



# Stainless Steel Tube, Pipe & Fittings





## One Trusted Source - Worldwide

If ever there were industries with a low tolerance for imperfection, these would be our industries. As manufacturing processes grow more precise, our customers' needs for stainless steel piping systems evolve to ever more demanding levels of cleanliness, leak integrity, corrosion resistance, and surface finish. A consistent and reliable source for the highest quality components and assemblies is essential for success.

For over half a century, Valex has been the leading manufacturer of stainless steel tube, fittings, valves, and assemblies that allow our customers to meet their construction schedules and yield goals. Along the way, we've introduced the most important advances in fittings design, electropolishing, precision cleaning, and custom fabrications. With various manufacturing plants, each strategically located in major markets, Valex offers the largest capacity of any supplier. We are the only manufacturer of the full size range of products used by global customers - inch, NPS, and JIS sizes - all under Valex control.

Our unrivaled experience, in-house capacity, unmatched product breadth, and singular focus on only the most demanding industries have led customers around the world to the same conclusion - Valex is their **one trusted source**.



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\* Dimensional charts are subject to change. For the most up-to-date information and additional sizes not listed, please visit [Valex.com](http://Valex.com) or contact your local Valox representative.

# Product Lines

Ultra High Purity,  
Electropolished

- 401
- 301
- LDEP

Cleaned for  
Oxygen Service

- 201
- 101
- CFOS

V22® Alloy (N06022)

- 444
- 222



CFOS



444

222

# Product Line Selector

Does the process use electropolished or non-electropolished product?

Start

## Electropolished

(EP) Electropolished for Ultra High Purity (UHP) Systems

## Non-Electropolished

(BA-S) Bright Annealed Precision-Cleaned, (BA) Bright Annealed, (AP) Annealed & Pickled for High-Purity, (CFOS) Cleaned for Oxygen Grade Service or Corrosive Systems

Highly Corrosive Systems\*

(UHP) or Single Melt

(UHP) Standard Level of Testing & Certification

High-Purity (HP) / CFOS Cleanliness, & Other Inert Gas Applications

Highly Corrosive Systems\*

V22®  
N06022  
Alloy

V22®  
N06022  
Alloy

Ra: 5 & 10 µin

Ra: 5, 7 & 10 µin

Ra: 20 µin

Ra: 10 µin

Ra: 20 & 25 µin

Ra: 30, 40 & 200 µin

Ra: 20 µin

Various Finish Options

316L

304L  
316L

304

\* Highest Resistance to Corrosion & Intergranular Attack

Please refer to the following pages for additional product line information.

444 401 LDEP 301 201 101 CFOS 222 Product Lines

EP  
Finish

BA-S  
Finish

BA & AP  
Finish

BA-S  
Finish



# 401

EP Product Line



## Valex Specification SP-9220

### Applications

Ultra High Purity Systems requiring the highest grade of materials and certifications, Electropolished

### Alloy

316L Stainless steel, single-melt or double-melt (seamless or welded, depending on size)

### Sizes

ASTM Tube:  $\frac{1}{8}$ " to 6"

ASTM Coiled Tube:  $\frac{1}{4}$ " to  $\frac{1}{2}$ "

ASTM Fittings:  $\frac{1}{4}$ " to 6"

JIS Pipe: 8A to 300A

### I.D. Surface Finish Options

A5: 5  $\mu$ in Ra max

A7: 7  $\mu$ in Ra max

B0: 10  $\mu$ in Ra max

C0: 10  $\mu$ in Ra

### Tolerances

In accordance with ASTM: A 269 & A 632

JIS: G 3459 & G 3468

### Weld Ends

Tube: Square ends suitable for orbital welding

Pipe: Square or beveled end options

### Testing & Inspection

- Visual inspection
- Surface roughness measurement
- Helium-leak testing

- Scanning Electron Microscopy (SEM)
- Auger Electron Microscopy (AES)
- Electron Spectroscopy for Chemical Analysis (ESCA or XPS)
- Particle testing
- Moisture testing

### Marking & Traceability

Each component is traceable to its producing mill and heat by an identification number marked within 24" (610mm) of one end.

### Labeling

Each component's bag is affixed with a label identifying the component's part number, date and Valex lot number.

### Documentation

A quality inspection certificate is furnished with each shipment. The report contains the following information:

- Material composition & applicable specification designation
- Nominal outside diameter size
- Chemical composition
- Statement of quality assurance testing
- Inspection Certificate type 3.1 per EN 10204:2004
- Lot & heat identification for traceability

### Packaging

All components are purged with UHP Nitrogen gas, capped, double-bagged and packaged for shipment in a cleanroom.

301

EP Product Line

**Valex Specification SP-9223****Applications**

Ultra High Purity Systems, Electropolished

**Alloy**

316L Stainless steel, single-melt  
(seamless or welded, depending on size)

**Sizes**

ASTM Tube: 1/8" to 6"

**I.D. Surface Finish**

10 µin Ra

**Tolerances**

In accordance with ASTM: A 269 & A 632

**Weld Ends**

Square ends are suitable for orbital welding

**Testing & Inspection**

- Visual inspection
- Surface roughness measurement
- Dimensional inspection

**Marking & Traceability**

Each component is traceable to its producing mill and heat by an identification number marked within 24" (610mm) of one end.

**Labeling**

Each component's bag is affixed with a label identifying the component's part number, date and Valex lot number.

**Documentation**

A quality inspection certificate is furnished with each shipment. The report contains the following information:

- Material composition & applicable specification designation
- Nominal outside diameter size
- Chemical composition
- Statement of quality assurance testing
- Inspection Certificate type 3.1 per EN 10204:2004
- Lot & heat identification for traceability

**Packaging**

All components are purged with UHP Nitrogen gas, capped, double-bagged and packaged for shipment in a cleanroom.



# LDEP

EP Product Line

## Valex Specification SP-9235

### Applications

Ultra High Purity Systems, Electropolished

### Alloy

316L Stainless steel, single-melt  
(seamless or welded, depending on size)

### Sizes

JIS Pipe: 25A to 800A  
ASTM/ASME Pipe: NPS 2 to NPS 24

### I.D. Surface Finish

20  $\mu$ in Ra average, 25  $\mu$ in Ra max

### Tolerances

In accordance with applicable ASTM,  
ASME & JIS specifications

### Weld Ends

Square or beveled end options

### Testing & Inspection

- Visual inspection
- Surface roughness measurement
- Helium-leak testing
- Scanning Electron Microscopy (SEM)
- Auger Electron Microscopy (AES)

### Marking & Traceability

Each component is traceable to its producing mill and heat by an identification number marked within 24" (610mm) of one end.

### Labeling

Each component's bag is affixed with a label identifying the component's part number, date and Valex lot number.

### Documentation

A quality inspection certificate is furnished with each shipment. The report contains the following information:

- Material composition & applicable specification designation
- Nominal outside diameter size
- Chemical composition
- Statement of quality assurance testing
- Inspection Certificate type 3.1 per EN 10204:2004
- Lot & heat identification for traceability

### Packaging

All components are capped, bagged and packaged for shipment in a cleanroom.





201

BA-S Product Line

**Valex Specification SP-9206****Applications**

High-Purity Systems

**Alloy**

316L, 304L, or 304 Stainless steel, single-melt (seamless or welded, depending on size)

**Sizes**

ASTM Tube: 1/8" to 6"

ASTM Fittings: 1/4" to 6"

JIS Pipe & Fittings: 15A to 600A

**I.D. Surface Finish**

ASTM Tube: 25 µin Ra max

ASTM Tube Fittings: 20 µin Ra max

JIS Pipe: 25 µin Ra max

JIS Pipe Fittings: 25 µin Ra max

**Tolerances**

In accordance with ASTM: A 269 & A 632

JIS: G 3459 & G 3468

**Weld Ends**

Tube: Square ends suitable for orbital welding

Pipe: Square or beveled end options

**Testing & Inspection**

- Visual inspection
- Surface roughness measurement

- Helium-leak testing
- Dimensional inspection

**Marking & Traceability**

Each component is traceable to its producing mill and heat by an identification number marked within 24" (610mm) of one end.

**Labeling**

Each component's bag is affixed with a label identifying the component's part number, date and Valox lot number.

**Documentation**

A quality inspection certificate is furnished with each shipment. The report contains the following information:

- Material composition & applicable specification designation
- Nominal outside diameter size
- Chemical composition
- Statement of quality assurance testing
- Inspection Certificate type 3.1 per EN 10204:2004
- Lot & heat identification for traceability

**Packaging**

All components are capped, bagged and packaged for shipment in a cleanroom.



