

## Section 1

### Schedule 80 PVC Piping System

Serviced by GF Little Rock

Effective July 1, 2008

Pipe, Valves and Fittings  
Sizes 1/4" to 16"



# Specifications, Standards and Tolerances

## Specifications and Standards

NSF/ANSI Standard 14

NSF/ANSI Standard 61

|              |   |   |
|--------------|---|---|
| ASTM D 1784  | : | Material PVC Type I, Grade I Gray (cell classification 12454-B) |
| ASTM D 1785  | : | PVC Schedule 80 Pipe  |
| ASTM D 2467  | : | PVC Schedule 80 Socket & Threaded Fittings                      |
| ASTM D 2464  | : | PVC Schedule 80 Threaded Fittings                               |
| ASTM F 1498  | : | PVC Schedule 80 Taper Threads                                   |
| ASTM D 2672  | : | PVC Schedule 80 Tapered Sockets for Bell End Pipe               |
| ASTM F 1970  | : | PVC Schedule 80 Unions & Flanges                                |
| ANSI B16.5   | : | Outside Diameter & Flange Bolt Hole Patterns                    |
| ANSI B1.20.1 | : | PVC Schedule 80 NPT Threads                                     |
| CSA B137.3   | : | PVC Schedule 80 Pipe  |

## Molded Dimension Tolerances

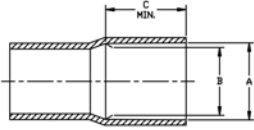
|           |   |
|-----------|---|
| A         | Piston Position; Expansion Joints : $\pm 0.03$  |
| D         | Outside Diameter : $\pm 0.06$   |
| G, G1     | Intersections of centerlines to bottom of socket; 90° Ells, Tees : up to 4" $\pm 0.03$ ; 6" and above $\pm 0.06$                    |
| GJ, GN    | Intersections of centerlines to bottom of socket; 45° Wyes : up to 4" $\pm 0.03$ ; 6" and above $\pm 0.06$                          |
| H, HJ, HN | Intersections of centerlines to face of fitting; 90° Ells, 45° Ells, Tees, 45° Wyes : up to 4" $\pm 0.03$ ; 6" and above $\pm 0.06$ |
| HL        | Socket Bottom to Face of Fitting : up to 4" $\pm 0.03$ ; 6" and above $\pm 0.06$  |
| J         | Intersections of centerlines to bottom of socket; 45° & 30° Ells : up to 4" $\pm 0.03$ ; 6" and above $\pm 0.06$                    |
| L         | Overall Length of fitting : $\pm 0.06$  |
| N         | Socket Bottom to Socket Bottom; Couplings, Unions : $\pm 0.06$  |
| N1        | Socket Bottom to Face of Flange : $\pm 0.06$  |
| R         | Thickness on Plugs, Flanges : $\pm 0.03$  |
| T, T1     | Effective Thread Length : Reference Only  |
| W         | Height of Cap : $\pm 0.06$  |

## Fabricated Dimension Tolerances

|           |   |
|-----------|---|
| D         | Outside Diameter : $\pm 0.50$   |
| E         | Drive Pin Diameter : $\pm 0.50$   |
| G, G1     | Intersections of centerlines to bottom of socket; 90° Ells, Tees, Crosses : $\pm 0.25$                      |
| GJ, GN    | Intersections of centerlines to bottom of socket; 45° Wyes : $\pm 0.25$                                     |
| H, HJ, HN | Intersections of centerlines to face of fitting; 90° Ells, 45° Ells, Tees, 45° Wyes, True Wyes : $\pm 0.50$ |
| HL        | Socket Bottom to Face of Fitting : $\pm 0.25$   |
| J         | Intersections of centerlines to bottom of socket; 11¼°, 15°, 30°, 22½°, 45° Ells, True Wyes : $\pm 0.25$    |
| L         | Overall Length of fitting : $\pm 0.50$  |
| N         | Socket Bottom to Socket Bottom; Couplings : $\pm 0.50$  |
| N1        | Socket Bottom to Face of Flange : $\pm 0.50$  |
| R         | Thickness on Plugs, Flanges : $\pm 0.25$  |
| T, T1     | Effective Thread Length : Reference Only  |
| W         | Height of Cap : $\pm 0.25$  |

# Pressure Pipe

## PVC Pressure Pipe - 20 ft. lengths

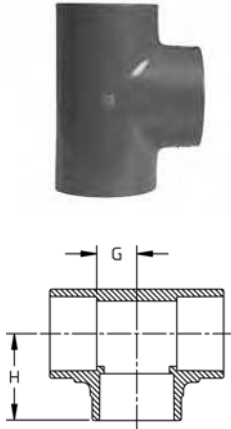


| Size [inch] | Plain End (P/L 46) Part No. | Bell End (P/L 48) Part No. |
|-------------|-----------------------------|----------------------------|
| 1/2         | 8008-005AB *                | 8008-005BB *               |
| 3/4         | 8008-007AB *                | 8008-007BB *               |
| 1           | 8008-010AB *                | 8008-010BB *               |
| 1 1/4       | 8008-012AB *                | 8008-012BB *               |
| 1 1/2       | 8008-015AB *                | 8008-015BB *               |
| 2           | 8008-020AB *                | 8008-020BB *               |
| 2 1/2       | 8008-025AB *                | 8008-025BB *               |
| 3           | 8008-030AB *                | 8008-030BB *               |
| 4           | 8008-040AB *                | 8008-040BB *               |
| 6           | 8008-060AB *                | 8008-060BB *               |
| 8           | 8008-080AB *                | 8008-080BB *               |
| 10          | 8008-100AB *                | 8008-100BB *               |
| 12          | 8008-120AB *                | 8008-120BB *               |
| 14          | 8008-140AB *                | 8008-140BB *               |
| 16          | 8008-160AB *                | 8008-160BB *               |

| Size [inch] | Lift Qty [ft] | Average O.D. [inch] | min. wall [inch] | psi at 73° F | A - Socket Entrance (Belled Pipe) | B - Socket Bottom (Belled Pipe) | C - Minimum (Belled Pipe) |
|-------------|---------------|---------------------|------------------|--------------|-----------------------------------|---------------------------------|---------------------------|
| 1/2         | 5600          | 0.840               | 0.147            | 848          | 0.848±0.004                       | 0.836±0.004                     | 1.000                     |
| 3/4         | 5000          | 1.050               | 0.154            | 688          | 1.058±0.004                       | 1.046±0.004                     | 1.250                     |
| 1           | 2360          | 1.315               | 0.179            | 630          | 1.325±0.005                       | 1.310±0.005                     | 1.500                     |
| 1 1/4       | 1960          | 1.660               | 0.191            | 520          | 1.670±0.005                       | 1.655±0.005                     | 1.750                     |
| 1 1/2       | 1800          | 1.900               | 0.200            | 471          | 1.912±0.006                       | 1.894±0.006                     | 2.000                     |
| 2           | 1060          | 2.375               | 0.218            | 404          | 2.387±0.006                       | 2.363±0.006                     | 2.250                     |
| 2 1/2       | 880           | 2.875               | 0.276            | 425          | 2.889±0.007                       | 2.861±0.007                     | 2.500                     |
| 3           | 700           | 3.500               | 0.300            | 375          | 3.516±0.008                       | 3.484±0.008                     | 3.250                     |
| 4           | 520           | 4.500               | 0.337            | 324          | 4.518±0.009                       | 4.482±0.009                     | 4.000                     |
| 6           | 220           | 6.625               | 0.432            | 279          | 6.647±0.011                       | 6.603±0.011                     | 6.000                     |
| 8           | 100           | 8.625               | 0.500            | 246          | 8.655±0.015                       | 8.598±0.015                     | 6.000                     |
| 10          | 80            | 10.750              | 0.593            | 230          | 10.776±0.015                      | 10.722±0.015                    | 7.500                     |
| 12          | 60            | 12.750              | 0.687            | 230          | 12.778±0.015                      | 12.721±0.015                    | 8.500                     |
| 14          | 60            | 14.000              | 0.750            | 220          | 14.035±0.015                      | 13.985±0.015                    | 9.000                     |
| 16          | 60            | 16.000              | 0.843            | 220          | 16.045±0.015                      | 15.980±0.015                    | 10.000                    |

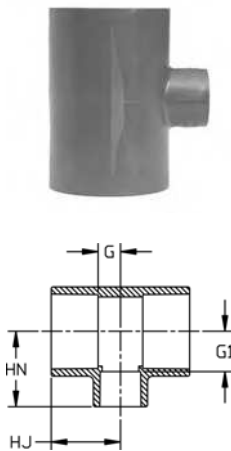
# Pressure Fittings

## Tee (S x S x S)



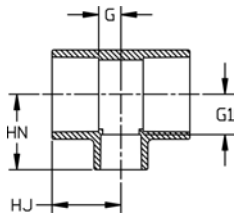
| Size [inch] | P/L | Part No.   | Minimum Order Qty | H [inch] | G [inch] | Design |  |
|-------------|-----|------------|-------------------|----------|----------|--------|--|
| ¼           | 08  | 801-002    | 50                | 0.92     | 0.29     | HS     |  |
| ⅜           | 08  | 801-003    | 50                | 1.16     | 0.40     | HS     |  |
| ½           | 08  | 801-005    | 25                | 1.49     | 0.50     | SL     |  |
| ¾           | 08  | 801-007    | 25                | 1.61     | 0.56     | SL     |  |
| 1           | 08  | 801-010    | 20                | 1.86     | 0.72     | SL     |  |
| 1 ¼         | 08  | 801-012    | 5                 | 2.19     | 0.91     | SL     |  |
| 1 ½         | 08  | 801-015    | 10                | 2.44     | 1.06     | SL     |  |
| 2           | 08  | 801-020    | 10                | 2.78     | 1.29     | SL     |  |
| 2 ½         | 08  | 801-025    | 5                 | 3.33     | 1.50     | SL     |  |
| 3           | 08  | 801-030    | 5                 | 3.75     | 1.85     | SL     |  |
| 4           | 08  | 801-040    | 5                 | 4.63     | 2.38     | SL     |  |
| 6           | 08  | 801-060    | 2                 | 6.63     | 3.55     | SL     |  |
| 8           | 08  | 801-080    | 1                 | 8.70     | 4.59     | SL     |  |
| 10          | 02  | 801-100    | 1                 | 10.85    | 5.75     | SL     |  |
| 12          | 02  | 801-120    | 1                 | 13.39    | 6.89     | SL     |  |
| 14          | 05  | 801-140H * | 1                 | 25.00    | 11.00    | FAB    |  |
| 16          | 05  | 801-160H * | 1                 | 28.25    | 12.25    | FAB    |  |

