

# Stainless Steel



SMITH-COOPER<sup>®</sup>  
INTERNATIONAL

# You get it All.



## ***It's not just a quality product - it's a quality system***

**Q**uality products are not enough. Because if you want every product to be a quality product, you need a quality system.

Every SCI product is manufactured to precise standards, and inspected twice. All materials and dimensions are carefully monitored and meet relevant standards, and the whole process complies with ISO 9001 Standards. Every product is 100% traceable, because we're 100% responsible.

Wherever we work - and we work all over the world - exactly the same higher quality standards and systems are used. Because SCI Quality Plus means our 50-year reputation for quality is built right in.



## ***The benchmark of packaging***

**S**tandardized carton sizes. Large wraparound labels. Packaging that's color coded by product line. And - outside of every box - a nice, clean picture of what's inside every box.

SCI's Pro Pak System is a big idea that makes it possible for you to cut costs and improve service, simply by making it easier. From shipping and handling to tracking and reordering. And, at the same time, you'll be using your valuable warehouse space much more efficiently.



# All in one place.



***The best guarantee  
you'll never need***

The SCI 5/50 Guarantee says we will replace any pipe, valve or fitting for up to a full five years, when properly installed and operated, if failure is due to defects in material or workmanship.

Smith-Cooper will even pay \$50 to the installing contractor to offset the cost of installation (please see the SCI Warranty at [www.smithcooper.com](http://www.smithcooper.com) for details).

We think that means we offer the highest quality pipe, valves and fittings available. Quality we stand behind for a full five years. Which makes it that much easier for you to offer your customers the same high standards of quality and service.

And that, in the end, is what we're all here for.



***It's all about time.***

We understand that time is money, which is why everything we do is designed to save you time. From our Quality Plus and Pro Pak systems to our 5/50 Guarantee, Smith-Cooper service adds value to each order you place.

With locations on the East and West coasts, Smith-Cooper also offers speedy delivery. Each order is packaged to the exacting standards you have come to expect from us, no matter where it ships. Since we pay more attention to you, you have time to pay more attention to your customers.



# SMITH-COOPER<sup>®</sup>

## I N T E R N A T I O N A L

### STAINLESS STEEL

#### TABLE OF CONTENTS

|                                                             |                         |
|-------------------------------------------------------------|-------------------------|
| <b><i>Sanitary Products.....</i></b>                        | <b><i>1-18</i></b>      |
| Weld End Fittings .....                                     | 3-4                     |
| Clamp End Fittings.....                                     | 5-10                    |
| Gaskets.....                                                | 11                      |
| Tube Hangers.....                                           | 11                      |
| Sanitary Tubing.....                                        | 11                      |
| Tube Plate Flanges .....                                    | 11                      |
| Sanitary Valves .....                                       | 12-18                   |
| <br><b><i>Instrumentation Products.....</i></b>             | <br><b><i>19-36</i></b> |
| Instrumentation Fittings.....                               | 21-29                   |
| Instrumentation Tubing.....                                 | 30                      |
| Instrumentation Valves .....                                | 31-35                   |
| <br><b><i>Standard Weight 150# Fittings .....</i></b>       | <br><b><i>37-46</i></b> |
| Threaded.....                                               | 39-44                   |
| Socket Weld.....                                            | 45-46                   |
| <br><b><i>Bar Stock Fittings.....</i></b>                   | <br><b><i>47-52</i></b> |
| <br><b><i>3000# Forged Fittings &amp; Outlets .....</i></b> | <br><b><i>53-64</i></b> |
| Threaded.....                                               | 55-59                   |
| Socket Weld.....                                            | 60-63                   |
| Outlets .....                                               | 64                      |
| <br><b><i>Nipples .....</i></b>                             | <br><b><i>65-68</i></b> |
| Sch 40 Welded.....                                          | 67                      |
| Sch 80 Seamless.....                                        | 68                      |
| Hex Nipples .....                                           | 67                      |
| King Nipples.....                                           | 68                      |

# SMITH-COOPER<sup>®</sup>

## INTERNATIONAL

### STAINLESS STEEL

#### TABLE OF CONTENTS CONT.

|                                    |                    |
|------------------------------------|--------------------|
| <b>Flanges .....</b>               | <b>69-84</b>       |
| 150# ANSI Flanges .....            | 71-74              |
| 300# ANSI Flanges .....            | 75-78              |
| 600# ANSI Flanges .....            | 79-80              |
| MSS Flanges .....                  | 81-82              |
| Plate Flanges .....                | 83-84              |
| <br><b>Weld Fittings .....</b>     | <br><b>85-98</b>   |
| Schedule 10 .....                  | 87-91              |
| Schedule 40 .....                  | 92-96              |
| Stub Ends .....                    | 97-98              |
| <br><b>Pipe &amp; Tubing .....</b> | <br><b>99-106</b>  |
| Welded Pipe .....                  | 101                |
| Seamless Pipe .....                | 102                |
| Instrumentation Tubing .....       | 103                |
| Sanitary Tubing .....              | 103                |
| Technical Information .....        | 104-105            |
| <br><b>Valves .....</b>            | <br><b>107-118</b> |
| Ball Valves .....                  | 109-112            |
| Instrumentation Valves .....       | 112-113            |
| Wye Strainer .....                 | 113                |
| Sanitary Check Valve .....         | 113                |
| Gate Valves .....                  | 114                |
| Globe Valves .....                 | 115                |
| Check Valves .....                 | 116                |
| Sanitary Butterfly Valve .....     | 117                |

**Warranty..... 119**

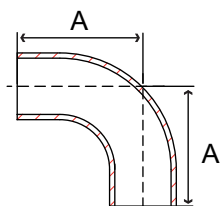
**For the most current listing of SCI products, go to [www.smithcooper.com](http://www.smithcooper.com)**



## Sanitary Fittings & Tubing

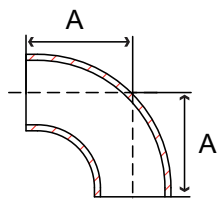
### Specifications

- Sanitary tubing is 3-A approved
- Stainless steel sanitary tubing dimensions and materials conform to ASTM A269/A270 and 3-A Approved
- Stainless steel plate flanges made from ASTM A240 (Plate) or cast in conformance with ASTM A351
- Independent lab verification that fittings meet applicable chemical & physical properties
- Material test reports available
- Manufacturing facility is ISO 9001:2008
- SCI logo, heat number & country of origin marked on every fitting



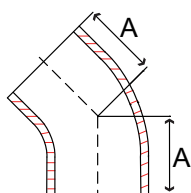
**Fig. S77L2S4 & S77L2S6 – 90° Tube Bend (Long Radius)**

| Tube OD<br>IN | Part Number |            | A<br>IN | Packing |        | Weight<br>LB |
|---------------|-------------|------------|---------|---------|--------|--------------|
|               | 304         | 316/L      |         | Inner   | Master |              |
| 1             | S77L2S4010  | S77L2S6010 | 2.06    | 30      | 60     | 0.1          |
| 1-1/2         | S77L2S4014  | S77L2S6014 | 2.94    | 8       | 16     | 0.4          |
| 2             | S77L2S4020  | S77L2S6020 | 4.06    | 3       | 6      | 0.7          |
| 2-1/2         | S77L2S4024  | S77L2S6024 | 5.19    | -       | 5      | 1.2          |
| 3             | S77L2S4030  | S77L2S6030 | 6.31    | -       | 2      | 1.8          |
| 4             | S77L2S4040  | S77L2S6040 | 8.31    | -       | 1      | 4.2          |
| 6             | S77L2S4060  | S77L2S6060 | 12.46   | -       | 1      | 5.75         |



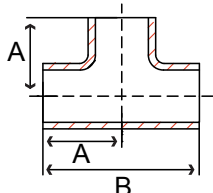
**Fig. S772WCL4 & S772WCL6 – 90° Tube Bend (Short Radius)**

| Tube OD<br>IN | Part Number |             | A<br>IN | Packing |        | Weight<br>LB |
|---------------|-------------|-------------|---------|---------|--------|--------------|
|               | 304         | 316/L       |         | Inner   | Master |              |
| 1/2           | -           | S772WCL6004 | 1.13    | 200     | 800    | 0.05         |
| 3/4           | -           | S772WCL6006 | 1.13    | 100     | 400    | 0.07         |
| 1             | S772WCL4010 | S772WCL6010 | 1.50    | 24      | 96     | 0.1          |
| 1-1/2         | S772WCL4014 | S772WCL6014 | 2.25    | 6       | 24     | 0.3          |
| 2             | S772WCL4020 | S772WCL6020 | 3.00    | 6       | 12     | 0.5          |
| 2-1/2         | S772WCL4024 | S772WCL6024 | 3.75    | -       | 5      | 0.8          |
| 3             | S772WCL4030 | S772WCL6030 | 4.50    | -       | 4      | 1.2          |
| 4             | S772WCL4040 | S772WCL6040 | 6.00    | -       | 2      | 2.6          |
| 6             | S772WCL4060 | S772WCL6060 | 9.00    | -       | 1      | 2.0          |



**Fig. S77L2KS4 & S77L2KS6 – 45° Tube Bend (Long Radius)**

| Tube OD<br>IN | Part Number |             | A<br>IN | Packing |        | Weight<br>LB |
|---------------|-------------|-------------|---------|---------|--------|--------------|
|               | 304         | 316/L       |         | Inner   | Master |              |
| 1/2           | -           | S77L2KS6004 | 2.25    | -       | 1      | 0.1          |
| 3/4           | -           | S77L2KS6006 | 2.25    | -       | 1      | 0.2          |
| 1             | S77L2KS4010 | S77L2KS6010 | 1.18    | 30      | 60     | 0.1          |
| 1-1/2         | S77L2KS4014 | S77L2KS6014 | 1.62    | 18      | 36     | 0.2          |
| 2             | S77L2KS4020 | S77L2KS6020 | 2.31    | 4       | 8      | 0.5          |
| 2-1/2         | S77L2KS4024 | S77L2KS6024 | 3.00    | 2       | 4      | 0.8          |
| 3             | S77L2KS4030 | S77L2KS6030 | 3.68    | 2       | 4      | 1.2          |
| 4             | S77L2KS4040 | S77L2KS6040 | 4.81    | -       | 2      | 2.5          |

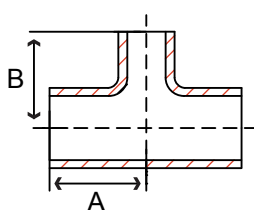


**Fig. S77L7W4 & S77L7W6 – Long Tee**

| Tube OD<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing |        | Weight<br>LB |
|---------------|-------------|------------|---------|---------|---------|--------|--------------|
|               | 304         | 316/L      |         |         | Inner   | Master |              |
| 1/2           | -           | S77L7W6004 | 1.87    | 3.75    | 40      | 160    | 0.1          |
| 3/4           | -           | S77L7W6006 | 2.00    | 4.00    | 15      | 60     | 0.2          |
| 1             | S77L7W4010  | S77L7W6010 | 1.87    | 3.75    | 12      | 48     | 0.1          |
| 1-1/2         | S77L7W4014  | S77L7W6014 | 2.25    | 4.50    | 8       | 16     | 0.3          |
| 2             | S77L7W4020  | S77L7W6020 | 3.00    | 6.00    | -       | 8      | 0.6          |
| 2-1/2         | S77L7W4024  | S77L7W6024 | 3.00    | 6.00    | -       | 5      | 0.7          |
| 3             | S77L7W4030  | S77L7W6030 | 3.25    | 6.50    | -       | 3      | 1.0          |
| 4             | S77L7W4040  | S77L7W6040 | 3.87    | 7.75    | -       | 1      | 2.4          |
| 6             | S77L7W4060  | S77L7W6060 | 5.63    | 11.25   | -       | 1      | 4.8          |

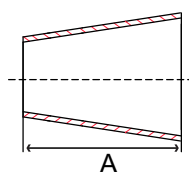
Dimensions may change at any time due to continuous product development.

**Fig. S777RW4 & S777RW6 Reducing Tee**



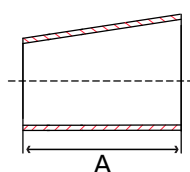
| Tube OD<br>IN | Part Number   |               | A<br>IN | B<br>IN | Packing |        | Weight<br>LB |
|---------------|---------------|---------------|---------|---------|---------|--------|--------------|
|               | 304           | 316/L         |         |         | Inner   | Master |              |
| 3/4 x 1/2     | -             | S777RW6006004 | 2.13    | 2.13    | -       | 1      | 0.1          |
| 1 x 1/2       | -             | S777RW6010004 | 2.13    | 2.13    | -       | 1      | 0.1          |
| 1 x 3/4       | -             | S777RW6010006 | 2.13    | 2.13    | -       | 1      | 0.2          |
| 1-1/2 x 1/2   | -             | S777RW6014004 | 2.25    | 2.37    | -       | 1      | 0.3          |
| 1-1/2 x 3/4   | -             | S777RW6014006 | 2.25    | 2.37    | -       | 1      | 0.3          |
| 1-1/2 x 1     | S777RW4014010 | S777RW6014010 | 1.65    | 1.37    | -       | 1      | 0.3          |
| 2 x 1/2       | -             | S777RW6020004 | 3.00    | 2.38    | -       | 1      | 0.6          |
| 2 x 3/4       | -             | S777RW6020006 | 3.00    | 2.38    | -       | 1      | 0.6          |
| 2 x 1         | S777RW4020010 | S777RW6020010 | 2.06    | 1.63    | -       | 1      | 0.6          |
| 2 x 1-1/2     | S777RW4020014 | S777RW6020014 | 2.06    | 1.91    | -       | 1      | 0.6          |
| 2-1/2 x 1-1/2 | S777RW4024014 | S777RW6024014 | 2.34    | 2.16    | -       | 1      | 0.6          |
| 2-1/2 x 2     | S777RW4024020 | S777RW6024020 | 2.34    | 2.31    | -       | 1      | 0.7          |
| 3 x 1-1/2     | S777RW4030014 | S777RW6030014 | 2.59    | 2.41    | -       | 1      | 1.0          |
| 3 x 2         | S777RW4030020 | S777RW6030020 | 2.59    | 2.56    | -       | 1      | 1.0          |
| 3 x 2-1/2     | S777RW4030024 | S777RW6030024 | 2.59    | 2.59    | -       | 1      | 1.0          |
| 4 x 1-1/2     | S777RW4040014 | S777RW6040014 | 3.44    | 2.91    | -       | 1      | 2.4          |
| 4 x 2         | S777RW4040020 | S777RW6040020 | 3.44    | 3.06    | -       | 1      | 2.4          |
| 4 x 2-1/2     | S777RW4040024 | S777RW6040024 | 3.44    | 3.09    | -       | 1      | 2.4          |
| 4 x 3         | S777RW4040030 | S777RW6040030 | 3.44    | 3.09    | -       | 1      | 2.4          |
| 6 x 3         | S777RW4060030 | S777RW6060030 | 6.30    | 4.87    | -       | 1      | 4.8          |
| 6 x 4         | S777RW4060040 | S777RW6060040 | 6.30    | 4.87    | -       | 1      | 4.8          |

**Fig. S77L31W4 & S77L31W6 – Concentric Reducer**



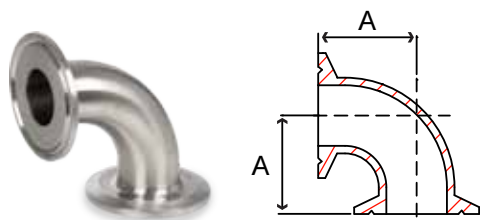
| Tube OD<br>IN | Part Number    |                | A<br>IN | Packing |        | Weight<br>LB |
|---------------|----------------|----------------|---------|---------|--------|--------------|
|               | 304            | 316/L          |         | Inner   | Master |              |
| 3/4 x 1/2     | -              | S77L31W6006004 | 1.00    | -       | 1      | 0.05         |
| 1-1/2 x 1     | S77L31W4014010 | S77L31W6014010 | 2.00    | -       | 1      | 0.1          |
| 2 x 1         | S77L31W4020010 | S77L31W6020010 | 2.00    | -       | 1      | 0.5          |
| 2 x 1-1/2     | S77L31W4020014 | S77L31W6020014 | 2.00    | 10      | 40     | 0.3          |
| 2-1/2 x 1-1/2 | S77L31W4024014 | S77L31W6024014 | 4.00    | -       | 1      | 0.3          |
| 2-1/2 x 2     | S77L31W4024020 | S77L31W6024020 | 2.00    | 10      | 40     | 0.2          |
| 3 x 1         | S77L31W4030010 | S77L31W6030010 | 8.00    | -       | 1      | 0.8          |
| 3 x 1-1/2     | S77L31W4030014 | S77L31W6030014 | 6.00    | 1       | 4      | 0.8          |
| 3 x 2         | S77L31W4030020 | S77L31W6030020 | 4.00    | -       | 1      | 0.6          |
| 3 x 2-1/2     | S77L31W4030024 | S77L31W6030024 | 2.00    | 4       | 16     | 0.3          |
| 4 x 1-1/2     | S77L31W4040014 | S77L31W6040014 | 10.00   | -       | 1      | 1.9          |
| 4 x 2         | S77L31W4040020 | S77L31W6040020 | 8.00    | 2       | 4      | 1.4          |
| 4 x 2-1/2     | S77L31W4040024 | S77L31W6040024 | 6.00    | 2       | 4      | 1.1          |
| 4 x 3         | S77L31W4040030 | S77L31W6040030 | 4.00    | 2       | 4      | 0.6          |
| 6 x 3         | S77L31W4060030 | S77L31W6060030 | 5.50    | -       | 1      | 1.6          |
| 6 x 4         | S77L31W4060040 | S77L31W6060040 | 5.50    | -       | 1      | 1.2          |

**Fig. S77L32W4 & S77L32W6 – Eccentric Reducer**



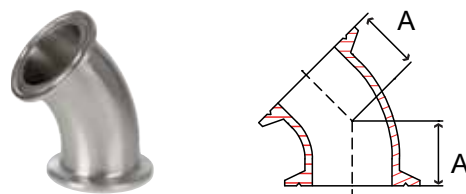
| Tube OD<br>IN | Part Number    |                | A<br>IN | Packing |        | Weight<br>LB |
|---------------|----------------|----------------|---------|---------|--------|--------------|
|               | 304            | 316/L          |         | Inner   | Master |              |
| 1-1/2 x 1     | S77L32W4014010 | S77L32W6014010 | 2.50    | 10      | 40     | 0.1          |
| 2 x 1-1/2     | S77L32W4020014 | S77L32W6020014 | 2.00    | 10      | 40     | 0.4          |
| 2-1/2 x 1-1/2 | S77L32W4024014 | S77L32W6024014 | 4.00    | 10      | 40     | 0.3          |
| 2-1/2 x 2     | S77L32W4024020 | S77L32W6024020 | 2.00    | 5       | 20     | 0.3          |
| 3 x 1         | S7732W4030010  | S7732W6030010  | 8.00    | -       | 1      | 0.8          |
| 3 x 1-1/2     | S77L32W4030014 | S77L32W6030014 | 6.00    | 1       | 4      | 0.8          |
| 3 x 2-1/2     | S77L32W4030024 | S77L32W6030024 | 2.00    | 4       | 16     | 0.4          |
| 4 x 1-1/2     | S77L32W4040014 | S77L32W6040014 | 10.00   | 4       | 16     | 1.8          |
| 4 x 2         | S77L32W4040020 | S77L32W6040020 | 8.00    | 2       | 4      | 1.5          |
| 4 x 2-1/2     | S77L32W4040024 | S77L32W6040024 | 6.00    | 2       | 4      | 1.3          |
| 4 x 3         | S77L32W4040030 | S77L32W6040030 | 4.00    | 2       | 4      | 0.9          |
| 6 x 3         | S77L32W4060030 | S77L32W6060030 | 5.50    | -       | 1      | 1.6          |
| 6 x 4         | S77L32W4060040 | S77L32W6060040 | 5.50    | -       | 1      | 1.2          |

Dimensions may change at any time due to continuous product development.



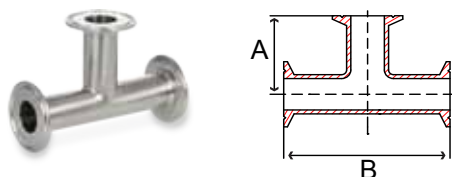
**Fig. S772CMP4 & S772CMP6 – 90° Elbow**

| Tube OD<br>IN | Part Number |             | A<br>IN | Packing |        | Weight<br>LB |
|---------------|-------------|-------------|---------|---------|--------|--------------|
|               | 304         | 316/L       |         | Inner   | Master |              |
| 1/2           | -           | S772CMP6004 | 1.62    | 25      | 100    | 0.2          |
| 3/4           | -           | S772CMP6006 | 1.62    | 25      | 100    | 0.2          |
| 1             | S772CMP4010 | S772CMP6010 | 2.00    | 14      | 28     | 0.3          |
| 1-1/2         | S772CMP4014 | S772CMP6014 | 2.75    | 8       | 16     | 0.4          |
| 2             | S772CMP4020 | S772CMP6020 | 3.50    | 4       | 8      | 0.8          |
| 2-1/2         | S772CMP4024 | S772CMP6024 | 4.25    | 2       | 4      | 1.0          |
| 3             | S772CMP4030 | S772CMP6030 | 5.00    | -       | 4      | 2.0          |
| 4             | S772CMP4040 | S772CMP6040 | 6.62    | -       | 1      | 3.6          |
| 6             | S772CMP4060 | S772CMP6060 | 10.00   | -       | 1      | 3.4          |



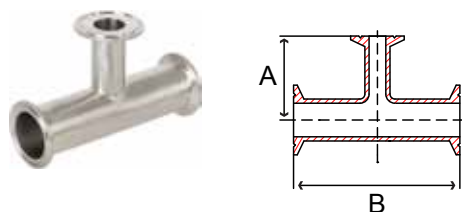
**Fig. S772KMP4 & S772KMP6 – 45° Elbow**

| Tube OD<br>IN | Part Number |             | A<br>IN | Packing |        | Weight<br>LB |
|---------------|-------------|-------------|---------|---------|--------|--------------|
|               | 304         | 316/L       |         | Inner   | Master |              |
| 1/2           | -           | S772KMP6004 | 0.97    | -       | 1      | 0.2          |
| 3/4           | -           | S772KMP6006 | 0.97    | -       | 1      | 0.2          |
| 1             | S772KMP4010 | S772KMP6010 | 1.12    | -       | 1      | 0.2          |
| 1-1/2         | S772KMP4014 | S772KMP6014 | 1.43    | -       | 1      | 0.3          |
| 2             | S772KMP4020 | S772KMP6020 | 1.75    | -       | 1      | 0.5          |
| 2-1/2         | S772KMP4024 | S772KMP6024 | 2.06    | -       | 1      | 0.6          |
| 3             | S772KMP4030 | S772KMP6030 | 2.37    | -       | 1      | 1.2          |
| 4             | S772KMP4040 | S772KMP6040 | 3.12    | -       | 1      | 2.2          |



**Fig. S777MP4 & S777MP6 – Tee**

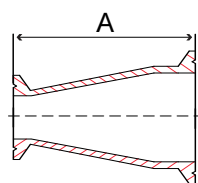
| Tube OD<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing |        | Weight<br>LB |
|---------------|-------------|------------|---------|---------|---------|--------|--------------|
|               | 304         | 316/L      |         |         | Inner   | Master |              |
| 1/2           | -           | S777MP6004 | 2.37    | 4.75    | 20      | 40     | 0.3          |
| 3/4           | -           | S777MP6006 | 2.50    | 5.00    | 20      | 40     | 0.4          |
| 1             | S777MP4010  | S777MP6010 | 2.37    | 4.75    | 6       | 12     | 0.3          |
| 1-1/2         | S777MP4014  | S777MP6014 | 2.75    | 5.50    | 4       | 8      | 0.4          |
| 2             | S777MP4020  | S777MP6020 | 3.50    | 7.00    | -       | 4      | 0.8          |
| 2-1/2         | S777MP4024  | S777MP6024 | 3.50    | 7.00    | -       | 3      | 1.0          |
| 3             | S777MP4030  | S777MP6030 | 3.75    | 7.50    | -       | 1      | 2.0          |
| 4             | S777MP4040  | S777MP6040 | 4.50    | 9.00    | -       | 1      | 3.6          |
| 6             | S777MP4060  | S777MP6060 | 6.50    | 13.00   | -       | 1      | 6.9          |



**Fig. S777RMP4 & S777RMP6 – Reducing Tee**

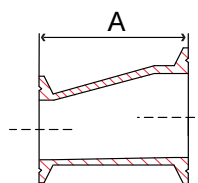
| Tube OD<br>IN | Part Number    |                | A<br>IN | B<br>IN | Packing |        | Weight<br>LB |
|---------------|----------------|----------------|---------|---------|---------|--------|--------------|
|               | 304            | 316/L          |         |         | Inner   | Master |              |
| 1 x 1/2       | -              | S777RMP6010004 | 2.62    | 5.25    | -       | 1      | 0.51         |
| 1 x 3/4       | -              | S777RMP6010006 | 2.62    | 5.25    | -       | 1      | 0.51         |
| 1-1/2 x 1     | S777RMP4014010 | S777RMP6014010 | 2.87    | 5.75    | -       | 1      | 0.73         |
| 2 x 1         | S777RMP4020010 | S777RMP6020010 | 2.12    | 5.12    | -       | 1      | 1.14         |
| 2 x 1-1/2     | S777RMP4020014 | S777RMP6020014 | 2.40    | 5.12    | -       | 1      | 1.11         |
| 2-1/2 x 1     | S777RMP4024010 | S777RMP6024010 | 2.40    | 5.69    | -       | 1      | 1.35         |
| 2-1/2 x 2     | S777RMP4024020 | S777RMP6024020 | 2.81    | 5.69    | -       | 1      | 1.47         |
| 3 x 1-1/2     | S777RMP4030014 | S777RMP6030014 | 2.90    | 6.19    | -       | 1      | 1.73         |
| 3 x 2         | S777RMP4030020 | S777RMP6030020 | 3.06    | 6.19    | -       | 1      | 1.79         |
| 3 x 2-1/2     | S777RMP4030024 | S777RMP6030024 | 3.09    | 6.19    | -       | 1      | 1.85         |
| 4 x 1-1/2     | S777RMP4040014 | S777RMP6040014 | 3.40    | 8.12    | -       | 1      | 3.25         |
| 4 x 2         | S777RMP4040020 | S777RMP6040020 | 3.56    | 8.12    | -       | 1      | 3.25         |
| 4 x 2-1/2     | S777RMP4040024 | S777RMP6040024 | 3.59    | 8.12    | -       | 1      | 3.50         |
| 4 x 3         | S777RMP4040030 | S777RMP6040030 | 3.66    | 8.12    | -       | 1      | 3.50         |

Dimensions may change at any time due to continuous product development.



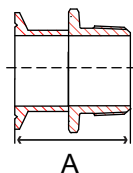
**Fig. S773114MP4 & S773114MP6 – Concentric Reducer**

| Tube OD<br>IN | Part Number     |                 | A<br>IN | Packing |        | Weight<br>LB |
|---------------|-----------------|-----------------|---------|---------|--------|--------------|
|               | 304             | 316/L           |         | Inner   | Master |              |
| 1 x 3/4       | -               | S773114MP610006 | 2.00    | 12      | 48     | 0.3          |
| 2 x 1         | S773114MP420010 | S773114MP620010 | 5.00    | 8       | 32     | 0.5          |
| 2 x 1-1/2     | S773114MP420014 | S773114MP620014 | 3.00    | 4       | 16     | 0.4          |
| 2-1/2 x 2     | S773114MP424020 | S773114MP624020 | 5.00    | 2       | 8      | 0.6          |
| 3 x 1-1/2     | S773114MP430014 | S773114MP630014 | 7.00    | 2       | 4      | 1.2          |
| 3 x 2         | S773114MP430020 | S773114MP630020 | 5.00    | 1       | 4      | 1.0          |
| 3 x 2-1/2     | S773114MP430024 | S773114MP630024 | 3.00    | 2       | 8      | 0.7          |
| 4 x 2         | S773114MP440020 | S773114MP640020 | 9.12    | 1       | 3      | 3.0          |
| 4 x 2-1/2     | S773114MP440024 | S773114MP640024 | 7.12    | 1       | 3      | 2.7          |
| 4 x 3         | S773114MP440030 | S773114MP640030 | 5.12    | 1       | 4      | 3.0          |



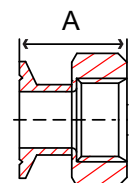
**Fig. S773214MP4 & S773214MP6 – Eccentric Reducer**

| Tube OD<br>IN | Part Number     |                 | A<br>IN | Packing |        | Weight<br>LB |
|---------------|-----------------|-----------------|---------|---------|--------|--------------|
|               | 304             | 316/L           |         | Inner   | Master |              |
| 2 x 1-1/2     | S773214MP420014 | S773214MP620014 | 3.00    | 4       | 16     | 0.4          |
| 2-1/2 x 2     | S773214MP424020 | S773214MP624020 | 3.00    | 2       | 8      | 0.5          |
| 3 x 1-1/2     | S773214MP430014 | S773214MP630014 | 7.00    | 2       | 4      | 1.2          |
| 3 x 2         | S773214MP430024 | S773214MP630020 | 5.00    | 4       | 8      | 1.0          |
| 3 x 2-1/2     | S773214MP430024 | S773214MP630024 | 3.00    | 2       | 8      | 0.7          |
| 4 x 2         | S773214MP440020 | S773214MP640020 | 9.12    | 1       | 3      | 3.0          |
| 4 x 2-1/2     | S773214MP440024 | S773214MP640024 | 7.12    | 1       | 3      | 2.7          |
| 4 x 3         | S773214MP440030 | S773214MP640030 | 5.12    | 1       | 4      | 3.0          |



**Fig. S7721MP4 & S7721MP6 – Male Adapter**

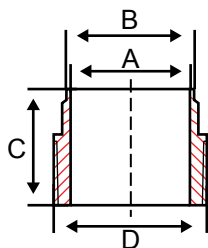
| Tube OD<br>IN | Part Number    |                | A<br>IN | Packing |        | Weight<br>LB |
|---------------|----------------|----------------|---------|---------|--------|--------------|
|               | 304            | 316/L          |         | Inner   | Master |              |
| 1 x 3/4       | S7721MP4010006 | S7721MP6010006 | 2.19    | -       | 1      | 0.8          |
| 1 x 1         | S7721MP4010010 | S7721MP6010010 | 2.25    | -       | 1      | 0.8          |
| 1-1/2 x 1     | S7721MP4014010 | S7721MP6014010 | 2.44    | -       | 1      | 0.8          |
| 1-1/2 x 1-1/2 | S7721MP4014014 | S7721MP6014014 | 2.25    | 8       | 32     | 0.8          |
| 1-1/2 x 2     | S7721MP4014020 | S7721MP6014020 | 2.62    | -       | 1      | 1.6          |
| 2 x 2         | S7721MP4020020 | S7721MP6020020 | 2.64    | 3       | 12     | 1.4          |
| 2 x 1-1/2     | S7721MP4020014 | S7721MP6020014 | 2.63    | 2       | 8      | 1.0          |
| 3 x 1-1/2     | S7721MP4030014 | S7721MP6030014 | 3.00    | -       | 1      | 2.32         |
| 3 x 2         | S7721MP4030020 | S7721MP6030020 | 3.00    | -       | 1      | 2.36         |
| 3 x 2-1/2     | S7721MP4030024 | S7721MP6030024 | 3.00    | -       | 1      | 2.40         |
| 3 x 3         | S7721MP4030030 | S7721MP6030030 | 3.00    | -       | 1      | 2.45         |
| 4 x 3         | S7721MP4040030 | S7721MP6040030 | 3.81    | -       | 1      | 3.43         |
| 4 x 4         | S7721MP4040040 | S7721MP6040040 | 3.16    | -       | 1      | 3.53         |



**Fig. S7722MP4 & S7722MP6 – Female Adapter**

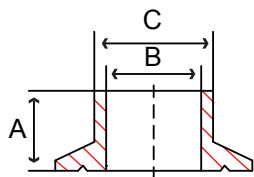
| Tube OD<br>IN | Part Number    |                | A<br>IN | Packing |        | Weight<br>LB |
|---------------|----------------|----------------|---------|---------|--------|--------------|
|               | 304            | 316/L          |         | Inner   | Master |              |
| 1 x 3/4       | S7722MP4010006 | S7722MP6010006 | 1.63    | -       | 1      | 0.62         |
| 1 x 1         | S7722MP4010010 | S7722MP6010010 | 1.63    | -       | 1      | 0.72         |
| 1-1/2 x 1     | S7722MP4014010 | S7722MP6014010 | 2.25    | -       | 1      | 1.01         |
| 1-1/2 x 1-1/2 | S7722MP4014014 | S7722MP6014014 | 2.25    | 8       | 32     | 0.8          |
| 1-1/2 x 2     | S7722MP4014020 | S7722MP6014020 | 2.25    | -       | 1      | 1.02         |
| 2 x 1-1/2     | S7722MP4020014 | S7722MP6020014 | 2.35    | 2       | 8      | 0.8          |
| 2 x 2         | S7722MP4020020 | S7722MP6020020 | 2.40    | 8       | 32     | 1.3          |
| 3 x 1-1/2     | S7722MP4030014 | S7722MP6030014 | 2.19    | -       | 1      | 2.59         |
| 3 x 2         | S7722MP4030020 | S7722MP6030020 | 2.19    | -       | 1      | 2.63         |
| 3 x 2-1/2     | S7722MP4030024 | S7722MP6030024 | 2.19    | -       | 1      | 2.67         |
| 3 x 3         | S7722MP4030030 | S7722MP6030030 | 2.19    | -       | 1      | 2.71         |
| 4 x 3         | S7722MP4040030 | S7722MP6040030 | 2.19    | -       | 1      | 5.09         |
| 4 x 4         | S7722MP4040040 | S7722MP6040040 | 3.65    | -       | 1      | 5.05         |

Dimensions may change at any time due to continuous product development.



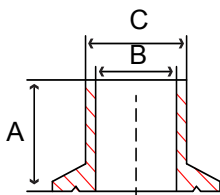
**Fig. S7719WB4 - Weld x Male NPT Adapter**

| Tube OD<br>IN | Part Number<br>304 | A<br>IN | B<br>IN | C<br>IN | D<br>IN | Packing |        | Weight<br>LB |
|---------------|--------------------|---------|---------|---------|---------|---------|--------|--------------|
|               |                    |         |         |         |         | Inner   | Master |              |
| 1             | S7719WB4010        | 0.87    | 1.00    | 1.75    | 1.00    | -       | 1      | 0.2          |
| 1-1/2         | S7719WB4014        | 1.37    | 1.50    | 1.75    | 1.50    | -       | 1      | 0.2          |
| 2             | S7719WB4020        | 1.87    | 2.00    | 1.81    | 2.00    | -       | 1      | 0.3          |
| 2-1/2         | S7719WB4024        | 2.37    | 2.50    | 2.31    | 2.50    | -       | 1      | 1.0          |
| 3             | S7719WB4030        | 2.87    | 3.00    | 2.50    | 3.00    | -       | 1      | 1.7          |
| 4             | S7719WB4040        | 3.83    | 4.00    | 2.56    | 4.00    | -       | 1      | 2.5          |



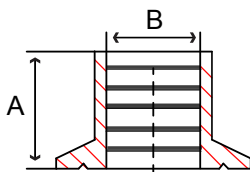
**Fig. S7714WMP4 & S7714WMP6 - Short-Weld Ferrule**

| Tube OD<br>IN | Part Number  |              | A<br>IN | B<br>IN | C<br>IN | Packing |        | Weight<br>LB |
|---------------|--------------|--------------|---------|---------|---------|---------|--------|--------------|
|               | 304          | 316/L        |         |         |         | Inner   | Master |              |
| 1/2           | -            | S7714WMP6004 | 0.50    | 0.37    | 0.50    | -       | 1      | 0.03         |
| 3/4           | -            | S7714WMP6006 | 0.50    | 0.62    | 0.75    | -       | 1      | 0.03         |
| 1             | S7714WMP4010 | S7714WMP6010 | 0.50    | 0.87    | 1.00    | 45      | 180    | 0.1          |
| 1-1/2         | S7714WMP4014 | S7714WMP6014 | 0.50    | 1.37    | 1.50    | 40      | 160    | 0.1          |
| 2             | S7714WMP4020 | S7714WMP6020 | 0.50    | 1.87    | 2.00    | 20      | 80     | 0.1          |
| 2-1/2         | S7714WMP4024 | S7714WMP6024 | 0.50    | 2.37    | 2.50    | 15      | 60     | 0.1          |
| 3             | S7714WMP4030 | S7714WMP6030 | 0.50    | 2.87    | 3.00    | 10      | 40     | 0.2          |
| 4             | S7714WMP4040 | S7714WMP6040 | 0.62    | 3.83    | 4.00    | 10      | 20     | 0.3          |



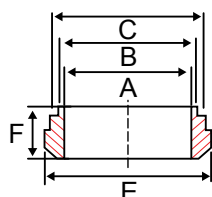
**Fig. S77L14AM74 & S77L14AM76 - Long-Weld Ferrule**

| Tube OD<br>IN | Part Number   |               | A<br>IN | B<br>IN | C<br>IN | Packing |        | Weight<br>LB |
|---------------|---------------|---------------|---------|---------|---------|---------|--------|--------------|
|               | 304           | 316/L         |         |         |         | Inner   | Master |              |
| 1/2           | -             | S77L14AM76004 | 1.12    | 0.37    | 0.50    | -       | 1      | 0.05         |
| 3/4           | -             | S77L14AM76006 | 1.12    | 0.62    | 0.75    | -       | 1      | 0.08         |
| 1             | S77L14AM74010 | S77L14AM76010 | 1.12    | 0.87    | 1.00    | 20      | 80     | 0.1          |
| 1-1/2         | S77L14AM74014 | S77L14AM76014 | 1.12    | 1.37    | 1.50    | 18      | 72     | 0.1          |
| 2             | S77L14AM74020 | S77L14AM76020 | 1.12    | 1.87    | 2.00    | 10      | 40     | 0.2          |
| 2-1/2         | S77L14AM74024 | S77L14AM76024 | 1.12    | 2.37    | 2.50    | 6       | 24     | 0.2          |
| 3             | S77L14AM74030 | S77L14AM76030 | 1.12    | 2.87    | 3.00    | 5       | 20     | 0.3          |
| 4             | S77L14AM74040 | S77L14AM76040 | 1.12    | 3.83    | 4.00    | 6       | 12     | 0.5          |
| 6             | S77L14AM74060 | -             | 1.12    | 5.78    | 6.00    | -       | 1      | 1.1          |
| 8             | S77L14AM74080 | -             | 1.12    | 7.78    | 8.00    | -       | 1      | 1.8          |



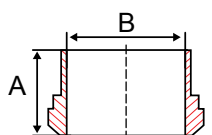
**Fig. S7714RMP4 & S7714RMP6 - Recessless Ferrule (Roll-On)**

| Tube OD<br>IN | Part Number  |              | A<br>IN | B<br>IN | Packing |        | Weight<br>LB |
|---------------|--------------|--------------|---------|---------|---------|--------|--------------|
|               | 304          | 316/L        |         |         | Inner   | Master |              |
| 1             | S7714RMP4010 | S7714RMP6010 | 0.75    | 1.00    | 30      | 120    | 0.1          |
| 1-1/2         | S7714RMP4014 | S7714RMP6014 | 1.12    | 1.50    | 20      | 80     | 0.1          |
| 2             | S7714RMP4020 | S7714RMP6020 | 1.31    | 2.00    | 8       | 32     | 0.2          |
| 2-1/2         | S7714RMP4024 | S7714RMP6024 | 1.37    | 2.50    | 5       | 20     | 0.3          |
| 3             | S7714RMP4030 | S7714RMP6030 | 1.43    | 3.00    | 4       | 16     | 0.4          |
| 4             | S7714RMP4040 | S7714RMP6040 | 1.50    | 4.00    | 4       | 8      | 0.7          |



**Fig. S7714PRF4 - Short Plain Bevel Seat Ferrule**

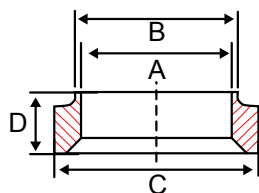
| Tube OD<br>IN | Part Number<br>304 | A<br>IN | B<br>IN | C<br>IN | E<br>IN | F<br>IN | Packing |        | Weight<br>LB |
|---------------|--------------------|---------|---------|---------|---------|---------|---------|--------|--------------|
|               |                    |         |         |         |         |         | Inner   | Master |              |
| 1-1/2         | S7714PRF4014       | 1.37    | 1.50    | 1.67    | 1.84    | 0.72    | -       | 1      | 0.2          |
| 2             | S7714PRF4020       | 1.87    | 2.00    | 2.19    | 2.37    | 0.75    | -       | 1      | 0.3          |
| 3             | S7714PRF4030       | 2.87    | 3.00    | 3.22    | 3.43    | 0.90    | -       | 1      | 0.5          |



**Fig. S7714A4 - Long Plain Bevel Seat Ferrule**

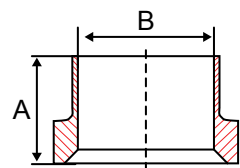
| Tube OD<br>IN | Part Number<br>304 | A<br>IN | B<br>IN | Packing |        | Weight<br>LB |
|---------------|--------------------|---------|---------|---------|--------|--------------|
|               |                    |         |         | Inner   | Master |              |
| 1-1/2         | S7714A4014         | 1.50    | 1.37    | -       | 1      | 0.3          |
| 2             | S7714A4020         | 1.50    | 1.87    | -       | 1      | 0.4          |
| 3             | S7714A4030         | 1.75    | 2.87    | -       | 1      | 0.6          |

Dimensions may change at any time due to continuous product development.



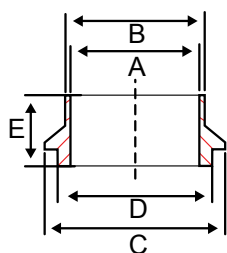
**Fig. S7715TRF4 - Short Threaded Bevel Seat Ferrule**

| Tube OD<br>IN | Part Number<br>304 | A<br>IN | B<br>IN | C<br>IN | D<br>IN | Packing |        | Weight<br>LB |
|---------------|--------------------|---------|---------|---------|---------|---------|--------|--------------|
|               |                    |         |         |         |         | Inner   | Master |              |
| 1-1/2         | S7715TRF4014       | 1.37    | 1.50    | 2.00    | 0.72    | -       | 1      | 0.2          |
| 2             | S7715TRF4020       | 1.87    | 2.00    | 2.50    | 0.75    | -       | 1      | 0.3          |
| 3             | S7715TRF4030       | 2.87    | 3.00    | 3.50    | 0.90    | -       | 1      | 0.7          |



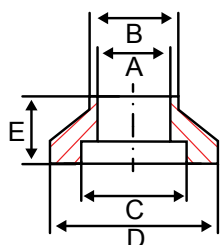
**Fig. S7715A4 - Long Thread Bevel Seat Ferrule**

| Tube OD<br>IN | Part Number<br>304 | A<br>IN | B<br>IN | Packing |        | Weight<br>LB |
|---------------|--------------------|---------|---------|---------|--------|--------------|
|               |                    |         |         | Inner   | Master |              |
| 1-1/2         | S7715A4014         | 1.50    | 1.37    | -       | 1      | 0.3          |
| 2             | S7715A4020         | 1.50    | 1.87    | -       | 1      | 0.4          |
| 3             | S7715A4030         | 1.75    | 2.87    | -       | 1      | 0.8          |



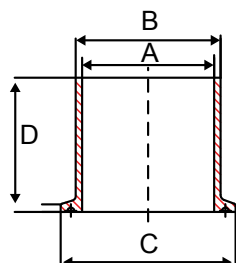
**Fig. S7714WI4 - Male I-line Short Weld Ferrule**

| Tube OD<br>IN | Part Number<br>304 | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | Packing |        | Weight<br>LB |
|---------------|--------------------|---------|---------|---------|---------|---------|---------|--------|--------------|
|               |                    |         |         |         |         |         | Inner   | Master |              |
| 1-1/2         | S7714WI4014        | 1.37    | 1.51    | 1.74    | 1.99    | 0.94    | -       | 1      | 0.2          |
| 2             | S7714WI4020        | 1.87    | 2.01    | 2.24    | 2.64    | 1.03    | -       | 1      | 0.3          |
| 3             | S7714WI4030        | 2.87    | 3.01    | 3.30    | 3.87    | 1.22    | -       | 1      | 0.7          |



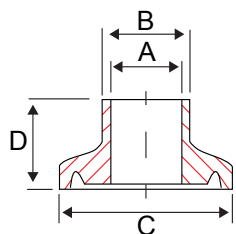
**Fig. S7715WI4 - Female I-line Short Weld Ferrule**

| Tube OD<br>IN | Part Number<br>304 | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | Packing |        | Weight<br>LB |
|---------------|--------------------|---------|---------|---------|---------|---------|---------|--------|--------------|
|               |                    |         |         |         |         |         | Inner   | Master |              |
| 1-1/2         | S7715WI4014        | 1.37    | 1.51    | 1.76    | 1.99    | 0.94    | -       | 1      | 0.2          |
| 2             | S7715WI4020        | 1.87    | 2.01    | 2.26    | 2.64    | 1.03    | -       | 1      | 0.4          |
| 3             | S7715WI4030        | 2.87    | 3.01    | 3.31    | 3.87    | 1.22    | -       | 1      | 0.7          |



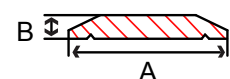
**Fig. S7714WLMP4 - Tank Welding Ferrules (light duty)**

| Tube OD<br>IN | Part Number<br>304 | A<br>IN | B<br>IN | C<br>IN | D<br>IN | Packing |        | Weight<br>LB |
|---------------|--------------------|---------|---------|---------|---------|---------|--------|--------------|
|               |                    |         |         |         |         | Inner   | Master |              |
| 1             | S7714WLMP4010      | 1.37    | 1.68    | 1.99    | 3.00    | -       | 1      | 0.3          |
| 1-1/2         | S7714WLMP4014      | 1.87    | 2.19    | 2.52    | 3.00    | -       | 1      | 0.4          |
| 2             | S7714WLMP4020      | 2.87    | 3.22    | 3.58    | 3.00    | -       | 1      | 0.6          |



**Fig. S7714MPW6 - Heavy Tank Weld Ferrule**

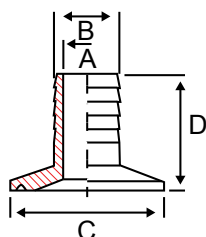
| Tube OD<br>IN | Part Number<br>316/L | A<br>IN | B<br>IN | C<br>IN | D<br>IN | Packing |        | Weight<br>LB |
|---------------|----------------------|---------|---------|---------|---------|---------|--------|--------------|
|               |                      |         |         |         |         | Inner   | Master |              |
| 1             | S7714MPW6010         | 1.37    | 1.68    | 1.99    | 3.00    | -       | 1      | 0.3          |
| 1-1/2         | S7714MPW6014         | 1.87    | 2.19    | 2.52    | 3.00    | -       | 1      | 0.4          |
| 2             | S7714MPW6020         | 2.87    | 3.22    | 3.58    | 3.00    | -       | 1      | 0.6          |



**Fig. S7716AMP4 & S7716AMP6 - Solid End Cap**

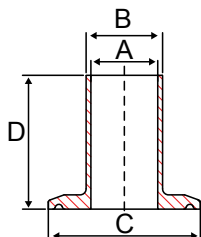
| Tube OD<br>IN | Part Number  |              | A<br>IN | B<br>IN | Packing |        | Weight<br>LB |
|---------------|--------------|--------------|---------|---------|---------|--------|--------------|
|               | 304          | 316/L        |         |         | Inner   | Master |              |
| 1/2 & 3/4     | -            | S7716AMP6006 | 0.98    | 0.18    | 70      | 280    | 0.03         |
| 1 & 1-1/2     | S7716AMP4014 | S7716AMP6014 | 1.98    | 0.25    | 70      | 280    | 0.1          |
| 2             | S7716AMP4020 | S7716AMP6020 | 2.51    | 0.25    | 30      | 120    | 0.3          |
| 2-1/2         | S7716AMP4024 | S7716AMP6024 | 3.04    | 0.25    | 20      | 80     | 0.4          |
| 3             | S7716AMP4030 | S7716AMP6030 | 3.57    | 0.25    | 10      | 40     | 0.9          |
| 4             | S7716AMP4040 | S7716AMP6040 | 4.68    | 0.31    | 8       | 16     | 1.2          |

Dimensions may change at any time due to continuous product development.



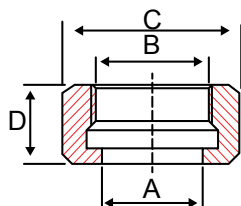
**Fig. S7714MPHR4 - Rubber Hose Adapter**

| Tube OD<br>IN | Part Number<br>304 | A<br>IN | B<br>IN | C<br>IN | D<br>IN | Packing |        | Weight<br>LB |
|---------------|--------------------|---------|---------|---------|---------|---------|--------|--------------|
|               |                    |         |         |         |         | Inner   | Master |              |
| 1             | S7714MPHR4010      | 0.81    | 1.00    | 1.99    | 1.69    | -       | 1      | 0.2          |
| 1-1/2         | S7714MPHR4014      | 1.31    | 1.50    | 1.99    | 1.69    | -       | 1      | 0.2          |
| 2             | S7714MPHR4020      | 1.81    | 2.00    | 2.52    | 2.31    | -       | 1      | 0.4          |



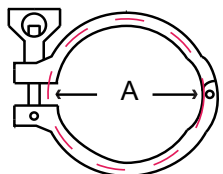
**Fig. S7714MPHT6 - Tygon® Hose Adapter**

| Tube OD<br>IN | Part Number<br>316L | A<br>IN | B<br>IN | C<br>IN | D<br>IN | Packing |        | Weight<br>LB |
|---------------|---------------------|---------|---------|---------|---------|---------|--------|--------------|
|               |                     |         |         |         |         | Inner   | Master |              |
| 1             | S7714MPHT6010       | 0.81    | 1.00    | 1.99    | 4.50    | -       | 1      | 0.2          |
| 1-1/2         | S7714MPHT6014       | 1.31    | 1.50    | 1.99    | 4.50    | -       | 1      | 0.2          |
| 2             | S7714MPHT6020       | 1.81    | 2.00    | 2.52    | 4.50    | -       | 1      | 0.4          |



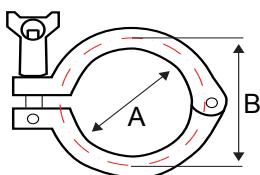
**Fig. S7713H4 - Bevel Seat Hex Nut**

| Tube OD<br>IN | Part Number<br>304 | A<br>IN | B<br>IN | C<br>IN | D<br>IN | Packing |        | Weight<br>LB |
|---------------|--------------------|---------|---------|---------|---------|---------|--------|--------------|
|               |                    |         |         |         |         | Inner   | Master |              |
| 1-1/2         | S7713H4014         | 1.70    | 2.00    | 2.40    | 0.97    | -       | 1      | 0.5          |
| 2             | S7713H4020         | 2.20    | 2.50    | 3.00    | 1.06    | -       | 1      | 0.8          |
| 3             | S7713H4030         | 3.25    | 3.62    | 4.19    | 1.28    | -       | 1      | 1.9          |



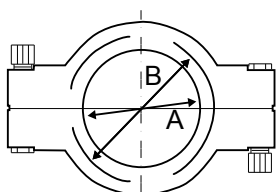
**Fig. S7713MHHM4 - Heavy Duty Clamp**

| Tube OD<br>IN | Part Number<br>304 | A<br>IN | Packing |        | Weight<br>LB |
|---------------|--------------------|---------|---------|--------|--------------|
|               |                    |         | Inner   | Master |              |
| 1/2 & 3/4     | S7713MHHM4006      | 1.10    | 25      | 100    | 0.2          |
| 1 & 1-1/2     | S7713MHHM4014      | 2.12    | 10      | 40     | 0.6          |
| 2             | S7713MHHM4020      | 2.65    | 10      | 40     | 0.7          |
| 2-1/2         | S7713MHHM4024      | 3.18    | 14      | 28     | 0.8          |
| 3             | S7713MHHM4030      | 3.71    | 12      | 24     | 1.0          |
| 4             | S7713MHHM4040      | 4.82    | 5       | 10     | 1.2          |
| 6             | S7713MHHM4060      | 6.69    | -       | 1      | 3.7          |
| 8             | S7713MHHM4080      | 8.66    | -       | 1      | 3.1          |



**Fig. S7713IS4 - Heavy Duty I-line Clamp**

| Tube OD<br>IN | Part Number<br>304 | A<br>IN | B<br>IN | Packing |        | Weight<br>LB |
|---------------|--------------------|---------|---------|---------|--------|--------------|
|               |                    |         |         | Inner   | Master |              |
| 1-1/2         | S7713IS4014        | 2.10    | 3.30    | -       | 1      | 0.5          |
| 2             | S7713IS4020        | 2.84    | 4.37    | -       | 1      | 0.8          |
| 3             | S7713IS4030        | 4.03    | 5.36    | -       | 1      | 1.9          |



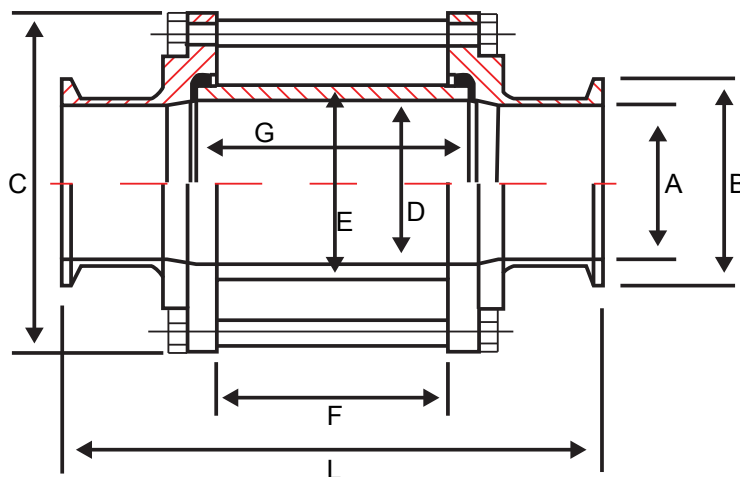
**Fig. S7713MHP4 - High Pressure Clamp**

| Tube OD<br>IN | Part Number<br>304 | A<br>IN | B<br>IN | Packing |        | Weight<br>LB |
|---------------|--------------------|---------|---------|---------|--------|--------------|
|               |                    |         |         | Inner   | Master |              |
| 1-1/2         | S7713MHP4014       | 1.71    | 2.05    | -       | 1      | 1.0          |
| 2             | S7713MHP4020       | 2.22    | 2.58    | -       | 1      | 1.2          |
| 2.5           | S7713MHP4024       | 2.74    | 3.11    | -       | 1      | 1.3          |
| 3             | S7713MHP4030       | 3.05    | 3.64    | -       | 1      | 1.5          |
| 4             | S7713MHP4040       | 4.29    | 4.04    | -       | 1      | 1.8          |
| 6             | S7713MHP4060       | 6.22    | 6.69    | -       | 1      | 2.8          |

Dimensions may change at any time due to continuous product development.



Size: 1-1/2" to 4"  
 Body: Machined 316 stainless steel  
 Ends: 3A clamp ends  
 Max Pressure: 150 psi at ambient temperature  
 Seals: EPDM standard, silicon & viton available upon request  
 Bolting: Stainless steel



**Fig. S7754MP6 - Sight-glass**

| Tube OD<br>IN | Part Number<br>316/L | A    | B    | C    | D    | E    | F    | G    | L    | Packing |        | Weight<br>LB |
|---------------|----------------------|------|------|------|------|------|------|------|------|---------|--------|--------------|
|               |                      | IN   | IN   | IN   | IN   | IN   | IN   | IN   | IN   | Inner   | Master |              |
| 1-1/2         | S7754MP6014          | 1.51 | 2.00 | 3.35 | 1.34 | 1.57 | 3.15 | 3.54 | 5.75 | -       | 1      | 2.4          |
| 2             | S7754MP6020          | 1.87 | 2.52 | 4.13 | 1.96 | 2.36 | 3.15 | 3.54 | 5.90 | -       | 1      | 2.5          |
| 3             | S7754MP6030          | 2.87 | 3.58 | 4.92 | 2.97 | 3.35 | 3.15 | 3.54 | 6.14 | -       | 1      | 4.4          |
| 4             | S7754MP6040          | 3.84 | 4.68 | 6.18 | 3.94 | 4.33 | 3.15 | 3.54 | 6.14 | -       | 1      | 7.0          |

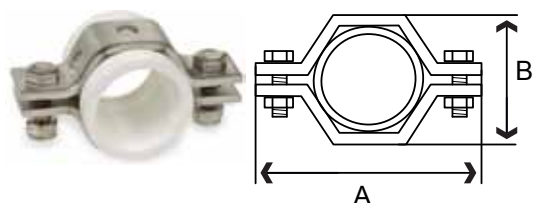


**Fig. S7740MPE, S7740MPG & S7740MPU – Gaskets**

| Size<br>IN | EPDM Gasket*<br>Part Number<br>-55°F to 275°F | PTFE Gasket<br>Part Number<br>-40°F to 450°F | BUNA-N Gasket<br>Part Number<br>-30°F to 200°F |
|------------|-----------------------------------------------|----------------------------------------------|------------------------------------------------|
| 1/2        | S7740MPE004                                   | S7740MPG004                                  | S7740MPU004                                    |
| 3/4        | S7740MPE006                                   | S7740MPG006                                  | S7740MPU006                                    |
| 1          | S7740MPE010                                   | S7740MPG010                                  | S7740MPU010                                    |
| 1-1/2      | S7740MPE014                                   | S7740MPG014                                  | S7740MPU014                                    |
| 2          | S7740MPE020                                   | S7740MPG020                                  | S7740MPU020                                    |
| 2-1/2      | S7740MPE024                                   | S7740MPG024                                  | S7740MPU024                                    |
| 3          | S7740MPE030                                   | S7740MPG030                                  | S7740MPU030                                    |
| 4          | S7740MPE040                                   | S7740MPG040                                  | S7740MPU040                                    |
| 6          | S7740MPE060                                   | S7740MPG060                                  | S7740MPU060                                    |

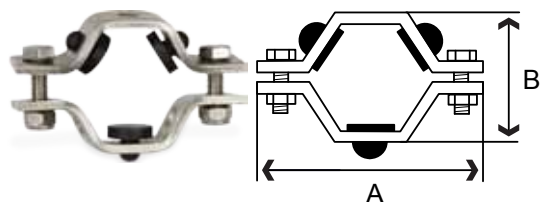
\*Do not use with any hydrocarbons.