# 101

BA Product Line

## Valex Specification SP-9204

### Applications

High-Purity Systems

### Alloy

316L, 304L, or 304 Stainless steel, single-melt (seamless or welded, depending on size)

### Sizes

ASTM Tube:  $\frac{1}{8}$ " to 6"

JIS Pipe: 15A to 800A

### I.D. Surface Finish

ASTM Tube:  $\frac{1}{8}$ " to 4" = 30  $\mu$ in Ra  
6" = 200  $\mu$ in Ra

JIS Pipe: 15A to 100A = 40  $\mu$ in Ra  
125A to 800A = 200  $\mu$ in Ra

### Tolerances

In accordance with ASTM: A 269 & A 632,  
JIS: G 3459 & G 3468

### Weld Ends

Tube: Square ends suitable for orbital welding  
Pipe: Square or beveled end options

### Testing & Inspection

- Visual inspection
- Surface roughness measurement
- Dimensional inspection

### Marking & Traceability

Each component is traceable to its producing mill and heat by an identification number marked within 24" (610mm) of one end.

### Labeling

Each component's bag is affixed with a label identifying the component's part number, date and Valex lot number.

### Documentation

A quality inspection certificate is furnished with each shipment. The report contains the following information:

- Material composition & applicable specification designation
- Nominal outside diameter size
- Chemical composition
- Statement of quality assurance testing
- Inspection Certificate type 3.1 per EN 10204:2004
- Lot & heat identification for traceability

### Packaging

All components are capped, bagged and packaged for shipment.



# CFOS

BA Product Line

## Valex Specification SP-9234

### Applications

High Purity Systems

### Alloy

316L, 304L, or 304 Stainless steel, single-melt (seamless or welded, depending on size)

### Sizes

ASTM Tube & Fittings: 1/4" to 6"

JIS Pipe: 25A to 800A

JIS Fittings: 15A to 800A

ASTM/ASME Pipe: NPS 2 to NPS 30

ASTM/ASME Fittings: NPS 1/2 to NPS 24

### I.D. Surface Finish Options

AP: Annealed & pickled

ID40: 40 µin Ra Internal finish

IDMP: 200 µin Ra max internal finish

BA: Bright annealed

BA40: Bright annealed with 40 µin Ra internal finish

### Tolerances

In accordance with ASTM, ASME & JIS specifications

### Weld Ends

Tube: Square ends suitable for orbital welding

Pipe: Square or beveled end options

### Testing & Inspection

- Visual inspection

- Surface roughness measurement
- Dimensional inspection

### Marking & Traceability

Each component is traceable to its producing mill and heat by an identification number marked within 24" (610mm) of one end.

### Labeling

Each component's bag is affixed with a label identifying the component's part number, date and Valex lot number.

### Documentation

A quality inspection certificate is furnished with each shipment. The report contains the following information:

- Material composition & applicable specification designation
- Nominal outside diameter size
- Chemical composition
- Statement of quality assurance testing
- Inspection Certificate type 3.1 per EN 10204:2004
- Lot & heat identification for traceability

### Packaging

Packaged for shipment in such a manner, which prevents damage to product and primary product packaging.

444

EP Product Line

**Valex Specification SP-9241****Applications**

Ultra High Purity Systems in Extremely Corrosive Applications, Electropolished

**Alloy**

Nickel-Chromium-Molybdenum-Tungsten Alloy V22® (UNS Designation N06022)<sup>1</sup>

**Sizes**

ASTM Tube Segments: 1/4" to 3/4"

**I.D. Surface Finish**

5 µin Ra

10 µin Ra

**Tolerances**

Outside diameter: ±.005"

Wall thickness: ±12.5% / -25%

**Weld Ends**

Square ends suitable for orbital welding

**Testing & Inspection**

- Visual inspection
- Surface roughness measurement
- Dimensional inspection

**Marking & Traceability**

Each component is traceable to its producing mill and heat by an identification number marked on the tube segment length.

**Labeling**

Each component's bag is affixed with a label identifying the component's part number, date and Valex lot number.

**Documentation**

A quality inspection certificate is furnished with each shipment. The report contains the following information:

- Material composition & applicable specification designation
- Nominal outside diameter size
- Chemical composition
- Statement of quality assurance testing
- Inspection Certificate type 3.1 per EN 10204:2004
- Lot & heat identification for traceability

**Packaging**

All components are purged with UHP Nitrogen gas, capped, bagged and packaged for shipment in a cleanroom.

<sup>1</sup> Haynes Hastelloy® C-22® is available upon request.  
Hastelloy and C-22 are registered trademarks of Haynes International Inc.

222  
BA Product Line**Valex Specification SP-9207****Applications**

Extremely corrosive systems

**Alloy**

Nickel-Chromium-Molybdenum-Tungsten Alloy  
V22® (UNS Designation N06022)<sup>1</sup>

**Sizes**

ASTM Tube: 1/4" to 3/4"

**I.D. Surface Finish**

20 µin Ra max

**Tolerances**

Outside diameter: ±.005"

Wall thickness: ±12.5%

**Weld Ends**

Square ends suitable for orbital welding

**Testing & Inspection**

- Visual inspection
- Surface roughness measurement
- Fittings leak test
- Dimensional inspection

**Marking & Traceability**

Each component is traceable to its producing mill and heat by an identification number marked within 24" (610mm) of one end.

**Labeling**

Each component's bag is affixed with a label identifying the component's part number, date and Valex lot number.

**Documentation**

A quality inspection certificate is furnished with each shipment. The report contains the following information:

- Material composition & applicable specification designation
- Nominal outside diameter size
- Chemical composition
- Statement of quality assurance testing
- Inspection Certificate type 3.1 per EN 10204:2004
- Lot & heat identification for traceability

**Packaging**

All components are purged with UHP Nitrogen gas, capped, bagged and packaged for shipment.

<sup>1</sup> Haynes Hastelloy® C-22® is available upon request.  
Hastelloy and C-22 are registered trademarks of Haynes International Inc.

# Coaxial

EP, BA-S & BA Product Line



## Valex Specification SP-9222

### Applications

Contingent upon customers specifications

### Alloy

316L, 304L, or 304 Stainless steel,  
(Tubing & sleeves are seamless or welded,  
depending on customers specifications)

### Sizes

ASTM .250" to .750"

Tube: .750" to 2.50"

JIS 10A to 32A

Pipe: 25A to 40A

### I.D. Surface Finish Options

A5: 5  $\mu$ in Ra max

B0: 10  $\mu$ in Ra max

A7: 7  $\mu$ in Ra max

C0: 10  $\mu$ in Ra

### Tolerances

In accordance with ASTM: A 269 & A 632  
& JIS: G 3459

### Weld Ends

Square ends suitable for orbital welding

### Testing & Inspection

Outer Tube:

- Visual Inspection
- Dimensional Inspection
- Outer Tube Leak Testing

Inner Tube:

- Per Valox Specification: SP-9204, SP-9206, SP-9207, SP-9220, or SP-9223

### Marking & Traceability

Each component is traceable to its producing mill and heat by an identification number.

### Labeling

Each component's bag is affixed with a label identifying the component's part number, date and Valox lot number.

### Documentation

A quality inspection certificate for the inner tube is furnished with each shipment. The report contains the following information:

- Material composition & applicable specification designation
- Nominal outside diameter size
- Chemical composition
- Statement of quality assurance testing
- Inspection Certificate type 3.1 per EN 10204:2004
- Lot & heat identification for traceability

### Packaging

Assembled product packaged per applicable specification.



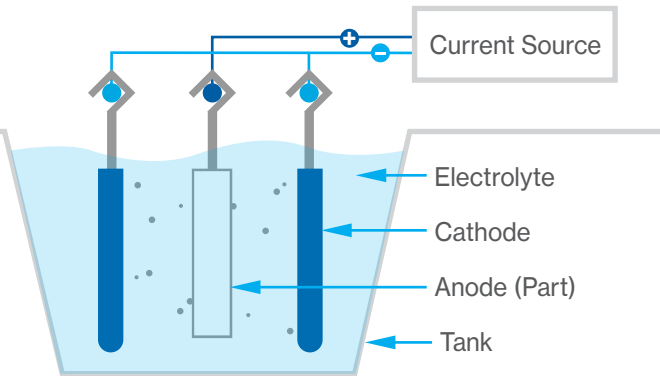
## Smoothing Out the Peaks & Valleys

When the highest levels of purity, corrosion resistance, and overall performance are required, customers select Valex UHP electropolished (EP) products. Under magnification, raw material surfaces appear rough, and composed of many “peaks and valleys”. During our EP process, surface metal is removed ion-by-ion, at an electron-microscopic level. Parts are subjected to an electrolytic solution and current, where surface material is selectively dissolved, more aggressively at the peaks than the valleys, smoothing out these undulations. The result is a micro-smooth and contaminant-free surface.