## Reducing Tee (S x S x S)



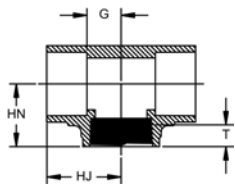
| Size [inch] | P/L | Part No.    | Minimum Order Qty | HJ [inch] | HN [inch] | G [inch] | G1 [inch] | Design |  |
|-------------|-----|-------------|-------------------|-----------|-----------|----------|-----------|--------|--|
| ½ x ¼       | 08  | 801-072FB * | 25                | 1.39      | 1.63      | 0.52     | 0.96      | BUSH   |  |
| ¾ x ½       | 08  | 801-101     | 25                | 1.63      | 1.63      | 0.61     | 0.73      | SL     |  |
| 1 x ½       | 08  | 801-130     | 25                | 1.88      | 1.63      | 0.73     | 0.75      | SL     |  |
| 1 x ¾       | 08  | 801-131     | 20                | 1.88      | 1.87      | 0.73     | 0.86      | SL     |  |
| 1 ¼ x 1     | 08  | 801-168     | 20                | 2.00      | 2.00      | 0.73     | 0.91      | SL     |  |
| 1 ½ x ½     | 08  | 801-209     | 5                 | 1.91      | 1.93      | 0.54     | 1.05      | SL     |  |
| 1 ½ x ¾     | 08  | 801-210     | 5                 | 2.00      | 2.00      | 0.61     | 1.05      | SL     |  |
| 1 ½ x 1     | 08  | 801-211     | 5                 | 2.13      | 2.20      | 0.73     | 0.81      | SL     |  |
| 2 x ½       | 08  | 801-247     | 5                 | 2.04      | 2.19      | 0.53     | 1.30      | SL     |  |
| 2 x ¾       | 08  | 801-248     | 5                 | 2.13      | 2.31      | 0.73     | 1.29      | SL     |  |
| 2 x 1       | 08  | 801-249     | 5                 | 2.25      | 2.44      | 0.73     | 1.26      | SL     |  |
| 2 x 1 ¼     | 08  | 801-250FB * | 5                 | 2.78      | 3.11      | 1.29     | 1.85      | BUSH   |  |
| 2 x 1 ½     | 08  | 801-251     | 5                 | 2.56      | 2.69      | 1.05     | 1.29      | SL     |  |
| 2 ½ x 2     | 08  | 801-292     | 5                 | 3.04      | 3.03      | 1.28     | 1.53      | SL     |  |
| 3 x 2       | 08  | 801-338     | 5                 | 3.21      | 3.40      | 1.31     | 1.87      | SL     |  |
| 4 x 2       | 08  | 801-420     | 5                 | 3.52      | 3.88      | 1.26     | 2.37      | SL     |  |
| 4 x 3       | 08  | 801-422     | 5                 | 4.15      | 4.31      | 1.87     | 2.39      | SL     |  |
| 6 x 2       | 08  | 801-528FB * | 2                 | 6.58      | 7.21      | 3.56     | 5.65      | BUSH   |  |
| 6 x 3       | 08  | 801-530FB * | 2                 | 6.58      | 7.21      | 3.56     | 5.26      | BUSH   |  |
| 6 x 4       | 08  | 801-532     | 2                 | 6.58      | 6.81      | 3.49     | 4.50      | HS     |  |
| 8 x 4       | 08  | 801-582FB * | 1                 | 7.63      | 8.09      | 3.59     | 5.84      | BUSH   |  |
| 8 x 6       | 08  | 801-585     | 1                 | 7.63      | 7.59      | 3.59     | 3.56      | HS     |  |
| 10 x 4      | 05  | 801-623H *  | 1                 | 10.75     | 10.13     | 5.75     | 13.25     | FAB    |  |
| 10 x 6      | 05  | 801-626H *  | 1                 | 11.81     | 11.13     | 6.81     | 13.19     | FAB    |  |
| 10 x 8      | 02  | 801-628FB * | 1                 | 10.85     | 12.38     | 5.75     | 7.32      | BUSH   |  |
| 12 x 4      | 05  | 801-663H *  | 1                 | 11.75     | 11.13     | 5.75     | 15.25     | FAB    |  |
| 12 x 6      | 05  | 801-666H *  | 1                 | 12.81     | 12.13     | 6.81     | 15.19     | FAB    |  |
| 12 x 8      | 05  | 801-668H *  | 1                 | 13.81     | 13.38     | 7.81     | 15.44     | FAB    |  |
| 12 x 10     | 02  | 801-670FB * | 1                 | 13.39     | 14.88     | 6.89     | 8.52      | BUSH   |  |
| 14 x 4      | 05  | 801-696H *  | 1                 | 13.25     | 11.75     | 6.25     | 16.50     | FAB    |  |
| 14 x 6      | 05  | 801-698H *  | 1                 | 14.31     | 12.75     | 7.31     | 16.44     | FAB    |  |
| 14 x 8      | 05  | 801-700H *  | 1                 | 15.31     | 14.00     | 8.31     | 16.69     | FAB    |  |
| 14 x 10     | 05  | 801-702H *  | 1                 | 16.38     | 15.50     | 9.38     | 17.13     | FAB    |  |
| 14 x 12     | 05  | 801-704H *  | 1                 | 17.38     | 16.50     | 10.38    | 17.13     | FAB    |  |

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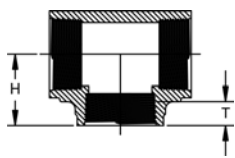
| Size [inch] | P/L | Part No.   | Minimum Order Qty | HJ [inch] | HN [inch] | G [inch] | G1 [inch] | Design |
|-------------|-----|------------|-------------------|-----------|-----------|----------|-----------|--------|
| 16 x 4      | 05  | 801-730H * | 1                 | 14.50     | 12.75     | 6.50     | 18.50     | FAB    |
| 16 x 6      | 05  | 801-732H * | 1                 | 15.56     | 13.75     | 7.56     | 18.44     | FAB    |
| 16 x 8      | 05  | 801-734H * | 1                 | 16.56     | 15.00     | 8.56     | 18.69     | FAB    |
| 16 x 10     | 05  | 801-736H * | 1                 | 17.63     | 16.50     | 9.63     | 19.13     | FAB    |
| 16 x 12     | 05  | 801-738H * | 1                 | 18.63     | 17.50     | 10.63    | 19.13     | FAB    |
| 16 x 14     | 05  | 801-740H * | 1                 | 19.25     | 19.00     | 11.25    | 20.00     | FAB    |

### Tee (S x S x FPT)



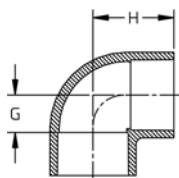
| Size [inch] | P/L | Part No. | Minimum Order Qty | HJ [inch] | HN [inch] | G [inch] | T [inch] | Design |
|-------------|-----|----------|-------------------|-----------|-----------|----------|----------|--------|
| 1/2         | 08  | 802-005  | 25                | 1.39      | 1.39      | 0.52     | 0.53     | HS     |
| 3/4         | 08  | 802-007  | 25                | 1.58      | 1.37      | 0.58     | 0.55     | HS     |
| 1           | 08  | 802-010  | 15                | 1.83      | 1.70      | 0.70     | 0.68     | HS     |
| 1 1/2       | 08  | 802-015  | 5                 | 2.42      | 2.08      | 1.03     | 0.72     | HS     |
| 2           | 08  | 802-020  | 5                 | 2.79      | 2.35      | 1.28     | 0.76     | HS     |

### Tee (FPT x FPT x FPT)



| Size [inch] | P/L | Part No.  | Minimum Order Qty | H [inch] | T [inch] | Design |
|-------------|-----|-----------|-------------------|----------|----------|--------|
| 1/4         | 08  | 805-002 ^ | 50                | 0.92     | 0.40     | HS     |
| 3/8         | 08  | 805-003 ^ | 50                | 1.16     | 0.41     | HS     |
| 1/2         | 08  | 805-005 ^ | 25                | 1.27     | 0.53     | HS     |
| 3/4         | 08  | 805-007 ^ | 25                | 1.38     | 0.55     | HS     |
| 1           | 08  | 805-010 ^ | 15                | 1.70     | 0.68     | HS     |
| 1 1/4       | 08  | 805-012 ^ | 10                | 1.93     | 0.71     | HS     |
| 1 1/2       | 08  | 805-015 ^ | 5                 | 2.08     | 0.72     | HS     |
| 2           | 08  | 805-020 ^ | 5                 | 2.35     | 0.76     | HS     |
| 2 1/2       | 08  | 805-025 ^ | 5                 | 2.88     | 1.14     | HS     |
| 3           | 08  | 805-030 ^ | 5                 | 3.50     | 1.20     | HS     |
| 4           | 08  | 805-040 ^ | 5                 | 4.06     | 1.30     | HS     |

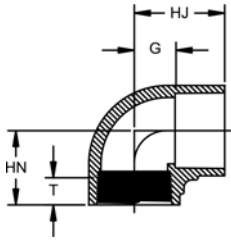
### 90° EII (S x S)



| Size [inch] | P/L | Part No.   | Minimum Order Qty | H [inch] | G [inch] | Design |
|-------------|-----|------------|-------------------|----------|----------|--------|
| 1/4         | 08  | 806-002    | 50                | 0.95     | 0.33     | HS     |
| 3/8         | 08  | 806-003    | 50                | 1.17     | 0.41     | HS     |
| 1/2         | 08  | 806-005    | 25                | 1.41     | 0.50     | SL     |
| 3/4         | 08  | 806-007    | 25                | 1.61     | 0.56     | SL     |
| 1           | 08  | 806-010    | 10                | 1.86     | 0.69     | SL     |
| 1 1/4       | 08  | 806-012    | 10                | 2.16     | 0.91     | SL     |
| 1 1/2       | 08  | 806-015    | 10                | 2.41     | 1.03     | SL     |
| 2           | 08  | 806-020    | 20                | 2.78     | 1.28     | SL     |
| 2 1/2       | 08  | 806-025    | 5                 | 3.29     | 1.53     | SL     |
| 3           | 08  | 806-030    | 5                 | 3.75     | 1.85     | SL     |
| 4           | 08  | 806-040    | 5                 | 4.60     | 2.34     | SL     |
| 6           | 08  | 806-060    | 2                 | 6.70     | 3.69     | SL     |
| 8           | 08  | 806-080    | 1                 | 8.67     | 4.59     | SL     |
| 10          | 02  | 806-100    | 1                 | 10.77    | 5.75     | SL     |
| 12          | 02  | 806-120    | 1                 | 12.64    | 6.06     | SL     |
| 14          | 05  | 806-140H * | 1                 | 23.75    | 16.75    | FAB    |
| 16          | 05  | 806-160H * | 1                 | 27.00    | 19.00    | FAB    |



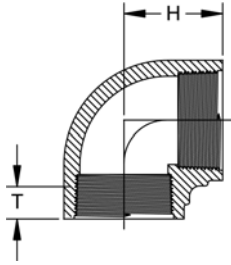
## 90° EII (S x FPT)



| Size [inch] | P/L | Part No. | Minimum Order Qty | HJ [inch] | HN [inch] | G [inch] | T [inch] | Design |
|-------------|-----|----------|-------------------|-----------|-----------|----------|----------|--------|
| 1/2         | 08  | 807-005  | 25                | 1.80      | 1.28      | 0.50     | 0.53     | HS     |
| 3/4         | 08  | 807-007  | 25                | 1.57      | 1.38      | 0.56     | 0.55     | HS     |
| 1           | 08  | 807-010  | 10                | 1.82      | 1.70      | 0.69     | 0.68     | HS     |
| 1 1/4       | 08  | 807-012  | 10                | 2.16      | 1.93      | 0.91     | 0.71     | HS     |
| 1 1/2       | 08  | 807-015  | 10                | 2.41      | 2.07      | 1.03     | 0.72     | HS     |
| 2           | 08  | 807-020  | 5                 | 2.78      | 2.35      | 1.28     | 0.76     | HS     |
| 3           | 08  | 807-030  | 5                 | 3.75      | 3.50      | 1.85     | 1.20     | HS     |



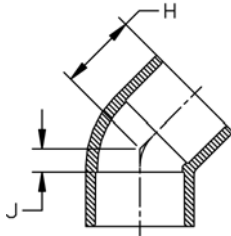
## 90° EII (FPT x FPT)



| Size [inch] | P/L | Part No.  | Minimum Order Qty | H [inch] | T [inch] | Design |
|-------------|-----|-----------|-------------------|----------|----------|--------|
| 1/4         | 08  | 808-002 ^ | 50                | 0.92     | 0.40     | HS     |
| 3/8         | 08  | 808-003 ^ | 50                | 1.00     | 0.41     | HS     |
| 1/2         | 08  | 808-005 ^ | 25                | 1.29     | 0.53     | HS     |
| 3/4         | 08  | 808-007 ^ | 25                | 1.38     | 0.55     | HS     |
| 1           | 08  | 808-010 ^ | 10                | 1.70     | 0.68     | HS     |
| 1 1/4       | 08  | 808-012 ^ | 10                | 1.93     | 0.71     | HS     |
| 1 1/2       | 08  | 808-015 ^ | 10                | 2.06     | 0.72     | HS     |
| 2           | 08  | 808-020 ^ | 5                 | 2.36     | 0.76     | HS     |
| 2 1/2       | 08  | 808-025 ^ | 5                 | 3.00     | 1.14     | HS     |
| 3           | 08  | 808-030 ^ | 5                 | 3.50     | 1.20     | HS     |
| 4           | 08  | 808-040 ^ | 5                 | 4.13     | 1.30     | HS     |



