------------------------------|---------|---------|--------|--------|
| Item Number                         | D1 (in) | D2 (in) | L (in) | A (in) |
| EPDM                                |         |         |        |        |
| MB23160                             | ½"      | 4.61    | 3.80   | 1.10   |
| MB23170                             | ¾"      | 5.55    | 4.61   | 1.54   |

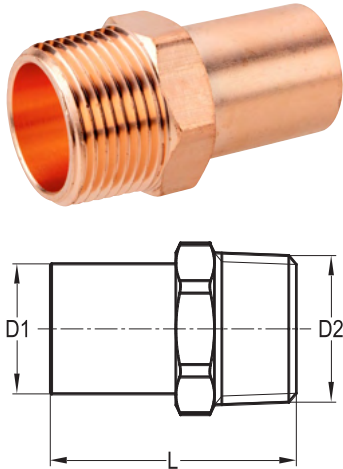


| Male Adapter |         |         |        | P x MPT |
|--------------|---------|---------|--------|---------|
| Item Number  | D1 (in) | D2 (in) | L (in) | A (in)  |
| EPDM         |         |         |        |         |
| MB23250      | ½"      | ⅜" MPT  | 1.65   | 0.85    |
| MB23260      | ½"      | ½" MPT  | 1.69   | 0.89    |
| MB23270      | ½"      | ¾" MPT  | 1.77   | 0.96    |
| MB23280      | ¾"      | ½" MPT  | 2.05   | 1.10    |
| MB23290      | ¾"      | ¾" MPT  | 1.89   | 0.94    |
| MB23300      | ¾"      | 1" MPT  | 2.05   | 1.10    |
| MB23310      | 1"      | ½" MPT  | 2.13   | 1.18    |
| MB23320      | 1"      | ¾" MPT  | 1.93   | 0.98    |
| MB23330      | 1"      | 1" MPT  | 1.93   | 1.22    |
| MB23340      | 1"      | 1¼" MPT | 2.09   | 1.14    |
| MB23350      | 1¼"     | 1" MPT  | 2.20   | 1.06    |
| MB23360      | 1¼"     | 1¼" MPT | 2.20   | 1.06    |
| MB23370      | 1¼"     | 1½" MPT | 2.28   | 1.14    |
| MB23380      | 1½"     | 1¼" MPT | 2.70   | 1.24    |
| MB23390      | 1½"     | 1½" MPT | 2.64   | 1.18    |
| MB23400      | 1½"     | 2" MPT  | 2.64   | 1.18    |
| MB23410      | 2"      | 1½" MPT | 2.83   | 1.22    |
| MB23420      | 2"      | 2" MPT  | 2.80   | 1.46    |

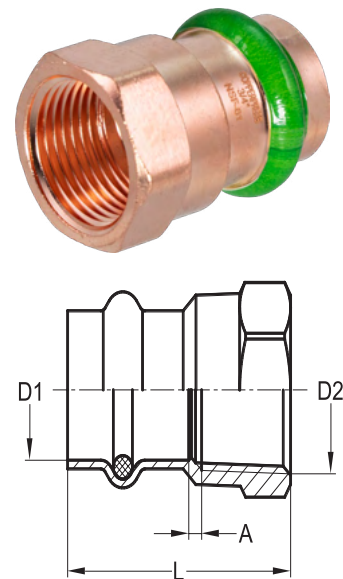


| XL Male Adapter |         |         |        | P x MPT |
|-----------------|---------|---------|--------|---------|
| Item Number     | D1 (in) | D2 (in) | L (in) | A (in)  |
| EPDM            |         |         |        |         |
| MB22510         | 2½"     | 2½" MPT | 3.78   | 2.05    |
| MB22520         | 3"      | 3" MPT  | 4.09   | 2.09    |
| MB22530         | 4"      | 4" MPT  | 4.69   | 2.28    |