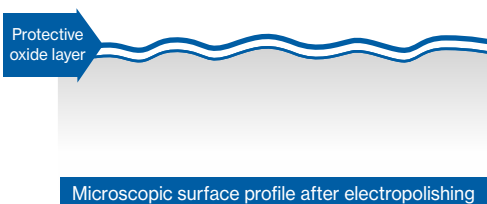
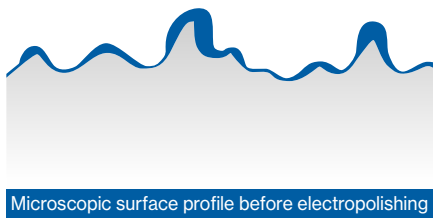
Electropolished surfaces benefit from increased corrosion resistance, and improved surface finish, resulting in increased production yields at customer sites. Our EP processes have been refined and tuned over multiple decades, to produce the most uniform, repeatable finishes – that are universally accepted as the gold-standard for which to compare.

### The Electropolishing Process

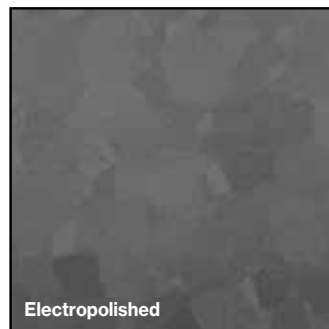
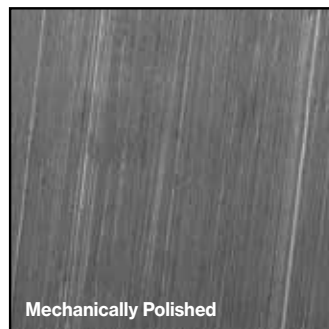
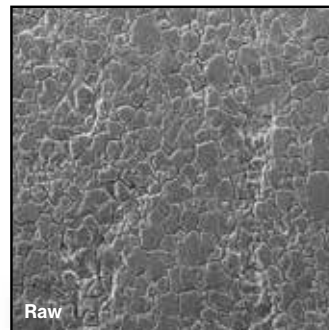
Valex electropolishing leaves the material surface microscopically smooth & essentially featureless.



Peaks are more aggressively removed due to higher current density



SEM photos at 500X magnification



# Electropolishing

# Quality



## Tested Beyond the Standard

Product testing and certification are in strict accordance with industry-leading Valex specifications. For electropolished products requiring advanced surface analysis, we've brought sophisticated testing technology in-house, including Scanning Electron Microscope (SEM) and Electron Spectroscopy for Chemical Analysis (ESCA), to assure surface quality. Additionally, X-Ray Fluorescence (XRF) and Optical Emission Spectroscopy (OES) can verify metallurgical integrity and elemental composition of our alloys. These, and many other steps unique to us, add unmatched levels of control that assure Valex products not only meet, but exceed specifications and customer expectations.