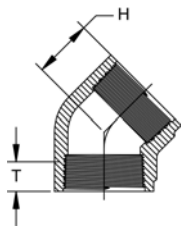
## 45° EII (S x S)



| Size [inch] | P/L | Part No.   | Minimum Order Qty | H [inch] | J [inch] | Design |
|-------------|-----|------------|-------------------|----------|----------|--------|
| 1/4         | 08  | 817-002    | 50                | 0.81     | 0.13     | HS     |
| 3/8         | 08  | 817-003    | 50                | 0.94     | 0.19     | HS     |
| 1/2         | 08  | 817-005    | 25                | 1.21     | 0.25     | SL     |
| 3/4         | 08  | 817-007    | 20                | 1.32     | 0.33     | SL     |
| 1           | 08  | 817-010    | 25                | 1.47     | 0.29     | SL     |
| 1 1/4       | 08  | 817-012    | 15                | 1.70     | 0.40     | SL     |
| 1 1/2       | 08  | 817-015    | 10                | 1.88     | 0.44     | SL     |
| 2           | 08  | 817-020    | 10                | 2.16     | 0.60     | SL     |
| 2 1/2       | 08  | 817-025    | 5                 | 2.53     | 0.76     | SL     |
| 3           | 08  | 817-030    | 5                 | 2.66     | 0.78     | SL     |
| 4           | 08  | 817-040    | 5                 | 3.24     | 0.95     | SL     |
| 6           | 08  | 817-060    | 2                 | 4.81     | 1.74     | SL     |
| 8           | 08  | 817-080    | 2                 | 6.08     | 1.98     | HS     |
| 10          | 02  | 817-100    | 1                 | 7.46     | 2.44     | SL     |
| 12          | 02  | 817-120    | 1                 | 9.58     | 3.08     | SL     |
| 14          | 05  | 817-140H * | 1                 | 16.50    | 9.50     | FAB    |
| 16          | 05  | 817-160H * | 1                 | 18.00    | 10.00    | FAB    |

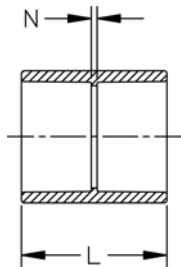


## 45° Ell (FPT x FPT)



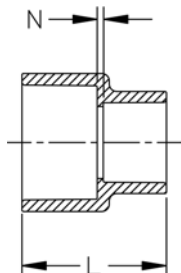
| Size [inch] | P/L | Part No.  | Minimum Order Qty | H [inch] | T [inch] | Design |
|-------------|-----|-----------|-------------------|----------|----------|--------|
| 1/4         | 08  | 819-002 ^ | 50                | 0.76     | 0.40     | HS     |
| 3/8         | 08  | 819-003 ^ | 50                | 0.94     | 0.41     | HS     |
| 1/2         | 08  | 819-005 ^ | 25                | 1.02     | 0.53     | HS     |
| 3/4         | 08  | 819-007 ^ | 20                | 1.14     | 0.55     | HS     |
| 1           | 08  | 819-010 ^ | 25                | 1.33     | 0.68     | HS     |
| 1 1/4       | 08  | 819-012 ^ | 15                | 1.40     | 0.71     | HS     |
| 1 1/2       | 08  | 819-015 ^ | 10                | 1.52     | 0.72     | HS     |
| 2           | 08  | 819-020 ^ | 5                 | 1.72     | 0.76     | HS     |
| 3           | 08  | 819-030 ^ | 5                 | 2.44     | 1.20     | HS     |
| 4           | 08  | 819-040 ^ | 5                 | 2.77     | 1.30     | HS     |

## Coupling (S x S)



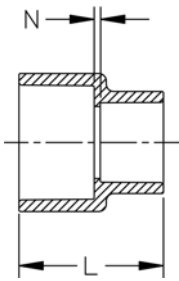
| Size [inch] | P/L | Part No.   | Minimum Order Qty | L [inch] | N [inch] | Design |
|-------------|-----|------------|-------------------|----------|----------|--------|
| 1/4         | 08  | 829-002    | 50                | 1.39     | 0.14     | HS     |
| 3/8         | 08  | 829-003    | 50                | 1.64     | 0.14     | HS     |
| 1/2         | 08  | 829-005    | 25                | 1.93     | 0.13     | SL     |
| 3/4         | 08  | 829-007    | 20                | 2.18     | 0.13     | SL     |
| 1           | 08  | 829-010    | 25                | 2.41     | 0.13     | SL     |
| 1 1/4       | 08  | 829-012    | 10                | 2.64     | 0.12     | SL     |
| 1 1/2       | 08  | 829-015    | 10                | 2.90     | 0.13     | SL     |
| 2           | 08  | 829-020    | 20                | 3.14     | 0.12     | SL     |
| 2 1/2       | 08  | 829-025    | 5                 | 3.75     | 0.16     | SL     |
| 3           | 08  | 829-030    | 5                 | 4.04     | 0.25     | SL     |
| 4           | 08  | 829-040    | 5                 | 4.79     | 0.25     | SL     |
| 6           | 08  | 829-060    | 2                 | 6.41     | 0.34     | SL     |
| 8           | 08  | 829-080    | 2                 | 8.40     | 0.34     | SL     |
| 10          | 02  | 829-100    | 2                 | 10.55    | 0.49     | SL     |
| 12          | 02  | 829-120    | 1                 | 12.54    | 0.50     | SL     |
| 14          | 05  | 829-140H * | 1                 | 17.63    | 3.63     | FAB    |
| 16          | 05  | 829-160H * | 1                 | 19.88    | 3.88     | FAB    |

## Reducing Coupling (S x S)



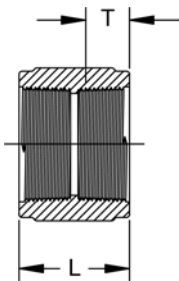
| Size [inch]   | P/L | Part No.    | Minimum Order Qty | L [inch] | N [inch] | Design |
|---------------|-----|-------------|-------------------|----------|----------|--------|
| 3/4 x 1/2     | 08  | 829-101     | 25                | 2.16     | 0.14     | HS     |
| 1 x 1/2       | 08  | 829-130     | 25                | 2.12     | 0.09     | HS     |
| 1 x 3/4       | 08  | 829-131     | 25                | 2.26     | 0.12     | HS     |
| 1 1/4 x 1     | 08  | 829-168     | 25                | 2.54     | 0.09     | HS     |
| 1 1/2 x 1/2   | 08  | 829-209FB * | 5                 | 3.34     | 0.17     | BUSH   |
| 1 1/2 x 3/4   | 08  | 829-210     | 5                 | 3.34     | 0.17     | BUSH   |
| 1 1/2 x 1     | 08  | 829-211     | 15                | 2.66     | 0.10     | HS     |
| 1 1/2 x 1 1/4 | 08  | 829-212     | 20                | 2.82     | 0.10     | HS     |
| 2 x 1/2       | 08  | 829-247FB * | 1                 | 3.35     | 0.88     | BUSH   |
| 2 x 3/4       | 08  | 829-248FB * | 1                 | 3.36     | 0.77     | BUSH   |
| 2 x 1         | 08  | 829-249     | 5                 | 3.12     | 0.33     | HS     |
| 2 x 1 1/4     | 08  | 829-250     | 5                 | 3.00     | 0.13     | HS     |
| 2 x 1 1/2     | 08  | 829-251     | 5                 | 3.05     | 0.10     | HS     |
| 2 1/2 x 1 1/2 | 08  | 829-291     | 5                 | 3.30     | 0.13     | HS     |
| 2 1/2 x 2     | 08  | 829-292FB * | 1                 | 4.00     | 0.65     | BUSH   |
| 3 x 2         | 08  | 829-338     | 5                 | 3.61     | 0.16     | HS     |
| 4 x 2         | 08  | 829-420FB * | 5                 | 4.94     | 1.12     | BUSH   |
| 4 x 3         | 08  | 829-422     | 5                 | 4.39     | 0.26     | HS     |
| 6 x 4         | 08  | 829-532     | 2                 | 10.25    | 3.50     | HS     |
| 8 x 6         | 08  | 829-585     | 2                 | 9.12     | 2.07     | HS     |
| 10 x 4        | 05  | 829-623H *  | 1                 | 16.25    | 9.25     | FAB    |

table continued next page



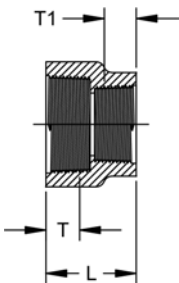
| Size [inch] | P/L | Part No.    | Minimum Order Qty | L [inch] | N [inch] | Design |
|-------------|-----|-------------|-------------------|----------|----------|--------|
| 10 x 6      | 05  | 829-626H *  | 1                 | 15.75    | 7.75     | FAB    |
| 10 x 8      | 02  | 829-628FB * | 2                 | 11.18    | 2.07     | BUSH   |
| 12 x 8      | 05  | 829-668H *  | 1                 | 17.00    | 7.00     | FAB    |
| 12 x 10     | 02  | 829-670FB * | 1                 | 13.24    | 2.13     | BUSH   |
| 14 x 10     | 05  | 829-702H *  | 1                 | 19.00    | 7.00     | FAB    |
| 14 x 12     | 05  | 829-704H *  | 1                 | 17.00    | 4.00     | FAB    |
| 16 x 12     | 05  | 829-738H *  | 1                 | 22.00    | 8.00     | FAB    |
| 16 x 14     | 05  | 829-740H *  | 1                 | 20.00    | 5.00     | FAB    |

### Coupling (FPT x FPT)



| Size [inch] | P/L | Part No.  | Minimum Order Qty | L [inch] | T [inch] | Design |
|-------------|-----|-----------|-------------------|----------|----------|--------|
| 1/4         | 08  | 830-002 ^ | 50                | 1.30     | 0.40     | HS     |
| 3/8         | 08  | 830-003 ^ | 50                | 1.34     | 0.41     | HS     |
| 1/2         | 08  | 830-005 ^ | 25                | 1.66     | 0.53     | HS     |
| 3/4         | 08  | 830-007 ^ | 20                | 1.73     | 0.55     | HS     |
| 1           | 08  | 830-010 ^ | 25                | 2.10     | 0.68     | HS     |
| 1 1/4       | 08  | 830-012 ^ | 10                | 2.19     | 0.71     | HS     |
| 1 1/2       | 08  | 830-015 ^ | 10                | 2.22     | 0.72     | HS     |
| 2           | 08  | 830-020 ^ | 10                | 2.29     | 0.76     | HS     |
| 2 1/2       | 08  | 830-025 ^ | 5                 | 3.39     | 1.14     | HS     |
| 3           | 08  | 830-030 ^ | 5                 | 3.57     | 1.20     | HS     |
| 4           | 08  | 830-040 ^ | 5                 | 3.73     | 1.30     | HS     |

### Reducing Coupling (FPT x FPT)

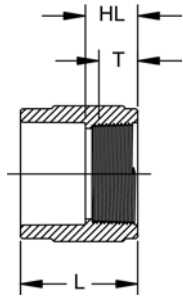


| Size [inch] | P/L | Part No.  | Minimum Order Qty | L [inch] | T [inch] | T1 [inch] | Design |
|-------------|-----|-----------|-------------------|----------|----------|-----------|--------|
| 3/8 x 1/4   | 08  | 830-052 ^ | 50                | 1.29     | 0.41     | 0.40      | HS     |
| 1/2 x 1/4   | 08  | 830-072 ^ | 50                | 1.45     | 0.53     | 0.40      | HS     |
| 1/2 x 3/8   | 08  | 830-073 ^ | 50                | 1.46     | 0.53     | 0.41      | HS     |
| 3/4 x 1/2   | 08  | 830-101 ^ | 25                | 1.69     | 0.55     | 0.53      | HS     |
| 1 x 1/2     | 08  | 830-130 ^ | 25                | 1.83     | 0.68     | 0.53      | HS     |
| 1 x 3/4     | 08  | 830-131 ^ | 25                | 1.88     | 0.68     | 0.55      | HS     |
| 1 1/4 x 3/4 | 08  | 830-167 ^ | 25                | 1.91     | 0.71     | 0.55      | HS     |
| 1 1/2 x 1   | 08  | 830-211 ^ | 20                | 2.11     | 0.72     | 0.68      | HS     |
| 2 x 1 1/2   | 08  | 830-251 ^ | 10                | 2.11     | 0.76     | 0.72      | HS     |