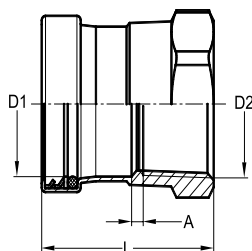




| Male Street Adapter |         |         | FTG x MPT |
|---------------------|---------|---------|-----------|
| Item Number         | D1 (in) | D2 (in) | L (in)    |
| EPDM                |         |         |           |
| MB22900             | ½"      | ⅜" MPT  | 1.69      |
| MB22910             | ½"      | ½" MPT  | 1.77      |
| MB22920             | ½"      | ¾" MPT  | 1.93      |
| MB22930             | ¾"      | ½" MPT  | 1.93      |
| MB22940             | ¾"      | ¾" MPT  | 1.97      |
| MB22950             | 1"      | ¾" MPT  | 1.97      |
| MB22960             | 1"      | 1" MPT  | 2.13      |
| MB22970             | 1¼"     | 1¼" MPT | 2.48      |
| MB22980             | 1½"     | 1½" MPT | 2.87      |
| MB22990             | 2"      | 2" MPT  | 3.19      |

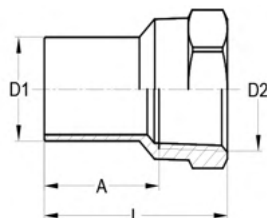
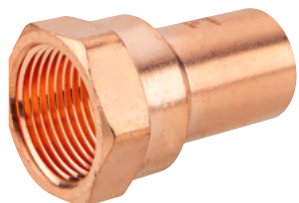


| Female Adapter |         |          |        | P x FPT |
|----------------|---------|----------|--------|---------|
| Item Number    | D1 (in) | D2 (in)  | L (in) | A (in)  |
| EPDM           |         |          |        |         |
| MB22600        | ½"      | ⅜" FPT   | 1.42   | 0.35    |
| MB22610        | ½"      | ½" FPT   | 1.61   | 0.28    |
| MB22620        | ½"      | ¾" FPT   | 1.65   | 0.22    |
| MB22630        | ¾"      | ½" FPT   | 1.61   | 0.18    |
| MB22640        | ¾"      | ¾" FPT   | 1.81   | 0.22    |
| MB22650        | 1"      | ½" FPT   | 2.09   | 0.57    |
| MB22660        | 1"      | ¾" FPT   | 1.73   | 0.14    |
| MB22670        | 1"      | 1" FPT   | 1.89   | 0.20    |
| MB22680        | 1"      | 1¼" FPTT | 2.13   | 0.31    |
| MB22690        | 1¼"     | 1" FPT   | 2.09   | 0.16    |
| MB22700        | 1¼"     | 1¼" FPT  | 2.20   | 0.24    |
| MB22710        | 1¼"     | 1¼" FPT  | 2.20   | 0.22    |
| MB22720        | 1½"     | 1¼" FPT  | 2.48   | 0.24    |
| MB22730        | 1½"     | 1½" FPT  | 2.52   | 0.22    |
| MB22740        | 2"      | 2" FPT   | 2.83   | 0.22    |



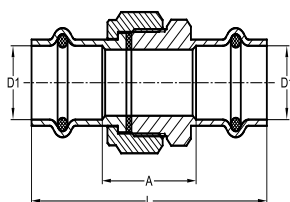
**XL Female Adapter** **P x FPT**

| Item Number | D1 (in) | D2 (in) | L (in) | A (in) |
|-------------|---------|---------|--------|--------|
| <b>EPDM</b> |         |         |        |        |
| MB22750     | 2½"     | 2½" FPT | 3.54   | 0.67   |
| MB22760     | 3"      | 3" FPT  | 3.98   | 0.75   |
| MB22770     | 4"      | 4" FPT  | 4.37   | 0.59   |