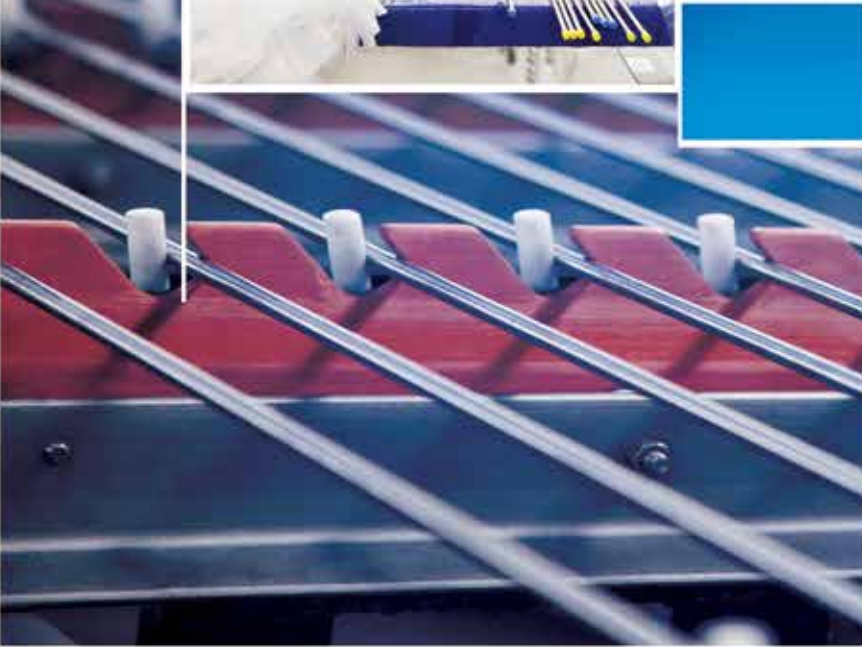


# Process

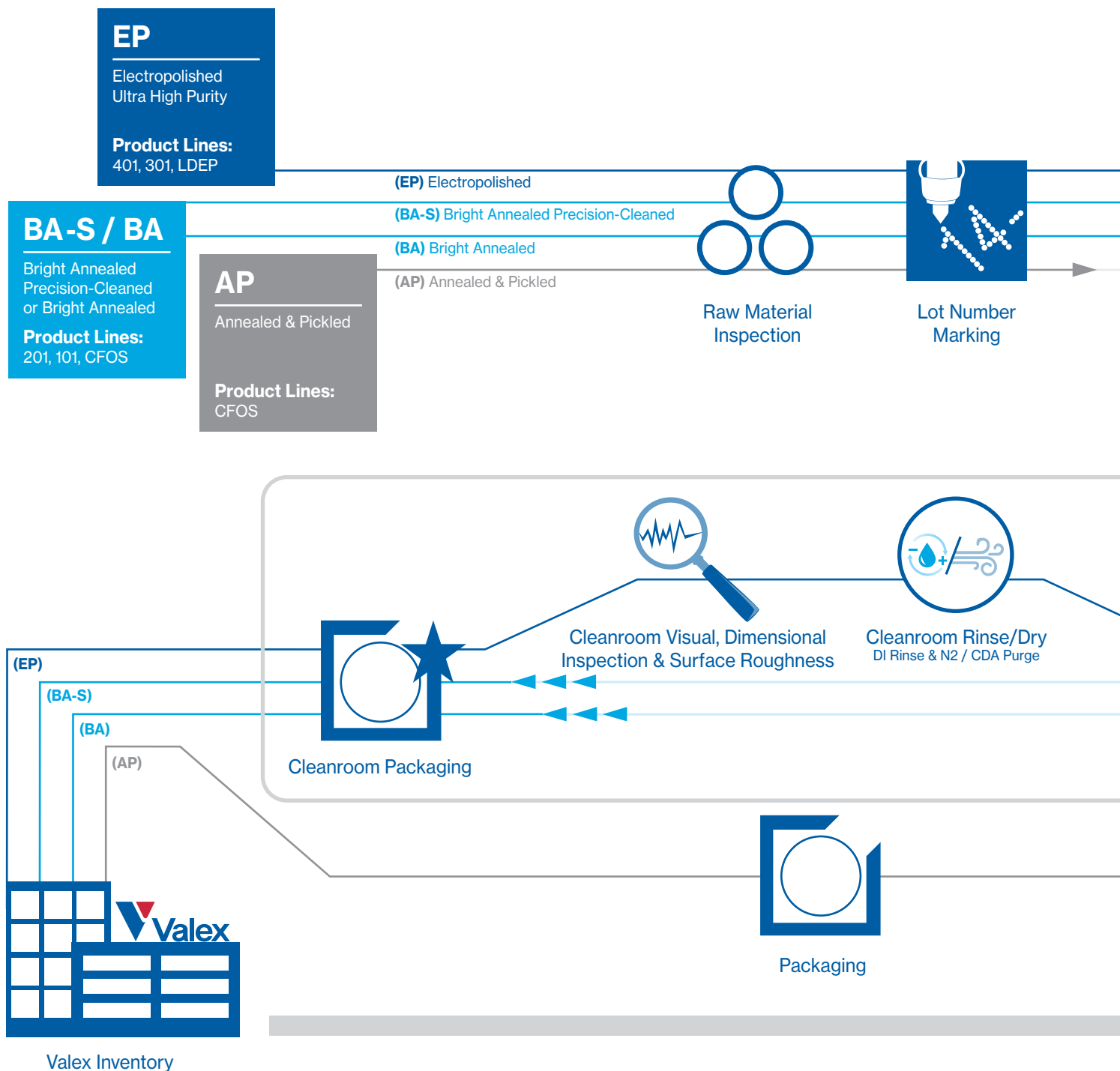
## Processed for Success

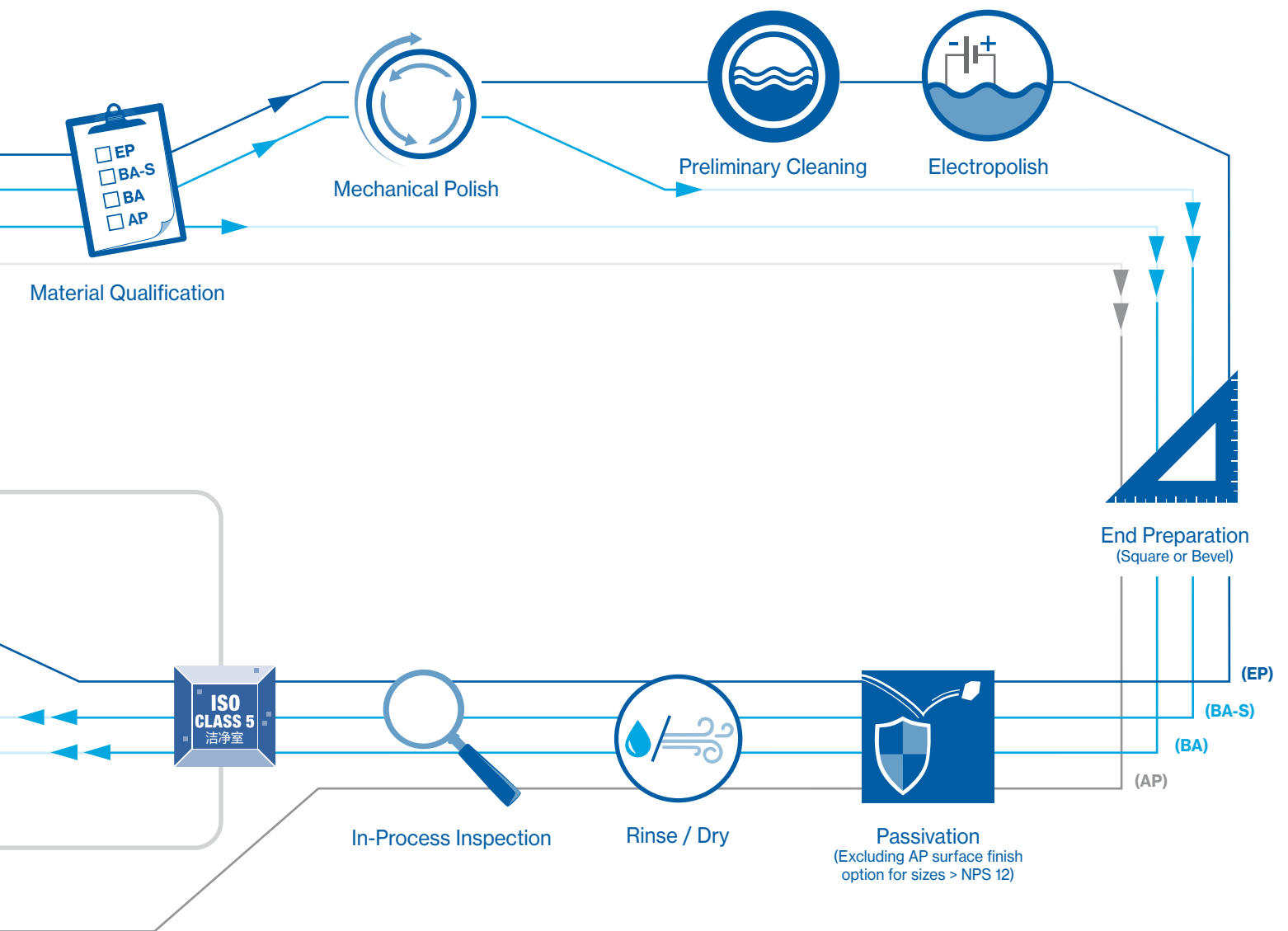
Continued refinement and advancement is the inevitable progression for Valex-designed manufacturing equipment and processes. Over the years, these developments have resulted in the largest range of choice for size and surface finish options of ASTM, ASME, and JIS components available to our customers.

All of our products conform to identical Valex specifications, using the same proven processes and equipment at each of our three manufacturing facilities. Each facility consistently manufactures product exceeding performance requirements, while creating and maintaining Ultra High Purity using ISO Class 5 clean rooms with semiconductor-quality deionized water and nitrogen – assuring the highest levels of product integrity and performance.