**Fig. S77TH4P4 – Hanger with Sleeves**



| Tube OD<br>IN | Part Number | A<br>IN | B<br>IN | Weight<br>LB |
|---------------|-------------|---------|---------|--------------|
| 1             | S77TH4P4010 | 3.42    | 1.45    | 0.4          |
| 1-1/2         | S77TH4P4014 | 4.00    | 2.12    | 0.5          |
| 2             | S77TH4P4020 | 4.50    | 2.50    | 0.5          |
| 2-1/2         | S77TH4P4024 | 4.75    | 3.12    | 0.6          |
| 3             | S77TH4P4030 | 5.50    | 3.75    | 0.7          |
| 4             | S77TH4P4040 | 6.75    | 4.75    | 0.9          |
| 6             | S77TH4P4060 | 8.00    | 5.75    | 1.9          |

**Fig. S77TH4R4 – Hanger with Grommets**



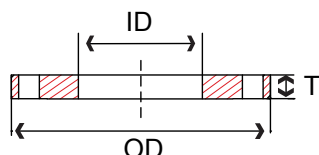
| Tube OD<br>IN | Part Number | A<br>IN | B<br>IN | Weight<br>LB |
|---------------|-------------|---------|---------|--------------|
| 1             | S77TH4R4010 | 3.42    | 1.45    | 0.4          |
| 1-1/2         | S77TH4R4014 | 4.00    | 2.12    | 0.5          |
| 2             | S77TH4R4020 | 4.50    | 2.50    | 0.5          |
| 2-1/2         | S77TH4R4024 | 4.75    | 3.12    | 0.6          |
| 3             | S77TH4R4030 | 5.50    | 3.75    | 0.7          |
| 4             | S77TH4R4040 | 6.75    | 4.75    | 0.9          |
| 6             | S77TH4R4060 | 8.00    | 5.75    | 1.9          |

**Fig. S62TP4 & S62TP6 – Sanitary Tubing**



| Tube OD<br>IN | Part Number |            | Wall<br>Thickness<br>IN | I.D.<br>IN | Tube<br>Length<br>FT | Weight<br>LB/FT |
|---------------|-------------|------------|-------------------------|------------|----------------------|-----------------|
|               | 304         | 316/L      |                         |            |                      |                 |
| 1/2           | S62TP46004  | S62TP66004 | 0.065                   | 0.370      | 20                   | 0.3             |
| 3/4           | S62TP46006  | S62TP66006 | 0.065                   | 0.620      | 20                   | 0.5             |
| 1             | S62TP46010  | S62TP66010 | 0.065                   | 0.870      | 20                   | 0.6             |
| 1-1/2         | S62TP46014  | S62TP66014 | 0.065                   | 1.370      | 20                   | 0.9             |
| 2             | S62TP46020  | S62TP66020 | 0.065                   | 1.870      | 20                   | 1.3             |
| 2-1/2         | S62TP46024  | S62TP66024 | 0.065                   | 2.370      | 20                   | 1.6             |
| 3             | S62TP46030  | S62TP66030 | 0.065                   | 2.870      | 20                   | 2.0             |
| 4             | S62TP48040  | S62TP68040 | 0.083                   | 3.834      | 20                   | 3.4             |
| 6             | S62TP49060  | S62TP69060 | 0.109                   | 5.782      | 20                   | 5.3             |

**Tube Plate Flanges**



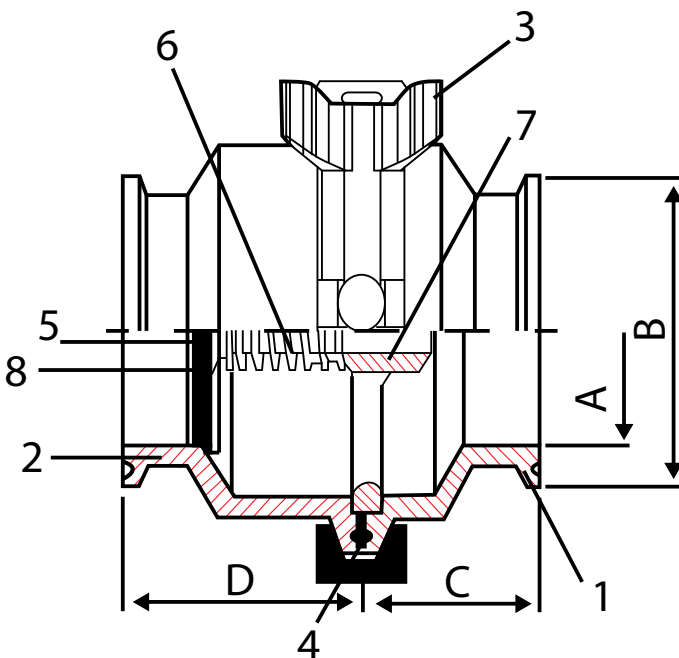
| Tube OD<br>Size<br>IN | Part Numbers |              | Thickness<br>(T) | Outside<br>Diameter<br>(OD) | Inside<br>Diameter<br>(ID) | Number<br>of Bolt<br>Holes | Bolt Hole<br>Diameter<br>IN | Bolt<br>Circle<br>IN | Weight<br>LB |
|-----------------------|--------------|--------------|------------------|-----------------------------|----------------------------|----------------------------|-----------------------------|----------------------|--------------|
|                       | 304          | 316          |                  |                             |                            |                            |                             |                      |              |
| 1                     | S1414SOTP010 | S1416SOTP010 | 0.500            | 4.25                        | 1.06                       | 4                          | 0.625                       | 3.12                 | 1.7          |
| 1-1/2                 | S1414SOTP014 | S1416SOTP014 | 0.500            | 5.00                        | 1.56                       | 4                          | 0.625                       | 3.88                 | 2.3          |
| 2                     | S1414SOTP020 | S1416SOTP020 | 0.500            | 6.00                        | 2.06                       | 4                          | 0.75                        | 4.75                 | 3.2          |
| 2-1/2                 | S1414SOTP024 | S1416SOTP024 | 0.500            | 7.00                        | 2.56                       | 4                          | 0.75                        | 5.50                 | 4.5          |
| 3                     | S1414SOTP030 | S1416SOTP030 | 0.500            | 7.50                        | 3.06                       | 4                          | 0.75                        | 6.00                 | 4.8          |
| 4                     | S1414SOTP040 | S1416SOTP040 | 0.500            | 9.00                        | 4.06                       | 8                          | 0.75                        | 7.50                 | 6.5          |
| 6                     | S1414SOTP060 | S1416SOTP060 | 0.500            | 11.00                       | 6.06                       | 8                          | 0.875                       | 9.50                 | 8.2          |
| 8                     | S1414SOTP080 | S1416SOTP080 | 0.500            | 13.50                       | 8.06                       | 8                          | 0.875                       | 11.75                | 11.8         |
| 10                    | S1414SOTP100 | S1416SOTP100 | 0.500            | 16.00                       | 10.06                      | 12                         | 1.00                        | 14.25                | 14.7         |
| 12                    | S1414SOTP120 | S1416SOTP120 | 0.500            | 19.00                       | 12.06                      | 12                         | 1.00                        | 17.00                | 21.4         |



Size: 1-1/2" to 4"  
 Material: 316 stainless steel  
 Ends: Clamp ends  
 Max Pressure: 150 psi at ambient temperature

- All wetted parts approved for use in food processing
- All wetted parts polished to 180 grit
- Optional ends: butt weld, butt weld extended, and male threads

| No. | Part Name          | Material            |
|-----|--------------------|---------------------|
| 1   | Short Body         | 316 Stainless Steel |
| 2   | Long Body          | 316 Stainless Steel |
| 3   | Clamp              | 316 Stainless Steel |
| 4   | 13 PG              | 316 Stainless Steel |
| 5   | Seal-Ring          | EPDM                |
| 6   | Spring             | 316 Stainless Steel |
| 7   | Flow Support Plate | 316 Stainless Steel |
| 8   | Disc               | 316 Stainless Steel |

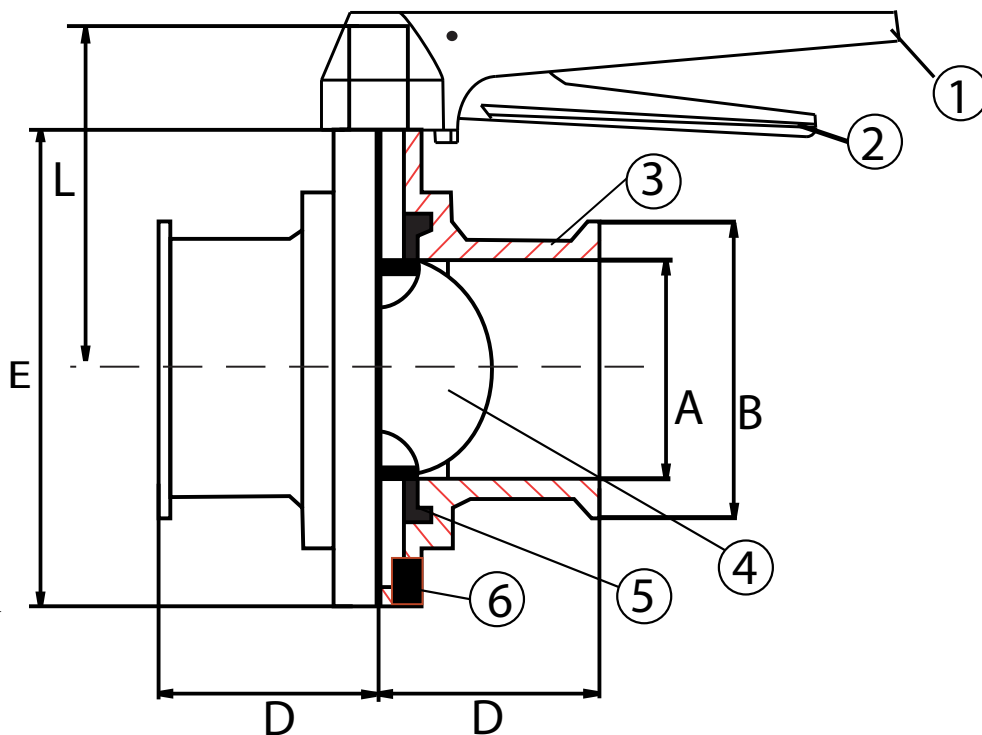


| Nominal Tube Size IN | Part Number | A IN | B IN | C IN | D IN | Cracking Pressure psi | Weight LB |
|----------------------|-------------|------|------|------|------|-----------------------|-----------|
| 1-1/2                | S7745MP6014 | 1.37 | 1.99 | 1.42 | 1.89 | 1.6                   | 2.6       |
| 2                    | S7745MP6020 | 1.87 | 2.52 | 1.42 | 1.89 | 0.6                   | 3.1       |
| 3                    | S7745MP6030 | 2.87 | 3.58 | 1.42 | 1.89 | 0.8                   | 5.2       |
| 4                    | S7745MP6040 | 3.84 | 4.69 | 1.85 | 2.13 | 0.9                   | 10.4      |



Port: Tube Port  
Size: 1" to 4"  
Material: 304 Stainless Steel  
Ends: Clamp Ends  
Pressure: 150 PSI  
Temperature: 200° F

- 304 stainless steel precision milled body
- Sharpe logo, material grade, size, heat number and country of origin engraved on each valve body
- Disc fully machined and polished
- Pull handle 4 position, blue 12 position handle, stainless steel 12 position handle
- Hygienic seating design
- Automation available upon request



| No. | Part Name | Material        |
|-----|-----------|-----------------|
| 1   | Handle    | Plastic         |
| 2   | Gripper   | Stainless Steel |
| 3   | Body      | 304SS           |
| 4   | Disc      | 304SS           |
| 5   | Seat      | EPDM            |
| 6   | Bolt      | 304SS           |

| Nominal Tube Size<br>IN | Part Number   | A<br>IN | B<br>IN | D<br>IN | E<br>IN | L<br>IN |
|-------------------------|---------------|---------|---------|---------|---------|---------|
| 1                       | SV154ECC21010 | 0.87    | 1.99    | 1.75    | 3.11    | 2.40    |
| 1-1/2                   | SV154ECC21014 | 1.37    | 1.99    | 1.75    | 3.35    | 2.53    |
| 2                       | SV154ECC21020 | 1.87    | 2.52    | 1.87    | 4.13    | 2.93    |
| 2-1/2                   | SV154ECC21024 | 2.37    | 3.05    | 1.91    | 4.41    | 3.06    |
| 3                       | SV154ECC21030 | 2.84    | 3.58    | 2.03    | 4.92    | 3.34    |
| 4                       | SV154ECC21040 | 3.84    | 4.69    | 2.03    | 6.18    | 4.00    |

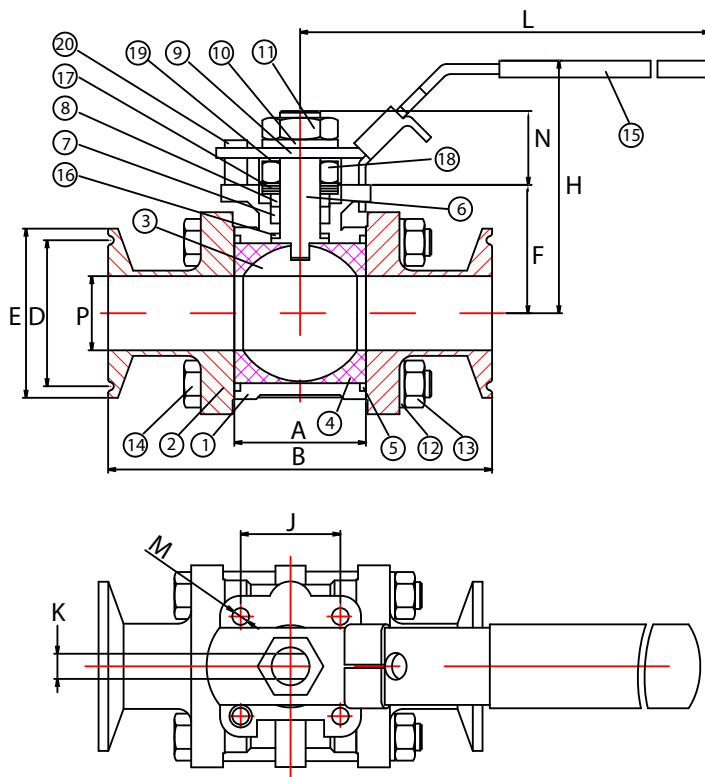
Part Number Listed is for 304 SS Body, EPDM Seat, Tri Clamp Ends, 25 RA Finish, and 12 Position Handle.  
Other configurations available upon request



Port: Full Tube Port  
 Size: 1/2" to 4"  
 Material: 316 Stainless Steel  
 Ends: Clamp Ends, Extended Butt Weld, Short Butt Weld  
 Pressure: 1000 PSI  
 Temperature: 450° F

- 3-Piece design
- High cycle stem design
- Integral ISO 5211 mounting pad
- Lockable handle lever or oval handle
- Hygienic seating design
- Live loaded stem packing
- Blow-out proof stem
- Cavity-Filled seats available

| No. | Part Name     | Material        |
|-----|---------------|-----------------|
| 1   | Body          | CF8M            |
| 2   | End Cap       | CF8M            |
| 3   | Ball          | 316             |
| 4   | Seats         | TFM             |
| 5   | Body Gasket   | PTFE            |
| 6   | Stem          | 316             |
| 7   | Gland Packing | PTFE            |
| 8   | Gland         | Stainless Steel |
| 9   | Handle        | Stainless Steel |
| 10  | Stem Washer   | Stainless Steel |
| 11  | Stem Nut      | Stainless Steel |
| 12  | Bolts Washer  | Stainless Steel |
| 13  | Bolts Nut     | Stainless Steel |
| 14  | Bolts         | Stainless Steel |
| 15  | Cover         | P.V.C.          |
| 16  | Thrust Washer | PTFE            |
| 17  | Belleville    | Stainless Steel |
| 18  | Gland Nut     | Stainless Steel |
| 19  | Lock Tab      | Stainless Steel |
| 20  | Stop Pin      | Stainless Steel |



| Nominal Tube Size IN | Part Number    | A IN | B IN  | D IN | E IN | F IN | H IN | J IN | K IN | L IN  | M IN | N IN | P IN |
|----------------------|----------------|------|-------|------|------|------|------|------|------|-------|------|------|------|
| 1/2                  | SVN6666MTCE004 | 0.96 | 3.50  | 0.75 | 0.98 | 1.14 | 2.44 | 1.00 | 0.22 | 4.92  | M5   | 0.65 | 0.37 |
| 3/4                  | SVN6666MTCE006 | 1.05 | 4.00  | 0.75 | 0.98 | 1.20 | 2.50 | 1.00 | 0.22 | 4.92  | M5   | 0.65 | 0.62 |
| 1                    | SVN6666MTCE010 | 1.54 | 4.50  | 1.71 | 2.00 | 1.50 | 2.96 | 1.16 | 0.30 | 5.71  | M5   | 0.80 | 0.87 |
| 1-1/2                | SVN6666MTCE014 | 2.13 | 5.50  | 1.71 | 2.00 | 1.91 | 3.38 | 1.39 | 0.34 | 7.48  | M6   | 1.14 | 1.37 |
| 2                    | SVN6666MTCE020 | 2.65 | 6.25  | 2.2  | 2.52 | 2.24 | 3.77 | 1.39 | 0.34 | 7.48  | M6   | 1.14 | 1.87 |
| 2-1/2                | SVN6666MTCE024 | 3.20 | 6.50  | 3.04 | 3.05 | 3.32 | 5.87 | 1.95 | 0.55 | 9.84  | M8   | 1.48 | 2.37 |
| 3                    | SVN6666MTCE030 | 3.97 | 10.50 | 3.28 | 3.57 | 3.78 | 6.37 | 1.98 | 0.55 | 9.84  | M8   | 1.47 | 2.87 |
| 4                    | SVN6666MTCE040 | 4.74 | 12.50 | 4.34 | 4.68 | 4.58 | 7.36 | 2.83 | 0.75 | 11.33 | M10  | 1.65 | 3.83 |

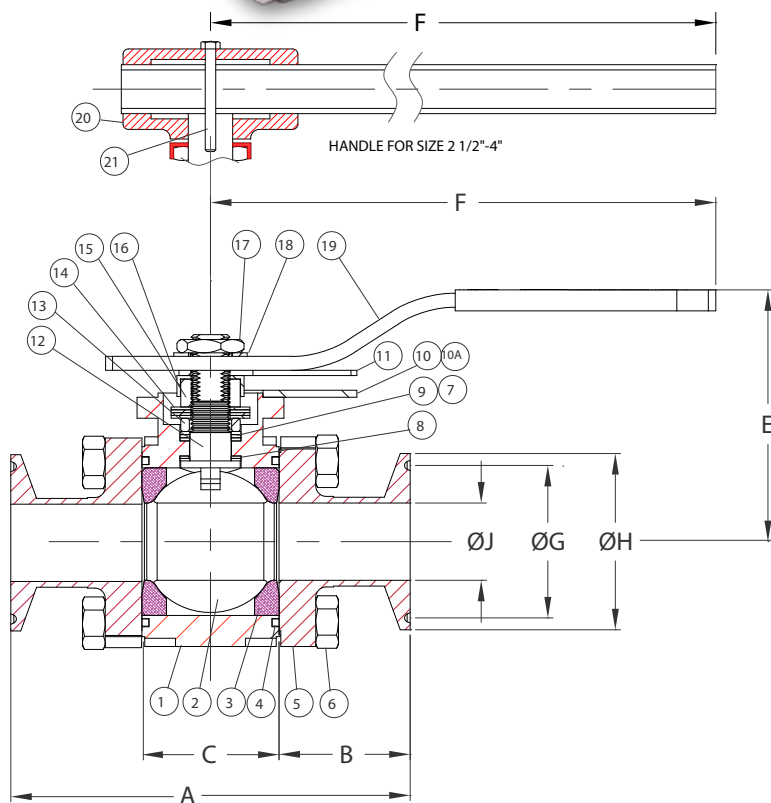
Part number listed is for configuration listed on this page with clamp ends.

A full listing of configurations can be found at [www.sharpevalves.com](http://www.sharpevalves.com)



Port: Full Tube Port  
 Size: 1/2" to 4"  
 Material: 316L Stainless Steel  
 Ends: Tri-Clamp Ends, Extended Butt Weld, Short Butt Weld  
 Pressure: 1480 PSI  
 Temperature: 450° F

- 3- Piece design
- High cycle stem packing
- Encapsulated body bolts
- Integral ISO mounting pad
- Lockable, lever, extended or oval handle
- Hygienic seating design
- Blow-out proof stem
- Cavity-Filled seats available



| No. | Part Name         | Material        |
|-----|-------------------|-----------------|
| 1   | Body              | CF3M            |
| 2   | Ball              | SS 316L         |
| 3   | Seats             | TFM             |
| 4   | Body Seals        | TFM             |
| 5   | Tri-Clamp Ends    | CF3M            |
| 6   | Body Bolts        | SS 316          |
| 7   | Seal Protector    | TFM             |
| 8   | Thrust Washer     | TFM             |
| 9   | Stem Packing      | TFM             |
| 10  | Lower Lock Latch  | Stainless Steel |
| 10A | Lower Lock Bolt   | Stainless Steel |
| 11  | Upper Lock Latch  | Stainless Steel |
| 12  | Stem              | SS 316L         |
| 13  | Gland Packing     | Stainless Steel |
| 14  | Belleville Washer | Stainless Steel |
| 15  | Packing Nut       | Stainless Steel |
| 16  | Lock Tab          | Stainless Steel |
| 17  | Stem Nut          | Stainless Steel |
| 18  | Lock Washer       | Stainless Steel |
| 19  | Handle            | Stainless Steel |
| 20  | Wrench Block      | Stainless Steel |
| 21  | Hex head Bolt     | Stainless Steel |

| Nominal Tube Size IN | Part Number   | A IN | B IN | C IN | E IN | F IN  | G IN | H IN | J IN |
|----------------------|---------------|------|------|------|------|-------|------|------|------|
| 1/2                  | SV6666MTCE004 | 3.50 | 1.26 | 0.97 | 1.76 | 5.53  | 0.80 | 0.95 | 0.37 |
| 3/4                  | SV6666MTCE006 | 4.00 | 1.47 | 1.05 | 1.87 | 4.50  | 0.80 | 0.95 | 0.62 |
| 1                    | SV6666MTCE010 | 4.50 | 1.48 | 1.54 | 2.40 | 5.75  | 1.72 | 1.98 | 0.87 |
| 1-1/2                | SV6666MTCE014 | 5.50 | 1.69 | 2.13 | 3.16 | 7.00  | 1.72 | 1.98 | 1.37 |
| 2                    | SV6666MTCE020 | 6.91 | 2.13 | 2.65 | 3.35 | 7.00  | 2.22 | 2.52 | 1.87 |
| 2-1/2                | SV6666MTCE024 | 6.74 | 1.77 | 3.20 | 5.58 | 10.00 | 2.78 | 3.05 | 2.37 |
| 3                    | SV6666MTCE030 | 6.75 | 1.39 | 3.97 | 7.25 | 13.80 | 3.28 | 3.58 | 2.87 |
| 4                    | SV6666MTCE040 | 8.24 | 1.76 | 4.73 | 7.84 | 22.00 | 4.35 | 4.68 | 3.83 |

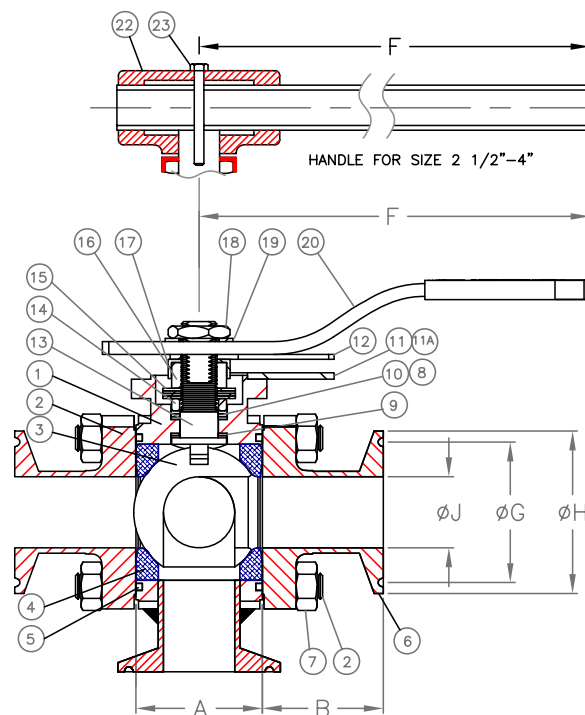
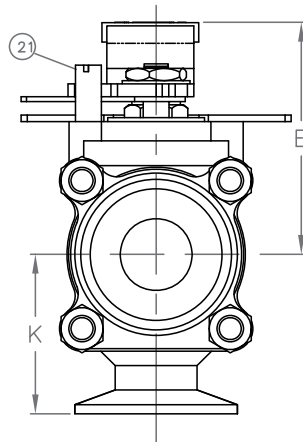
Part number listed is for configuration listed on this page with clamp ends. A full listing of configurations and flow plans can be found at [www.sharpevalves.com](http://www.sharpevalves.com)



Port: Tube Full Port  
 Size: 1/2" to 4"  
 Material: 316L Stainless Steel  
 Ends: Tri-Clamp Ends, Extended Butt Weld, Short Butt Weld  
 Pressure: 1480 PSI  
 Temperature: 450° F

- ASME/BPE - 2009 compliant
- 3- Piece design
- High cycle stem design
- Encapsulated body bolts
- Variety of seats, seals and aseptic end connections
- Integral mounting pad
- Lockable, lever, extended or oval handle
- All wetted parts polished to 14-18 RA
- Optional 8-10 RA electro polish
- Optional purge ports available

| No. | Part Name         | Material        |
|-----|-------------------|-----------------|
| 1   | Body              | CF3M            |
| 2   | Body Bolts        | Stainless Steel |
| 3   | Ball              | CF8M            |
| 4   | Seats             | PTFE            |
| 5   | Body Seals        | PTFE            |
| 6   | Tri-Clamp End     | CF3M            |
| 7   | Body Nuts         | CF8M            |
| 8   | Seal Protector    | PEEK            |
| 9   | Thrust Washer     | PEEK            |
| 10  | Stem Packing      | PTFE            |
| 11  | Lower Lock Latch  | Stainless Steel |
| 11A | Lower Latch Bolt  | Stainless Steel |
| 12  | Upper Latch Bolt  | Stainless Steel |
| 13  | Stem              | CF8M            |
| 14  | Gland Packing     | CF8M            |
| 15  | Belleville Washer | Stainless Steel |
| 16  | Packing Nut       | Stainless Steel |
| 17  | Lock Tab          | Stainless Steel |
| 18  | Stem Nut          | Stainless Steel |
| 19  | Lock Washer       | Stainless Steel |
| 20  | Handle            | Stainless Steel |
| 21  | Stop Bolt         | Stainless Steel |
| 22  | Wrench Block      | Stainless Steel |
| 23  | Hex Head Bolt     | Stainless Steel |

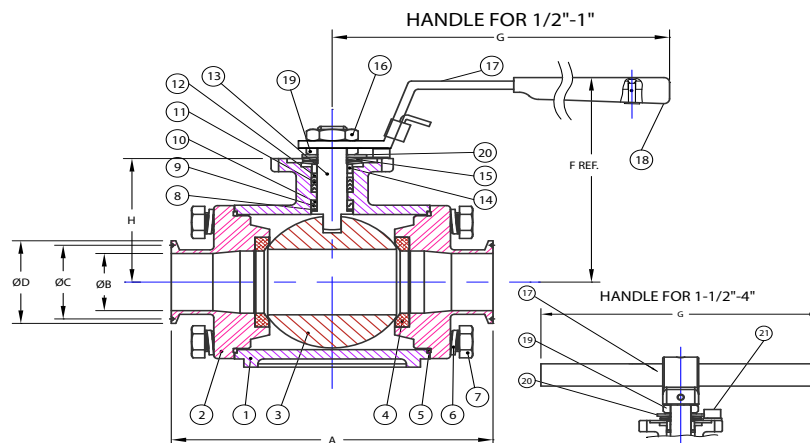
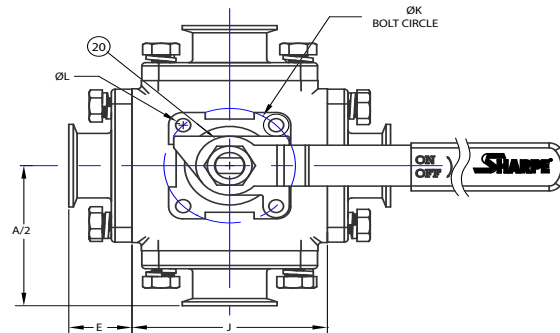


| Nominal Tube Size IN | Part Number       | A IN | B IN | E IN | F IN  | G IN | H IN | J IN | K IN |
|----------------------|-------------------|------|------|------|-------|------|------|------|------|
| 1/2                  | SVD8866RTCEP11004 | 0.97 | 1.26 | 2.24 | 5.53  | 0.80 | 0.98 | 0.37 | 1.70 |
| 3/4                  | SVD8866RTCEP21006 | 1.05 | 1.47 | 2.24 | 4.50  | 0.80 | 0.98 | 0.62 | 1.80 |
| 1                    | SVD8866RTCEP21010 | 1.54 | 1.48 | 2.62 | 5.79  | 1.72 | 1.98 | 0.87 | 1.95 |
| 1-1/2                | SVD8866RTCEP21014 | 2.13 | 1.69 | 3.21 | 7.00  | 1.72 | 1.98 | 1.37 | 2.30 |
| 2                    | SVD8866RTCEP21020 | 2.64 | 2.13 | 3.83 | 7.00  | 2.22 | 2.52 | 1.87 | 2.50 |
| 2-1/2                | SVD8866RTCEP21024 | 3.20 | 1.77 | 5.94 | 8.74  | 2.78 | 3.05 | 2.37 | 2.65 |
| 3                    | SVD8866RTCEP21030 | 3.96 | 1.39 | 7.68 | 13.80 | 3.28 | 3.58 | 2.87 | 3.20 |
| 4                    | SVD8866RTCEP21040 | 4.73 | 1.76 | 8.27 | 13.80 | 4.35 | 4.68 | 3.83 | 3.60 |

Part number listed is for configuration listed on this page with the addition of a L-Port 90° Turn Ball and 240 Grit Clamp Ends.  
 A full listing of configurations and flow plans can be found at [www.sharpevalves.com](http://www.sharpevalves.com)



- Size: Full Port 1/2" to 4"
- Material: 316 Stainless Steel
- Ends: Tri-Clamp Ends, Extended Butt Weld, Short Butt Weld
- Pressure: 600 PSI
- Temperature: 450° F
- ASME B16.5
  - ASME B16.11
  - 4-Seat design
  - Double stem seals; stem design
  - Trunnion supported ball for 2" and larger
  - ISO 5211 mounting pad
  - T, L, and double L balls
  - Live loaded stem packing
  - Blow-out proof stem



| No. | Part Name           | Material                 |
|-----|---------------------|--------------------------|
| 1   | Body                | CF8M                     |
| 2   | Cap                 | CF8M                     |
| 3   | Ball                | CF8M                     |
| 4   | Seats               | TFM/RTFE                 |
| 5   | Body Gasket         | PTFE                     |
| 6   | Bolt Washer         | Stainless Steel          |
| 7   | Bolt                | A2-70                    |
| 8   | Low Thrust Washer   | 50% SS Powder / 50% PTFE |
| 9   | Compression Ring    | SS316                    |
| 10  | Upper Thrust Washer | TFM1600                  |
| 11  | V-Ring Stem Packing | PTFE                     |
| 12  | Thrust Washer       | 50% SS Powder / 50% PTFE |
| 13  | Anti-Static Stem    | A276 Type 316            |
| 14  | Gland               | Stainless Steel          |
| 15  | Belleville Washer   | SS301                    |
| 16  | Bolt Nut            | Stainless Steel          |
| 17  | Handle              | Stainless Steel          |
| 18  | Handle Sleeve       | Vinyl                    |
| 19  | Lock Saddle         | Stainless Steel          |
| 20  | Triangle Stopper    | Stainless Steel          |
| 21  | Stop Bolt           | A2-70                    |

| Nominal Tube Size IN | Part Number    | A IN  | B IN | C IN | D IN | E IN | F IN | G IN  | H IN | J IN | K IN | L IN |
|----------------------|----------------|-------|------|------|------|------|------|-------|------|------|------|------|
| 1/2                  | SV7766MT6G9004 | 5.39  | 0.37 | 0.80 | 0.98 | 1.45 | 3.23 | 4.50  | 1.66 | 2.48 | 1.65 | 0.24 |
| 3/4                  | SV7766MT6G9006 | 5.58  | 0.63 | 0.80 | 0.98 | 1.43 | 3.38 | 5.12  | 2.18 | 2.73 | 1.97 | 0.28 |
| 1                    | SV7766MT6G9010 | 6.20  | 0.87 | 1.71 | 1.99 | 1.52 | 3.86 | 5.12  | 2.18 | 3.15 | 1.97 | 0.28 |
| 1-1/2                | SV7766MT6G9014 | 6.74  | 1.37 | 1.71 | 1.99 | 1.32 | 5.03 | 9.84  | 3.32 | 4.09 | 2.75 | 0.35 |
| 2                    | SV7766MT6G9020 | 7.30  | 1.87 | 1.87 | 2.52 | 1.50 | 5.43 | 9.84  | 3.57 | 4.29 | 4.29 | 0.35 |
| 2-1/2                | SV7766MT6G9024 | 8.54  | 2.37 | 2.78 | 3.05 | 1.77 | 6.37 | 19.50 | 3.82 | 5.00 | 5.00 | 0.47 |
| 3                    | SV7766MT6G9030 | 9.54  | 2.87 | 3.28 | 3.58 | 1.75 | 7.23 | 19.50 | 4.25 | 6.03 | 6.03 | 0.47 |
| 4                    | SV7766MT6G9040 | 11.44 | 3.83 | 4.34 | 4.68 | 2.04 | 8.39 | 23.42 | 5.08 | 7.36 | 7.36 | 0.47 |

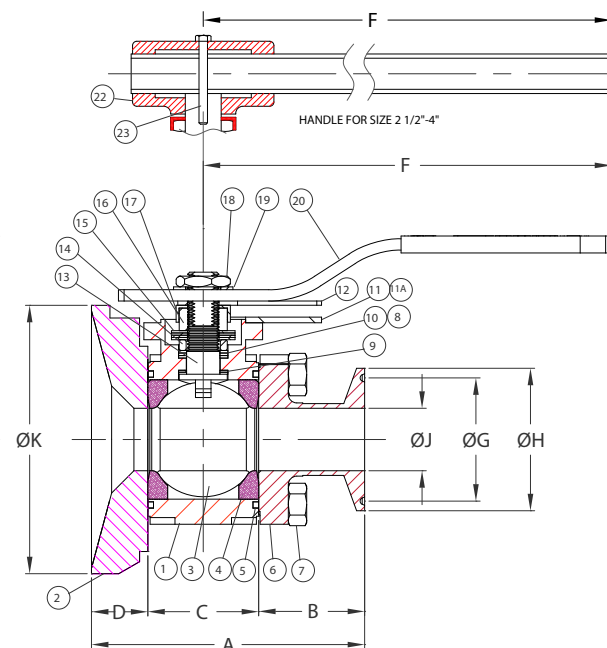
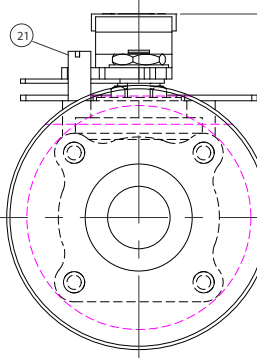
Part number listed is for configuration listed on this page with the addition of a L-Port 90° Turn Ball and 240 Grit Clamp Ends.  
A full listing of configurations and flow plans can be found at [www.sharpevalves.com](http://www.sharpevalves.com)



Port: Full Tube Port  
 Size: 1/2" to 4"  
 Material: 316L Stainless Steel  
 Ends: Tri-Clamp Ends, Extended Butt Weld, Short Butt Weld  
 Pressure: 1480 PSI  
 Temperature: 450° F

- 3-Piece design
- High cycle stem packing
- Encapsulated body bolts
- Variety of seats and seals
- Integral ISO mounting pad
- Lockable, lever, extended or oval handle
- Hygienic seating design
- Blow out proof stem
- Flush pad made from solid bar stock
- Optional purge ports available

| No. | Part Name           | Material        |
|-----|---------------------|-----------------|
| 1   | Body                | CF3M            |
| 2   | Flush Bottom Flange | CF3M            |
| 3   | Ball                | SS 316L         |
| 4   | Seats               | TFM             |
| 5   | Body Seals          | TFM             |
| 6   | Tri-Clamp Ends      | CF3M            |
| 7   | Body Bolts          | SS 316          |
| 8   | Seal Protector      | TFM             |
| 9   | Thrust Washer       | TFM             |
| 10  | Stem Packing        | PTFE            |
| 11  | Lower Lock Latch    | Stainless Steel |
| 11A | Lower Lock Bolt     | Stainless Steel |
| 12  | Upper Lock Latch    | Stainless Steel |
| 13  | Stem                | SS 316L         |
| 14  | Gland Packing       | Stainless Steel |
| 15  | Belleville Washer   | Stainless Steel |
| 16  | Packing Nut         | Stainless Steel |
| 17  | Lock Tab            | Stainless Steel |
| 18  | Stem Nut            | Stainless Steel |
| 19  | Lock Washer         | Stainless Steel |
| 20  | Handle              | Stainless Steel |
| 21  | Stop Bolt           | Stainless Steel |
| 22  | Wrench Block        | Stainless Steel |
| 23  | Hex head Bolt       | Stainless Steel |



| Nominal Tube Size IN | Part Number     | A IN | B IN | C IN | D IN | E IN | F IN  | G IN | H IN | J IN | K IN  |
|----------------------|-----------------|------|------|------|------|------|-------|------|------|------|-------|
| 1/2                  | SV6666TTCEFB006 | 3.02 | 1.26 | 0.97 | 0.79 | 1.76 | 5.53  | 0.80 | 0.95 | 0.37 | 3.74  |
| 3/4                  | SV6666TTCEFB006 | 3.31 | 1.47 | 1.05 | 0.79 | 1.87 | 4.50  | 0.80 | 0.95 | 0.62 | 3.74  |
| 1                    | SV6666TTCEFB006 | 3.80 | 1.48 | 1.54 | 0.79 | 2.40 | 5.75  | 1.72 | 1.98 | 0.87 | 3.84  |
| 1-1/2                | SV6666TTCEFB006 | 4.92 | 1.69 | 2.13 | 1.10 | 3.16 | 7.00  | 1.72 | 1.98 | 1.37 | 5.50  |
| 2                    | SV6666TTCEFB006 | 5.88 | 2.13 | 2.65 | 1.10 | 3.35 | 7.00  | 2.22 | 2.52 | 1.87 | 5.50  |
| 2-1/2                | SV6666TTCEFB006 | 6.30 | 1.77 | 3.20 | 1.34 | 5.58 | 10.00 | 2.78 | 3.05 | 2.37 | 7.00  |
| 3                    | SV6666TTCEFB006 | 7.05 | 1.39 | 3.97 | 1.69 | 7.25 | 13.80 | 3.28 | 3.58 | 2.87 | 10.00 |
| 4                    | SV6666TTCEFB006 | 8.42 | 1.76 | 4.73 | 1.93 | 7.84 | 22.00 | 4.35 | 4.68 | 3.83 | 11.00 |

Part number listed is for configuration listed on this page with the addition of a L-Port 90° Turn Ball and 240 Grit Clamp Ends.  
 A full listing of configurations and flow plans can be found at [www.sharpevalves.com](http://www.sharpevalves.com)



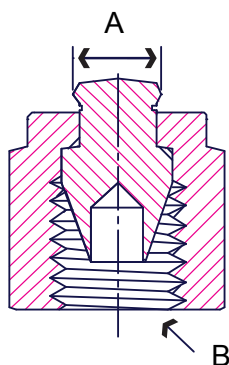
## Instrumentation

### Specifications

- Instrumentation fittings meet ANSI B31.1, ANSI B31.3, ASME Sec. VIII
- Instrumentation fitting wall thickness conform to SAE-J-514
- NPT pipe threads conform to ANSI B2-1
- Straight threads conform to ANSI B1-1 (unified threads clause 2A & 2B)
- Instrumentation fittings made from material that conforms to ASTM A276 316 SS (barstock) and ASTM A-182 G F 316 (forgings)
- Instrumentation fitting ferrules conform to ASTM A276 316 SS (min hardness Rockwell B-90)
- Instrumentation fitting ferrules composed of 316 SS
- Nuts are silver plated to 5 microns for anti-galling

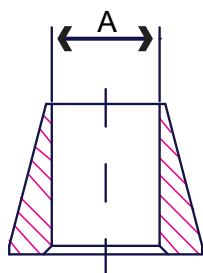
### Testing

- The following tests are carried out at various stages of manufacture and are in accordance with BS-4368-Part-IV:
  - Visual / dimensional check
  - Pneumatic pressure test at 2000 psi
  - Hydraulic leak test at 10,000 psi
  - Pressure impulse & vibration test at vibration frequency of 23-47 Hz with 5 mm amplitude, and 30-40 CPM for a minimum of 20 million cycles
  - Minimum burst pressure test at a steady rate of 3000 PSI per min, up to 15,000 psi
  - Make-and-break test hydraulically tested at 6,000 psi and 10,000 psi
  - Temperature cycling test: temperature increased from ambient to 320° C in min. held for 60 min, reduced to ambient, then hydraulically at 10,000 psi
  - Vacuum test at 700 m bar vacuum, deterioration in vacuum not to exceed 20 m bar in 20 mins.
  - Helium leak test at 15 PSI, leak not to exceed 2 x 10 STD cc per sec



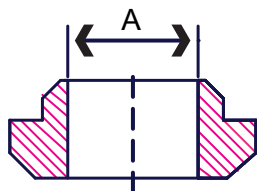
**Fig. AFEC – Fitting End Closure**

| Tube OD<br>IN | Part Number | A<br>IN | B<br>IN | Packing | Weight<br>LB |
|---------------|-------------|---------|---------|---------|--------------|
| 1/8           | S76AFEC001  | 1/8     | 7/16    | 100     | 0.04         |
| 1/4           | S76AFEC002  | 1/4     | 9/16    | 100     | 0.05         |
| 3/8           | S76AFEC003  | 3/8     | 11/16   | 60      | 0.09         |
| 1/2           | S76AFEC004  | 1/2     | 7/8     | 20      | 0.1          |
| 5/8           | S76AFEC005  | 5/8     | 1       | 50      | 0.1          |
| 3/4           | S76AFEC006  | 3/4     | 1-1/8   | 20      | 0.2          |
| 1             | S76AFEC010  | 1       | 1-1/2   | 20      | 0.2          |



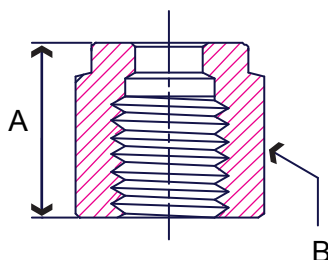
**Fig. AFF – Front Ferrule**

| Tube OD<br>IN | Part Number | A<br>IN | Packing | Weight<br>LB |
|---------------|-------------|---------|---------|--------------|
| 1/8           | S76AFF001   | 1/8     | 500     | 0.007        |
| 3/16          | S76AFF316   | 3/16    | 500     | 0.007        |
| 1/4           | S76AFF002   | 1/4     | 500     | 0.009        |
| 5/16          | S76AFF516   | 5/16    | 500     | 0.01         |
| 3/8           | S76AFF003   | 3/8     | 300     | 0.01         |
| 1/2           | S76AFF004   | 1/2     | 200     | 0.01         |
| 5/8           | S76AFF005   | 5/8     | 150     | 0.04         |
| 3/4           | S76AFF006   | 3/4     | 100     | 0.05         |
| 1             | S76AFF010   | 1       | 1       | 0.06         |



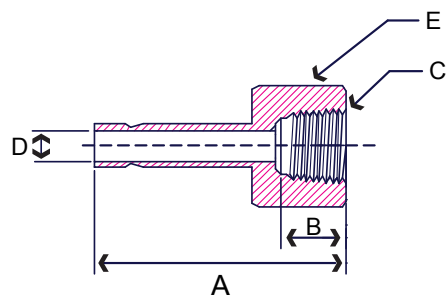
**Fig. ABF – Back Ferrule**

| Tube OD<br>IN | Part Number | A<br>IN | Packing | Weight<br>LB |
|---------------|-------------|---------|---------|--------------|
| 1/8           | S76ABF001   | 1/8     | 500     | 0.004        |
| 3/16          | S76ABF316   | 3/16    | 500     | 0.004        |
| 1/4           | S76ABF002   | 1/4     | 500     | 0.007        |
| 5/16          | S76ABF516   | 5/16    | 500     | 0.009        |
| 3/8           | S76ABF003   | 3/8     | 300     | 0.01         |
| 1/2           | S76ABF004   | 1/2     | 200     | 0.01         |
| 5/8           | S76ABF005   | 5/8     | 150     | 0.03         |
| 3/4           | S76ABF006   | 3/4     | 100     | 0.04         |
| 1             | S76ABF010   | 1       | 1       | 0.05         |



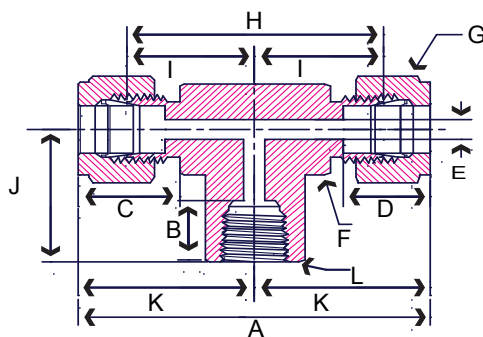
**Fig. AHN – Hex Nut**

| Tube OD<br>IN | Part Number | A<br>IN | B<br>IN | Packing | Weight<br>LB |
|---------------|-------------|---------|---------|---------|--------------|
| 1/8           | S76AHN001   | 0.47    | 7/16    | 100     | 0.01         |
| 1/4           | S76AHN002   | 0.50    | 9/16    | 100     | 0.02         |
| 5/16          | S76AHN516   | 0.53    | 5/8     | 100     | 0.03         |
| 3/8           | S76AHN003   | 0.56    | 11/16   | 100     | 0.04         |
| 1/2           | S76AHN004   | 0.69    | 7/8     | 60      | 0.07         |
| 5/8           | S76AHN005   | 0.69    | 1       | 50      | 0.08         |
| 3/4           | S76AHN006   | 0.69    | 1-1/8   | 30      | 0.09         |
| 1             | S76AHN010   | 0.81    | 1-1/2   | 30      | 0.09         |



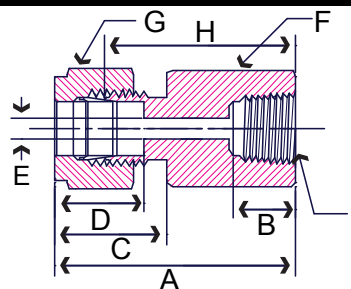
**Fig. AFA – Female Adapter**

| Tube OD x NPT<br>IN | Part Number  | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | Packing | Weight<br>LB |
|---------------------|--------------|---------|---------|---------|---------|---------|---------|--------------|
| 1/8 x 1/8           | S76AFA001001 | 1.23    | 0.41    | 1/8     | 0.09    | 9/16    | 100     | 0.07         |
| 1/8 x 1/4           | S76AFA001002 | 1.38    | 0.59    | 1/4     | 0.09    | 3/4     | 100     | 0.08         |
| 1/4 x 1/8           | S76AFA002001 | 1.29    | 0.41    | 1/8     | 0.19    | 9/16    | 100     | 0.07         |
| 1/4 x 1/4           | S76AFA002002 | 1.45    | 0.59    | 1/4     | 0.19    | 3/4     | 60      | 0.07         |
| 1/4 x 3/8           | S76AFA002003 | 1.54    | 0.59    | 3/8     | 0.19    | 7/8     | 40      | 0.08         |
| 1/4 x 1/2           | S76AFA002004 | 1.78    | 0.78    | 1/2     | 0.19    | 1-1/16  | 20      | 0.1          |
| 5/16 x 1/8          | S76AFA516001 | 1.35    | 0.41    | 1/8     | 0.19    | 9/16    | 100     | 0.06         |
| 5/16 x 1/4          | S76AFA516002 | 1.47    | 0.59    | 1/4     | 0.25    | 3/4     | 60      | 0.07         |
| 3/8 x 1/4           | S76AFA003002 | 1.49    | 0.59    | 1/4     | 0.28    | 3/4     | 40      | 0.1          |
| 3/8 x 3/8           | S76AFA003003 | 1.58    | 0.59    | 3/8     | 0.28    | 7/8     | 40      | 0.1          |
| 1/2 x 1/4           | S76AFA004002 | 1.71    | 0.59    | 1/4     | 0.39    | 3/4     | 40      | 0.1          |
| 1/2 x 3/8           | S76AFA004003 | 1.78    | 0.59    | 3/8     | 0.39    | 7/8     | 30      | 0.07         |
| 1/2 x 1/2           | S76AFA004004 | 2.03    | 0.78    | 1/2     | 0.39    | 1-1/16  | 10      | 0.1          |
| 5/8 x 1/4           | S76AFA005002 | 1.90    | 0.59    | 1/4     | 0.39    | 15/16   | 40      | 0.2          |
| 5/8 x 3/8           | S76AFA005003 | 1.90    | 0.59    | 3/8     | 0.39    | 15/16   | 40      | 0.3          |
| 5/8 x 1/2           | S76AFA005004 | 2.08    | 0.78    | 1/2     | 0.50    | 1-1/16  | 20      | 0.3          |
| 3/4 x 1/2           | S76AFA006004 | 2.08    | 0.78    | 1/2     | 0.59    | 1-1/16  | 10      | 0.4          |
| 3/4 x 3/4           | S76AFA006006 | 2.15    | 0.81    | 3/4     | 0.59    | 1-5/16  | 10      | 0.5          |
| 3/4 x 1             | S76AFA006010 | 2.29    | 1.00    | 1       | 0.59    | 1-5/8   | 10      | 0.8          |
| 1 x 1               | S76AFA010010 | 2.53    | 1.00    | 1       | 0.80    | 1-5/8   | 10      | 0.5          |



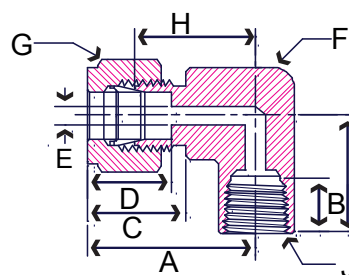
**Fig. AFBT – Female Branch Tee**

| Tube OD x NPT<br>IN | Part Number   | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN | G<br>IN | H<br>IN | I<br>IN | J<br>IN | K<br>IN | L<br>IN | Packing | Weight<br>LB |
|---------------------|---------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------------|
| 1/8 x 1/8           | S76AFBT001001 | 1.92    | 0.41    | 0.60    | 0.50    | 0.09    | 1/2     | 7/16    | 1.40    | 0.70    | 0.74    | 0.96    | 1/8     | 40      | 0.1          |
| 1/8 x 1/4           | S76AFBT001002 | 2.16    | 0.59    | 0.60    | 0.50    | 0.09    | 3/4     | 7/16    | 1.64    | 0.82    | 0.88    | 1.08    | 1/4     | 30      | 0.1          |
| 3/16 x 1/8          | S76AFBT316001 | 2.00    | 0.41    | 0.63    | 0.54    | 0.12    | 1/2     | 1/2     | 1.48    | 0.74    | 0.75    | 1.00    | 1/8     | 40      | 0.1          |
| 1/4 x 1/8           | S76AFBT002001 | 2.10    | 0.41    | 0.70    | 0.60    | 0.19    | 1/2     | 9/16    | 1.52    | 0.76    | 0.74    | 1.05    | 1/8     | 30      | 0.1          |
| 1/4 x 1/4           | S76AFBT002002 | 2.32    | 0.59    | 0.70    | 0.60    | 0.19    | 11/16   | 9/16    | 1.74    | 0.87    | 0.87    | 1.16    | 1/4     | 30      | 0.2          |
| 5/16 x 1/4          | S76AFBT516002 | 2.40    | 0.59    | 0.73    | 0.64    | 0.25    | 3/4     | 5/8     | 1.82    | 0.91    | 0.88    | 1.20    | 1/4     | 20      | 0.2          |
| 3/8 x 1/4           | S76AFBT003002 | 2.44    | 0.59    | 0.76    | 0.66    | 0.28    | 11/16   | 11/16   | 1.84    | 0.93    | 0.87    | 1.22    | 1/4     | 20      | 0.3          |
| 3/8 x 3/8           | S76AFBT003003 | 2.60    | 0.59    | 0.76    | 0.66    | 0.28    | 13/16   | 11/16   | 2.02    | 1.01    | 0.87    | 1.30    | 3/8     | 20      | 0.3          |
| 1/2 x 3/8           | S76AFBT004003 | 2.82    | 0.59    | 0.86    | 0.90    | 0.41    | 13/16   | 7/8     | 2.02    | 1.01    | 0.87    | 1.41    | 3/8     | 10      | 0.3          |
| 1/2 x 1/2           | S76AFBT004004 | 3.04    | 0.78    | 0.86    | 0.90    | 0.41    | 1       | 7/8     | 2.24    | 1.12    | 1.11    | 1.52    | 1/2     | 10      | 0.5          |
| 5/8 x 1/2           | S76AFBT005004 | 3.04    | 0.78    | 0.86    | 0.96    | 0.50    | 1       | 1       | 2.24    | 1.12    | 1.11    | 1.52    | 1/2     | 10      | 1.1          |
| 3/4 x 1/2           | S76AFBT006004 | 3.14    | 0.78    | 0.86    | 0.96    | 0.62    | 1-1/16  | 1-1/8   | 2.34    | 1.17    | 1.12    | 1.57    | 1/2     | 5       | 1.5          |
| 3/4 x 3/4           | S76AFBT006006 | 3.50    | 0.81    | 0.86    | 0.96    | 0.62    | 1-3/8   | 1-1/8   | 2.70    | 1.35    | 1.24    | 1.75    | 3/4     | 5       | 1.6          |
| 1 x 3/4             | S76AFBT010006 | 3.86    | 0.81    | 1.04    | 1.23    | 0.88    | 1-7/16  | 1-1/2   | 2.90    | 1.45    | 1.25    | 1.93    | 3/4     | 5       | 1.5          |
| 1 x 1               | S76AFBT010010 | 4.22    | 1.00    | 1.04    | 1.23    | 0.88    | 1-5/8   | 1-1/2   | 3.26    | 1.63    | 1.50    | 2.11    | 1       | 5       | 1.6          |



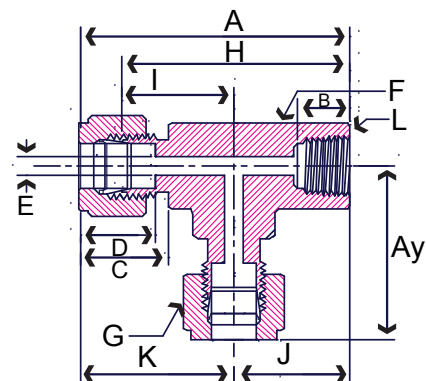
**Fig. AFC – Female Connector**

| Tube OD x NPT<br>IN | Part Number  | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN | G<br>IN | H<br>IN | I<br>IN | Packing | Weight<br>LB |
|---------------------|--------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------------|
| 1/8 x 1/8           | S76AFC001001 | 1.12    | 0.40    | 0.60    | 0.50    | 0.09    | 9/16    | 7/16    | 0.86    | 1/8     | 30      | 0.08         |
| 1/8 x 1/4           | S76AFC001002 | 1.31    | 0.59    | 0.60    | 0.50    | 0.09    | 3/4     | 7/16    | 1.05    | 1/4     | 30      | 0.09         |
| 3/16 x 1/8          | S76AFC316001 | 1.17    | 0.39    | 0.63    | 0.54    | 0.12    | 9/16    | 1/2     | 0.91    | 1/8     | 30      | 0.09         |
| 1/4 x 1/8           | S76AFC002001 | 1.22    | 0.39    | 0.70    | 0.60    | 0.19    | 9/16    | 9/16    | 0.93    | 1/8     | 100     | 0.09         |
| 1/4 x 1/4           | S76AFC002002 | 1.40    | 0.59    | 0.70    | 0.60    | 0.19    | 3/4     | 9/16    | 1.11    | 1/4     | 60      | 0.09         |
| 1/4 x 3/8           | S76AFC002003 | 1.47    | 0.59    | 0.70    | 0.60    | 0.19    | 7/8     | 9/16    | 1.18    | 3/8     | 40      | 0.1          |
| 1/4 x 1/2           | S76AFC002004 | 1.66    | 0.78    | 0.70    | 0.60    | 0.19    | 1-1/16  | 9/16    | 1.37    | 1/2     | 20      | 0.1          |
| 5/16 x 1/8          | S76AFC516001 | 1.26    | 0.41    | 0.73    | 0.64    | 0.25    | 9/16    | 5/8     | 0.97    | 1/8     | 100     | 0.1          |
| 5/16 x 1/4          | S76AFC516002 | 1.44    | 0.59    | 0.73    | 0.64    | 0.25    | 3/4     | 5/8     | 1.15    | 1/4     | 60      | 0.1          |
| 3/8 x 1/8           | S76AFC003001 | 1.29    | 0.41    | 0.76    | 0.66    | 0.28    | 5/8     | 11/16   | 1.00    | 1/8     | 40      | 0.1          |
| 3/8 x 1/4           | S76AFC003002 | 1.47    | 0.59    | 0.76    | 0.66    | 0.28    | 3/4     | 11/16   | 1.18    | 1/4     | 40      | 0.1          |
| 3/8 x 3/8           | S76AFC003003 | 1.53    | 0.59    | 0.76    | 0.66    | 0.28    | 7/8     | 11/16   | 1.24    | 3/8     | 30      | 0.1          |
| 3/8 x 1/2           | S76AFC003004 | 1.72    | 0.78    | 0.76    | 0.66    | 0.28    | 1-1/16  | 11/16   | 1.48    | 1/2     | 20      | 0.1          |
| 1/2 x 1/4           | S76AFC004002 | 1.58    | 0.59    | 0.86    | 0.90    | 0.41    | 13/16   | 7/8     | 1.18    | 1/4     | 30      | 0.1          |
| 1/2 x 3/8           | S76AFC004003 | 1.64    | 0.59    | 0.86    | 0.90    | 0.41    | 7/8     | 7/8     | 1.24    | 3/8     | 20      | 0.1          |
| 1/2 x 1/2           | S76AFC004004 | 1.83    | 0.78    | 0.86    | 0.90    | 0.41    | 1-1/16  | 7/8     | 1.43    | 1/2     | 10      | 0.2          |
| 1/2 x 3/4           | S76AFC004006 | 1.90    | 0.81    | 0.86    | 0.90    | 0.41    | 1-5/16  | 7/8     | 1.50    | 3/4     | 10      | 0.3          |
| 5/8 x 3/8           | S76AFC005003 | 1.65    | 0.59    | 0.86    | 0.96    | 0.50    | 15/16   | 1.00    | 1.25    | 3/8     | 15      | 0.3          |
| 5/8 x 1/2           | S76AFC005004 | 1.84    | 0.78    | 0.86    | 0.96    | 0.50    | 1-1/16  | 1.00    | 1.44    | 1/2     | 15      | 0.4          |
| 3/4 x 1/2           | S76AFC006004 | 1.83    | 0.78    | 0.86    | 0.96    | 0.62    | 1-1/16  | 1-1/8   | 1.43    | 1/2     | 10      | 0.5          |
| 3/4 x 3/4           | S76AFC006006 | 1.91    | 0.81    | 0.86    | 0.96    | 0.62    | 1-5/16  | 1-1/8   | 1.49    | 3/4     | 10      | 0.6          |
| 1 x 3/4             | S76AFC010006 | 2.09    | 0.81    | 1.04    | 1.23    | 0.88    | 1-3/8   | 1-1/2   | 1.61    | 3/4     | 10      | 0.5          |
| 1 x 1               | S76AFC010010 | 2.44    | 1.00    | 1.04    | 1.23    | 0.88    | 1-5/8   | 1-1/2   | 1.96    | 1       | 10      | 0.6          |



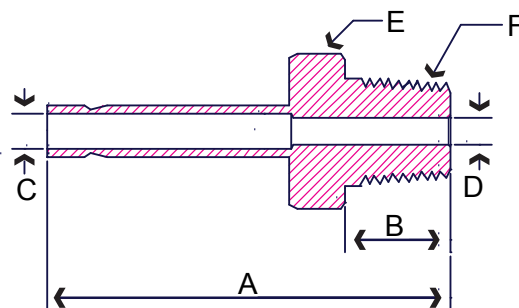
**Fig. AFE – Female Elbow**

| Tube OD x NPT<br>IN | Part Number  | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN | G<br>IN | H<br>IN | I<br>IN | J<br>IN | Packing | Weight<br>LB |
|---------------------|--------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------------|
| 1/8 x 1/8           | S76AFE001001 | 0.96    | 0.41    | 0.60    | 0.50    | 0.09    | 1/2     | 7/16    | 0.71    | 0.74    | 1/8     | 40      | 0.09         |
| 1/8 x 1/4           | S76AFE001002 | 1.07    | 0.59    | 0.60    | 0.50    | 0.09    | 11/16   | 7/16    | 0.81    | 0.87    | 1/4     | 30      | 0.1          |
| 3/16 x 1/8          | S76AFE316001 | 1.00    | 0.41    | 0.63    | 0.54    | 0.12    | 1/2     | 1/2     | 0.74    | 0.75    | 1/8     | 40      | 0.1          |
| 3/16 x 1/4          | S76AFE316002 | 1.10    | 0.59    | 0.63    | 0.54    | 0.12    | 3/4     | 1/2     | 0.81    | 0.88    | 1/4     | 30      | 0.1          |
| 1/4 x 1/8           | S76AFE002001 | 1.05    | 0.41    | 0.70    | 0.60    | 0.19    | 1/2     | 9/16    | 0.76    | 0.74    | 1/8     | 40      | 0.1          |
| 1/4 x 1/4           | S76AFE002002 | 1.16    | 0.59    | 0.70    | 0.60    | 0.19    | 11/16   | 9/16    | 0.87    | 0.87    | 1/4     | 30      | 0.2          |
| 1/4 x 3/8           | S76AFE002003 | 1.24    | 0.59    | 0.70    | 0.60    | 0.19    | 13/16   | 9/16    | 0.95    | 0.87    | 3/8     | 30      | 0.3          |
| 1/4 x 1/2           | S76AFE002004 | 1.35    | 0.78    | 0.70    | 0.60    | 0.19    | 1       | 9/16    | 1.06    | 1.11    | 1/2     | 20      | 0.4          |
| 5/16 x 1/4          | S76AFE516002 | 1.19    | 0.59    | 0.73    | 0.64    | 0.25    | 11/16   | 5/8     | 0.90    | 0.87    | 1/4     | 30      | 0.3          |
| 3/8 x 1/8           | S76AFE003001 | 1.20    | 0.41    | 0.76    | 0.66    | 0.28    | 5/8     | 11/16   | 0.91    | 0.75    | 1/8     | 30      | 0.2          |
| 3/8 x 1/4           | S76AFE003002 | 1.22    | 0.59    | 0.76    | 0.66    | 0.28    | 11/16   | 11/16   | 0.93    | 0.87    | 1/4     | 30      | 0.3          |
| 3/8 x 3/8           | S76AFE003003 | 1.30    | 0.59    | 0.76    | 0.66    | 0.28    | 13/16   | 11/16   | 1.01    | 0.87    | 3/8     | 20      | 0.3          |
| 3/8 x 1/2           | S76AFE003004 | 1.41    | 0.78    | 0.76    | 0.66    | 0.28    | 1       | 11/16   | 1.12    | 1.11    | 1/2     | 20      | 0.3          |
| 1/2 x 1/4           | S76AFE004002 | 1.41    | 0.59    | 0.86    | 0.90    | 0.41    | 13/16   | 7/8     | 1.01    | 0.87    | 1/4     | 10      | 0.3          |
| 1/2 x 3/8           | S76AFE004003 | 1.41    | 0.59    | 0.86    | 0.90    | 0.41    | 13/16   | 7/8     | 1.01    | 0.87    | 3/8     | 10      | 0.4          |
| 1/2 x 1/2           | S76AFE004004 | 1.52    | 0.78    | 0.86    | 0.90    | 0.41    | 1       | 7/8     | 1.12    | 1.11    | 1/2     | 10      | 0.5          |
| 5/8 x 3/8           | S76AFE005003 | 1.50    | 0.59    | 0.86    | 0.96    | 0.50    | 15/16   | 1.00    | 1.10    | 0.88    | 3/8     | 15      | 0.4          |
| 5/8 x 1/2           | S76AFE005004 | 1.52    | 0.78    | 0.86    | 0.96    | 0.50    | 1-1/16  | 1       | 1.16    | 1.11    | 1/2     | 15      | 0.5          |
| 3/4 x 1/2           | S76AFE006004 | 1.56    | 0.78    | 0.86    | 0.96    | 0.62    | 1-1/16  | 1-1/8   | 1.16    | 1.11    | 1/2     | 10      | 0.6          |
| 3/4 x 3/4           | S76AFE006006 | 1.75    | 0.81    | 0.86    | 0.96    | 0.62    | 1-3/8   | 1-1/8   | 1.35    | 1.24    | 3/4     | 10      | 0.8          |
| 3/4 x 1             | S76AFE006010 | 1.93    | 1.00    | 0.86    | 0.96    | 0.62    | 1-5/8   | 1-1/8   | 1.53    | 1.50    | 1       | 10      | 1.1          |
| 1 x 1               | S76AFE010010 | 2.10    | 1.00    | 1.04    | 1.23    | 0.88    | 1-11/16 | 1-1/2   | 1.62    | 1.49    | 1       | 10      | 0.9          |



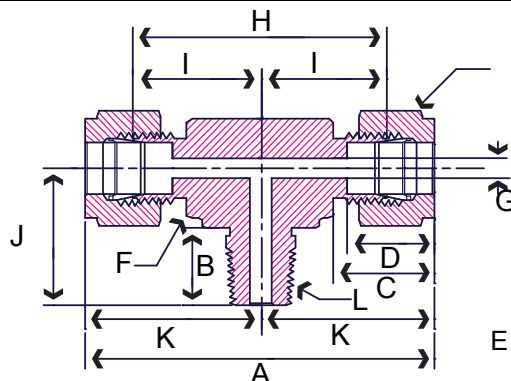
**Fig. AFRT – Female Run Tee**

| Tube OD x NPT<br>IN | Part Number   | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN | G<br>IN | H<br>IN | I<br>IN | J<br>IN | K<br>IN | L<br>IN | Packing | Weight<br>LB |
|---------------------|---------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------------|
| 1/8 x 1/8           | S76AFRT001001 | 1.71    | 0.41    | 0.60    | 0.50    | 0.09    | 1/2     | 7/16    | 1.44    | 0.70    | 0.74    | 0.96    | 1/8     | 40      | 0.1          |
| 1/8 x 1/4           | S76AFRT001002 | 1.96    | 0.59    | 0.60    | 0.50    | 0.09    | 3/4     | 7/16    | 1.07    | 0.82    | 0.88    | 1.08    | 1/4     | 30      | 0.1          |
| 1/4 x 1/8           | S76AFRT002001 | 1.81    | 0.41    | 0.70    | 0.60    | 0.19    | 1/2     | 9/16    | 1.50    | 0.76    | 0.74    | 1.05    | 1/8     | 40      | 0.1          |
| 1/4 x 1/4           | S76AFRT002002 | 2.05    | 0.59    | 0.70    | 0.60    | 0.19    | 11/16   | 9/16    | 1.79    | 0.87    | 0.87    | 1.16    | 1/4     | 30      | 0.2          |
| 3/16 x 1/8          | S76AFRT316001 | 1.75    | 0.41    | 0.63    | 0.54    | 0.12    | 1/2     | 1/2     | 1.49    | 0.74    | 0.75    | 1.00    | 1/8     | 40      | 0.1          |
| 5/16 x 1/4          | S76AFRT516002 | 2.08    | 0.59    | 0.73    | 0.64    | 0.25    | 3/4     | 5/8     | 1.79    | 0.91    | 0.88    | 1.20    | 1/4     | 20      | 0.2          |
| 3/8 x 1/4           | S76AFRT003002 | 2.10    | 0.59    | 0.76    | 0.66    | 0.28    | 11/16   | 11/16   | 1.79    | 0.93    | 0.87    | 1.22    | 1/4     | 20      | 0.3          |
| 3/8 x 3/8           | S76AFRT003003 | 2.17    | 0.59    | 0.76    | 0.66    | 0.28    | 7/8     | 11/16   | 1.88    | 1.01    | 0.87    | 1.30    | 3/8     | 10      | 0.3          |
| 1/2 x 3/8           | S76AFRT004003 | 2.29    | 0.59    | 0.86    | 0.90    | 0.41    | 13/16   | 7/8     | 1.88    | 1.01    | 0.87    | 1.41    | 3/8     | 10      | 0.3          |
| 1/2 x 1/2           | S76AFRT004004 | 2.68    | 0.78    | 0.86    | 0.90    | 0.41    | 1-1/16  | 7/8     | 2.27    | 1.16    | 1.12    | 1.56    | 1/2     | 10      | 0.5          |
| 5/8 x 1/2           | S76AFRT005004 | 2.64    | 0.78    | 0.86    | 0.96    | 0.50    | 1-1/16  | 1.00    | 2.24    | 1.12    | 1.12    | 1.52    | 1/2     | 10      | 1.1          |
| 3/4 x 1/2           | S76AFRT006004 | 2.69    | 0.78    | 0.86    | 0.96    | 0.62    | 1-1/16  | 1-1/8   | 2.29    | 1.17    | 1.12    | 1.57    | 3/4     | 5       | 1.5          |
| 3/4 x 3/4           | S76AFRT006006 | 3.00    | 0.81    | 0.86    | 0.96    | 0.62    | 1-3/8   | 1-1/8   | 2.59    | 1.35    | 1.24    | 1.75    | 3/4     | 5       | 1.6          |
| 1 x 3/4             | S76AFRT010006 | 3.17    | 0.81    | 1.04    | 1.23    | 0.88    | 1-3/8   | 1-1/2   | 2.68    | 1.44    | 1.24    | 1.92    | 3/4     | 5       | 1.5          |
| 1 x 1               | S76AFRT010010 | 3.60    | 1.00    | 1.04    | 1.23    | 0.88    | 1-11/16 | 1-1/2   | 3.11    | 1.62    | 1.49    | 2.10    | 1       | 5       | 1.6          |



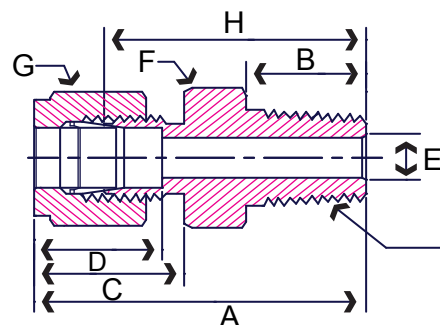
**Fig. AMA – Male Adapter**

| Tube OD x NPT<br>IN | Part Number  | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN | Packing | Weight<br>LB |
|---------------------|--------------|---------|---------|---------|---------|---------|---------|---------|--------------|
| 1/8 x 1/8           | S76AMA001001 | 1.15    | 0.38    | 0.19    | 0.09    | 7/16    | 1/8     | 100     | 0.07         |
| 1/8 x 1/4           | S76AMA001002 | 1.36    | 0.56    | 0.28    | 0.09    | 9/16    | 1/4     | 100     | 0.07         |
| 1/4 x 1/8           | S76AMA002001 | 1.24    | 0.38    | 0.19    | 0.19    | 7/16    | 1/8     | 100     | 0.07         |
| 1/4 x 1/4           | S76AMA002002 | 1.45    | 0.56    | 0.19    | 0.19    | 9/16    | 1/4     | 100     | 0.07         |
| 1/4 x 3/8           | S76AMA002003 | 1.48    | 0.56    | 0.19    | 0.19    | 11/16   | 3/8     | 60      | 0.08         |
| 1/4 x 1/2           | S76AMA002004 | 1.70    | 0.75    | 0.19    | 0.19    | 7/8     | 1/2     | 30      | 0.1          |
| 5/16 x 1/8          | S76AMA516001 | 1.28    | 0.38    | 0.19    | 0.25    | 7/16    | 1/8     | 100     | 0.08         |
| 5/16 x 1/4          | S76AMA516002 | 1.49    | 0.56    | 0.25    | 0.25    | 9/16    | 1/4     | 100     | 0.08         |
| 3/8 x 1/4           | S76AMA003002 | 1.52    | 0.56    | 0.28    | 0.28    | 9/16    | 1/4     | 60      | 0.09         |
| 3/8 x 3/8           | S76AMA003003 | 1.55    | 0.56    | 0.28    | 0.28    | 11/16   | 3/8     | 60      | 0.09         |
| 3/8 x 1/2           | S76AMA003004 | 1.77    | 0.75    | 0.28    | 0.28    | 7/8     | 1/2     | 40      | 0.1          |
| 1/2 x 1/4           | S76AMA004002 | 1.75    | 0.56    | 0.39    | 0.28    | 9/16    | 1/4     | 30      | 0.08         |
| 1/2 x 3/8           | S76AMA004003 | 1.77    | 0.56    | 0.39    | 0.39    | 11/16   | 3/8     | 30      | 0.07         |
| 1/2 x 1/2           | S76AMA004004 | 1.99    | 0.75    | 0.39    | 0.39    | 7/8     | 1/2     | 30      | 0.1          |
| 5/8 x 1/4           | S76AMA005004 | 2.05    | 0.75    | 0.47    | 0.50    | 7/8     | 1/2     | 20      | 0.2          |
| 3/4 x 1/2           | S76AMA006004 | 2.05    | 0.75    | 0.47    | 0.59    | 7/8     | 1/2     | 10      | 0.3          |
| 3/4 x 3/4           | S76AMA006006 | 2.05    | 0.75    | 0.59    | 0.59    | 1-11/16 | 3/4     | 10      | 0.6          |
| 3/4 x 1             | S76AMA006010 | 2.31    | 0.94    | 0.59    | 0.59    | 1-3/8   | 1       | 10      | 0.6          |
| 1 x 3/4             | S76AMA010006 | 2.31    | 0.75    | 0.80    | 0.62    | 1-1/16  | 3/4     | 10      | 0.6          |
| 1 x 1               | S76AMA010010 | 2.60    | 0.94    | 0.80    | 0.80    | 1-3/8   | 1       | 10      | 0.6          |