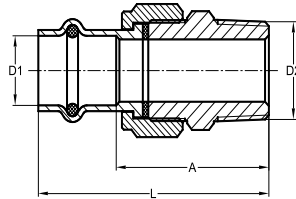
**Female Street Adapter** **FTG x FPT**

| Item Number | D1 (in) | D2 (in) | L (in) | A (in) |
|-------------|---------|---------|--------|--------|
| <b>EPDM</b> |         |         |        |        |
| MB32000     | ½"      | ⅜" FPT  | 1.57   | 1.10   |
| MB32010     | ½"      | ½" FPT  | 1.73   | 1.18   |
| MB32020     | ½"      | ¾" FPT  | 1.93   | 1.30   |
| MB32030     | ¾"      | ½" FPT  | 1.73   | 1.18   |
| MB32040     | ¾"      | ¾" FPT  | 1.93   | 1.30   |
| MB32050     | 1"      | 1" FPT  | 1.81   | 1.26   |
| MB32060     | 1"      | ½" FPT  | 1.93   | 1.30   |
| MB32065     | 1"      | ¾" FPT  | 1.99   | 1.28   |
| MB32070     | 1¼"     | ½" FPT  | 2.03   | 1.48   |
| MB32080     | 1¼"     | 1¼" FPT | 2.32   | 1.54   |
| MB32090     | 1½"     | 1½" FPT | 2.58   | 1.75   |
| MB32100     | 2"      | 2" FPT  | 3.07   | 2.09   |

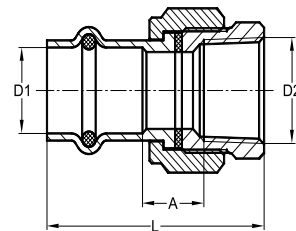


**Union** **P x P**

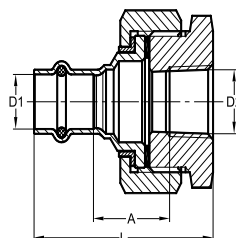
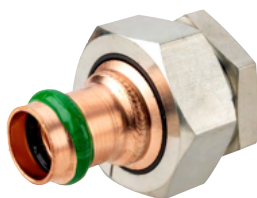
| Item Number | D1 (in) | D2 (in) | L (in) | A (in) |
|-------------|---------|---------|--------|--------|
| <b>EPDM</b> |         |         |        |        |
| MB33000     | ½"      | ½"      | 2.80   | 1.18   |
| MB33010     | ¾"      | ¾"      | 2.99   | 1.10   |
| MB33020     | 1"      | 1"      | 3.01   | 1.12   |
| MB33030     | 1¼"     | 1¼"     | 3.43   | 1.14   |
| MB33040     | 1½"     | 1½"     | 4.09   | 1.18   |
| MB33050     | 2"      | 2"      | 4.57   | 1.34   |



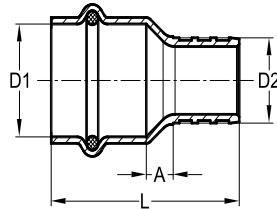
| Male Union  |         |         |        | P x MPT |
|-------------|---------|---------|--------|---------|
| Item Number | D1 (in) | D2 (in) | L (in) | A (in)  |
| EPDM        |         |         |        |         |
| MB34000     | ½"      | ½" MPT  | 2.58   | 1.77    |
| MB34010     | ¾"      | ¾" MPT  | 2.72   | 1.77    |
| MB34020     | 1"      | 1" MPT  | 2.89   | 1.95    |
| MB34030     | 1¼"     | 1¼" MPT | 3.27   | 2.13    |
| MB34040     | 1½"     | 1½" MPT | 3.62   | 2.17    |
| MB34050     | 2"      | 2" MPT  | 3.98   | 2.36    |



| Female Union |         |         |        | P x FPT |
|--------------|---------|---------|--------|---------|
| Item Number  | D1 (in) | D2 (in) | L (in) | A (in)  |
| EPDM         |         |         |        |         |
| MB35000      | ½"      | ½" FPT  | 1.99   | 0.67    |
| MB35010      | ¾"      | ¾" FPT  | 2.15   | 0.61    |
| MB35020      | 1"      | 1" FPT  | 2.26   | 0.65    |
| MB35030      | 1¼"     | 1¼" FPT | 2.93   | 1.00    |
| MB35040      | 1½"     | 1½" FPT | 2.91   | 0.67    |
| MB35050      | 2"      | 2" FPT  | 3.31   | 0.75    |