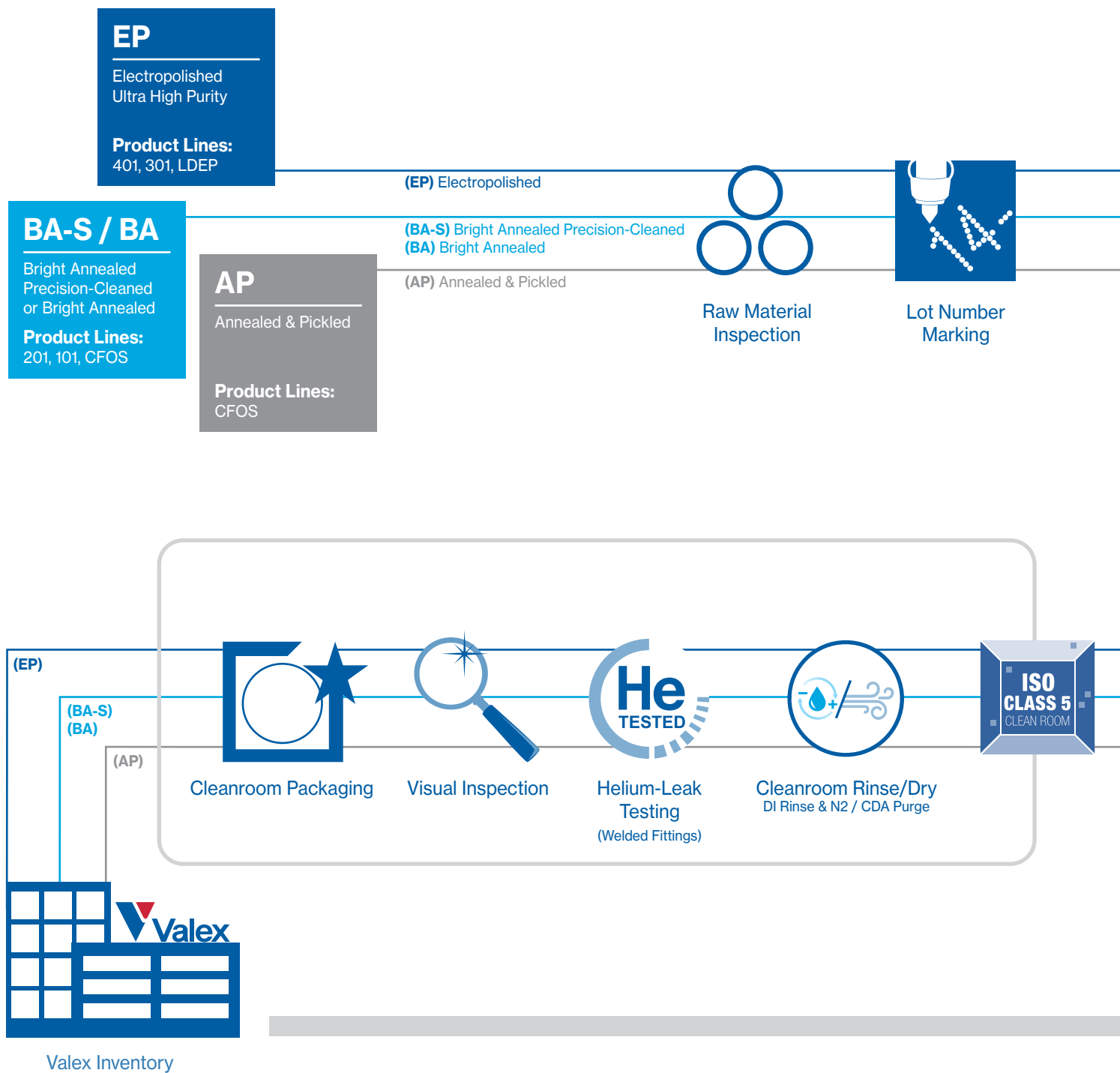
# Tube & Pipe Process



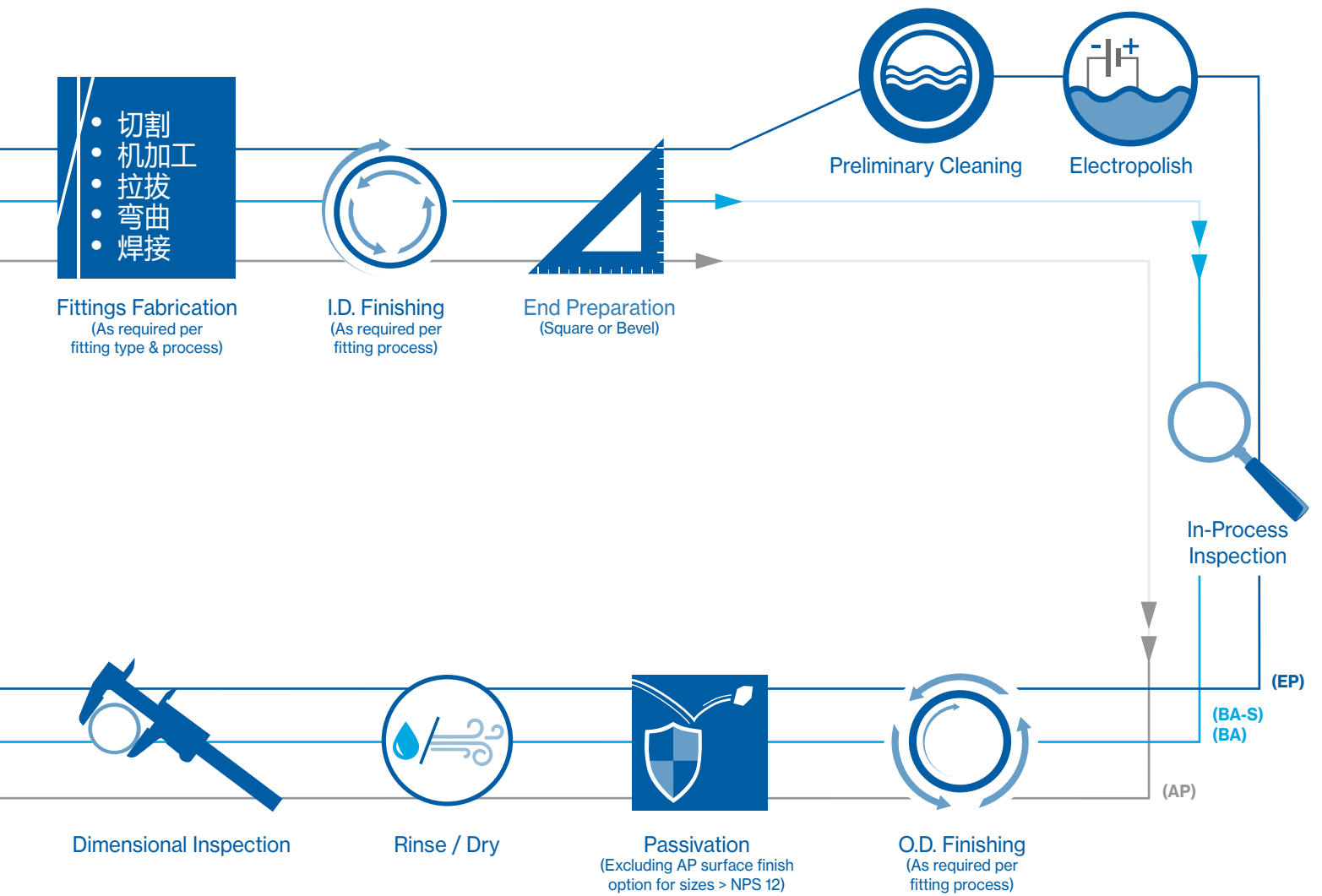




# Fittings Process

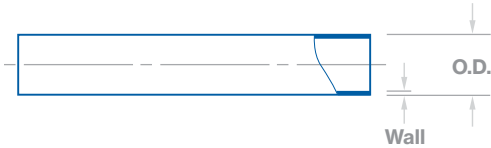






# Tube & Pipe





# Tube

ASTM A269 / A632

| Product Lines |             |               |               |                 | Dimensions in Inches |       |      |                           |                                |            |              |            |
|---------------|-------------|---------------|---------------|-----------------|----------------------|-------|------|---------------------------|--------------------------------|------------|--------------|------------|
| 401<br>(EP)   | 301<br>(EP) | 201<br>(BA-S) | 101<br>(BA-S) | CFOS<br>(BA/AP) | Size                 | O.D.  | Wall | Weight per<br>foot (lbs.) | Maximum Safe Working Pressure* |            |              |            |
|               |             |               |               |                 |                      |       |      |                           | PSI Seamless                   | PSI Welded | Bar Seamless | Bar Welded |
| •             | •           | •             | •             |                 | 1/8"                 | .125  | .028 | .03                       | 7,805                          | N/A        | 538          | N/A        |
| •             | •           | •             | •             | •               | 1/4"                 | .250  | .035 | .08                       | 4,598                          | N/A        | 317          | N/A        |
| •             | •           | •             | •             | •               | 1/4"                 | .250  | .039 | .09                       | 5,189                          | N/A        | 358          | N/A        |
| •             | •           | •             | •             | •               | 3/8"                 | .375  | .035 | .13                       | 2,974                          | N/A        | 205          | N/A        |
| •             | •           | •             | •             | •               | 3/8"                 | .375  | .039 | .14                       | 3,341                          | N/A        | 230          | N/A        |
| •             | •           | •             | •             | •               | 1/2"                 | .500  | .049 | .24                       | 3,136                          | 2,209      | 216          | 173        |
| •             | •           | •             | •             | •               | 3/4"                 | .750  | .065 | .48                       | 2,759                          | 2,207      | 190          | 152        |
| •             | •           | •             | •             | •               | 1"                   | 1.000 | .065 | .65                       | 2,039                          | 1,631      | 141          | 113        |
| •             | •           | •             | •             | •               | 1-1/2"               | 1.500 | .065 | 1.00                      | 1,340                          | 1,072      | 92           | 74         |
| •             | •           | •             | •             | •               | 2"                   | 2.000 | .065 | 1.35                      | 995                            | 796        | 69           | 55         |
| •             | •           | •             | •             | •               | 2-1/2"               | 2.500 | .065 | 1.70                      | 793                            | 635        | 55           | 44         |
| •             | •           | •             | •             | •               | 3"                   | 3.000 | .065 | 2.05                      | 659                            | 528        | 45           | 36         |
| •             | •           | •             | •             | •               | 4"                   | 4.000 | .083 | 3.49                      | 631                            | 505        | 44           | 35         |
| •             | •           | •             | •             | •               | 6"                   | 6.000 | .109 | 6.90                      | 551                            | 440        | 38           | 30         |

\* Gauge pressure is listed.

Notes:

- Maximum safe working pressure is calculated per ASME B 31.3-2020, paragraph 304.1.2 (formula 3a). Calculations assume maximum allowable O.D. and minimum allowable wall thickness (worst case scenario).
- Material: TP 304L or TP 316L per ASTM A269 and A632.
- Temperature range used for above calculations is -20°F to 300°F, -28.8°C to 148.9°C. For recommended working pressures higher than 300°F (148.9°C), please consult factory.

# Tube

V22® Alloy (N06022)<sup>2</sup>

| Product Lines |               | Dimensions in Inches |      |      |                           |                                |            |              |            |
|---------------|---------------|----------------------|------|------|---------------------------|--------------------------------|------------|--------------|------------|
| 444<br>(EP)   | 222<br>(BA-S) | Size                 | O.D. | Wall | Weight per<br>foot (lbs.) | Maximum Safe Working Pressure* |            |              |            |
|               |               |                      |      |      |                           | PSI Seamless                   | PSI Welded | Bar Seamless | Bar Welded |
| •             | •             | 1/4"                 | .250 | .035 | .08                       | 7,972                          | N/A        | 550          | N/A        |
| •             | •             | 3/8"                 | .375 | .035 | .13                       | 5,169                          | N/A        | 356          | N/A        |
| •             | •             | 1/2"                 | .500 | .049 | .24                       | 5,465                          | N/A        | 377          | N/A        |
| •             | •             | 3/4"                 | .750 | .065 | .48                       | 4,810                          | N/A        | 332          | N/A        |

\* Gauge pressure is listed.

Notes:

- Maximum safe working pressure is calculated per ASME B 31.3-2020, paragraph 304.1.2 (formula 3a). Calculations assume maximum allowable O.D. and minimum allowable wall thickness (worst case scenario).
- Material: Haynes Hastelloy® C-22® is available upon request. Hastelloy and C-22 are registered trademarks of Haynes International Inc.
- Temperature range used for above calculations is -20°F to 300°F, -28.8°C to 148.9°C. For recommended working pressures higher than 300°F (148.9°C), please consult factory.