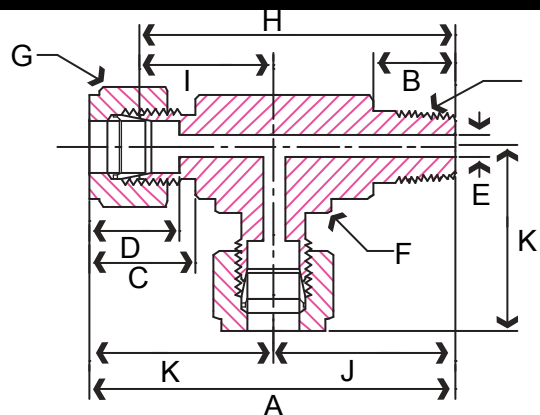
**Fig. AMBT – Male Branch Tee**

| Tube OD x NPT<br>IN | Part Number   | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN | G<br>IN | H<br>IN | I<br>IN | J<br>IN | K<br>IN | L<br>IN | Packing | Weight<br>LB |
|---------------------|---------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------------|
| 1/8 x 1/8           | S76AMBT001001 | 1.84    | 0.38    | 0.60    | 0.50    | 0.09    | 7/16    | 7/16    | 1.32    | 0.66    | 0.69    | 1.84    | 1/8     | 40      | 0.1          |
| 1/8 x 1/4           | S76AMBT001002 | 1.92    | 0.56    | 0.60    | 0.50    | 0.09    | 1/2     | 7/16    | 1.40    | 0.70    | 0.91    | 1.92    | 1/4     | 30      | 0.1          |
| 3/16 x 1/8          | S76AMBT316001 | 1.92    | 0.38    | 0.63    | 0.54    | 0.12    | 1/2     | 1/2     | 1.40    | 0.70    | 0.70    | 0.96    | 1/8     | 40      | 0.1          |
| 1/4 x 1/8           | S76AMBT002001 | 2.10    | 0.38    | 0.70    | 0.60    | 0.19    | 1/2     | 9/16    | 1.52    | 0.76    | 0.73    | 2.10    | 1/8     | 30      | 0.1          |
| 1/4 x 1/4           | S76AMBT002002 | 2.10    | 0.56    | 0.70    | 0.60    | 0.19    | 1/2     | 9/16    | 1.52    | 0.76    | 0.91    | 2.10    | 1/4     | 30      | 0.1          |
| 1/4 x 1/2           | S76AMBT002004 | 2.50    | 0.75    | 0.70    | 0.60    | 0.19    | 7/8     | 9/16    | 1.92    | 0.96    | 1.30    | 1.25    | 1/2     | 20      | 0.2          |
| 5/16 x 1/8          | S76AMBT516001 | 2.34    | 0.38    | 0.73    | 0.64    | 0.19    | 5/8     | 5/8     | 1.76    | 0.88    | 0.82    | 1.17    | 1/8     | 40      | 0.1          |
| 3/8 x 1/4           | S76AMBT003002 | 2.38    | 0.56    | 0.76    | 0.66    | 0.28    | 5/8     | 11/16   | 1.80    | 0.90    | 0.99    | 2.38    | 1/4     | 30      | 0.2          |
| 3/8 x 3/8           | S76AMBT003003 | 2.60    | 0.56    | 0.76    | 0.66    | 0.28    | 13/16   | 11/16   | 2.02    | 1.01    | 1.10    | 2.60    | 3/8     | 20      | 0.2          |
| 1/2 x 3/8           | S76AMBT004003 | 2.82    | 0.56    | 0.86    | 0.90    | 0.38    | 13/16   | 7/8     | 2.02    | 1.01    | 1.10    | 2.82    | 3/8     | 10      | 0.4          |
| 1/2 x 1/2           | S76AMBT004004 | 2.82    | 0.75    | 0.86    | 0.90    | 0.41    | 13/16   | 7/8     | 2.02    | 1.01    | 1.29    | 2.82    | 1/2     | 10      | 0.7          |
| 5/8 x 1/2           | S76AMBT005004 | 3.04    | 0.75    | 0.86    | 0.96    | 0.47    | 1       | 1       | 2.24    | 1.12    | 1.40    | 3.04    | 1/2     | 1       | 0.8          |
| 3/4 x 1/2           | S76AMBT006004 | 3.14    | 0.75    | 0.86    | 0.96    | 0.47    | 1-1/16  | 1-1/8   | 2.34    | 1.17    | 1.45    | 1.57    | 1/2     | 5       | 0.3          |
| 3/4 x 3/4           | S76AMBT006006 | 3.12    | 0.75    | 0.86    | 0.96    | 0.62    | 1-1/16  | 1-1/8   | 2.32    | 1.16    | 1.44    | 3.12    | 3/4     | 5       | 0.8          |
| 1 x 3/4             | S76AMBT010006 | 3.86    | 0.75    | 1.04    | 1.23    | 0.62    | 1-7/16  | 1-1/2   | 2.90    | 1.45    | 1.64    | 1.93    | 3/4     | 5       | 0.3          |
| 1 x 1               | A76AMBT010010 | 3.86    | 0.94    | 1.04    | 1.23    | 0.88    | 1-7/16  | 1-1/2   | 2.90    | 1.45    | 1.83    | 1.93    | 1       | 5       | 0.6          |



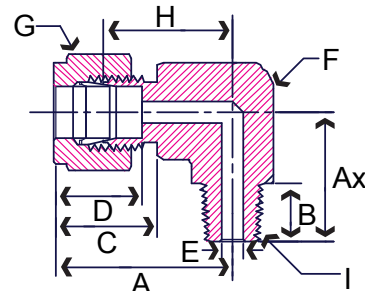
**Fig. AMC – Male Connector**

| Tube OD x NPT<br>IN | Part Number  | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN | G<br>IN | H<br>IN | I<br>IN | Packing | Weight<br>LB |
|---------------------|--------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------------|
| 1/8 x 1/8           | S76AMC001001 | 1.19    | 0.38    | 0.60    | 0.50    | 0.09    | 7/16    | 7/16    | 0.93    | 1/8     | 100     | 0.08         |
| 1/8 x 1/4           | S76AMC001002 | 1.39    | 0.56    | 0.60    | 0.50    | 0.09    | 9/16    | 7/16    | 1.13    | 1/4     | 100     | 0.08         |
| 3/16 x 1/8          | S76AMC316001 | 1.23    | 0.38    | 0.63    | 0.54    | 0.12    | 7/16    | 1/2     | 0.97    | 1/8     | 100     | 0.08         |
| 3/16 x 1/4          | S76AMC316002 | 1.43    | 0.56    | 0.63    | 0.54    | 0.12    | 9/16    | 1/2     | 1.17    | 1/4     | 30      | 0.08         |
| 1/4 x 1/8           | S76AMC002001 | 1.28    | 0.38    | 0.70    | 0.60    | 0.19    | 1/2     | 9/16    | 0.99    | 1/8     | 100     | 0.07         |
| 1/4 x 1/4           | S76AMC002002 | 1.48    | 0.56    | 0.70    | 0.60    | 0.19    | 9/16    | 9/16    | 1.19    | 1/4     | 100     | 0.08         |
| 1/4 x 3/8           | S76AMC002003 | 1.50    | 0.56    | 0.70    | 0.60    | 0.19    | 11/16   | 9/16    | 1.21    | 3/8     | 60      | 0.09         |
| 1/4 x 1/2           | S76AMC002004 | 1.75    | 0.75    | 0.70    | 0.60    | 0.19    | 7/8     | 9/16    | 1.46    | 1/2     | 30      | 0.1          |
| 5/16 x 1/8          | S76AMC516001 | 1.34    | 0.38    | 0.73    | 0.64    | 0.19    | 9/16    | 5/8     | 1.05    | 1/8     | 100     | 0.1          |
| 5/16 x 1/4          | S76AMC516002 | 1.51    | 0.56    | 0.73    | 0.64    | 0.25    | 9/16    | 5/8     | 1.22    | 1/4     | 40      | 0.1          |
| 3/8 x 1/8           | S76AMC003001 | 1.38    | 0.38    | 0.76    | 0.66    | 0.19    | 5/8     | 11/16   | 1.09    | 1/8     | 100     | 0.1          |
| 3/8 x 1/4           | S76AMC003002 | 1.56    | 0.56    | 0.76    | 0.66    | 0.28    | 5/8     | 11/16   | 1.27    | 1/4     | 60      | 0.1          |
| 3/8 x 3/8           | S76AMC003003 | 1.56    | 0.56    | 0.76    | 0.66    | 0.28    | 11/16   | 11/16   | 1.27    | 3/8     | 40      | 0.1          |
| 3/8 x 1/2           | S76AMC003004 | 1.81    | 0.75    | 0.76    | 0.66    | 0.28    | 7/8     | 11/16   | 1.52    | 1/2     | 30      | 0.1          |
| 1/2 x 1/4           | S76AMC004002 | 1.70    | 0.56    | 0.86    | 0.90    | 0.28    | 13/16   | 7/8     | 1.30    | 1/4     | 30      | 0.1          |
| 1/2 x 3/8           | S76AMC004003 | 1.70    | 0.56    | 0.86    | 0.90    | 0.38    | 13/16   | 7/8     | 1.30    | 3/8     | 30      | 0.1          |
| 1/2 x 1/2           | S76AMC004004 | 1.92    | 0.75    | 0.86    | 0.90    | 0.41    | 7/8     | 7/8     | 1.52    | 1/2     | 30      | 0.2          |
| 1/2 x 3/4           | S76AMC004006 | 1.98    | 0.75    | 0.86    | 0.96    | 0.41    | 1-1/16  | 7/8     | 1.58    | 3/4     | 20      | 0.2          |
| 5/8 x 3/8           | S76AMC005003 | 1.73    | 0.56    | 0.86    | 0.96    | 0.38    | 15/16   | 1       | 1.33    | 3/8     | 20      | 0.2          |
| 5/8 x 1/2           | S76AMC005004 | 1.92    | 0.75    | 0.86    | 0.96    | 0.47    | 15/16   | 1       | 1.52    | 1/2     | 20      | 0.3          |
| 3/4 x 1/2           | S76AMC006004 | 1.98    | 0.75    | 0.86    | 0.96    | 0.47    | 1-1/16  | 1-1/8   | 1.58    | 1/2     | 15      | 0.4          |
| 3/4 x 3/4           | S76AMC006006 | 1.98    | 0.75    | 0.86    | 0.96    | 0.62    | 1-1/16  | 1-1/8   | 1.58    | 3/4     | 15      | 0.4          |
| 3/4 x 1             | S76AMC006010 | 2.24    | 0.94    | 0.86    | 0.96    | 0.62    | 1-3/8   | 1-1/8   | 1.84    | 1       | 10      | 0.5          |
| 1 x 3/4             | S76AMC010006 | 2.26    | 0.75    | 1.04    | 1.23    | 0.62    | 1-3/8   | 1-1/2   | 1.78    | 3/4     | 15      | 0.4          |
| 1 x 1               | S76AMC010010 | 2.45    | 0.94    | 1.04    | 1.23    | 0.88    | 1-3/8   | 1-1/2   | 1.97    | 1       | 10      | 0.5          |



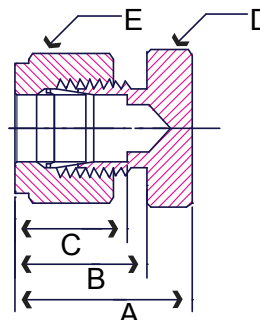
**Fig. AMRT – Male Run Tee**

| Tube OD x NPT<br>IN | Part Number   | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN | G<br>IN | H<br>IN | I<br>IN | J<br>IN | K<br>IN | L<br>IN | Packing | Weight<br>LB |
|---------------------|---------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------------|
| 1/8 x 1/8           | S76AMRT001001 | 1.61    | 0.38    | 0.60    | 0.50    | 0.09    | 7/16    | 7/16    | 1.35    | 0.66    | 0.92    | 0.93    | 1/8     | 40      | 0.1          |
| 1/8 x 1/4           | S76AMRT001002 | 1.87    | 0.56    | 0.60    | 0.50    | 0.09    | 1/2     | 7/16    | 1.61    | 0.70    | 0.96    | 0.97    | 1/4     | 30      | 0.1          |
| 3/16 x 1/8          | S76AMRT316001 | 1.66    | 0.38    | 0.63    | 0.54    | 0.12    | 1/2     | 1/2     | 1.40    | 0.70    | 0.70    | 0.96    | 1/8     | 40      | 0.1          |
| 1/4 x 1/8           | S76AMRT002001 | 1.98    | 0.38    | 0.70    | 0.60    | 0.19    | 1/2     | 9/16    | 1.48    | 0.76    | 1.05    | 1.06    | 1/8     | 30      | 0.1          |
| 1/4 x 1/4           | S76AMRT002002 | 1.96    | 0.56    | 0.70    | 0.60    | 0.19    | 1/2     | 9/16    | 1.67    | 0.76    | 1.05    | 1.06    | 1/4     | 30      | 0.1          |
| 5/16 x 1/8          | S76AMRT516001 | 1.99    | 0.38    | 0.73    | 0.64    | 0.19    | 5/8     | 5/8     | 1.70    | 0.88    | 0.82    | 1.17    | 1/8     | 40      | 0.1          |
| 3/8 x 1/4           | S76AMRT003002 | 2.18    | 0.56    | 0.76    | 0.66    | 0.28    | 5/8     | 11/16   | 1.89    | 0.90    | 1.19    | 1.20    | 1/4     | 20      | 0.2          |
| 3/8 x 3/8           | S76AMRT003003 | 2.40    | 0.56    | 0.76    | 0.66    | 0.28    | 13/16   | 11/16   | 2.11    | 1.01    | 1.30    | 1.31    | 3/8     | 10      | 0.2          |
| 1/2 x 3/8           | S76AMRT004003 | 2.51    | 0.56    | 0.86    | 0.90    | 0.38    | 13/16   | 7/8     | 2.11    | 1.01    | 1.41    | 1.42    | 3/8     | 10      | 0.4          |
| 1/2 x 1/2           | S76AMRT004004 | 2.70    | 0.75    | 0.86    | 0.90    | 0.41    | 13/16   | 7/8     | 2.30    | 1.01    | 1.41    | 1.42    | 1/2     | 10      | 0.7          |
| 5/8 x 1/2           | S76AMRT005004 | 2.86    | 0.75    | 0.86    | 0.96    | 0.47    | 15/16   | 1       | 2.46    | 1.00    | 1.49    | 1.50    | 1/2     | 10      | 0.8          |
| 3/4 x 1/2           | S76AMRT006004 | 3.02    | 0.75    | 0.86    | 0.96    | 0.47    | 1-1/16  | 1-1/8   | 2.62    | 1.17    | 1.45    | 1.57    | 1/2     | 5       | 0.8          |
| 3/4 x 3/4           | S76AMRT006006 | 3.00    | 0.75    | 0.86    | 0.96    | 0.62    | 1-1/16  | 1-1/8   | 2.60    | 1.16    | 1.56    | 1.57    | 3/4     | 5       | 1.3          |



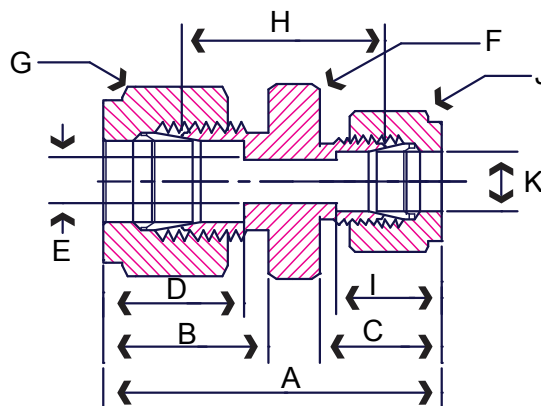
**Fig. AME – Male Elbow**

| Tube OD x NPT<br>IN | Part Number  | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN | G<br>IN | H<br>IN | I<br>IN | Packing | Weight<br>LB |
|---------------------|--------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------------|
| 1/8 x 1/8           | S76AME001001 | 0.92    | 0.38    | 0.60    | 0.50    | 0.09    | 7/16    | 7/16    | 0.66    | 1/8     | 50      | 0.06         |
| 1/8 x 1/4           | S76AME001002 | 0.96    | 0.56    | 0.60    | 0.50    | 0.09    | 1/2     | 7/16    | 0.70    | 1/4     | 40      | 0.07         |
| 3/16 x 1/8          | S76AME316001 | 1.00    | 0.38    | 0.63    | 0.54    | 0.12    | 1/2     | 1/2     | 0.74    | 1/8     | 40      | 0.08         |
| 1/4 x 1/8           | S76AME002001 | 1.05    | 0.38    | 0.70    | 0.60    | 0.19    | 1/2     | 9/16    | 0.76    | 1/8     | 40      | 0.1          |
| 1/4 x 1/4           | S76AME002002 | 1.05    | 0.56    | 0.70    | 0.60    | 0.19    | 1/2     | 9/16    | 0.76    | 1/4     | 30      | 0.1          |
| 1/4 x 3/8           | S76AME002003 | 1.16    | 0.56    | 0.70    | 0.60    | 0.19    | 11/16   | 9/16    | 0.87    | 3/8     | 20      | 0.1          |
| 1/4 x 1/2           | S76AME002004 | 1.24    | 0.75    | 0.70    | 0.60    | 0.19    | 13/16   | 9/16    | 0.95    | 1/2     | 20      | 0.1          |
| 5/16 x 1/8          | S76AME516001 | 1.13    | 0.38    | 0.73    | 0.64    | 0.19    | 9/16    | 5/8     | 0.84    | 1/8     | 40      | 0.1          |
| 5/16 x 1/4          | S76AME516002 | 1.12    | 0.56    | 0.73    | 0.64    | 0.25    | 9/16    | 5/8     | 0.84    | 1/4     | 40      | 0.1          |
| 3/8 x 1/8           | S76AME003001 | 1.20    | 0.38    | 0.76    | 0.66    | 0.19    | 5/8     | 11/16   | 0.91    | 1/8     | 40      | 0.1          |
| 3/8 x 1/4           | S76AME003002 | 1.19    | 0.56    | 0.76    | 0.66    | 0.28    | 5/8     | 11/16   | 0.90    | 1/4     | 30      | 0.1          |
| 3/8 x 3/8           | S76AME003003 | 1.22    | 0.56    | 0.76    | 0.66    | 0.28    | 11/16   | 11/16   | 0.93    | 3/8     | 20      | 0.2          |
| 3/8 x 1/2           | S76AME003004 | 1.30    | 0.75    | 0.76    | 0.66    | 0.28    | 13/16   | 11/16   | 1.01    | 1/2     | 10      | 0.2          |
| 1/2 x 1/4           | S76AME004002 | 1.41    | 0.56    | 0.86    | 0.90    | 0.28    | 13/16   | 7/8     | 1.01    | 1/4     | 10      | 0.2          |
| 1/2 x 3/8           | S76AME004003 | 1.41    | 0.56    | 0.86    | 0.90    | 0.38    | 13/16   | 7/8     | 1.01    | 3/8     | 10      | 0.2          |
| 1/2 x 1/2           | S76AME004004 | 1.41    | 0.75    | 0.86    | 0.90    | 0.41    | 13/16   | 7/8     | 1.01    | 1/2     | 10      | 0.3          |
| 5/8 x 3/8           | S76AME005003 | 1.50    | 0.56    | 0.86    | 0.96    | 0.38    | 15/16   | 1.00    | 1.10    | 3/8     | 15      | 0.4          |
| 5/8 x 1/2           | S76AME005004 | 1.49    | 0.75    | 0.86    | 0.96    | 0.47    | 15/16   | 1       | 1.09    | 1/2     | 15      | 0.4          |
| 3/4 x 1/2           | S76AME006004 | 1.56    | 0.75    | 0.86    | 0.96    | 0.47    | 1-1/16  | 1-1/8   | 1.16    | 1/2     | 10      | 0.7          |
| 3/4 x 3/4           | S76AME006006 | 1.56    | 0.75    | 0.86    | 0.96    | 0.62    | 1-1/16  | 1-1/8   | 1.16    | 3/4     | 10      | 0.8          |
| 3/4 x 1             | S76AME006010 | 1.75    | 0.94    | 0.86    | 0.96    | 0.62    | 1-7/16  | 1-1/8   | 1.35    | 1       | 10      | 0.8          |
| 1 x 3/4             | S76AME010006 | 1.92    | 0.75    | 1.04    | 1.23    | 0.62    | 1-3/8   | 1-1/2   | 1.44    | 3/4     | 5       | 1.0          |
| 1 x 1               | S76AME010010 | 1.92    | 0.75    | 1.04    | 1.23    | 0.88    | 1-3/8   | 1-1/2   | 1.44    | 1       | 5       | 1.0          |



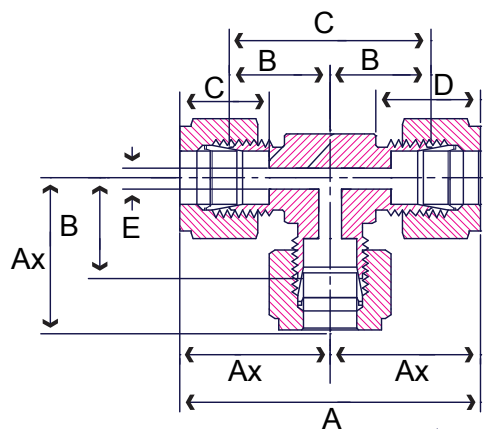
**Fig. ATEC – Tube End Closure (Cap)**

| Tube OD<br>IN | Part Number | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN | Packing | Weight<br>LB |
|---------------|-------------|---------|---------|---------|---------|---------|---------|---------|--------------|
| 1/8           | S76ATEC001  | 0.78    | 0.60    | 0.50    | 7/16    | 7/16    | 0.52    | 100     | 0.06         |
| 3/16          | S76ATEC316  | 0.84    | 0.63    | 0.54    | 7/16    | 1/2     | 0.58    | 100     | 0.07         |
| 1/4           | S76ATEC002  | 0.92    | 0.70    | 0.60    | 1/2     | 9/16    | 0.62    | 100     | 0.07         |
| 5/16          | S76ATEC516  | 0.96    | 0.73    | 0.64    | 9/16    | 5/8     | 0.65    | 100     | 0.1          |
| 3/8           | S76ATEC003  | 1.00    | 0.76    | 0.66    | 5/8     | 11/16   | 0.71    | 60      | 0.1          |
| 1/2           | S76ATEC004  | 1.14    | 0.86    | 0.90    | 13/16   | 7/8     | 0.74    | 30      | 0.1          |
| 5/8           | S76ATEC005  | 1.17    | 0.86    | 0.96    | 15/16   | 1       | 0.77    | 40      | 0.3          |
| 3/4           | S76ATEC006  | 1.23    | 0.86    | 0.96    | 1-1/16  | 1-1/8   | 0.83    | 10      | 0.3          |
| 1             | S76ATEC010  | 1.80    | 1.04    | 1.23    | 1-3/8   | 1-1/2   | 1.02    | 1       | 0.5          |



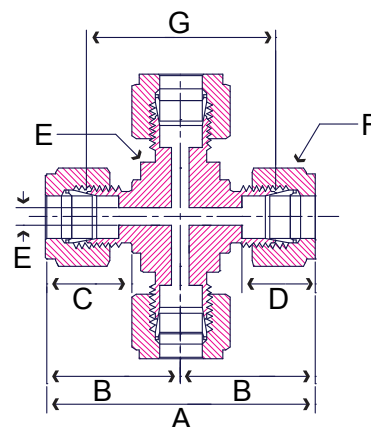
**Fig. ARU – Reducing Union**

| Tube OD<br>IN | Part Number  | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN | G<br>IN | H<br>IN | I<br>IN | J<br>IN | K<br>IN | Packing | Weight<br>LB |
|---------------|--------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------------|
| 1/4 x 1/8     | S76ARU002001 | 1.51    | 0.70    | 0.60    | 0.60    | 0.09    | 1/2     | 9/16    | 0.96    | 0.50    | 7/16    | 1/8     | 100     | 0.08         |
| 5/16 x 1/4    | S76ARU516002 | 1.65    | 0.73    | 0.70    | 0.64    | 0.19    | 9/16    | 5/8     | 1.07    | 0.60    | 9/16    | 1/4     | 60      | 0.1          |
| 3/8 x 1/8     | S76ARU003001 | 1.61    | 0.76    | 0.60    | 0.66    | 0.09    | 5/8     | 11/16   | 1.06    | 0.50    | 7/16    | 1/8     | 60      | 0.1          |
| 3/8 x 1/4     | S76ARU003002 | 1.69    | 0.76    | 0.70    | 0.66    | 0.19    | 5/8     | 11/16   | 1.11    | 0.60    | 9/16    | 1/4     | 40      | 0.1          |
| 1/2 x 1/4     | S76ARU004002 | 1.84    | 0.86    | 0.70    | 0.90    | 0.19    | 13/16   | 7/8     | 1.15    | 0.60    | 9/16    | 1/4     | 20      | 0.3          |
| 1/2 x 3/8     | S76ARU004003 | 1.90    | 0.86    | 0.76    | 0.90    | 0.28    | 13/16   | 7/8     | 1.21    | 0.66    | 11/16   | 3/8     | 20      | 0.3          |
| 5/8 x 3/8     | S76ARU005003 | 1.93    | 0.86    | 0.76    | 0.96    | 0.28    | 15/16   | 1       | 1.24    | 0.66    | 11/16   | 3/8     | 30      | 0.4          |
| 5/8 x 1/2     | S76ARU005004 | 2.04    | 0.86    | 0.86    | 0.96    | 0.41    | 15/16   | 1       | 1.24    | 0.90    | 7/8     | 1/2     | 30      | 0.4          |
| 3/4 x 1/2     | S76ARU006004 | 2.10    | 0.86    | 0.86    | 0.96    | 0.50    | 1-1/16  | 1-1/8   | 1.30    | 0.90    | 7/8     | 1/2     | 10      | 0.5          |
| 3/4 x 5/8     | S76ARU006005 | 2.10    | 0.86    | 0.86    | 0.96    | 0.62    | 1-1/16  | 1-1/8   | 1.30    | 0.96    | 1       | 5/8     | 10      | 0.5          |
| 1 x 3/4       | S76ARU010006 | 2.10    | 1.04    | 0.86    | 0.96    | 0.62    | 1-3/8   | 1-1/2   | 1.58    | 1.23    | 1-1/8   | 3/4     | 1       | 0.5          |



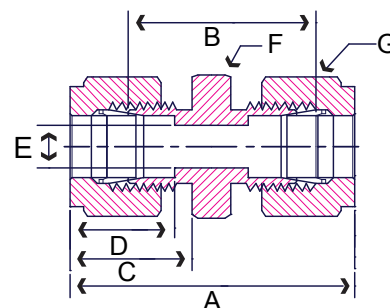
**Fig. AUT – Union Tee**

| Tube OD<br>IN | Part Number | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN | G<br>IN | Packing | Weight<br>LB |
|---------------|-------------|---------|---------|---------|---------|---------|---------|---------|---------|--------------|
| 1/8           | S76AUT001   | 1.76    | 1.22    | 0.87    | 0.50    | 0.09    | 3/8     | 7/16    | 40      | 0.2          |
| 3/16          | S76AUT316   | 1.92    | 1.40    | 0.96    | 0.54    | 0.12    | 1/2     | 1/2     | 40      | 0.1          |
| 1/4           | S76AUT002   | 2.12    | 1.52    | 1.05    | 0.60    | 0.19    | 1/2     | 9/16    | 30      | 0.2          |
| 5/16          | S76AUT516   | 2.34    | 1.74    | 1.16    | 0.64    | 0.25    | 5/8     | 5/8     | 20      | 0.3          |
| 3/8           | S76AUT003   | 2.40    | 1.80    | 1.19    | 0.66    | 0.28    | 5/8     | 11/16   | 20      | 0.4          |
| 1/2           | S76AUT004   | 2.84    | 2.02    | 1.41    | 0.96    | 0.41    | 13/16   | 7/8     | 10      | 0.7          |
| 5/8           | S76AUT005   | 3.06    | 2.24    | 1.52    | 0.96    | 0.50    | 1       | 1       | 10      | 0.8          |
| 3/4           | S76AUT006   | 3.14    | 2.32    | 1.56    | 0.96    | 0.62    | 1-1/16  | 1-1/8   | 5       | 1.0          |
| 1             | S76AUT010   | 3.86    | 2.88    | 1.92    | 1.23    | 0.88    | 1-3/8   | 1-1/2   | 1       | 1.0          |



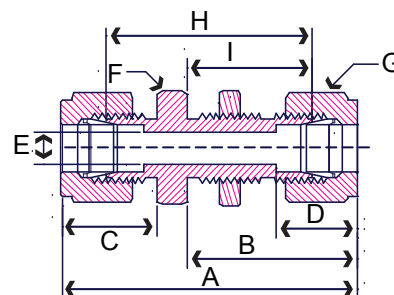
**Fig. AUC – Union Cross**

| Tube OD<br>IN | Part Number | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN | G<br>IN | Packing | Weight<br>LB |
|---------------|-------------|---------|---------|---------|---------|---------|---------|---------|---------|--------------|
| 1/8           | S76AUCR001  | 1.74    | 0.87    | 0.60    | 0.50    | 3/8     | 7/16    | 1.22    | 40      | 0.2          |
| 3/16          | S76AUCR316  | 1.92    | 0.96    | 0.63    | 0.54    | 1/2     | 1/2     | 1.40    | 40      | 0.2          |
| 1/4           | S76AUCR002  | 2.10    | 1.05    | 0.70    | 0.60    | 1/2     | 9/16    | 1.52    | 20      | 0.2          |
| 5/16          | S76AUCR516  | 2.32    | 1.16    | 0.73    | 0.64    | 5/8     | 5/8     | 1.74    | 20      | 0.4          |
| 3/8           | S76AUCR003  | 2.38    | 1.19    | 0.76    | 0.66    | 5/8     | 11/16   | 1.80    | 20      | 0.4          |
| 1/2           | S76AUCR004  | 2.82    | 1.41    | 0.86    | 0.41    | 13/16   | 7/8     | 2.02    | 4       | 0.5          |
| 5/8           | S76AUCR005  | 3.04    | 1.52    | 0.86    | 0.96    | 15/16   | 1.00    | 2.26    | 10      | 0.9          |
| 3/4           | S76AUCR006  | 3.12    | 1.56    | 0.86    | 0.96    | 1-1/16  | 1-1/8   | 2.34    | 2       | 1.3          |
| 1             | S76AUCR010  | 3.85    | 1.92    | 1.05    | 1.23    | 1-3/8   | 1-1/2   | 2.90    | 2       | 1.3          |



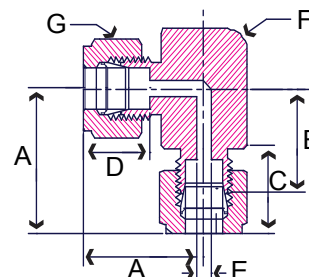
**Fig. ASU – Straight Union**

| Tube OD<br>IN | Part Number | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN | G<br>IN | Packing | Weight<br>LB |
|---------------|-------------|---------|---------|---------|---------|---------|---------|---------|---------|--------------|
| 1/8           | S76ASU001   | 1.39    | 0.87    | 0.60    | 0.50    | 0.09    | 7/16    | 7/16    | 100     | 0.08         |
| 3/16          | S76ASU316   | 1.47    | 0.95    | 0.63    | 0.54    | 0.12    | 7/16    | 1/2     | 100     | 0.1          |
| 1/4           | S76ASU002   | 1.60    | 1.02    | 0.70    | 0.60    | 0.19    | 1/2     | 9/16    | 60      | 0.1          |
| 5/16          | S76ASU516   | 1.68    | 1.10    | 0.73    | 0.64    | 0.25    | 9/16    | 5/8     | 40      | 0.1          |
| 3/8           | S76ASU003   | 1.75    | 1.18    | 0.76    | 0.66    | 0.28    | 5/8     | 11/16   | 40      | 0.1          |
| 1/2           | S76ASU004   | 2.01    | 1.21    | 0.86    | 0.90    | 0.41    | 13/16   | 7/8     | 20      | 0.3          |
| 5/8           | S76ASU005   | 2.04    | 1.24    | 0.86    | 0.96    | 0.50    | 15/16   | 1       | 30      | 0.4          |
| 3/4           | S76ASU006   | 2.10    | 1.30    | 0.86    | 0.96    | 0.62    | 1-1/16  | 1-1/8   | 10      | 0.5          |
| 1             | S76ASU010   | 2.54    | 1.58    | 1.04    | 1.23    | 0.88    | 1-3/8   | 1-1/2   | 10      | 0.7          |



**Fig. ABHU – Bulkhead Union**

| Tube OD<br>IN | Part Number | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN | G<br>IN | H<br>IN | I<br>IN | Packing | Weight<br>LB |
|---------------|-------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------------|
| 1/8           | S76ABHU001  | 2.01    | 1.22    | 0.60    | 0.50    | 0.09    | 1/2     | 7/16    | 1.49    | 0.96    | 100     | 0.09         |
| 3/16          | S76SBHU316  | 2.11    | 1.26    | 0.63    | 0.54    | 0.12    | 9/16    | 1/2     | 1.59    | 1.00    | 100     | 0.1          |
| 1/4           | S76ABHU002  | 2.26    | 1.31    | 0.70    | 0.60    | 0.19    | 5/8     | 9/16    | 1.68    | 1.02    | 60      | 0.1          |
| 5/16          | S76ABHU516  | 2.38    | 1.40    | 0.73    | 0.64    | 0.25    | 11/16   | 5/8     | 1.80    | 1.11    | 40      | 0.1          |
| 3/8           | S76ABHU003  | 2.44    | 1.44    | 0.76    | 0.66    | 0.28    | 3/4     | 11/16   | 1.86    | 1.15    | 30      | 0.2          |
| 1/2           | S76ABHU004  | 2.79    | 1.64    | 0.86    | 0.90    | 0.41    | 15/16   | 7/8     | 1.99    | 1.24    | 20      | 0.3          |
| 5/8           | S76ABHU005  | 2.85    | 1.67    | 0.86    | 0.96    | 0.50    | 1-1/16  | 1       | 2.05    | 1.27    | 20      | 0.5          |
| 3/4           | S76ABHU006  | 3.10    | 1.86    | 0.86    | 0.96    | 0.63    | 1-3/16  | 1-1/8   | 2.30    | 1.46    | 10      | 0.7          |
| 1             | S76ABHU010  | 3.76    | 2.25    | 1.04    | 1.23    | 0.88    | 1-5/8   | 1-1/2   | 2.80    | 1.77    | 10      | 0.9          |



**Fig. AUE – Union Elbow**

| Tube OD<br>IN | Part Number | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN | G<br>IN | Packing | Weight<br>LB |
|---------------|-------------|---------|---------|---------|---------|---------|---------|---------|---------|--------------|
| 1/8           | S76AUE001   | 0.87    | 0.61    | 0.43    | 0.34    | 0.05    | 3/8     | 5/16    | 50      | 0.1          |
| 3/16          | S76AUE316   | 1.00    | 0.74    | 0.63    | 0.54    | 0.12    | 1/2     | 1/2     | 50      | 0.1          |
| 1/4           | S76AUE002   | 1.05    | 0.76    | 0.70    | 0.60    | 0.19    | 1/2     | 9/16    | 40      | 0.1          |
| 5/16          | S76AUE516   | 1.12    | 0.83    | 0.73    | 0.64    | 0.25    | 9/16    | 5/8     | 30      | 0.2          |
| 3/8           | S76AUE003   | 1.19    | 0.90    | 0.76    | 0.66    | 0.28    | 5/8     | 11/16   | 30      | 0.3          |
| 1/2           | S76AUE004   | 1.41    | 1.01    | 0.86    | 0.90    | 0.41    | 13/16   | 7/8     | 20      | 0.3          |
| 5/8           | S76AUE005   | 1.49    | 1.09    | 0.86    | 0.96    | 0.50    | 15/16   | 1       | 20      | 0.4          |
| 3/4           | S76AUE006   | 1.56    | 1.16    | 0.86    | 0.96    | 0.62    | 1-1/16  | 1-1/8   | 10      | 0.4          |
| 1             | S76AUE010   | 1.92    | 1.44    | 1.04    | 1.23    | 0.88    | 1-3/8   | 1-1/2   | 10      | 0.4          |

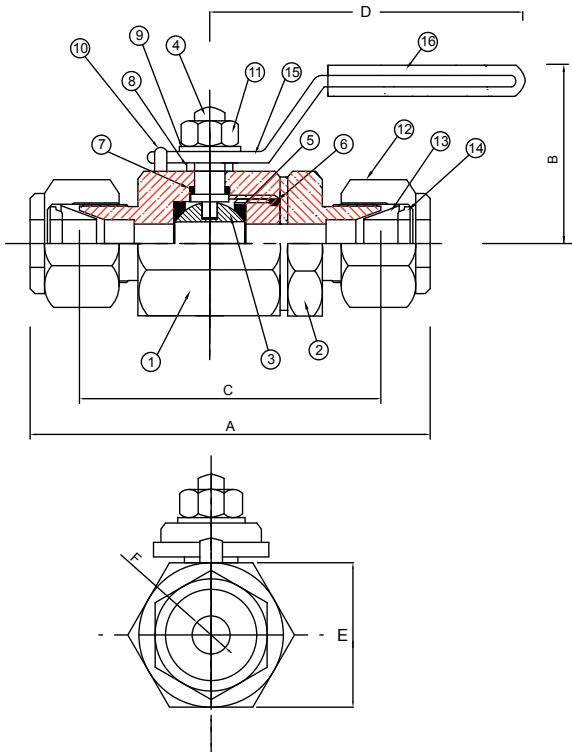


**Fig. S64ST4 & S64ST6 – Seamless Instrumentation Tubing**

| Tube OD<br>IN | Wall Thickness<br>IN | Part Number  |              | ID<br>IN | Tube Length<br>FT | Weight<br>LB/Ft |
|---------------|----------------------|--------------|--------------|----------|-------------------|-----------------|
|               |                      | 304/L        | 316/L        |          |                   |                 |
| 1/8           | 0.035                | S64ST4035001 | S64ST6035001 | 0.055    | 20                | 0.03            |
| 1/8           | 0.049                | S64ST4049001 | S64ST6049001 | 0.027    | 20                | 0.04            |
| 1/4           | 0.028                | S64ST4028002 | S64ST6028002 | 0.194    | 20                | 0.06            |
| 1/4           | 0.035                | S64ST4035002 | S64ST6035002 | 0.180    | 20                | 0.08            |
| 1/4           | 0.049                | S64ST4049002 | S64ST6049002 | 0.152    | 20                | 0.1             |
| 1/4           | 0.065                | S64ST4065002 | S64ST6065002 | 0.120    | 20                | 0.1             |
| 1/4           | 0.083                | S64ST4083002 | S64ST6083002 | 0.084    | 20                | 0.1             |
| 5/16          | 0.035                | S64ST4035516 | S64ST6035516 | 0.243    | 20                | 0.1             |
| 3/8           | 0.035                | S64ST4035003 | S64ST6035003 | 0.305    | 20                | 0.1             |
| 3/8           | 0.049                | S64ST4049003 | S64ST6049003 | 0.277    | 20                | 0.1             |
| 3/8           | 0.065                | S64ST4065003 | S64ST6065003 | 0.245    | 20                | 0.2             |
| 3/8           | 0.083                | S64ST4083003 | S64ST6083003 | 0.209    | 20                | 0.2             |
| 1/2           | 0.035                | S64ST4035004 | S64ST6035004 | 0.430    | 20                | 0.1             |
| 1/2           | 0.049                | S64ST4049004 | S64ST6049004 | 0.402    | 20                | 0.2             |
| 1/2           | 0.065                | S64ST4065004 | S64ST6065004 | 0.370    | 20                | 0.3             |
| 1/2           | 0.083                | S64ST4083004 | S64ST6083004 | 0.334    | 20                | 0.4             |
| 1/2           | 0.120                | S64ST4120004 | S64ST6120004 | 0.260    | 20                | 0.5             |
| 5/8           | 0.035                | S64ST4035005 | S64ST6035005 | 0.555    | 20                | 0.2             |
| 5/8           | 0.049                | S64ST4049005 | S64ST6049005 | 0.527    | 20                | 0.3             |
| 5/8           | 0.065                | S64ST4065005 | S64ST6065005 | 0.495    | 20                | 0.3             |
| 5/8           | 0.083                | S64ST4083005 | S64ST6083005 | 0.509    | 20                | 0.5             |
| 3/4           | 0.035                | S64ST4035006 | S64ST6035006 | 0.680    | 20                | 0.2             |
| 3/4           | 0.049                | S64ST4049006 | S64ST6049006 | 0.652    | 20                | 0.3             |
| 3/4           | 0.065                | S64ST4065006 | S64ST6065006 | 0.620    | 20                | 0.4             |
| 3/4           | 0.083                | S64ST4083006 | S64ST6083006 | 0.584    | 20                | 0.6             |
| 3/4           | 0.095                | S64ST4095006 | S64ST6095006 | 0.560    | 20                | 0.7             |
| 1             | 0.035                | S64ST4035010 | S64ST6035010 | 0.930    | 20                | 0.3             |
| 1             | 0.049                | S64ST4049010 | S64ST6049010 | 0.902    | 20                | 0.4             |
| 1             | 0.065                | S64ST4065010 | S64ST6065010 | 0.870    | 20                | 0.6             |
| 1             | 0.083                | S64ST4083010 | S64ST6083010 | 0.834    | 20                | 0.8             |
| 1             | 0.095                | S64ST4095010 | S64ST6095010 | 0.810    | 20                | 0.9             |
| 1             | 0.120                | S64ST4120010 | S64ST6120010 | 0.760    | 20                | 1.1             |
| 1-1/4         | 0.065                | S64ST4065012 | S64ST6065012 | 1.120    | 20                | 0.8             |



Size: 1/4" to 1"  
Material: 316 stainless steel construction  
Ends: Double ferrule compression tube ends  
Pressure: 1000 psi @ 200°F

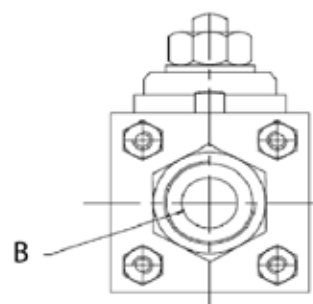
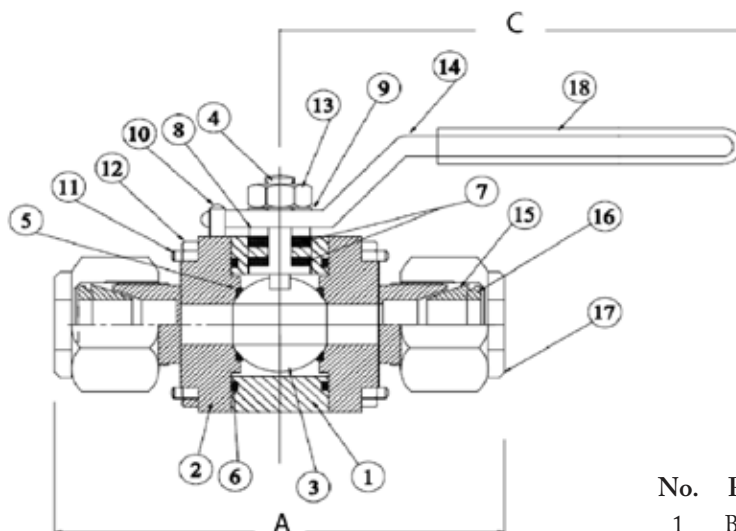


| No. | Part          | Material            |
|-----|---------------|---------------------|
| 1   | Body          | 316 Stainless Steel |
| 2   | Adapter       | 316 Stainless Steel |
| 3   | Ball          | 316 Stainless Steel |
| 4   | Stem          | 316 Stainless Steel |
| 5   | Seats         | PTFE                |
| 6   | Joint Seals   | PTFE                |
| 7   | Gland Seals   | 316 Stainless Steel |
| 8   | Retainer      | 410 Stainless Steel |
| 9   | Washer        | Alloy Steel         |
| 10  | Stop Pin      | 304 Stainless Steel |
| 11  | Stem Nut      | 304 Stainless Steel |
| 12  | Nut           | 316 Stainless Steel |
| 13  | Front Ferrule | 316 Stainless Steel |
| 14  | Back Ferrule  | 316 Stainless Steel |
| 15  | Handle        | 304 Stainless Steel |
| 16  | Sleeve        | PVC                 |

| Size<br>IN | Part Number | Weight<br>LB | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN |
|------------|-------------|--------------|---------|---------|---------|---------|---------|---------|
| 1/4        | S76BVH002   | 0.40         | 2.93    | 1.33    | 2.34    | 3.71    | 0.86    | 0.19    |
| 3/8        | S76BVH003   | 0.44         | 3.12    | 1.40    | 2.50    | 3.71    | 0.86    | 0.27    |
| 1/2        | S76BVH004   | 0.72         | 3.51    | 1.64    | 2.73    | 3.90    | 1.09    | 0.35    |
| 3/4        | S76BVH006   | 1.05         | 3.90    | 1.83    | 2.93    | 5.27    | 1.25    | 0.39    |
| 1          | S76BVH010   | 1.62         | 4.25    | 1.85    | 3.26    | 5.31    | 1.77    | 0.75    |



Size: 1/4" to 1"  
 Material: 316 stainless steel construction  
 Ends: Double ferrule compression tube ends  
 Pressure: 3000 psi @ 200°F

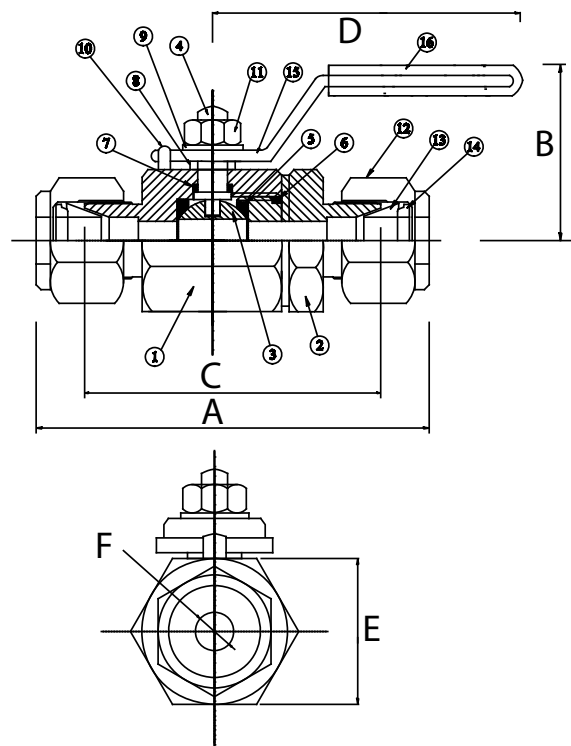


| No. | Part          | Material            |
|-----|---------------|---------------------|
| 1   | Body          | 316 Stainless Steel |
| 2   | Adapter       | 316 Stainless Steel |
| 3   | Ball          | 316 Stainless Steel |
| 4   | Stem          | 316 Stainless Steel |
| 5   | Seats         | PTFE                |
| 6   | Joint Seal    | PTFE                |
| 7   | Gland Seal    | PTFE                |
| 8   | Retainer      | 304 Stainless Steel |
| 9   | Washer        | 304 Stainless Steel |
| 10  | Stop Pin      | 304 Stainless Steel |
| 11  | Stud          | 304 Stainless Steel |
| 12  | Nut           | 304 Stainless Steel |
| 13  | Stem Nut      | 304 Stainless Steel |
| 14  | Handle        | 304 Stainless Steel |
| 15  | Front Ferrule | 316 Stainless Steel |
| 16  | Back Ferrule  | 316 Stainless Steel |
| 17  | Nut           | 316 Stainless Steel |
| 18  | Sleeve        | PVC                 |

| Size<br>IN | Part Number | Weight<br>LB | A<br>IN | B<br>IN | C<br>IN |
|------------|-------------|--------------|---------|---------|---------|
| 1/4        | S76BVH3002  | 0.62         | 2.95    | 0.19    | 3.74    |
| 3/8        | S76BVH3003  | 0.74         | 3.15    | 0.28    | 3.74    |
| 1/2        | S76BVH3004  | 0.86         | 3.46    | 0.39    | 3.74    |
| 3/4        | S76BVH3006  | 1.68         | 3.86    | 0.47    | 5.31    |
| 1          | S76BVH3010  | 2.52         | 4.65    | 0.75    | 5.91    |



Size: 1/4" to 1"  
 Material: 316 stainless steel construction  
 Ends: Double ferrule compression tube ends  
 Pressure: 6000 psi @ 200°F

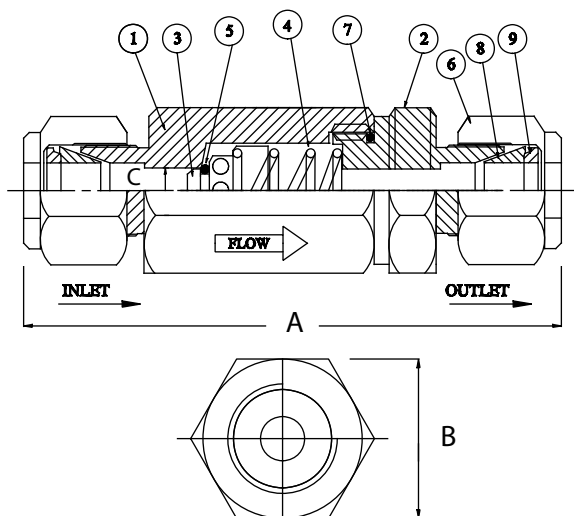


| No. | Part          | Material            |
|-----|---------------|---------------------|
| 1   | Body          | 316 Stainless Steel |
| 2   | Adapter       | 316 Stainless Steel |
| 3   | Ball          | 316 Stainless Steel |
| 4   | Stem          | 316 Stainless Steel |
| 5   | Seats         | Delrin              |
| 6   | Joint Seals   | Viton               |
| 7   | Gland Seals   | PTFE                |
| 8   | Retainer      | 304 Stainless Steel |
| 9   | Washer        | 304 Stainless Steel |
| 10  | Stop Pin      | 304 Stainless Steel |
| 11  | Stem Nut      | 304 Stainless Steel |
| 12  | Nut           | 316 Stainless Steel |
| 13  | Front Ferrule | 316 Stainless Steel |
| 14  | Back Ferrule  | 316 Stainless Steel |
| 15  | Handle        | 304 Stainless Steel |
| 16  | Sleeve        | PVC                 |

| Size<br>IN | Part Number | Weight<br>LB | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN |
|------------|-------------|--------------|---------|---------|---------|---------|---------|---------|
| 1/4        | S76BVH6002  | 0.40         | 2.95    | 1.34    | 2.36    | 3.74    | 0.87    | 0.19    |
| 3/8        | S76BVH6003  | 0.44         | 3.15    | 1.42    | 2.56    | 3.74    | 0.98    | 0.28    |
| 1/2        | S76BVH6004  | 0.72         | 3.54    | 1.57    | 2.76    | 3.74    | 1.10    | 0.39    |
| 3/4        | S76BVH6006  | 1.05         | 3.94    | 1.85    | 3.07    | 5.31    | 1.65    | 0.59    |
| 1          | S76BVH6010  | 1.62         | 4.25    | 1.85    | 3.27    | 5.31    | 1.77    | 0.75    |



Size: 1/4" to 1"  
 Material: 316 stainless steel construction  
 Ends: Double ferrule compression tube ends  
 Pressure: 3000 psi @ 200°F  
 Cracking Pressure: 7 psi

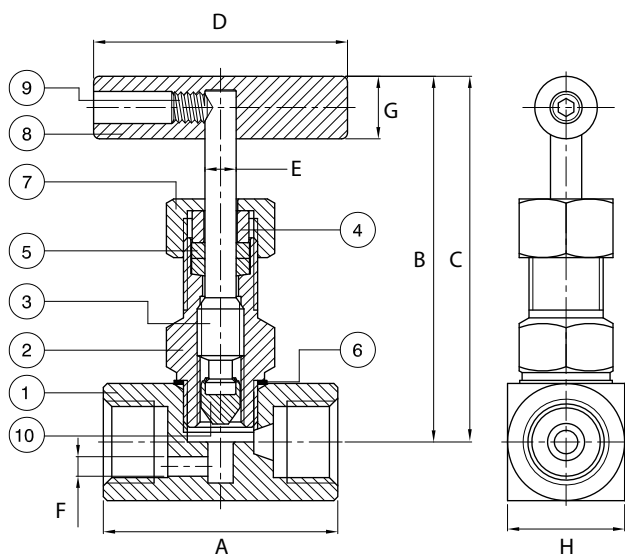


| No. | Part          | Material            |
|-----|---------------|---------------------|
| 1   | Body          | 316 Stainless Steel |
| 2   | Adapter       | 316 Stainless Steel |
| 3   | Poppet        | 316 Stainless Steel |
| 4   | Spring        | 316 Stainless Steel |
| 5   | Seal          | Viton               |
| 6   | Nut           | 316 Stainless Steel |
| 7   | Joint         | Viton               |
| 8   | Front Ferrule | 316 Stainless Steel |
| 9   | Back Ferrule  | 316 Stainless Steel |

| Size IN | Part Number | Weight LB | A IN | B IN | C IN |
|---------|-------------|-----------|------|------|------|
| 1/4     | S76PCV3002  | 0.3       | 2.95 | 0.75 | 0.19 |
| 3/8     | S76PCV3003  | 0.3       | 3.07 | 0.87 | 0.28 |
| 1/2     | S76PCV3004  | 0.5       | 3.46 | 0.98 | 0.39 |
| 3/4     | S76PCV3006  | 0.6       | 4.13 | 1.10 | 0.59 |
| 1       | S76PCV3010  | 1.5       | 4.53 | 1.77 | 0.75 |



Size: 1/4" to 1"  
 Material: 316 stainless steel  
 Ends: NPT threaded  
 Pressure: 6000 psi  
 Temperature: 0°F to 650°F



| No. | Part      | Material            |
|-----|-----------|---------------------|
| 1   | Body      | 316 Stainless Steel |
| 2   | Bonnet    | 316 Stainless Steel |
| 3   | Stem      | 316 Stainless Steel |
| 4   | Gland     | 316 Stainless Steel |
| 5   | Packing   | PTFE                |
| 6   | Body Seal | PTFE                |
| 7   | Gland Nut | 316 Stainless Steel |
| 8   | Handle    | 410 Stainless Steel |
| 9   | Set Screw | Alloy Steel         |
| 10  | Disc      | 316 Stainless Steel |

| Size<br>IN | Part Number | Weight<br>LB | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN | G<br>IN | H<br>IN | Cv   |
|------------|-------------|--------------|---------|---------|---------|---------|---------|---------|---------|---------|------|
| 1/4        | S7166NV002  | 1.0          | 1.77    | 2.56    | 3.23    | 2.36    | 0.28    | 0.12    | 0.51    | 0.87    | 0.4  |
| 3/8        | S7166NV003  | 1.1          | 1.97    | 2.64    | 3.35    | 2.36    | 0.28    | 0.12    | 0.51    | 0.98    | 0.4  |
| 1/2        | S7166NV004  | 1.6          | 2.36    | 3.39    | 4.21    | 2.56    | 0.31    | 0.16    | 0.63    | 1.18    | 0.75 |
| 3/4        | S7166NV006  | 1.9          | 2.56    | 3.46    | 4.37    | 2.56    | 0.31    | 0.20    | 0.63    | 1.38    | 0.9  |
| 1          | S7166NV010  | 3.1          | 3.27    | 3.94    | 5.12    | 3.15    | 0.39    | 0.28    | 0.75    | 1.81    | 1.8  |

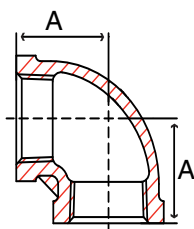




# Standard Weight 150# Stainless Fittings

## Specifications

- Stainless castings conform to ASTM A351
- NPT threads conform to ASME B1.20.1
- Manufacturing facility is ISO 9001:2008
- Fittings meet applicable chemical & physical properties



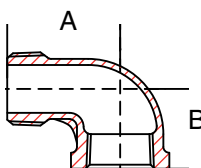
**Fig. S3014E & S3016E - 90° Elbow**

| Size<br>IN | Part Number |            | A<br>IN | Packing |        | Weight<br>LB |
|------------|-------------|------------|---------|---------|--------|--------------|
|            | 304         | 316        |         | Inner   | Master |              |
| 1/8        | S3014E 001  | S3016E 001 | 0.67    | 120     | 480    | 0.1          |
| 1/4        | S3014E 002  | S3016E 002 | 0.75    | 100     | 400    | 0.1          |
| 3/8        | S3014E 003  | S3016E 003 | 0.91    | 50      | 200    | 0.2          |
| 1/2        | S3014E 004  | S3016E 004 | 1.06    | 30      | 120    | 0.2          |
| 3/4        | S3014E 006  | S3016E 006 | 1.26    | 18      | 72     | 0.4          |
| 1          | S3014E 010  | S3016E 010 | 1.46    | 10      | 40     | 0.6          |
| 1-1/4      | S3014E 012  | S3016E 012 | 1.69    | 5       | 20     | 0.9          |
| 1-1/2      | S3014E 014  | S3016E 014 | 1.89    | 5       | 20     | 1.3          |
| 2          | S3014E 020  | S3016E 020 | 2.20    | 2       | 8      | 2.0          |
| 2-1/2      | S3014E 024  | S3016E 024 | 2.68    | -       | 7      | 2.6          |
| 3          | S3014E 030  | S3016E 030 | 3.03    | -       | 4      | 4.4          |
| 4          | S3014E 040  | S3016E 040 | 3.78    | -       | 2      | 7.0          |

**Fig. S3014SE & S3016SE 90° Street Elbow**

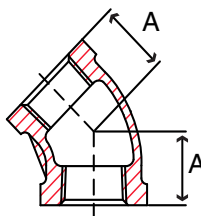
| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing |        | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------|--------------|
|            | 304         | 316        |         |         | Inner   | Master |              |
| 1/8        | S3014SE001  | S3016SE001 | 0.91    | 0.67    | 150     | 600    | 0.06         |
| 1/4        | S3014SE002  | S3016SE002 | 1.14    | 0.75    | 120     | 480    | 0.1          |
| 3/8        | S3014SE003  | S3016SE003 | 1.30    | 0.91    | 60      | 240    | 0.2          |
| 1/2        | S3014SE004  | S3016SE004 | 1.44    | 1.06    | 35      | 140    | 0.2          |
| 3/4        | S3014SE006  | S3016SE006 | 1.67    | 1.26    | 18      | 72     | 0.4          |
| 1          | S3014SE010  | S3016SE010 | 2.05    | 1.46    | 12      | 48     | 0.6          |
| 1-1/4      | S3014SE012  | S3016SE012 | 2.28    | 1.69    | 5       | 20     | 0.9          |
| 1-1/2      | S3014SE014  | S3016SE014 | 2.52    | 1.89    | 4       | 16     | 1.3          |
| 2          | S3014SE020  | S3016SE020 | 2.91    | 2.20    | 2       | 8      | 2.1          |
| 2-1/2      | S3014SE024  | S3016SE024 | 3.44    | 2.68    | -       | 6      | 3.6          |
| 3          | S3014SE030  | S3016SE030 | 4.02    | 3.03    | -       | 4      | 5.1          |
| 4          | S3014SE040  | S3016SE040 | 4.33    | 3.78    | -       | 2      | 8.6          |

STANDARD 150#



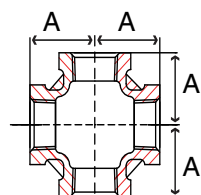
**Fig. S3014F & S3016F - 45° Elbow**

| Size<br>IN | Part Number |            | A<br>IN | Packing |        | Weight<br>LB |
|------------|-------------|------------|---------|---------|--------|--------------|
|            | 304         | 316        |         | Inner   | Master |              |
| 1/8        | S3014F 001  | S3016F 001 | 0.67    | 150     | 600    | 0.07         |
| 1/4        | S3014F 002  | S3016F 002 | 0.75    | 100     | 400    | 0.1          |
| 3/8        | S3014F 003  | S3016F 003 | 0.91    | 60      | 240    | 0.1          |
| 1/2        | S3014F 004  | S3016F 004 | 1.06    | 40      | 160    | 0.2          |
| 3/4        | S3014F 006  | S3016F 006 | 1.26    | 20      | 80     | 0.3          |
| 1          | S3014F 010  | S3016F 010 | 1.46    | 10      | 40     | 0.5          |
| 1-1/4      | S3014F 012  | S3016F 012 | 1.69    | 6       | 24     | 0.8          |
| 1-1/2      | S3014F 014  | S3016F 014 | 1.89    | 4       | 16     | 1.1          |
| 2          | S3014F 020  | S3016F 020 | 2.20    | 2       | 8      | 2.3          |
| 2-1/2      | S3014F 024  | S3016F 024 | 2.68    | -       | 8      | 2.2          |
| 3          | S3014F 030  | S3016F 030 | 3.03    | -       | 6      | 3.5          |
| 4          | S3014F 040  | S3016F 040 | 3.78    | -       | 3      | 6.0          |



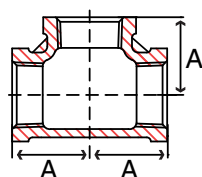
**Fig. S3014X & S3016X - Cross**

| Size<br>IN | Part Number |            | A<br>IN | Packing |        | Weight<br>LB |
|------------|-------------|------------|---------|---------|--------|--------------|
|            | 304         | 316        |         | Inner   | Master |              |
| 1/8        | S3014X 001  | S3016X 001 | 0.67    | 50      | 200    | 0.05         |
| 1/4        | S3014X 002  | S3016X 002 | 0.75    | 50      | 200    | 0.05         |
| 3/8        | S3014X 003  | S3016X 003 | 0.91    | 30      | 120    | 0.06         |
| 1/2        | S3014X 004  | S3016X 004 | 1.06    | 15      | 60     | 0.1          |
| 3/4        | S3014X 006  | S3016X 006 | 1.26    | 10      | 40     | 0.2          |
| 1          | S3014X 010  | S3016X 010 | 1.46    | 5       | 20     | 0.2          |
| 1-1/4      | S3014X 012  | S3016X 012 | 1.69    | 3       | 12     | 0.4          |
| 1-1/2      | S3014X 014  | S3016X 014 | 1.89    | 2       | 8      | 0.4          |
| 2          | S3014X 020  | S3016X 020 | 2.20    | -       | 9      | 0.6          |
| 2-1/2      | S3014X 024  | S3016X 024 | 2.68    | -       | 3      | 1.1          |
| 3          | S3014X 030  | S3016X 030 | 3.03    | -       | 2      | 1.3          |
| 4          | S3014X 040  | S3016X 040 | 3.78    | -       | 1      | 2.6          |



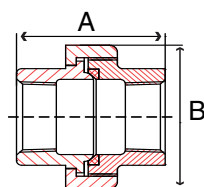
Note: Non-MSS Fittings, Dimensions, Weights and Packing May Vary.

**Fig. S3014T & S3016T - Tee**



| Size<br>IN | Part Number |            | A<br>IN | Packing |        | Weight<br>LB |
|------------|-------------|------------|---------|---------|--------|--------------|
|            | 304         | 316        |         | Inner   | Master |              |
| 1/8        | S3014T 001  | S3016T 001 | 0.67    | 75      | 300    | 0.1          |
| 1/4        | S3014T 002  | S3016T 002 | 0.75    | 70      | 280    | 0.1          |
| 3/8        | S3014T 003  | S3016T 003 | 0.91    | 40      | 160    | 0.2          |
| 1/2        | S3014T 004  | S3016T 004 | 1.06    | 20      | 80     | 0.3          |
| 3/4        | S3014T 006  | S3016T 006 | 1.26    | 12      | 48     | 0.5          |
| 1          | S3014T 010  | S3016T 010 | 1.46    | 8       | 32     | 0.8          |
| 1-1/4      | S3014T 012  | S3016T 012 | 1.69    | -       | 26     | 1.2          |
| 1-1/2      | S3014T 014  | S3016T 014 | 1.89    | -       | 18     | 1.7          |
| 2          | S3014T 020  | S3016T 020 | 2.20    | -       | 10     | 2.7          |
| 2-1/2      | S3014T 024  | S3016T 024 | 2.68    | -       | 5      | 4.4          |
| 3          | S3014T 030  | S3016T 030 | 3.03    | -       | 4      | 5.8          |
| 4          | S3014T 040  | S3016T 040 | 3.78    | -       | 2      | 9.8          |

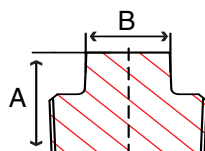
**Fig. S3014U & S3016U - Union**



| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing |        | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------|--------------|
|            | 304         | 316        |         |         | Inner   | Master |              |
| 1/8        | S3014U 001  | S3016U 001 | 0.98    | 0.98    | 50      | 200    | 0.2          |
| 1/4        | S3014U 002  | S3016U 002 | 1.20    | 1.22    | 50      | 200    | 0.2          |
| 3/8        | S3014U 003  | S3016U 003 | 1.32    | 1.34    | 35      | 140    | 0.3          |
| 1/2        | S3014U 004  | S3016U 004 | 1.46    | 1.46    | 25      | 100    | 0.3          |
| 3/4        | S3014U 006  | S3016U 006 | 1.56    | 1.81    | 12      | 48     | 0.5          |
| 1          | S3014U 010  | S3016U 010 | 1.85    | 2.05    | 12      | 48     | 0.8          |
| 1-1/4      | S3014U 012  | S3016U 012 | 2.05    | 2.52    | 3       | 12     | 1.2          |
| 1-1/2      | S3014U 014  | S3016U 014 | 2.19    | 2.76    | 4       | 16     | 1.5          |
| 2          | S3014U 020  | S3016U 020 | 2.50    | 3.39    | 2       | 8      | 2.5          |
| 2-1/2      | S3014U 024  | S3016U 024 | 3.01    | 4.13    | -       | 8      | 3.3          |
| 3          | S3014U 030  | S3016U 030 | 3.19    | 4.61    | -       | 7      | 4.9          |
| 4          | S3014U 040  | S3016U 040 | 3.74    | 5.79    | -       | 1      | 7.5          |

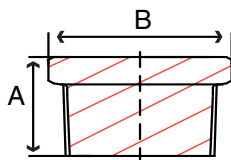
STANDARD  
150#

**Fig. S3014SP & S3016SP - Square Head Plug**



| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing |        | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------|--------------|
|            | 304         | 316        |         |         | Inner   | Master |              |
| 1/8        | S3014SP001  | S3016SP001 | 0.43    | 0.28    | 600     | 2400   | 0.01         |
| 1/4        | S3014SP002  | S3016SP002 | 0.59    | 0.35    | 500     | 2000   | 0.03         |
| 3/8        | S3014SP003  | S3016SP003 | 0.63    | 0.39    | 300     | 1200   | 0.05         |
| 1/2        | S3014SP004  | S3016SP004 | 0.79    | 0.43    | 150     | 600    | 0.08         |
| 3/4        | S3014SP006  | S3016SP006 | 0.87    | 0.69    | 100     | 400    | 0.1          |
| 1          | S3014SP010  | S3016SP010 | 0.98    | 0.75    | 45      | 180    | 0.2          |
| 1-1/4      | S3014SP012  | S3016SP012 | 1.18    | 0.87    | 35      | 140    | 0.3          |
| 1-1/2      | S3014SP014  | S3016SP014 | 1.22    | 0.87    | 25      | 100    | 0.3          |
| 2          | S3014SP020  | S3016SP020 | 1.46    | 1.06    | 12      | 48     | 0.6          |
| 2-1/2      | S3014SP024  | S3016SP024 | 1.50    | 1.26    | 5       | 20     | 0.7          |
| 3          | S3014SP030  | S3016SP030 | 1.77    | 1.34    | 3       | 12     | 1.4          |
| 4          | S3014SP040  | S3016SP040 | 1.81    | 1.65    | -       | 15     | 2.3          |

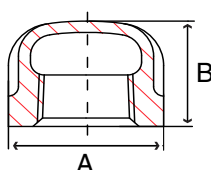
**Fig. S3014HP & S3016HP - Hex Head Plug**



| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing |        | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------|--------------|
|            | 304         | 316        |         |         | Inner   | Master |              |
| 1/8        | S3014HP001  | S3016HP001 | 0.51    | 0.50    | 400     | 1600   | 0.02         |
| 1/4        | S3014HP002  | S3016HP002 | 0.58    | 0.62    | 300     | 1200   | 0.04         |
| 3/8        | S3014HP003  | S3016HP003 | 0.64    | 0.68    | 200     | 800    | 0.05         |
| 1/2        | S3014HP004  | S3016HP004 | 0.75    | 0.87    | 120     | 480    | 0.08         |
| 3/4        | S3014HP006  | S3016HP006 | 0.85    | 1.20    | 60      | 240    | 0.1          |
| 1          | S3014HP010  | S3016HP010 | 1.00    | 1.43    | 35      | 140    | 0.2          |
| 1-1/4      | S3014HP012  | S3016HP012 | 1.08    | 1.76    | 18      | 72     | 0.4          |
| 1-1/2      | S3014HP014  | S3016HP014 | 1.14    | 2.00    | 15      | 60     | 0.4          |
| 2          | S3014HP020  | S3016HP020 | 1.22    | 2.48    | 6       | 24     | 0.7          |
| 2-1/2      | S3014HP024  | S3016HP024 | 1.44    | 2.98    | 4       | 16     | 1.3          |
| 3          | S3014HP030  | S3016HP030 | 1.53    | 3.86    | -       | 16     | 2.0          |
| 4          | S3014HP040  | S3016HP040 | 1.72    | 4.62    | -       | 10     | 3.2          |

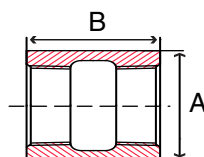
Note: Non-MSS Fittings, Dimensions, Weights and Packing May Vary.