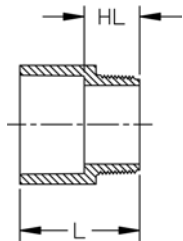


## Female Adapter (S x FPT)



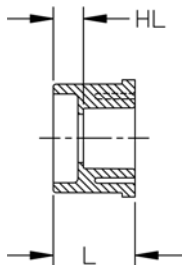
| Size [inch] | P/L | Part No.          | Minimum Order Qty | HL [inch] | L [inch] | T [inch] | Design |
|-------------|-----|-------------------|-------------------|-----------|----------|----------|--------|
| 1/4         | 08  | <b>835-002</b>    | 50                | 0.75      | 1.43     | 0.40     | HS     |
| 3/8         | 08  | <b>835-003</b>    | 50                | 0.75      | 1.55     | 0.41     | HS     |
| 1/2         | 08  | <b>835-005</b>    | 25                | 0.91      | 1.79     | 0.53     | HS     |
| 3/4         | 08  | <b>835-007</b>    | 25                | 0.95      | 1.96     | 0.55     | HS     |
| 1           | 08  | <b>835-010</b>    | 25                | 1.11      | 2.26     | 0.68     | HS     |
| 1 1/4       | 08  | <b>835-012</b>    | 10                | 1.16      | 2.44     | 0.71     | HS     |
| 1 1/2       | 08  | <b>835-015</b>    | 10                | 1.19      | 2.58     | 0.72     | HS     |
| 2           | 08  | <b>835-020</b>    | 10                | 1.23      | 2.74     | 0.76     | HS     |
| 2 1/2       | 08  | <b>835-025</b>    | 5                 | 1.75      | 3.50     | 1.14     | HS     |
| 3           | 08  | <b>835-030</b>    | 5                 | 1.91      | 3.82     | 1.20     | HS     |
| 4           | 08  | <b>835-040</b>    | 5                 | 2.02      | 4.29     | 1.30     | HS     |
| 6           | 05  | <b>835-060H *</b> | 1                 | 4.50      | 7.50     | 1.51     | FAB    |
| 8           | 05  | <b>835-080H *</b> | 1                 | 4.25      | 8.50     | 1.71     | FAB    |
| 10          | 05  | <b>835-100H *</b> | 1                 | 5.00      | 10.00    | 1.93     | FAB    |
| 12          | 05  | <b>835-120H *</b> | 1                 | 5.00      | 11.00    | 2.13     | FAB    |

## Male Adapter (S x MPT)



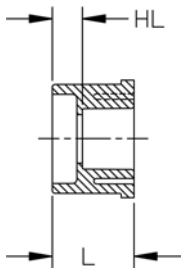
| Size [inch] | P/L | Part No.          | Minimum Order Qty | HL [inch] | L [inch] | Design |
|-------------|-----|-------------------|-------------------|-----------|----------|--------|
| 1/2         | 08  | <b>836-005</b>    | 50                | 0.93      | 1.86     | SL     |
| 3/4         | 08  | <b>836-007</b>    | 25                | 1.00      | 2.04     | HS     |
| 1           | 08  | <b>836-010</b>    | 25                | 1.21      | 2.39     | HS     |
| 1 1/4       | 08  | <b>836-012</b>    | 15                | 1.29      | 2.56     | HS     |
| 1 1/2       | 08  | <b>836-015</b>    | 10                | 1.32      | 2.72     | HS     |
| 2           | 08  | <b>836-020</b>    | 5                 | 1.35      | 2.88     | HS     |
| 2 1/2       | 08  | <b>836-025</b>    | 5                 | 1.87      | 3.68     | HS     |
| 3           | 08  | <b>836-030</b>    | 5                 | 2.02      | 3.92     | HS     |
| 4           | 08  | <b>836-040</b>    | 5                 | 2.08      | 4.40     | HS     |
| 6           | 05  | <b>836-060H *</b> | 1                 | 3.50      | 7.00     | FAB    |
| 8           | 05  | <b>836-080H *</b> | 1                 | 4.00      | 8.00     | FAB    |
| 10          | 05  | <b>836-100H *</b> | 1                 | 4.50      | 9.50     | FAB    |
| 12          | 05  | <b>836-120H *</b> | 1                 | 5.50      | 11.50    | FAB    |

## Flush Style Reducer Bushing (Spg x S)



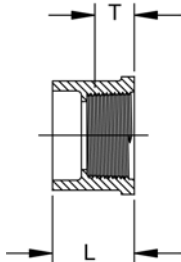
| Size [inch]   | P/L | Part No.           | Minimum Order Qty | HL [inch] | L [inch] | Design |
|---------------|-----|--------------------|-------------------|-----------|----------|--------|
| 1/2 x 1/4     | 08  | <b>837-072</b>     | 50                | 0.46      | 1.14     | FLUSH  |
| 1/2 x 3/8     | 08  | <b>837-073</b>     | 50                | 0.32      | 1.10     | FLUSH  |
| 3/4 x 1/2     | 08  | <b>837-101</b>     | 50                | 0.40      | 1.29     | FLUSH  |
| 1 x 1/2       | 08  | <b>837-130</b>     | 25                | 0.54      | 1.42     | FLUSH  |
| 1 x 3/4       | 08  | <b>837-131</b>     | 50                | 0.44      | 1.42     | FLUSH  |
| 1 1/4 x 1/2   | 08  | <b>837-166 *</b>   | 25                | 0.66      | 1.56     | FLUSH  |
| 1 1/4 x 3/4   | 08  | <b>837-167</b>     | 25                | 0.55      | 1.57     | FLUSH  |
| 1 1/4 x 1     | 08  | <b>837-168</b>     | 25                | 0.42      | 1.57     | FLUSH  |
| 1 1/2 x 1/2   | 08  | <b>837-209</b>     | 25                | 0.77      | 1.68     | FLUSH  |
| 1 1/2 x 3/4   | 08  | <b>837-210</b>     | 25                | 0.67      | 1.69     | FLUSH  |
| 1 1/2 x 1     | 08  | <b>837-211</b>     | 25                | 0.55      | 1.68     | FLUSH  |
| 1 1/2 x 1 1/4 | 08  | <b>837-212</b>     | 25                | 0.42      | 1.70     | FLUSH  |
| 2 x 1/2       | 08  | <b>837-247</b>     | 10                | 0.88      | 1.79     | FLUSH  |
| 2 x 3/4       | 08  | <b>837-248</b>     | 10                | 0.78      | 1.81     | FLUSH  |
| 2 x 1         | 08  | <b>837-249</b>     | 10                | 0.66      | 1.81     | FLUSH  |
| 2 x 1 1/4     | 08  | <b>837-250</b>     | 10                | 0.56      | 1.82     | FLUSH  |
| 2 x 1 1/2     | 08  | <b>837-251</b>     | 10                | 0.40      | 1.80     | FLUSH  |
| 2 1/2 x 1 1/2 | 08  | <b>837-291</b>     | 5                 | 0.96      | 2.43     | FLUSH  |
| 2 1/2 x 2     | 08  | <b>837-292</b>     | 5                 | 0.55      | 2.13     | FLUSH  |
| 3 x 1         | 08  | <b>837-335FB *</b> | 5                 | 1.53      | 3.09     | BUSH   |
| 3 x 1 1/4     | 08  | <b>837-336FB *</b> | 5                 | 1.45      | 2.72     | BUSH   |
| 3 x 1 1/2     | 08  | <b>837-337</b>     | 5                 | 0.92      | 2.43     | FLUSH  |

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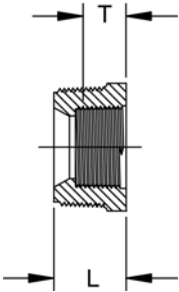


| Size<br>[inch] | P/L | Part No.   | Minimum<br>Order<br>Qty | HL<br>[inch] | L<br>[inch] | Design |
|----------------|-----|------------|-------------------------|--------------|-------------|--------|
| 3 x 2          | 08  | 837-338    | 5                       | 0.87         | 2.43        | FLUSH  |
| 3 x 2 1/2      | 08  | 837-339    | 5                       | 0.39         | 2.23        | FLUSH  |
| 4 x 2          | 08  | 837-420    | 5                       | 1.15         | 2.72        | FLUSH  |
| 4 x 3          | 08  | 837-422    | 5                       | 0.77         | 2.76        | FLUSH  |
| 6 x 3          | 08  | 837-530    | 2                       | 1.45         | 3.59        | FLUSH  |
| 6 x 4          | 08  | 837-532    | 2                       | 2.57         | 6.92        | FLUSH  |
| 8 x 6          | 08  | 837-585    | 1                       | 1.56         | 4.66        | FLUSH  |
| 10 x 4         | 05  | 837-623H * | 1                       | 3.00         | 5.00        | FAB    |
| 10 x 6         | 05  | 837-626H * | 1                       | 2.00         | 5.00        | FAB    |
| 10 x 8         | 02  | 837-628    | 1                       | 1.57         | 5.66        | FLUSH  |
| 12 x 6         | 05  | 837-666H * | 1                       | 3.00         | 5.00        | FAB    |
| 12 x 8         | 05  | 837-668H * | 1                       | 2.00         | 6.00        | FAB    |
| 12 x 10        | 02  | 837-670    | 1                       | 1.63         | 6.72        | FLUSH  |
| 14 x 4         | 05  | 837-696H * | 1                       | 5.00         | 7.00        | FAB    |
| 14 x 6         | 05  | 837-698H * | 1                       | 4.00         | 7.00        | FAB    |
| 14 x 8         | 05  | 837-700H * | 1                       | 3.00         | 7.00        | FAB    |
| 14 x 10        | 05  | 837-702H * | 1                       | 2.00         | 7.00        | FAB    |
| 14 x 12        | 05  | 837-704H * | 1                       | 1.00         | 7.00        | FAB    |
| 16 x 4         | 05  | 837-730H * | 1                       | 6.00         | 8.00        | FAB    |
| 16 x 6         | 05  | 837-732H * | 1                       | 5.00         | 8.00        | FAB    |
| 16 x 8         | 05  | 837-734H * | 1                       | 4.00         | 8.00        | FAB    |
| 16 x 10        | 05  | 837-736H * | 1                       | 3.00         | 8.00        | FAB    |
| 16 x 12        | 05  | 837-738H * | 1                       | 2.00         | 8.00        | FAB    |
| 16 x 14        | 05  | 837-740H * | 1                       | 1.00         | 8.00        | FAB    |