# Pipe

ASTM A312, Schedule 10S



| Product Lines |                 | Dimensions in Inches |      |        |      |                          |                                |            |              |            |
|---------------|-----------------|----------------------|------|--------|------|--------------------------|--------------------------------|------------|--------------|------------|
| LDEP<br>(EP)  | CFOS<br>(BA/AP) | Size                 | Sch. | O.D.   | Wall | Weight per<br>foot (lb.) | Maximum Safe Working Pressure* |            |              |            |
|               |                 |                      |      |        |      |                          | PSI Seamless                   | PSI Welded | Bar Seamless | Bar Welded |
| ●             | ●               | NPS 2                | 10S  | 2.375  | .109 | 2.66                     | 1,367                          | 1,094      | 94           | 75         |
| ●             | ●               | NPS 2-1/2            | 10S  | 2.875  | .120 | 3.56                     | 1,243                          | 994        | 86           | 69         |
| ●             | ●               | NPS 3                | 10S  | 3.500  | .120 | 4.36                     | 1,017                          | 814        | 70           | 56         |
| ●             | ●               | NPS 3-1/2            | 10S  | 4.000  | .120 | 5.01                     | 888                            | 711        | 61           | 49         |
| ●             | ●               | NPS 4                | 10S  | 4.500  | .120 | 5.66                     | 789                            | 631        | 54           | 44         |
| ●             | ●               | NPS 5                | 10S  | 5.563  | .134 | 7.83                     | 708                            | 566        | 49           | 39         |
| ●             | ●               | NPS 6                | 10S  | 6.625  | .134 | 9.36                     | 594                            | 475        | 41           | 33         |
| ●             | ●               | NPS 8                | 10S  | 8.625  | .148 | 13.50                    | 504                            | 403        | 35           | 28         |
| ●             | ●               | NPS 10               | 10S  | 10.750 | .165 | 18.79                    | 449                            | 360        | 31           | 25         |
| ●             | ●               | NPS 12               | 10S  | 12.750 | .180 | 24.34                    | 414                            | 331        | 29           | 23         |
| ●             | ●               | NPS 14               | 10S  | 14.000 | .188 | 27.94                    | 394                            | 315        | 27           | 22         |
| ●             | ●               | NPS 16               | 10S  | 16.000 | .188 | 31.98                    | 344                            | 275        | 24           | 19         |
| ●             | ●               | NPS 18               | 10S  | 18.000 | .188 | 36.03                    | 306                            | 245        | 21           | 17         |
| ●             | ●               | NPS 20               | 10S  | 20.000 | .218 | 46.40                    | N/A                            | 255        | N/A          | 18         |
| ●             | ●               | NPS 22               | 10S  | 22.000 | .218 | 51.09                    | N/A                            | 232        | N/A          | 16         |
| ●             | ●               | NPS 24               | 10S  | 24.000 | .250 | 63.88                    | N/A                            | 244        | N/A          | 17         |
|               | ●               | NPS 30               | 10S  | 30.000 | .312 | 99.66                    | N/A                            | 244        | N/A          | 17         |

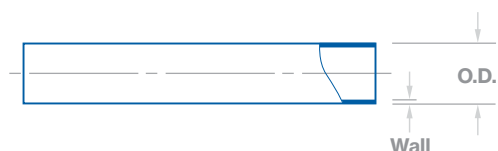
\* Gauge pressure is listed.

Notes:

- Maximum safe working pressure is calculated, per ASME B31.3-2020, paragraph 304.1.2. Calculations assume maximum allowable O.D. and minimum allowable wall thickness (worst case scenario).
- Material: TP304, TP 304L or TP 316L per ASTM A312
- Temperature range used for above calculations is -20°F to 300°F, -28.8°C to 148.9°C. For recommended working pressures higher than 300°F (148.9°C), please consult factory.

# Pipe

ASTM A312, Schedule 40S

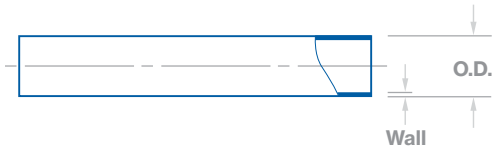


| Product Lines |                 | Dimensions in Inches |      |        |      |                          |                                |            |  |
|---------------|-----------------|----------------------|------|--------|------|--------------------------|--------------------------------|------------|--|
| LDEP<br>(EP)  | CFOS<br>(BA/AP) | Size                 | Sch. | O.D.   | Wall | Weight per<br>foot (lb.) | Maximum Safe Working Pressure* |            |  |
|               |                 |                      |      |        |      |                          | PSI Welded                     | Bar Welded |  |
| •             | •               | NPS 12               | 40S  | 12.750 | .375 | 49.93                    | 697                            | 48         |  |
| •             | •               | NPS 14               | 40S  | 14.000 | .375 | 54.97                    | 634                            | 44         |  |
| •             | •               | NPS 16               | 40S  | 16.000 | .375 | 63.04                    | 554                            | 38         |  |
| •             | •               | NPS 18               | 40S  | 18.000 | .375 | 71.11                    | 492                            | 34         |  |
| •             | •               | NPS 20               | 40S  | 20.000 | .375 | 79.18                    | 441                            | 30         |  |
| •             | •               | NPS 24               | 40S  | 24.000 | .375 | 95.32                    | 367                            | 25         |  |

\* Gauge pressure is listed.

Notes:

- Maximum safe working pressure is calculated, per ASME B31.3-2020, paragraph 304.1.2. Calculations assume maximum allowable O.D. and minimum allowable wall thickness (worst case scenario).
- Material: TP304, TP 304L or TP 316L per ASTM A312
- Temperature range used for above calculations is -20°F to 300°F, -28.8°C to 148.9°C. For recommended working pressures higher than 300°F (148.9°C), please consult factory.



# Pipe

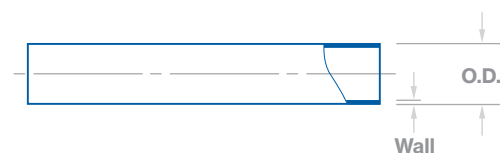
JIS G3459 / G3468, Schedule 5S

| Product Lines |              |               |               |                 | Dimensions in Millimeters |      |       |      |                           |                                |                           |              |            |
|---------------|--------------|---------------|---------------|-----------------|---------------------------|------|-------|------|---------------------------|--------------------------------|---------------------------|--------------|------------|
| 401<br>(EP)   | LDEP<br>(EP) | 201<br>(BA-S) | 101<br>(BA-S) | CFOS<br>(BA/AP) | Size                      | Sch. | O.D.  | Wall | Weight per<br>meter (kg.) | Maximum Safe Working Pressure* |                           |              |            |
|               |              |               |               |                 |                           |      |       |      |                           | kg/cm <sup>2</sup> Seamless    | kg/cm <sup>2</sup> Welded | MPa Seamless | MPa Welded |
| ●             |              |               |               |                 | 8A                        | 5S   | 13.8  | 1.20 | .38                       | 176.54                         | 141.25                    | 17.3         | 13.9       |
| ●             |              |               |               |                 | 10A                       | 5S   | 17.3  | 1.20 | .48                       | 139.77                         | 111.79                    | 13.7         | 11.0       |
| ●             |              | ●             | ●             |                 | 15A                       | 5S   | 21.7  | 1.65 | .82                       | 163.39                         | 130.70                    | 16.0         | 12.8       |
| ●             |              | ●             | ●             |                 | 20A                       | 5S   | 27.2  | 1.65 | 1.05                      | 129.29                         | 103.42                    | 12.7         | 10.1       |
| ●             | ●            | ●             | ●             | ●               | 25A                       | 5S   | 34.0  | 1.65 | 1.32                      | 102.65                         | 82.12                     | 10.1         | 8.1        |
| ●             | ●            | ●             | ●             | ●               | 32A                       | 5S   | 42.7  | 1.65 | 1.68                      | 81.13                          | 64.89                     | 8.0          | 6.4        |
| ●             | ●            | ●             | ●             | ●               | 40A                       | 5S   | 48.6  | 1.65 | 1.92                      | 71.08                          | 56.81                     | 7.0          | 5.6        |
| ●             | ●            | ●             | ●             | ●               | 50A                       | 5S   | 60.5  | 1.65 | 2.41                      | 56.81                          | 45.42                     | 5.6          | 4.5        |
| ●             | ●            | ●             | ●             | ●               | 65A                       | 5S   | 76.3  | 2.10 | 3.87                      | 58.78                          | 46.97                     | 5.8          | 4.6        |
| ●             | ●            | ●             | ●             | ●               | 80A                       | 5S   | 89.1  | 2.10 | 4.53                      | 50.13                          | 40.15                     | 4.9          | 3.9        |
| ●             | ●            | ●             | ●             | ●               | 90A                       | 5S   | 101.6 | 2.10 | 5.19                      | 43.87                          | 35.08                     | 4.3          | 3.4        |
| ●             | ●            | ●             | ●             | ●               | 100A                      | 5S   | 114.3 | 2.10 | 5.85                      | 38.95                          | 31.15                     | 3.8          | 3.1        |
| ●             | ●            | ●             | ●             | ●               | 125A                      | 5S   | 139.8 | 2.80 | 9.52                      | 42.54                          | 34.03                     | 4.2          | 3.3        |
| ●             | ●            | ●             | ●             | ●               | 150A                      | 5S   | 165.2 | 2.80 | 11.29                     | 35.93                          | 28.69                     | 3.5          | 2.8        |
| ●             | ●            | ●             | ●             | ●               | 200A                      | 5S   | 216.3 | 2.80 | 14.84                     | 27.35                          | 21.87                     | 2.7          | 2.1        |
| ●             | ●            | ●             | ●             | ●               | 250A                      | 5S   | 267.4 | 3.40 | 22.28                     | 26.86                          | 21.51                     | 2.6          | 2.1        |
| ●             | ●            | ●             | ●             | ●               | 300A                      | 5S   | 318.5 | 4.00 | 31.22                     | 26.51                          | 21.23                     | 2.6          | 2.1        |
|               | ●            | ●             | ●             | ●               | 350A                      | 5S   | 355.6 | 4.00 | 34.90                     | N/A                            | 18.56                     | N/A          | 1.8        |
|               | ●            | ●             | ●             | ●               | 400A                      | 5S   | 406.4 | 4.50 | 44.89                     | N/A                            | 18.28                     | N/A          | 1.8        |
|               | ●            | ●             | ●             | ●               | 450A                      | 5S   | 457.2 | 4.50 | 50.56                     | N/A                            | 16.24                     | N/A          | 1.6        |
|               | ●            | ●             | ●             | ●               | 500A                      | 5S   | 508.0 | 5.00 | 62.42                     | N/A                            | 16.24                     | N/A          | 1.6        |
|               | ●            | ●             | ●             | ●               | 550A                      | 5S   | 558.8 | 5.00 | 68.72                     | N/A                            | 14.69                     | N/A          | 1.4        |
|               | ●            | ●             | ●             | ●               | 600A                      | 5S   | 609.6 | 5.50 | 82.46                     | N/A                            | 14.83                     | N/A          | 1.5        |
|               |              |               |               | ●               | 650A                      | 5S   | 660.4 | 5.50 | 89.40                     | N/A                            | 13.71                     | N/A          | 1.3        |
|               |              |               |               | ●               | 700A                      | 5S   | 711.2 | 5.50 | 96.33                     | N/A                            | 12.73                     | N/A          | 1.2        |
|               |              |               |               | ●               | 750A                      | 5S   | 762.0 | 6.50 | 121.88                    | N/A                            | 14.06                     | N/A          | 1.4        |