**Fig. S3014C & S3016C - Cap**



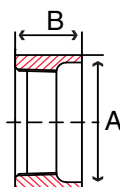
| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing |        | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------|--------------|
|            | 304         | 316        |         |         | Inner   | Master |              |
| 1/8        | S3014C 001  | S3016C 001 | 0.53    | 0.47    | 300     | 1200   | 0.05         |
| 1/4        | S3014C 002  | S3016C 002 | 0.63    | 0.59    | 200     | 800    | 0.08         |
| 3/8        | S3014C 003  | S3016C 003 | 0.79    | 0.63    | 120     | 480    | 0.1          |
| 1/2        | S3014C 004  | S3016C 004 | 1.02    | 0.79    | 90      | 360    | 0.2          |
| 3/4        | S3014C 006  | S3016C 006 | 1.22    | 0.83    | 50      | 200    | 0.3          |
| 1          | S3014C 010  | S3016C 010 | 1.52    | 0.98    | 25      | 100    | 0.5          |
| 1-1/4      | S3014C 012  | S3016C 012 | 1.81    | 1.14    | 16      | 64     | 0.7          |
| 1-1/2      | S3014C 014  | S3016C 014 | 2.09    | 1.18    | 15      | 60     | 0.9          |
| 2          | S3014C 020  | S3016C 020 | 2.60    | 1.30    | 8       | 32     | 1.3          |
| 2-1/2      | S3014C 024  | S3016C 024 | 3.31    | 1.34    | -       | 30     | 2.3          |
| 3          | S3014C 030  | S3016C 030 | 3.94    | 1.42    | -       | 18     | 3.7          |
| 4          | S3014C 040  | S3016C 040 | 4.88    | 1.46    | -       | 12     | 5.6          |

**Fig. S3014CP & S3016CP - Full Coupling**



| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing |        | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------|--------------|
|            | 304         | 316        |         |         | Inner   | Master |              |
| 1/8        | S3014CP001  | S3016CP001 | 0.55    | 0.77    | 200     | 800    | 0.03         |
| 1/4        | S3014CP002  | S3016CP002 | 0.71    | 0.94    | 120     | 480    | 0.1          |
| 3/8        | S3014CP003  | S3016CP003 | 0.83    | 0.98    | 100     | 400    | 0.1          |
| 1/2        | S3014CP004  | S3016CP004 | 1.02    | 1.26    | 60      | 240    | 0.3          |
| 3/4        | S3014CP006  | S3016CP006 | 1.22    | 1.38    | 36      | 144    | 0.4          |
| 1          | S3014CP010  | S3016CP010 | 1.50    | 1.65    | 18      | 72     | 0.7          |
| 1-1/4      | S3014CP012  | S3016CP012 | 1.89    | 1.85    | 12      | 48     | 1.1          |
| 1-1/2      | S3014CP014  | S3016CP014 | 2.13    | 1.85    | 12      | 48     | 1.5          |
| 2          | S3014CP020  | S3016CP020 | 2.60    | 1.97    | 4       | 16     | 2.3          |
| 2-1/2      | S3014CP024  | S3016CP024 | 3.23    | 2.52    | -       | 10     | 2.6          |
| 3          | S3014CP030  | S3016CP030 | 3.74    | 2.91    | -       | 6      | 3.2          |
| 4          | S3014CP040  | S3016CP040 | 4.78    | 3.15    | -       | 4      | 5.9          |
| 6          | S3014CP060  | S3016CP060 | 6.75    | 5.40    | -       | 1      | 13.4         |

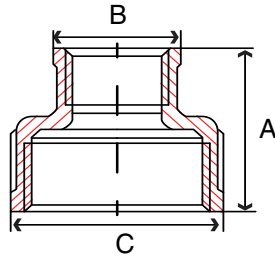
**Fig. S3014HC & S3016HC - Half Coupling**



| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing |        | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------|--------------|
|            | 304         | 316        |         |         | Inner   | Master |              |
| 1/8        | S3014HC001  | S3016HC001 | 0.55    | 0.30    | 400     | 1600   | 0.0220       |
| 1/4        | S3014HC002  | S3016HC002 | 0.71    | 0.39    | 300     | 1200   | 0.03         |
| 3/8        | S3014HC003  | S3016HC003 | 0.83    | 0.45    | 200     | 800    | 0.05         |
| 1/2        | S3014HC004  | S3016HC004 | 1.02    | 0.57    | 120     | 480    | 0.08         |
| 3/4        | S3014HC006  | S3016HC006 | 1.22    | 0.67    | 70      | 280    | 0.1          |
| 1          | S3014HC010  | S3016HC010 | 1.50    | 0.79    | 40      | 160    | 0.2          |
| 1-1/4      | S3014HC012  | S3016HC012 | 1.89    | 0.87    | 24      | 96     | 0.3          |
| 1-1/2      | S3014HC014  | S3016HC014 | 2.13    | 0.85    | 20      | 80     | 0.4          |
| 2          | S3014HC020  | S3016HC020 | 2.60    | 1.18    | 10      | 40     | 0.5          |
| 2-1/2      | S3014HC024  | S3016HC024 | 3.23    | 1.26    | 6       | 24     | 1.0          |
| 3          | S3014HC030  | S3016HC030 | 3.74    | 1.50    | -       | 12     | 1.2          |
| 4          | S3014HC040  | S3016HC040 | 4.76    | 1.50    | -       | 12     | 2.3          |
| 6          | S3014HC060  | S3016HC060 | 6.75    | 1.75    | -       | 1      | 3.6          |

Note: Non-MSS Fittings, Dimensions, Weights and Packing May Vary.

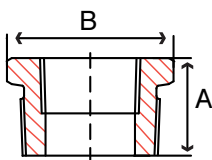
**Fig. S3014RC & S3016RC - Reducing Coupling**



| Size<br>IN    | Part Number   |               | A<br>IN | B<br>IN | C<br>IN | Packing |        | Weight<br>LB |
|---------------|---------------|---------------|---------|---------|---------|---------|--------|--------------|
|               | 304           | 316           |         |         |         | Inner   | Master |              |
| 1/4 x 1/8     | S3014RC002001 | S3016RC002001 | 0.83    | 0.55    | 0.67    | 150     | 600    | 0.08         |
| 3/8 x 1/8     | S3014RC003001 | S3016RC003001 | 0.98    | 0.55    | 0.83    | 100     | 400    | 0.1          |
| 3/8 x 1/4     | S3014RC003002 | S3016RC003002 | 1.06    | 0.67    | 0.83    | 100     | 400    | 0.1          |
| 1/2 x 1/8     | S3014RC004001 | S3016RC004001 | 1.06    | 0.75    | 1.02    | 60      | 240    | 0.2          |
| 1/2 x 1/4     | S3014RC004002 | S3016RC004002 | 1.14    | 0.67    | 1.02    | 60      | 240    | 0.2          |
| 1/2 x 3/8     | S3014RC004003 | S3016RC004003 | 1.26    | 0.83    | 1.02    | 60      | 240    | 0.2          |
| 3/4 x 1/8     | S3014RC006001 | S3016RC006001 | 1.14    | 0.59    | 1.26    | 36      | 144    | 0.3          |
| 3/4 x 1/4     | S3014RC006002 | S3016RC006002 | 1.22    | 0.67    | 1.26    | 36      | 144    | 0.3          |
| 3/4 x 3/8     | S3014RC006003 | S3016RC006003 | 1.34    | 0.87    | 1.26    | 36      | 144    | 0.3          |
| 3/4 x 1/2     | S3014RC006004 | S3016RC006004 | 1.42    | 1.06    | 1.26    | 36      | 144    | 0.3          |
| 1 x 1/8       | S3014RC010001 | S3016RC010001 | 1.26    | 0.67    | 1.57    | 20      | 80     | 0.2          |
| 1 x 1/4       | S3014RC010002 | S3016RC010002 | 1.26    | 0.67    | 1.57    | 20      | 80     | 0.2          |
| 1 x 3/8       | S3014RC010003 | S3016RC010003 | 1.38    | 0.83    | 1.57    | 20      | 80     | 0.2          |
| 1 x 1/2       | S3014RC010004 | S3016RC010004 | 1.54    | 1.06    | 1.57    | 20      | 80     | 0.2          |
| 1 x 3/4       | S3014RC010006 | S3016RC010006 | 1.57    | 1.26    | 1.57    | 20      | 80     | 0.2          |
| 1-1/4 x 1/8   | S3014RC012001 | S3016RC012001 | 1.57    | 1.06    | 1.93    | 18      | 64     | 0.9          |
| 1-1/4 x 1/4   | S3014RC012002 | S3016RC012002 | 1.57    | 1.06    | 1.93    | 18      | 64     | 0.9          |
| 1-1/4 x 3/8   | S3014RC012003 | S3016RC012003 | 1.57    | 1.06    | 1.93    | 18      | 64     | 0.9          |
| 1-1/4 x 1/2   | S3014RC012004 | S3016RC012004 | 1.57    | 1.06    | 1.93    | 18      | 64     | 0.9          |
| 1-1/4 x 3/4   | S3014RC012006 | S3016RC012006 | 1.65    | 1.26    | 1.93    | 18      | 64     | 0.9          |
| 1-1/4 x 1     | S3014RC012010 | S3016RC012010 | 1.77    | 1.57    | 1.93    | 18      | 64     | 0.9          |
| 1-1/2 x 1/8   | S3014RC014001 | S3016RC014001 | 1.65    | 1.02    | 2.17    | 12      | 48     | 1.2          |
| 1-1/2 x 1/4   | S3014RC014002 | S3016RC014002 | 1.65    | 1.02    | 2.17    | 12      | 48     | 1.2          |
| 1-1/2 x 3/8   | S3014RC014003 | S3016RC014003 | 1.65    | 1.02    | 2.17    | 12      | 48     | 1.2          |
| 1-1/2 x 1/2   | S3014RC014004 | S3016RC014004 | 1.65    | 1.02    | 2.17    | 12      | 48     | 1.2          |
| 1-1/2 x 3/4   | S3014RC014006 | S3016RC014006 | 1.77    | 1.26    | 2.17    | 12      | 48     | 1.2          |
| 1-1/2 x 1     | S3014RC014010 | S3016RC014010 | 1.85    | 1.54    | 2.17    | 12      | 48     | 1.2          |
| 1-1/2 x 1-1/4 | S3014RC014012 | S3016RC014012 | 1.93    | 1.89    | 2.17    | 12      | 48     | 1.2          |
| 2 x 1/8       | S3014RC020001 | S3016RC020001 | 1.73    | 1.02    | 2.68    | 4       | 16     | 1.9          |
| 2 x 1/4       | S3014RC020002 | S3016RC020002 | 1.73    | 1.02    | 2.68    | 4       | 16     | 1.9          |
| 2 x 3/8       | S3014RC020003 | S3016RC020003 | 1.73    | 1.02    | 2.68    | 4       | 16     | 1.9          |
| 2 x 1/2       | S3014RC020004 | S3016RC020004 | 1.73    | 1.02    | 2.68    | 4       | 16     | 1.9          |
| 2 x 3/4       | S3014RC020006 | S3016RC020006 | 1.81    | 1.26    | 2.68    | 4       | 16     | 1.9          |
| 2 x 1         | S3014RC020010 | S3016RC020010 | 1.93    | 1.54    | 2.68    | 4       | 16     | 1.9          |
| 2 x 1-1/4     | S3014RC020012 | S3016RC020012 | 2.01    | 1.89    | 2.68    | 4       | 16     | 1.9          |
| 2 x 1-1/2     | S3014RC020014 | S3016RC020014 | 2.01    | 2.17    | 2.68    | 4       | 16     | 1.9          |
| 2-1/2 x 1/2   | S3014RC024004 | S3016RC024004 | 2.36    | 1.57    | 3.23    | -       | 18     | 2.9          |
| 2-1/2 x 3/4   | S3014RC024006 | S3016RC024006 | 2.17    | 1.26    | 3.23    | -       | 18     | 2.8          |
| 2-1/2 x 1     | S3014RC024010 | S3016RC024010 | 2.32    | 1.54    | 3.23    | -       | 18     | 2.8          |
| 2-1/2 x 1-1/4 | S3014RC024012 | S3016RC024012 | 2.52    | 1.89    | 3.23    | -       | 18     | 2.8          |
| 2-1/2 x 1-1/2 | S3014RC024014 | S3016RC024014 | 2.52    | 2.20    | 3.31    | -       | 18     | 2.8          |
| 2-1/2 x 2     | S3014RC024020 | S3016RC024020 | 2.56    | 2.68    | 3.31    | -       | 18     | 2.8          |
| 3 x 3/4       | S3014RC030006 | S3016RC030006 | 2.24    | 1.26    | 3.86    | -       | 12     | 4.9          |
| 3 x 1         | S3014RC030010 | S3016RC030010 | 2.32    | 1.57    | 3.86    | -       | 12     | 4.9          |
| 3 x 1-1/4     | S3014RC030012 | S3016RC030012 | 2.56    | 1.89    | 3.86    | -       | 12     | 4.9          |
| 3 x 1-1/2     | S3014RC030014 | S3016RC030014 | 2.68    | 2.17    | 3.86    | -       | 12     | 4.9          |
| 3 x 2         | S3014RC030020 | S3016RC030020 | 2.60    | 2.72    | 3.86    | -       | 12     | 4.9          |
| 3 x 2-1/2     | S3014RC030024 | S3016RC030024 | 2.60    | 3.31    | 3.86    | -       | 9      | 4.9          |
| 4 x 1         | S3014RC040010 | S3016RC040010 | 2.52    | 1.57    | 4.84    | -       | 4      | 7.7          |
| 4 x 1-1/2     | S3014RC040014 | S3016RC040014 | 2.72    | 2.17    | 4.84    | -       | 4      | 7.7          |
| 4 x 2         | S3014RC040020 | S3016RC040020 | 2.72    | 2.68    | 4.84    | -       | 4      | 7.7          |
| 4 x 2-1/2     | S3014RC040024 | S3016RC040024 | 2.72    | 3.31    | 4.84    | -       | 4      | 7.7          |
| 4 x 3         | S3014RC040030 | S3016RC040030 | 2.72    | 3.86    | 4.84    | -       | 4      | 7.7          |

Note: Non-MSS Fittings, Dimensions, Weights and Packing May Vary.

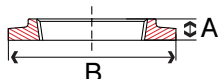
**Fig. S3014HB & S3016HB - Hex Bushing**



| Size<br>IN    | Part Number   |               | A<br>IN | B<br>IN | Packing |        | Weight<br>LB |
|---------------|---------------|---------------|---------|---------|---------|--------|--------------|
|               | 304           | 316           |         |         | Inner   | Master |              |
| 1/4 x 1/8     | S3014HB002001 | S3016HB002001 | 0.59    | 0.59    | 300     | 1200   | 0.02         |
| 3/8 x 1/8     | S3014HB003001 | S3016HB003001 | 0.71    | 0.61    | 200     | 800    | 0.04         |
| 3/8 x 1/4     | S3014HB003002 | S3016HB003002 | 0.71    | 0.61    | 200     | 800    | 0.04         |
| 1/2 x 1/8     | S3014HB004001 | S3016HB004001 | 0.89    | 0.89    | 120     | 480    | 0.07         |
| 1/2 x 1/4     | S3014HB004002 | S3016HB004002 | 0.89    | 0.89    | 120     | 480    | 0.07         |
| 1/2 x 3/8     | S3014HB004003 | S3016HB004003 | 0.89    | 0.89    | 120     | 480    | 0.07         |
| 3/4 x 1/8     | S3014HB006001 | S3016HB006001 | 1.12    | 0.96    | 70      | 280    | 0.2          |
| 3/4 x 1/4     | S3014HB006002 | S3016HB006002 | 1.12    | 0.96    | 70      | 280    | 0.2          |
| 3/4 x 3/8     | S3014HB006003 | S3016HB006003 | 1.12    | 0.96    | 70      | 280    | 0.2          |
| 3/4 x 1/2     | S3014HB006004 | S3016HB006004 | 1.12    | 0.96    | 70      | 280    | 0.2          |
| 1 x 1/8       | S3014HB010001 | S3016HB010001 | 1.38    | 1.04    | 40      | 160    | 0.2          |
| 1 x 1/4       | S3014HB010002 | S3016HB010002 | 1.38    | 1.04    | 40      | 160    | 0.2          |
| 1 x 3/8       | S3014HB010003 | S3016HB010003 | 1.38    | 1.04    | 40      | 160    | 0.2          |
| 1 x 1/2       | S3014HB010004 | S3016HB010004 | 1.38    | 1.04    | 40      | 160    | 0.2          |
| 1 x 3/4       | S3014HB010006 | S3016HB010006 | 1.38    | 1.04    | 40      | 160    | 0.2          |
| 1-1/4 x 1/8   | S3014HB012001 | S3016HB012001 | 1.73    | 1.16    | 20      | 80     | 0.3          |
| 1-1/4 x 1/4   | S3014HB012002 | S3016HB012002 | 1.73    | 1.16    | 20      | 80     | 0.3          |
| 1-1/4 x 3/8   | S3014HB012003 | S3016HB012003 | 1.73    | 1.16    | 20      | 80     | 0.3          |
| 1-1/4 x 1/2   | S3014HB012004 | S3016HB012004 | 1.73    | 1.16    | 20      | 80     | 0.3          |
| 1-1/4 x 3/4   | S3014HB012006 | S3016HB012006 | 1.73    | 1.16    | 20      | 80     | 0.3          |
| 1-1/4 x 1     | S3014HB012010 | S3016HB012010 | 1.73    | 1.16    | 20      | 80     | 0.3          |
| 1-1/2 x 1/8   | S3014HB014001 | S3016HB014001 | 1.97    | 1.24    | 18      | 72     | 0.4          |
| 1-1/2 x 1/4   | S3014HB014002 | S3016HB014002 | 1.97    | 1.24    | 18      | 72     | 0.4          |
| 1-1/2 x 3/8   | S3014HB014003 | S3016HB014003 | 1.97    | 1.24    | 18      | 72     | 0.4          |
| 1-1/2 x 1/2   | S3014HB014004 | S3016HB014004 | 1.97    | 1.24    | 18      | 72     | 0.4          |
| 1-1/2 x 3/4   | S3014HB014006 | S3016HB014006 | 1.97    | 1.24    | 18      | 72     | 0.4          |
| 1-1/2 x 1     | S3014HB014010 | S3016HB014010 | 1.97    | 1.24    | 18      | 72     | 0.4          |
| 1-1/2 x 1-1/4 | S3014HB014012 | S3016HB014012 | 1.97    | 1.24    | 18      | 72     | 0.4          |
| 2 x 1/8       | S3014HB020001 | S3016HB020001 | 2.48    | 1.38    | 9       | 36     | 0.6          |
| 2 x 1/4       | S3014HB020002 | S3016HB020002 | 2.48    | 1.38    | 9       | 36     | 0.6          |
| 2 x 3/8       | S3014HB020003 | S3016HB020003 | 2.48    | 1.38    | 9       | 36     | 0.6          |
| 2 x 1/2       | S3014HB020004 | S3016HB020004 | 2.48    | 1.38    | 9       | 36     | 0.6          |
| 2 x 3/4       | S3014HB020006 | S3016HB020006 | 2.48    | 1.38    | 9       | 36     | 0.6          |
| 2 x 1         | S3014HB020010 | S3016HB020010 | 2.48    | 1.38    | 9       | 36     | 0.6          |
| 2 x 1-1/4     | S3014HB020012 | S3016HB020012 | 3.09    | 1.38    | 9       | 36     | 0.6          |
| 2 x 1-1/2     | S3014HB020014 | S3016HB020014 | 3.09    | 1.38    | 9       | 36     | 0.6          |
| 2-1/2 x 1/2   | S3014HB024004 | S3016HB024004 | 3.09    | 1.54    | 4       | 16     | 1.1          |
| 2-1/2 x 3/4   | S3014HB024006 | S3016HB024006 | 3.09    | 1.54    | 4       | 16     | 1.1          |
| 2-1/2 x 1     | S3014HB024010 | S3016HB024010 | 3.09    | 1.54    | 4       | 16     | 1.1          |
| 2-1/2 x 1-1/4 | S3014HB024012 | S3016HB024012 | 3.09    | 1.54    | 4       | 16     | 1.1          |
| 2-1/2 x 1-1/2 | S3014HB024014 | S3016HB024014 | 3.09    | 1.54    | 4       | 16     | 1.1          |
| 2-1/2 x 2     | S3014HB024020 | S3016HB024020 | 3.09    | 1.54    | 4       | 16     | 1.1          |
| 3 x 1/2       | S3014HB030004 | S3016HB030004 | 3.62    | 1.65    | 3       | 12     | 1.3          |
| 3 x 3/4       | S3014HB030006 | S3016HB030006 | 3.62    | 1.65    | 3       | 12     | 1.3          |
| 3 x 1         | S3014HB030010 | S3016HB030010 | 3.62    | 1.65    | 3       | 12     | 1.3          |
| 3 x 1-1/4     | S3014HB030012 | S3016HB030012 | 3.62    | 1.65    | 3       | 12     | 1.3          |
| 3 x 1-1/2     | S3014HB030014 | S3016HB030014 | 3.62    | 1.65    | 3       | 12     | 1.3          |
| 3 x 2         | S3014HB030020 | S3016HB030020 | 3.62    | 1.65    | 3       | 12     | 1.3          |
| 3 x 2-1/2     | S3014HB030024 | S3016HB030024 | 3.62    | 1.65    | 3       | 12     | 1.3          |
| 4 x 1         | S3014HB040010 | S3016HB040010 | 4.61    | 1.89    | -       | 8      | 2.6          |
| 4 x 1-1/4     | S3014HB040012 | S3016HB040012 | 4.61    | 1.89    | -       | 8      | 2.6          |
| 4 x 1-1/2     | S3014HB040014 | S3016HB040014 | 4.61    | 1.89    | -       | 8      | 2.6          |
| 4 x 2         | S3014HB040020 | S3016HB040020 | 4.61    | 1.89    | -       | 8      | 2.6          |
| 4 x 2-1/2     | S3014HB040024 | S3016HB040024 | 4.61    | 1.89    | -       | 8      | 2.6          |
| 4 x 3         | S3014HB040030 | S3016HB040030 | 4.61    | 1.89    | -       | 8      | 2.6          |

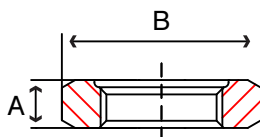
Note: Non-MSS Fittings, Dimensions, Weights and Packing May Vary.

**Fig. S3616WS - Weld Spud**



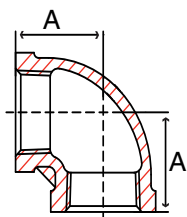
| Size<br>IN | Part Number<br>316 | A<br>IN | B<br>IN | Packing |        | Weight<br>LB |
|------------|--------------------|---------|---------|---------|--------|--------------|
|            |                    |         |         | Inner   | Master |              |
| 1/4        | S3616WS002         | 0.50    | 1.50    | -       | 1      | 0.05         |
| 3/8        | S3616WS003         | 0.50    | 1.62    | -       | 1      | 0.06         |
| 1/2        | S3616WS004         | 0.59    | 1.75    | -       | 1      | 0.1          |
| 3/4        | S3616WS006         | 0.65    | 1.93    | -       | 1      | 0.2          |
| 1          | S3616WS010         | 0.78    | 2.18    | -       | 1      | 0.2          |
| 1-1/4      | S3616WS012         | 0.75    | 2.68    | -       | 1      | 0.3          |
| 1-1/2      | S3616WS014         | 0.87    | 3.00    | -       | 1      | 0.4          |
| 2          | S3616WS020         | 0.93    | 3.50    | -       | 1      | 0.6          |
| 2-1/2      | S3616WS024         | 1.00    | 4.06    | -       | 1      | 1.1          |
| 3          | S3616WS030         | 1.00    | 4.62    | -       | 1      | 1.3          |
| 4          | S3616WS040         | 1.12    | 5.81    | -       | 1      | 2.6          |

**Fig. S3314LN & S3316LN - Lock Nut**



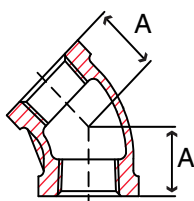
| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing |        | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------|--------------|
|            | 304         | 316        |         |         | Inner   | Master |              |
| 1/8        | S3314LN001  | S3316LN001 | 0.25    | 0.68    | -       | 1      | 0.03         |
| 1/4        | S3314LN002  | S3316LN002 | 0.28    | 0.75    | -       | 1      | 0.03         |
| 3/8        | S3314LN003  | S3316LN003 | 0.30    | 1.00    | -       | 1      | 0.05         |
| 1/2        | S3314LN004  | S3316LN004 | 0.30    | 1.19    | -       | 1      | 0.06         |
| 3/4        | S3314LN006  | S3316LN006 | 0.36    | 1.35    | -       | 1      | 0.1          |
| 1          | S3314LN010  | S3316LN010 | 0.35    | 1.70    | -       | 1      | 0.1          |
| 1-1/4      | S3314LN012  | S3316LN012 | 0.46    | 2.05    | -       | 1      | 0.2          |
| 1-1/2      | S3314LN014  | S3316LN014 | 0.46    | 2.29    | -       | 1      | 0.3          |
| 2          | S3314LN020  | S3316LN020 | 0.52    | 2.83    | -       | 1      | 0.4          |
| 2-1/2      | S3314LN024  | S3316LN024 | 0.58    | 3.56    | -       | 1      | 0.8          |
| 3          | S3314LN030  | S3316LN030 | 0.67    | 4.06    | -       | 1      | 1.3          |
| 4          | S3314LN040  | S3316LN040 | 0.71    | 5.04    | -       | 1      | 2.0          |

**Fig. S3714E & S3716E - 90° Elbow**



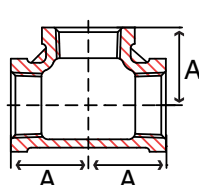
| Size<br>IN | Part Number |            | A<br>IN | Packing |        | Weight<br>LB |
|------------|-------------|------------|---------|---------|--------|--------------|
|            | 304         | 316        |         | Inner   | Master |              |
| 1/2        | S3714E 004  | S3716E 004 | 1.06    | 20      | 80     | 0.3          |
| 3/4        | S3714E 006  | S3716E 006 | 1.24    | 15      | 60     | 0.5          |
| 1          | S3714E 010  | S3716E 010 | 1.42    | 5       | 20     | 0.9          |
| 1-1/4      | S3714E 012  | S3716E 012 | 1.65    | 5       | 20     | 1.3          |
| 1-1/2      | S3714E 014  | S3716E 014 | 1.89    | 2       | 8      | 1.6          |
| 2          | S3714E 020  | S3716E 020 | 2.20    | 2       | 8      | 2.2          |
| 2-1/2      | S3714E 024  | S3716E 024 | 2.68    | -       | 1      | 4.3          |
| 3          | S3714E 030  | S3716E 030 | 3.03    | -       | 1      | 6.3          |

**Fig. S3714F & S3716F - 45° Elbow**



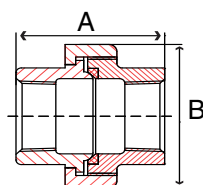
| Size<br>IN | Part Number |            | A<br>IN | Packing |        | Weight<br>LB |
|------------|-------------|------------|---------|---------|--------|--------------|
|            | 304         | 316        |         | Inner   | Master |              |
| 1/2        | S3714F 004  | S3716F 004 | 1.06    | 30      | 120    | 0.2          |
| 3/4        | S3714F 006  | S3716F 006 | 1.24    | 20      | 80     | 0.4          |
| 1          | S3714F 010  | S3716F 010 | 1.42    | 10      | 40     | 0.6          |
| 1-1/4      | S3714F 012  | S3716F 012 | 1.65    | 5       | 20     | 1.0          |
| 1-1/2      | S3714F 014  | S3716F 014 | 1.89    | 4       | 16     | 1.5          |
| 2          | S3714F 020  | S3716F 020 | 2.20    | 2       | 8      | 2.0          |

**Fig. S3714T & S3716T - Tee**



| Size<br>IN | Part Number |            | A<br>IN | Packing |        | Weight<br>LB |
|------------|-------------|------------|---------|---------|--------|--------------|
|            | 304         | 316        |         | Inner   | Master |              |
| 1/2        | S3714T 004  | S3716T 004 | 1.06    | 20      | 80     | 0.4          |
| 3/4        | S3714T 006  | S3716T 006 | 1.24    | 10      | 40     | 0.7          |
| 1          | S3714T 010  | S3716T 010 | 1.42    | 5       | 20     | 1.1          |
| 1-1/4      | S3714T 012  | S3716T 012 | 1.65    | 2       | 8      | 1.9          |
| 1-1/2      | S3714T 014  | S3716T 014 | 1.89    | 2       | 8      | 2.1          |
| 2          | S3714T 020  | S3716T 020 | 2.20    | -       | 1      | 3.3          |
| 2-1/2      | S3714T 024  | S3716T 024 | 2.68    | -       | 1      | 5.9          |
| 3          | S3714T 030  | S3716T 030 | 3.03    | -       | 1      | 9.3          |

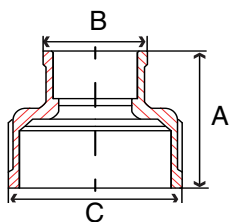
**Fig. S3714U & S3716U - Union**



| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing |        | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------|--------------|
|            | 304         | 316        |         |         | Inner   | Master |              |
| 1/2        | S3714U 004  | S3716U 004 | 1.46    | 1.46    | 20      | 80     | 0.4          |
| 3/4        | S3714U 006  | S3716U 006 | 1.56    | 1.81    | 10      | 40     | 0.5          |
| 1          | S3714U 010  | S3716U 010 | 1.85    | 2.05    | 5       | 20     | 0.9          |
| 1-1/4      | S3714U 012  | S3716U 012 | 2.05    | 2.52    | 2       | 8      | 1.3          |
| 1-1/2      | S3714U 014  | S3716U 014 | 2.19    | 2.76    | 2       | 8      | 2.0          |
| 2          | S3714U 020  | S3716U 020 | 2.50    | 3.39    | 2       | 8      | 3.0          |

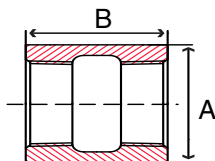
Note: Non-MSS Fittings, Dimensions, Weights and Packing May Vary.

**Fig. 3714RC & 3716RC - Reducing Coupling**



| Size<br>IN    | Part Number   |               | A<br>IN | B<br>IN | C<br>IN | Packing |        | Weight<br>LB |
|---------------|---------------|---------------|---------|---------|---------|---------|--------|--------------|
|               | 304           | 316           |         |         |         | Inner   | Master |              |
| 3/4 x 1/2     | S3714RC006004 | S3716RC006004 | 1.42    | 1.06    | 1.26    | 15      | 60     | 0.3          |
| 1 x 1/2       | S3714RC010004 | S3716RC010004 | 1.54    | 1.06    | 1.57    | 15      | 60     | 0.6          |
| 1 x 3/4       | S3714RC010006 | S3716RC010006 | 1.57    | 1.26    | 1.57    | 15      | 60     | 0.6          |
| 1-1/4 x 1     | S3714RC012010 | S3716RC012010 | 1.77    | 1.57    | 1.93    | 10      | 40     | 0.7          |
| 1-1/2 x 1     | S3714RC014010 | S3716RC014010 | 1.85    | 1.54    | 2.17    | 10      | 40     | 0.8          |
| 1-1/2 x 1-1/4 | S3714RC014012 | S3716RC014012 | 1.93    | 1.89    | 2.17    | 10      | 40     | 0.8          |
| 2 x 1         | S3714RC020010 | S3716RC020010 | 1.93    | 1.54    | 2.68    | 2       | 8      | 1.6          |
| 2 x 1-1/2     | S3714RC020014 | S3716RC020014 | 2.01    | 2.17    | 2.68    | 2       | 8      | 1.6          |

**Fig. 3714CP & 3716CP - Full Coupling**



| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing |        | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------|--------------|
|            | 304         | 316        |         |         | Inner   | Master |              |
| 1/2        | S3714CP004  | S3716CP004 | 1.20    | 1.38    | 50      | 200    | 0.1          |
| 3/4        | S3714CP006  | S3716CP006 | 1.46    | 1.50    | 35      | 140    | 0.2          |
| 1          | S3714CP010  | S3716CP010 | 1.77    | 1.62    | 15      | 60     | 0.4          |
| 1-1/4      | S3714CP012  | S3716CP012 | 2.15    | 2.00    | 10      | 40     | 0.5          |
| 1-1/2      | S3714CP014  | S3716CP014 | 2.43    | 2.12    | 10      | 40     | 0.6          |
| 2          | S3714CP020  | S3716CP020 | 2.96    | 2.50    | 2       | 8      | 1.3          |
| 2-1/2      | S3714CP024  | S3716CP024 | 3.31    | 2.87    | -       | 1      | 2.3          |
| 3          | S3714CP030  | S3716CP030 | 4.00    | 3.18    | -       | 1      | 3.3          |

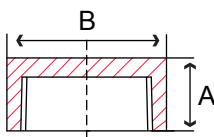


## Bar Stock Fittings

### Specifications

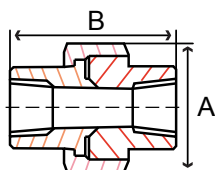
- Stainless bar stock dimensions conform to MSS SP-114
- Stainless bar stock conforms to A-479
- NPT threads conform to ASME B1.20.1
- Manufacturing facility is ISO 9001:2008
- Fittings meet applicable chemical & physical properties

**Fig. S3414C & S3416C - Cap**



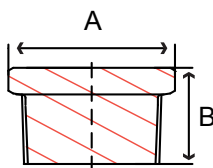
| Size<br>IN | Part Number |             | A<br>IN | B<br>IN | Weight<br>LB |
|------------|-------------|-------------|---------|---------|--------------|
|            | 304         | 316         |         |         |              |
| 1/8        | S3414C 001B | S3416C 001B | 0.62    | 0.68    | 0.05         |
| 1/4        | S3414C 002B | S3416C 002B | 0.74    | 0.68    | 0.07         |
| 3/8        | S3414C 003B | S3416C 003B | 0.86    | 0.80    | 0.09         |
| 1/2        | S3414C 004B | S3416C 004B | 1.05    | 0.93    | 0.1          |
| 3/4        | S3414C 006B | S3416C 006B | 1.29    | 1.05    | 0.4          |
| 1          | S3414C 010B | S3416C 010B | 1.60    | 1.35    | 0.5          |
| 1-1/4      | S3414C 012B | S3416C 012B | 1.95    | 1.60    | 0.6          |
| 1-1/2      | S3414C 014B | S3416C 014B | 2.15    | 0.04    | 0.6          |
| 2          | S3414C 020B | S3416C 020B | 2.71    | 1.74    | 1.2          |
| 2-1/2      | S3414C 024B | S3416C 024B | 3.32    | 2.34    | 3.5          |
| 3          | S3414C 030B | S3416C 030B | 4.10    | 2.54    | 6.2          |
| 4          | S3414C 040B | S3416C 040B | 5.07    | 2.65    | 9.2          |

**Fig. S3414U & S3416U - Union**



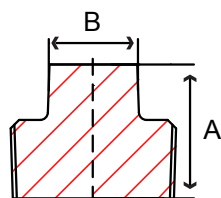
| Size<br>IN | Part Number |             | A<br>IN | B<br>IN | Weight<br>LB |
|------------|-------------|-------------|---------|---------|--------------|
|            | 304         | 316         |         |         |              |
| 1/8        | S3414U 001B | S3416U 001B | 1.17    | 1.48    | 0.2          |
| 1/4        | S3414U 002B | S3416U 002B | 1.17    | 1.48    | 0.2          |
| 3/8        | S3414U 003B | S3416U 003B | 1.37    | 1.60    | 0.3          |
| 1/2        | S3414U 004B | S3416U 004B | 1.48    | 1.91    | 0.4          |
| 3/4        | S3414U 006B | S3416U 006B | 1.79    | 1.92    | 0.6          |
| 1          | S3414U 010B | S3416U 010B | 2.11    | 2.34    | 0.9          |
| 1-1/4      | S3414U 012B | S3416U 012B | 2.48    | 2.59    | 1.3          |
| 1-1/2      | S3414U 014B | S3416U 014B | 2.96    | 2.96    | 2.2          |
| 2          | S3414U 020B | S3416U 020B | 3.59    | 3.04    | 2.9          |
| 2-1/2      | S3414U 024B | S3416U 024B | 4.46    | 3.71    | 5.1          |
| 3          | S3414U 030B | S3416U 030B | 5.32    | 4.06    | 8.4          |
| 4          | S3414U 040B | S3416U 040B | 6.67    | 4.37    | 11.8         |

**Fig. S3414HP & S3416HP - Hex Head Plug**



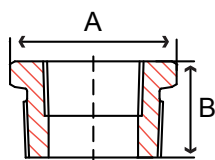
| Size<br>IN | Part Number |             | A<br>IN | B<br>IN | Weight<br>LB |
|------------|-------------|-------------|---------|---------|--------------|
|            | 304         | 316         |         |         |              |
| 1/8        | S3414HP001B | S3416HP001B | 0.62    | 0.47    | 0.02         |
| 1/4        | S3414HP002B | S3416HP002B | 0.74    | 0.62    | 0.07         |
| 3/8        | S3414HP003B | S3416HP003B | 0.87    | 0.68    | 0.1          |
| 1/2        | S3414HP004B | S3416HP004B | 0.92    | 0.86    | 0.1          |
| 3/4        | S3414HP006B | S3416HP006B | 1.05    | 1.05    | 0.2          |
| 1          | S3414HP010B | S3416HP010B | 1.13    | 1.37    | 0.4          |
| 1-1/4      | S3414HP012B | S3416HP012B | 1.37    | 1.79    | 0.9          |
| 1-1/2      | S3414HP014B | S3416HP014B | 1.44    | 1.95    | 1.2          |
| 2          | S3414HP020B | S3416HP020B | 1.70    | 2.46    | 2.2          |
| 2-1/2      | S3414HP024B | S3416HP024B | 1.79    | 2.93    | 2.7          |
| 3          | S3414HP030B | S3416HP030B | 1.93    | 3.47    | 5.6          |
| 4          | S3414HP040B | S3416HP040B | 2.22    | 4.58    | 10.1         |

**Fig. S3414SP & S3416SP - Square Head Plug**



| Size<br>IN | Part Number |             | A<br>IN | B<br>IN | Weight<br>LB |
|------------|-------------|-------------|---------|---------|--------------|
|            | 304         | 316         |         |         |              |
| 1/8        | S3414SP001B | S3416SP001B | 0.62    | 0.27    | 0.02         |
| 1/4        | S3414SP002B | S3416SP002B | 0.70    | 0.39    | 0.04         |
| 3/8        | S3414SP003B | S3416SP003B | 0.84    | 0.47    | 0.07         |
| 1/2        | S3414SP004B | S3416SP004B | 0.98    | 0.55    | 0.1          |
| 3/4        | S3414SP006B | S3416SP006B | 1.05    | 0.66    | 0.2          |
| 1          | S3414SP010B | S3416SP010B | 1.25    | 0.82    | 0.3          |
| 1-1/4      | S3414SP012B | S3416SP012B | 1.37    | 0.94    | 0.5          |
| 1-1/2      | S3414SP014B | S3416SP014B | 1.44    | 1.12    | 0.7          |
| 2          | S3414SP020B | S3416SP020B | 1.56    | 1.30    | 1.1          |
| 2-1/2      | S3414SP024B | S3416SP024B | 1.79    | 1.48    | 2.5          |
| 3          | S3414SP030B | S3416SP030B | 1.91    | 1.68    | 3.9          |
| 4          | S3414SP040B | S3416SP040B | 2.22    | 2.48    | 7.2          |

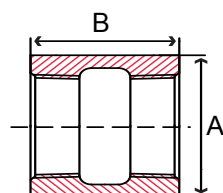
**Fig. S3414HB & S3416HB - Hex Bushing**



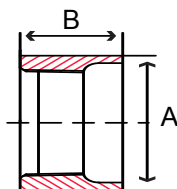
| Size<br>IN    | Part Number    |                | A<br>IN | B<br>IN | Weight<br>LB |
|---------------|----------------|----------------|---------|---------|--------------|
|               | 304            | 316            |         |         |              |
| 1/4 x 1/8     | S3414HB002001B | S3416HB002001B | 0.62    | 0.65    | 0.07         |
| 3/8 x 1/8     | S3414HB003001B | S3416HB003001B | 0.68    | 0.74    | 0.07         |
| 3/8 x 1/4     | S3414HB003002B | S3416HB003002B | 0.68    | 0.74    | 0.04         |
| 1/2 x 1/8     | S3414HB004001B | S3416HB004001B | 0.86    | 0.81    | 0.1          |
| 1/2 x 1/4     | S3414HB004002B | S3416HB004002B | 0.86    | 0.81    | 0.09         |
| 1/2 x 3/8     | S3414HB004003B | S3416HB004003B | 0.86    | 0.81    | 0.07         |
| 3/4 x 1/8     | S3414HB006001B | S3416HB006001B | 1.05    | 0.97    | 0.2          |
| 3/4 x 1/4     | S3414HB006002B | S3416HB006002B | 1.05    | 0.97    | 0.1          |
| 3/4 x 3/8     | S3414HB006003B | S3416HB006003B | 1.05    | 0.97    | 0.1          |
| 3/4 x 1/2     | S3414HB006004B | S3416HB006004B | 1.05    | 0.97    | 0.1          |
| 1 x 1/8       | S3414HB010001B | S3416HB010001B | 1.37    | 1.05    | 0.3          |
| 1 x 1/4       | S3414HB010002B | S3416HB010002B | 1.37    | 1.05    | 0.3          |
| 1 x 3/8       | S3414HB010003B | S3416HB010003B | 1.37    | 1.05    | 0.3          |
| 1 x 1/2       | S3414HB010004B | S3416HB010004B | 1.37    | 1.05    | 0.2          |
| 1 x 3/4       | S3414HB010006B | S3416HB010006B | 1.37    | 1.05    | 0.1          |
| 1-1/4 x 1/8   | S3414HB012001B | S3416HB012001B | 1.72    | 1.15    | 0.6          |
| 1-1/4 x 1/4   | S3414HB012002B | S3416HB012002B | 1.72    | 1.15    | 0.6          |
| 1-1/4 x 3/8   | S3414HB012003B | S3416HB012003B | 1.72    | 1.15    | 0.6          |
| 1-1/4 x 1/2   | S3414HB012004B | S3416HB012004B | 1.72    | 1.15    | 0.6          |
| 1-1/4 x 3/4   | S3414HB012006B | S3416HB012006B | 1.72    | 1.15    | 0.4          |
| 1-1/4 x 1     | S3414HB012010B | S3416HB012010B | 1.72    | 1.15    | 0.3          |
| 1-1/2 x 1/8   | S3414HB014001B | S3416HB014001B | 1.95    | 1.21    | 0.9          |
| 1-1/2 x 1/4   | S3414HB014002B | S3416HB014002B | 1.95    | 1.21    | 0.9          |
| 1-1/2 x 3/8   | S3414HB014003B | S3416HB014003B | 1.95    | 1.21    | 0.9          |
| 1-1/2 x 1/2   | S3414HB014004B | S3416HB014004B | 1.95    | 1.21    | 0.8          |
| 1-1/2 x 3/4   | S3414HB014006B | S3416HB014006B | 1.95    | 1.21    | 0.7          |
| 1-1/2 x 1     | S3414HB014010B | S3416HB014010B | 1.95    | 1.21    | 0.6          |
| 1-1/2 x 1-1/4 | S3414HB014012B | S3416HB014012B | 1.95    | 1.21    | 0.3          |
| 2 x 1/4       | S3414HB020002B | S3416HB020002B | 2.46    | 1.37    | 1.7          |
| 2 x 3/8       | S3414HB020003B | S3416HB020003B | 2.46    | 1.37    | 1.6          |
| 2 x 1/2       | S3414HB020004B | S3416HB020004B | 2.46    | 1.37    | 1.6          |
| 2 x 3/4       | S3414HB020006B | S3416HB020006B | 2.46    | 1.37    | 1.5          |
| 2 x 1         | S3414HB020010B | S3416HB020010B | 2.46    | 1.37    | 1.3          |
| 2 x 1-1/4     | S3414HB020012B | S3416HB020012B | 2.46    | 1.37    | 1.0          |
| 2 x 1-1/2     | S3414HB020014B | S3416HB020014B | 2.46    | 1.37    | 0.8          |
| 2-1/2 x 1/2   | S3414HB024004B | S3416HB024004B | 2.93    | 1.44    | 2.4          |
| 2-1/2 x 3/4   | S3414HB024006B | S3416HB024006B | 2.93    | 1.44    | 2.4          |
| 2-1/2 x 1     | S3414HB024010B | S3416HB024010B | 2.93    | 1.44    | 2.2          |
| 2-1/2 x 1-1/4 | S3414HB024012B | S3416HB024012B | 2.93    | 1.44    | 2.4          |
| 2-1/2 x 1-1/2 | S3414HB024012B | S3416HB024012B | 2.93    | 1.44    | 1.6          |
| 2-1/2 x 2     | S3414HB024020B | S3416HB024020B | 2.93    | 1.44    | 0.9          |
| 3 x 1         | S3414HB030010B | S3416HB030010B | 3.47    | 1.48    | 3.7          |
| 3 x 1-1/4     | S3414HB030012B | S3416HB030012B | 3.47    | 1.48    | 4.9          |
| 3 x 1-1/2     | S3414HB030014B | S3416HB030014B | 3.47    | 1.48    | 2.5          |
| 3 x 2         | S3414HB030020B | S3416HB030020B | 3.47    | 1.48    | 2.3          |
| 3 x 2-1/2     | S3414HB030024B | S3416HB030024B | 3.47    | 1.48    | 1.6          |
| 4 x 1         | S3414HB040010B | S3416HB040010B | 4.58    | 1.76    | 10.5         |
| 4 x 1-1/4     | S3414HB040012B | S3416HB040012B | 4.58    | 1.76    | 10.2         |
| 4 x 1-1/2     | S3414HB040014B | S3416HB040014B | 4.58    | 1.76    | 6.9          |
| 4 x 2         | S3414HB040020B | S3416HB040020B | 4.58    | 1.76    | 6.1          |
| 4 x 2-1/2     | S3414HB040024B | S3416HB040024B | 4.58    | 1.76    | 5.2          |
| 4 x 3         | S3414HB040030B | S3416HB040030B | 4.58    | 1.76    | 3.7          |

BAR STOCK

**Fig. S3414CP & S3416CP - Full Coupling**

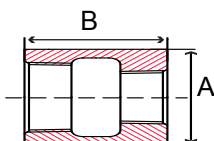


| Size<br>IN | Part Number |             | A<br>IN | B<br>IN | Weight<br>LB |
|------------|-------------|-------------|---------|---------|--------------|
|            | 304         | 316         |         |         |              |
| 1/8        | S3414CP001B | S3416CP001B | 0.62    | 0.99    | 0.07         |
| 1/4        | S3414CP002B | S3416CP002B | 0.74    | 0.99    | 0.09         |
| 3/8        | S3414CP003B | S3416CP003B | 0.86    | 1.11    | 0.1          |
| 1/2        | S3414CP004B | S3416CP004B | 1.05    | 1.37    | 0.2          |
| 3/4        | S3414CP006B | S3416CP006B | 1.29    | 1.49    | 0.2          |
| 1          | S3414CP010B | S3416CP010B | 1.62    | 1.61    | 0.4          |
| 1-1/4      | S3414CP012B | S3416CP012B | 1.87    | 1.99    | 0.5          |
| 1-1/2      | S3414CP014B | S3416CP014B | 2.16    | 2.11    | 0.7          |
| 2          | S3414CP020B | S3416CP020B | 2.71    | 1.42    | 1.4          |
| 2-1/2      | S3414CP024B | S3416CP024B | 3.38    | 2.85    | 2.6          |
| 3          | S3414CP030B | S3416CP030B | 3.96    | 3.16    | 3.8          |
| 4          | S3414CP040B | S3416CP040B | 5.05    | 3.67    | 6.8          |



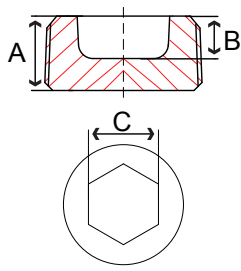
**Fig. S3414HC & S3416HC - Half Coupling**

| Size<br>IN | Part Number |             | A<br>IN | B<br>IN | Weight<br>LB |
|------------|-------------|-------------|---------|---------|--------------|
|            | 304         | 316         |         |         |              |
| 1/8        | S3414HC001B | S3416HC001B | 0.62    | 0.50    | 0.03         |
| 1/4        | S3414HC002B | S3416HC002B | 0.74    | 0.56    | 0.04         |
| 3/8        | S3414HC003B | S3416HC003B | 0.86    | 0.56    | 0.07         |
| 1/2        | S3414HC004B | S3416HC004B | 1.05    | 0.70    | 0.1          |
| 3/4        | S3414HC006B | S3416HC006B | 1.29    | 0.74    | 0.1          |
| 1          | S3414HC010B | S3416HC010B | 1.62    | 0.80    | 0.2          |
| 1-1/4      | S3414HC012B | S3416HC012B | 1.87    | 0.99    | 0.2          |
| 1-1/2      | S3414HC014B | S3416HC014B | 2.16    | 1.05    | 0.3          |
| 2          | S3414HC020B | S3416HC020B | 2.71    | 1.25    | 0.7          |
| 2-1/2      | S3414HC024B | S3416HC024B | 3.38    | 1.42    | 1.3          |
| 3          | S3414HC030B | S3416HC030B | 3.96    | 1.58    | 1.8          |
| 4          | S3414HC040B | S3416HC040B | 5.05    | 1.83    | 3.1          |



**Fig. S3414RC & S3416RC - Reducing Coupling**

| Size<br>IN    | Part Number    |                | A<br>IN | B<br>IN | Weight<br>LB |
|---------------|----------------|----------------|---------|---------|--------------|
|               | 304            | 316            |         |         |              |
| 1/4 x 1/8     | S3414RC002001B | S3416RC002001B | 0.74    | 1.12    | 0.1          |
| 3/8 x 1/8     | S3414RC003001B | S3416RC003001B | 0.86    | 1.17    | 0.1          |
| 3/8 x 1/4     | S3414RC003002B | S3416RC003002B | 0.86    | 1.17    | 0.1          |
| 1/2 x 1/8     | S3414RC004001B | S3416RC004001B | 1.05    | 1.49    | 0.2          |
| 1/2 x 1/4     | S3414RC004002B | S3416RC004002B | 1.05    | 1.49    | 0.2          |
| 1/2 x 3/8     | S3414RC004003B | S3416RC004003B | 1.05    | 1.49    | 0.2          |
| 3/4 x 1/8     | S3414RC006001B | S3416RC006001B | 1.29    | 1.55    | 0.7          |
| 3/4 x 1/4     | S3414RC006002B | S3416RC006002B | 1.29    | 1.55    | 0.3          |
| 3/4 x 3/8     | S3414RC006003B | S3416RC006003B | 1.29    | 1.55    | 0.3          |
| 3/4 x 1/2     | S3414RC006004B | S3416RC006004B | 1.29    | 1.55    | 0.3          |
| 1 x 1/8       | S3414RC010001B | S3416RC010001B | 1.64    | 1.72    | 0.8          |
| 1 x 1/4       | S3414RC010002B | S3416RC010002B | 1.64    | 1.72    | 0.6          |
| 1 x 3/8       | S3414RC010003B | S3416RC010003B | 1.64    | 1.72    | 0.6          |
| 1 x 1/2       | S3414RC010004B | S3416RC010004B | 1.64    | 1.72    | 0.5          |
| 1 x 3/4       | S3414RC010006B | S3416RC010006B | 1.64    | 1.72    | 0.5          |
| 1-1/4 x 1/8   | S3414RC012001B | S3416RC012001B | 1.95    | 1.98    | 1.1          |
| 1-1/4 x 1/4   | S3414RC012002B | S3416RC012002B | 1.95    | 1.98    | 1.1          |
| 1-1/4 x 3/8   | S3414RC012003B | S3416RC012003B | 1.95    | 1.98    | 1.1          |
| 1-1/4 x 1/2   | S3414RC012004B | S3416RC012004B | 1.95    | 1.98    | 1.0          |
| 1-1/4 x 3/4   | S3414RC012006B | S3416RC012006B | 1.95    | 1.98    | 0.9          |
| 1-1/4 x 1     | S3414RC012010B | S3416RC012010B | 1.95    | 1.98    | 0.9          |
| 1-1/2 x 1/8   | S3414RC014001B | S3416RC014001B | 2.15    | 2.10    | 1.3          |
| 1-1/2 x 1/4   | S3414RC014002B | S3416RC014002B | 2.15    | 2.10    | 1.4          |
| 1-1/2 x 3/8   | S3414RC014003B | S3416RC014003B | 2.15    | 2.10    | 1.2          |
| 1-1/2 x 1/2   | S3414RC014004B | S3416RC014004B | 2.15    | 2.10    | 1.2          |
| 1-1/2 x 3/4   | S3414RC014006B | S3416RC014006B | 2.15    | 2.10    | 1.1          |
| 1-1/2 x 1     | S3414RC014010B | S3416RC014010B | 2.15    | 2.10    | 1.0          |
| 1-1/2 x 1-1/4 | S3414RC014012B | S3416RC014012B | 2.15    | 2.10    | 0.8          |
| 2 x 3/8       | S3414RC020003B | S3416RC020003B | 2.71    | 2.48    | 2.6          |
| 2 x 1/2       | S3414RC020004B | S3416RC020004B | 2.71    | 2.48    | 2.5          |
| 2 x 3/4       | S3414RC020006B | S3416RC020006B | 2.71    | 2.48    | 2.4          |
| 2 x 1         | S3414RC020010B | S3416RC020010B | 2.71    | 2.48    | 2.3          |
| 2 x 1-1/4     | S3414RC020012B | S3416RC020012B | 2.71    | 2.48    | 2.0          |
| 2 x 1-1/2     | S3414RC020014B | S3416RC020014B | 2.71    | 2.48    | 1.8          |
| 2-1/2 x 1-1/2 | S3414RC024014B | S3416RC024014B | 3.32    | 3.24    | 5.1          |
| 2-1/2 x 2     | S3414RC024020B | S3416RC024020B | 3.32    | 3.24    | 3.5          |
| 3 x 1         | S3414RC030010B | S3416RC030010B | 4.10    | 3.63    | 8.8          |
| 3 x 1-1/2     | S3414RC030014B | S3416RC030014B | 4.10    | 3.63    | 7.9          |
| 3 x 2         | S3414RC030020B | S3416RC030020B | 4.10    | 3.63    | 7.5          |
| 3 x 2-1/2     | S3414RC030024B | S3416RC030024B | 4.10    | 3.63    | 6.5          |
| 4 x 2         | S3414RC040020B | S3416RC040020B | 5.07    | 4.33    | 14.5         |
| 4 x 3         | S3414RC040030B | S3416RC040030B | 5.07    | 4.33    | 15.6         |



**Fig. S3514CH & S3516CH - Short Counter Sunk Hex Plug**

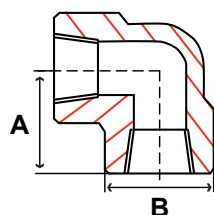
| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | C<br>IN | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------------|
|            | 304         | 316        |         |         |         |              |
| 1/16       | S3514CH000  | S3516CH000 | 0.25    | 0.09    | 0.15    | 0.006        |
| 1/8        | S3514CH001  | S3516CH001 | 0.26    | 0.09    | 0.18    | 0.01         |
| 1/4        | S3514CH002  | S3516CH002 | 0.39    | 0.16    | 0.25    | 0.02         |
| 3/8        | S3514CH003  | S3516CH003 | 0.39    | 0.16    | 0.31    | 0.03         |
| 1/2        | S3514CH004  | S3516CH004 | 0.52    | 0.19    | 0.37    | 0.06         |
| 3/4        | S3514CH006  | S3516CH006 | 0.53    | 0.19    | 0.56    | 0.08         |
| 1          | S3514CH010  | S3516CH010 | 0.67    | 0.25    | 0.62    | 0.2          |
| 1-1/4      | S3514CH012  | S3516CH012 | 0.69    | 0.37    | 0.75    | 0.3          |
| 1-1/2      | S3514CH014  | S3516CH014 | 0.80    | 0.37    | 1.00    | 0.4          |
| 2          | S3514CH020  | S3516CH020 | 0.87    | 0.37    | 1.00    | 0.9          |



## 3000# Stainless Fittings

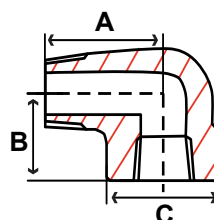
### Specifications

- Forged stainless steel material conforms to ASME A182
- Forged stainless steel fitting dimensions conform to ASME B16.11
- NPT threads conform to ASME B1.20.1
- Socket weld fittings conform to ASME B16.11
- Forged stainless union conform to MSS SP-83
- Forged stainless outlets conform to MSS SP-97
- Forged stainless socket weld inserts conform to MSS SP-79
- Manufacturing facility is ISO 9001:2008



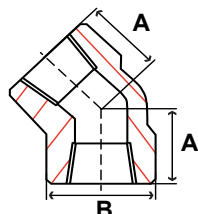
**Fig. S4034E & S4036E - 90° Elbow**

| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------------|
|            | 304 / L     | 316 / L    |         |         |         |              |
| 1/8        | S4034E 001  | S4036E 001 | 0.81    | 0.88    | 100     | 0.2          |
| 1/4        | S4034E 002  | S4036E 002 | 0.97    | 1.00    | 100     | 0.7          |
| 3/8        | S4034E 003  | S4036E 003 | 1.12    | 1.31    | 80      | 0.6          |
| 1/2        | S4034E 004  | S4036E 004 | 1.31    | 1.50    | 50      | 0.9          |
| 3/4        | S4034E 006  | S4036E 006 | 1.50    | 1.81    | 25      | 1.5          |
| 1          | S4034E 010  | S4036E 010 | 1.75    | 2.19    | 20      | 2.2          |
| 1-1/4      | S4034E 012  | S4036E 012 | 2.00    | 2.44    | 15      | 3.1          |
| 1-1/2      | S4034E 014  | S4036E 014 | 2.38    | 2.97    | 6       | 4.8          |
| 2          | S4034E 020  | S4036E 020 | 2.50    | 3.31    | 5       | 5.4          |
| 2-1/2      | S4034E 024  | S4036E 024 | 3.25    | 4.00    | 2       | 13.2         |
| 3          | S4034E 030  | S4036E 030 | 3.75    | 4.75    | 1       | 19.5         |



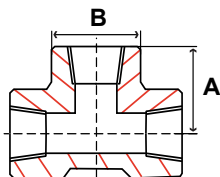
**Fig. S4034SE & S4036SE - 90° Street Elbow**

| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | C<br>IN | Packing | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|---------|--------------|
|            | 304 / L     | 316 / L    |         |         |         |         |              |
| 1/8        | S4034SE001  | S4036SE001 | 0.97    | 1.00    | 1.25    | 200     | 0.2          |
| 1/4        | S4034SE002  | S4036SE002 | 0.97    | 1.00    | 1.25    | 150     | 0.2          |
| 3/8        | S4034SE003  | S4036SE003 | 1.12    | 1.31    | 1.50    | 80      | 0.4          |
| 1/2        | S4034SE004  | S4036SE004 | 1.31    | 1.50    | 1.69    | 50      | 0.6          |
| 3/4        | S4034SE006  | S4036SE006 | 1.50    | 1.81    | 1.94    | 30      | 1.1          |
| 1          | S4034SE010  | S4036SE010 | 1.75    | 2.19    | 2.31    | 20      | 2.2          |
| 1-1/4      | S4034SE012  | S4036SE012 | 2.00    | 2.44    | 2.69    | 15      | 2.4          |
| 1-1/2      | S4034SE014  | S4036SE014 | 2.38    | 2.97    | 2.81    | 8       | 4.4          |
| 2          | S4034SE020  | S4036SE020 | 2.50    | 3.31    | 3.38    | 5       | 6.4          |



**Fig. S4034F & S4036F - 45° Elbow**

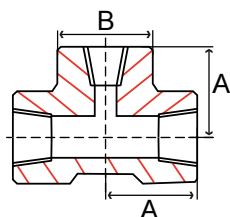
| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------------|
|            | 304 / L     | 316 / L    |         |         |         |              |
| 1/8        | S4034F 001  | S4036F 001 | 0.66    | 0.86    | 100     | 0.2          |
| 1/4        | S4034F 002  | S4036F 002 | 0.75    | 1.00    | 100     | 0.2          |
| 3/8        | S4034F 003  | S4036F 003 | 0.88    | 1.31    | 80      | 0.5          |
| 1/2        | S4034F 004  | S4036F 004 | 1.00    | 1.50    | 50      | 0.7          |
| 3/4        | S4034F 006  | S4036F 006 | 1.12    | 1.81    | 30      | 1.2          |
| 1          | S4034F 010  | S4036F 010 | 1.31    | 2.19    | 20      | 2.0          |
| 1-1/4      | S4034F 012  | S4036F 012 | 1.38    | 2.44    | 15      | 2.2          |
| 1-1/2      | S4034F 014  | S4036F 014 | 1.69    | 2.97    | 8       | 4.5          |
| 2          | S4034F 020  | S4036F 020 | 1.72    | 3.31    | 6       | 4.9          |
| 2-1/2      | S4034F 024  | S4036F 024 | 2.06    | 4.00    | 2       | 8.1          |
| 3          | S4034F 030  | S4036F 030 | 2.50    | 4.75    | 2       | 13.1         |



**Fig. S4034T & S4036T - Tee**

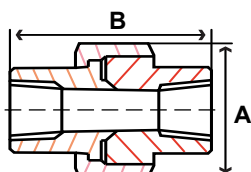
| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------------|
|            | 304 / L     | 316 / L    |         |         |         |              |
| 1/8        | S4034T 001  | S4036T 001 | 0.81    | 0.88    | 80      | 0.2          |
| 1/4        | S4034T 002  | S4036T 002 | 0.97    | 1.00    | 80      | 0.4          |
| 3/8        | S4034T 003  | S4036T 003 | 1.12    | 1.31    | 50      | 0.8          |
| 1/2        | S4034T 004  | S4036T 004 | 1.31    | 1.50    | 35      | 1.2          |
| 3/4        | S4034T 006  | S4036T 006 | 1.50    | 1.81    | 20      | 2.0          |
| 1          | S4034T 010  | S4036T 010 | 1.75    | 2.19    | 15      | 3.2          |
| 1-1/4      | S4034T 012  | S4036T 012 | 2.00    | 2.44    | 10      | 3.8          |
| 1-1/2      | S4034T 014  | S4036T 014 | 2.38    | 2.97    | 5       | 7.2          |
| 2          | S4034T 020  | S4036T 020 | 2.50    | 3.31    | 4       | 7.7          |
| 2-1/2      | S4034T 024  | S4036T 024 | 3.25    | 4.00    | 2       | 15.4         |
| 3          | S4034T 030  | S4036T 030 | 3.75    | 4.75    | 1       | 22.4         |