### Flush Style Reducer Bushing (Spg x FPT)



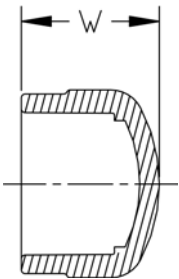
| Size<br>[inch] | P/L | Part No.   | Minimum<br>Order<br>Qty | L<br>[inch] | T<br>[inch] | Design   |
|----------------|-----|------------|-------------------------|-------------|-------------|----------|
| 3/8 x 1/4      | 08  | 838-052E * | 50                      | 0.98        | 0.40        | Extended |
| 1/2 x 1/4      | 08  | 838-072    | 50                      | 1.14        | 0.40        | FLUSH    |
| 1/2 x 3/8      | 08  | 838-073    | 50                      | 1.12        | 0.41        | FLUSH    |
| 3/4 x 1/4      | 08  | 838-098    | 50                      | 1.21        | 0.40        | FLUSH    |
| 3/4 x 1/2      | 08  | 838-101    | 50                      | 1.28        | 0.53        | FLUSH    |
| 1 x 1/2        | 08  | 838-130    | 50                      | 1.42        | 0.53        | FLUSH    |
| 1 x 3/4        | 08  | 838-131    | 50                      | 1.41        | 0.55        | FLUSH    |
| 1 1/4 x 1/2    | 08  | 838-166    | 15                      | 1.53        | 0.53        | FLUSH    |
| 1 1/4 x 3/4    | 08  | 838-167    | 15                      | 1.56        | 0.55        | FLUSH    |
| 1 1/4 x 1      | 08  | 838-168    | 15                      | 1.55        | 0.68        | FLUSH    |
| 1 1/2 x 1/2    | 08  | 838-209    | 15                      | 1.68        | 0.53        | FLUSH    |
| 1 1/2 x 3/4    | 08  | 838-210    | 15                      | 1.68        | 0.55        | FLUSH    |
| 1 1/2 x 1      | 08  | 838-211    | 15                      | 1.69        | 0.68        | FLUSH    |
| 1 1/2 x 1 1/4  | 08  | 838-212    | 25                      | 1.68        | 0.71        | FLUSH    |
| 2 x 1/2        | 08  | 838-247    | 10                      | 1.80        | 0.53        | FLUSH    |
| 2 x 3/4        | 08  | 838-248    | 25                      | 1.80        | 0.55        | FLUSH    |
| 2 x 1          | 08  | 838-249    | 25                      | 1.79        | 0.68        | FLUSH    |
| 2 x 1 1/4      | 08  | 838-250    | 10                      | 1.78        | 0.71        | FLUSH    |
| 2 x 1 1/2      | 08  | 838-251    | 10                      | 1.79        | 0.72        | FLUSH    |
| 2 1/2 x 1 1/2  | 08  | 838-291    | 5                       | 2.11        | 0.72        | FLUSH    |
| 2 1/2 x 2      | 08  | 838-292    | 5                       | 2.20        | 0.76        | FLUSH    |
| 3 x 2          | 08  | 838-338    | 5                       | 2.44        | 0.76        | FLUSH    |
| 3 x 2 1/2      | 08  | 838-339    | 5                       | 2.20        | 1.14        | FLUSH    |
| 4 x 2          | 08  | 838-420    | 5                       | 2.73        | 0.76        | FLUSH    |
| 4 x 3          | 08  | 838-422    | 5                       | 2.69        | 1.20        | FLUSH    |



## Flush Style Reducer Bushing (MPT x FPT)

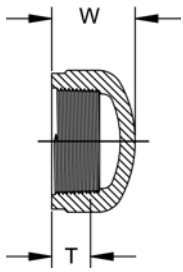
| Size<br>[inch] | P/L | Part No.  | Minimum<br>Order<br>Qty | L<br>[inch] | T<br>[inch] | Style |
|----------------|-----|-----------|-------------------------|-------------|-------------|-------|
| 3/8 x 1/4      | 08  | 839-052 ^ | 50                      | 0.79        | 0.40        | FLUSH |
| 1/2 x 1/4      | 08  | 839-072 ^ | 50                      | 0.96        | 0.40        | FLUSH |
| 1/2 x 3/8      | 08  | 839-073 ^ | 50                      | 0.94        | 0.40        | FLUSH |
| 3/4 x 1/4      | 08  | 839-098 ^ | 50                      | 1.02        | 0.40        | FLUSH |
| 3/4 x 3/8      | 08  | 839-099 ^ | 50                      | 1.02        | 0.41        | FLUSH |
| 3/4 x 1/2      | 08  | 839-101 ^ | 50                      | 1.08        | 0.53        | FLUSH |
| 1 x 1/4        | 08  | 839-128 ^ | 25                      | 1.22        | 0.40        | FLUSH |
| 1 x 1/2        | 08  | 839-130 ^ | 25                      | 1.24        | 0.53        | FLUSH |
| 1 x 3/4        | 08  | 839-131 ^ | 25                      | 1.27        | 0.55        | FLUSH |
| 1 1/4 x 1/2    | 08  | 839-166 ^ | 25                      | 12.83       | 0.53        | FLUSH |
| 1 1/4 x 3/4    | 08  | 839-167 ^ | 25                      | 1.29        | 0.55        | FLUSH |
| 1 1/4 x 1      | 08  | 839-168 ^ | 25                      | 1.30        | 0.68        | FLUSH |
| 1 1/2 x 3/4    | 08  | 839-210 ^ | 25                      | 1.33        | 0.55        | FLUSH |
| 1 1/2 x 1      | 08  | 839-211 ^ | 25                      | 1.34        | 0.68        | FLUSH |
| 1 1/2 x 1 1/4  | 08  | 839-212 ^ | 20                      | 1.32        | 0.71        | FLUSH |
| 2 x 1/2        | 08  | 839-247 ^ | 25                      | 1.43        | 0.53        | FLUSH |
| 2 x 3/4        | 08  | 839-248 ^ | 25                      | 1.43        | 0.55        | FLUSH |
| 2 x 1          | 08  | 839-249 ^ | 10                      | 1.43        | 0.68        | FLUSH |
| 2 x 1 1/4      | 08  | 839-250 ^ | 10                      | 1.43        | 0.71        | FLUSH |
| 2 x 1 1/2      | 08  | 839-251 ^ | 10                      | 1.35        | 0.72        | FLUSH |
| 3 x 2          | 08  | 839-338 ^ | 5                       | 2.03        | 0.76        | FLUSH |
| 4 x 2          | 08  | 839-420 ^ | 5                       | 2.06        | 0.76        | FLUSH |
| 4 x 3          | 08  | 839-422 ^ | 5                       | 2.06        | 1.20        | FLUSH |

## Cap (S)



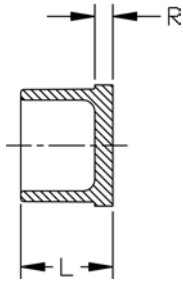
| Size<br>[inch] | P/L | Part No.   | Minimum<br>Order<br>Qty | W<br>[inch] | Design |
|----------------|-----|------------|-------------------------|-------------|--------|
| 1/4            | 08  | 847-002    | 50                      | 0.95        | HS     |
| 3/8            | 08  | 847-003    | 50                      | 1.09        | HS     |
| 1/2            | 08  | 847-005    | 50                      | 1.29        | HS     |
| 3/4            | 08  | 847-007    | 50                      | 1.46        | HS     |
| 1              | 08  | 847-010    | 25                      | 1.67        | HS     |
| 1 1/4          | 08  | 847-012    | 15                      | 1.88        | HS     |
| 1 1/2          | 08  | 847-015    | 10                      | 2.09        | HS     |
| 2              | 08  | 847-020    | 5                       | 2.32        | HS     |
| 2 1/2          | 08  | 847-025    | 5                       | 2.73        | HS     |
| 3              | 08  | 847-030    | 5                       | 3.05        | HS     |
| 4              | 08  | 847-040    | 5                       | 3.67        | HS     |
| 6              | 08  | 847-060    | 2                       | 4.96        | HS     |
| 8              | 08  | 847-080    | 2                       | 7.02        | HS     |
| 10             | 02  | 847-100    | 1                       | 7.88        | SL     |
| 12             | 02  | 847-120    | 1                       | 9.38        | SL     |
| 14             | 05  | 847-140H * | 1                       | 8.50        | FAB    |
| 16             | 05  | 847-160H * | 1                       | 9.50        | FAB    |

## Cap (FPT)



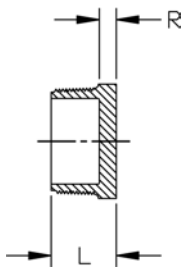
| Size [inch] | P/L | Part No.         | Minimum Order Qty | W [inch] | T [inch] | Design |
|-------------|-----|------------------|-------------------|----------|----------|--------|
| 1/4         | 08  | <b>848-002</b> ^ | 50                | 0.93     | 0.40     | HS     |
| 3/8         | 08  | <b>848-003</b> ^ | 50                | 0.95     | 0.41     | HS     |
| 1/2         | 08  | <b>848-005</b> ^ | 50                | 1.16     | 0.53     | HS     |
| 3/4         | 08  | <b>848-007</b> ^ | 25                | 1.24     | 0.55     | HS     |
| 1           | 08  | <b>848-010</b> ^ | 25                | 1.50     | 0.68     | HS     |
| 1 1/4       | 08  | <b>848-012</b> ^ | 15                | 1.61     | 0.71     | HS     |
| 1 1/2       | 08  | <b>848-015</b> ^ | 10                | 1.66     | 0.72     | HS     |
| 2           | 08  | <b>848-020</b> ^ | 5                 | 1.84     | 0.76     | HS     |
| 2 1/2       | 08  | <b>848-025</b> ^ | 5                 | 2.56     | 1.14     | HS     |
| 3           | 08  | <b>848-030</b> ^ | 5                 | 2.83     | 1.20     | HS     |
| 4           | 08  | <b>848-040</b> ^ | 5                 | 3.13     | 1.30     | HS     |

## Plug (Spg)

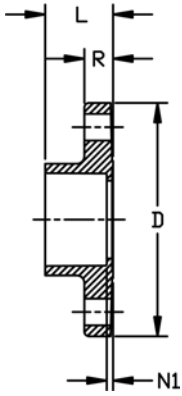


| Size [inch] | P/L | Part No.       | Minimum Order Qty | L [inch] | R [inch] |
|-------------|-----|----------------|-------------------|----------|----------|
| 1/2         | 08  | <b>849-005</b> | 50                | 1.09     | 0.20     |
| 3/4         | 08  | <b>849-007</b> | 50                | 1.26     | 0.23     |
| 1           | 08  | <b>849-010</b> | 25                | 1.41     | 0.25     |
| 1 1/2       | 08  | <b>849-015</b> | 10                | 1.71     | 0.31     |
| 2           | 08  | <b>849-020</b> | 5                 | 1.90     | 0.38     |
| 4           | 08  | <b>849-040</b> | 5                 | 2.64     | 0.39     |

## Plug (MPT)



| Size [inch] | P/L | Part No.          | Minimum Order Qty | L [inch] | R [inch] |
|-------------|-----|-------------------|-------------------|----------|----------|
| 1/4         | 08  | <b>850-002</b>    | 50                | 0.81     | 0.22     |
| 3/8         | 08  | <b>850-003</b>    | 50                | 0.83     | 0.22     |
| 1/2         | 08  | <b>850-005</b>    | 50                | 0.97     | 0.22     |
| 3/4         | 08  | <b>850-007</b>    | 50                | 1.04     | 0.25     |
| 1           | 08  | <b>850-010</b>    | 25                | 1.25     | 0.27     |
| 1 1/4       | 08  | <b>850-012</b>    | 25                | 1.32     | 0.31     |
| 1 1/2       | 08  | <b>850-015</b>    | 20                | 1.38     | 0.34     |
| 2           | 08  | <b>850-020</b>    | 10                | 1.46     | 0.40     |
| 2 1/2       | 08  | <b>850-025</b>    | 5                 | 2.00     | 0.38     |
| 3           | 08  | <b>850-030</b>    | 5                 | 2.00     | 0.38     |
| 4           | 08  | <b>850-040</b>    | 5                 | 2.15     | 0.39     |
| 6           | 05  | <b>850-060H</b> * | 1                 | 4.00     | 1.00     |
| 8           | 05  | <b>850-080H</b> * | 1                 | 4.00     | 1.00     |
| 10          | 05  | <b>850-100H</b> * | 1                 | 4.00     | 1.00     |
| 12          | 05  | <b>850-120H</b> * | 1                 | 4.00     | 1.00     |



## Flange (S)

HC = Honeycomb (Front)