\* Gauge pressure is listed.

Notes:

- Maximum safe working pressure is calculated, per ASME B31.3-2020, paragraph 304.1.2.  
Calculations assume maximum allowable O.D. and minimum allowable wall thickness (worst case scenario).
- Material: SUS 304LTP or SUS 316LTP per JIS G3459, and SUS 304 LTPY, SUS 316 LTPY per JIS G3468
- Temperature range used for above calculations is -20°F to 300°F, -28.8°C to 148.9°C.  
For recommended working pressures higher than 300°F (148.9°C), please consult factory.



# Pipe

JIS G3459 / G3468, Schedule 10S

| Product Lines |              |               |               |                 | Dimensions in Millimeters |      |       |      |                           |                                |                           |              |            |
|---------------|--------------|---------------|---------------|-----------------|---------------------------|------|-------|------|---------------------------|--------------------------------|---------------------------|--------------|------------|
| 401<br>(EP)   | LDEP<br>(EP) | 201<br>(BA-S) | 101<br>(BA-S) | CFOS<br>(BA/AP) | Size                      | Sch. | O.D.  | Wall | Weight per<br>meter (kg.) | Maximum Safe Working Pressure* |                           |              |            |
|               |              |               |               |                 |                           |      |       |      |                           | kg/cm <sup>2</sup> Seamless    | kg/cm <sup>2</sup> Welded | MPa Seamless | MPa Welded |
| ●             |              |               |               |                 | 8A                        | 10S  | 13.8  | 1.65 | .50                       | 263.16                         | 210.50                    | 25.8         | 20.6       |
| ●             |              |               |               |                 | 10A                       | 10S  | 17.3  | 1.65 | .64                       | 207.12                         | 165.71                    | 20.3         | 16.3       |
| ●             |              | ●             | ●             |                 | 15A                       | 10S  | 21.7  | 2.10 | 1.02                      | 216.62                         | 173.31                    | 21.2         | 17.0       |
| ●             |              | ●             | ●             |                 | 20A                       | 10S  | 27.2  | 2.10 | 1.31                      | 170.78                         | 136.61                    | 16.8         | 13.4       |
| ●             | ●            | ●             | ●             | ●               | 25A                       | 10S  | 34.0  | 2.80 | 2.17                      | 183.08                         | 146.45                    | 18.0         | 14.4       |
| ●             | ●            | ●             | ●             | ●               | 32A                       | 10S  | 42.7  | 2.80 | 2.77                      | 143.92                         | 115.16                    | 14.1         | 11.3       |
| ●             | ●            | ●             | ●             | ●               | 40A                       | 10S  | 48.6  | 2.80 | 3.18                      | 125.71                         | 100.61                    | 12.3         | 9.9        |
| ●             | ●            | ●             | ●             | ●               | 50A                       | 10S  | 60.5  | 2.80 | 4.01                      | 100.12                         | 80.15                     | 9.8          | 7.9        |
| ●             | ●            | ●             | ●             | ●               | 65A                       | 10S  | 76.3  | 3.00 | 5.46                      | 84.65                          | 67.71                     | 8.3          | 6.6        |
| ●             | ●            | ●             | ●             | ●               | 80A                       | 10S  | 89.1  | 3.00 | 6.41                      | 72.21                          | 57.72                     | 7.1          | 5.7        |
| ●             | ●            | ●             | ●             | ●               | 90A                       | 10S  | 101.6 | 3.00 | 7.34                      | 63.14                          | 50.48                     | 6.2          | 5.0        |
| ●             | ●            | ●             | ●             | ●               | 100A                      | 10S  | 114.3 | 3.00 | 8.29                      | 55.96                          | 44.79                     | 5.5          | 4.4        |
| ●             | ●            | ●             | ●             | ●               | 125A                      | 10S  | 139.8 | 3.40 | 11.51                     | 51.82                          | 41.41                     | 5.1          | 4.1        |
| ●             | ●            | ●             | ●             | ●               | 150A                      | 10S  | 165.2 | 3.40 | 13.65                     | 43.73                          | 34.94                     | 4.3          | 3.4        |
| ●             | ●            | ●             | ●             | ●               | 200A                      | 10S  | 216.3 | 4.00 | 21.08                     | 39.23                          | 31.36                     | 3.8          | 3.1        |
| ●             | ●            | ●             | ●             | ●               | 250A                      | 10S  | 267.4 | 4.00 | 26.15                     | 31.64                          | 25.31                     | 3.1          | 2.5        |
| ●             | ●            | ●             | ●             | ●               | 300A                      | 10S  | 318.5 | 4.50 | 35.07                     | 29.88                          | 23.90                     | 2.9          | 2.3        |
|               | ●            | ●             | ●             | ●               | 350A                      | 10S  | 355.6 | 5.00 | 43.51                     | N/A                            | 23.20                     | N/A          | 2.3        |
|               | ●            | ●             | ●             | ●               | 400A                      | 10S  | 406.4 | 5.00 | 49.81                     | N/A                            | 20.32                     | N/A          | 2.0        |
|               | ●            | ●             | ●             | ●               | 450A                      | 10S  | 457.2 | 5.00 | 56.11                     | N/A                            | 18.00                     | N/A          | 1.8        |
|               | ●            | ●             | ●             | ●               | 500A                      | 10S  | 508.0 | 5.50 | 68.59                     | N/A                            | 17.86                     | N/A          | 1.8        |
|               | ●            | ●             | ●             | ●               | 550A                      | 10S  | 558.8 | 5.50 | 75.53                     | N/A                            | 16.24                     | N/A          | 1.6        |
|               | ●            | ●             | ●             | ●               | 600A                      | 10S  | 609.6 | 6.50 | 97.29                     | N/A                            | 17.58                     | N/A          | 1.7        |
|               | ●            |               | ●             | ●               | 650A                      | 10S  | 660.4 | 8.00 | 129.53                    | N/A                            | 20.53                     | N/A          | 2.0        |
|               | ●            |               | ●             | ●               | 700A                      | 10S  | 711.2 | 8.00 | 139.62                    | N/A                            | 19.05                     | N/A          | 1.9        |
|               | ●            |               | ●             | ●               | 750A                      | 10S  | 762.0 | 8.00 | 149.71                    | N/A                            | 17.79                     | N/A          | 1.7        |
|               | ●            |               | ●             | ●               | 800A                      | 10S  | 812.8 | 8.00 | 159.79                    | N/A                            | 16.66                     | N/A          | 1.6        |

\* Gauge pressure is listed.

## Notes:

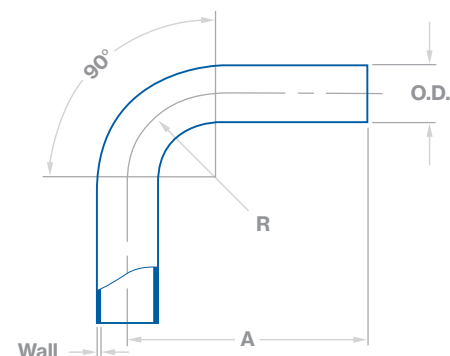
- Maximum safe working pressure is calculated, per ASME B31.3-2020, paragraph 304.1.2. Calculations assume maximum allowable O.D. and minimum allowable wall thickness (worst case scenario).
- Material: SUS 304LTP or SUS 316LTP per JIS G3459, and SUS 304 LTPY, SUS 316 LTPY per JIS G3468
- Temperature range used for above calculations is -20°F to 300°F, -28.8°C to 148.9°C. For recommended working pressures higher than 300°F (148.9°C), please consult factory.