**Fig. S4034RT & S4036RT – Reducing Tee**



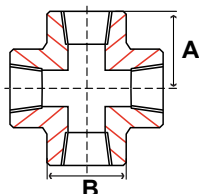
| Size<br>IN    | Part Number   |               | A<br>IN | B<br>IN | Packing | Weight<br>LB |
|---------------|---------------|---------------|---------|---------|---------|--------------|
|               | 304 / L       | 316 / L       |         |         |         |              |
| 1/2 X 1/4     | S4034RT004002 | S4036RT004002 | 1.30    | 1.49    | 20      | 1.8          |
| 3/4 X 1/4     | S4034RT006002 | S4036RT006002 | 1.50    | 1.81    | 15      | 2.9          |
| 3/4 X 3/8     | S4034RT006003 | S4036RT006003 | 1.50    | 1.81    | 15      | 2.9          |
| 3/4 X 1/2     | S4034RT006004 | S4036RT006004 | 1.50    | 1.81    | 10      | 3.6          |
| 1 X 3/8       | S4034RT010003 | S4036RT010003 | 1.75    | 2.19    | 10      | 3.6          |
| 1 X 1/2       | S4034RT010004 | S4036RT010004 | 1.75    | 2.19    | 10      | 3.6          |
| 1 X 3/4       | S4034RT010006 | S4036RT010006 | 1.75    | 2.19    | 5       | 6.8          |
| 1-1/2 X 1/2   | S4034RT014004 | S4036RT014004 | 2.38    | 2.97    | 5       | 6.8          |
| 1-1/2 X 3/4   | S4034RT014006 | S4036RT014006 | 2.38    | 2.97    | 5       | 6.8          |
| 1-1/2 X 1     | S4034RT014010 | S4036RT014010 | 2.38    | 2.97    | 5       | 6.8          |
| 1-1/2 X 1-1/4 | S4034RT014012 | S4036RT014012 | 2.38    | 2.97    | 4       | 7.0          |
| 2 X 3/8       | S4034RT020003 | S4036RT020003 | 2.50    | 3.31    | 4       | 7.0          |
| 2 X 1/2       | S4034RT020004 | S4036RT020004 | 2.50    | 3.31    | 4       | 7.0          |
| 2 X 3/4       | S4034RT020006 | S4036RT020006 | 2.50    | 3.31    | 4       | 7.0          |
| 2 X 1         | S4034RT020010 | S4036RT020010 | 2.50    | 3.31    | 4       | 7.0          |
| 2 X 1-1/4     | S4034RT020012 | S4036RT020012 | 2.50    | 3.31    | 4       | 7.0          |
| 2 X 1-1/2     | S4034RT020014 | S4036RT020014 | 2.50    | 3.31    | 4       | 7.0          |

**Fig. S4034U & S4036U – Union**



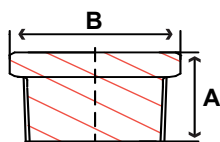
| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------------|
|            | 304 / L     | 316 / L    |         |         |         |              |
| 1/8        | S4034U 001  | S4036U 001 | 1.48    | 1.66    | 70      | 0.6          |
| 1/4        | S4034U 002  | S4036U 002 | 1.48    | 1.66    | 70      | 0.6          |
| 3/8        | S4034U 003  | S4036U 003 | 1.66    | 1.83    | 70      | 0.5          |
| 1/2        | S4034U 004  | S4036U 004 | 1.93    | 2.00    | 50      | 0.7          |
| 3/4        | S4034U 006  | S4036U 006 | 2.38    | 2.31    | 35      | 1.0          |
| 1          | S4034U 010  | S4036U 010 | 2.78    | 2.42    | 20      | 1.7          |
| 1-1/4      | S4034U 012  | S4036U 012 | 3.35    | 2.86    | 14      | 2.2          |
| 1-1/2      | S4034U 014  | S4036U 014 | 3.70    | 3.00    | 10      | 3.5          |
| 2          | S4034U 020  | S4036U 020 | 4.42    | 3.50    | 5       | 5.3          |
| 2-1/2      | S4034U 024  | S4036U 024 | 5.22    | 4.25    | 3       | 8.0          |
| 3          | S4034U 030  | S4036U 030 | 6.15    | 4.42    | 2       | 11.6         |

**Fig. S4034X & S4036X – Cross**

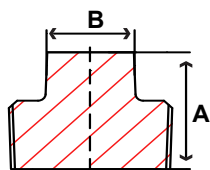


| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------------|
|            | 304 / L     | 316 / L    |         |         |         |              |
| 1/8        | S4034X 001  | S4036X 001 | 0.81    | 0.88    | 40      | 0.4          |
| 1/4        | S4034X 002  | S4036X 002 | 0.97    | 1.00    | 40      | 0.5          |
| 3/8        | S4034X 003  | S4036X 003 | 1.12    | 1.31    | 40      | 0.9          |
| 1/2        | S4034X 004  | S4036X 004 | 1.31    | 1.50    | 30      | 1.4          |
| 3/4        | S4034X 006  | S4036X 006 | 1.50    | 1.81    | 20      | 2.5          |
| 1          | S4034X 010  | S4036X 010 | 1.75    | 2.19    | 12      | 3.5          |
| 1-1/4      | S4034X 012  | S4036X 012 | 2.00    | 2.44    | 6       | 4.1          |
| 1-1/2      | S4034X 014  | S4036X 014 | 2.38    | 2.97    | 4       | 6.5          |
| 2          | S4034X 020  | S4036X 020 | 2.50    | 3.31    | 4       | 8.1          |

**Fig. S4034HP & S4036HP – Hex Head Plug**

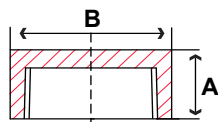


| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------------|
|            | 304 / L     | 316 / L    |         |         |         |              |
| 1/8        | S4034HP001  | S4036HP001 | 0.63    | 0.44    | 800     | 0.02         |
| 1/4        | S4034HP002  | S4036HP002 | 0.69    | 0.62    | 800     | 0.06         |
| 3/8        | S4034HP003  | S4036HP003 | 0.81    | 0.69    | 600     | 0.08         |
| 1/2        | S4034HP004  | S4036HP004 | 0.87    | 0.88    | 250     | 0.1          |
| 3/4        | S4034HP006  | S4036HP006 | 1.00    | 1.06    | 150     | 0.3          |
| 1          | S4034HP010  | S4036HP010 | 1.13    | 1.38    | 100     | 0.4          |
| 1-1/4      | S4034HP012  | S4036HP012 | 1.37    | 1.75    | 35      | 0.9          |
| 1-1/2      | S4034HP014  | S4036HP014 | 1.43    | 2.00    | 25      | 1.3          |
| 2          | S4034HP020  | S4036HP020 | 1.57    | 2.50    | 20      | 2.2          |
| 2-1/2      | S4034HP024  | S4036HP024 | 1.81    | 3.00    | 8       | 3.9          |
| 3          | S4034HP030  | S4036HP030 | 1.93    | 3.50    | 6       | 5.7          |



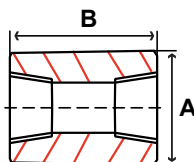
**Fig. S4034SP & S4036SP - Square Head Plug**

| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------------|
|            | 304 / L     | 316 / L    |         |         |         |              |
| 1/8        | S4034SP001  | S4036SP001 | 0.63    | 0.28    | 800     | 0.02         |
| 1/4        | S4034SP002  | S4036SP002 | 0.69    | 0.38    | 800     | 0.02         |
| 3/8        | S4034SP003  | S4036SP003 | 0.81    | 0.44    | 500     | 0.06         |
| 1/2        | S4034SP004  | S4036SP004 | 0.94    | 0.56    | 300     | 0.1          |
| 3/4        | S4034SP006  | S4036SP006 | 1.06    | 0.62    | 200     | 0.1          |
| 1          | S4034SP010  | S4036SP010 | 1.25    | 0.81    | 150     | 0.3          |
| 1-1/4      | S4034SP012  | S4036SP012 | 1.37    | 0.94    | 80      | 0.5          |
| 1-1/2      | S4034SP014  | S4036SP014 | 1.43    | 1.12    | 50      | 0.8          |
| 2          | S4034SP020  | S4036SP020 | 1.57    | 1.31    | 30      | 1.3          |



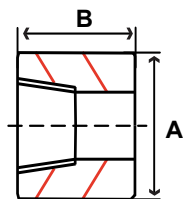
**Fig. S4034C & S4036C - Cap**

| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------------|
|            | 304 / L     | 316 / L    |         |         |         |              |
| 1/8        | S4034C 001  | S4036C 001 | 0.75    | 0.62    | 300     | 0.04         |
| 1/4        | S4034C 002  | S4036C 002 | 1.00    | 0.75    | 300     | 0.08         |
| 3/8        | S4034C 003  | S4036C 003 | 1.00    | 0.88    | 250     | 0.1          |
| 1/2        | S4034C 004  | S4036C 004 | 1.25    | 1.12    | 130     | 0.2          |
| 3/4        | S4034C 006  | S4036C 006 | 1.44    | 1.33    | 80      | 0.3          |
| 1          | S4034C 010  | S4036C 010 | 1.62    | 1.75    | 50      | 0.8          |
| 1-1/4      | S4034C 012  | S4036C 012 | 1.75    | 2.25    | 30      | 1.3          |
| 1-1/2      | S4034C 014  | S4036C 014 | 1.75    | 2.50    | 25      | 1.5          |
| 2          | S4034C 020  | S4036C 020 | 1.88    | 3.00    | 15      | 2.4          |
| 2-1/2      | S4034C 024  | S4036C 024 | 2.38    | 3.62    | 10      | 4.8          |
| 3          | S4034C 030  | S4036C 030 | 2.56    | 4.25    | 5       | 7.7          |



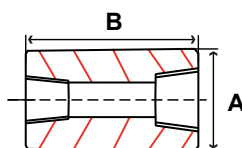
**Fig. S4034CP & S4036CP - Full Coupling**

| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------------|
|            | 304 / L     | 316 / L    |         |         |         |              |
| 1/8        | S4034CP001  | S4036CP001 | 0.62    | 1.25    | 250     | 0.04         |
| 1/4        | S4034CP002  | S4036CP002 | 0.75    | 1.38    | 250     | 0.08         |
| 3/8        | S4034CP003  | S4036CP003 | 0.88    | 1.50    | 200     | 0.1          |
| 1/2        | S4034CP004  | S4036CP004 | 1.12    | 1.88    | 100     | 0.2          |
| 3/4        | S4034CP006  | S4036CP006 | 1.33    | 2.00    | 70      | 0.3          |
| 1          | S4034CP010  | S4036CP010 | 1.75    | 2.38    | 35      | 0.8          |
| 1-1/4      | S4034CP012  | S4036CP012 | 2.25    | 2.62    | 20      | 1.3          |
| 1-1/2      | S4034CP014  | S4036CP014 | 2.50    | 3.12    | 15      | 1.5          |
| 2          | S4034CP020  | S4036CP020 | 3.00    | 3.38    | 10      | 2.4          |
| 2-1/2      | S4034CP024  | S4036CP024 | 3.62    | 3.62    | 5       | 4.8          |
| 3          | S4034CP030  | S4036CP030 | 4.25    | 4.25    | 3       | 7.7          |
| 4          | S4034CP040  | S4036CP040 | 5.50    | 4.75    | 2       | 10.6         |



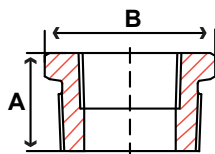
**Fig. S4034HC & S4036HC - Half Coupling**

| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------------|
|            | 304 / L     | 316 / L    |         |         |         |              |
| 1/8        | S4034HC001  | S4036HC001 | 0.62    | 0.62    | 400     | 0.04         |
| 1/4        | S4034HC002  | S4036HC002 | 0.75    | 0.69    | 800     | 0.04         |
| 3/8        | S4034HC003  | S4036HC003 | 0.88    | 0.75    | 500     | 0.06         |
| 1/2        | S4034HC004  | S4036HC004 | 1.12    | 0.94    | 250     | 0.1          |
| 3/4        | S4034HC006  | S4036HC006 | 1.33    | 1.00    | 150     | 0.2          |
| 1          | S4034HC010  | S4036HC010 | 1.75    | 1.17    | 80      | 0.5          |
| 1-1/4      | S4034HC012  | S4036HC012 | 2.25    | 1.31    | 35      | 0.7          |
| 1-1/2      | S4034HC014  | S4036HC014 | 2.50    | 1.56    | 30      | 1.1          |
| 2          | S4034HC020  | S4036HC020 | 3.00    | 1.67    | 20      | 1.5          |
| 2-1/2      | S4034HC024  | S4036HC024 | 3.62    | 1.81    | 12      | 2.4          |
| 3          | S4034HC030  | S4036HC030 | 4.25    | 2.12    | 6       | 3.7          |



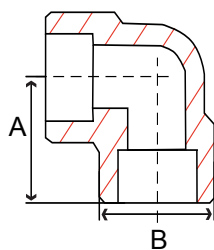
**Fig. S4034RC & S4036RC - Reducing Coupling**

| Size<br>IN    | Part Number   |               | A<br>IN | B<br>IN | Packing | Weight<br>LB |
|---------------|---------------|---------------|---------|---------|---------|--------------|
|               | 304 / L       | 316 / L       |         |         |         |              |
| 1/4 x 1/8     | S4034RC002001 | S4036RC002001 | 0.75    | 1.38    | 250     | 0.1          |
| 3/8 x 1/8     | S4034RC003001 | S4036RC003001 | 0.88    | 1.50    | 200     | 0.1          |
| 3/8 x 1/4     | S4034RC003002 | S4036RC003002 | 0.88    | 1.50    | 200     | 0.1          |
| 1/2 x 1/8     | S4034RC004001 | S4036RC004001 | 1.12    | 1.88    | 100     | 0.2          |
| 1/2 x 1/4     | S4034RC004002 | S4036RC004002 | 1.12    | 1.88    | 100     | 0.2          |
| 1/2 x 3/8     | S4034RC004003 | S4036RC004003 | 1.12    | 1.88    | 100     | 0.2          |
| 3/4 x 1/4     | S4034RC006002 | S4036RC006002 | 1.33    | 2.00    | 70      | 0.4          |
| 3/4 x 3/8     | S4034RC006003 | S4036RC006003 | 1.33    | 2.00    | 70      | 0.4          |
| 3/4 x 1/2     | S4034RC006004 | S4036RC006004 | 1.33    | 2.00    | 70      | 0.4          |
| 1 x 1/4       | S4034RC010002 | S4036RC010002 | 1.75    | 2.38    | 35      | 0.8          |
| 1 x 3/8       | S4034RC010003 | S4036RC010003 | 1.75    | 2.38    | 35      | 0.8          |
| 1 x 1/2       | S4034RC010004 | S4036RC010004 | 1.75    | 2.38    | 35      | 0.8          |
| 1 x 3/4       | S4034RC010006 | S4036RC010006 | 1.75    | 2.38    | 35      | 0.8          |
| 1-1/4 x 1/2   | S4034RC012004 | S4036RC012004 | 2.25    | 2.62    | 20      | 1.4          |
| 1-1/4 x 3/4   | S4034RC012006 | S4036RC012006 | 2.25    | 2.62    | 20      | 1.4          |
| 1-1/4 x 1     | S4034RC012010 | S4036RC012010 | 2.25    | 2.62    | 20      | 1.4          |
| 1-1/2 x 1/4   | S4034RC014002 | S4036RC014002 | 2.50    | 3.12    | 15      | 2.1          |
| 1-1/2 x 3/8   | S4034RC014003 | S4036RC014003 | 2.50    | 3.12    | 15      | 2.1          |
| 1-1/2 x 1/2   | S4034RC014004 | S4036RC014004 | 2.50    | 3.12    | 15      | 2.1          |
| 1-1/2 x 3/4   | S4034RC014006 | S4036RC014006 | 2.50    | 3.12    | 15      | 2.1          |
| 1-1/2 x 1     | S4034RC014010 | S4036RC014010 | 2.50    | 3.12    | 15      | 2.8          |
| 1-1/2 x 1-1/4 | S4034RC014012 | S4036RC014012 | 2.50    | 3.12    | 15      | 2.1          |
| 2 x 1/2       | S4034RC020004 | S4036RC020004 | 3.00    | 3.38    | 10      | 3.0          |
| 2 x 3/4       | S4034RC020006 | S4036RC020006 | 3.00    | 3.38    | 10      | 3.0          |
| 2 x 1         | S4034RC020010 | S4036RC020010 | 3.00    | 3.38    | 10      | 4.5          |
| 2 x 1-1/4     | S4034RC020012 | S4036RC020012 | 3.00    | 3.38    | 10      | 3.3          |
| 2 x 1-1/2     | S4034RC020014 | S4036RC020014 | 3.00    | 3.38    | 10      | 3.9          |



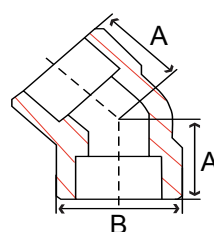
**Fig. S4034HB & S4036HB - Hex Bushing**

| Size<br>IN    | Part Number   |               | A<br>IN | B<br>IN | Packing | Weight<br>LB |
|---------------|---------------|---------------|---------|---------|---------|--------------|
|               | 304 / L       | 316 / L       |         |         |         |              |
| 1/4 X 1/8     | S4034HB002001 | S4036HB002001 | 0.56    | 0.62    | 600     | 0.02         |
| 3/8 X 1/8     | S4034HB003001 | S4036HB003001 | 0.66    | 0.69    | 500     | 0.02         |
| 3/8 X 1/4     | S4034HB003002 | S4036HB003002 | 0.66    | 0.69    | 500     | 0.02         |
| 1/2 X 1/8     | S4034HB004001 | S4036HB004001 | 0.75    | 0.88    | 400     | 0.06         |
| 1/2 X 1/4     | S4034HB004002 | S4036HB004002 | 0.75    | 0.88    | 400     | 0.06         |
| 1/2 X 3/8     | S4034HB004003 | S4036HB004003 | 0.75    | 0.88    | 400     | 0.06         |
| 3/4 X 1/8     | S4034HB006001 | S4036HB006001 | 0.84    | 1.06    | 200     | 0.1          |
| 3/4 X 1/4     | S4034HB006002 | S4036HB006002 | 0.84    | 1.06    | 200     | 0.1          |
| 3/4 X 3/8     | S4034HB006003 | S4036HB006003 | 0.84    | 1.06    | 200     | 0.1          |
| 3/4 X 1/2     | S4034HB006004 | S4036HB006004 | 0.84    | 1.06    | 200     | 0.1          |
| 1 X 1/8       | S4034HB010001 | S4036HB010001 | 1.00    | 1.38    | 100     | 0.1          |
| 1 X 1/4       | S4034HB010002 | S4036HB010002 | 1.00    | 1.38    | 100     | 0.1          |
| 1 X 3/8       | S4034HB010003 | S4036HB010003 | 1.00    | 1.38    | 100     | 0.1          |
| 1 X 1/2       | S4034HB010004 | S4036HB010004 | 1.00    | 1.38    | 100     | 0.1          |
| 1 X 3/4       | S4034HB010006 | S4036HB010006 | 1.00    | 1.38    | 100     | 0.1          |
| 1-1/4 X 1/8   | S4034HB012001 | S4036HB012001 | 1.09    | 1.75    | 70      | 0.8          |
| 1-1/4 X 1/4   | S4034HB012002 | S4036HB012002 | 1.09    | 1.75    | 70      | 0.3          |
| 1-1/4 X 3/8   | S4034HB012003 | S4036HB012003 | 1.09    | 1.75    | 70      | 0.3          |
| 1-1/4 X 1/2   | S4034HB012004 | S4036HB012004 | 1.09    | 1.75    | 70      | 0.5          |
| 1-1/4 X 3/4   | S4034HB012006 | S4036HB012006 | 1.09    | 1.75    | 70      | 0.5          |
| 1-1/4 X 1     | S4034HB012010 | S4036HB012010 | 1.09    | 1.75    | 70      | 0.5          |
| 1-1/2 X 1/8   | S4034HB014001 | S4036HB014001 | 1.12    | 2.00    | 50      | 1.3          |
| 1-1/2 X 1/4   | S4034HB014002 | S4036HB014002 | 1.12    | 2.00    | 50      | 1.3          |
| 1-1/2 X 3/8   | S4034HB014003 | S4036HB014003 | 1.12    | 2.00    | 50      | 1.3          |
| 1-1/2 X 1/2   | S4034HB014004 | S4036HB014004 | 1.12    | 2.00    | 50      | 1.0          |
| 1-1/2 X 3/4   | S4034HB014006 | S4036HB014006 | 1.12    | 2.00    | 50      | 0.8          |
| 1-1/2 X 1     | S4034HB014010 | S4036HB014010 | 1.12    | 2.00    | 50      | 0.7          |
| 1-1/2 X 1-1/4 | S4034HB014012 | S4036HB014012 | 1.12    | 2.00    | 50      | 0.7          |
| 2 X 1/4       | S4034HB020002 | S4036HB020002 | 1.22    | 2.50    | 25      | 0.8          |
| 2 X 3/8       | S4034HB020003 | S4036HB020003 | 1.22    | 2.50    | 25      | 1.8          |
| 2 X 1/2       | S4034HB020004 | S4036HB020004 | 1.22    | 2.50    | 25      | 1.7          |
| 2 X 3/4       | S4034HB020006 | S4036HB020006 | 1.22    | 2.50    | 25      | 1.6          |
| 2 X 1         | S4034HB020010 | S4036HB020010 | 1.22    | 2.50    | 25      | 1.5          |
| 2 X 1-1/4     | S4034HB020012 | S4036HB020012 | 1.22    | 2.50    | 25      | 0.9          |
| 2 X 1-1/2     | S4034HB020014 | S4036HB020014 | 1.22    | 2.50    | 25      | 0.9          |
| 2-1/2 X 1/2   | S4034HB024004 | S4036HB024004 | 1.44    | 3.00    | 15      | 1.1          |
| 2-1/2 X 3/4   | S4034HB024006 | S4036HB024006 | 1.44    | 3.00    | 15      | 1.1          |
| 2-1/2 X 1     | S4034HB024010 | S4036HB024010 | 1.44    | 3.00    | 15      | 1.1          |
| 2-1/2 X 1-1/4 | S4034HB024012 | S4036HB024012 | 1.44    | 3.00    | 15      | 1.1          |
| 2-1/2 X 1-1/2 | S4034HB024014 | S4036HB024014 | 1.44    | 3.00    | 15      | 1.3          |
| 2-1/2 X 2     | S4034HB024020 | S4036HB024020 | 1.44    | 3.00    | 15      | 1.3          |
| 3 X 1/4       | S4034HB030002 | S4036HB030002 | 1.53    | 3.50    | 10      | 4.7          |
| 3 X 1/2       | S4034HB030004 | S4036HB030004 | 1.53    | 3.50    | 10      | 5.3          |
| 3 X 3/4       | S4034HB030006 | S4036HB030006 | 1.53    | 3.50    | 10      | 2.5          |
| 3 X 1         | S4034HB030010 | S4036HB030010 | 1.53    | 3.50    | 10      | 2.5          |
| 3 X 1-1/4     | S4034HB030012 | S4036HB030012 | 1.53    | 3.50    | 10      | 2.5          |
| 3 X 1-1/2     | S4034HB030014 | S4036HB030014 | 1.53    | 3.50    | 10      | 2.5          |
| 3 X 2         | S4034HB030020 | S4036HB030020 | 1.53    | 3.50    | 10      | 2.5          |
| 3 X 2-1/2     | S4034HB030024 | S4036HB030024 | 1.53    | 3.50    | 10      | 2.5          |



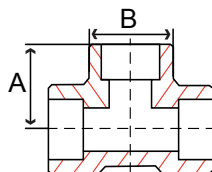
**Fig. S5034E & S5036E - 90° Elbow**

| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------------|
|            | 304 / L     | 316 / L    |         |         |         |              |
| 1/8        | S5034E 001  | S5036E 001 | 0.82    | 0.68    | 150     | 0.2          |
| 1/4        | S5034E 002  | S5036E 002 | 0.82    | 0.82    | 150     | 0.3          |
| 3/8        | S5034E 003  | S5036E 003 | 0.91    | 0.98    | 100     | 0.2          |
| 1/2        | S5034E 004  | S5036E 004 | 1.00    | 1.20    | 80      | 0.4          |
| 3/4        | S5034E 006  | S5036E 006 | 1.25    | 1.41    | 50      | 0.7          |
| 1          | S5034E 010  | S5036E 010 | 1.38    | 1.74    | 30      | 1.1          |
| 1-1/4      | S5034E 012  | S5036E 012 | 1.56    | 2.10    | 20      | 1.8          |
| 1-1/2      | S5034E 014  | S5036E 014 | 1.75    | 2.36    | 15      | 2.3          |
| 2          | S5034E 020  | S5036E 020 | 2.12    | 2.89    | 8       | 3.7          |
| 2-1/2      | S5034E 024  | S5036E 024 | 2.24    | 3.54    | 4       | 7.0          |
| 3          | S5034E 030  | S5036E 030 | 2.87    | 4.21    | 2       | 11.8         |



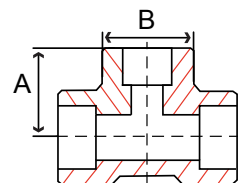
**Fig. S5034F & S5036F - 45° Elbow**

| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------------|
|            | 304 / L     | 316 / L    |         |         |         |              |
| 1/8        | S5034F 001  | S5036F 001 | 0.69    | 0.68    | 150     | 0.3          |
| 1/4        | S5034F 002  | S5036F 002 | 0.69    | 0.82    | 150     | 0.3          |
| 3/8        | S5034F 003  | S5036F 003 | 0.69    | 0.98    | 100     | 0.2          |
| 1/2        | S5034F 004  | S5036F 004 | 0.82    | 1.20    | 80      | 0.4          |
| 3/4        | S5034F 006  | S5036F 006 | 1.00    | 1.41    | 50      | 0.6          |
| 1          | S5034F 010  | S5036F 010 | 1.06    | 1.74    | 30      | 0.9          |
| 1-1/4      | S5034F 012  | S5036F 012 | 1.19    | 2.10    | 20      | 1.5          |
| 1-1/2      | S5034F 014  | S5036F 014 | 1.31    | 2.36    | 15      | 1.7          |
| 2          | S5034F 020  | S5036F 020 | 1.62    | 2.89    | 10      | 2.9          |
| 2-1/2      | S5034F 024  | S5036F 024 | 1.74    | 3.54    | 6       | 5.5          |
| 3          | S5034F 030  | S5036F 030 | 1.87    | 4.21    | 2       | 11.2         |



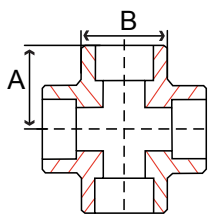
**Fig. S5034T & S5036T - Tee**

| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------------|
|            | 304 / L     | 316 / L    |         |         |         |              |
| 1/8        | S5034T 001  | S5036T 001 | 0.82    | 0.68    | 100     | 0.2          |
| 1/4        | S5034T 002  | S5036T 002 | 0.82    | 0.82    | 100     | 0.2          |
| 3/8        | S5034T 003  | S5036T 003 | 0.91    | 0.98    | 80      | 0.3          |
| 1/2        | S5034T 004  | S5036T 004 | 1.53    | 3.50    | 50      | 0.6          |
| 3/4        | S5034T 006  | S5036T 006 | 1.25    | 1.41    | 35      | 0.9          |
| 1          | S5034T 010  | S5036T 010 | 1.38    | 1.74    | 20      | 1.4          |
| 1-1/4      | S5034T 012  | S5036T 012 | 1.56    | 2.10    | 15      | 2.2          |
| 1-1/2      | S5034T 014  | S5036T 014 | 1.75    | 2.36    | 10      | 2.9          |
| 2          | S5034T 020  | S5036T 020 | 2.12    | 2.89    | 6       | 4.4          |
| 2-1/2      | S5034T 024  | S5036T 024 | 2.24    | 3.54    | 3       | 8.7          |
| 3          | S5034T 030  | S5036T 030 | 2.87    | 4.21    | 2       | 13.0         |



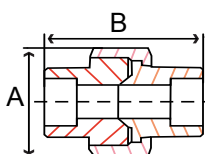
**Fig. S5034RT & S5036RT - Reducing Tee**

| Size<br>IN    | Part Number   |               | A<br>IN | B<br>IN | Packing | Weight<br>LB |
|---------------|---------------|---------------|---------|---------|---------|--------------|
|               | 304 / L       | 316 / L       |         |         |         |              |
| 1/2 X 1/4     | S5034RT004002 | S5036RT004002 | 1.53    | 3.50    | 20      | 1.8          |
| 1/2 X 3/8     | S5034RT004003 | S5036RT004003 | 1.53    | 3.50    | 15      | 2.9          |
| 3/4 X 1/2     | S5034RT006004 | S5036RT006004 | 1.25    | 1.41    | 15      | 2.9          |
| 1 X 1/2       | S5034RT010004 | S5036RT010004 | 1.38    | 1.74    | 10      | 3.6          |
| 1 X 3/4       | S5034RT010006 | S5036RT010006 | 1.38    | 1.74    | 10      | 3.6          |
| 1-1/4 X 3/4   | S5034RT012006 | S5036RT012006 | 1.56    | 2.10    | 10      | 3.6          |
| 1-1/4 X 1     | S5034RT012010 | S5036RT012010 | 1.56    | 2.10    | 5       | 6.8          |
| 1-1/2 X 1/2   | S5034RT014004 | S5036RT014004 | 1.75    | 2.36    | 5       | 6.8          |
| 1-1/2 X 3/4   | S5034RT014006 | S5036RT014006 | 1.75    | 2.36    | 5       | 6.8          |
| 1-1/2 X 1     | S5034RT014010 | S5036RT014010 | 1.75    | 2.36    | 5       | 6.8          |
| 1-1/2 X 1-1/4 | S5034RT014012 | S5036RT014012 | 1.75    | 2.36    | 4       | 7.0          |
| 2 X 1/2       | S5034RT020004 | S5036RT020004 | 2.12    | 2.89    | 4       | 7.0          |
| 2 X 3/4       | S5034RT020006 | S5036RT020006 | 2.12    | 2.89    | 4       | 7.0          |
| 2 X 1         | S5034RT020010 | S5036RT020010 | 2.12    | 2.89    | 4       | 7.0          |
| 2 X 1-1/4     | S5034RT020012 | S5036RT020012 | 2.12    | 2.89    | 4       | 7.0          |
| 2 X 1-1/2     | S5034RT020014 | S5036RT020014 | 2.12    | 2.89    |         |              |



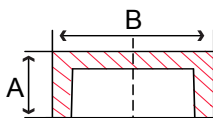
**Fig. S5034X & S5036X - Cross**

| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------------|
|            | 304 / L     | 316 / L    |         |         |         |              |
| 1/8        | S5034X 001  | S5036X 001 | 0.82    | 0.82    | 60      | 1.1          |
| 1/4        | S5034X 002  | S5036X 002 | 0.82    | 0.82    | 60      | 1.0          |
| 3/8        | S5034X 003  | S5036X 003 | 0.91    | 0.98    | 60      | 0.8          |
| 1/2        | S5034X 004  | S5036X 004 | 1.00    | 1.20    | 40      | 1.0          |
| 3/4        | S5034X 006  | S5036X 006 | 1.25    | 1.41    | 30      | 1.6          |
| 1          | S5034X 010  | S5036X 010 | 1.38    | 1.74    | 20      | 2.6          |
| 1-1/4      | S5034X 012  | S5036X 012 | 1.56    | 2.10    | 10      | 3.5          |
| 1-1/2      | S5034X 014  | S5036X 014 | 1.75    | 2.36    | 6       | 5.1          |
| 2          | S5034X 020  | S5036X 020 | 2.12    | 2.89    | 4       | 13.3         |



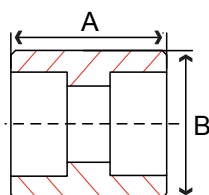
**Fig. S5034U & S5036U - Union**

| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------------|
|            | 304 / L     | 316 / L    |         |         |         |              |
| 1/8        | S5034U 001  | S5036U 001 | 1.66    | 1.48    | 70      | 0.6          |
| 1/4        | S5034U 002  | S5036U 002 | 1.66    | 1.48    | 70      | 0.6          |
| 3/8        | S5034U 003  | S5036U 003 | 1.83    | 1.66    | 70      | 0.5          |
| 1/2        | S5034U 004  | S5036U 004 | 2.00    | 1.93    | 50      | 1.0          |
| 3/4        | S5034U 006  | S5036U 006 | 2.31    | 2.38    | 35      | 1.0          |
| 1          | S5034U 010  | S5036U 010 | 2.42    | 2.78    | 20      | 1.6          |
| 1-1/4      | S5034U 012  | S5036U 012 | 2.86    | 3.35    | 14      | 2.4          |
| 1-1/2      | S5034U 014  | S5036U 014 | 3.00    | 3.70    | 10      | 3.5          |
| 2          | S5034U 020  | S5036U 020 | 3.50    | 4.42    | 5       | 4.7          |
| 2-1/2      | S5034U 024  | S5036U 024 | 4.25    | 5.22    | 3       | 7.7          |
| 3          | S5034U 030  | S5036U 030 | 4.42    | 6.15    | 2       | 11.3         |



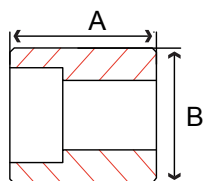
**Fig. S5034C & S5036C - Cap**

| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------------|
|            | 304 / L     | 316 / L    |         |         |         |              |
| 1/8        | S5034C 001  | S5036C 001 | 0.56    | 0.70    | 300     | 0.08         |
| 1/4        | S5034C 002  | S5036C 002 | 0.71    | 0.87    | 300     | 0.1          |
| 3/8        | S5034C 003  | S5036C 003 | 0.77    | 1.03    | 250     | 0.2          |
| 1/2        | S5034C 004  | S5036C 004 | 0.90    | 1.27    | 130     | 0.3          |
| 3/4        | S5034C 006  | S5036C 006 | 1.02    | 1.50    | 80      | 0.5          |
| 1          | S5034C 010  | S5036C 010 | 1.07    | 1.80    | 50      | 0.9          |
| 1-1/4      | S5034C 012  | S5036C 012 | 1.22    | 2.23    | 30      | 1.3          |
| 1-1/2      | S5034C 014  | S5036C 014 | 1.29    | 2.55    | 25      | 2.1          |
| 2          | S5034C 020  | S5036C 020 | 1.53    | 2.96    | 15      | 3.1          |
| 2-1/2      | S5034C 024  | S5036C 024 | 1.65    | 3.64    | 1       | 6.0          |
| 3          | S5034C 030  | S5036C 030 | 1.77    | 4.27    | 1       | 9.3          |
| 4          | S5034C 040  | S5036C 040 | 1.91    | 5.40    | 1       | 10.6         |



**Fig. S5034CP & S5036CP - Full Coupling**

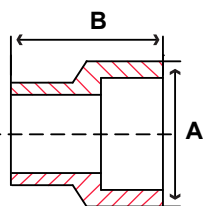
| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------------|
|            | 304 / L     | 316 / L    |         |         |         |              |
| 1/8        | S5034CP001  | S5036CP001 | 1.01    | 0.97    | 350     | 0.08         |
| 1/4        | S5034CP002  | S5036CP002 | 1.01    | 0.87    | 350     | 0.1          |
| 3/8        | S5034CP003  | S5036CP003 | 1.01    | 1.03    | 250     | 0.1          |
| 1/2        | S5034CP004  | S5036CP004 | 1.14    | 1.27    | 120     | 0.2          |
| 3/4        | S5034CP006  | S5036CP006 | 1.38    | 1.50    | 80      | 0.3          |
| 1          | S5034CP010  | S5036CP010 | 1.50    | 1.80    | 50      | 0.6          |
| 1-1/4      | S5034CP012  | S5036CP012 | 1.50    | 2.23    | 30      | 0.9          |
| 1-1/2      | S5034CP014  | S5036CP014 | 1.50    | 2.55    | 25      | 1.3          |
| 2          | S5034CP020  | S5036CP020 | 2.00    | 2.96    | 15      | 1.8          |
| 2-1/2      | S5034CP024  | S5036CP024 | 2.00    | 3.64    | 10      | 3.0          |
| 3          | S5034CP030  | S5036CP030 | 2.00    | 4.27    | 6       | 3.9          |
| 4          | S5034CP040  | S5036CP040 | 2.25    | 5.40    | 4       | 6.2          |



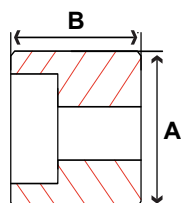
**Fig. S5034HC & S5036HC Half Coupling**

| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | Packing | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|--------------|
|            | 304 / L     | 316 / L    |         |         |         |              |
| 1/8        | S5034HC001  | S5036HC001 | 1.00    | 0.68    | 400     | 0.2          |
| 1/4        | S5034HC002  | S5036HC002 | 1.00    | 0.86    | 400     | 0.4          |
| 3/8        | S5034HC003  | S5036HC003 | 1.06    | 1.01    | 300     | 0.6          |
| 1/2        | S5034HC004  | S5036HC004 | 1.26    | 1.27    | 150     | 0.7          |
| 3/4        | S5034HC006  | S5036HC006 | 1.44    | 1.50    | 80      | 1.4          |
| 1          | S5034HC010  | S5036HC010 | 1.62    | 1.80    | 50      | 2.4          |
| 1-1/4      | S5034HC012  | S5036HC012 | 1.69    | 2.23    | 30      | 3.5          |
| 1-1/2      | S5034HC014  | S5036HC014 | 1.75    | 2.55    | 25      | 4.6          |
| 2          | S5034HC020  | S5036HC020 | 2.24    | 2.96    | 15      | 8.1          |
| 2-1/2      | S5034HC024  | S5036HC024 | 2.31    | 3.64    | 10      | 3.0          |
| 3          | S5034HC030  | S5036HC030 | 2.37    | 4.27    | 6       | 3.9          |
| 4          | S5034HC040  | S5034HC040 | 2.63    | 5.40    | 1       | 6.2          |

**Fig. S5034IN & S5036IN - Insert Fitting**

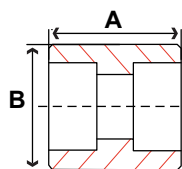


Type 1



Type 2

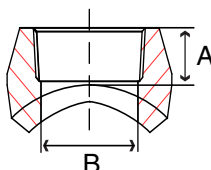
| Size<br>IN    | Part Number   |               | A<br>IN | B<br>IN | Type | Packing | Weight<br>LB |
|---------------|---------------|---------------|---------|---------|------|---------|--------------|
|               | 304/L         | 316/L         |         |         |      |         |              |
| 1/2 x 1/4     | S5034IN004002 | S5036IN004002 | 1.25    | 1.23    | 1    | 150     | 0.2          |
| 1/2 x 3/8     | S5034IN004003 | S5036IN004003 | 1.25    | 1.23    | 1    | 150     | 0.2          |
| 3/4 x 1/4     | S5034IN006002 | S5036IN006002 | 1.06    | 1.46    | 1    | 100     | 0.3          |
| 3/4 x 3/8     | S5034IN006003 | S5036IN006003 | 1.06    | 1.46    | 2    | 100     | 0.3          |
| 3/4 x 1/2     | S5034IN006004 | S5036IN006004 | 1.06    | 1.46    | 2    | 100     | 0.3          |
| 1 x 1/4       | S5034IN010002 | S5036IN010002 | 1.12    | 1.78    | 2    | 80      | 0.5          |
| 1 x 3/8       | S5034IN010003 | S5036IN010003 | 1.12    | 1.78    | 2    | 80      | 0.5          |
| 1 x 1/2       | S5034IN010004 | S5036IN010004 | 1.12    | 1.78    | 2    | 80      | 0.5          |
| 1 x 3/4       | S5034IN010006 | S5036IN010006 | 1.12    | 1.78    | 1    | 80      | 0.5          |
| 1-1/4 x 1/4   | S5034IN012002 | S5036IN012002 | 1.25    | 2.16    | 2    | 70      | 0.9          |
| 1-1/4 x 3/8   | S5034IN012003 | S5036IN012003 | 1.25    | 2.16    | 2    | 70      | 0.9          |
| 1-1/4 x 1/2   | S5034IN012004 | S5036IN012004 | 1.25    | 2.16    | 2    | 70      | 0.9          |
| 1-1/4 x 3/4   | S5034IN012006 | S5036IN012006 | 1.25    | 2.16    | 2    | 70      | 0.9          |
| 1-1/4 x 1     | S5034IN012010 | S5036IN012010 | 1.25    | 2.16    | 1    | 70      | 0.9          |
| 1-1/2 x 3/8   | S5034IN014003 | S5036IN014003 | 1.31    | 2.42    | 2    | 50      | 1.2          |
| 1-1/2 x 1/2   | S5034IN014004 | S5036IN014004 | 1.31    | 2.42    | 2    | 50      | 1.2          |
| 1-1/2 x 3/4   | S5034IN014006 | S5036IN014006 | 1.31    | 2.42    | 2    | 50      | 1.2          |
| 1-1/2 x 1     | S5034IN014010 | S5036IN014010 | 1.31    | 2.42    | 2    | 50      | 1.2          |
| 1-1/2 x 1-1/4 | S5034IN014012 | S5036IN014012 | 1.31    | 2.42    | 1    | 50      | 1.2          |
| 2 x 3/8       | S5034IN020003 | S5036IN020003 | 1.50    | 2.96    | 2    | 25      | 1.9          |
| 2 x 1/2       | S5034IN020004 | S5036IN020004 | 1.50    | 2.96    | 2    | 25      | 1.9          |
| 2 x 3/4       | S5034IN020006 | S5036IN020006 | 1.50    | 2.96    | 2    | 25      | 1.9          |
| 2 x 1         | S5034IN020010 | S5036IN020010 | 1.50    | 2.96    | 2    | 25      | 1.9          |
| 2 x 1-1/4     | S5034IN020012 | S5036IN020012 | 1.50    | 2.96    | 2    | 25      | 1.9          |
| 2 x 1-1/2     | S5034IN020014 | S5036IN020014 | 1.50    | 2.96    | 1    | 25      | 1.9          |
| 2-1/2 x 1/2   | S5034IN024004 | S5036IN024004 | 2.12    | 3.70    | 2    | 12      | 2.6          |
| 2-1/2 x 3/4   | S5034IN024006 | S5036IN024006 | 2.12    | 3.70    | 2    | 12      | 2.6          |
| 2-1/2 x 1     | S5034IN024010 | S5036IN024010 | 2.12    | 3.70    | 2    | 12      | 2.6          |
| 2-1/2 x 1-1/4 | S5034IN024012 | S5036IN024012 | 2.12    | 3.70    | 2    | 12      | 2.6          |
| 2-1/2 x 1-1/2 | S5034IN024014 | S5036IN024014 | 2.12    | 3.70    | 2    | 12      | 2.6          |
| 2-1/2 x 2     | S5034IN024020 | S5036IN024020 | 2.12    | 3.70    | 1    | 12      | 2.6          |
| 3 x 1         | S5034IN030010 | S5036IN030010 | 1.87    | 4.30    | 2    | 10      | 3.9          |
| 3 x 1-1/4     | S5034IN030012 | S5036IN030012 | 1.87    | 4.30    | 2    | 10      | 3.9          |
| 3 x 1-1/2     | S5034IN030014 | S5036IN030014 | 1.87    | 4.30    | 2    | 10      | 3.9          |
| 3 x 2         | S5034IN030020 | S5036IN030020 | 1.87    | 4.30    | 2    | 10      | 3.9          |
| 3 x 2-1/2     | S5034IN030024 | S5036IN030024 | 1.87    | 4.30    | 1    | 10      | 3.9          |



**Fig. S5034RC & S5036RC - Reducing Coupling**

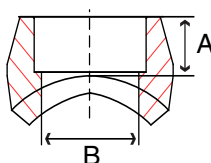
| Size<br>IN    | Part Number   |               | A<br>IN | B<br>IN | Packing | Weight<br>LB |
|---------------|---------------|---------------|---------|---------|---------|--------------|
|               | 304/L         | 316/L         |         |         |         |              |
| 1/2 X 1/8     | S5034RC004001 | S5036RC004001 | 1.14    | 1.27    | 120     | 0.2          |
| 1/2 X 1/4     | S5034RC004002 | S5036RC004002 | 1.14    | 1.27    | 120     | 0.2          |
| 1/2 X 3/8     | S5034RC004003 | S5036RC004003 | 1.14    | 1.27    | 120     | 0.2          |
| 3/4 X 1/4     | S5034RC006002 | S5036RC006002 | 1.38    | 1.50    | 80      | 0.4          |
| 3/4 X 3/8     | S5034RC006003 | S5036RC006003 | 1.38    | 1.50    | 80      | 0.4          |
| 3/4 X 1/2     | S5034RC006004 | S5036RC006004 | 1.38    | 1.50    | 80      | 0.4          |
| 1 X 1/4       | S5034RC010002 | S5036RC010002 | 1.50    | 1.80    | 50      | 0.5          |
| 1 X 3/8       | S5034RC010003 | S5036RC010003 | 1.50    | 1.80    | 50      | 0.5          |
| 1 X 1/2       | S5034RC010004 | S5036RC010004 | 1.50    | 1.80    | 50      | 0.5          |
| 1 X 3/4       | S5034RC010006 | S5036RC010006 | 1.50    | 1.80    | 50      | 0.5          |
| 1-1/4 X 1/2   | S5034RC012004 | S5036RC012004 | 1.50    | 2.23    | 30      | 1.1          |
| 1-1/4 X 3/4   | S5034RC012006 | S5036RC012006 | 1.50    | 2.23    | 30      | 1.1          |
| 1-1/4 X 1     | S5034RC012010 | S5036RC012010 | 1.50    | 2.23    | 30      | 1.1          |
| 1-1/2 X 3/8   | S5034RC014003 | S5036RC014003 | 1.50    | 2.55    | 25      | 1.3          |
| 1-1/2 X 1/2   | S5034RC014004 | S5036RC014004 | 1.50    | 2.55    | 25      | 1.3          |
| 1-1/2 X 3/4   | S5034RC014006 | S5036RC014006 | 1.50    | 2.55    | 25      | 1.3          |
| 1-1/2 X 1     | S5034RC014010 | S5036RC014010 | 1.50    | 2.55    | 25      | 1.3          |
| 1-1/2 X 1-1/4 | S5034RC014012 | S5036RC014012 | 1.50    | 2.55    | 25      | 1.3          |
| 2 X 1/2       | S5034RC020004 | S5036RC020004 | 2.00    | 2.96    | 15      | 2.6          |
| 2 X 3/4       | S5034RC020006 | S5036RC020006 | 2.00    | 2.96    | 15      | 2.3          |
| 2 X 1         | S5034RC020010 | S5036RC020010 | 2.00    | 2.96    | 15      | 2.1          |
| 2 X 1-1/4     | S5034RC020012 | S5036RC020012 | 2.00    | 2.96    | 15      | 2.1          |
| 2 X 1-1/2     | S5034RC020014 | S5036RC020014 | 2.00    | 2.96    | 15      | 2.6          |
| 2-1/2 X 2     | S5034RC024020 | S5036RC024020 | 2.00    | 3.64    | 6       | 3.1          |
| 3 X 1-1/2     | S5034RC030014 | S5036RC030014 | 2.00    | 4.27    | 6       | 4.1          |
| 3 X 2         | S5034RC030020 | S5036RC030020 | 2.00    | 4.27    | 6       | 4.1          |

**Fig. S4534T0 & S4536T0 3000# Threaded Outlet**



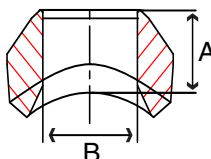
| Size<br>IN | Run<br>IN    | Part Number |            | A<br>IN | B<br>IN | Weight<br>LB |
|------------|--------------|-------------|------------|---------|---------|--------------|
|            |              | 304 / L     | 316 / L    |         |         |              |
| 1/4        | 3/8" - 36"   | S4534TO002  | S4536TO002 | 0.75    | 0.63    | 0.1          |
| 3/8        | 1/2" - 36"   | S4534TO003  | S4536TO003 | 0.75    | 0.63    | 0.2          |
| 1/2        | 3/4" - 36"   | S4534TO004  | S4536TO004 | 0.81    | 0.75    | 0.3          |
| 3/4        | 1" - 36"     | S4534TO006  | S4536TO006 | 1.00    | 0.94    | 0.5          |
| 1          | 2" - 36"     | S4534TO010  | S4536TO010 | 1.05    | 1.19    | 0.8          |
| 1-1/4      | 3-1/2" - 36" | S4534TO012  | S4536TO012 | 1.31    | 1.43    | 1.0          |
| 1-1/2      | 5" - 36"     | S4534TO014  | S4536TO014 | 1.31    | 1.75    | 1.5          |
| 2          | 8" - 36"     | S4534TO020  | S4536TO020 | 1.38    | 2.00    | 2.6          |
| 2-1/2      | 10" - 36"    | S4534TO024  | S4536TO024 | 1.50    | 2.56    | 3.7          |
| 3          | 8" - 36"     | S4534TO030  | S4536TO030 | 1.81    | 3.00    | 13.1         |

**Fig. S4534S0 & S4536S0 3000# Socket Weld Outlet**



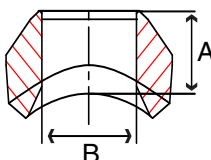
| Size<br>IN | Run<br>IN    | Part Number |            | A<br>IN | B<br>IN | Weight<br>LB |
|------------|--------------|-------------|------------|---------|---------|--------------|
|            |              | 304 / L     | 316 / L    |         |         |              |
| 1/4        | 3/8" - 36"   | S4534SO002  | S4536SO002 | 0.81    | 0.49    | 0.1          |
| 3/8        | 1/2" - 36"   | S4534SO003  | S4536SO003 | 1.00    | 0.62    | 0.2          |
| 1/2        | 3/4" - 36"   | S4534SO004  | S4536SO004 | 1.06    | 0.82    | 0.3          |
| 3/4        | 1" - 36"     | S4534SO006  | S4536SO006 | 1.31    | 1.04    | 0.5          |
| 1          | 2" - 36"     | S4534SO010  | S4536SO010 | 1.31    | 1.38    | 0.8          |
| 1-1/4      | 3-1/2" - 36" | S4534SO012  | S4536SO012 | 1.37    | 1.61    | 1.0          |
| 1-1/2      | 5" - 36"     | S4534SO014  | S4536SO014 | 1.50    | 2.06    | 1.7          |
| 2          | 8" - 36"     | S4534SO020  | S4536SO020 | 1.81    | 2.46    | 2.9          |
| 2-1/2      | 10" - 36"    | S4534SO024  | S4536SO024 | 2.00    | 3.06    | 4.2          |
| 3          | 8" - 36"     | S4534SO030  | S4536SO030 | 2.50    | 4.75    | 13.1         |

**Fig. S4534W04 & S4536W04 Sch 40 3000# Butt Weld Outlet**



| Size<br>IN | Run<br>IN    | Part Number |             | A<br>IN | B<br>IN | Weight<br>LB |
|------------|--------------|-------------|-------------|---------|---------|--------------|
|            |              | 304 / L     | 316 / L     |         |         |              |
| 1/4        | 3/8" - 36"   | S4534WO4002 | S4536WO4002 | 0.62    | 0.36    | 0.8          |
| 3/8        | 1/2" - 36"   | S4534WO4003 | S4536WO4003 | 0.75    | 0.49    | 0.1          |
| 1/2        | 3/4" - 36"   | S4534WO4004 | S4536WO4004 | 0.75    | 0.62    | 0.1          |
| 3/4        | 1" - 36"     | S4534WO4006 | S4536WO4006 | 0.87    | 0.82    | 0.2          |
| 1          | 2" - 36"     | S4534WO4010 | S4536WO4010 | 1.06    | 1.04    | 0.5          |
| 1-1/4      | 3-1/2" - 36" | S4534WO4012 | S4536WO4012 | 1.25    | 1.38    | 0.8          |
| 1-1/2      | 5" - 36"     | S4534WO4014 | S4536WO4014 | 1.31    | 1.61    | 1.0          |
| 2          | 8" - 36"     | S4534WO4020 | S4536WO4020 | 1.50    | 2.06    | 1.7          |
| 2-1/2      | 10" - 36"    | S4534WO4024 | S4536WO4024 | 1.62    | 2.46    | 2.5          |
| 3          | 8" - 36"     | S4534WO4030 | S4536WO4030 | 1.75    | 3.06    | 3.8          |

**Fig. S4534W08 & S4536W08 Sch 80 3000# Butt Weld Outlet**



| Size<br>IN | Run<br>IN    | Part Number |             | A<br>IN | B<br>IN | Weight<br>LB |
|------------|--------------|-------------|-------------|---------|---------|--------------|
|            |              | 304 / L     | 316 / L     |         |         |              |
| 1/4        | 3/8" - 36"   | S4534WO8002 | S4536WO8002 | 0.62    | 0.36    | 0.8          |
| 3/8        | 1/2" - 36"   | S4534WO8003 | S4536WO8003 | 0.75    | 0.49    | 0.1          |
| 1/2        | 3/4" - 36"   | S4534WO8004 | S4536WO8004 | 0.75    | 0.62    | 0.1          |
| 3/4        | 1" - 36"     | S4534WO8006 | S4536WO8006 | 0.87    | 0.82    | 0.2          |
| 1          | 2" - 36"     | S4534WO8010 | S4536WO8010 | 1.06    | 1.04    | 0.5          |
| 1-1/4      | 3-1/2" - 36" | S4534WO8012 | S4536WO8012 | 1.25    | 1.38    | 0.8          |
| 1-1/2      | 5" - 36"     | S4534WO8014 | S4536WO8014 | 1.31    | 1.61    | 1.0          |
| 2          | 8" - 36"     | S4534WO8020 | S4536WO8020 | 1.50    | 2.06    | 1.7          |
| 2-1/2      | 10" - 36"    | S4534WO8024 | S4536WO8024 | 1.62    | 2.46    | 2.5          |
| 3          | 8" - 36"     | S4534WO8030 | S4536WO8030 | 1.75    | 3.06    | 3.8          |



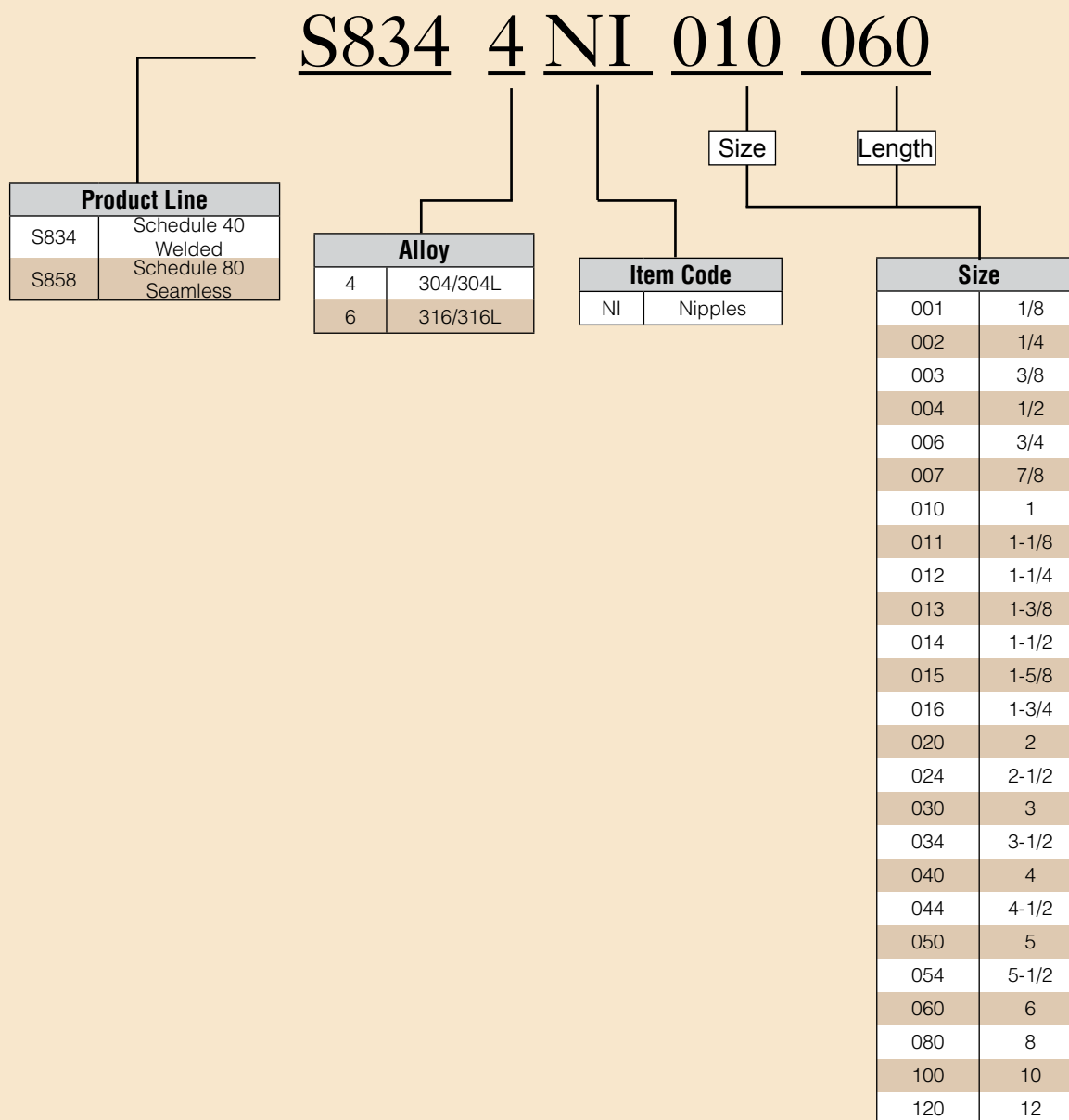
# SMITH-COOPER<sup>®</sup>

## INTERNATIONAL

# Nipples

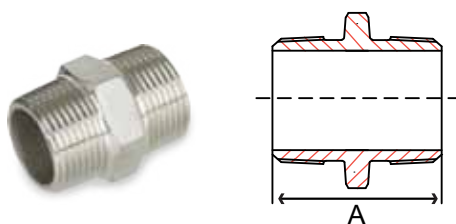
## Specifications

- Stainless steel nipple material conforms to ASTM A312
- Stainless steel nipple dimensions conform to ASTM A733 and ASME B36.19
- NPT threads on stainless nipples conform to ASME B1.20.1
- Manufacturing facility is ISO 9001:2008
- Hex and king combo nipples cast in conformance to ASTM A351



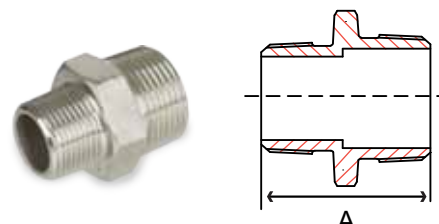
**Fig. S834 - Sch 40 Welded 304/304L & 316/316L Nipple Weights**

| Size<br>IN | Close<br>Length | Weight per Each (LB)   |        |        |        |        |        |        |        |        |        |        |        |        |        |
|------------|-----------------|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|            |                 | Packing (Inner/Master) |        |        |        |        |        |        |        |        |        |        |        |        |        |
|            |                 | Close                  | 1-1/2  | 2      | 2-1/2  | 3      | 3-1/2  | 4      | 4-1/2  | 5      | 5-1/2  | 6      | 8      | 10     | 12     |
| 1/8        | 3/4             | 0.01                   | 0.03   | 0.04   | 0.05   | 0.06   | 0.07   | 0.08   | 0.09   | 0.11   | 0.11   | 0.12   | 0.16   | 0.21   | 0.25   |
|            |                 | 25/200                 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/100 | 25/100 | 25/100 | 25/100 |
| 1/4        | 7/8             | 0.03                   | 0.04   | 0.06   | 0.08   | 0.09   | 0.10   | 0.13   | 0.14   | 0.15   | 0.18   | 0.20   | 0.27   | 0.35   | 0.42   |
|            |                 | 25/200                 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/100 | 25/100 | 25/100 |
| 3/8        | 1               | 0.03                   | 0.06   | 0.08   | 0.10   | 0.12   | 0.15   | 0.18   | 0.20   | 0.22   | 0.23   | 0.26   | 0.35   | 0.48   | 0.52   |
|            |                 | 25/200                 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/100 | 25/100 | 25/100 | 25/50  | 25/50  | 25/50  |
| 1/2        | 1-1/8           | 0.06                   | 0.08   | 0.12   | 0.15   | 0.18   | 0.22   | 0.25   | 0.29   | 0.32   | 0.36   | 0.39   | 0.52   | 0.66   | 0.80   |
|            |                 | 25/200                 | 25/200 | 25/200 | 25/100 | 25/100 | 25/100 | 25/100 | 25/100 | 25/100 | 25/100 | 25/100 | 25/50  | 25/50  | 25/50  |
| 3/4        | 1-3/8           | 0.10                   | 0.11   | 0.16   | 0.20   | 0.24   | 0.29   | 0.34   | 0.38   | 0.43   | 0.47   | 0.52   | 0.73   | 0.91   | 1.09   |
|            |                 | 25/200                 | 25/200 | 25/100 | 25/100 | 25/100 | 25/100 | 25/50  | 25/50  | 25/50  | 25/50  | 25/50  | -/25   | -/25   | -/25   |
| 1          | 1-1/2           | 0.15                   |        | 0.22   | 0.25   | 0.36   | 0.40   | 0.47   | 0.53   | 0.62   | 0.66   | 0.77   | 1.01   | 1.28   | 1.55   |
|            |                 | 25/100                 |        | 25/100 | 25/50  | 25/50  | 25/50  | 25/50  | 25/50  | -/25   | -/25   | -/25   | -/25   | -/25   | -/25   |
| 1-1/4      | 1-5/8           | 0.23                   |        | 0.32   | 0.40   | 0.49   | 0.60   | 0.62   | 0.72   | 0.81   | 0.94   | 0.97   | 1.39   | 2.01   | 2.30   |
|            |                 | 25/50                  |        | 25/50  | 25/50  | 25/50  | -/25   | -/25   | -/25   | -/25   | -/25   | -/25   | -/15   | -/15   | -/15   |
| 1-1/2      | 1-3/4           | 0.30                   |        | 0.32   | 0.47   | 0.56   | 0.68   | 0.80   | 0.91   | 1.00   | 1.10   | 1.27   | 1.65   | 2.07   | 2.43   |
|            |                 | 25/100                 |        | 25/100 | -/25   | -/25   | -/25   | -/25   | -/25   | -/20   | -/20   | -/20   | -/12   | -/7    | -/7    |
| 2          | 2               | 0.40                   |        |        | 0.62   | 0.71   | 0.93   | 1.07   | 1.23   | 1.37   | 1.55   | 1.67   | 2.20   | 2.90   | 3.46   |
|            |                 | -/25                   |        |        | -/25   | -/25   | -/12   | -/12   | -/12   | -/12   | -/12   | -/12   | -/9    | -/7    | -/7    |
| 2-1/2      | 2-1/2           | 0.73                   |        |        |        | 0.95   | 1.35   | 1.45   | 1.80   | 2.04   | 2.16   | 2.38   | 3.15   | 4.05   | 5.10   |
|            |                 | -/18                   |        |        |        | -/18   | -/13   | -/13   | -/12   | -/9    | -/9    | -/9    | -/6    | -/4    | -/4    |
| 3          | 2-5/8           | 1.19                   |        |        |        | 1.49   | 1.68   | 2.06   | 2.38   | 2.67   | 2.95   | 3.17   | 4.50   | 5.95   | 8.16   |
|            |                 | -/12                   |        |        |        | -/12   | -/9    | -/9    | -/8    | -/6    | -/6    | -/6    | -/4    | -/3    | -/3    |
| 4          | 2-7/8           | 1.94                   |        |        |        |        |        | 2.99   | 3.63   | 3.68   | 4.53   | 4.44   | 6.70   | 7.55   | 9.25   |
|            |                 | -/7                    |        |        |        |        |        | -/6    | -/5    | -/4    | -/4    | -/4    | -/2    | -/2    | -/2    |
| 6          | 3-1/8           | 4.69                   |        |        |        |        |        | 6.32   |        |        |        | 9.01   |        |        | 18.02  |
|            |                 | -/1                    |        |        |        |        |        | -/1    |        |        |        | -/1    |        |        | -/1    |



**Fig. S8346HN - 316 Hex Nipple**

| Diameter<br>IN | Part Number | A<br>IN | Weight<br>LB |
|----------------|-------------|---------|--------------|
| 1/8            | S8346HN001  | 1.30    | 0.02         |
| 1/4            | S8346HN002  | 1.30    | 0.04         |
| 3/8            | S8346HN003  | 1.38    | 0.08         |
| 1/2            | S8346HN004  | 1.67    | 0.1          |
| 3/4            | S8346HN006  | 1.81    | 0.1          |
| 1              | S8346HN010  | 1.97    | 0.3          |
| 1 1/4          | S8346HN012  | 2.28    | 0.4          |
| 1 1/2          | S8346HN014  | 2.36    | 0.6          |
| 2              | S8346HN020  | 2.70    | 0.9          |

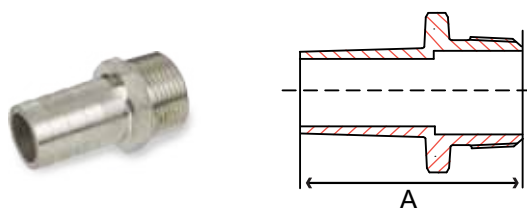


**Fig. S8346RH - 316 Reducing Hex Nipple**

| Diameter<br>IN | Part Number   | A<br>IN | Weight<br>LB |
|----------------|---------------|---------|--------------|
| 1/4 x 1/8      | S8346RH002001 | 1.30    | 0.04         |
| 3/8 x 1/4      | S8346RH003002 | 1.38    | 0.08         |
| 1/2 x 3/8      | S8346RH004003 | 1.67    | 0.1          |
| 3/4 x 1/2      | S8346RH006004 | 1.81    | 0.1          |
| 1 x 3/4        | S8346RH010006 | 1.97    | 0.3          |
| 1-1/4 x 1      | S8346RH012010 | 2.28    | 0.4          |
| 1-1/2 x 1-1/4  | S8346RH014012 | 2.36    | 0.6          |
| 2 x 1-1/2      | S8346RH020014 | 2.70    | 0.9          |