WEB = Webbed (Back)

| Size [inch] | P/L | Part No.       |
|-------------|-----|----------------|
| 1/2         | 08  | <b>851-005</b> |
| 3/4         | 08  | <b>851-007</b> |
| 1           | 08  | <b>851-010</b> |
| 1 1/4       | 08  | <b>851-012</b> |
| 1 1/2       | 08  | <b>851-015</b> |
| 2           | 08  | <b>851-020</b> |
| 2 1/2       | 08  | <b>851-025</b> |
| 3           | 08  | <b>851-030</b> |
| 4           | 08  | <b>851-040</b> |
| 6           | 08  | <b>851-060</b> |
| 8           | 08  | <b>851-080</b> |

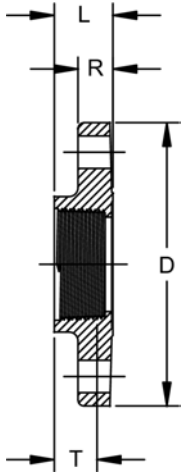
| Size [inch] | Minimum Order Qty | # holes | Bolt Dia. [inch] | bolt cir. dia. [inch] | D [inch] | L [inch] | N1 [inch] | R [inch] | Design |
|-------------|-------------------|---------|------------------|-----------------------|----------|----------|-----------|----------|--------|
| 1/2         | 5                 | 4       | 1/2              | 2.38                  | 3.50     | 1.03     | 0.15      | 0.44     | SOLID  |
| 3/4         | 5                 | 4       | 1/2              | 2.75                  | 3.88     | 1.21     | 0.19      | 0.51     | SOLID  |
| 1           | 5                 | 4       | 1/2              | 3.13                  | 4.25     | 1.39     | 0.13      | 0.55     | HC     |
| 1 1/4       | 5                 | 4       | 1/2              | 3.50                  | 4.63     | 1.42     | 0.16      | 0.62     | HC     |
| 1 1/2       | 5                 | 4       | 1/2              | 3.88                  | 5.00     | 1.54     | 0.16      | 0.72     | HC     |
| 2           | 5                 | 4       | 5/8              | 4.75                  | 6.00     | 1.77     | 0.16      | 0.75     | HC     |
| 2 1/2       | 5                 | 4       | 5/8              | 5.50                  | 7.00     | 2.01     | 0.19      | 0.80     | HC     |
| 3           | 5                 | 4       | 5/8              | 6.00                  | 7.50     | 2.20     | 0.31      | 0.98     | WEB    |
| 4           | 5                 | 8       | 5/8              | 7.50                  | 9.00     | 2.55     | 0.22      | 1.24     | WEB    |
| 6           | 1                 | 8       | 3/4              | 9.50                  | 11.00    | 3.86     | 0.34      | 1.32     | HC     |
| 8           | 1                 | 8       | 3/4              | 11.75                 | 13.50    | 4.85     | 0.35      | 1.37     | HC     |



## Flange (FPT)

HC = Honeycomb (Front)

WEB = Webbed (Back)



| Size [inch] | P/L | Part No.  |  |
|-------------|-----|-----------|--|
| 1/2         | 08  | 852-005 ^ |  |
| 3/4         | 08  | 852-007 ^ |  |
| 1           | 08  | 852-010 ^ |  |
| 1 1/4       | 08  | 852-012 ^ |  |
| 1 1/2       | 08  | 852-015 ^ |  |
| 2           | 08  | 852-020 ^ |  |
| 2 1/2       | 08  | 852-025 ^ |  |
| 3           | 08  | 852-030 ^ |  |
| 4           | 08  | 852-040 ^ |  |

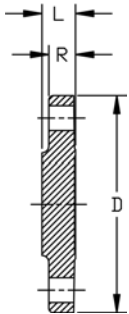
| Size [inch] | Minimum Order Qty | # holes | Bolt Dia. [inch] | bolt cir. dia. [inch] | D [inch] | L [inch] | T [inch] | R [inch] | Design |
|-------------|-------------------|---------|------------------|-----------------------|----------|----------|----------|----------|--------|
| 1/2         | 5                 | 4       | 1/2              | 2.38                  | 3.50     | 0.94     | 0.53     | 0.44     | SOLID  |
| 3/4         | 5                 | 4       | 1/2              | 2.75                  | 3.88     | 0.95     | 0.55     | 0.51     | SOLID  |
| 1           | 5                 | 4       | 1/2              | 3.13                  | 4.25     | 1.13     | 0.68     | 0.55     | HC     |
| 1 1/4       | 5                 | 4       | 1/2              | 3.50                  | 4.63     | 1.19     | 0.71     | 0.63     | HC     |
| 1 1/2       | 5                 | 4       | 1/2              | 3.88                  | 5.00     | 1.21     | 0.72     | 0.72     | HC     |
| 2           | 5                 | 4       | 5/8              | 4.75                  | 6.00     | 1.23     | 0.76     | 0.75     | HC     |
| 2 1/2       | 5                 | 4       | 5/8              | 5.50                  | 7.00     | 1.23     | 1.14     | 0.80     | HC     |
| 3           | 5                 | 4       | 5/8              | 6.00                  | 7.50     | 1.88     | 1.20     | 0.98     | WEB    |
| 4           | 5                 | 8       | 5/8              | 7.50                  | 9.00     | 1.99     | 1.30     | 1.24     | WEB    |



## Flange (Blind)

HC = Honeycomb (Front)

WEB = Webbed (Back)



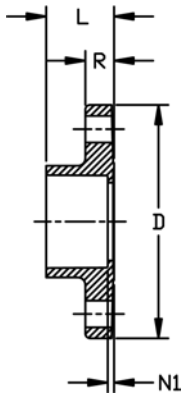
| Size<br>[inch] | P/L | Part No.          | Minimum<br>m Order<br>Qty | # holes | Bolt Dia.<br>[inch] | bolt<br>cir.<br>dia.<br>[inch] | D<br>[inch] | L<br>[inch] | R<br>[inch] | Design |
|----------------|-----|-------------------|---------------------------|---------|---------------------|--------------------------------|-------------|-------------|-------------|--------|
| 1/2            | 08  | <b>853-005</b>    | 1                         | 4       | 1/2                 | 2.38                           | 3.50        | 0.50        | 0.43        | SOLID  |
| 3/4            | 08  | <b>853-007</b>    | 1                         | 4       | 1/2                 | 2.75                           | 3.88        | 0.50        | 0.44        | HC     |
| 1              | 08  | <b>853-010</b>    | 5                         | 4       | 1/2                 | 3.13                           | 4.25        | 0.60        | 0.57        | HC     |
| 1 1/4          | 08  | <b>853-012</b>    | 5                         | 4       | 1/2                 | 3.50                           | 4.63        | 0.63        | 0.56        | HC     |
| 1 1/2          | 08  | <b>853-015</b>    | 5                         | 4       | 1/2                 | 3.88                           | 5.00        | 0.82        | 0.71        | HC     |
| 2              | 08  | <b>853-020</b>    | 5                         | 4       | 5/8                 | 4.75                           | 6.00        | 0.92        | 0.74        | HC     |
| 2 1/2          | 08  | <b>853-025</b>    | 5                         | 4       | 5/8                 | 5.50                           | 7.00        | 0.96        | 0.78        | HC     |
| 3              | 08  | <b>853-030</b>    | 5                         | 4       | 5/8                 | 6.00                           | 7.50        | 1.03        | 0.89        | HC     |
| 4              | 08  | <b>853-040</b>    | 5                         | 8       | 5/8                 | 7.50                           | 9.00        | 1.35        | 1.12        | SOLID  |
| 6              | 08  | <b>853-060</b>    | 1                         | 8       | 3/4                 | 9.50                           | 11.00       | 1.49        | 1.27        | HC     |
| 8              | 08  | <b>853-080</b>    | 1                         | 8       | 3/4                 | 11.75                          | 13.50       | 1.63        | 1.45        | HC     |
| 10             | 05  | <b>853-100H *</b> | 1                         | 12      | 7/8                 | 14.25                          | 16.00       | 1.00        | 1.00        | SOLID  |
| 12             | 05  | <b>853-120H *</b> | 1                         | 12      | 7/8                 | 17.00                          | 19.00       | 1.00        | 1.00        | SOLID  |
| 14             | 05  | <b>853-140H *</b> | 1                         | 12      | 7/8                 | 18.75                          | 21.00       | 1.00        | 1.00        | SOLID  |
| 16             | 05  | <b>853-160H *</b> | 1                         | 16      | 1                   | 21.25                          | 23.50       | 1.00        | 1.00        | SOLID  |



## Van Stone Flange (S)

HC = Honeycomb (Front)

WEB = Webbed (Back)



| Size<br>[inch] | P/L | Part No.          |
|----------------|-----|-------------------|
| 1/2            | 08  | <b>854-005</b>    |
| 3/4            | 08  | <b>854-007</b>    |
| 1              | 08  | <b>854-010</b>    |
| 1 1/4          | 08  | <b>854-012</b>    |
| 1 1/2          | 08  | <b>854-015</b>    |
| 2              | 08  | <b>854-020</b>    |
| 2 1/2          | 08  | <b>854-025</b>    |
| 3              | 08  | <b>854-030</b>    |
| 4              | 08  | <b>854-040</b>    |
| 6              | 08  | <b>854-060</b>    |
| 8              | 08  | <b>854-080</b>    |
| 10             | 02  | <b>854-100</b>    |
| 12             | 02  | <b>854-120</b>    |
| 14             | 05  | <b>854-140H *</b> |
| 16             | 05  | <b>854-160H *</b> |

| Size<br>[inch] | Minimu<br>m Order<br>Qty | # holes | Bolt Dia.<br>[inch] | bolt<br>cir.<br>dia.<br>[inch] | D<br>[inch] | L<br>[inch] | N1<br>[inch] | R<br>[inch] | Design |
|----------------|--------------------------|---------|---------------------|--------------------------------|-------------|-------------|--------------|-------------|--------|
| 1/2            | 5                        | 4       | 1/2                 | 2.38                           | 3.50        | 1.03        | 0.11         | 0.57        | HC     |
| 3/4            | 5                        | 4       | 1/2                 | 2.75                           | 3.88        | 1.15        | 0.13         | 0.58        | HC     |
| 1              | 5                        | 4       | 1/2                 | 3.13                           | 4.25        | 1.38        | 0.11         | 0.66        | HC     |
| 1 1/4          | 5                        | 4       | 1/2                 | 3.50                           | 4.63        | 1.45        | 0.14         | 0.69        | HC     |
| 1 1/2          | 5                        | 4       | 1/2                 | 3.88                           | 5.00        | 1.59        | 0.15         | 0.76        | HC     |
| 2              | 5                        | 4       | 5/8                 | 4.75                           | 6.00        | 1.76        | 0.20         | 0.82        | HC     |
| 2 1/2          | 5                        | 4       | 5/8                 | 5.50                           | 7.00        | 2.05        | 0.22         | 0.98        | HC     |
| 3              | 5                        | 4       | 5/8                 | 6.00                           | 7.50        | 2.25        | 0.30         | 1.02        | HC     |
| 4              | 5                        | 8       | 5/8                 | 7.50                           | 9.00        | 2.65        | 0.34         | 1.11        | HC     |
| 6              | 2                        | 8       | 3/4                 | 9.50                           | 11.00       | 3.45        | 0.35         | 1.37        | HC     |
| 8              | 2                        | 8       | 3/4                 | 11.75                          | 13.50       | 4.50        | 0.40         | 1.73        | HC     |
| 10             | 1                        | 12      | 7/8                 | 14.25                          | 16.00       | 5.63        | 0.50         | 1.73        | HC     |
| 12             | 1                        | 12      | 7/8                 | 17.00                          | 19.00       | 6.69        | 0.56         | 1.73        | HC     |
| 14             | 1                        | 12      | 7/8                 | 18.75                          | 21.00       | 7.75        | 0.50         | 1.38        | FAB    |
| 16             | 1                        | 16      | 1                   | 21.25                          | 23.50       | 10.75       | 0.50         | 1.50        | FAB    |

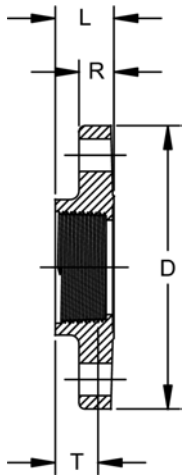




## Van Stone Flange (FPT)

HC = Honeycomb (Front)