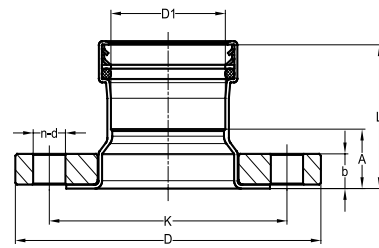
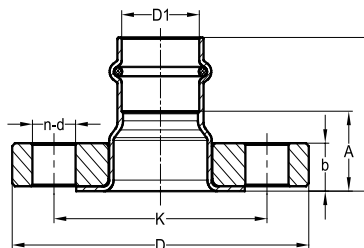


| Dielectric Female Union |         |         |        | P x FPT |
|-------------------------|---------|---------|--------|---------|
| Item Number             | D1 (in) | D2 (in) | L (in) | A (in)  |
| EPDM                    |         |         |        |         |
| MB37000                 | ½"      | ½" FPT  | 2.64   | 1.32    |
| MB37010                 | ¾"      | ¾" FPT  | 3.07   | 1.54    |
| MB37020                 | 1"      | 1" FPT  | 2.76   | 1.14    |
| MB37030                 | 1¼"     | 1¼" FPT | 3.03   | 1.10    |
| MB37040                 | 1½"     | 1½" FPT | 3.46   | 1.22    |
| MB37050                 | 2"      | 2" FPT  | 3.78   | 1.22    |



| Pex (B) Adapter |         |          |        | P x PEX |
|-----------------|---------|----------|--------|---------|
| Item Number     | D1 (in) | D2 (in)  | L (in) | A (in)  |
| EPDM            |         |          |        |         |
| MB50000         | 1/2"    | 1/2" PEX | 1.73   | 0.20    |
| MB50030         | 1/2"    | 3/4" PEX | 1.59   | 0.16    |
| MB50010         | 3/4"    | 3/4" PEX | 2.03   | 0.45    |
| MB50040         | 3/4"    | 1/2" PEX | 1.93   | 0.35    |
| MB50020         | 1"      | 1" PEX   | 2.13   | 0.39    |

| Flange Adapter |         |        |        |        |        |        |        | P x Flange |
|----------------|---------|--------|--------|--------|--------|--------|--------|------------|
| Item Number    | D1 (in) | L (in) | A (in) | b (in) | D (in) | K (in) | d (in) | n (in)     |
| EPDM           |         |        |        |        |        |        |        |            |
| MB60000        | 1"      | 2.28   | 1.34   | 0.63   | 4.33   | 3.11   | 0.63   | 4          |
| MB60010        | 1 1/8"  | 2.28   | 1.14   | 0.63   | 4.53   | 3.50   | 0.63   | 4          |
| MB60020        | 1 1/2"  | 2.60   | 1.14   | 0.63   | 4.92   | 3.86   | 0.63   | 4          |
| MB60030        | 2"      | 2.76   | 1.14   | 0.63   | 5.91   | 4.76   | 0.75   | 4          |
| MB60040        | 2 1/2"  | 2.83   | 1.10   | 0.69   | 7.09   | 5.51   | 0.75   | 4          |
| MB60050        | 3"      | 3.25   | 1.34   | 0.81   | 7.48   | 5.98   | 0.75   | 4          |
| MB60060        | 4"      | 3.74   | 1.34   | 0.89   | 9.06   | 7.52   | 0.75   | 8          |