**Fig. S858 - Sch 80 Seamless 304/304L & 316/316L Weights**

| Size<br>IN | Close<br>Length | Weight per Each (LB)   |        |        |        |        |        |        |        |        |        |        |        |        |        |
|------------|-----------------|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|            |                 | Packing (Inner/Master) |        |        |        |        |        |        |        |        |        |        |        |        |        |
|            |                 | Close                  | 1-1/2  | 2      | 2-1/2  | 3      | 3-1/2  | 4      | 4-1/2  | 5      | 5-1/2  | 6      | 8      | 10     | 12     |
| 1/8        | 3/4             | 0.02                   | 0.04   | 0.05   | 0.06   | 0.07   | 0.08   | 0.09   | 0.11   | 0.12   | 0.13   | 0.15   | 0.20   | 0.25   | 0.30   |
|            |                 | 25/200                 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/100 | 25/100 | 25/100 | 25/100 |
| 1/4        | 7/8             | 0.03                   | 0.06   | 0.08   | 0.10   | 0.13   | 0.15   | 0.17   | 0.27   | 0.21   | 0.23   | 0.26   | 0.35   | 0.45   | 0.55   |
|            |                 | 25/200                 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/100 | 25/100 | 25/100 |
| 3/8        | 1               | 0.05                   | 0.08   | 0.11   | 0.15   | 0.17   | 0.20   | 0.24   | 0.27   | 0.30   | 0.34   | 0.37   | 0.53   | 0.67   | 0.82   |
|            |                 | 25/200                 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/200 | 25/100 | 25/100 | 25/100 | 25/50  | 25/50  | 25/50  |
| 1/2        | 1-1/8           | 0.08                   | 0.11   | 0.16   | 0.20   | 0.24   | 0.29   | 0.34   | 0.54   | 0.42   | 0.47   | 0.52   | 0.35   | 0.87   | 1.06   |
|            |                 | 25/200                 | 25/200 | 25/200 | 25/100 | 25/100 | 25/100 | 25/100 | 25/100 | 25/100 | 25/100 | 25/100 | 25/50  | 25/50  | 25/50  |
| 3/4        | 1-3/8           | 0.14                   | 0.15   | 0.22   | 0.27   | 0.33   | 0.40   | 0.46   | 0.73   | 0.55   | 0.62   | 0.69   | 0.94   | 1.20   | 1.38   |
|            |                 | 25/200                 | 25/200 | 25/100 | 25/100 | 25/100 | 25/100 | 25/50  | 25/50  | 25/50  | 25/50  | 25/50  | -/25   | -/25   | -/25   |
| 1          | 1-1/2           | 0.22                   |        | 0.31   | 0.39   | 0.46   | 0.56   | 0.65   | 1.04   | 0.83   | 0.91   | 1.00   | 1.33   | 1.67   | 2.00   |
|            |                 | 25/100                 |        | 25/100 | 25/50  | 25/50  | 25/50  | 25/50  | 25/50  | -/25   | -/25   | -/25   | -/25   | -/25   | -/25   |
| 1-1/4      | 1-5/8           | 0.34                   |        | 0.40   | 0.55   | 0.67   | 0.79   | 0.90   | 1.03   | 1.15   | 1.28   | 1.40   | 1.88   | 2.37   | 2.85   |
|            |                 | 25/50                  |        | 25/50  | 25/50  | 25/50  | -/25   | -/25   | -/25   | -/25   | -/25   | -/25   | -/15   | -/15   | -/15   |
| 1-1/2      | 1-3/4           | 0.47                   |        | 0.54   | 0.71   | 0.87   | 1.04   | 1.21   | 1.37   | 1.53   | 1.69   | 1.85   | 1.62   | 3.17   | 3.80   |
|            |                 | 25/100                 |        | 25/100 | -/25   | -/25   | -/25   | -/25   | -/25   | - /20  | - /20  | - /20  | - /12  | - /7   | - /7   |
| 2          | 2               | 0.70                   |        |        | 0.92   | 1.13   | 1.35   | 1.50   | 2.42   | 1.95   | 2.10   | 2.25   | 3.06   | 3.98   | 4.77   |
|            |                 | -/25                   |        |        | -/25   | - /25  | - /12  | - /12  | - /12  | - /12  | - /12  | - /12  | - /9   | - /7   | - /7   |
| 3          | 2-5/8           | 1.75                   |        |        |        |        |        | 2.67   |        |        |        | 4.00   | 6.49   | 8.11   | 9.74   |
|            |                 | -/12                   |        |        |        |        |        | - /9   |        |        |        | - /6   | - /4   | - /3   | - /3   |



**Fig. S8346KN - 316 King Nipple Hose x Threaded**

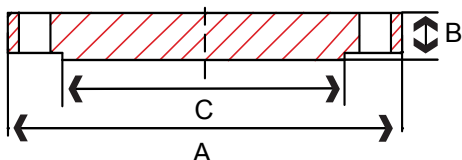
| Diameter<br>IN | Part Number | A<br>IN | Weight<br>LB |
|----------------|-------------|---------|--------------|
| 1/8            | S8346KN001  | 1.57    | 0.02         |
| 1/4            | S8346KN002  | 1.77    | 0.05         |
| 3/8            | S8346KN003  | 1.97    | 0.07         |
| 1/2            | S8346KN004  | 2.36    | 0.1          |
| 3/4            | S8346KN006  | 2.56    | 0.2          |
| 1              | S8346KN010  | 2.95    | 0.3          |
| 1 1/4          | S8346KN012  | 3.35    | 0.5          |
| 1 1/2          | S8346KN014  | 3.54    | 0.9          |
| 2              | S8346KN020  | 3.94    | 1.3          |
| 2-1/2          | S8346KN024  | 4.72    | 1.7          |
| 3              | S8346KN030  | 5.12    | 2.0          |
| 4              | S8346KN040  | 5.51    | 4.6          |



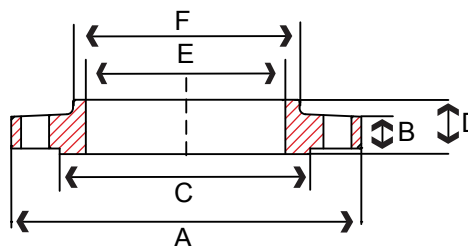
# Flanges

## Specifications

- Forged stainless steel material conforms to ASME A182
- Forged stainless steel flange dimensions conform to ASME B16.5
- NPT threads conform to ASME B1.20.1
- Manufacturing facility is ISO 9001:2008
- Plate stainless steel flange dimensions conform to ASME B16.5 Class 150
- Plate stainless steel flange made from ASTM A240 plate or cast in conformance with ASTM A351



Blind Flange



Slip-On Flange

## 150# – Blind Raised Face Flange

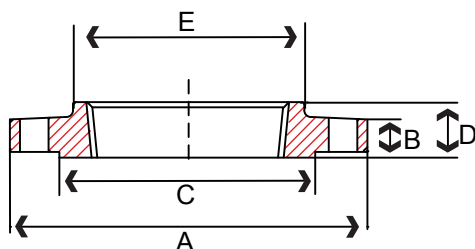
| Size<br>IN | Part Number |             | A<br>IN | B<br>IN | C<br>IN | Bolt Circle<br>IN | Bolt Hole<br>Diameter<br>IN | Number of<br>Bolt Holes | Weight<br>lbs |
|------------|-------------|-------------|---------|---------|---------|-------------------|-----------------------------|-------------------------|---------------|
|            | 304/304L    | 316/316L    |         |         |         |                   |                             |                         |               |
| 1/2        | S1014BL004N | S1016BL004N | 3.50    | 0.44    | 1.38    | 2.38              | 0.62                        | 4                       | 1             |
| 3/4        | S1014BL006N | S1016BL006N | 3.88    | 0.50    | 1.69    | 2.75              | 0.62                        | 4                       | 2             |
| 1          | S1014BL010N | S1016BL010N | 4.25    | 0.56    | 2.00    | 3.12              | 0.62                        | 4                       | 2             |
| 1-1/4      | S1014BL012N | S1016BL012N | 4.62    | 0.62    | 2.50    | 3.50              | 0.62                        | 4                       | 3             |
| 1-1/2      | S1014BL014N | S1016BL014N | 5.00    | 0.69    | 2.88    | 3.88              | 0.62                        | 4                       | 4             |
| 2          | S1014BL020N | S1016BL020N | 6.00    | 0.75    | 3.62    | 4.75              | 0.75                        | 4                       | 5             |
| 2-1/2      | S1014BL024N | S1016BL024N | 7.00    | 0.88    | 4.12    | 5.50              | 0.75                        | 4                       | 7             |
| 3          | S1014BL030N | S1016BL030N | 7.50    | 0.94    | 5.00    | 6.00              | 0.75                        | 4                       | 9             |
| 4          | S1014BL040N | S1016BL040N | 9.00    | 0.94    | 6.19    | 7.50              | 0.75                        | 8                       | 17            |
| 5          | S1014BL050N | S1016BL050N | 10.00   | 0.94    | 7.31    | 8.50              | 0.88                        | 8                       | 20            |
| 6          | S1014BL060N | S1016BL060N | 11.00   | 1.00    | 8.50    | 9.50              | 0.88                        | 8                       | 26            |
| 8          | S1014BL080N | S1016BL080N | 13.50   | 1.12    | 10.62   | 11.75             | 0.88                        | 8                       | 45            |
| 10         | S1014BL100N | S1016BL100N | 16.00   | 1.19    | 12.75   | 14.25             | 1.00                        | 12                      | 70            |
| 12         | S1014BL120N | S1016BL120N | 19.00   | 1.25    | 15.00   | 17.00             | 1.00                        | 12                      | 110           |

Raised Face 1/16"

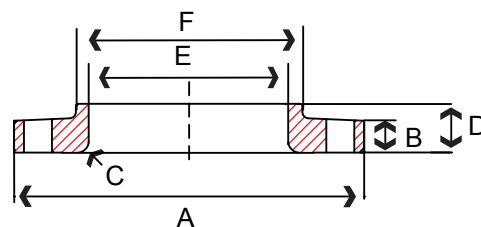
## 150# – Slip-On Raised Face Flange

| Size<br>IN | Part Number |             | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN | Bolt Circle<br>IN | Bolt Hole<br>Diameter<br>IN | Number of<br>Bolt Holes | Weight<br>lbs |
|------------|-------------|-------------|---------|---------|---------|---------|---------|---------|-------------------|-----------------------------|-------------------------|---------------|
|            | 304/304L    | 316/316L    |         |         |         |         |         |         |                   |                             |                         |               |
| 1/2        | S1014SO004N | S1016SO004N | 3.50    | 0.44    | 1.38    | 0.88    | 0.62    | 1.19    | 2.38              | 0.62                        | 4                       | 1             |
| 3/4        | S1014SO006N | S1016SO006N | 3.88    | 0.50    | 1.69    | 1.09    | 0.62    | 1.50    | 2.75              | 0.62                        | 4                       | 2             |
| 1          | S1014SO010N | S1016SO010N | 4.25    | 0.56    | 2.00    | 1.36    | 0.69    | 1.94    | 3.12              | 0.62                        | 4                       | 2             |
| 1-1/4      | S1014SO012N | S1016SO012N | 4.62    | 0.62    | 2.50    | 1.70    | 0.81    | 2.31    | 3.50              | 0.62                        | 4                       | 3             |
| 1-1/2      | S1014SO014N | S1016SO014N | 5.00    | 0.69    | 2.88    | 1.95    | 0.88    | 2.56    | 3.88              | 0.62                        | 4                       | 3             |
| 2          | S1014SO020N | S1016SO020N | 6.00    | 0.75    | 3.62    | 2.44    | 1.00    | 3.06    | 4.75              | 0.75                        | 4                       | 5             |
| 2-1/2      | S1014SO024N | S1016SO024N | 7.00    | 0.88    | 4.12    | 2.94    | 1.12    | 3.56    | 5.50              | 0.75                        | 4                       | 7             |
| 3          | S1014SO030N | S1016SO030N | 7.50    | 0.94    | 5.00    | 3.57    | 1.19    | 4.25    | 6.00              | 0.75                        | 4                       | 8             |
| 4          | S1014SO040N | S1016SO040N | 9.00    | 0.94    | 6.19    | 4.60    | 1.31    | 5.31    | 7.50              | 0.75                        | 8                       | 13            |
| 5          | S1014SO050N | S1016SO050N | 10.00   | 0.94    | 7.31    | 5.66    | 1.44    | 6.44    | 8.50              | 0.88                        | 8                       | 15            |
| 6          | S1014SO060N | S1016SO060N | 11.00   | 1.00    | 8.50    | 6.72    | 1.56    | 7.56    | 9.50              | 0.88                        | 8                       | 19            |
| 8          | S1014SO080N | S1016SO080N | 13.50   | 1.12    | 10.62   | 8.72    | 1.75    | 9.69    | 11.75             | 0.88                        | 8                       | 30            |
| 10         | S1014SO100N | S1016SO100N | 16.00   | 1.19    | 12.75   | 10.88   | 1.94    | 12.00   | 14.25             | 1.00                        | 12                      | 43            |
| 12         | S1014SO120N | S1016SO120N | 19.00   | 1.25    | 15.00   | 12.88   | 2.19    | 14.38   | 17.00             | 1.00                        | 12                      | 64            |

Raised Face 1/16"



Threaded Flange



Lap Joint Flange

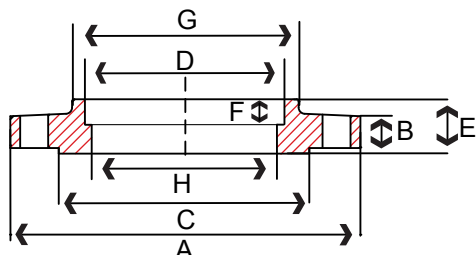
## 150# – Threaded Raised Face Flange

| Size<br>IN | Part Number |             | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | Bolt Circle<br>IN | Bolt Hole<br>Diameter<br>IN | Number of<br>Bolt Holes | Weight<br>lbs |
|------------|-------------|-------------|---------|---------|---------|---------|---------|-------------------|-----------------------------|-------------------------|---------------|
|            | 304/304L    | 316/316L    |         |         |         |         |         |                   |                             |                         |               |
| 1/2        | S1014TH004N | S1016TH004N | 3.50    | 0.44    | 1.38    | 0.62    | 1.19    | 2.38              | 0.62                        | 4                       | 1             |
| 3/4        | S1014TH006N | S1016TH006N | 3.88    | 0.50    | 1.69    | 0.62    | 1.50    | 2.75              | 0.62                        | 4                       | 2             |
| 1          | S1014TH010N | S1016TH010N | 4.25    | 0.56    | 2.00    | 0.69    | 1.94    | 3.12              | 0.62                        | 4                       | 2             |
| 1-1/4      | S1014TH012N | S1016TH012N | 4.62    | 0.62    | 2.50    | 0.81    | 2.31    | 3.50              | 0.62                        | 4                       | 3             |
| 1-1/2      | S1014TH014N | S1016TH014N | 5.00    | 0.69    | 2.88    | 0.88    | 2.56    | 3.88              | 0.62                        | 4                       | 3             |
| 2          | S1014TH020N | S1016TH020N | 6.00    | 0.75    | 3.62    | 1.00    | 3.06    | 4.75              | 0.75                        | 4                       | 5             |
| 2-1/2      | S1014TH024N | S1016TH024N | 7.00    | 0.88    | 4.12    | 1.12    | 3.56    | 5.50              | 0.75                        | 4                       | 7             |
| 3          | S1014TH030N | S1016TH030N | 7.50    | 0.94    | 5.00    | 1.19    | 4.25    | 6.00              | 0.75                        | 4                       | 8             |
| 4          | S1014TH040N | S1016TH040N | 9.00    | 0.94    | 6.19    | 1.31    | 5.31    | 7.50              | 0.75                        | 8                       | 13            |
| 5          | S1014TH050N | S1016TH050N | 10.00   | 0.94    | 7.31    | 1.44    | 6.44    | 8.50              | 0.88                        | 8                       | 15            |
| 6          | S1014TH060N | S1016TH060N | 11.00   | 1.00    | 8.50    | 1.56    | 7.56    | 9.50              | 0.88                        | 8                       | 19            |

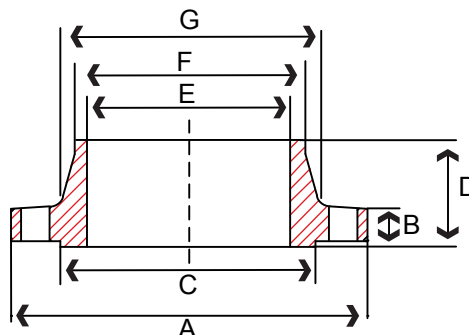
Raised Face 1/16"

## 150# – Lap Joint Flange

| Size<br>IN | Part Number |             | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN | Bolt Circle<br>IN | Bolt Hole<br>Diameter<br>IN | Number of<br>Bolt Holes | Weight<br>lbs |
|------------|-------------|-------------|---------|---------|---------|---------|---------|---------|-------------------|-----------------------------|-------------------------|---------------|
|            | 304/304L    | 316/316L    |         |         |         |         |         |         |                   |                             |                         |               |
| 1/2        | S1014LJ004N | S1016LJ004N | 3.50    | 0.44    | 0.12    | 0.62    | 0.90    | 1.19    | 2.38              | 0.62                        | 4                       | 1             |
| 3/4        | S1014LJ006N | S1016LJ006N | 3.88    | 0.50    | 0.12    | 0.62    | 1.11    | 1.50    | 2.75              | 0.62                        | 4                       | 2             |
| 1          | S1014LJ010N | S1016LJ010N | 4.25    | 0.56    | 0.12    | 0.69    | 1.38    | 1.94    | 3.12              | 0.62                        | 4                       | 2             |
| 1-1/4      | S1014LJ012N | S1016LJ012N | 4.62    | 0.62    | 0.19    | 0.81    | 1.72    | 2.31    | 3.50              | 0.62                        | 4                       | 3             |
| 1-1/2      | S1014LJ014N | S1016LJ014N | 5.00    | 0.69    | 0.25    | 0.88    | 1.97    | 2.56    | 3.88              | 0.62                        | 4                       | 3             |
| 2          | S1014LJ020N | S1016LJ020N | 6.00    | 0.75    | 0.31    | 1.00    | 2.46    | 3.06    | 4.75              | 0.75                        | 4                       | 5             |
| 2-1/2      | S1014LJ024N | S1016LJ024N | 7.00    | 0.88    | 0.31    | 1.12    | 2.97    | 3.56    | 5.50              | 0.75                        | 4                       | 7             |
| 3          | S1014LJ030N | S1016LJ030N | 7.50    | 0.94    | 0.38    | 1.19    | 3.60    | 4.25    | 6.00              | 0.75                        | 4                       | 8             |
| 3-1/2      | S1014LJ034N | S1016LJ034N | 8.50    | 0.94    | 0.38    | 1.25    | 4.10    | 4.81    | 7.00              | 0.75                        | 8                       | 11            |
| 4          | S1014LJ040N | S1016LJ040N | 9.00    | 0.94    | 0.44    | 1.31    | 4.60    | 5.31    | 7.50              | 0.75                        | 8                       | 13            |
| 5          | S1014LJ050N | S1016LJ050N | 10.00   | 0.94    | 0.44    | 1.44    | 5.69    | 6.44    | 8.50              | 0.88                        | 8                       | 15            |
| 6          | S1014LJ060N | S1016LJ060N | 11.00   | 1.00    | 0.50    | 1.56    | 6.75    | 7.56    | 9.50              | 0.88                        | 8                       | 19            |
| 8          | S1014LJ080N | S1016LJ080N | 13.50   | 1.12    | 0.50    | 1.75    | 8.75    | 9.69    | 11.75             | 0.88                        | 8                       | 30            |
| 10         | S1014LJ100N | S1016LJ100N | 16.00   | 1.19    | 0.50    | 1.94    | 10.92   | 12.00   | 14.25             | 1.00                        | 12                      | 43            |
| 12         | S1014LJ120N | S1016LJ120N | 19.00   | 1.25    | 0.50    | 2.19    | 12.92   | 14.38   | 17.00             | 1.00                        | 12                      | 64            |



Socket Weld Flange



Weld Neck Flange

## 150# Schedule 40 – Socket Weld Raised Face Flange

| Size<br>IN | Part Number  |              | A     | B    | C    | D    | E    | F    | G    | H    | Bolt Circle<br>IN | Bolt Hole Diameter<br>IN | Number of Bolt Holes | Weight<br>lbs |
|------------|--------------|--------------|-------|------|------|------|------|------|------|------|-------------------|--------------------------|----------------------|---------------|
|            | 304/304L     | 316/316L     | IN    | IN   | IN   | IN   | IN   | IN   | IN   | IN   | IN                | IN                       |                      |               |
| 1/2        | S1014SW4004N | S1016SW4004N | 3.50  | 0.44 | 1.38 | 0.88 | 0.62 | 0.38 | 1.19 | 0.62 | 2.38              | 0.62                     | 4                    | 1             |
| 3/4        | S1014SW4006N | S1016SW4006N | 3.88  | 0.50 | 1.69 | 1.09 | 0.62 | 0.44 | 1.50 | 0.82 | 2.75              | 0.62                     | 4                    | 2             |
| 1          | S1014SW4010N | S1016SW4010N | 4.25  | 0.56 | 2.00 | 1.36 | 0.69 | 0.50 | 1.94 | 1.05 | 3.12              | 0.62                     | 4                    | 2             |
| 1-1/4      | S1014SW4012N | S1016SW4012N | 4.62  | 0.62 | 2.50 | 1.70 | 0.81 | 0.56 | 2.31 | 1.38 | 3.50              | 0.62                     | 4                    | 3             |
| 1-1/2      | S1014SW4014N | S1016SW4014N | 5.00  | 0.69 | 2.88 | 1.95 | 0.88 | 0.62 | 2.56 | 1.61 | 3.88              | 0.62                     | 4                    | 3             |
| 2          | S1014SW4020N | S1016SW4020N | 6.00  | 0.75 | 3.62 | 2.44 | 1.00 | 0.69 | 3.06 | 2.07 | 4.75              | 0.75                     | 4                    | 5             |
| 2-1/2      | S1014SW4024N | S1016SW4024N | 7.00  | 0.88 | 4.12 | 2.94 | 1.12 | 0.75 | 3.56 | 2.47 | 5.50              | 0.75                     | 4                    | 7             |
| 3          | S1014SW4030N | S1016SW4030N | 7.50  | 0.94 | 5.00 | 3.57 | 1.19 | 0.81 | 4.25 | 3.07 | 6.00              | 0.75                     | 4                    | 8             |
| 4          | S1014SW4040N | S1016SW4040N | 9.00  | 0.94 | 6.19 | 4.60 | 1.31 | 0.94 | 5.31 | 4.03 | 7.50              | 0.75                     | 8                    | 13            |
| 5          | S1014SW4050N | S1016SW4050N | 10.00 | 0.94 | 7.31 | 5.66 | 1.44 | 0.94 | 6.44 | 5.05 | 8.50              | 0.88                     | 8                    | 15            |
| 6          | S1014SW4060N | S1016SW4060N | 11.00 | 1.00 | 8.50 | 6.72 | 1.56 | 1.06 | 7.56 | 6.07 | 9.50              | 0.88                     | 8                    | 19            |

Raised Face 1/16"

## 150# Schedule 80 – Socket Weld Raised Face Flange

| Size<br>IN | Part Number  |              | A    | B    | C    | D    | E    | F    | G    | H    | Bolt Circle<br>IN | Bolt Hole Diameter<br>IN | Number of Bolt Holes | Weight<br>lbs |
|------------|--------------|--------------|------|------|------|------|------|------|------|------|-------------------|--------------------------|----------------------|---------------|
|            | 304/304L     | 316/316L     | IN   | IN   | IN   | IN   | IN   | IN   | IN   | IN   | IN                | IN                       |                      |               |
| 1/2        | S1014SW8004N | S1016SW8004N | 3.50 | 0.44 | 1.38 | 0.88 | 0.62 | 0.38 | 1.19 | 0.62 | 2.38              | 0.62                     | 4                    | 1             |
| 3/4        | S1014SW8006N | S1016SW8006N | 3.88 | 0.50 | 1.69 | 1.09 | 0.62 | 0.44 | 1.50 | 0.82 | 2.75              | 0.62                     | 4                    | 2             |
| 1          | S1014SW8010N | S1016SW8010N | 4.25 | 0.56 | 2.00 | 1.36 | 0.69 | 0.50 | 1.94 | 1.05 | 3.12              | 0.62                     | 4                    | 2             |
| 1-1/4      | S1014SW8012N | S1016SW8012N | 4.62 | 0.62 | 2.50 | 1.70 | 0.81 | 0.56 | 2.31 | 1.38 | 3.50              | 0.62                     | 4                    | 3             |
| 1-1/2      | S1014SW8014N | S1016SW8014N | 5.00 | 0.69 | 2.88 | 1.95 | 0.88 | 0.62 | 2.56 | 1.61 | 3.88              | 0.62                     | 4                    | 3             |
| 2          | S1014SW8020N | S1016SW8020N | 6.00 | 0.75 | 3.62 | 2.44 | 1.00 | 0.69 | 3.06 | 2.07 | 4.75              | 0.75                     | 4                    | 5             |
| 2-1/2      | S1014SW8024N | S1016SW8024N | 7.00 | 0.88 | 4.12 | 2.94 | 1.12 | 0.75 | 3.56 | 2.47 | 5.50              | 0.75                     | 4                    | 7             |
| 3          | S1014SW8030N | S1016SW8030N | 7.50 | 0.94 | 5.00 | 3.57 | 1.19 | 0.81 | 4.25 | 3.07 | 6.00              | 0.75                     | 4                    | 8             |
| 4          | S1014SW8040N | S1016SW8040N | 9.00 | 0.94 | 6.19 | 4.60 | 1.31 | 0.94 | 5.31 | 4.03 | 7.50              | 0.75                     | 8                    | 13            |

Raised Face 1/16"

## 150# Schedule 10 – Weld Neck Raised Face Flange

| Size<br>IN | Part Number  |              | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN | G<br>IN | Bolt Circle<br>IN | Bolt Hole<br>Diameter<br>IN | Number of<br>Bolt Holes | Weight<br>lbs |
|------------|--------------|--------------|---------|---------|---------|---------|---------|---------|---------|-------------------|-----------------------------|-------------------------|---------------|
|            | 304/304L     | 316/316L     |         |         |         |         |         |         |         |                   |                             |                         |               |
| 1/2        | S1014WN1004N | S1016WN1004N | 3.50    | 0.44    | 1.38    | 1.88    | 0.62    | 0.84    | 1.19    | 2.38              | 0.62                        | 4                       | 2             |
| 3/4        | S1014WN1006N | S1016WN1006N | 3.88    | 0.50    | 1.69    | 2.06    | 0.82    | 1.05    | 1.50    | 2.75              | 0.62                        | 4                       | 2             |
| 1          | S1014WN1010N | S1016WN1010N | 4.25    | 0.56    | 2.00    | 2.19    | 1.05    | 1.32    | 1.94    | 3.12              | 0.62                        | 4                       | 3             |
| 1-1/4      | S1014WN1012N | S1016WN1012N | 4.62    | 0.62    | 2.50    | 2.25    | 1.38    | 1.66    | 2.31    | 3.50              | 0.62                        | 4                       | 3             |
| 1-1/2      | S1014WN1014N | S1016WN1014N | 5.00    | 0.69    | 2.88    | 2.44    | 1.61    | 1.90    | 2.56    | 3.88              | 0.62                        | 4                       | 4             |
| 2          | S1014WN1020N | S1016WN1020N | 6.00    | 0.75    | 3.62    | 2.50    | 2.07    | 2.38    | 3.06    | 4.75              | 0.75                        | 4                       | 6             |
| 2-1/2      | S1014WN1024N | S1016WN1024N | 7.00    | 0.88    | 4.12    | 2.75    | 2.47    | 2.88    | 3.56    | 5.50              | 0.75                        | 4                       | 8             |
| 3          | S1014WN1030N | S1016WN1030N | 7.50    | 0.94    | 5.00    | 2.75    | 3.07    | 3.50    | 4.25    | 6.00              | 0.75                        | 4                       | 10            |
| 4          | S1014WN1040N | S1016WN1040N | 9.00    | 0.94    | 6.19    | 3.00    | 4.03    | 4.50    | 5.31    | 7.50              | 0.75                        | 8                       | 15            |
| 5          | S1014WN1050N | S1016WN1050N | 10.00   | 0.94    | 7.31    | 3.50    | 5.05    | 5.56    | 6.44    | 8.50              | 0.88                        | 8                       | 19            |
| 6          | S1014WN1060N | S1016WN1060N | 11.00   | 1.00    | 8.50    | 3.50    | 6.07    | 6.63    | 7.56    | 9.50              | 0.88                        | 8                       | 24            |
| 8          | S1014WN1080N | S1016WN1080N | 13.50   | 1.12    | 10.62   | 4.00    | 7.98    | 8.63    | 9.69    | 11.75             | 0.88                        | 8                       | 39            |
| 10         | S1014WN1100N | S1016WN1100N | 16.00   | 1.19    | 12.75   | 4.00    | 10.02   | 10.75   | 12.00   | 14.25             | 1.00                        | 12                      | 52            |
| 12         | S1014WN1120N | S1016WN1120N | 19.00   | 1.25    | 15.00   | 4.50    | 12.00   | 12.75   | 14.38   | 17.00             | 1.00                        | 12                      | 80            |

Raised Face 1/16"

## 150# Schedule 40 – Weld Neck Raised Face Flange

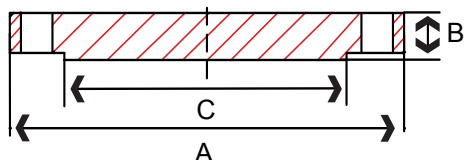
| Size<br>IN | Part Number  |              | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN | G<br>IN | Bolt Circle<br>IN | Bolt Hole<br>Diameter<br>IN | Number of<br>Bolt Holes | Weight<br>lbs |
|------------|--------------|--------------|---------|---------|---------|---------|---------|---------|---------|-------------------|-----------------------------|-------------------------|---------------|
|            | 304/304L     | 316/316L     |         |         |         |         |         |         |         |                   |                             |                         |               |
| 1/2        | S1014WN4004N | S1016WN4004N | 3.50    | 0.44    | 1.38    | 1.88    | 0.62    | 0.84    | 1.19    | 2.38              | 0.62                        | 4                       | 2             |
| 3/4        | S1014WN4006N | S1016WN4006N | 3.88    | 0.50    | 1.69    | 2.06    | 0.82    | 1.05    | 1.50    | 2.75              | 0.62                        | 4                       | 2             |
| 1          | S1014WN4010N | S1016WN4010N | 4.25    | 0.56    | 2.00    | 2.19    | 1.05    | 1.32    | 1.94    | 3.12              | 0.62                        | 4                       | 3             |
| 1-1/4      | S1014WN4012N | S1016WN4012N | 4.62    | 0.62    | 2.50    | 2.25    | 1.38    | 1.66    | 2.31    | 3.50              | 0.62                        | 4                       | 3             |
| 1-1/2      | S1014WN4014N | S1016WN4014N | 5.00    | 0.69    | 2.88    | 2.44    | 1.61    | 1.90    | 2.56    | 3.88              | 0.62                        | 4                       | 4             |
| 2          | S1014WN4020N | S1016WN4020N | 6.00    | 0.75    | 3.62    | 2.50    | 2.07    | 2.38    | 3.06    | 4.75              | 0.75                        | 4                       | 6             |
| 2-1/2      | S1014WN4024N | S1016WN4024N | 7.00    | 0.88    | 4.12    | 2.75    | 2.47    | 2.88    | 3.56    | 5.50              | 0.75                        | 4                       | 8             |
| 3          | S1014WN4030N | S1016WN4030N | 7.50    | 0.94    | 5.00    | 2.75    | 3.07    | 3.50    | 4.25    | 6.00              | 0.75                        | 4                       | 10            |
| 4          | S1014WN4040N | S1016WN4040N | 9.00    | 0.94    | 6.19    | 3.00    | 4.03    | 4.50    | 5.31    | 7.50              | 0.75                        | 8                       | 15            |
| 5          | S1014WN4050N | S1016WN4050N | 10.00   | 0.94    | 7.31    | 3.50    | 5.05    | 5.56    | 6.44    | 8.50              | 0.88                        | 8                       | 19            |
| 6          | S1014WN4060N | S1016WN4060N | 11.00   | 1.00    | 8.50    | 3.50    | 6.07    | 6.63    | 7.56    | 9.50              | 0.88                        | 8                       | 24            |
| 8          | S1014WN4080N | S1016WN4080N | 13.50   | 1.12    | 10.62   | 4.00    | 7.98    | 8.63    | 9.69    | 11.75             | 0.88                        | 8                       | 39            |
| 10         | S1014WN4100N | S1016WN4100N | 16.00   | 1.19    | 12.75   | 4.00    | 10.02   | 10.75   | 12.00   | 14.25             | 1.00                        | 12                      | 52            |
| 12         | S1014WN4120N | S1016WN4120N | 19.00   | 1.25    | 15.00   | 4.50    | 12.00   | 12.75   | 14.38   | 17.00             | 1.00                        | 12                      | 80            |

Raised Face 1/16"

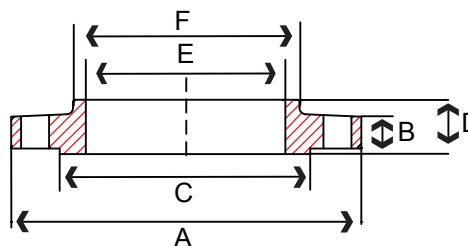
## 150# Schedule 80 – Weld Neck Raised Face Flange

| Size<br>IN | Part Number  |              | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN | G<br>IN | Bolt Circle<br>IN | Bolt Hole<br>Diameter<br>IN | Number of<br>Bolt Holes | Weight<br>lbs |
|------------|--------------|--------------|---------|---------|---------|---------|---------|---------|---------|-------------------|-----------------------------|-------------------------|---------------|
|            | 304/304L     | 316/316L     |         |         |         |         |         |         |         |                   |                             |                         |               |
| 1/2        | S1014WN8004N | S1016WN8004N | 3.50    | 0.44    | 1.38    | 1.88    | 0.62    | 0.84    | 1.19    | 2.38              | 0.62                        | 4                       | 2             |
| 3/4        | S1014WN8006N | S1016WN8006N | 3.88    | 0.50    | 1.69    | 2.06    | 0.82    | 1.05    | 1.50    | 2.75              | 0.62                        | 4                       | 2             |
| 1          | S1014WN8010N | S1016WN8010N | 4.25    | 0.56    | 2.00    | 2.19    | 1.05    | 1.32    | 1.94    | 3.12              | 0.62                        | 4                       | 3             |
| 1-1/4      | S1014WN8012N | S1016WN8012N | 4.62    | 0.62    | 2.50    | 2.25    | 1.38    | 1.66    | 2.31    | 3.50              | 0.62                        | 4                       | 3             |
| 1-1/2      | S1014WN8014N | S1016WN8014N | 5.00    | 0.69    | 2.88    | 2.44    | 1.61    | 1.90    | 2.56    | 3.88              | 0.62                        | 4                       | 4             |
| 2          | S1014WN8020N | S1016WN8020N | 6.00    | 0.75    | 3.62    | 2.50    | 2.07    | 2.38    | 3.06    | 4.75              | 0.75                        | 4                       | 6             |
| 2-1/2      | S1014WN8024N | S1016WN8024N | 7.00    | 0.88    | 4.12    | 2.75    | 2.47    | 2.88    | 3.56    | 5.50              | 0.75                        | 4                       | 8             |
| 3          | S1014WN8030N | S1016WN8030N | 7.50    | 0.94    | 5.00    | 2.75    | 3.07    | 3.50    | 4.25    | 6.00              | 0.75                        | 4                       | 10            |
| 4          | S1014WN8040N | S1016WN8040N | 9.00    | 0.94    | 6.19    | 3.00    | 4.03    | 4.50    | 5.31    | 7.50              | 0.75                        | 8                       | 15            |
| 6          | S1014WN8060N | S1016WN8060N | 11.00   | 1.00    | 8.50    | 3.50    | 6.07    | 6.63    | 7.56    | 9.50              | 0.88                        | 8                       | 24            |
| 8          | S1014WN8080N | S1016WN8080N | 13.50   | 1.12    | 10.62   | 4.00    | 7.98    | 8.63    | 9.69    | 11.75             | 0.88                        | 8                       | 39            |
| 10         | S1014WN8100N | S1016WN8100N | 16.00   | 1.19    | 12.75   | 4.00    | 10.02   | 10.75   | 12.00   | 14.25             | 1.00                        | 12                      | 52            |
| 12         | S1014WN8120N | S1016WN8120N | 19.00   | 1.25    | 15.00   | 4.50    | 12.00   | 12.75   | 14.38   | 17.00             | 1.00                        | 12                      | 80            |

Raised Face 1/16"



Blind Flange



Slip-On Flange

## 300# – Blind Raised Face Flange

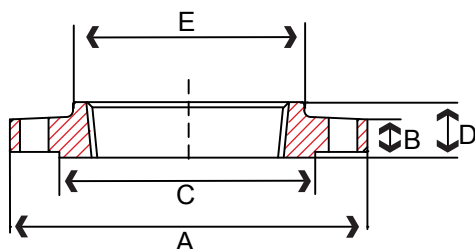
| Size<br>IN | Part Number |             | A<br>IN | B<br>IN | C<br>IN | Bolt Circle<br>IN | Bolt Hole<br>Diameter<br>IN | Number of<br>Bolt Holes | Weight<br>lbs |
|------------|-------------|-------------|---------|---------|---------|-------------------|-----------------------------|-------------------------|---------------|
|            | 304/304L    | 316/316L    |         |         |         |                   |                             |                         |               |
| 1/2        | S1034BL004N | S1036BL004N | 3.75    | 0.56    | 1.38    | 2.62              | 0.62                        | 4                       | 2             |
| 3/4        | S1034BL006N | S1036BL006N | 4.62    | 0.62    | 1.69    | 3.25              | 0.75                        | 4                       | 3             |
| 1          | S1034BL010N | S1036BL010N | 4.88    | 0.69    | 2.00    | 3.50              | 0.75                        | 4                       | 3             |
| 1-1/4      | S1034BL012N | S1036BL012N | 5.25    | 0.75    | 2.50    | 3.88              | 0.75                        | 4                       | 4             |
| 1-1/2      | S1034BL014N | S1036BL014N | 6.12    | 0.81    | 2.88    | 4.50              | 0.88                        | 4                       | 6             |
| 2          | S1034BL020N | S1036BL020N | 6.50    | 0.88    | 3.62    | 5.00              | 0.75                        | 4                       | 8             |
| 2-1/2      | S1034BL024N | S1036BL024N | 7.50    | 1.00    | 4.12    | 5.88              | 0.88                        | 4                       | 12            |
| 3          | S1034BL030N | S1036BL030N | 8.25    | 1.12    | 5.00    | 6.62              | 0.88                        | 4                       | 16            |
| 4          | S1034BL040N | S1036BL040N | 10.00   | 1.25    | 6.19    | 7.88              | 0.88                        | 8                       | 27            |
| 6          | S1034BL060N | S1036BL060N | 12.50   | 1.44    | 8.50    | 10.62             | 0.88                        | 8                       | 50            |
| 8          | S1034BL080N | S1036BL080N | 15.00   | 1.62    | 10.62   | 13.00             | 1.00                        | 8                       | 81            |
| 10         | S1034BL100N | S1036BL100N | 17.50   | 1.88    | 12.75   | 15.25             | 1.12                        | 12                      | 124           |
| 12         | S1034BL120N | S1036BL120N | 20.50   | 2.00    | 15.00   | 17.75             | 1.25                        | 12                      | 185           |

Raised Face 1/16"

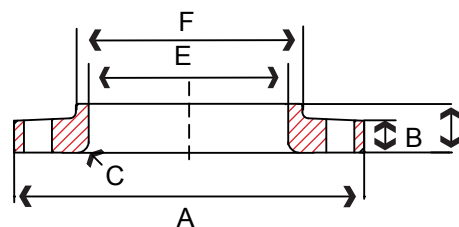
## 300# – Slip-On Raised Face Flange

| Size<br>IN | Part Number |             | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN | Bolt Circle<br>IN | Bolt Hole<br>Diameter<br>IN | Number of Bolt<br>Holes | Weight<br>lbs |
|------------|-------------|-------------|---------|---------|---------|---------|---------|---------|-------------------|-----------------------------|-------------------------|---------------|
|            | 304/304L    | 316/316L    |         |         |         |         |         |         |                   |                             |                         |               |
| 1/2        | S1034SO004N | S1036SO004N | 3.75    | 0.56    | 1.38    | 0.88    | 0.88    | 1.50    | 2.62              | 0.62                        | 4                       | 2             |
| 3/4        | S1034SO006N | S1036SO006N | 4.62    | 0.62    | 1.69    | 1.00    | 1.09    | 1.88    | 3.25              | 0.75                        | 4                       | 3             |
| 1          | S1034SO010N | S1036SO010N | 4.88    | 0.69    | 2.00    | 1.06    | 1.36    | 2.12    | 3.50              | 0.75                        | 4                       | 3             |
| 1-1/4      | S1034SO012N | S1036SO012N | 5.25    | 0.75    | 2.50    | 1.06    | 1.70    | 2.50    | 3.88              | 0.75                        | 4                       | 4             |
| 1-1/2      | S1034SO014N | S1036SO014N | 6.12    | 0.81    | 2.88    | 1.19    | 1.95    | 2.75    | 4.50              | 0.88                        | 4                       | 6             |
| 2          | S1034SO020N | S1036SO020N | 6.50    | 0.88    | 3.62    | 1.31    | 2.44    | 3.31    | 5.00              | 0.75                        | 4                       | 7             |
| 2-1/2      | S1034SO024N | S1036SO024N | 7.50    | 1.00    | 4.12    | 1.50    | 2.94    | 3.94    | 5.88              | 0.88                        | 4                       | 10            |
| 3          | S1034SO030N | S1036SO030N | 8.25    | 1.12    | 5.00    | 1.69    | 3.57    | 4.62    | 6.62              | 0.88                        | 4                       | 13            |
| 4          | S1034SO040N | S1036SO040N | 10.00   | 1.25    | 6.19    | 1.88    | 4.60    | 5.75    | 7.88              | 0.88                        | 8                       | 22            |
| 6          | S1034SO060N | S1036SO060N | 12.50   | 1.44    | 8.50    | 2.06    | 6.72    | 8.12    | 10.62             | 0.88                        | 8                       | 39            |
| 8          | S1034SO080N | S1036SO080N | 15.00   | 1.62    | 10.62   | 2.44    | 8.72    | 10.25   | 13.00             | 1.00                        | 8                       | 58            |
| 10         | S1034SO100N | S1036SO100N | 17.50   | 1.88    | 12.75   | 2.62    | 10.88   | 12.62   | 15.25             | 1.12                        | 12                      | 81            |
| 12         | S1034SO120N | S1036SO120N | 20.50   | 2.00    | 15.00   | 2.88    | 12.88   | 14.75   | 17.75             | 1.25                        | 12                      | 115           |

Raised Face 1/16"



Threaded Flange



Lap Joint Flange

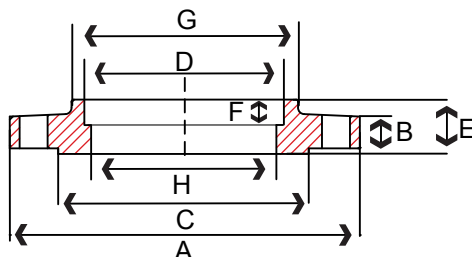
## 300# – Threaded Raised Face Flange Flange

| Size<br>IN | Part Number |             | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | Bolt Circle<br>IN | Bolt Hole<br>Diameter<br>IN | Number of<br>Bolt Holes | Weight<br>lbs |
|------------|-------------|-------------|---------|---------|---------|---------|---------|-------------------|-----------------------------|-------------------------|---------------|
|            | 304/304L    | 316/316L    |         |         |         |         |         |                   |                             |                         |               |
| 1/2        | S1034TH004N | S1036TH004N | 3.75    | 0.56    | 1.38    | 0.88    | 1.50    | 2.62              | 0.62                        | 4                       | 2             |
| 3/4        | S1034TH006N | S1036TH006N | 4.62    | 0.62    | 1.69    | 1.00    | 1.88    | 3.25              | 0.75                        | 4                       | 3             |
| 1          | S1034TH010N | S1036TH010N | 4.88    | 0.69    | 2.00    | 1.06    | 2.12    | 3.50              | 0.75                        | 4                       | 3             |
| 1-1/4      | S1034TH012N | S1036TH012N | 5.25    | 0.75    | 2.50    | 1.06    | 2.50    | 3.88              | 0.75                        | 4                       | 4             |
| 1-1/2      | S1034TH014N | S1036TH014N | 6.12    | 0.81    | 2.88    | 1.19    | 2.75    | 4.50              | 0.88                        | 4                       | 6             |
| 2          | S1034TH020N | S1036TH020N | 6.50    | 0.88    | 3.62    | 1.31    | 3.31    | 5.00              | 0.75                        | 4                       | 7             |
| 3          | S1034TH030N | S1036TH030N | 8.25    | 1.12    | 5.00    | 1.69    | 4.62    | 6.62              | 0.88                        | 4                       | 13            |
| 4          | S1034TH040N | S1036TH040N | 10.00   | 1.25    | 6.19    | 1.88    | 5.75    | 7.88              | 0.88                        | 8                       | 22            |

Raised Face 1/16"

## 300# – Lap Joint Flange

| Size<br>IN | Part Number |             | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN | Bolt Circle<br>IN | Bolt Hole<br>Diameter<br>IN | Number of<br>Bolt Holes | Weight<br>lbs |
|------------|-------------|-------------|---------|---------|---------|---------|---------|---------|-------------------|-----------------------------|-------------------------|---------------|
|            | 304/304L    | 316/316L    |         |         |         |         |         |         |                   |                             |                         |               |
| 1/2        | S1034LJ004N | S1036LJ004N | 3.75    | 0.56    | 0.12    | 0.88    | 0.90    | 1.50    | 2.62              | 0.62                        | 4                       | 2             |
| 3/4        | S1034LJ006N | S1036LJ006N | 4.62    | 0.62    | 0.12    | 1.00    | 1.11    | 1.88    | 3.25              | 0.75                        | 4                       | 3             |
| 1          | S1034LJ010N | S1036LJ010N | 4.88    | 0.69    | 0.12    | 1.06    | 1.38    | 2.12    | 3.50              | 0.75                        | 4                       | 3             |
| 1-1/4      | S1034LJ012N | S1036LJ012N | 5.25    | 0.75    | 0.19    | 1.06    | 1.72    | 2.50    | 3.88              | 0.75                        | 4                       | 4             |
| 1-1/2      | S1034LJ014N | S1036LJ014N | 6.12    | 0.81    | 0.25    | 1.19    | 1.97    | 2.75    | 4.50              | 0.88                        | 4                       | 6             |
| 2          | S1034LJ020N | S1036LJ020N | 6.50    | 0.88    | 0.31    | 1.31    | 2.46    | 3.31    | 5.00              | 0.75                        | 4                       | 7             |
| 3          | S1034LJ030N | S1036LJ030N | 8.25    | 1.12    | 0.38    | 1.69    | 3.60    | 4.62    | 6.62              | 0.88                        | 4                       | 13            |
| 4          | S1034LJ040N | S1036LJ040N | 10.00   | 1.25    | 0.44    | 1.88    | 4.60    | 5.75    | 7.88              | 0.88                        | 8                       | 22            |



Socket Weld Flange

## 300# Schedule 40 – Socket Weld Raised Face Flange

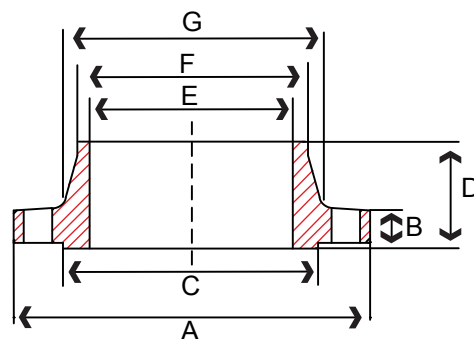
| Size<br>IN | Part Number  |              | A     | B    | C    | D    | E    | F    | G    | H    | Bolt Circle<br>IN | Bolt Hole Diameter<br>IN | Number of Bolt Holes | Weight<br>lbs |
|------------|--------------|--------------|-------|------|------|------|------|------|------|------|-------------------|--------------------------|----------------------|---------------|
|            | 304/304L     | 316/316L     | IN    | IN   | IN   | IN   | IN   | IN   | IN   | IN   | IN                | IN                       |                      |               |
| 1/2        | S1034SW4004N | S1036SW4004N | 3.75  | 0.56 | 1.38 | 0.88 | 0.88 | 0.38 | 1.50 | 0.62 | 2.62              | 0.62                     | 4                    | 2             |
| 3/4        | S1034SW4006N | S1036SW4006N | 4.62  | 0.62 | 1.69 | 1.09 | 1.00 | 0.44 | 1.88 | 0.82 | 3.25              | 0.75                     | 4                    | 3             |
| 1          | S1034SW4010N | S1036SW4010N | 4.88  | 0.69 | 2.00 | 1.36 | 1.06 | 0.50 | 2.12 | 1.05 | 3.50              | 0.75                     | 4                    | 3             |
| 1-1/4      | S1034SW4012N | S1036SW4012N | 5.25  | 0.75 | 2.50 | 1.70 | 1.06 | 0.56 | 2.50 | 1.38 | 3.88              | 0.75                     | 4                    | 4             |
| 1-1/2      | S1034SW4014N | S1036SW4014N | 6.12  | 0.81 | 2.88 | 1.95 | 1.19 | 0.62 | 2.75 | 1.61 | 4.50              | 0.88                     | 4                    | 6             |
| 2          | S1034SW4020N | S1036SW4020N | 6.50  | 0.88 | 3.62 | 2.44 | 1.31 | 0.69 | 3.31 | 2.07 | 5.00              | 0.75                     | 8                    | 7             |
| 2-1/2      | S1034SW4024N | S1036SW4024N | 7.50  | 1.00 | 4.12 | 2.94 | 1.50 | 0.75 | 3.94 | 2.94 | 5.88              | 0.88                     | 8                    | 10            |
| 3          | S1034SW4030N | S1036SW4030N | 8.25  | 1.12 | 5.00 | 3.57 | 1.69 | 0.81 | 4.62 | 3.57 | 6.62              | 0.88                     | 8                    | 13            |
| 4          | S1034SW4040N | S1036SW4040N | 10.00 | 1.25 | 6.19 | 4.60 | 1.88 | -    | 5.75 | 4.03 | 7.88              | 0.88                     | 8                    | 22            |

Raised Face 1/16"

## 300# Schedule 80 – Socket Weld Raised Face Flange

| Size<br>IN | Part Number  |              | A     | B    | C    | D    | E    | F    | G    | H    | Bolt Circle<br>IN | Bolt Hole Diameter<br>IN | Number of Bolt Holes | Weight<br>lbs |
|------------|--------------|--------------|-------|------|------|------|------|------|------|------|-------------------|--------------------------|----------------------|---------------|
|            | 304/304L     | 316/316L     | IN    | IN   | IN   | IN   | IN   | IN   | IN   | IN   | IN                | IN                       |                      |               |
| 1/2        | S1034SW8004N | S1036SW8004N | 3.75  | 0.56 | 1.38 | 0.88 | 0.88 | 0.38 | 1.50 | 0.62 | 2.62              | 0.62                     | 4                    | 2             |
| 3/4        | S1034SW8006N | S1036SW8006N | 4.62  | 0.62 | 1.69 | 1.09 | 1.00 | 0.44 | 1.88 | 0.82 | 3.25              | 0.75                     | 4                    | 3             |
| 1          | S1034SW8010N | S1036SW8010N | 4.88  | 0.69 | 2.00 | 1.36 | 1.06 | 0.50 | 2.12 | 1.05 | 3.50              | 0.75                     | 4                    | 3             |
| 1-1/4      | S1034SW8012N | S1036SW8012N | 5.25  | 0.75 | 2.50 | 1.70 | 1.06 | 0.56 | 2.50 | 1.38 | 3.88              | 0.75                     | 4                    | 4             |
| 1-1/2      | S1034SW8014N | S1036SW8014N | 6.12  | 0.81 | 2.88 | 1.95 | 1.19 | 0.62 | 2.75 | 1.61 | 4.50              | 0.88                     | 4                    | 6             |
| 2          | S1034SW8020N | S1036SW8020N | 6.50  | 0.88 | 3.62 | 2.44 | 1.31 | 0.69 | 3.31 | 2.07 | 5.00              | 0.75                     | 8                    | 7             |
| 2-1/2      | S1034SW8024N | S1036SW8024N | 7.50  | 1.00 | 4.12 | 2.94 | 1.50 | 0.75 | 3.94 | 2.94 | 5.88              | 0.88                     | 8                    | 10            |
| 3          | S1034SW8030N | S1036SW8030N | 8.25  | 1.12 | 5.00 | 3.57 | 1.69 | 0.81 | 4.62 | 3.57 | 6.62              | 0.88                     | 8                    | 13            |
| 4          | S1034SW8040N | S1036SW8040N | 10.00 | 1.25 | 6.19 | 4.60 | 1.88 | -    | 5.75 | 4.03 | 7.88              | 0.88                     | 8                    | 22            |

Raised Face 1/16"



Weld Neck Flange

## 300# Schedule 40 – Weld Neck Raised Face Flange

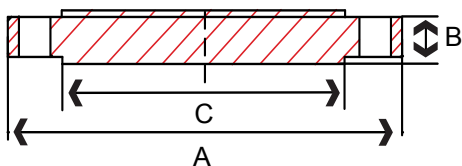
| Size<br>IN | Part Number  |              | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN | G<br>IN | Bolt Circle<br>IN | Bolt Hole<br>Diameter<br>IN | Number of<br>Bolt Holes | Weight<br>lbs |
|------------|--------------|--------------|---------|---------|---------|---------|---------|---------|---------|-------------------|-----------------------------|-------------------------|---------------|
|            | 304/304L     | 316/316L     |         |         |         |         |         |         |         |                   |                             |                         |               |
| 1/2        | S1034WN4004N | S1036WN4004N | 3.75    | 0.56    | 1.38    | 2.06    | 0.62    | 0.84    | 1.50    | 2.38              | 0.62                        | 4                       | 2             |
| 3/4        | S1034WN4006N | S1036WN4006N | 4.62    | 0.62    | 1.69    | 2.25    | 0.82    | 1.05    | 1.88    | 2.75              | 0.62                        | 4                       | 3             |
| 1          | S1034WN4010N | S1036WN4010N | 4.88    | 0.69    | 2.00    | 2.44    | 1.05    | 1.32    | 2.12    | 3.12              | 0.62                        | 4                       | 4             |
| 1-1/4      | S1034WN4012N | S1036WN4012N | 5.25    | 0.75    | 2.50    | 2.56    | 1.38    | 1.66    | 2.50    | 3.50              | 0.62                        | 4                       | 5             |
| 1-1/2      | S1034WN4014N | S1036WN4014N | 6.12    | 0.81    | 2.88    | 2.69    | 1.61    | 1.90    | 2.75    | 3.88              | 0.62                        | 4                       | 7             |
| 2          | S1034WN4020N | S1036WN4020N | 6.50    | 0.88    | 3.62    | 2.75    | 2.07    | 2.38    | 3.31    | 4.75              | 0.75                        | 4                       | 9             |
| 2-1/2      | S1034WN4024N | S1036WN4024N | 7.50    | 1.00    | 4.12    | 3.00    | 2.47    | 2.88    | 3.94    | 5.50              | 0.75                        | 4                       | 12            |
| 3          | S1034WN4030N | S1036WN4030N | 8.25    | 1.12    | 5.00    | 3.12    | 3.07    | 3.50    | 4.62    | 6.00              | 0.75                        | 4                       | 15            |
| 4          | S1034WN4040N | S1036WN4040N | 10.00   | 1.25    | 6.19    | 3.38    | 4.03    | 4.50    | 5.75    | 7.50              | 0.75                        | 8                       | 25            |
| 6          | S1034WN4060N | S1036WN4060N | 12.50   | 1.44    | 8.50    | 3.88    | 6.07    | 6.63    | 8.12    | 9.50              | 0.88                        | 8                       | 42            |
| 8          | S1034WN4080N | S1036WN4080N | 15.00   | 1.62    | 10.62   | 4.38    | 7.98    | 8.63    | 10.25   | 11.75             | 0.88                        | 8                       | 67            |
| 10         | S1034WN4100N | S1036WN4100N | 17.50   | 1.88    | 12.75   | 4.62    | 10.02   | 10.75   | 12.62   | 14.25             | 1.00                        | 12                      | 91            |
| 12         | S1034WN4120N | S1036WN4120N | 20.50   | 2.00    | 15.00   | 5.12    | 12.00   | 12.75   | 14.75   | 17.00             | 1.00                        | 12                      | 140           |

Raised Face 1/16"

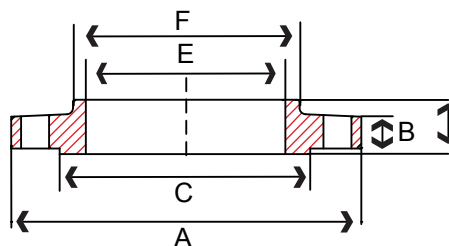
## 300# Schedule 80 – Weld Neck Raised Face Flange

| Size<br>IN | Part Number  |              | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN | G<br>IN | Bolt Circle<br>IN | Bolt Hole<br>Diameter<br>IN | Number of<br>Bolt Holes | Weight<br>lbs |
|------------|--------------|--------------|---------|---------|---------|---------|---------|---------|---------|-------------------|-----------------------------|-------------------------|---------------|
|            | 304/304L     | 316/316L     |         |         |         |         |         |         |         |                   |                             |                         |               |
| 1/2        | S1034WN8004N | S1036WN8004N | 3.75    | 0.56    | 1.38    | 2.06    | 0.62    | 0.84    | 1.50    | 2.38              | 0.62                        | 4                       | 2             |
| 3/4        | S1034WN8006N | S1036WN8006N | 4.62    | 0.62    | 1.69    | 2.25    | 0.82    | 1.05    | 1.88    | 2.75              | 0.62                        | 4                       | 3             |
| 1          | S1034WN8010N | S1036WN8010N | 4.88    | 0.69    | 2.00    | 2.44    | 1.05    | 1.32    | 2.12    | 3.12              | 0.62                        | 4                       | 4             |
| 1-1/4      | S1034WN8012N | S1036WN8012N | 5.25    | 0.75    | 2.50    | 2.56    | 1.38    | 1.66    | 2.50    | 3.50              | 0.62                        | 4                       | 5             |
| 1-1/2      | S1034WN8014N | S1036WN8014N | 6.12    | 0.81    | 2.88    | 2.69    | 1.61    | 1.90    | 2.75    | 3.88              | 0.62                        | 4                       | 7             |
| 2          | S1034WN8020N | S1036WN8020N | 6.50    | 0.88    | 3.62    | 2.75    | 2.07    | 2.38    | 3.31    | 4.75              | 0.75                        | 4                       | 9             |
| 2-1/2      | S1034WN8024N | S1036WN8024N | 7.50    | 1.00    | 4.12    | 3.00    | 2.47    | 2.88    | 3.94    | 5.50              | 0.75                        | 4                       | 12            |
| 3          | S1034WN8030N | S1036WN8030N | 8.25    | 1.12    | 5.00    | 3.12    | 3.07    | 3.50    | 4.62    | 6.00              | 0.75                        | 4                       | 15            |
| 4          | S1034WN8040N | S1036WN8040N | 10.00   | 1.25    | 6.19    | 3.38    | 4.03    | 4.50    | 5.75    | 7.50              | 0.75                        | 8                       | 25            |
| 6          | S1034WN8060N | S1036WN8060N | 12.50   | 1.44    | 8.50    | 3.88    | 6.07    | 6.63    | 8.12    | 9.50              | 0.88                        | 8                       | 42            |
| 8          | S1034WN8080N | S1036WN8080N | 15.00   | 1.62    | 10.62   | 4.38    | 7.98    | 8.63    | 10.25   | 11.75             | 0.88                        | 8                       | 67            |
| 10         | S1034WN8100N | S1036WN8100N | 17.50   | 1.88    | 12.75   | 4.62    | 10.02   | 10.75   | 12.62   | 14.25             | 1.00                        | 12                      | 91            |
| 12         | S1034WN8120N | S1036WN8120N | 20.50   | 2.00    | 15.00   | 5.12    | 12.00   | 12.75   | 14.75   | 17.00             | 1.00                        | 12                      | 140           |

Raised Face 1/16"



Blind Flange



Slip-On Flange

## 600# – Blind (Hi-Hub) Raised Face Flange

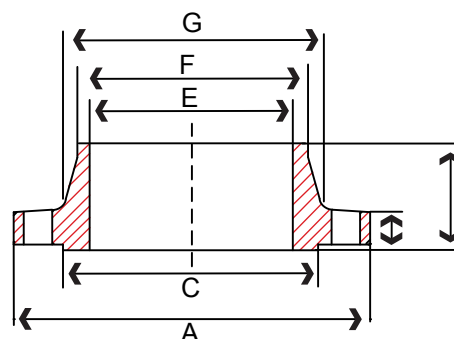
| Size<br>IN | Part Number |             | A<br>IN | B<br>IN | C<br>IN | Bolt Circle<br>IN | Bolt Hole<br>Diameter<br>IN | Number of<br>Bolt Holes | Weight<br>lbs |
|------------|-------------|-------------|---------|---------|---------|-------------------|-----------------------------|-------------------------|---------------|
|            | 304/304L    | 316/316L    |         |         |         |                   |                             |                         |               |
| 1/2        | S1064BL004N | S1066BL004N | 3.75    | 0.56    | 1.38    | 2.62              | 0.62                        | 4                       | 1             |
| 3/4        | S1064BL006N | S1066BL006N | 4.62    | 0.62    | 1.69    | 3.25              | 0.75                        | 4                       | 2             |
| 1          | S1064BL010N | S1066BL010N | 4.88    | 0.69    | 2.00    | 3.50              | 0.75                        | 4                       | 2             |
| 1-1/4      | S1064BL012N | S1066BL012N | 5.25    | 0.81    | 2.50    | 3.88              | 0.75                        | 4                       | 3             |
| 1-1/2      | S1064BL014N | S1066BL014N | 6.12    | 0.88    | 2.88    | 4.50              | 0.88                        | 4                       | 4             |
| 2          | S1064BL020N | S1066BL020N | 6.50    | 1.00    | 3.62    | 5.00              | 0.75                        | 8                       | 5             |
| 3          | S1064BL030N | S1066BL030N | 8.25    | 1.25    | 5.00    | 6.62              | 0.88                        | 8                       | 9             |
| 4          | S1064BL040N | S1066BL040N | 10.00   | 1.50    | 6.19    | 8.50              | 1.00                        | 8                       | 17            |
| 6          | S1064BL060N | S1066BL060N | 12.50   | 1.88    | 8.50    | 11.50             | 1.12                        | 12                      | 26            |

Raised Face 1/16"

## 600# – Slip-On Raised Face Flange

| Size<br>IN | Part Number |             | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN | F<br>IN | Bolt Circle<br>IN | Bolt Hole<br>Diameter<br>IN | Number of Bolt<br>Holes | Weight<br>lbs |
|------------|-------------|-------------|---------|---------|---------|---------|---------|---------|-------------------|-----------------------------|-------------------------|---------------|
|            | 304/304L    | 316/316L    |         |         |         |         |         |         |                   |                             |                         |               |
| 1/2        | S1064SO004N | S1066SO004N | 3.75    | 0.56    | 1.38    | 0.88    | 0.88    | 1.50    | 2.62              | 0.62                        | 4                       | 1             |
| 3/4        | S1064SO006N | S1066SO006N | 4.62    | 0.62    | 1.69    | 1.00    | 1.09    | 1.88    | 3.25              | 0.75                        | 4                       | 2             |
| 1          | S1064SO010N | S1066SO010N | 4.88    | 0.69    | 2.00    | 1.06    | 1.36    | 2.12    | 3.50              | 0.75                        | 4                       | 2             |
| 1-1/4      | S1064SO012N | S1066SO012N | 5.25    | 0.81    | 2.50    | 1.12    | 1.70    | 2.50    | 3.88              | 0.75                        | 4                       | 3             |
| 1-1/2      | S1064SO014N | S1066SO014N | 6.12    | 0.88    | 2.88    | 1.25    | 1.95    | 2.75    | 4.50              | 0.88                        | 4                       | 3             |
| 2          | S1064SO020N | S1066SO020N | 6.50    | 1.00    | 3.62    | 1.44    | 2.44    | 3.31    | 5.00              | 0.75                        | 8                       | 5             |
| 3          | S1064SO030N | S1066SO030N | 8.25    | 1.25    | 5.00    | 1.81    | 3.57    | 4.62    | 6.62              | 0.88                        | 8                       | 8             |
| 4          | S1064SO040N | S1066SO040N | 10.00   | 1.50    | 6.19    | 2.12    | 4.60    | 0.94    | 8.50              | 1.00                        | 8                       | 13            |
| 6          | S1064SO060N | S1066SO060N | 12.50   | 1.88    | 8.50    | 2.62    | 6.72    | 1.06    | 11.50             | 1.12                        | 12                      | 19            |

Raised Face 1/16"



Weld Neck Flange

## 600# Schedule 40 – Weld Neck Raised Face Flange

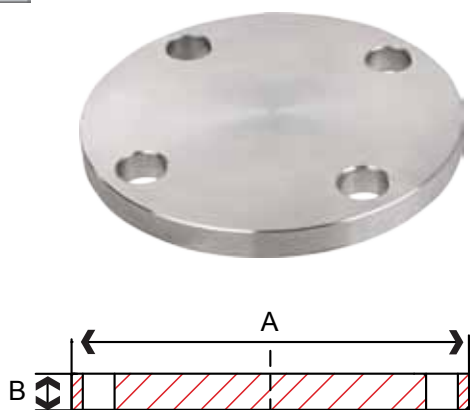
| Size<br>IN | Part Number  |              | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN                      | F<br>IN | G<br>IN | Bolt Circle<br>IN | Bolt Hole<br>Diameter<br>IN | Number of<br>Bolt Holes | Weight<br>lbs |
|------------|--------------|--------------|---------|---------|---------|---------|------------------------------|---------|---------|-------------------|-----------------------------|-------------------------|---------------|
|            | 304/304L     | 316/316L     |         |         |         |         |                              |         |         |                   |                             |                         |               |
| 1/2        | S1064WN4004N | S1066WN4004N | 3.75    | 0.56    | 1.38    | 2.06    | To be specified by purchaser | 0.84    | 1.50    | 2.62              | 0.62                        | 4                       | 2             |
| 3/4        | S1064WN4006N | S1066WN4006N | 4.62    | 0.62    | 1.69    | 2.25    |                              | 1.05    | 1.88    | 3.25              | 0.75                        | 4                       | 4             |
| 1          | S1064WN4010N | S1066WN4010N | 4.88    | 0.69    | 2.00    | 2.44    |                              | 1.32    | 2.12    | 3.50              | 0.75                        | 4                       | 4             |
| 1-1/4      | S1064WN4012N | S1066WN4012N | 5.25    | 0.81    | 2.50    | 2.62    |                              | 1.66    | 2.50    | 3.88              | 0.75                        | 4                       | 6             |
| 1-1/2      | S1064WN4014N | S1066WN4014N | 6.12    | 0.88    | 2.88    | 2.75    |                              | 1.90    | 2.75    | 4.50              | 0.88                        | 4                       | 8             |
| 2          | S1064WN4020N | S1066WN4020N | 6.50    | 1.00    | 3.62    | 2.88    |                              | 2.38    | 3.31    | 5.00              | 0.75                        | 8                       | 12            |
| 3          | S1064WN4030N | S1066WN4030N | 8.25    | 1.25    | 5.00    | 3.25    |                              | 3.50    | 4.62    | 6.62              | 0.88                        | 8                       | 23            |
| 4          | S1064WN4040N | S1066WN4040N | 10.00   | 1.50    | 6.19    | 4.00    |                              | 4.50    | 0.94    | 8.50              | 1.00                        | 8                       | 42            |
| 6          | S1064WN4060N | S1066WN4060N | 12.50   | 1.88    | 8.50    | 4.62    |                              | 6.63    | 1.06    | 11.50             | 1.12                        | 12                      | 81            |