WEB = Webbed (Back)



| Size [inch] | P/L | Part No. |   |
|-------------|-----|----------|---|
| 1/2         | 08  | 855-005  | ^ |
| 3/4         | 08  | 855-007  | ^ |
| 1           | 08  | 855-010  | ^ |
| 1 1/4       | 08  | 855-012  | ^ |
| 1 1/2       | 08  | 855-015  | ^ |
| 2           | 08  | 855-020  | ^ |
| 2 1/2       | 08  | 855-025  | ^ |
| 3           | 08  | 855-030  | ^ |
| 4           | 08  | 855-040  | ^ |

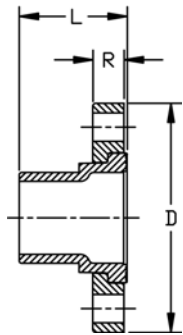
| Size [inch] | Minimum Order Qty | # holes | Bolt Dia. [inch] | bolt cir. dia. [inch] | D [inch] | L [inch] | T [inch] | R [inch] | Design |
|-------------|-------------------|---------|------------------|-----------------------|----------|----------|----------|----------|--------|
| 1/2         | 5                 | 4       | 1/2              | 2.38                  | 3.50     | 1.03     | 0.53     | 0.57     | HC     |
| 3/4         | 5                 | 4       | 1/2              | 2.75                  | 3.88     | 1.15     | 0.55     | 0.58     | HC     |
| 1           | 5                 | 4       | 1/2              | 3.13                  | 4.25     | 1.38     | 0.68     | 0.66     | HC     |
| 1 1/4       | 5                 | 4       | 1/2              | 3.50                  | 4.63     | 1.45     | 0.71     | 0.69     | HC     |
| 1 1/2       | 5                 | 4       | 1/2              | 3.88                  | 5.00     | 1.59     | 0.72     | 0.76     | HC     |
| 2           | 5                 | 4       | 5/8              | 4.75                  | 6.00     | 1.76     | 0.76     | 0.82     | HC     |
| 2 1/2       | 5                 | 4       | 5/8              | 5.50                  | 7.00     | 2.05     | 1.14     | 0.98     | HC     |
| 3           | 5                 | 4       | 5/8              | 6.00                  | 7.50     | 2.25     | 1.20     | 1.02     | HC     |
| 4           | 5                 | 8       | 5/8              | 7.50                  | 9.00     | 2.65     | 1.30     | 1.11     | HC     |



## Van Stone Flange (Spg)

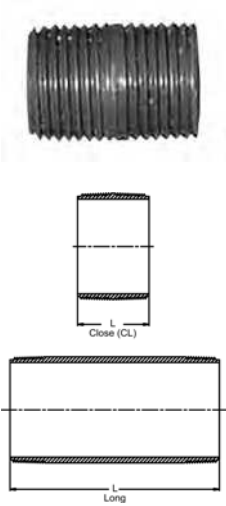
HC = Honeycomb (Front)

WEB = Webbed (Back)



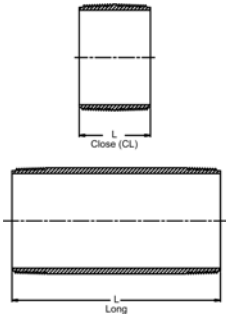
| Size [inch] | P/L | Part No. | Minimum Order Qty | # holes | Bolt Dia. [inch] | bolt cir. dia. [inch] | D [inch] | L [inch] | R [inch] | Design |
|-------------|-----|----------|-------------------|---------|------------------|-----------------------|----------|----------|----------|--------|
| 1/2         | 08  | 856-005  | 5                 | 4       | 1/2              | 2.38                  | 3.50     | 1.65     | 0.57     | HC     |
| 3/4         | 08  | 856-007  | 5                 | 4       | 1/2              | 2.75                  | 3.88     | 1.78     | 0.58     | HC     |
| 1           | 08  | 856-010  | 5                 | 4       | 1/2              | 3.13                  | 4.25     | 2.02     | 0.66     | HC     |
| 1 1/4       | 08  | 856-012  | 5                 | 4       | 1/2              | 3.50                  | 4.63     | 2.20     | 0.69     | HC     |
| 1 1/2       | 08  | 856-015  | 5                 | 4       | 1/2              | 3.88                  | 5.00     | 2.40     | 0.76     | HC     |
| 2           | 08  | 856-020  | 5                 | 4       | 5/8              | 4.75                  | 6.00     | 2.72     | 0.82     | HC     |
| 2 1/2       | 08  | 856-025  | 5                 | 4       | 5/8              | 5.50                  | 7.00     | 3.19     | 0.98     | HC     |
| 3           | 08  | 856-030  | 5                 | 4       | 5/8              | 6.00                  | 7.50     | 3.52     | 1.02     | HC     |
| 4           | 08  | 856-040  | 5                 | 8       | 5/8              | 7.50                  | 9.00     | 4.02     | 1.11     | HC     |
| 6           | 08  | 856-060  | 1                 | 8       | 3/4              | 9.50                  | 11.00    | 5.00     | 1.37     | HC     |
| 8           | 08  | 856-080  | 1                 | 8       | 3/4              | 11.75                 | 13.50    | 6.85     | 1.73     | HC     |

## Nipple (MPT x MPT)



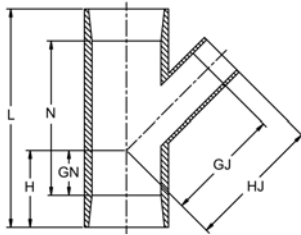
| Size       | P/L | Part No.         | Minimum Order Qty | L [inch] |
|------------|-----|------------------|-------------------|----------|
| 1/2 x CL   | 08  | <b>861-077 *</b> | 50                | 1.13     |
| 1/2 x 2    | 08  | <b>861-079 *</b> | 50                | 2.00     |
| 1/2 x 3    | 08  | <b>861-081 *</b> | 50                | 3.00     |
| 1/2 x 4    | 08  | <b>861-082 *</b> | 50                | 4.00     |
| 1/2 x 5    | 08  | <b>861-083 *</b> | 50                | 5.00     |
| 1/2 x 6    | 08  | <b>861-084 *</b> | 50                | 6.00     |
| 1/2 x 8    | 08  | <b>861-086 *</b> | 50                | 8.00     |
| 1/2 x 10   | 08  | <b>861-087 *</b> | 50                | 10.00    |
| 1/2 x 12   | 08  | <b>861-088 *</b> | 50                | 12.00    |
| 3/4 x CL   | 08  | <b>861-104 *</b> | 25                | 1.38     |
| 3/4 x 2    | 08  | <b>861-020 *</b> | 25                | 2.00     |
| 3/4 x 3    | 08  | <b>861-106 *</b> | 25                | 3.00     |
| 3/4 x 4    | 08  | <b>861-107 *</b> | 25                | 4.00     |
| 3/4 x 5    | 08  | <b>861-108 *</b> | 25                | 5.00     |
| 3/4 x 6    | 08  | <b>861-109 *</b> | 25                | 6.00     |
| 3/4 x 8    | 08  | <b>861-110 *</b> | 25                | 8.00     |
| 3/4 x 10   | 08  | <b>861-111 *</b> | 25                | 10.00    |
| 3/4 x 12   | 08  | <b>861-112 *</b> | 25                | 12.00    |
| 1 x CL     | 08  | <b>861-133 *</b> | 25                | 1.50     |
| 1 x 3      | 08  | <b>861-135 *</b> | 25                | 3.00     |
| 1 x 4      | 08  | <b>861-136 *</b> | 25                | 4.00     |
| 1 x 5      | 08  | <b>861-137 *</b> | 25                | 5.00     |
| 1 x 6      | 08  | <b>861-138 *</b> | 25                | 6.00     |
| 1 x 8      | 08  | <b>861-139 *</b> | 25                | 8.00     |
| 1 x 10     | 08  | <b>861-140 *</b> | 25                | 10.00    |
| 1 x 12     | 08  | <b>861-141 *</b> | 25                | 12.00    |
| 1 1/4 x CL | 08  | <b>861-170 *</b> | 25                | 1.63     |
| 1 1/4 x 3  | 08  | <b>861-172 *</b> | 25                | 3.00     |
| 1 1/4 x 4  | 08  | <b>861-173 *</b> | 25                | 4.00     |
| 1 1/4 x 5  | 08  | <b>861-174 *</b> | 25                | 5.00     |
| 1 1/4 x 6  | 08  | <b>861-175 *</b> | 25                | 6.00     |
| 1 1/4 x 8  | 08  | <b>861-176 *</b> | 25                | 8.00     |
| 1 1/4 x 10 | 08  | <b>861-177 *</b> | 25                | 10.00    |
| 1 1/4 x 12 | 08  | <b>861-178 *</b> | 25                | 12.00    |
| 1 1/2 x CL | 08  | <b>861-213 *</b> | 25                | 1.75     |
| 1 1/2 x 3  | 08  | <b>861-215 *</b> | 25                | 3.00     |
| 1 1/2 x 4  | 08  | <b>861-216 *</b> | 25                | 4.00     |
| 1 1/2 x 5  | 08  | <b>861-217 *</b> | 25                | 5.00     |
| 1 1/2 x 6  | 08  | <b>861-218 *</b> | 25                | 6.00     |
| 1 1/2 x 8  | 08  | <b>861-219 *</b> | 25                | 8.00     |
| 1 1/2 x 10 | 08  | <b>861-220 *</b> | 25                | 10.00    |
| 1 1/2 x 12 | 08  | <b>861-221 *</b> | 25                | 12.00    |
| 2 x CL     | 08  | <b>861-251 *</b> | 25                | 2.00     |
| 2 x 3      | 08  | <b>861-253 *</b> | 25                | 3.00     |
| 2 x 4      | 08  | <b>861-254 *</b> | 25                | 4.00     |
| 2 x 5      | 08  | <b>861-255 *</b> | 25                | 5.00     |
| 2 x 6      | 08  | <b>861-256 *</b> | 25                | 6.00     |
| 2 x 8      | 08  | <b>861-257 *</b> | 25                | 8.00     |
| 2 x 10     | 08  | <b>861-258 *</b> | 25                | 10.00    |
| 2 x 12     | 08  | <b>861-259 *</b> | 25                | 12.00    |
| 2 1/2 x CL | 08  | <b>861-291 *</b> | 5                 | 2.50     |
| 2 1/2 x 4  | 08  | <b>861-295 *</b> | 5                 | 4.00     |
| 2 1/2 x 5  | 08  | <b>861-296 *</b> | 5                 | 5.00     |
| 2 1/2 x 6  | 08  | <b>861-297 *</b> | 5                 | 6.00     |
| 2 1/2 x 8  | 08  | <b>861-298 *</b> | 1                 | 8.00     |
| 2 1/2 x 10 | 08  | <b>861-299 *</b> | 1                 | 10.00    |
| 2 1/2 x 12 | 08  | <b>861-300 *</b> | 1                 | 12.00    |
| 3 x CL     | 08  | <b>861-338 *</b> | 5                 | 2.63     |
| 3 x 4      | 08  | <b>861-341 *</b> | 5                 | 4.00     |
| 3 x 5      | 08  | <b>861-342 *</b> | 5                 | 5.00     |
| 3 x 6      | 08  | <b>861-343 *</b> | 5                 | 6.00     |
| 3 x 8      | 08  | <b>861-344 *</b> | 1                 | 8.00     |
| 3 x 10     | 08  | <b>861-345 *</b> | 1                 | 10.00    |
| 3 x 12     | 08  | <b>861-346 *</b> | 1                 | 12.00    |

table continued next page



| Size   | P/L | Part No.  | Minimum Order Qty | L [inch] |
|--------|-----|-----------|-------------------|----------|
| 4 x CL | 08  | 861-422 * | 5                 | 2.88     |
| 4 x 5  | 08  | 861-425 * | 5                 | 5.00     |
| 4 x 6  | 08  | 861-426 * | 5                 | 6.00     |
| 4 x 8  | 08  | 861-427 * | 1                 | 8.00     |
| 4 x 10 | 08  | 861-428 * | 1                 | 10.00    |
| 4 x 12 | 08  | 861-429 * | 1                 | 12.00    |