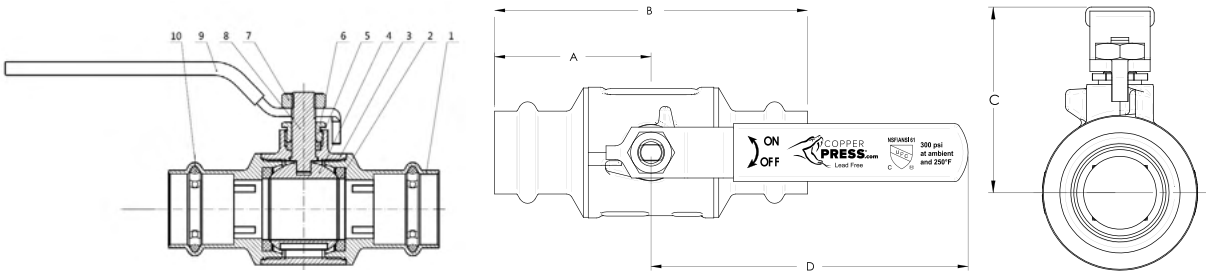


| Ball Valve  |                   |                 |      |      |      |      | P x P      |
|-------------|-------------------|-----------------|------|------|------|------|------------|
| Part Number | Nominal Size (in) | Dimensions (in) |      |      |      |      | Weight lbs |
| EPDM        |                   | A Port Ø        | B    | C    | D    | E    |            |
| MB70000     | ½"                | 0.50            | 1.56 | 3.11 | 1.70 | 3.94 | 0.54       |
| MB70010     | ¾"                | 0.75            | 1.89 | 3.78 | 1.84 | 3.94 | 0.79       |
| MB70020     | 1"                | 1.00            | 2.24 | 4.49 | 2.37 | 4.92 | 1.39       |
| MB70030     | 1¼"               | 1.25            | 2.56 | 5.12 | 3.02 | 5.84 | 2.74       |
| MB70040     | 1½"               | 1.50            | 2.83 | 5.67 | 3.16 | 6.30 | 4.30       |
| MB70050     | 2"                | 2.00            | 3.44 | 6.89 | 4.21 | 7.87 | 7.30       |

Diameters: ½" – 2"



| Item | Description         | Material            | QTY | Specification |
|------|---------------------|---------------------|-----|---------------|
| 1    | Retainer            | Copper              | 2   | C12200        |
| 2    | Seat                | PTFE                | 2   |               |
| 3    | Body                | Bronze              | 1   | C89836        |
| 4    | Ball (Sizes ½"-1")  | Chrome Plated Brass | 1   | C46500        |
| 4    | Ball (Sizes 1¼"-2") | Stainless Steel     | 1   | 304           |
| 5    | Stem Packing        | PTFE                | 1   |               |
| 6    | Packing Gland       | Brass               | 1   | HPb59-3P      |
| 7    | Stem Nut            | Zinc Plated Steel   | 1   | Q235          |
| 8    | Stem                | Brass               | 1   | C46500        |
| 9    | Handle              | Zinc Plated Steel   | 1   | Q235          |
| 10   | Sealing Element     | EPDM                | 2   |               |



# INSTALLATION INSTRUCTIONS

## Small Diameter (SD)

**WARNING:** Copper press fittings must be installed in accordance with this section. Always ensure that the pressing tool and its jaws are appropriate for the copper tubing and size of fitting. Always refer to the pressing tool manufacturer's instructions for operation and maintenance prior to use with copper press fittings. Always wear PPE such as a hardhat, gloves, and safety glasses when making press connections. Failure to follow these instructions may void the warranty and result in extensive property damage, serious injury or death.

### 1. Cut copper tubing

After selecting the correct size of copper tubing for the job, ensure that it is clean and free from imperfections. Once inspected, cut the copper tubing at right angles using displacement type cutter or fine-toothed steel saw. Avoid jagged edges or scratching the tubing's surface. When cutting tubing, it must be cut all the way through. Never partially cut the copper tubing and break it off as it could cause leakage.

### 2. Deburr tubing

After the tubing is cut to length, deburr the inside and outside with a file, hand deburrer or an electrical pipe deburrer to remove debris and prevent damage to the sealing element. Once the tubing has been deburred, lightly clean the end of the tubing with a piece of sand cloth or similar material to ensure a smooth, and oil-free surface.



### 3. Check press fittings

In addition to checking the tubing for any imperfections, check the fitting to ensure that it is free of debris, burrs, etc., and that the sealing element is present and appropriate for the application. If the sealing element is lifted from its bead pocket, gently push it back into place being sure to not transfer dirt or debris to the sealing surface. When checking the seal for the correct fit, do not use oil and lubricants.