Raised Face 1/16"

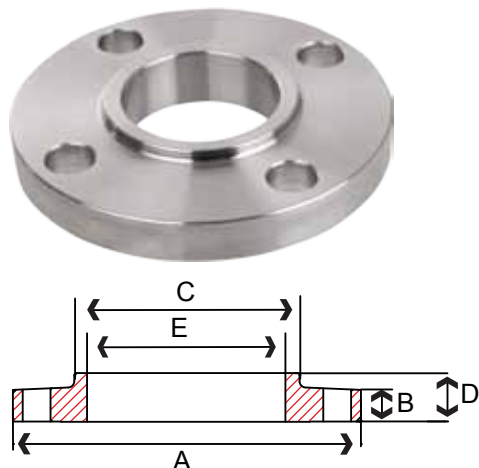
## 600# Schedule 80 – Weld Neck Raised Face Flange

| Size<br>IN | Part Number  |              | A<br>IN | B<br>IN | C<br>IN | D<br>IN | E<br>IN                      | F<br>IN | G<br>IN | Bolt Circle<br>IN | Bolt Hole<br>Diameter<br>IN | Number of<br>Bolt Holes | Weight<br>lbs |
|------------|--------------|--------------|---------|---------|---------|---------|------------------------------|---------|---------|-------------------|-----------------------------|-------------------------|---------------|
|            | 304/304L     | 316/316L     |         |         |         |         |                              |         |         |                   |                             |                         |               |
| 1/2        | S1064WN8004N | S1066WN8004N | 3.75    | 0.56    | 1.38    | 2.06    | To be specified by purchaser | 0.84    | 1.50    | 2.62              | 0.62                        | 4                       | 2             |
| 3/4        | S1064WN8006N | S1066WN8006N | 4.62    | 0.62    | 1.69    | 2.25    |                              | 1.05    | 1.88    | 3.25              | 0.75                        | 4                       | 4             |
| 1          | S1064WN8010N | S1066WN8010N | 4.88    | 0.69    | 2.00    | 2.44    |                              | 1.32    | 2.12    | 3.50              | 0.75                        | 4                       | 4             |
| 1-1/4      | S1064WN8012N | S1066WN8012N | 5.25    | 0.81    | 2.50    | 2.62    |                              | 1.66    | 2.50    | 3.88              | 0.75                        | 4                       | 6             |
| 1-1/2      | S1064WN8014N | S1066WN8014N | 6.12    | 0.88    | 2.88    | 2.75    |                              | 1.90    | 2.75    | 4.50              | 0.88                        | 4                       | 8             |
| 2          | S1064WN8020N | S1066WN8020N | 6.50    | 1.00    | 3.62    | 2.88    |                              | 2.38    | 3.31    | 5.00              | 0.75                        | 8                       | 12            |
| 3          | S1064WN8030N | S1066WN8030N | 8.25    | 1.25    | 5.00    | 3.25    |                              | 3.50    | 4.62    | 6.62              | 0.88                        | 8                       | 23            |
| 4          | S1064WN8040N | S1066WN8040N | 10.00   | 1.50    | 6.19    | 4.00    |                              | 4.50    | 0.94    | 8.50              | 1.00                        | 8                       | 42            |
| 6          | S1064WN8060N | S1066WN8060N | 12.50   | 1.88    | 8.50    | 4.62    |                              | 6.63    | 1.06    | 11.50             | 1.12                        | 12                      | 81            |

Raised Face 1/16"



Blind Flange



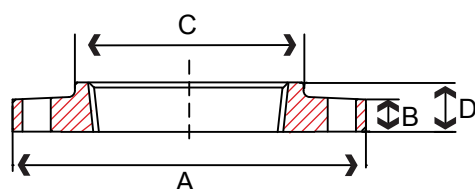
Slip-On Flange

## Blind MSS Flange

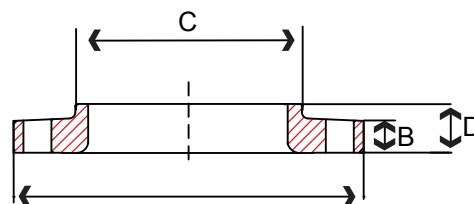
| Size  | Part Number |            | A<br>Outside<br>Diameter | B<br>Thickness | Bolt Circle | Bolt Hole<br>Diameter | Number of<br>Bolt Holes | Weight<br><br>lbs |
|-------|-------------|------------|--------------------------|----------------|-------------|-----------------------|-------------------------|-------------------|
| IN    | 304/304L    | 316/316L   | IN                       | IN             | IN          | IN                    |                         |                   |
| 1/2   | S1514BL004  | S1516BL004 | 3.500                    | 5/16           | 2-3/8       | 5/8                   | 4                       | 1                 |
| 3/4   | S1514BL006  | S1516BL006 | 3.875                    | 11/32          | 3-3/4       | 5/8                   | 4                       | 2                 |
| 1     | S1514BL010  | S1516BL010 | 4.250                    | 3/8            | 3-1/8       | 5/8                   | 4                       | 2                 |
| 1-1/4 | S1514BL012  | S1516BL012 | 4.625                    | 13/32          | 3-1/2       | 5/8                   | 4                       | 3                 |
| 1-1/2 | S1514BL014  | S1516BL014 | 5.000                    | 7/16           | 3-7/8       | 5/8                   | 4                       | 4                 |
| 2     | S1514BL020  | S1516BL020 | 6.000                    | 1/2            | 4-3/4       | 3/4                   | 4                       | 5                 |
| 2-1/2 | S1514BL024  | S1516BL024 | 7.000                    | 9/16           | 5-1/2       | 3/4                   | 4                       | 9                 |
| 3     | S1514BL030  | S1516BL030 | 7.500                    | 5/8            | 6           | 3/4                   | 4                       | 17                |
| 4     | S1514BL040  | S1516BL040 | 9.000                    | 11/16          | 7-1/2       | 3/4                   | 8                       | 26                |

## Slip-On MSS Flange

| Size  | Part Number |            | A<br>Outside<br>Diameter | B<br>Thickness | C<br>Hub<br>Diameter | D<br>Slip-on | E<br>Depth of<br>Socket | Bolt<br>Circle | Bolt Hole<br>Diameter | Number<br>of Bolt<br>Holes | Weight<br><br>lbs |
|-------|-------------|------------|--------------------------|----------------|----------------------|--------------|-------------------------|----------------|-----------------------|----------------------------|-------------------|
| IN    | 304/304L    | 316/316L   | IN                       | IN             | IN                   | IN           | IN                      | IN             | IN                    |                            |                   |
| 1/2   | S1514SO004  | S1516SO004 | 3.500                    | 5/16           | 1-3/16               | 19/32        | 3/8                     | 2-3/8          | 5/8                   | 4                          | 1                 |
| 3/4   | S1514SO006  | S1516SO006 | 3.875                    | 11/32          | 1-1/2                | 5/8          | 7/16                    | 3-3/4          | 5/8                   | 4                          | 2                 |
| 1     | S1514SO010  | S1516SO010 | 4.250                    | 3/8            | 1-15/16              | 11/16        | 1/2                     | 3-1/8          | 5/8                   | 4                          | 2                 |
| 1-1/4 | S1514SO012  | S1516SO012 | 4.625                    | 13/32          | 2-5/16               | 13/16        | 9/16                    | 3-1/2          | 5/8                   | 4                          | 3                 |
| 1-1/2 | S1514SO014  | S1516SO014 | 5.000                    | 7/16           | 2-9/16               | 7/8          | 5/8                     | 3-7/8          | 5/8                   | 4                          | 3                 |
| 2     | S1514SO020  | S1516SO020 | 6.000                    | 1/2            | 2-9/16               | 1            | 11/16                   | 4-3/4          | 3/4                   | 4                          | 3                 |
| 2-1/2 | S1514SO024  | S1516SO024 | 7.000                    | 9/16           | 3-1/16               | 1-1/8        | 3/4                     | 5-1/2          | 3/4                   | 4                          | 5                 |
| 3     | S1514SO030  | S1516SO030 | 7.500                    | 5/8            | 4-1/4                | 1-3/16       | 13/16                   | 6              | 3/4                   | 4                          | 8                 |
| 4     | S1514SO040  | S1516SO040 | 9.000                    | 11/16          | 5-5/16               | 1-5/16       | -                       | 7-1/2          | 3/4                   | 8                          | 13                |
| 6     | S1514SO060  | S1516SO060 | 11.00                    | 13/16          | 7-9/16               | 1-9/16       | -                       | 9-1/2          | 7/8                   | 8                          | 19                |



Threaded Flange



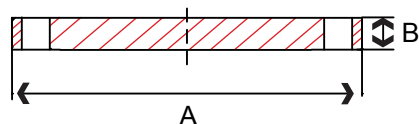
Lap Joint Flange

## Threaded MSS Flange

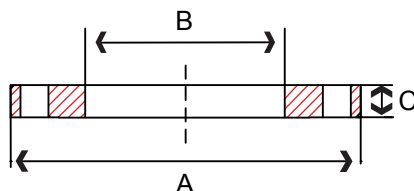
| Size  | Part Number |            | A<br>Outside<br>Diameter | B<br>Thickness | C<br>Hub<br>Diameter | D      | Bolt Circle | Bolt Hole<br>Diameter | Number<br>of Bolt<br>Holes | Weight<br>lbs |
|-------|-------------|------------|--------------------------|----------------|----------------------|--------|-------------|-----------------------|----------------------------|---------------|
| IN    | 304/304L    | 316/316L   | IN                       | IN             | IN                   | IN     | IN          | IN                    |                            |               |
| 1/2   | S1514TH004  | S1516TH004 | 3.500                    | 5/16           | 1-3/16               | 19/32  | 2-3/8       | 5/8                   | 4                          | 1             |
| 3/4   | S1514TH006  | S1516TH006 | 3.875                    | 11/32          | 1-1/2                | 5/8    | 3-3/4       | 5/8                   | 4                          | 2             |
| 1     | S1514TH010  | S1516TH010 | 4.250                    | 3/8            | 1-15/16              | 11/16  | 3-1/8       | 5/8                   | 4                          | 2             |
| 1-1/4 | S1514TH012  | S1516TH012 | 4.625                    | 13/32          | 2-5/16               | 13/16  | 3-1/2       | 5/8                   | 4                          | 3             |
| 1-1/2 | S1514TH014  | S1516TH014 | 5.000                    | 7/16           | 2-9/16               | 7/8    | 3-7/8       | 5/8                   | 4                          | 3             |
| 2     | S1514TH020  | S1516TH020 | 6.000                    | 1/2            | 2-9/16               | 1      | 4-3/4       | 3/4                   | 4                          | 4             |
| 2-1/2 | S1514TH024  | S1516TH024 | 7.000                    | 9/16           | 3-1/16               | 1-1/8  | 5-1/2       | 3/4                   | 4                          | 5             |
| 3     | S1514TH030  | S1516TH030 | 7.500                    | 5/8            | 4-1/4                | 1-3/16 | 6           | 3/4                   | 4                          | 9             |
| 4     | S1514TH040  | S1516TH040 | 9.000                    | 11/16          | 5-5/16               | 1-5/16 | 7-1/2       | 3/4                   | 8                          | 17            |
| 6     | S1514TH060  | S1516TH060 | 11.00                    | 13/16          | 7-9/16               | 1-9/16 | 9-1/2       | 7/8                   | 8                          | 26            |

## Lap Joint MSS Flange

| Size  | Part Number |            | A<br>Outside<br>Diameter | B<br>Thickness | C<br>Hub<br>Diameter | D<br>Slip-on | Bolt Circle | Bolt Hole<br>Diameter | Number<br>of Bolt<br>Holes | Weight<br>lbs |
|-------|-------------|------------|--------------------------|----------------|----------------------|--------------|-------------|-----------------------|----------------------------|---------------|
| IN    | 304/304L    | 316/316L   | IN                       | IN             | IN                   | IN           | IN          | IN                    |                            |               |
| 1/2   | S1514LJ004  | S1516LJ004 | 3.500                    | 5/16           | 1-3/16               | 19/32        | 2-3/8       | 5/8                   | 4                          | 1             |
| 3/4   | S1514LJ006  | S1516LJ006 | 3.875                    | 11/32          | 1-1/2                | 5/8          | 3-3/4       | 5/8                   | 4                          | 2             |
| 1     | S1514LJ010  | S1516LJ010 | 4.250                    | 3/8            | 1-15/16              | 11/16        | 3-1/8       | 5/8                   | 4                          | 2             |
| 1-1/4 | S1514LJ012  | S1516LJ012 | 4.625                    | 13/32          | 2-5/16               | 13/16        | 3-1/2       | 5/8                   | 4                          | 3             |
| 1-1/2 | S1514LJ014  | S1516LJ014 | 5.000                    | 7/16           | 2-9/16               | 7/8          | 3-7/8       | 5/8                   | 4                          | 3             |
| 2     | S1514LJ020  | S1516LJ020 | 6.000                    | 1/2            | 2-9/16               | 1            | 4-3/4       | 3/4                   | 4                          | 3             |
| 2-1/2 | S1514LJ024  | S1516LJ024 | 7.000                    | 9/16           | 3-1/16               | 1-1/8        | 5-1/2       | 3/4                   | 4                          | 5             |
| 3     | S1514LJ030  | S1516LJ030 | 7.500                    | 5/8            | 4-1/4                | 1-3/16       | 6           | 3/4                   | 4                          | 8             |
| 4     | S1514LJ040  | S1516LJ040 | 9.000                    | 11/16          | 5-5/16               | 1-5/16       | 7-1/2       | 3/4                   | 8                          | 13            |
| 6     | S1514LJ060  | S1516LJ060 | 11.00                    | 13/16          | 7-9/16               | 1-9/16       | 9-1/2       | 7/8                   | 8                          | 19            |



Blind Plate Flange



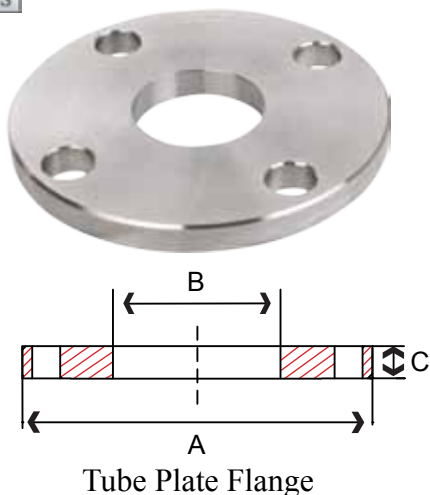
Slip-On IPS Plate Flange

## Blind Plate Flanges

| Size<br>IN | Part Numbers |             | A<br>Outside<br>Diameter<br>IN | B<br>Thickness<br>IN | Number of<br>Bolt Holes | Bolt Hole<br>Diameter<br>IN | Bolt Circle<br>IN | Weight<br>LB |
|------------|--------------|-------------|--------------------------------|----------------------|-------------------------|-----------------------------|-------------------|--------------|
|            | 304          | 316         |                                |                      |                         |                             |                   |              |
| 1          | S1414BLP010  | S1416BLP010 | 4.25                           | 0.500                | 4                       | 0.625                       | 3.12              | 1.9          |
| 1-1/2      | S1414BLP014  | S1416BLP014 | 5.00                           | 0.500                | 4                       | 0.625                       | 3.88              | 2.7          |
| 2          | S1414BLP020  | S1416BLP020 | 6.00                           | 0.500                | 4                       | 0.750                       | 4.75              | 3.9          |
| 2-1/2      | S1414BLP024  | S1416BLP024 | 7.00                           | 0.500                | 4                       | 0.750                       | 5.50              | 5.5          |
| 3          | S1414BLP030  | S1416BLP030 | 7.50                           | 0.500                | 4                       | 0.750                       | 6.00              | 6.3          |
| 4          | S1414BLP040  | S1416BLP040 | 9.00                           | 0.500                | 8                       | 0.750                       | 7.50              | 9.0          |
| 6          | S1414BLP060  | S1416BLP060 | 11.00                          | 0.500                | 8                       | 0.880                       | 9.50              | 13.5         |
| 8          | S1414BLP080  | S1416BLP080 | 13.50                          | 0.500                | 8                       | 0.880                       | 11.75             | 20.8         |
| 10         | S1414BLP100  | -           | 16.00                          | 0.500                | 12                      | 1.000                       | 14.25             | 28.5         |
| 12         | S1414BLP120  | -           | 19.00                          | 0.500                | 12                      | 1.000                       | 17.00             | 40.7         |

## Slip-On IPS Plate Flanges

| Size<br>IN | Part Numbers |             | A<br>Outside<br>Diameter<br>IN | B<br>Inside<br>Diameter<br>IN | C<br>Thickness<br>IN | Number of<br>Bolt Holes | Bolt Hole<br>Diameter<br>IN | Bolt Circle<br>IN | Weight<br>LB |
|------------|--------------|-------------|--------------------------------|-------------------------------|----------------------|-------------------------|-----------------------------|-------------------|--------------|
|            | 304          | 316         |                                |                               |                      |                         |                             |                   |              |
| 1          | S1414SOP010  | S1416SOP010 | 4.25                           | 1.36                          | 0.500                | 4                       | 0.625                       | 3.12              | 1.7          |
| 1-1/2      | S1414SOP014  | S1416SOP014 | 5.00                           | 1.95                          | 0.500                | 4                       | 0.625                       | 3.88              | 2.3          |
| 2          | S1414SOP020  | S1416SOP020 | 6.00                           | 2.44                          | 0.500                | 4                       | 0.75                        | 4.75              | 3.2          |
| 2-1/2      | S1414SOP024  | S1416SOP024 | 7.00                           | 2.94                          | 0.500                | 4                       | 0.75                        | 5.50              | 4.5          |
| 3          | S1414SOP030  | S1416SOP030 | 7.50                           | 3.57                          | 0.500                | 4                       | 0.75                        | 6.00              | 4.8          |
| 4          | S1414SOP040  | S1416SOP040 | 9.00                           | 4.60                          | 0.500                | 8                       | 0.75                        | 7.50              | 6.5          |
| 5          | S1414SOP050  | S1416SOP050 | 10.00                          | 5.66                          | 0.500                | 8                       | 0.88                        | 8.50              | 7.3          |
| 6          | S1414SOP060  | S1416SOP060 | 11.00                          | 6.72                          | 0.500                | 8                       | 0.88                        | 9.50              | 8.2          |
| 8          | S1414SOP080  | S1416SOP080 | 13.50                          | 8.72                          | 0.500                | 8                       | 0.88                        | 11.75             | 11.8         |
| 10         | S1414SOP100  | S1416SOP100 | 16.00                          | 10.88                         | 0.500                | 12                      | 1.00                        | 14.25             | 18.3         |
| 12         | S1414SOP120  | S1416SOP120 | 19.00                          | 12.88                         | 0.500                | 12                      | 1.00                        | 17.00             | 26.8         |
| 14         | -            | S1416SOP140 | 21.00                          | 14.14                         | 0.500                | 12                      | 1.12                        | 18.75             | 31.6         |
| 16         | -            | S1416SOP160 | 23.50                          | 16.16                         | 0.500                | 12                      | 1.12                        | 21.25             | 31.4         |
| 18         | -            | S1416SOP180 | 25.00                          | 18.18                         | 0.500                | 12                      | 1.25                        | 22.75             | 31.4         |
| 20         | -            | S1416SOP200 | 27.50                          | 20.20                         | 0.500                | 12                      | 1.25                        | 25.00             | 36.8         |
| 24         | -            | S1416SOP240 | 32.00                          | 24.25                         | 0.500                | 12                      | 1.38                        | 29.50             | 46.3         |



## Tube Plate Flanges

| Size<br>IN | Part Numbers |              | A<br>Outside<br>Diameter<br>IN | B<br>Inside<br>Diameter<br>IN | C<br>Thickness<br>IN | Number of<br>Bolt Holes | Bolt Hole<br>Diameter<br>IN | Bolt Circle<br>IN | Weight<br>LB |
|------------|--------------|--------------|--------------------------------|-------------------------------|----------------------|-------------------------|-----------------------------|-------------------|--------------|
|            | 304          | 316          |                                |                               |                      |                         |                             |                   |              |
| 1          | S1414SOTP010 | S1416SOTP010 | 4.25                           | 1.063                         | 0.500                | 4                       | 0.625                       | 3.12              | 1.7          |
| 1-1/2      | S1414SOTP014 | S1416SOTP014 | 5.00                           | 1.563                         | 0.500                | 4                       | 0.625                       | 3.88              | 2.3          |
| 2          | S1414SOTP020 | S1416SOTP020 | 6.00                           | 2.063                         | 0.500                | 4                       | 0.750                       | 4.75              | 3.2          |
| 2-1/2      | S1414SOTP024 | S1416SOTP024 | 7.00                           | 2.563                         | 0.500                | 4                       | 0.750                       | 5.50              | 4.5          |
| 3          | S1414SOTP030 | S1416SOTP030 | 7.50                           | 3.063                         | 0.500                | 4                       | 0.750                       | 6.00              | 4.8          |
| 4          | S1414SOTP040 | S1416SOTP040 | 9.00                           | 4.063                         | 0.500                | 8                       | 0.750                       | 7.50              | 6.5          |
| 6          | S1414SOTP060 | S1416SOTP060 | 11.00                          | 6.063                         | 0.500                | 8                       | 0.875                       | 9.50              | 8.2          |
| 8          | S1414SOTP080 | S1416SOTP080 | 13.50                          | 8.063                         | 0.500                | 8                       | 0.875                       | 11.75             | 11.8         |
| 10         | S1414SOTP100 | S1416SOTP100 | 16.00                          | 10.063                        | 0.500                | 12                      | 1.00                        | 14.25             | 14.7         |
| 12         | S1414SOTP120 | S1416SOTP120 | 19.00                          | 12.063                        | 0.500                | 12                      | 1.00                        | 17.00             | 18.2         |



# Stainless Weld Fittings

## Specifications

- Stainless weld fittings conform to ASTM A403, ASTM A960, MSS SP-43
- Stainless weld fitting dimensions conform to ASTM B16.9 (except Wall) and MSS SP-43
- Manufacturing facility is ISO 9001:2008
- Independent lab verification that fittings meet applicable chemical & physical properties

**Fig. S2014LE & S2016LE - 90° Elbow Long Radius**

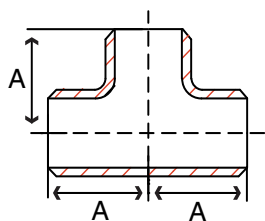
| Size<br>IN | Part Number |            | A<br>IN | Weight<br>LB |
|------------|-------------|------------|---------|--------------|
|            | 304 / L     | 316 / L    |         |              |
| 1/2        | S2014LE004  | S2016LE004 | 1.50    | 0.1          |
| 3/4        | S2014LE006  | S2016LE006 | 1.12    | 0.1          |
| 1          | S2014LE010  | S2016LE010 | 1.50    | 0.1          |
| 1-1/4      | S2014LE012  | S2016LE012 | 1.88    | 0.2          |
| 1-1/2      | S2014LE014  | S2016LE014 | 2.25    | 0.3          |
| 2          | S2014LE020  | S2016LE020 | 3.00    | 0.6          |
| 2-1/2      | S2014LE024  | S2016LE024 | 3.75    | 1.2          |
| 3          | S2014LE030  | S2016LE030 | 4.50    | 1.7          |
| 4          | S2014LE040  | S2016LE040 | 6.00    | 3.0          |
| 5          | S2014LE050  | S2016LE050 | 7.50    | 6.1          |
| 6          | S2014LE060  | S2016LE060 | 9.00    | 8.9          |
| 8          | S2014LE080  | S2016LE080 | 12.00   | 15.4         |
| 10         | S2014LE100  | S2016LE100 | 15.00   | 29.2         |
| 12         | S2014LE120  | S2016LE120 | 16.00   | 52.0         |

**Fig. S2014E & S2016E - 90° Elbow Short Radius**

| Size<br>IN | Part Number |            | A<br>IN | Weight<br>LB |
|------------|-------------|------------|---------|--------------|
|            | 304 / L     | 316 / L    |         |              |
| 1          | S2014E 010  | S2016E 010 | 1.50    | 0.1          |
| 1-1/4      | S2014E 012  | S2016E 012 | 1.88    | 0.2          |
| 1-1/2      | S2014E 014  | S2016E 014 | 2.25    | 0.3          |
| 2          | S2014E 020  | S2016E 020 | 3.00    | 0.6          |
| 2-1/2      | S2014E 024  | S2016E 024 | 3.75    | 1.2          |
| 3          | S2014E 030  | S2016E 030 | 4.50    | 1.7          |
| 4          | S2014E 040  | S2016E 040 | 6.00    | 3.0          |
| 5          | S2014E 050  | S2016E 050 | 7.50    | 6.1          |
| 6          | S2014E 060  | S2016E 060 | 9.00    | 8.9          |
| 8          | S2014E 080  | S2016E 080 | 12.00   | 15.4         |
| 10         | S2014E 100  | S2016E 100 | 15.00   | 29.2         |
| 12         | S2014E 120  | S2016E 120 | 16.00   | 52.0         |

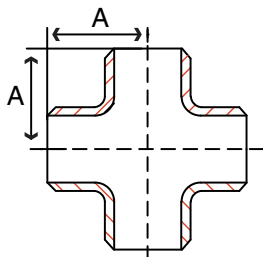
**Fig. S2014F & S2016F - 45° Elbow**

| Size<br>IN | Part Number |            | A<br>IN | Weight<br>LB |
|------------|-------------|------------|---------|--------------|
|            | 304 / L     | 316 / L    |         |              |
| 1/2        | S2014F 004  | S2016F 004 | 0.62    | 0.07         |
| 3/4        | S2014F 006  | S2016F 006 | 0.44    | 0.07         |
| 1          | S2014F 010  | S2016F 010 | 0.86    | 0.1          |
| 1-1/4      | S2014F 012  | S2016F 012 | 1.00    | 0.2          |
| 1-1/2      | S2014F 014  | S2016F 014 | 1.12    | 0.3          |
| 2          | S2014F 020  | S2016F 020 | 1.36    | 0.5          |
| 2-1/2      | S2014F 024  | S2016F 024 | 1.75    | 0.9          |
| 3          | S2014F 030  | S2016F 030 | 2.00    | 1.3          |
| 4          | S2014F 040  | S2016F 040 | 2.50    | 2.3          |
| 5          | S2014F 050  | S2016F 050 | 3.12    | 4.0          |
| 6          | S2014F 060  | S2016F 060 | 3.75    | 5.7          |
| 8          | S2014F 080  | S2016F 080 | 5.00    | 11.1         |
| 10         | S2014F 100  | S2016F 100 | 6.25    | 19.3         |
| 12         | S2014F 120  | S2016F 120 | 7.50    | 29.8         |



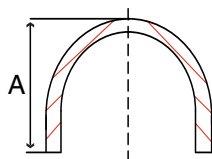
**Fig. S2014T & S2016T - Tee**

| Size<br>IN | Part Number |            | A<br>IN | Weight<br>LB |
|------------|-------------|------------|---------|--------------|
|            | 304 / L     | 316 / L    |         |              |
| 1/2        | S2014T 004  | S2016T 004 | 1.00    | 0.2          |
| 3/4        | S2014T 006  | S2016T 006 | 1.125   | 0.3          |
| 1          | S2014T 010  | S2016T 010 | 1.50    | 0.5          |
| 1-1/4      | S2014T 012  | S2016T 012 | 1.68    | 1.1          |
| 1-1/2      | S2014T 014  | S2016T 014 | 2.25    | 1.6          |
| 2          | S2014T 020  | S2016T 020 | 2.50    | 1.7          |
| 2-1/2      | S2014T 024  | S2016T 024 | 3.00    | 2.8          |
| 3          | S2014T 030  | S2016T 030 | 3.38    | 3.8          |
| 4          | S2014T 040  | S2016T 040 | 4.12    | 5.8          |
| 5          | S2014T 050  | S2016T 050 | 4.88    | 10.3         |
| 6          | S2014T 060  | S2016T 060 | 5.520   | 14.6         |
| 8          | S2014T 080  | S2016T 080 | 7.00    | 24.0         |
| 10         | S2014T 100  | S2016T 100 | 8.6     | 40.0         |
| 12         | S2014T 120  | S2016T 120 | 10.00   | 56.0         |



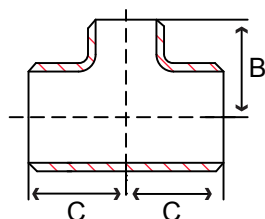
**Fig. S2014X & S2016X - Cross**

| Size<br>IN | Part Number |            | A<br>IN | Weight<br>LB |
|------------|-------------|------------|---------|--------------|
|            | 304 / L     | 316 / L    |         |              |
| 1-1/2      | S2014X 014  | S2016X 014 | 2.25    | 1.7          |
| 2          | S2014X 020  | S2016X 020 | 2.50    | 2.1          |
| 3          | S2014X 030  | S2016X 030 | 3.38    | 4.4          |
| 4          | S2014X 040  | S2016X 040 | 4.12    | 8.7          |
| 6          | S2014X 060  | S2016X 060 | 5.52    | 20.4         |



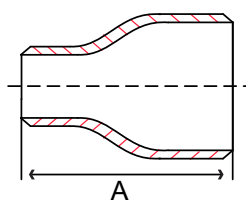
**Fig. S2014C & S2016C - Cap**

| Size<br>IN | Part Number |            | A<br>IN | Weight<br>LB |
|------------|-------------|------------|---------|--------------|
|            | 304 / L     | 316 / L    |         |              |
| 1/2        | S2014C 004  | S2016C 004 | 1.00    | 0.07         |
| 3/4        | S2014C 006  | S2016C 006 | 1.00    | 0.1          |
| 1          | S2014C 010  | S2016C 010 | 1.50    | 0.1          |
| 1-1/4      | S2014C 012  | S2016C 012 | 1.50    | 0.2          |
| 1-1/2      | S2014C 014  | S2016C 014 | 1.50    | 0.2          |
| 2          | S2014C 020  | S2016C 020 | 15.0    | 0.4          |
| 2-1/2      | S2014C 024  | S2016C 024 | 1.50    | 0.5          |
| 3          | S2014C 030  | S2016C 030 | 2.00    | 0.8          |
| 4          | S2014C 040  | S2016C 040 | 2.50    | 1.2          |
| 5          | S2014C 050  | S2016C 050 | 3.00    | 2.4          |
| 6          | S2014C 060  | S2016C 060 | 3.50    | 3.1          |
| 8          | S2014C 080  | S2016C 080 | 4.00    | 5.4          |
| 10         | S2014C 100  | S2016C 100 | 5.00    | 9.9          |
| 12         | S2014C 120  | S2016C 120 | 6.00    | 14.7         |



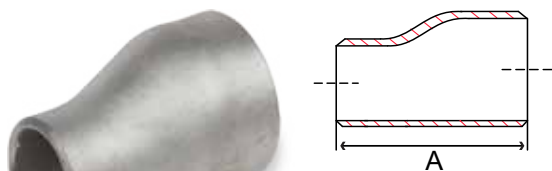
**Fig. S2014RT & S2016RT - Reducing Tee**

| Size<br>IN    | Part Number   |               | A<br>IN | C<br>IN | Weight<br>LB |
|---------------|---------------|---------------|---------|---------|--------------|
|               | 304 / L       | 316 / L       |         |         |              |
| 3/4 x 1/2     | S2014RT006004 | S2016RT006004 | 1-1/8   | 1-1/8   | 0.2          |
| 1 x 1/2       | S2014RT010004 | S2016RT010004 | 1-1/2   | 1-1/2   | 0.5          |
| 1 x 3/4       | S2014RT010006 | S2016RT010006 | 1-1/2   | 1-1/2   | 0.5          |
| 1-1/4 x 3/4   | S2014RT012006 | S2016RT012006 | 1-7/8   | 1-7/8   | 0.9          |
| 1-1/4 x 1     | S2014RT012010 | S2016RT012010 | 1-7/8   | 1-7/8   | 0.9          |
| 1-1/2 x 1/2   | S2014RT014004 | S2016RT014004 | 2-1/4   | 2-1/4   | 1.2          |
| 1-1/2 x 3/4   | S2014RT014006 | S2016RT014006 | 2-1/4   | 2-1/4   | 1.2          |
| 1-1/2 x 1     | S2014RT014010 | S2016RT014010 | 2-1/4   | 2-1/4   | 1.3          |
| 1-1/2 x 1-1/4 | S2014RT014012 | S2016RT014012 | 2-1/4   | 2-1/4   | 1.3          |
| 2 x 1/2       | S2014RT020004 | S2014RT020004 | 2-1/2   |         |              |
| 2 x 3/4       | S2014RT020006 | S2016RT020006 | 2-1/2   | 1-3/4   | 1.5          |
| 2 x 1         | S2014RT020010 | S2016RT020010 | 2-1/2   | 2       | 1.6          |
| 2 x 1-1/4     | S2014RT020012 | S2016RT020012 | 2-1/2   | 2-1/4   | 1.6          |
| 2 x 1-1/2     | S2014RT020014 | S2016RT020014 | 2-1/2   | 2-3/8   | 1.6          |
| 2-1/2 x 1     | S2014RT024010 | S2016RT024010 | 3       | 2-1/4   | 2.6          |
| 2-1/2 x 1-1/2 | S2014RT024014 | S2016RT024014 | 3       | 2-5/8   | 2.7          |
| 2-1/2 x 2     | S2014RT024020 | S2016RT024020 | 3       | 2-3/4   | 2.7          |
| 3 x 1         | S2014RT030010 | S2016RT030010 | 3-3/8   | 2-5/8   | 3.2          |
| 3 x 1-1/4     | S2014RT030012 | S2016RT030012 | 3-3/8   | 2-3/4   | 3.3          |
| 3 x 1-1/2     | S2014RT030014 | S2016RT030014 | 3-3/8   | 2-7/8   | 3.3          |
| 3 x 2         | S2014RT030020 | S2016RT030020 | 3-3/8   | 3       | 3.4          |
| 3 x 2-1/2     | S2014RT030024 | S2016RT030024 | 3-3/8   | 3-1/4   | 3.5          |
| 4 x 1-1/2     | S2014RT040014 | S2016RT040014 | 4-1/8   | 3-3/8   | 6.4          |
| 4 x 2         | S2014RT040020 | S2016RT040020 | 4-1/8   | 3-1/2   | 6.4          |
| 4 x 2-1/2     | S2014RT040024 | S2016RT040024 | 4-1/8   | 3-3/4   | 6.5          |
| 4 x 3         | S2014RT040030 | S2016RT040030 | 4-1/8   | 3-7/8   | 6.7          |
| 5 x 3         | S2014RT050030 | S2016RT050030 | 4-7/8   | 4-3/8   | 11.5         |
| 5 x 4         | S2014RT050040 | S2016RT050040 | 4-7/8   | 5       | 12.1         |
| 6 x 2         | S2014RT060020 | S2016RT060020 | 5-5/8   |         |              |
| 6 x 2-1/2     | S2014RT060024 | S2016RT060024 | 5-5/8   | 4-3/4   | 14.9         |
| 6 x 3         | S2014RT060030 | S2016RT060030 | 5-5/8   | 4-7/8   | 15.1         |
| 6 x 4         | S2014RT060040 | S2016RT060040 | 5-5/8   | 5-1/8   | 15.6         |
| 8 x 3         | S2014RT080030 | S2016RT080030 | 7       | 6       | 29.0         |
| 8 x 4         | S2014RT080040 | S2016RT080040 | 7       | 6-1/8   | 29.6         |
| 8 x 6         | S2014RT080060 | S2016RT080060 | 7       | 6-5/8   | 31.0         |
| 10 x 4        | S2014RT100040 | S2016RT100040 | 8-1/2   | 7-1/4   | 50.1         |
| 10 x 6        | S2014RT100060 | S2016RT100060 | 8-1/2   | 7-5/8   | 51.9         |
| 10 x 8        | S2014RT100080 | S2016RT100080 | 8-1/2   | 8       | 53.1         |
| 12 x 6        | S2014RT120060 | S2016RT120060 | 10      | 8-5/8   | 74.8         |
| 12 x 8        | S2014RT120080 | S2016RT120080 | 10      | 9       | 76.5         |
| 12 x 10       | S2014RT120100 | S2016RT120100 | 10      | 9-1/2   | 78.3         |



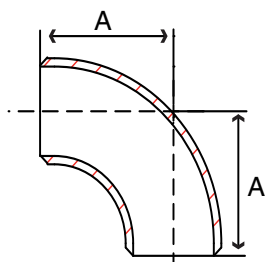
**Fig. S2014CR & S2016CR - Concentric Reducer**

| Size<br>IN    | Part Number   |               | A<br>IN | Weight<br>LB |
|---------------|---------------|---------------|---------|--------------|
|               | 304 / L       | 316 / L       |         |              |
| 3/4 x 1/2     | S2014CR006004 | S2016CR006004 | 1-1/2   | 0.2          |
| 1 x 1/2       | S2014CR010004 | S2016CR010004 | 2       | 0.2          |
| 1 x 3/4       | S2014CR010006 | S2016CR010006 | 2       | 0.2          |
| 1-1/4 x 1/2   | S2014CR012004 | S2016CR012004 | 2       | 0.3          |
| 1-1/4 x 3/4   | S2014CR012006 | S2016CR012006 | 2       | 0.3          |
| 1-1/4 x 1     | S2014CR012010 | S2016CR012010 | 2       | 0.3          |
| 1-1/2 x 1/2   | S2014CR014004 | S2016CR014004 | 2-1/2   | 0.3          |
| 1-1/2 x 3/4   | S2014CR014006 | S2016CR014006 | 2-1/2   | 0.3          |
| 1-1/2 x 1     | S2014CR014010 | S2016CR014010 | 2-1/2   | 0.4          |
| 1-1/2 x 1-1/4 | S2014CR014012 | S2016CR014012 | 2-1/2   | 0.4          |
| 2 x 1/2       | S2014CR020004 | S2016CR020004 | 3       | 0.5          |
| 2 x 3/4       | S2014CR020006 | S2016CR020006 | 3       | 0.5          |
| 2 x 1         | S2014CR020010 | S2016CR020010 | 3       | 0.6          |
| 2 x 1-1/4     | S2014CR020012 | S2016CR020012 | 3       | 0.6          |
| 2 x 1-1/2     | S2014CR020014 | S2016CR020014 | 3       | 0.6          |
| 2-1/2 x 1     | S2014CR024010 | S2016CR024010 | 3-1/2   | 0.8          |
| 2-1/2 x 1-1/4 | S2014CR024012 | S2016CR024012 | 3-1/2   | 0.9          |
| 2-1/2 x 1-1/2 | S2014CR024014 | S2016CR024014 | 3-1/2   | 0.9          |
| 2-1/2 x 2     | S2014CR024020 | S2016CR024020 | 3-1/2   | 1.0          |
| 3 x 1         | S2014CR030010 | S2016CR030010 | 3-1/2   | 1.0          |
| 3 x 1-1/4     | S2014CR030012 | S2016CR030012 | 3-1/2   | 1.0          |
| 3 x 1-1/2     | S2014CR030014 | S2016CR030014 | 3-1/2   | 1.1          |
| 3 x 2         | S2014CR030020 | S2016CR030020 | 3-1/2   | 1.2          |
| 3 x 2-1/2     | S2014CR030024 | S2016CR030024 | 3-1/2   | 1.3          |
| 4 x 1-1/2     | S2014CR040014 | S2016CR040014 | 4       | 1.7          |
| 4 x 2         | S2014CR040020 | S2016CR040020 | 4       | 1.5          |
| 4 x 2-1/2     | S2014CR040024 | S2016CR040024 | 4       | 1.7          |
| 4 x 3         | S2014CR040030 | S2016CR040030 | 4       | 1.8          |
| 5 x 3         | S2014CR050030 | S2016CR050030 | 5       | 3.0          |
| 5 x 4         | S2014CR050040 | S2016CR050040 | 5       | 3.2          |
| 6 x 2         | S2014CR060020 | S2016CR060020 | 5-1/2   | 3.2          |
| 6 x 2-1/2     | S2014CR060024 | S2016CR060024 | 5-1/2   | 3.2          |
| 6 x 3         | S2014CR060030 | S2016CR060030 | 5-1/2   | 3.3          |
| 6 x 4         | S2014CR060040 | S2016CR060040 | 5-1/2   | 4.2          |
| 6 x 5         | S2014CR060050 | S2016CR060050 | 5-1/2   | 4.3          |
| 8 x 3         | S2014CR080030 | S2016CR080030 | 6       | 4.4          |
| 8 x 4         | S2014CR080040 | S2016CR080040 | 6       | 6.6          |
| 8 x 6         | S2014CR080060 | S2016CR080060 | 6       | 7.0          |
| 10 x 4        | S2014CR100040 | S2016CR100040 | 7       | 10.4         |
| 10 x 6        | S2014CR100060 | S2016CR100060 | 7       | 11.0         |
| 10 x 8        | S2014CR100080 | S2016CR100080 | 7       | 11.4         |
| 12 x 6        | S2014CR120060 | S2016CR120060 | 8       | 16.3         |
| 12 x 8        | S2014CR120080 | S2016CR120080 | 8       | 16.9         |
| 12 x 10       | S2014CR120100 | S2016CR120100 | 8       | 17.6         |



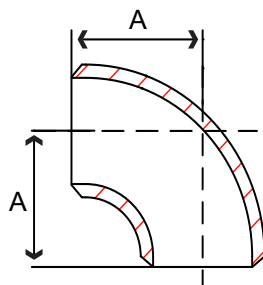
**Fig. S2014ER & S2016ER - Eccentric Reducer**

| Size<br>IN    | Part Number   |               | A<br>IN | Weight<br>LB |
|---------------|---------------|---------------|---------|--------------|
|               | 304 / L       | 316 / L       |         |              |
| 3/4 x 1/2     | S2014ER006004 | S2016ER006004 | 1-1/2   | 0.2          |
| 1 x 1/2       | S2014ER010004 | S2016ER010004 | 2       | 0.2          |
| 1 x 3/4       | S2014ER010006 | S2016ER010006 | 2       | 0.2          |
| 1-1/4 x 3/4   | S2014ER012006 | S2016ER012006 | 2       | 0.3          |
| 1-1/4 x 1     | S2014ER012010 | S2016ER012010 | 2       | 0.3          |
| 1-1/2 x 1/2   | S2014ER014004 | S2016ER014004 | 2-1/2   | 0.3          |
| 1-1/2 x 3/4   | S2014ER014006 | S2016ER014006 | 2-1/2   | 0.3          |
| 1-1/2 x 1     | S2014ER014010 | S2016ER014010 | 2-1/2   | 0.4          |
| 1-1/2 x 1-1/4 | S2014ER014012 | S2016ER014012 | 2-1/2   | 0.4          |
| 2 x 1/2       | S2014ER020004 | S2016ER020004 | 3       | 0.5          |
| 2 x 3/4       | S2014ER020006 | S2016ER020006 | 3       | 0.5          |
| 2 x 1         | S2014ER020010 | S2016ER020010 | 3       | 0.6          |
| 2 x 1-1/4     | S2014ER020012 | S2016ER020012 | 3       | 0.6          |
| 2 x 1-1/2     | S2014ER020014 | S2016ER020014 | 3       | 0.6          |
| 2-1/2 x 1     | S2014ER024010 | S2016ER024010 | 3-1/2   | 0.8          |
| 2-1/2 x 1-1/2 | S2014ER024014 | S2016ER024014 | 3-1/2   | 0.9          |
| 2-1/2 x 2     | S2014ER024020 | S2016ER024020 | 3-1/2   | 1.0          |
| 3 x 1         | S2014ER030010 | S2016ER030010 | 3-1/2   | 1.0          |
| 3 x 1-1/4     | S2014ER030012 | S2016ER030012 | 3-1/2   | 1.0          |
| 3 x 1-1/2     | S2014ER030014 | S2016ER030014 | 3-1/2   | 1.1          |
| 3 x 2         | S2014ER030020 | S2016ER030020 | 3-1/2   | 1.2          |
| 3 x 2-1/2     | S2014ER030024 | S2016ER030024 | 3-1/2   | 1.3          |
| 4 x 1-1/2     | S2014ER040014 | S2016ER040014 | 4       | 1.7          |
| 4 x 2         | S2014ER040020 | S2016ER040020 | 4       | 1.5          |
| 4 x 2-1/2     | S2014ER040024 | S2016ER040024 | 4       | 1.7          |
| 4 x 3         | S2014ER040030 | S2016ER040030 | 4       | 1.8          |
| 5 x 3         | S2014ER050030 | S2016ER050030 | 5       | 3.0          |
| 5 x 4         | S2014ER050040 | S2016ER050040 | 5       | 3.2          |
| 6 x 2         | S2014ER060020 | S2016ER060020 | 5-1/2   | 3.2          |
| 6 x 2-1/2     | S2014ER060024 | S2016ER060024 | 5-1/2   | 3.2          |
| 6 x 3         | S2014ER060030 | S2016ER060030 | 5-1/2   | 3.3          |
| 6 x 4         | S2014ER060040 | S2016ER060040 | 5-1/2   | 4.2          |
| 6 x 5         | S2014ER060050 | S2016ER060050 | 5-1/2   | 4.3          |
| 8 x 3         | S2014ER080030 | S2016ER080030 | 6       | 4.4          |
| 8 x 4         | S2014ER080040 | S2016ER080040 | 6       | 6.6          |
| 8 x 6         | S2014ER080060 | S2016ER080060 | 6       | 7.0          |
| 10 x 6        | S2014ER100060 | S2016ER100060 | 7       | 11.0         |
| 10 x 8        | S2014ER100080 | S2016ER100080 | 7       | 11.4         |
| 12 x 6        | S2014ER120060 | S2016ER120060 | 8       | 16.3         |
| 12 x 8        | S2014ER120080 | S2016ER120080 | 8       | 16.9         |
| 12 x 10       | S2014ER120100 | S2016ER120100 | 8       | 17.6         |



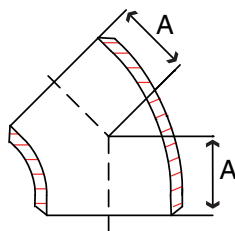
**Fig. S2044LE & S2046LE - 90° Elbow Long Radius**

| Size<br>IN | Part Number |            | A<br>IN | Weight<br>LB |
|------------|-------------|------------|---------|--------------|
|            | 304 / L     | 316 / L    |         |              |
| 1/2        | S2044LE004  | S2046LE004 | 1.50    | 0.1          |
| 3/4        | S2044LE006  | S2046LE006 | 1.12    | 0.1          |
| 1          | S2044LE010  | S2046LE010 | 1.50    | 0.2          |
| 1-1/4      | S2044LE012  | S2046LE012 | 1.88    | 0.4          |
| 1-1/2      | S2044LE014  | S2046LE014 | 2.25    | 0.6          |
| 2          | S2044LE020  | S2046LE020 | 3.00    | 1.0          |
| 2-1/2      | S2044LE024  | S2046LE024 | 3.75    | 1.8          |
| 3          | S2044LE030  | S2046LE030 | 4.50    | 2.6          |
| 4          | S2044LE040  | S2046LE040 | 6.00    | 4.6          |
| 5          | S2044LE050  | S2046LE050 | 7.50    | 8.0          |
| 6          | S2044LE060  | S2046LE060 | 9.00    | 11.5         |
| 8          | S2044LE080  | S2046LE080 | 12.00   | 22.0         |
| 10         | S2044LE100  | S2046LE100 | 15.00   | 38.6         |
| 12         | S2044LE120  | S2046LE120 | 16.00   | 59.5         |



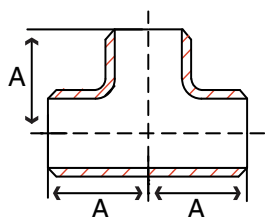
**Fig. S2044E & S2046E - 90° Elbow Short Radius**

| Size<br>IN | Part Number |            | A<br>IN | Weight<br>LB |
|------------|-------------|------------|---------|--------------|
|            | 304 / L     | 316 / L    |         |              |
| 1          | S2044E 010  | S2046E 010 | 1.00    | 0.1          |
| 1-1/4      | S2044E 012  | S2046E 012 | 1.25    | 0.3          |
| 1-1/2      | S2044E 014  | S2046E 014 | 1.50    | 0.4          |
| 2          | S2044E 020  | S2046E 020 | 2.00    | 0.7          |
| 2-1/2      | S2044E 024  | S2046E 024 | 2.50    | 1.2          |
| 3          | S2044E 030  | S2046E 030 | 3.00    | 1.7          |
| 4          | S2044E 040  | S2046E 040 | 4.00    | 3.0          |
| 5          | S2044E 050  | S2046E 050 | 5.00    | 5.2          |
| 6          | S2044E 060  | S2046E 060 | 6.00    | 8.2          |
| 8          | S2044E 080  | S2046E 080 | 8.00    | 14.2         |



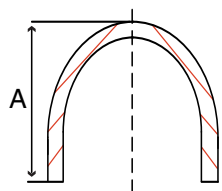
**Fig. S2044F & S2046F - 45° Elbow**

| Size<br>IN | Part Number |            | A<br>IN | Weight<br>LB |
|------------|-------------|------------|---------|--------------|
|            | 304 / L     | 316 / L    |         |              |
| 1/2        | S2044F 004  | S2046F 004 | 0.62    | 0.09         |
| 3/4        | S2044F 006  | S2046F 006 | 0.44    | 0.09         |
| 1          | S2044F 010  | S2046F 010 | 0.86    | 0.1          |
| 1-1/4      | S2044F 012  | S2046F 012 | 1.00    | 0.2          |
| 1-1/2      | S2044F 014  | S2046F 014 | 1.12    | 0.4          |
| 2          | S2044F 020  | S2046F 020 | 1.36    | 0.7          |
| 2-1/2      | S2044F 024  | S2046F 024 | 1.75    | 1.4          |
| 3          | S2044F 030  | S2046F 030 | 2.00    | 2.3          |
| 4          | S2044F 040  | S2046F 040 | 2.50    | 4.4          |
| 5          | S2044F 050  | S2046F 050 | 3.12    | 7.5          |
| 6          | S2044F 060  | S2046F 060 | 3.75    | 11.8         |
| 8          | S2044F 080  | S2046F 080 | 5.00    | 23.5         |
| 10         | S2044F 100  | S2046F 100 | 6.25    | 41.8         |
| 12         | S2044F 120  | S2046F 120 | 7.50    | 61.5         |



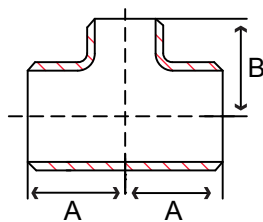
**Fig. S2044T & S2046T - Tee**

| Size<br>IN | Part Number |            | A<br>IN | Weight<br>LB |
|------------|-------------|------------|---------|--------------|
|            | 304 / L     | 316 / L    |         |              |
| 1/2        | S2044T 004  | S2046T 004 | 1.00    | 0.3          |
| 3/4        | S2044T 006  | S2046T 006 | 1.125   | 0.4          |
| 1          | S2044T 010  | S2046T 010 | 1.50    | 0.6          |
| 1-1/4      | S2044T 012  | S2046T 012 | 1.68    | 1.1          |
| 1-1/2      | S2044T 014  | S2046T 014 | 2.25    | 1.6          |
| 2          | S2044T 020  | S2046T 020 | 2.50    | 4.1          |
| 2-1/2      | S2044T 024  | S2046T 024 | 3.00    | 6.3          |
| 3          | S2044T 030  | S2046T 030 | 3.38    | 8.4          |
| 4          | S2044T 040  | S2046T 040 | 4.12    | 13.2         |
| 5          | S2044T 050  | S2046T 050 | 4.88    | 21.9         |
| 6          | S2044T 060  | S2046T 060 | 5.520   | 34.6         |
| 8          | S2044T 080  | S2046T 080 | 7.00    | 61.0         |
| 10         | S2044T 100  | S2046T 100 | 8.6     | 89.0         |
| 12         | S2044T 120  | S2046T 120 | 10.00   | 145.0        |



**Fig. S2044C & S2046C - Cap**

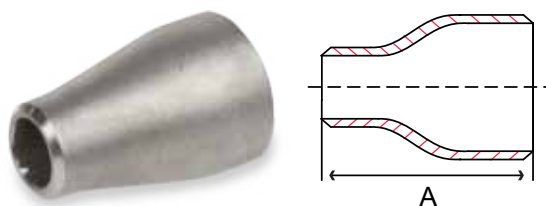
| Size<br>IN | Part Number |            | A<br>IN | Weight<br>LB |
|------------|-------------|------------|---------|--------------|
|            | 304 / L     | 316 / L    |         |              |
| 1/2        | S2044C 004  | S2046C 004 | 1.00    | 0.07         |
| 3/4        | S2044C 006  | S2046C 006 | 1.00    | 0.1          |
| 1          | S2044C 010  | S2046C 010 | 1.50    | 0.2          |
| 1-1/4      | S2044C 012  | S2046C 012 | 1.50    | 0.3          |
| 1-1/2      | S2044C 014  | S2046C 014 | 1.50    | 0.3          |
| 2          | S2044C 020  | S2046C 020 | 15.0    | 0.5          |
| 2-1/2      | S2044C 024  | S2046C 024 | 1.50    | 0.8          |
| 3          | S2044C 030  | S2046C 030 | 2.00    | 1.4          |
| 4          | S2044C 040  | S2046C 040 | 2.50    | 2.5          |
| 5          | S2044C 050  | S2046C 050 | 3.00    | 4.1          |
| 6          | S2044C 060  | S2046C 060 | 3.50    | 6.4          |
| 8          | S2044C 080  | S2046C 080 | 4.00    | 11.2         |
| 10         | S2044C 100  | S2046C 100 | 5.00    | 20.0         |
| 12         | S2044C 120  | S2046C 120 | 6.00    | 35.4         |



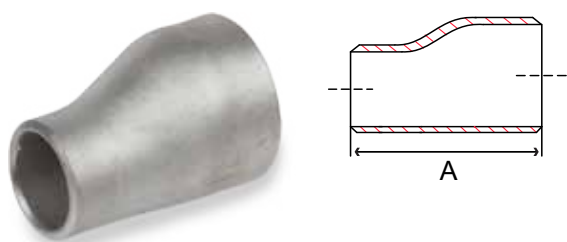
**Fig. S2044RT & S2046RT - Reducing Tee**

| Size<br>IN    | Part Number   |               | A<br>IN | B<br>IN | Weight<br>LB |
|---------------|---------------|---------------|---------|---------|--------------|
|               | 304 / L       | 316 / L       |         |         |              |
| 3/4 x 1/2     | S2044RT006004 | S2046RT006004 | 1-1/8   | 1-1/8   | 0.3          |
| 1 x 1/2       | S2044RT010004 | S2046RT010004 | 1-1/2   | 1-1/2   | 0.5          |
| 1 x 3/4       | S2044RT010006 | S2046RT010006 | 1-1/2   | 1-1/2   | 0.5          |
| 1-1/4 x 3/4   | S2044RT012006 | S2046RT012006 | 1-7/8   | 1-7/8   | 1.1          |
| 1-1/4 x 1     | S2044RT012010 | S2046RT012010 | 1-7/8   | 1-7/8   | 1.1          |
| 1-1/2 x 1/2   | S2044RT014004 | S2046RT014004 | 2-1/4   | 2-1/4   | 1.6          |
| 1-1/2 x 3/4   | S2044RT014006 | S2046RT014006 | 2-1/4   | 2-1/4   | 1.6          |
| 1-1/2 x 1     | S2044RT014010 | S2046RT014010 | 2-1/4   | 2-1/4   | 1.6          |
| 1-1/2 x 1-1/4 | S2044RT014012 | S2046RT014012 | 2-1/4   | 2-1/4   | 1.7          |
| 2 x 1/2       | S2044RT020004 | S2046RT020004 | 2-1/2   | 1-3/4   | 2.4          |
| 2 x 3/4       | S2044RT020006 | S2046RT020006 | 2-1/2   | 1-3/4   | 2.4          |
| 2 x 1         | S2044RT020010 | S2046RT020010 | 2-1/2   | 2       | 2.4          |
| 2 x 1-1/4     | S2044RT020012 | S2046RT020012 | 2-1/2   | 2-1/4   | 2.4          |
| 2 x 1-1/2     | S2044RT020014 | S2046RT020014 | 2-1/2   | 2-3/8   | 2.5          |
| 2-1/2 x 1     | S2044RT024010 | S2046RT024010 | 3       | 2-1/4   | 4.1          |
| 2-1/2 x 1-1/2 | S2044RT024014 | S2046RT024014 | 3       | 2-5/8   | 4.2          |
| 2-1/2 x 2     | S2044RT024020 | S2046RT024020 | 3       | 2-3/4   | 4.3          |
| 3 x 1         | S2044RT030010 | S2046RT030010 | 3-3/8   | 2-5/8   | 6.1          |
| 3 x 1-1/4     | S2044RT030012 | S2046RT030012 | 3-3/8   | 2-3/4   | 6.2          |
| 3 x 1-1/2     | S2044RT030014 | S2046RT030014 | 3-3/8   | 2-7/8   | 6.2          |
| 3 x 2         | S2044RT030020 | S2046RT030020 | 3-3/8   | 3       | 6.4          |
| 3 x 2-1/2     | S2044RT030024 | S2046RT030024 | 3-3/8   | 3-1/4   | 6.5          |
| 4 x 1-1/2     | S2044RT040014 | S2046RT040014 | 4-1/8   | 3-3/8   | 9.7          |
| 4 x 2         | S2044RT040020 | S2046RT040020 | 4-1/8   | 3-1/2   | 9.8          |
| 4 x 2-1/2     | S2044RT040024 | S2046RT040024 | 4-1/8   | 3-3/4   | 10.0         |
| 4 x 3         | S2044RT040030 | S2046RT040030 | 4-1/8   | 3-7/8   | 10.2         |
| 5 x 3         | S2044RT050030 | S2046RT050030 | 4-7/8   | 4-3/8   | 17.8         |
| 5 x 4         | S2044RT050040 | S2046RT050040 | 4-7/8   | 5       | 18.6         |
| 6 x 2         | S2044RT060020 | S2046RT060020 | 5-5/8   | 4-3/4   | 20.3         |
| 6 x 2-1/2     | S2044RT060024 | S2046RT060024 | 5-5/8   | 4-3/4   | 20.3         |
| 6 x 3         | S2044RT060030 | S2046RT060030 | 5-5/8   | 4-7/8   | 26.3         |
| 6 x 4         | S2044RT060040 | S2046RT060040 | 5-5/8   | 5-1/8   | 21.3         |
| 6 x 5         | S2044RT060050 | S2046RT060050 | 5-5/8   | 5-3/8   | 21.8         |
| 8 x 3         | S2044RT080030 | S2046RT080030 | 7       | 6       | 38.7         |
| 8 x 4         | S2044RT080040 | S2046RT080040 | 7       | 6-1/8   | 39.6         |
| 8 x 6         | S2044RT080060 | S2046RT080060 | 7       | 6-5/8   | 41.4         |
| 10 x 4        | S2044RT100040 | S2046RT100040 | 8-1/2   | 7-1/4   | 66.3         |
| 10 x 6        | S2044RT100060 | S2046RT100060 | 8-1/2   | 7-5/8   | 68.6         |
| 10 x 8        | S2044RT100080 | S2046RT100080 | 8-1/2   | 8       | 70.2         |
| 12 x 6        | S2044RT120060 | S2046RT120060 | 10      | 8-5/8   | 118.0        |
| 12 x 8        | S2044RT120080 | S2046RT120080 | 10      | 9       | 120.0        |
| 12 x 10       | S2044RT120100 | S2046RT120100 | 10      | 9-1/2   | 123.0        |

**Fig. S2044CR & S2046CR - Concentric Reducer**



| Size<br>IN    | Part Number   |               | A<br>IN | Weight<br>LB |
|---------------|---------------|---------------|---------|--------------|
|               | 304 / L       | 316 / L       |         |              |
| 3/4 x 1/2     | S2044CR006004 | S2046CR006004 | 1-1/2   | 0.3          |
| 1 x 1/2       | S2044CR010004 | S2046CR010004 | 2       | 0.3          |
| 1 x 3/4       | S2044CR010006 | S2046CR010006 | 2       | 0.3          |
| 1-1/4 x 3/4   | S2044CR012006 | S2046CR012006 | 2       | 0.4          |
| 1-1/4 x 1     | S2044CR012010 | S2046CR012010 | 2       | 0.4          |
| 1-1/2 x 1/2   | S2044CR014004 | S2046CR014004 | 2-1/2   | 0.5          |
| 1-1/2 x 3/4   | S2044CR014006 | S2046CR014006 | 2-1/2   | 0.5          |
| 1-1/2 x 1     | S2044CR014010 | S2046CR014010 | 2-1/2   | 0.5          |
| 1-1/2 x 1-1/4 | S2044CR014012 | S2046CR014012 | 2-1/2   | 0.6          |
| 2 x 1/2       | S2044CR020004 | S2046CR020004 | 3       | 0.8          |
| 2 x 3/4       | S2044CR020006 | S2046CR020006 | 3       | 0.8          |
| 2 x 1         | S2044CR020010 | S2046CR020010 | 3       | 0.8          |
| 2 x 1-1/4     | S2044CR020012 | S2046CR020012 | 3       | 0.9          |
| 2 x 1-1/2     | S2044CR020014 | S2046CR020014 | 3       | 0.9          |
| 2-1/2 x 1     | S2044CR024010 | S2046CR024010 | 3-1/2   | 1.4          |
| 2-1/2 x 1-1/4 | S2044CR024012 | S2046CR024012 | 3-1/2   | 1.6          |
| 2-1/2 x 1-1/2 | S2044CR024014 | S2046CR024014 | 3-1/2   | 1.6          |
| 2-1/2 x 2     | S2044CR024020 | S2046CR024020 | 3-1/2   | 1.7          |
| 3 x 1         | S2044CR030010 | S2046CR030010 | 3-1/2   | 1.8          |
| 3 x 1-1/4     | S2044CR030012 | S2046CR030012 | 3-1/2   | 1.8          |
| 3 x 1-1/2     | S2044CR030014 | S2046CR030014 | 3-1/2   | 2.0          |
| 3 x 2         | S2044CR030020 | S2046CR030020 | 3-1/2   | 2.2          |
| 3 x 2-1/2     | S2044CR030024 | S2046CR030024 | 3-1/2   | 2.3          |
| 4 x 1-1/2     | S2044CR040014 | S2046CR040014 | 4       | 3.3          |
| 4 x 2         | S2044CR040020 | S2046CR040020 | 4       | 3.0          |
| 4 x 2-1/2     | S2044CR040024 | S2046CR040024 | 4       | 3.4          |
| 4 x 3         | S2044CR040030 | S2046CR040030 | 4       | 3.6          |
| 5 x 3         | S2044CR050030 | S2046CR050030 | 5       | 6.0          |
| 5 x 4         | S2044CR050040 | S2046CR050040 | 5       | 6.4          |
| 6 x 2         | S2044CR060020 | S2046CR060020 | 5-1/2   | 6.5          |
| 6 x 2-1/2     | S2044CR060024 | S2046CR060024 | 5-1/2   | 6.5          |
| 6 x 3         | S2044CR060030 | S2046CR060030 | 5-1/2   | 8.3          |
| 6 x 4         | S2044CR060040 | S2046CR060040 | 5-1/2   | 8.9          |
| 6 x 5         | S2044CR060050 | S2046CR060050 | 5-1/2   | 8.9          |
| 8 x 3         | S2044CR080030 | S2046CR080030 | 6       | 9.4          |
| 8 x 4         | S2044CR080040 | S2046CR080040 | 6       | 14.4         |
| 8 x 6         | S2044CR080060 | S2046CR080060 | 6       | 15.3         |
| 10 x 4        | S2044CR100040 | S2046CR100040 | 7       | 23.1         |
| 10 x 6        | S2044CR100060 | S2046CR100060 | 7       | 24.5         |
| 10 x 8        | S2044CR100080 | S2046CR100080 | 7       | 25.4         |
| 12 x 6        | S2044CR120060 | S2046CR120060 | 8       | 34.1         |
| 12 x 8        | S2044CR120080 | S2046CR120080 | 8       | 35.2         |
| 12 x 10       | S2044CR120100 | S2046CR120100 | 8       | 36.6         |