### 45° Wye (S x S x S)

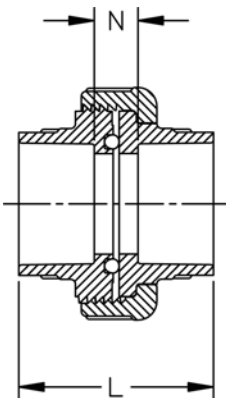


| Size [inch] | P/L | Part No.   | Minimum Order Qty | GJ [inch] | GN [inch] | H [inch] | HJ [inch] | L [inch] | N [inch] | Design |
|-------------|-----|------------|-------------------|-----------|-----------|----------|-----------|----------|----------|--------|
| 1 1/2       | 08  | 870-015 *  | 20                | 2.41      | 0.69      | 2.06     | 3.75      | 5.81     | 2.38     | HS     |
| 2           | 08  | 870-020    | 10                | 3.61      | 1.38      | 2.89     | 5.16      | 8.05     | 5.00     | SL     |
| 3           | 08  | 870-030    | 4                 | 4.85      | 1.91      | 3.81     | 6.75      | 10.46    | 6.65     | SL     |
| 4           | 08  | 870-040    | 4                 | 6.38      | 1.84      | 4.20     | 8.75      | 12.96    | 8.25     | SL     |
| 6           | 08  | 870-060    | 1                 | 8.50      | 1.81      | 4.86     | 11.59     | 16.50    | 10.39    | SL     |
| 8           | 08  | 870-080 *  | 1                 | 15.88     | 5.06      | 9.31     | 20.13     | 27.25    | 13.69    | HS     |
| 10          | 05  | 875-100H * | 1                 | 16.98     | 5.73      | 10.73    | 21.98     | 33.21    | 23.21    | FAB    |
| 12          | 05  | 875-120H * | 1                 | 19.39     | 6.14      | 12.14    | 25.39     | 38.03    | 26.03    | FAB    |
| 14          | 05  | 875-140H * | 1                 | 21.40     | 5.40      | 12.40    | 28.40     | 42.80    | 28.80    | FAB    |
| 16          | 05  | 875-160H * | 1                 | 24.06     | 4.82      | 12.82    | 32.06     | 48.13    | 32.13    | FAB    |

### 45° Reducing Wye (S x S x S)

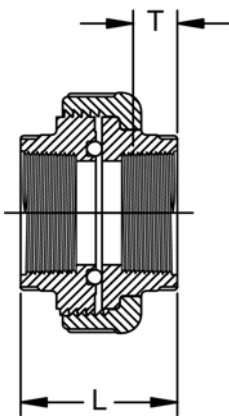
| Size [inch] | P/L | Part No. | Minimum Order Qty | GJ [inch] | GN [inch] | H [inch] | HJ [inch] | L [inch] | N [inch] | Design |
|-------------|-----|----------|-------------------|-----------|-----------|----------|-----------|----------|----------|--------|
| 6 x 4       | 08  | 870-532  | 1                 | 7.18      | 1.87      | 4.91     | 9.45      | 16.50    | 10.39    | HS     |

### Union (S x S)



| Size [inch] | P/L | EPDM Part No. | FPM Part No. | Minimum Order Qty | L [inch] | N [inch] |
|-------------|-----|---------------|--------------|-------------------|----------|----------|
| 1/4         | 08  | 897-002       | 857-002      | 25                | 1.61     | 0.76     |
| 3/8         | 08  | 897-003       | 857-003      | 25                | 1.91     | 0.77     |
| 1/2         | 08  | 897-005       | 857-005      | 25                | 2.31     | 0.95     |
| 3/4         | 08  | 897-007       | 857-007      | 10                | 2.58     | 1.08     |
| 1           | 08  | 897-010       | 857-010      | 10                | 2.89     | 1.25     |
| 1 1/4       | 08  | 897-012       | 857-012      | 5                 | 3.23     | 1.32     |
| 1 1/2       | 08  | 897-015       | 857-015      | 10                | 3.44     | 1.32     |
| 2           | 08  | 897-020       | 857-020      | 2                 | 3.77     | 1.51     |
| 3           | 08  | 897-030       | 857-030      | 1                 | 4.74     | 2.00     |
| 4           | 08  | 897-040       | 857-040      | 1                 | 5.62     | 2.05     |

## Union (FPT X FPT)



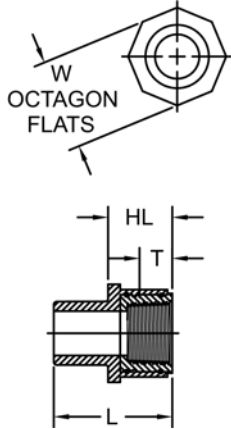
| Size<br>[inch] | P/L | EPDM<br>Part No. | FPM<br>Part No. | Minimum<br>Order<br>Qty | L<br>[inch] | T<br>[inch] |  |
|----------------|-----|------------------|-----------------|-------------------------|-------------|-------------|--|
| 1/4            | 08  | 898-002 ^        | 858-002 ^       | 25                      | 1.63        | 0.40        |  |
| 3/8            | 08  | 898-003 ^        | 858-003 ^       | 25                      | 1.58        | 0.41        |  |
| 1/2            | 08  | 898-005 ^        | 858-005 ^       | 25                      | 2.03        | 0.53        |  |
| 3/4            | 08  | 898-007 ^        | 858-007 ^       | 5                       | 2.11        | 0.55        |  |
| 1              | 08  | 898-010 ^        | 858-010 ^       | 5                       | 2.56        | 0.68        |  |
| 1 1/4          | 08  | 898-012 ^        | 858-012 ^       | 5                       | 2.79        | 0.71        |  |
| 1 1/2          | 08  | 898-015 ^        | 858-015 ^       | 5                       | 2.72        | 0.72        |  |
| 2              | 08  | 898-020 ^        | 858-020 ^       | 2                       | 2.89        | 0.76        |  |
| 3              | 08  | 898-030 ^        | 858-030 ^       | 1                       | 4.69        | 1.20        |  |
| 4              | 08  | 898-040 ^        | 858-040 ^       | 1                       | 5.62        | 1.30        |  |

# Metal Transition Fittings

## PVC-to-Brass Transition Fittings (Spg x FPT)



| Size [inch] | P/L | Part No.  | Minimum Order Qty | HL [inch] | L [inch] | T [inch] | W [inch] |
|-------------|-----|-----------|-------------------|-----------|----------|----------|----------|
| 1/2         | 33  | 878-005BR | 25                | 1.02      | 1.76     | 0.53     | 1.25     |
| 3/4         | 33  | 878-007BR | 15                | 1.09      | 2.08     | 0.55     | 1.50     |
| 1           | 33  | 878-010BR | 15                | 1.33      | 2.45     | 0.68     | 1.88     |
| 1 1/4       | 33  | 878-012BR | 15                | 1.39      | 2.51     | 0.71     | 2.25     |
| 1 1/2       | 33  | 878-015BR | 10                | 1.45      | 2.76     | 0.72     | 2.56     |
| 2           | 33  | 878-020BR | 5                 | 1.44      | 2.82     | 0.76     | 3.31     |



## PVC-to-316 SS Transition Fittings (Spg x FPT)

| Size [inch] | P/L | Part No.  | Minimum Order Qty | HL [inch] | L [inch] | T [inch] | W [inch] |
|-------------|-----|-----------|-------------------|-----------|----------|----------|----------|
| 1/2         | 33  | 878-005SS | 25                | 1.02      | 1.76     | 0.53     | 1.25     |
| 3/4         | 33  | 878-007SS | 15                | 1.09      | 2.08     | 0.55     | 1.50     |
| 1           | 33  | 878-010SS | 15                | 1.33      | 2.45     | 0.68     | 1.88     |
| 1 1/4       | 33  | 878-012SS | 15                | 1.39      | 2.51     | 0.71     | 2.25     |
| 1 1/2       | 33  | 878-015SS | 10                | 1.45      | 2.76     | 0.72     | 2.56     |
| 2           | 33  | 878-020SS | 5                 | 1.44      | 2.82     | 0.76     | 3.31     |

## Metal Union End Connectors (316 SS)



| Size [inch] | P/L | Part No. |
|-------------|-----|----------|
| 1/2         | 33  | 1694-005 |
| 3/4         | 33  | 1694-007 |
| 1           | 33  | 1694-010 |
| 1 1/4       | 33  | 1694-012 |
| 1 1/2       | 33  | 1694-015 |
| 2           | 33  | 1694-020 |

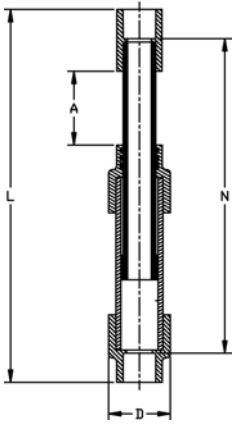
# Expansion Joints

## Expansion Joint 6" Travel (S x S)



| Size [inch] | P/L | EPDM Part No. | FPM Part No. | A [inch] | D [inch] | L [inch] | N [inch] |
|-------------|-----|---------------|--------------|----------|----------|----------|----------|
| 1/2         | 34  | 826-005X6 *   | 836-005X6 *  | 3.00     | 1.85     | 13.93    | 12.06    |
| 3/4         | 34  | 826-007X6 *   | 836-007X6 *  | 3.00     | 2.23     | 14.40    | 12.46    |
| 1           | 34  | 826-010X6 *   | 836-010X6 *  | 3.00     | 2.50     | 15.02    | 12.58    |
| 1 1/4       | 34  | 826-012X6 *   | 836-012X6 *  | 3.00     | 2.50     | 15.81    | 13.05    |
| 1 1/2       | 34  | 826-015X6 *   | 836-015X6 *  | 3.00     | 3.50     | 16.08    | 13.13    |
| 2           | 34  | 826-020X6 *   | 836-020X6 *  | 3.00     | 4.39     | 18.10    | 14.88    |
| 3           | 34  | 826-030X6 *   | 836-030X6 *  | 3.00     | 5.53     | 19.83    | 15.79    |
| 4           | 34  | 826-040X6 *   | 836-040X6 *  | 3.00     | 7.93     | 27.56    | 23.01    |
| 6           | 34  | 826-060X6 *   | 836-060X6 *  | 3.00     | 9.97     | 27.88    | 21.75    |

## Expansion Joint 12" Travel (S x S)



| Size [inch] | P/L | EPDM Part No. | FPM Part No. | A [inch] | D [inch] | L [inch] | N [inch] |
|-------------|-----|---------------|--------------|----------|----------|----------|----------|
| 1/2         | 34  | 826-005X12 *  | 836-005X12 * | 6.00     | 1.85     | 22.93    | 21.06    |
| 3/4         | 34  | 826-007X12 *  | 836-007X12 * | 6.00     | 2.23     | 23.40    | 21.46    |
| 1           | 34  | 826-010X12 *  | 836-010X12 * | 6.00     | 2.50     | 24.02    | 21.58    |
| 1 1/4       | 34  | 826-012X12 *  | 836-012X12 * | 6.00     | 2.50     | 24.81    | 22.05    |
| 1 1/2       | 34  | 826-015X12 *  | 836-015X12 * | 6.00     | 3.50     | 25.08    | 22.13    |
| 2           | 34  | 826-020X12 *  | 836-020X12 * | 6.00     | 4.39     | 27.10    | 23.88    |
| 3           | 34  | 826-030X12 *  | 836-030X12 * | 6.00     | 5.53     | 28.83    | 24.79    |
| 4           | 34  | 826-040X12 *  | 836-040X12 * | 6.00     | 7.93     | 36.56    | 32.01    |
| 6           | 34  | 826-060X12 *  | 836-060X12 * | 6.00     | 9.97     | 36.88    | 30.75    |