### 4. Measure & mark tubing

With a permanent marker, mark the proper insertion depth at the appropriate distance from the end of the tubing as indicated in the copper press insertion depth chart.

**NOTE:** improper insertion depth may result in an improper seal.



### 5. Insert tubing into fitting

Carefully insert the tubing into the

fitting to the prescribed insertion depth. The insertion depth mark must be visible after the tubing is inserted in to the fitting to identify any movement that may occur before or after the pressing. In the instance that a fitting does not have a stop, the fitting must be centered between the tubing ends, however, the minimum tubing insertion depth must be maintained and marked.

**NOTE:** if the tubing is roughly or carelessly inserted into the press fitting, it may cause damage to the sealing element.



### 6. Verify tool & jaw

Verify that the tool and jaw being used for the application are the appropriate size for the fitting using an approved press tool from the copper press tooling table.

**NOTE:** failure to follow these instructions may void the warranty.





## Copper Press Insertion Depth Chart

| Tube Size       |       |      |       |         |         |
|-----------------|-------|------|-------|---------|---------|
| 0.5"            | 0.75" | 1"   | 1.25" | 1.50"   | 2"      |
| Insertion Depth |       |      |       |         |         |
| 3/4"            | 7/8"  | 7/8" | 1"    | 1-7/16" | 1-9/16" |

### 7. Position tool

Ensure jaw pressing surfaces are free from debris. Once inspected, insert the approved jaw into the pressing tool and push in, hold the pin until it locks in place. Next, open the jaws and visually check the insertion depth using the mark on the tubing.



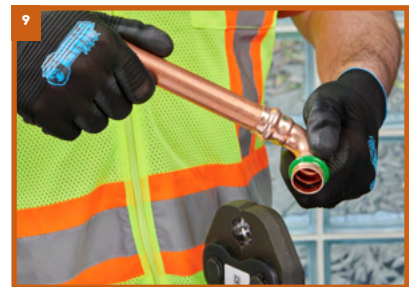
### 8. Press connection

To begin the pressing process, position the tool jaws on the raised portion at the fitting end(s) then squeeze until the trigger has engaged the sealing element or Visual Indicator Press Ring (VIPR)™. The press tool will complete a cycle then stop. Do not release the trigger until the pressing action is complete. An incomplete press may reduce the pressure retention capabilities of the joint and lead to subsequent system leakage.



Visual Indicator Press Ring (VIPR)™ will break off, indicating a complete press.

**NOTE:** if the Visual Indicator Press Ring (VIPR)™ does not instantly break off, simply remove by hand. Leak testing Unpressed connections can be identified prior to pressurization by the presence of the Visual Indicator Press Ring (VIPR)™ on the bead outer diameter.



### 9. Remove tool & Inspect press connection

Once the tool has completed a full pressing cycle, release the trigger, and remove the jaw from the fitting. Once the jaw is removed from the fitting, the

### Leak testing

Unpressed connections can be identified prior to pressurization by the presence of the Visual Indicator Press Ring (VIPR)™ on the bead outer diameter. The copper press sealing element is designed to physically leak while unpressed when the system is pressurized with air (45 psi max) or water (85 psi max) or per local codes, giving redundant assurance of installation integrity.



# INSTALLATION INSTRUCTIONS

## Large Diameter (XL)

**WARNING:** Copper press fittings must be installed in accordance with this section. Always ensure that the pressing tool and its jaws are appropriate for the copper tubing and size of fitting. Always refer to the pressing tool manufacturer's instructions for operation and maintenance prior to use with copper press fittings. Always wear PPE such as a hardhat, gloves, and safety glasses when making press connections. Failure to follow these instructions may void the warranty and result in extensive property damage, serious injury or death.

### 1. Cut copper tubing

After selecting the correct size of copper tubing for the job, ensure that it is clean and free from imperfections. Once inspected, cut the copper tubing at right angles using displacement type cutter or fine-toothed steel saw. Avoid jagged edges or scratching the tubing's surface. When cutting tubing, it must be cut all the way through. Never partially cut the copper tubing and break it off as it could cause leakage.