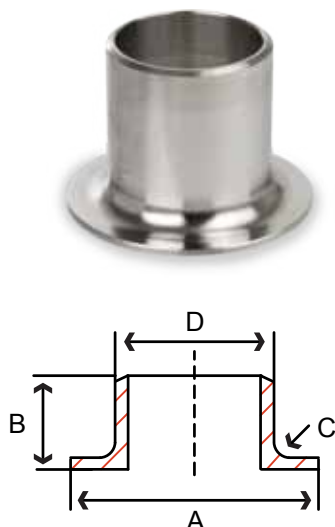


**Fig. S2044ER & S2046ER - Eccentric Reducer**

| Size<br>IN    | Part Number   |               | A<br>IN | Weight<br>LB |
|---------------|---------------|---------------|---------|--------------|
|               | 304 / L       | 316 / L       |         |              |
| 3/4 x 1/2     | S2044ER006004 | S2046ER006004 | 1-1/2   | 0.3          |
| 1 x 1/2       | S2044ER010004 | S2046ER010004 | 2       | 0.3          |
| 1 x 3/4       | S2044ER010006 | S2046ER010006 | 2       | 0.3          |
| 1-1/4 x 3/4   | S2044ER012006 | S2046ER012006 | 2       | 0.4          |
| 1-1/4 x 1     | S2044ER012010 | S2046ER012010 | 2       | 0.4          |
| 1-1/2 x 1/2   | S2044ER014004 | S2046ER014004 | 2-1/2   | 0.5          |
| 1-1/2 x 3/4   | S2044ER014006 | S2046ER014006 | 2-1/2   | 0.5          |
| 1-1/2 x 1     | S2044ER014010 | S2046ER014010 | 2-1/2   | 0.5          |
| 1-1/2 x 1-1/4 | S2044ER014012 | S2046ER014012 | 2-1/2   | 0.6          |
| 2 x 1/2       | S2044ER020004 | S2046ER020004 | 3       | 0.8          |
| 2 x 3/4       | S2044ER020006 | S2046ER020006 | 3       | 0.8          |
| 2 x 1         | S2044ER020010 | S2046ER020010 | 3       | 0.8          |
| 2 x 1-1/4     | S2044ER020012 | S2046ER020012 | 3       | 0.9          |
| 2 x 1-1/2     | S2044ER020014 | S2046ER020014 | 3       | 0.9          |
| 2-1/2 x 1     | S2044ER024010 | S2046ER024010 | 3-1/2   | 1.4          |
| 2-1/2 x 1-1/2 | S2044ER024014 | S2046ER024014 | 3-1/2   | 1.6          |
| 2-1/2 x 2     | S2044ER024020 | S2046ER024020 | 3-1/2   | 1.7          |
| 3 x 1         | S2044ER030010 | S2046ER030010 | 3-1/2   | 1.8          |
| 3 x 1-1/4     | S2044ER030012 | S2046ER030012 | 3-1/2   | 1.8          |
| 3 x 1-1/2     | S2044ER030014 | S2046ER030014 | 3-1/2   | 2.0          |
| 3 x 2         | S2044ER030020 | S2046ER030020 | 3-1/2   | 2.2          |
| 3 x 2-1/2     | S2044ER030024 | S2046ER030024 | 3-1/2   | 2.3          |
| 4 x 1-1/2     | S2044ER040014 | S2046ER040014 | 4       | 3.3          |
| 4 x 2         | S2044ER040020 | S2046ER040020 | 4       | 3.0          |
| 4 x 2-1/2     | S2044ER040024 | S2046ER040024 | 4       | 3.4          |
| 4 x 3         | S2044ER040030 | S2046ER040030 | 4       | 3.6          |
| 5 x 3         | S2044ER050030 | S2046ER050030 | 5       | 6.0          |
| 5 x 4         | S2044ER050040 | S2046ER050040 | 5       | 6.4          |
| 6 x 2         | S2044ER060020 | S2046ER060020 | 5-1/2   | 6.5          |
| 6 x 2-1/2     | S2044ER060024 | S2046ER060024 | 5-1/2   | 6.5          |
| 6 x 3         | S2044ER060030 | S2046ER060030 | 5-1/2   | 8.3          |
| 6 x 4         | S2044ER060040 | S2046ER060040 | 5-1/2   | 8.9          |
| 6 x 5         | S2044ER060050 | S2046ER060050 | 5-1/2   | 8.9          |
| 8 x 3         | S2044ER080030 | S2046ER080030 | 6       | 9.4          |
| 8 x 4         | S2044ER080040 | S2046ER080040 | 6       | 14.4         |
| 8 x 6         | S2044ER080060 | S2046ER080060 | 6       | 15.3         |
| 10 x 6        | S2044ER100060 | S2046ER100060 | 7       | 24.5         |
| 10 x 8        | S2044ER100080 | S2046ER100080 | 7       | 25.4         |
| 12 x 6        | S2044ER120060 | S2046ER120060 | 8       | 34.1         |
| 12 x 8        | S2044ER120080 | S2046ER120080 | 8       | 35.2         |
| 12 x 10       | S2044ER120100 | S2046ER120100 | 8       | 36.6         |

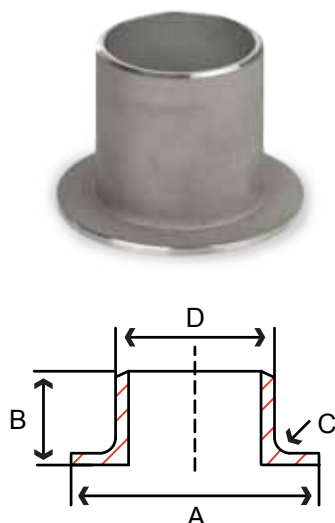
**Fig. S2214MA & S2216MA - Sch 10 MSS Type A Stub End**

| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | C<br>IN | D<br>IN | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|---------|--------------|
|            | 304 / L     | 316 / L    |         |         |         |         |              |
| 1/2        | S2214MA004  | S2216MA004 | 1.38    | 2.00    | 0.125   | 0.840   | 0.1          |
| 3/4        | S2214MA006  | S2216MA006 | 1.69    | 2.00    | 0.125   | 1.050   | 0.1          |
| 1          | S2214MA010  | S2216MA010 | 2.00    | 2.00    | 0.125   | 1.315   | 0.3          |
| 1-1/4      | S2214MA012  | S2216MA012 | 2.50    | 2.00    | 0.187   | 1.660   | 0.4          |
| 1-1/2      | S2214MA014  | S2216MA014 | 2.88    | 2.00    | 0.250   | 1.90    | 0.5          |
| 2          | S2214MA020  | S2216MA020 | 3.62    | 2.50    | 0.313   | 2.375   | 0.8          |
| 2-1/2      | S2214MA024  | S2216MA024 | 4.12    | 2.50    | 0.313   | 2.875   | 1.0          |
| 3          | S2214MA030  | S2216MA030 | 5.00    | 2.50    | 0.375   | 3.50    | 1.4          |
| 4          | S2214MA040  | S2216MA040 | 6.19    | 3.00    | 0.436   | 4.50    | 2.1          |
| 5          | S2214MA050  | S2216MA050 | 7.31    | 3.00    | 0.436   | 5.563   | 2.7          |
| 6          | S2214MA060  | S2216MA060 | 8.50    | 3.50    | 0.500   | 6.625   | 4.3          |
| 8          | S2214MA080  | S2216MA080 | 10.625  | 4.00    | 0.500   | 8.625   | 6.8          |
| 10         | S2214MA100  | S2216MA100 | 12.75   | 5.0     | 0.500   | 10.75   | 10.7         |
| 12         | S2214MA120  | S2216MA120 | 15.00   | 6.0     | 0.500   | 12.75   | 12.6         |

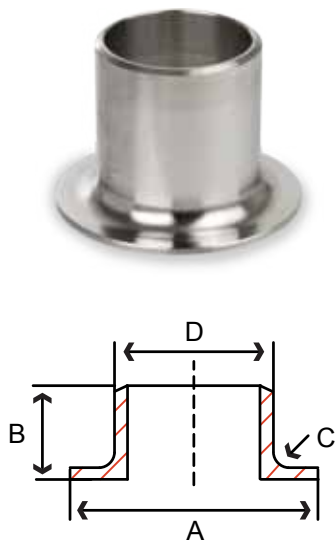


**Fig. S2214MC & S2216MC - Sch 10 MSS Type C Stub End**

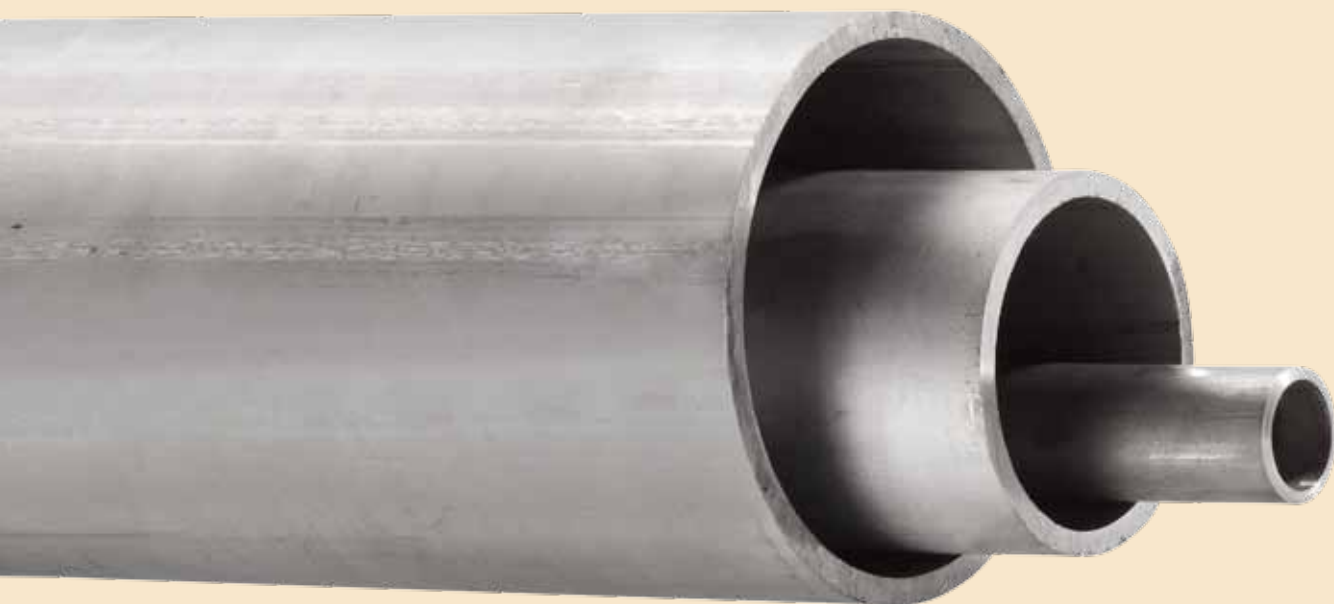
| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | C<br>IN | D<br>IN | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|---------|--------------|
|            | 304 / L     | 316 / L    |         |         |         |         |              |
| 1/2        | S2214MC004  | S2216MC004 | 1.38    | 2.00    | 0.031   | 0.840   | 0.1          |
| 3/4        | S2214MC006  | S2216MC006 | 1.69    | 2.00    | 0.031   | 1.050   | 0.1          |
| 1          | S2214MC010  | S2216MC010 | 2.00    | 2.00    | 0.031   | 1.315   | 0.3          |
| 1-1/4      | S2214MC012  | S2216MC012 | 2.50    | 2.00    | 0.031   | 1.660   | 0.4          |
| 1-1/2      | S2214MC014  | S2216MC014 | 2.88    | 2.00    | 0.031   | 1.90    | 0.5          |
| 2          | S2214MC020  | S2216MC020 | 3.62    | 2.50    | 0.031   | 2.375   | 0.8          |
| 2-1/2      | S2214MC024  | S2216MC024 | 4.12    | 2.50    | 0.031   | 2.875   | 1.0          |
| 3          | S2214MC030  | S2216MC030 | 5.00    | 2.50    | 0.031   | 3.50    | 1.4          |
| 4          | S2214MC040  | S2216MC040 | 6.19    | 3.00    | 0.063   | 4.50    | 2.1          |
| 5          | S2214MC050  | S2216MC050 | 7.31    | 3.00    | 0.063   | 5.563   | 2.7          |
| 6          | S2214MC060  | S2216MC060 | 8.50    | 3.50    | 0.063   | 6.625   | 4.3          |
| 8          | S2214MC080  | S2216MC080 | 10.625  | 4.00    | 0.063   | 8.625   | 6.8          |
| 10         | S2214MC100  | S2216MC100 | 12.75   | 5.0     | 0.063   | 10.75   | 10.7         |
| 12         | S2214MC120  | S2216MC120 | 15.00   | 6.0     | 0.063   | 12.75   | 12.6         |



**Fig. S2244MA & S2246MA - Sch 40 MSS Type A Stub End**



| Size<br>IN | Part Number |            | A<br>IN | B<br>IN | C<br>IN | D<br>IN | Weight<br>LB |
|------------|-------------|------------|---------|---------|---------|---------|--------------|
|            | 304 / L     | 316 / L    |         |         |         |         |              |
| 1/2        | S2244MA004  | S2246MA004 | 1.38    | 2.00    | 0.125   | 0.840   | 0.2          |
| 3/4        | S2244MA006  | S2246MA006 | 1.69    | 2.00    | 0.125   | 1.050   | 0.3          |
| 1          | S2244MA010  | S2246MA010 | 2.00    | 2.00    | 0.125   | 1.315   | 0.4          |
| 1-1/4      | S2244MA012  | S2246MA012 | 2.50    | 2.00    | 0.187   | 1.660   | 0.5          |
| 1-1/2      | S2244MA014  | S2246MA014 | 2.88    | 2.00    | 0.250   | 1.90    | 0.8          |
| 2          | S2244MA020  | S2246MA020 | 3.62    | 2.50    | 0.313   | 2.375   | 1.1          |
| 2-1/2      | S2244MA024  | S2246MA024 | 4.12    | 2.50    | 0.313   | 2.875   | 1.7          |
| 3          | S2244MA030  | S2246MA030 | 5.00    | 2.50    | 0.375   | 3.50    | 2.5          |
| 4          | S2244MA040  | S2246MA040 | 6.19    | 3.00    | 0.436   | 4.50    | 4.0          |
| 5          | S2244MA050  | S2246MA050 | 7.31    | 3.00    | 0.436   | 5.563   | 5.6          |
| 6          | S2244MA060  | S2246MA060 | 8.50    | 3.50    | 0.500   | 6.625   | 8.2          |
| 8          | S2244MA080  | S2246MA080 | 10.625  | 4.00    | 0.500   | 8.625   | 13.0         |
| 10         | S2244MA100  | S2246MA100 | 12.75   | 5.0     | 0.500   | 10.75   | 23.0         |
| 12         | S2244MA120  | S2246MA120 | 15.00   | 6.0     | 0.500   | 12.75   | 33.0         |



## Pipe and Tubing

### Pipe Specifications

- Welded and seamless pipe material conforms to ASTM A312, ASTM A999
- Stainless pipe dimensions conform to ASTM A999, ASME B36.19, ASME B36.10, A276
- Manufacturing facility is ISO 9001:2008
- Pipe sold as single random lengths
- Cut-to-length, threading and grooving available upon request

### Instrumentation Tubing Specifications

- Instrumentation tubing dimensions and materials conform to ASTM A269 and ASTM A213

### Sanitary Tubing Specifications

- Sanitary tubing dimensions and materials conform to ASTM A269, ASTM A270 and 3-A Approved



**Fig. S6014WP & S6016WP - Sch 10 Welded Pipe**

| Diameter<br>IN | Part Number |            | OD<br>IN | Wall Thickness<br>IN | Pipe Length<br>FT | Weight<br>LB/Ft |
|----------------|-------------|------------|----------|----------------------|-------------------|-----------------|
|                | 304 / L     | 316 / L    |          |                      |                   |                 |
| 1/2            | S6014WP004  | S6016WP004 | 0.84     | 0.083                | 20                | 0.6             |
| 3/4            | S6014WP006  | S6016WP006 | 1.05     | 0.083                | 20                | 0.8             |
| 1              | S6014WP010  | S6016WP010 | 1.32     | 0.109                | 20                | 1.4             |
| 1-1/4          | S6014WP012  | S6016WP012 | 1.66     | 0.109                | 20                | 1.8             |
| 1-1/2          | S6014WP014  | S6016WP014 | 1.90     | 0.109                | 20                | 2.0             |
| 2              | S6014WP020  | S6016WP020 | 2.37     | 0.109                | 20                | 2.6             |
| 2-1/2          | S6014WP024  | S6016WP024 | 2.87     | 0.120                | 20                | 3.5             |
| 3              | S6014WP030  | S6016WP030 | 3.50     | 0.120                | 20                | 4.3             |
| 4              | S6014WP040  | S6016WP040 | 4.50     | 0.120                | 20                | 5.6             |
| 5              | S6014WP050  | S6016WP050 | 5.563    | 0.134                | 20                | 7.7             |
| 6              | S6014WP060  | S6016WP060 | 6.625    | 0.134                | 20                | 9.2             |
| 8              | S6014WP080  | S6016WP080 | 8.625    | 0.148                | 20                | 13.4            |
| 10             | S6014WP100  | S6016WP100 | 10.750   | 0.165                | 20                | 18.7            |
| 12             | S6014WP120  | S6016WP120 | 12.750   | 0.180                | 20                | 24.2            |

PIPE & TUBE

**Fig. S6044WP & S6046WP - Sch 40 Welded Pipe**

| Diameter<br>IN | Part Number |            | OD<br>IN | Wall Thickness<br>IN | Pipe Length<br>FT | Weight<br>LB/Ft |
|----------------|-------------|------------|----------|----------------------|-------------------|-----------------|
|                | 304 / L     | 316 / L    |          |                      |                   |                 |
| 1/8            | S6044WP001  | S6046WP001 | 0.41     | 0.068                | 20                | 0.2             |
| 1/4            | S6044WP002  | S6046WP002 | 0.54     | 0.088                | 20                | 0.4             |
| 3/8            | S6044WP003  | S6046WP003 | 0.67     | 0.091                | 20                | 0.5             |
| 1/2            | S6044WP004  | S6046WP004 | 0.84     | 0.109                | 20                | 0.8             |
| 3/4            | S6044WP006  | S6046WP006 | 1.05     | 0.113                | 20                | 1.1             |
| 1              | S6044WP010  | S6046WP010 | 1.32     | 0.133                | 20                | 1.6             |
| 1-1/4          | S6044WP012  | S6046WP012 | 1.66     | 0.140                | 20                | 2.2             |
| 1-1/2          | S6044WP014  | S6046WP014 | 1.90     | 0.145                | 20                | 2.7             |
| 2              | S6044WP020  | S6046WP020 | 2.37     | 0.154                | 20                | 3.6             |
| 2-1/2          | S6044WP024  | S6046WP024 | 2.87     | 0.203                | 20                | 5.7             |
| 3              | S6044WP030  | S6046WP030 | 3.50     | 0.216                | 20                | 7.5             |
| 4              | S6044WP040  | S6046WP040 | 4.50     | 0.237                | 20                | 10.7            |
| 5              | S6044WP050  | S6046WP050 | 5.563    | 0.258                | 20                | 14.6            |
| 6              | S6044WP060  | S6046WP060 | 6.625    | 0.280                | 20                | 18.9            |
| 8              | S6044WP080  | S6046WP080 | 8.625    | 0.322                | 20                | 28.5            |
| 10             | S6044WP100  | S6046WP100 | 10.750   | 0.365                | 20                | 40.4            |
| 12             | S6044WP120  | S6046WP120 | 12.750   | 0.375                | 20                | 49.5            |



**Fig. S6144SP & S6146SP - Sch 40 Seamless Pipe**

| Diameter<br>IN | Part Number |            | OD<br>IN | Wall Thickness<br>IN | Pipe Length<br>FT | Weight<br>LB/Ft |
|----------------|-------------|------------|----------|----------------------|-------------------|-----------------|
|                | 304 / L     | 316 / L    |          |                      |                   |                 |
| 1/8            | S6144SP001  | S6146SP001 | 0.41     | 0.068                | 20                | 0.2             |
| 1/4            | S6144SP002  | S6146SP002 | 0.54     | 0.088                | 20                | 0.4             |
| 3/8            | S6144SP003  | S6146SP003 | 0.67     | 0.091                | 20                | 0.5             |
| 1/2            | S6144SP004  | S6146SP004 | 0.84     | 0.109                | 20                | 0.8             |
| 3/4            | S6144SP006  | S6146SP006 | 1.05     | 0.113                | 20                | 1.1             |
| 1              | S6144SP010  | S6146SP010 | 1.32     | 0.133                | 20                | 1.6             |
| 1-1/4          | S6144SP012  | S6146SP012 | 1.66     | 0.140                | 20                | 2.2             |
| 1-1/2          | S6144SP014  | S6146SP014 | 1.90     | 0.145                | 20                | 2.7             |
| 2              | S6144SP020  | S6146SP020 | 2.37     | 0.154                | 20                | 3.6             |

**Fig. S6184SP & S6186SP - Sch 80 Seamless Pipe**

| Diameter<br>IN | Part Number |            | OD<br>IN | Wall Thickness<br>IN | Pipe Length<br>FT | Weight<br>LB/Ft |
|----------------|-------------|------------|----------|----------------------|-------------------|-----------------|
|                | 304 / L     | 316 / L    |          |                      |                   |                 |
| 1/8            | S6184SP001  | S6186SP001 | 0.41     | 0.095                | 20                | 0.3             |
| 1/4            | S6184SP002  | S6186SP002 | 0.54     | 0.119                | 20                | 0.5             |
| 3/8            | S6184SP003  | S6186SP003 | 0.67     | 0.126                | 20                | 0.7             |
| 1/2            | S6184SP004  | S6186SP004 | 0.84     | 0.147                | 20                | 1.0             |
| 3/4            | S6184SP006  | S6186SP006 | 1.05     | 0.154                | 20                | 1.4             |
| 1              | S6184SP010  | S6186SP010 | 1.32     | 0.179                | 20                | 2.1             |
| 1-1/4          | S6184SP012  | S6186SP012 | 1.66     | 0.191                | 20                | 2.9             |
| 1-1/2          | S6184SP014  | S6186SP014 | 1.90     | 0.200                | 20                | 3.6             |
| 2              | S6184SP020  | S6186SP020 | 2.37     | 0.218                | 20                | 5.0             |

**Fig. S64ST4 & S64ST6 – Seamless Instrumentation Tubing**

| Tube OD<br>IN | Wall Thickness<br>IN | Part Number  |              | ID<br>IN | Tube Length<br>FT | Weight<br>LB/Ft |
|---------------|----------------------|--------------|--------------|----------|-------------------|-----------------|
|               |                      | 304/L        | 316/L        |          |                   |                 |
| 1/8           | 0.035                | S64ST4035001 | S64ST6035001 | 0.055    | 20                | 0.03            |
| 1/8           | 0.049                | S64ST4049001 | S64ST6049001 | 0.027    | 20                | 0.04            |
| 1/4           | 0.028                | S64ST4028002 | S64ST6028002 | 0.194    | 20                | 0.06            |
| 1/4           | 0.035                | S64ST4035002 | S64ST6035002 | 0.180    | 20                | 0.08            |
| 1/4           | 0.049                | S64ST4049002 | S64ST6049002 | 0.152    | 20                | 0.1             |
| 1/4           | 0.065                | S64ST4065002 | S64ST6065002 | 0.120    | 20                | 0.1             |
| 1/4           | 0.083                | S64ST4083002 | S64ST6083002 | 0.084    | 20                | 0.1             |
| 5/16          | 0.035                | S64ST4035516 | S64ST6035516 | 0.243    | 20                | 0.1             |
| 3/8           | 0.035                | S64ST4035003 | S64ST6035003 | 0.305    | 20                | 0.1             |
| 3/8           | 0.049                | S64ST4049003 | S64ST6049003 | 0.277    | 20                | 0.1             |
| 3/8           | 0.065                | S64ST4065003 | S64ST6065003 | 0.245    | 20                | 0.2             |
| 3/8           | 0.083                | S64ST4083003 | S64ST6083003 | 0.209    | 20                | 0.2             |
| 1/2           | 0.035                | S64ST4035004 | S64ST6035004 | 0.430    | 20                | 0.1             |
| 1/2           | 0.049                | S64ST4049004 | S64ST6049004 | 0.402    | 20                | 0.2             |
| 1/2           | 0.065                | S64ST4065004 | S64ST6065004 | 0.370    | 20                | 0.3             |
| 1/2           | 0.083                | S64ST4083004 | S64ST6083004 | 0.334    | 20                | 0.4             |
| 1/2           | 0.120                | S64ST4120004 | S64ST6120004 | 0.260    | 20                | 0.5             |
| 5/8           | 0.035                | S64ST4035005 | S64ST6035005 | 0.555    | 20                | 0.2             |
| 5/8           | 0.049                | S64ST4049005 | S64ST6049005 | 0.527    | 20                | 0.3             |
| 5/8           | 0.065                | S64ST4065005 | S64ST6065005 | 0.495    | 20                | 0.3             |
| 5/8           | 0.083                | S64ST4083005 | S64ST6083005 | 0.509    | 20                | 0.5             |
| 3/4           | 0.035                | S64ST4035006 | S64ST6035006 | 0.680    | 20                | 0.2             |
| 3/4           | 0.049                | S64ST4049006 | S64ST6049006 | 0.652    | 20                | 0.3             |
| 3/4           | 0.065                | S64ST4065006 | S64ST6065006 | 0.620    | 20                | 0.4             |
| 3/4           | 0.083                | S64ST4083006 | S64ST6083006 | 0.584    | 20                | 0.6             |
| 3/4           | 0.095                | S64ST4095006 | S64ST6095006 | 0.560    | 20                | 0.7             |
| 1             | 0.035                | S64ST4035010 | S64ST6035010 | 0.930    | 20                | 0.3             |
| 1             | 0.049                | S64ST4049010 | S64ST6049010 | 0.902    | 20                | 0.4             |
| 1             | 0.065                | S64ST4065010 | S64ST6065010 | 0.870    | 20                | 0.6             |
| 1             | 0.083                | S64ST4083010 | S64ST6083010 | 0.834    | 20                | 0.8             |
| 1             | 0.095                | S64ST4095010 | S64ST6095010 | 0.810    | 20                | 0.9             |
| 1             | 0.120                | S64ST4120010 | S64ST6120010 | 0.760    | 20                | 1.1             |
| 1-1/4         | 0.065                | S64ST4065012 | S64ST6065012 | 1.120    | 20                | 0.8             |

PIPE  
&  
TUBE

**Fig. S62TP4 & S62TP6 – Sanitary Tubing**

| Tube OD<br>IN | Part Number |            | Wall Thickness<br>IN | I.D.<br>IN | Tube Length<br>FT | Weight<br>LB/FT |
|---------------|-------------|------------|----------------------|------------|-------------------|-----------------|
|               | 304         | 316        |                      |            |                   |                 |
| 1/2           | S62TP46004  | S62TP66004 | 0.065                | 0.370      | 20                | 0.3             |
| 3/4           | S62TP46006  | S62TP66006 | 0.065                | 0.620      | 20                | 0.5             |
| 1             | S62TP46010  | S62TP66010 | 0.065                | 0.870      | 20                | 0.6             |
| 1-1/2         | S62TP46014  | S62TP66014 | 0.065                | 1.370      | 20                | 0.9             |
| 2             | S62TP46020  | S62TP66020 | 0.065                | 1.870      | 20                | 1.3             |
| 2-1/2         | S62TP46024  | S62TP66024 | 0.065                | 2.370      | 20                | 1.6             |
| 3             | S62TP46030  | S62TP66030 | 0.065                | 2.870      | 20                | 2.0             |
| 4             | S62TP48040  | S62TP68040 | 0.083                | 3.834      | 20                | 3.4             |
| 6             | S62TP49060  | S62TP69060 | 0.109                | 5.782      | 20                | 5.3             |

| Nominal<br>IPS<br>IN | Nominal<br>O.D.<br>IN | Schedule 5S |                 | Schedule 10S |                 | Schedule 40S |                 | Schedule 80S |                 |
|----------------------|-----------------------|-------------|-----------------|--------------|-----------------|--------------|-----------------|--------------|-----------------|
|                      |                       | Wall<br>IN  | Pressure<br>psi | Wall<br>IN   | Pressure<br>psi | Wall<br>IN   | Pressure<br>psi | Wall<br>IN   | Pressure<br>psi |
| 1/8                  | 0.405                 | -           | -               | 0.049        | 18150           | 0.068        | 25175           | 0.095        | 35175           |
| 1/4                  | 0.540                 | -           | -               | 0.065        | 18050           | 0.088        | 24450           | 0.119        | 33050           |
| 3/8                  | 0.675                 | -           | -               | 0.065        | 14450           | 0.091        | 20225           | 0.126        | 28000           |
| 1/2                  | 0.840                 | 0.065       | 11600           | 0.083        | 14825           | 0.109        | 19475           | 0.147        | 26250           |
| 3/4                  | 1.050                 | 0.065       | 9275            | 0.083        | 11850           | 0.113        | 16150           | 0.154        | 22000           |
| 1                    | 1.315                 | 0.065       | 7425            | 0.109        | 12450           | 0.133        | 15175           | 0.179        | 20425           |
| 1-1/4                | 1.660                 | 0.065       | 5875            | 0.109        | 9850            | 0.140        | 12650           | 0.191        | 17250           |
| 1-1/2                | 1.900                 | 0.065       | 5125            | 0.109        | 8600            | 0.145        | 11450           | 0.200        | 15800           |
| 2                    | 2.375                 | 0.065       | 4100            | 0.109        | 6875            | 0.154        | 9750            | 0.218        | 13775           |
| 2-1/2                | 2.875                 | 0.083       | 4325            | 0.120        | 6250            | 0.203        | 10600           | 0.276        | 14400           |
| 3                    | 3.500                 | 0.083       | 3550            | 0.120        | 5150            | 0.216        | 9250            |              |                 |
| 3-1/2                | 4.000                 | 0.083       | 3100            | 0.120        | 4500            | 0.226        | 8475            |              |                 |
| 4                    | 4.500                 | 0.083       | 2750            | 0.120        | 4000            | 0.237        | 7900            |              |                 |
| 5                    | 5.563                 | 0.109       | 2950            | 0.134        | 3625            | 0.258        | 6950            |              |                 |
| 6                    | 6.625                 | 0.109       | 2475            | 0.134        | 3050            | 0.280        | 6350            |              |                 |
| 8                    | 8.625                 | 0.109       | 1900            | 0.148        | 2575            | 0.322        | 5600            |              |                 |
| 10                   | 10.750                | 0.134       | 1875            | 0.165        | 2300            | 0.365        | 5100            |              |                 |
| 12                   | 12.750                | 0.156       | 1825            | 0.180        | 2125            | 0.375        | 4400            |              |                 |
| 14                   | 14.000                | 0.156       | 1675            | 0.188        | 2025            |              |                 |              |                 |
| 16                   | 16.000                | 0.165       | 1550            | 0.188        | 1775            |              |                 |              |                 |
| 18                   | 18.000                | 0.165       | 1375            | 0.188        | 1575            |              |                 |              |                 |
| 20                   | 20.000                | 0.188       | 1400            | 0.218        | 1625            |              |                 |              |                 |
| 24                   | 24.000                | 0.218       | 1375            | 0.250        | 1550            |              |                 |              |                 |
| 30                   | 30.000                | 0.250       | 1250            | 0.312        | 1550            |              |                 |              |                 |

Bursting Pressure calculated using Barlows' formula:  $P = 2ST/D$

P = Theoretical internal bursting pressures

S = 75,000 psi fiber stress

T = Nominal wall

D = Nominal O.D.

| Nominal<br>IPS<br>IN | Wall Thickness |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|----------------------|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                      | 0.016          | 0.020 | 0.028 | 0.035 | 0.049 | 0.065 | 0.083 | 0.095 | 0.109 | 0.120 | 0.134 | 0.156 | 0.188 | 0.250 | 0.313 | 0.375 | 0.500 | 0.750 |
| 1/16                 | 38400          | 48000 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 1/8                  | 19200          | 24000 | 39000 | 42000 | 58800 |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 3/16                 | 12800          | 15998 | 22403 | 29498 | 39203 | 51863 |       |       |       |       |       |       |       |       |       |       |       |       |
| 1/4                  |                | 12000 | 16800 | 21000 | 29400 | 39000 | 49800 | 57000 |       |       |       |       |       |       |       |       |       |       |
| 5/16                 |                | 9600  | 13440 | 16800 | 23520 | 31200 | 39780 | 45750 |       |       |       |       |       |       |       |       |       |       |
| 3/8                  |                | 8003  | 11998 | 14003 | 19598 | 26003 | 33203 | 38003 | 43598 | 48000 |       |       |       |       |       |       |       |       |
| 7/16                 |                | 6857  | 9600  | 12000 | 16800 | 22285 | 28457 | 32571 | 37371 | 41143 |       |       |       |       |       |       |       |       |
| 1/2                  |                | 6000  | 8400  | 10500 | 14700 | 19500 | 24900 | 28500 | 32700 | 36000 |       |       |       |       |       |       |       |       |
| 9/16                 |                | 5333  | 7467  | 9333  | 13067 | 17333 | 22133 | 25333 | 29066 | 32000 |       |       |       |       |       |       |       |       |
| 5/8                  |                | 4800  | 6720  | 8400  | 11760 | 15600 | 19920 | 22888 | 26160 | 28800 | 32160 | 37440 | 44880 |       |       |       |       |       |
| 3/4                  |                | 3998  | 5603  | 6998  | 9803  | 12997 | 16598 | 18998 | 21803 | 24000 | 26800 | 31200 | 37403 |       |       |       |       |       |
| 7/8                  |                | 3428  | 4800  | 6000  | 8400  | 11145 | 14228 | 16283 | 18683 | 20573 | 22971 | 26745 | 32055 |       |       |       |       |       |
| 1                    |                | 3000  | 4200  | 5250  | 7350  | 9750  | 12450 | 14250 | 16350 | 18000 | 20100 | 23400 | 28050 | 37500 |       |       |       |       |
| 1-1/8                |                | 2663  | 3735  | 4665  | 6533  | 8670  | 11070 | 12668 | 14535 | 15998 | 17866 | 20798 | 24930 | 33330 |       |       |       |       |
| 1-1/4                |                | 2400  | 3360  | 4200  | 5880  | 7800  | 9960  | 11400 | 13080 | 14400 | 16080 | 18720 | 22440 | 30000 |       |       |       |       |
| 1-3/8                |                |       | 3053  | 3818  | 5348  | 7087  | 9053  | 10365 | 11888 | 13088 | 14618 | 17018 | 20400 | 27270 |       |       |       |       |
| 1-1/2                |                |       | 2948  | 3503  | 4898  | 6503  | 8303  | 9503  | 10890 | 12000 | 13400 | 15600 | 18698 | 24998 |       |       |       |       |
| 1-5/8                |                |       |       | 3230  | 4523  | 6000  | 7662  | 8769  | 10062 | 11077 | 12369 | 14400 | 17354 | 23077 |       |       |       |       |
| 1-3/4                |                |       |       | 3000  | 4200  | 5573  | 7118  | 8145  | 9345  | 10283 | 11486 | 13373 | 16028 | 21428 |       |       |       |       |
| 2                    |                |       |       | 2625  | 3675  | 4875  | 6225  | 7125  | 8175  | 9000  | 10050 | 11700 | 14025 | 18750 | 23475 | 28125 | 37500 |       |
| 2-1/4                |                |       |       | 2333  | 3270  | 4335  | 5535  | 6330  | 7268  | 8003  | 8933  | 10403 | 12465 | 16665 | 20865 | 24998 | 33330 |       |
| 2-1/2                |                |       |       | 2100  | 2940  | 3900  | 4980  | 5700  | 6540  | 7200  | 8040  | 9360  | 11220 | 15000 | 18780 | 22500 | 30000 |       |
| 2-3/4                |                |       |       | 1913  | 2670  | 3548  | 4530  | 5183  | 5948  | 6548  | 7309  | 8513  | 10200 | 13636 | 17070 | 20453 | 40913 |       |
| 3                    |                |       |       | 1748  | 2453  | 3248  | 4148  | 4748  | 5453  | 6000  | 6700  | 7800  | 9353  | 12503 | 15653 | 18750 | 24998 | 37500 |
| 3-1/4                |                |       |       |       |       | 3000  | 3833  | 4388  | 5033  | 5535  | 6185  | 7200  | 8633  | 11535 | 14445 | 17310 | 23078 | 34613 |
| 3-1/2                |                |       |       |       |       | 2783  | 3555  | 4073  | 4673  | 5145  | 5743  | 6683  | 8018  | 10718 | 13418 | 16073 | 21428 | 32146 |
| 3-3/4                |                |       |       |       |       | 2603  | 3323  | 3803  | 4358  | 4800  | 5360  | 6240  | 7478  | 9998  | 12518 | 15000 | 20003 | 30000 |
| 4                    |                |       |       |       |       | 2438  | 3113  | 3563  | 4088  | 4500  | 5025  | 5850  | 7013  | 9375  | 11738 | 14063 | 18750 | 28125 |

Working pressures for 304 and 316 A269 tubing between -20° F and 100° F

The ASME code suggests a safety factor of four

Example: 1/4" O.D. x 0.035 = 5250 psi

For higher temperatures, multiply work pressure by

|     | 300° F | 500° F | 1000° F |
|-----|--------|--------|---------|
| 304 | 0.828  | 0.744  | 0.665   |
| 316 | 0.900  | 0.853  | 0.746   |





## Valves

---

### ***Ball Valves***

- Sanitary Clamp End
- Tank Bottom
- Diverter
- 1-Piece
- 2-Piece
- 3-Piece
- Flanged

### ***Instrumentation Valves***

- 1-Piece Ball
- 3-Piece Ball
- Check

### ***Gate Valves***

- Threaded
- Socket weld
- Flanged

### ***Globe Valves***

- Threaded
- Socket weld
- Flanged

### ***Check Valves***

- Sanitary Clamp End
- Threaded
- Socket weld
- Flanged

### ***Butterfly***

- Sanitary Clamp End

## Series 58876

### Stainless Ball Valve

- 800 lb. WOG, 150 lb. WSP
- 316 stainless steel body
- 1-piece design
- PTFE seats and seals
- Blow-out proof stem
- Locking device



| Size<br>IN | Part Number | Weight<br>LB |
|------------|-------------|--------------|
|            | Threaded    |              |
| 1/4        | SV58876002  | 0.1          |
| 3/8        | SV58876003  | 0.2          |
| 1/2        | SV58876004  | 0.4          |
| 3/4        | SV58876006  | 0.6          |
| 1          | SV58876010  | 1.0          |
| 1-1/4      | SV58876012  | 1.4          |
| 1-1/2      | SV58876014  | 1.9          |
| 2          | SV58876020  | 2.9          |

## Series 54576

### 316 Stainless Steel Ball Valve

- 2000 lb. WOG (1/4 - 1),  
1500 lb. WOG (1-1/4 - 2),  
150 lb. WSP\*
- Standard port
- 2-piece design
- RTFE seats
- Locking device
- Blow-out proof stem
- ISO 5211 mounting pad



| Size<br>IN | Part Number | Weight<br>LB |
|------------|-------------|--------------|
|            | Threaded    |              |
| 1/4        | SV54576002  | 0.7          |
| 3/8        | SV54576003  | 0.7          |
| 1/2        | SV54576004  | 0.7          |
| 3/4        | SV54576006  | 1.4          |
| 1          | SV54576010  | 1.8          |
| 1-1/4      | SV54576012  | 3.2          |
| 1-1/2      | SV54576014  | 4.3          |
| 2          | SV54576020  | 6.1          |

*\*Nova Seats for 250 PSI WSP also available.*

## Series 50M76

### 316 Stainless Ball Valve

- 1000 lb. WOG, 150 lb. WSP
- Full port
- 2-piece design
- RTFE seats
- Locking device
- Blow-out proof stem



| Size<br>IN | Part Number | Weight<br>LB |
|------------|-------------|--------------|
|            | Threaded    |              |
| 1/4        | SV50M76002  | 0.6          |
| 3/8        | SV50M76003  | 0.5          |
| 1/2        | SV50M76004  | 0.7          |
| 3/4        | SV50M76006  | 1.1          |
| 1          | SV50M76010  | 1.7          |
| 1-1/4      | SV50M76012  | 2.6          |
| 1-1/2      | SV50M76014  | 4.1          |
| 2          | SV50M76020  | 6.8          |
| 2-1/2      | SV50M76024  | 14.7         |
| 3          | SV50M76030  | 22.4         |

## Series 50B76

### Stainless Steel Ball Valve, Seal Welded

- 2000 lb. WOG (1/4 - 2),  
1500 lb. WOG (2-1/2 - 3),  
150 lb. WSP\*
- Full port
- 2-piece seal welded
- Locking device
- Blow-out proof stem



| Size<br>IN | Part Number | Weight<br>LB |
|------------|-------------|--------------|
|            | Threaded    |              |
| 1/4        | SV50B76002  | 0.6          |
| 3/8        | SV50B76003  | 0.5          |
| 1/2        | SV50B76004  | 0.7          |
| 3/4        | SV50B76006  | 1.1          |
| 1          | SV50B76010  | 1.8          |
| 1-1/4      | SV50B76012  | 2.6          |
| 1-1/2      | SV50B76014  | 4.2          |
| 2          | SV50B76020  | 6.8          |
| 2-1/2      | SV50B76024  | 15.2         |
| 3          | SV50B76030  | 22.7         |

*\*Nova Seats for 250 PSI WSP also available.*

## Series 50C76

### 316 Stainless Steel Ball Valve, Seal Welded

- 3000 lb. WOG
- Full port
- 2-piece seal welded
- Anti-static device
- Locking device
- Blow-out proof stem



| Size<br>IN | Part Number | Weight<br>LB |
|------------|-------------|--------------|
|            | Threaded    |              |
| 1/4        | SV50C76002  | 0.9          |
| 3/8        | SV50C76003  | 0.8          |
| 1/2        | SV50C76004  | 1.0          |
| 3/4        | SV50C76006  | 2.4          |
| 1          | SV50C76010  | 3.5          |
| 1-1/4      | SV50C76012  | 5.1          |
| 1-1/2      | SV50C76014  | 8.5          |
| 2          | SV50C76020  | 9.6          |
| 3          | SV50C76030  | 36.7         |

## Series 50F76

### 316 Stainless Steel Ball Valve, Seal Welded

- 6000 lb. WOG
- Full port
- 2-piece seal welded
- Anti-static device
- Locking device
- Blow-out proof stem



| Size<br>IN | Part Number | Weight<br>LB |
|------------|-------------|--------------|
|            | Threaded    |              |
| 1/4        | SV50F76002  | 1.2          |
| 3/8        | SV50F76003  | 1.1          |
| 1/2        | SV50F76004  | 1.5          |
| 3/4        | SV50F76006  | 2.8          |
| 1          | SV50F76010  | 4.9          |
| 1-1/4      | SV50F76012  | 7.4          |
| 1-1/2      | SV50F76014  | 12.1         |
| 2          | SV50F76020  | 14.7         |

## Series 39036

### 316 Stainless Steel Ball Valve, 3-piece design

- 1000 lb. WOG
- Standard port
- Locking device
- Blow-out proof stem
- Variety of seats, seals and handles



| Size<br>IN | Part Number  |              | Weight<br>LB |
|------------|--------------|--------------|--------------|
|            | Threaded     | Socket Weld  |              |
| 1/4        | SV39036TE002 | SV39036SW002 | 0.7          |
| 3/8        | SV39036TE003 | SV39036SW003 | 0.6          |
| 1/2        | SV39036TE004 | SV39036SW004 | 1.1          |
| 3/4        | SV39036TE006 | SV39036SW006 | 1.4          |
| 1          | SV39036TE010 | SV39036SW010 | 2.0          |
| 1-1/4      | SV39036TE012 | SV39036SW012 | 2.9          |
| 1-1/2      | SV39036TE014 | SV39036SW014 | 4.3          |
| 2          | SV39036TE020 | SV39036SW020 | 7.4          |
| 2-1/2      | SV39036TE024 | SV39036SW024 | 14.0         |
| 3          | SV39036TE030 | SV39036SW030 | 19.6         |
| 4          | SV39036TE040 | SV39036SW040 | 31.1         |

## Series 53036

### 316 Stainless Steel Ball Valve, 3-piece design

- 1000 lb. WOG
- Full port
- RTFE seat
- Locking device
- Blow-out proof stem
- Actuator mounting pad
- Variety seats, seals and handles



| Size<br>IN | Part Number  |              | Weight<br>LB |
|------------|--------------|--------------|--------------|
|            | Threaded     | Socket Weld  |              |
| 1/4        | SV53036TE002 | SV53036SW002 | 0.9          |
| 3/8        | SV53036TE003 | SV53036SW003 | 0.9          |
| 1/2        | SV53036TE004 | SV53036SW004 | 1.2          |
| 3/4        | SV53036TE006 | SV53036SW006 | 1.8          |
| 1          | SV53036TE010 | SV53036SW010 | 2.5          |
| 1-1/4      | SV53036TE012 | SV53036SW012 | 4.0          |
| 1-1/2      | SV53036TE014 | SV53036SW014 | 6.2          |
| 2          | SV53036TE020 | SV53036SW020 | 9.6          |

## Series 54116

### 316 Stainless Steel Ball Valve, 1-piece

- 150 lb. flanged ends
- Standard port
- TFM seats 1/2 - 4
- RTFM seats 6 - 8
- Locking device
- Blow-out proof stem
- Variety of seats and seals available



| Size<br>IN | Part Number | Weight<br>LB |
|------------|-------------|--------------|
|            | Flanged     |              |
| 1          | SV54116M014 | 5.6          |
| 1-1/2      | SV54116M014 | 12.2         |
| 2          | SV54116M020 | 25.4         |
| 2-1/2      | SV54116M024 | 0.00         |
| 3          | SV54116M030 | 38.5         |
| 4          | SV54116M040 | 53.5         |
| 6          | SV54116M060 | 79.2         |
| 8          | SV54116M080 | 189.2        |

## Series 49116

### 316 Stainless Steel Flanged Ball Valve, 2-piece

- 150 lb. flanged ends
- Full port
- RTFE seats
- Locking device
- Blow-out proof stem



| Size<br>IN | Part Number | Weight<br>LB |
|------------|-------------|--------------|
|            | Flanged     |              |
| 1/2        | SV49116004  | 3.3          |
| 3/4        | SV49116006  | 4.2          |
| 1          | SV49116010  | 5.9          |
| 1-1/2      | SV49116014  | 11.4         |
| 2          | SV49116020  | 17.4         |
| 3          | SV49116030  | 32.6         |
| 4          | SV49116040  | 52.4         |
| 6          | SV49116060  | 104.5        |

## Series 50116

### 316 Stainless Steel Flanged Ball Valve, 2-Piece

- 150 lb. flanged ends
- Full port
- 316 stainless steel body and trim
- Locking device
- Blow-out proof stem



| Size<br>IN | Part Number | Weight<br>LB |
|------------|-------------|--------------|
|            | Flanged     |              |
| 1/2        | SV50116M004 | 3.7          |
| 3/4        | SV50116M006 | 4.8          |
| 1          | SV50116M010 | 6.8          |
| 1-1/2      | SV50116M014 | 13.5         |
| 2          | SV50116M020 | 19.6         |
| 2-1/2      | SV50116M024 | 36.5         |
| 3          | SV50116M030 | 44.2         |
| 4          | SV50116M040 | 63.7         |

## Series N66

### 316 Stainless Steel Sanitary Ball Valve

- Tube port
- 3-piece design
- High cycle steam
- Hygienic seating
- ISO 5211 mounting pad
- Locking device
- Encapsulated body seal



| Size<br>IN | Part Number    | Weight<br>LB |
|------------|----------------|--------------|
|            | Clamp Ends     |              |
| 1/2        | SVN6666MTCE004 | 1.2          |
| 3/4        | SVN6666MTCE006 | 2.0          |
| 1          | SVN6666MTCE010 | 3.0          |
| 1-1/2      | SVN6666MTCE014 | 6.0          |
| 2          | SVN6666MTCE020 | 9.2          |
| 2-1/2      | SVN6666MTCE024 | 12.1         |
| 3          | SVN6666MTCE030 | 16.2         |
| 4          | SVN6666MTCE040 | 18.9         |

## Series 66

### 316 Stainless Steel

#### Sanitary Tube Port

- 3-piece design
- Encapsulated body bolts
- High cycle steam packing
- Hygienic seating design
- Integrated ISO mounting
- Locking device
- Blow-out proof stem
- Cavity-filled seats available



| Size<br>IN | Part Number   | Weight<br>LB |
|------------|---------------|--------------|
|            | Clamp Ends    |              |
| 1/2        | SV6666MTCE004 | 1.5          |
| 3/4        | SV6666MTCE006 | 2.3          |
| 1          | SV6666MTCE010 | 3.6          |
| 1-1/2      | SV6666MTCE014 | 6.9          |
| 2          | SV6666MTCE020 | 9.7          |
| 2-1/2      | SV6666MTCE024 | 12.8         |
| 3          | SV6666MTCE030 | 16.8         |
| 4          | SV6666MTCE040 | 19.6         |

## Series S76BVH

### 316 Stainless Steel

#### Instrumentation

#### Ball Valve

- 1000 psi @ 200° F
- PTFE seats
- Double ferrule instrumentation tube ends



| Tube OD<br>IN | Part Number     | Weight<br>LB |
|---------------|-----------------|--------------|
|               | Instrumentation |              |
| 1/4           | S76BVH002       | 0.4          |
| 3/8           | S76BVH003       | 0.4          |
| 1/2           | S76BVH004       | 0.7          |
| 3/4           | S76BVH006       | 1.0          |
| 1             | S76BVH010       | 1.6          |

## Series S76BVH3

### 316 Stainless Steel

#### Instrumentation

#### Ball Valve

- 3000 psi @ 200° F
- PTFE seats
- Double ferrule instrumentation tube ends



| Tube OD<br>IN | Part Number     | Weight<br>LB |
|---------------|-----------------|--------------|
|               | Instrumentation |              |
| 1/4           | S76BVH3002      | 0.6          |
| 3/8           | S76BVH3003      | 0.7          |
| 1/2           | S76BVH3004      | 0.8          |
| 3/4           | S76BVH3006      | 1.6          |
| 1             | S76BVH3010      | 2.5          |

## Series S76BVH6

### 316 Stainless Steel

#### Instrumentation

#### Ball Valve

- 6000 psi @ 200° F
- PTFE seats
- Double ferrule instrumentation tube ends



| Tube OD<br>IN | Part Number     | Weight<br>LB |
|---------------|-----------------|--------------|
|               | Instrumentation |              |
| 1/4           | S76BVH6002      | 0.4          |
| 3/8           | S76BVH6003      | 0.4          |
| 1/2           | S76BVH6004      | 0.7          |
| 3/4           | S76BVH6006      | 1.0          |
| 1             | S76BVH6010      | 1.6          |

**Series S7166NV**  
316 Stainless Steel  
Needle Valve

- 6000 lb. WOG
- PTFE seats
- Straight pattern
- NPT threaded ends
- 0°F to 650°F



| Size<br>IN | Part Number | Weight<br>LB |
|------------|-------------|--------------|
|            | Threaded    |              |
| 1/4        | S7166NV002  | 1.0          |
| 3/8        | S7166NV003  | 1.1          |
| 1/2        | S7166NV004  | 1.6          |
| 3/4        | S7166NV006  | 1.9          |
| 1          | S7166NV010  | 3.1          |

**Series S7066YS**  
316 Stainless Steel  
Threaded Wye Strainer

- 800 lb. wog
- PTFE seats
- 20 mesh 316 stainless steel screen
- Blow-down plug



| Size<br>IN | Part Number | Weight<br>LB |
|------------|-------------|--------------|
|            | Threaded    |              |
| 1/2        | S7066YS004  | 0.5          |
| 3/4        | S7066YS006  | 0.8          |
| 1          | S7066YS010  | 1.6          |
| 1-1/4      | S7066YS012  | 2.0          |
| 1-1/2      | S7066YS014  | 2.7          |
| 2          | S7066YS020  | 4.3          |

**Series S76PCV3**  
316 Stainless Steel  
Instrumentation  
Check Valve

- 3000 psi @ 200° F
- Cracking Pressure 7 psi
- PTFE seats
- Double ferrule instrumentation tube ends



| Tube OD<br>IN | Part Number     | Weight<br>LB |
|---------------|-----------------|--------------|
|               | Instrumentation |              |
| 1/4           | S76PCV3002      | 0.3          |
| 3/8           | S76PCV3003      | 0.3          |
| 1/2           | S76PCV3004      | 0.5          |
| 3/4           | S76PCV3006      | 0.6          |
| 1             | S76PCV3010      | 1.5          |

**Series S7745MP6**  
316 Stainless Steel  
Clamp End Check Valve

- 150 psi @ ambient
- All wetted parts approved for use in food processing
- All wetted parts polished to 180 grit



| Tube OD<br>IN | Part Number     | Weight<br>LB |
|---------------|-----------------|--------------|
|               | Instrumentation |              |
| 1-1/2         | S7745MP6014     | 2.6          |
| 2             | S7745MP6020     | 3.1          |
| 3             | S7745MP6030     | 5.2          |
| 4             | S7745MP6040     | 10.4         |



## Series 30276

### 316 Stainless Steel Gate Valve

- 200 lb. WOG @ 350°F
- Inside screw
- Non-rising stem
- Screwed bonnet
- Solid wedge disc

| Size<br>IN | Part Number  |              | Weight<br>LB |
|------------|--------------|--------------|--------------|
|            | Threaded     | Socket Weld  |              |
| 1/2        | SV30276TE004 | SV30276SW004 | 0.9          |
| 3/4        | SV30276TE006 | SV30276SW006 | 1.2          |
| 1          | SV30276TE010 | SV30276SW010 | 1.6          |
| 1-1/4      | SV30276TE012 | SV30276SW012 | 2.6          |
| 1-1/2      | SV30276TE014 | SV30276SW014 | 3.7          |
| 2          | SV30276TE020 | SV30276SW020 | 5.2          |



## Series 34836

### Forged 316L Stainless Steel Gate Valve

- OS&Y
- Class 800
- A182 / 316L stainless steel body
- Bolted bonnet

| Size<br>IN | Part Number  |              | Weight<br>LB |
|------------|--------------|--------------|--------------|
|            | Threaded     | Socket Weld  |              |
| 1/2        | SV34836TE004 | SV34836SW004 | 4.9          |
| 3/4        | SV34836TE006 | SV34836SW006 | 5.3          |
| 1          | SV34836TE010 | SV34836SW010 | 9.3          |
| 1-1/4      | SV34836TE012 | SV34836SW012 | 12.5         |
| 1-1/2      | SV34836TE014 | SV34836SW014 | 15.5         |
| 2          | SV34836TE020 | SV34836SW020 | 24.0         |



## Series 35116

### 316L Stainless Steel 150 lb. Flanged Gate Valve

- Full port
- Outside screw and yoke
- Bolted bonnet
- Flexible wedge, fully guided
- Integrated seats
- Rising stem and non-rising hand-wheel

| Size<br>IN | Part Number | Weight<br>LB |
|------------|-------------|--------------|
| 1/2        | SV35116004  | 7.5          |
| 3/4        | SV35116006  | 7.9          |
| 1          | SV35116010  | 10.6         |
| 1-1/2      | SV35116014  | 18.2         |
| 2          | SV35116020  | 25.0         |
| 2-1/2      | SV35116024  | 34.7         |
| 3          | SV35116030  | 48.3         |
| 4          | SV35116040  | 76.4         |
| 5          | SV35116050  | 104.7        |
| 6          | SV35116060  | 118.9        |
| 8          | SV35116080  | 197.3        |
| 10         | SV35116100  | 313.1        |
| 12         | SV35116120  | 465.1        |
| 14         | SV35116140  | 858.0        |



## Series 35316

### 316L Stainless Steel 300 lb. Flanged Gate Valve

- Full port
- Outside screw and yoke
- Bolted bonnet
- Flexible wedge, fully guided
- Integrated seats
- Rising stem and non-rising hand-wheel

| Size<br>IN | Part Number | Weight<br>LB |
|------------|-------------|--------------|
| 1/2        | SV35316004  | 11.8         |
| 3/4        | SV35316006  | 13.8         |
| 1          | SV35316010  | 15.4         |
| 1-1/2      | SV35316014  | 35.0         |
| 2          | SV35316020  | 45.8         |
| 2-1/2      | SV35316024  | 55.8         |
| 3          | SV35316030  | 84.8         |
| 4          | SV35316040  | 142.0        |
| 6          | SV35316060  | 253.0        |
| 8          | SV35316080  | 376.2        |
| 10         | SV35316100  | 651.2        |
| 12         | SV35316120  | 891.0        |

\*600 lb. Flanged End Valve Available Upon Request



## Series 40276

### 316 Stainless Steel Globe Valve

- 200 lb. WOG @ 350°F
- Inside screw
- Non-rising stem
- Screwed bonnet

| Size<br>IN | Part Number  |              | Weight<br>LB |
|------------|--------------|--------------|--------------|
|            | Threaded     | Socket Weld  |              |
| 1/2        | SV40276TE004 | SV40276SW004 | 1.0          |
| 3/4        | SV40276TE006 | SV40276SW006 | 1.5          |
| 1          | SV40276TE010 | SV40276SW010 | 1.9          |
| 1-1/4      | SV40276TE012 | SV40276SW012 | 3.1          |
| 1-1/2      | SV40276TE014 | SV40276SW014 | 3.9          |
| 2          | SV40276TE020 | SV40276SW020 | 5.5          |



## Series 44836

### Forged 316L Stainless Steel Globe Valve

- Class 800
- A182 / 316L forged stainless steel body and bonnet
- Bolted bonnet

| Size<br>IN | Part Number  |              | Weight<br>LB |
|------------|--------------|--------------|--------------|
|            | Threaded     | Socket Weld  |              |
| 1/2        | SV44836TE004 | SV44836SW004 | 5.0          |
| 3/4        | SV44836TE006 | SV44836SW006 | 5.2          |
| 1          | SV44836TE010 | SV44836SW010 | 9.5          |
| 1-1/4      | SV44836TE012 | SV44836SW012 | 12.7         |
| 1-1/2      | SV44836TE014 | SV44836SW014 | 17.2         |
| 2          | SV44836TE020 | SV44836SW020 | 27.5         |



## Series 45116

### 316 Stainless Steel 150 lb. Flanged Globe Valve

- Bolted bonnet
- Outside screw and yoke
- Yoke integrated with bonnet
- Stem/wedge connection meets the API 600 Pull Test
- Rising stem and hand-wheel
- Available with gear operator

| Size<br>IN | Part Number | Weight<br>LB |
|------------|-------------|--------------|
| 1/2        | SV45116004  | 6.9          |
| 3/4        | SV45116006  | 8.2          |
| 1          | SV45116010  | 9.6          |
| 1-1/4      | SV45116012  | 13.9         |
| 1-1/2      | SV45116014  | 16.3         |
| 2          | SV45116020  | 23.3         |
| 2-1/2      | SV45116024  | 33.5         |
| 3          | SV45116030  | 45.7         |
| 4          | SV45116040  | 68.2         |
| 5          | SV45116050  | 140.1        |
| 6          | SV45116060  | 136.8        |
| 8          | SV45116080  | 217.6        |
| 10         | SV45116100  | 413.6        |
| 12         | SV45116120  | 1049.4       |

\*300 lb. & 600 lb. Flanged End Valves Available Upon Request



## Series 20276

### 316 Stainless Steel Swing Check Valve

- 200 lb. WOG @ 350°F
- 316 stainless steel
- Screwed cap



| Size<br>IN | Part Number  |              | Weight<br>LB |
|------------|--------------|--------------|--------------|
|            | Threaded     | Socket Weld  |              |
| 1/4        | SV20276TE002 | SV20276SW002 | 0.8          |
| 3/8        | SV20276TE003 | SV20276SW003 | 0.8          |
| 1/2        | SV20276TE004 | SV20276SW004 | 0.7          |
| 3/4        | SV20276TE006 | SV20276SW006 | 1.1          |
| 1          | SV20276TE010 | SV20276SW010 | 1.7          |
| 1-1/4      | SV20276TE012 | SV20276SW012 | 2.4          |
| 1-1/2      | SV20276TE014 | SV20276SW014 | 3.3          |
| 2          | SV20276TE020 | SV20276SW020 | 5.0          |
| 2-1/2      | SV20276TE024 | SV20276SW024 | 9.1          |
| 3          | SV20276TE030 | SV20276SW030 | 13.2         |



## Series 24836

### 316L Stainless Steel Piston Check Valve

- Class 800
- A182 / 316L forged stainless steel body
- Bolted cover



| Size<br>IN | Part Number  |              | Weight<br>LB |
|------------|--------------|--------------|--------------|
|            | Threaded     | Socket Weld  |              |
| 1/2        | SV24836TE004 | SV24836SW004 | 3.3          |
| 3/4        | SV24836TE006 | SV24836SW006 | 3.7          |
| 1          | SV24836TE010 | SV24836SW010 | 7.3          |
| 1-1/4      | SV24836TE012 | SV24836SW012 | 9.2          |
| 1-1/2      | SV24836TE014 | SV24836SW014 | 9.2          |
| 2          | SV24836TE020 | SV24836SW020 | 13.1         |



## Series 25116

### 316 Stainless Steel 150 lb. Flanged Check Valve

- Bolted cover
- Swing type
- Integrated seats
- Renewable seat rings
- For horizontal or vertical lines



| Size<br>IN | Part Number | Weight<br>LB |
|------------|-------------|--------------|
| 1/2        | SV25116004  | 3.5          |
| 3/4        | SV25116006  | 4.7          |
| 1          | SV25116010  | 6.0          |
| 1-1/4      | SV25116012  | 7.2          |
| 1-1/2      | SV25116014  | 10.3         |
| 2          | SV25116020  | 17.2         |
| 2-1/2      | SV25116024  | 25.5         |
| 3          | SV25116030  | 32.2         |
| 4          | SV25116040  | 62.4         |
| 5          | SV25116050  | 82.60        |
| 6          | SV25116060  | 103.5        |
| 8          | SV25116080  | 167.2        |
| 10         | SV25116100  | 295.5        |
| 12         | SV25116120  | 429.9        |



## Series 25316

### 316 Stainless Steel 300 lb. Flanged Check Valve

- Bolted cover
- Swing type
- Integrated seats
- Renewable seat rings
- For horizontal or vertical lines



| Size<br>IN | Part Number | Weight<br>LB |
|------------|-------------|--------------|
| 1/2        | SV25316004  | 5.7          |
| 3/4        | SV25316006  | 7.8          |
| 1          | SV25316010  | 12.1         |
| 1-1/2      | SV25316014  | 21.1         |
| 2          | SV25316020  | 31.5         |
| 2-1/2      | SV25316024  | 44.7         |
| 3          | SV25316030  | 55.4         |
| 4          | SV25316040  | 100.8        |
| 6          | SV25316060  | 177.5        |

\*600 lb. Flanged Ends Available Upon Request

## Series 15

### Stainless Sanitary Butterfly Valve



- Tube port
- 304 or 316 stainless steel
- Clamp ends
- 150 psi @ 200° F
- Precision milled body
- Sharpe logo, material grade, size, heat number and country of origin engraved on each valve body
- Disc fully machined and polished
- Hygienic seating design
- Automation available upon request
- Optional: pull handle 4 position, blue 12 position handle, stainless steel 12 position handle

# SV154 E CC 2 1 020

| Valve Material |                       |
|----------------|-----------------------|
| SV154          | 304 Stainless Steel   |
| SV156          | 316 Stainless Steel * |

| Seat Material |         |
|---------------|---------|
| E             | EPDM    |
| N             | BUNA-N  |
| V             | Viton * |

| Shaft Material |                       |
|----------------|-----------------------|
| CC             | Tri-Clamp             |
| BB             | Buttweld *            |
| EE             | Extendable Buttweld * |
| MM             | Male Threaded *       |
| CB             | Clamp x Buttweld *    |

| Surface Finish |                        |
|----------------|------------------------|
| 1              | 20 RA *                |
| 2              | 25 RA                  |
| 3              | 15 RA *                |
| 4              | 20 RA Electro Polish * |

| Operator |                                          |
|----------|------------------------------------------|
| 1        | Blue 12 Position Lever Handle            |
| 2        | 2 Position Handle                        |
| 3        | 12 Position Stainless Steel Lever Handle |
| 4        | 4 Position Pull Handle                   |
| 5        | Bare Stem                                |
| 6        | Gear Operator                            |

| Size IN |       |
|---------|-------|
| 010     | 1     |
| 014     | 1-1/2 |
| 020     | 2     |
| 024     | 2-1/2 |
| 030     | 3     |
| 040     | 4     |

V  
A  
L  
V  
E  
S



\*Denotes Special Order - Lead Times Will Vary Call For More Information





# WARRANTY AND LIMITATIONS OF LIABILITY

SMITH-COOPER INTERNATIONAL (SCI) warrants to its initial purchaser only, that its products which are delivered to this initial purchaser will be of the kind described in the order or price list and will be free of defects in workmanship or material for a period of five years from the date of delivery to our initial purchaser.

Should any failure to conform to this warranty appear within five years after the date of the initial delivery to our initial purchaser, SCI will, upon written notification thereof and substantiation that the goods have been stored, installed, maintained and operated in accordance with recognized engineering and piping practices and industry standards, correct such defects by suitable repair or replacement (which alternative shall be at the discretion of SCI) of product at SCI's own expense upon return of the defective part to SCI.

In the event that SCI elects to replace the defective product, SCI shall pay up to \$50 per defective product for total cost of replacement. In the event of multiple claims, such payment shall be no greater than \$1,000 for each installation project.

This warranty applies only during normal use that meets the above referenced conditions of installation and operation and is absolutely void if the product has been damaged after purchase or if it has been misused, repaired, altered or modified in any manner whatsoever. SCI shall not warranty any of its products if any portion of the product including without limitation, any component, gasket, housing or bolt has been modified, altered, remanufactured or replaced in any manner by any customer, user of the product or third party.

Correction of non-conformities, in the manner and for the period of time provided above, shall constitute fulfillment of all liabilities of SCI to our initial purchaser, with respect to the goods, whether based on contract, negligence, strict tort, or otherwise. It is the intention of SCI that no warranty of any kind, whether expressed or implied shall pass through our initial purchaser to any other person or corporation.

No returns will be allowed unless prior written permission of SCI is first obtained. Buyers shall be responsible for all costs of transportation as well as a restocking charge.

This warranty is exclusively for the benefit of the initial purchaser of this product from SCI and, except to the extent prohibited by applicable law, the foregoing warranty is in lieu of all other warranties, express or implied, including but not limited to warranties of fitness or merchantability.

**LIMITATIONS OF LIABILITY:** SCI shall not under any circumstances be liable for special or consequential damages such as, but not limited to damage to loss of other property or equipment, loss of profits or revenue, cost of capital, cost of purchased or replacement goods, claims of customers of our initial purchaser, any labor cost for repair or replacement of the product or damage caused by the product.

The remedies of our initial purchaser, and all others, set forth herein are exclusive, and the liability of SCI with respect to same shall not, except as expressly provided herein, exceed the price of the SCI products on which such liability is based.

## ***Industrial PVF***

Malleable Iron  
Cast Iron  
Ductile Iron  
Bronze Fittings  
Flanged Fittings  
Forged Steel Fittings  
Merchant Steel  
COOPLET<sup>®</sup>  
Nipples  
Lead Free



## ***Valves***

Ball  
Gate  
Globe  
Check  
Butterfly  
Straight Stops  
Hose Bibbs / Sillcocks  
Boiler Drains  
Specialties

## ***Stainless Steel***

150# Fittings  
3000# Forged Fittings  
Weld Fittings  
Sanitary Fittings  
Instrumentation Fittings  
Flanges  
Nipples  
Pipe & Tubing  
Valves

## ***Grooved***

Couplings  
Fittings  
Valves  
COOPLET<sup>®</sup> Adapter Nipples

**SMITH-COOPER<sup>®</sup>**  
**I N T E R N A T I O N A L**

**Toll Free 800-766-0076**

**Fax 323-890-4456**

**[www.smithcooper.com](http://www.smithcooper.com)**

**Los Angeles, CA • Atlanta, GA • Vancouver, WA • Chicago, IL • Houston, TX**