### 2. Deburr tubing

After the tubing is cut to length, deburr the inside and outside with a file, hand deburrer or an electrical pipe deburrer to remove debris and prevent damage to the sealing element. Once the tubing has been deburred, lightly clean the end of the tubing with a piece of sand cloth or similar material to ensure a smooth, and oil-free surface.



### 3. Check press fittings

In addition to checking the tubing for any imperfections, check the fitting to ensure that it is free of debris, burrs, etc., and that the sealing element is present and appropriate for the application. If the sealing element is lifted from its bead pocket, gently push it back into place being sure to not transfer dirt or debris to the sealing surface. When checking the seal for the correct fit, do not use oil and lubricants.

### 4. Measure & mark tubing

With a permanent marker, mark the proper insertion depth at the appropriate distance from the end of the tubing as indicated in the copper press insertion depth chart.

**NOTE:** improper insertion depth may result in an improper seal.



### 5. Insert tubing into fitting

Carefully insert the tubing into the fitting to the prescribed insertion depth. The insertion depth mark must be visible after the tubing is inserted in to the fitting to identify any movement that may occur before or after the pressing. In the instance that a fitting does not have a stop, the fitting must be centered between the tubing ends, however, the minimum tubing insertion depth must be maintained and marked.

**NOTE:** if the tubing is roughly or carelessly inserted into the press fitting, it may cause damage to the sealing element.



### 6. Verify tool, ring & jaw

Verify that the tool, ring and jaw being used for the application are the appropriate size for the fitting using an approved press tool from the copper press tooling table

**NOTE:** failure to follow these instructions may void the warranty.





| Copper Press Insertion Depth Chart |          |          |
|------------------------------------|----------|----------|
| Tube Size                          |          |          |
| 2.5"                               | 3"       | 4"       |
| Insertion Depth                    |          |          |
| 1-11/16"                           | 1-15/16" | 2 - 3/8" |

7. Position tool

Ensure jaw pressing surfaces and ring are free from debris. Once inspected, insert the approved jaw into the pressing tool and push in, hold the pin until it locks in placed. Open the jaw on the press tool and close on the appropriate location on the ring. Next, open the ring and visually check the insertion depth using the mark on the tubing. Place the press ring onto the fitting, being sure to align it with the raised, grip-ring, portion of the fitting.



8. Press connection

To begin the pressing process, position the tool rings on the raised portion at the fitting end(s) then squeeze until the trigger has engaged the sealing element. The press tool will complete a cycle then stop. Do not release the trigger until the pressing action is complete. An incomplete press may reduce the pressure retention capabilities of the joint and lead to subsequent system leakage.



9. Remove tool & Inspect press connection

Once the tool has completed a full pressing cycle, release the trigger, and remove the ring from the fitting. Once the ring is removed from the fitting, remove the application label sticker to complete the process.



Leak testing

The copper press sealing element is designed to physically leak while unpressed when the system is pressurized with air (45 psi max) or water (85 psi max) or per local codes, giving redundant assurance of installation integrity.



# LIMITED WARRANTY

## LIMITED WARRANTY MERITPRESS™ FITTINGS AND VALVES AVAILABLE IN COPPER PRESS FITTINGS, COPPER PRESS VALVES, CARBON PRESS FITTINGS AND STAINLESS PRESS FITTINGS AND STAINLESS PRESS VALVES.

THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS, WHICH VARY FROM STATE TO STATE.

THE LIMITED WARRANTY CAN ALSO BE FOUND ONLINE AT [WWW.MERITBRASS.COM/WARRANTY-POLICY](http://WWW.MERITBRASS.COM/WARRANTY-POLICY) AND/OR IN THE DOCUMENTATION WE PROVIDE WITH THE APPLICABLE PRODUCT.

WE WARRANT THAT DURING THE WARRANTY PERIOD, THE PRODUCT WILL BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP AS DESCRIBED IN OUR LITERATURE.

WE LIMIT THE DURATION AND REMEDIES OF ALL IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE TO THE DURATION OF THIS EXPRESS LIMITED WARRANTY.

SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

OUR RESPONSIBILITY FOR DEFECTIVE GOODS IS LIMITED TO REPAIR, OR REPLACEMENT AS DESCRIBED BELOW IN THIS WARRANTY STATEMENT.

### Who may use this warranty?

Merit Brass Company located at One Merit Drive, PO Box 43127 Cleveland, OH 44143 ("we") extend this limited warranty only to the consumer who originally purchased the applicable product ("you"). It does not extend to any subsequent owner or other transferee of the product.

### What does this warranty cover?

This limited warranty covers defects in materials and workmanship of the: (i) Copper Press fittings, (ii) the press valves, (iii) the Carbon Press fittings, and (iv) the Stainless Press fittings exclusive of all marine applications and chemical compatibility must be verified via Merit's literature or confirmed by its Technical Department prior to installation (the "product") for the Warranty Period as defined below.

### What does this warranty not cover?

This limited warranty does not cover any damage due to: (a) transportation; (b) storage; (c) improper use; (d) failure to follow the product instructions or to perform any preventive maintenance; (e) modifications; (f) unauthorized repair; (g) normal wear and tear; or (h) external causes such as

accidents, abuse, or other actions or events beyond our reasonable control.

### What is the period of coverage?

This limited warranty starts on the date of your purchase and lasts for: (i) fifty (50) years for Copper Press fittings, (ii) fifteen (15) years for the Carbon Press fittings and the Stainless Press fittings, and (iii) five (5) years for the press valves (collectively the "Warranty Period"). The Warranty Period is not extended if we repair or replace the product. We may change the availability of this limited warranty at our discretion, but any changes will not be retroactive.

### What are your remedies under this warranty?

With respect to any defective product during the applicable Warranty Period, we will, in our sole discretion repair or replace such product (or the defective part) free of charge. We will also pay for shipping and handling fees to return the repaired or replacement product to you.

### How do you obtain warranty service?

To obtain warranty service, you must call 1-800-726-9800 or email our Warranty Claims Department at [returns@meritbrass.com](mailto:returns@meritbrass.com) during the applicable Warranty Period to obtain a Return Material Authorization ("RMA") number. No warranty service will be provided without an RMA number. Upon receipt of the RMA, and at your expense, products suspected of being defective shall be returned to Merit's Warranty Claims Department at One Merit Drive, Cleveland, OH 44143. Within about six weeks of receipt, Merit will determine the cause of failure and notify the purchaser of our findings.

### Limitation of liability

THE REMEDIES DESCRIBED ABOVE ARE YOUR SOLE AND EXCLUSIVE REMEDIES AND OUR ENTIRE LIABILITY FOR ANY BREACH OF THIS LIMITED WARRANTY. OUR LIABILITY SHALL UNDER NO CIRCUMSTANCES EXCEED THE ACTUAL AMOUNT PAID BY YOU FOR THE DEFECTIVE PRODUCT, NOR SHALL WE UNDER ANY CIRCUMSTANCES BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL OR PUNITIVE DAMAGES OR LOSSES, WHETHER DIRECT OR INDIRECT AND/OR WHETHER CAUSED BY WATER, MOLD, LOSS OF EQUIPMENT, PROPERTY, REVENUE OR COST OF CAPITAL.

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

[illegible]



## LOCATIONS

### SPARKS DISTRIBUTION CENTER

200 Vista Boulevard Suite #106  
Sparks, NV 89434

### DALLAS DISTRIBUTION CENTER

10614 King William Drive  
Dallas, TX 75220

### CLEVELAND HEADQUARTERS

One Merit Drive/PO Box 43127  
Cleveland, OH 44143

### BIRMINGHAM DISTRIBUTION CENTER

220 Oxmoor Court  
Birmingham, AL 35209

### HOUSTON DISTRIBUTION CENTER

4680 S. Sam Houston Pkwy W, Suite 120  
Houston, TX 77053

## CONTACT US



**800.726.9800**

[contactus@meritbrass.com](mailto:contactus@meritbrass.com)

LEARN MORE



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