# Elbows

- 90° Elbows
- 45° Elbows





CONFIGURATION  
**2**

## 90° Elbow

Valex Standard, ASTM Tube

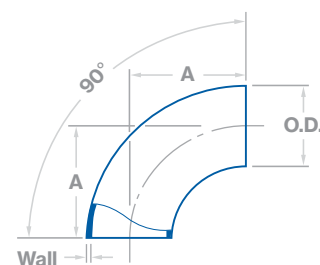
| Product Lines |            |            |
|---------------|------------|------------|
| 401 (EP)      | 201 (BA-S) | 222 (BA-S) |
| •             | •          | •          |
| •             | •          | •          |
| •             | •          | •          |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |

| Dimensions in Inches |       |             |        |      |
|----------------------|-------|-------------|--------|------|
| Size                 | O.D.  | Wall        | A      | R    |
| 1/4"                 | .250  | .035 / .039 | 2.060  | .56  |
| 3/8"                 | .375  | .035 / .039 | 2.625  | .56  |
| 1/2"                 | .500  | .049        | 2.625  | .75  |
| 3/4"                 | .750  | .065        | 3.000  | 1.13 |
| 1"                   | 1.000 | .065        | 4.000  | 1.50 |
| 1-1/2"               | 1.500 | .065        | 3.750  | 2.25 |
| 2"                   | 2.000 | .065        | 4.750  | 3.00 |
| 2-1/2"               | 2.500 | .065        | 5.500  | 3.75 |
| 3"                   | 3.000 | .065        | 6.250  | 4.50 |
| 4"                   | 4.000 | .083        | 8.000  | 6.00 |
| 6"                   | 6.000 | .109        | 14.000 | 9.00 |

CONFIGURATION  
**2LS**

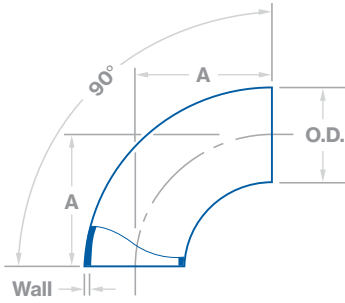
## 90° Elbow, Long

ASME B16.9, ASME Pipe



| Product Lines |              |
|---------------|--------------|
| LDEP (EP)     | CFOS (BA/AP) |
|               | •            |
|               | •            |
|               | •            |
|               | •            |
|               | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |

| Dimensions in Inches |      |       |      |       |
|----------------------|------|-------|------|-------|
| Size                 | Sch. | O.D.  | Wall | A     |
| NPS 1/2              | 10S  | .84   | .083 | 1.50  |
| NPS 3/4              | 10S  | 1.05  | .083 | 1.50  |
| NPS 1                | 10S  | 1.32  | .109 | 1.50  |
| NPS 1-1/4            | 10S  | 1.66  | .109 | 1.88  |
| NPS 1-1/2            | 10S  | 1.90  | .109 | 2.25  |
| NPS 2                | 10S  | 2.38  | .109 | 3.00  |
| NPS 2-1/2            | 10S  | 2.88  | .120 | 3.75  |
| NPS 3                | 10S  | 3.50  | .120 | 4.50  |
| NPS 3-1/2            | 10S  | 4.00  | .120 | 5.25  |
| NPS 4                | 10S  | 4.50  | .120 | 6.00  |
| NPS 5                | 10S  | 5.56  | .134 | 7.50  |
| NPS 6                | 10S  | 6.62  | .134 | 9.00  |
| NPS 8                | 10S  | 8.62  | .148 | 12.00 |
| NPS 10               | 10S  | 10.75 | .165 | 15.00 |
| NPS 12               | 10S  | 12.75 | .180 | 18.00 |
| NPS 14               | 10S  | 14.00 | .188 | 21.00 |
| NPS 16               | 10S  | 16.00 | .188 | 24.00 |
| NPS 18               | 10S  | 18.00 | .188 | 27.00 |
| NPS 20               | 10S  | 20.00 | .218 | 30.00 |
| NPS 22               | 10S  | 22.00 | .218 | 33.00 |
| NPS 24               | 10S  | 24.00 | .250 | 36.00 |



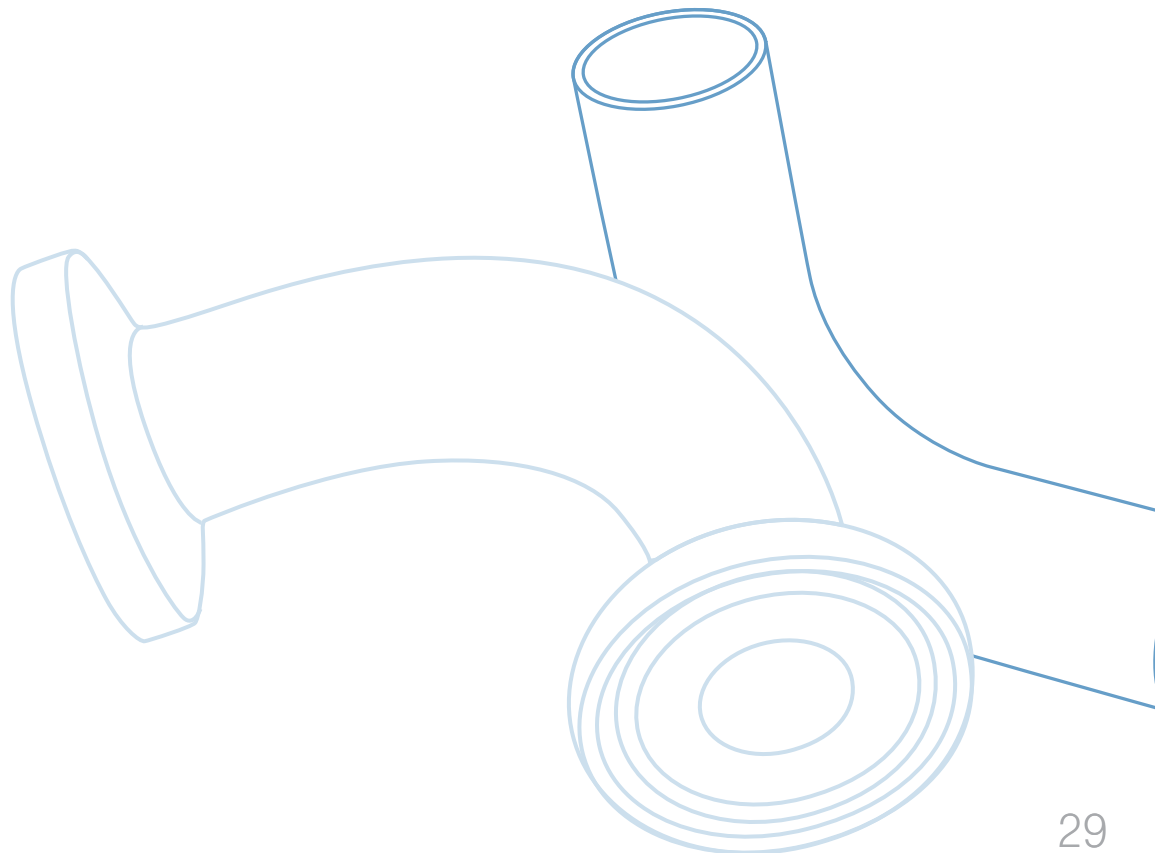
# 90° Elbow, Short

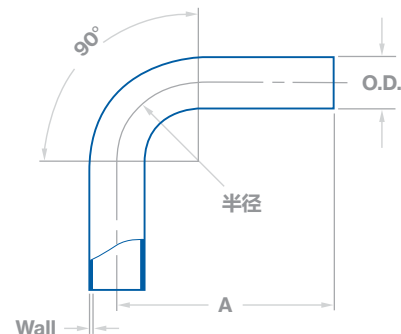
ASME B16.9, ASME Pipe



| Product Lines |              |
|---------------|--------------|
| LDEP (EP)     | CFOS (BA/AP) |
|               | •            |
|               | •            |
|               | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |

| Dimensions in Inches |      |       |      |       |
|----------------------|------|-------|------|-------|
| Size                 | Sch. | O.D.  | Wall | A     |
| NPS 1                | 10S  | 1.32  | .109 | 1.00  |
| NPS 1-1/4            | 10S  | 1.66  | .109 | 1.25  |
| NPS 1-1/2            | 10S  | 1.90  | .109 | 1.50  |
| NPS 2                | 10S  | 2.38  | .109 | 2.00  |
| NPS 2-1/2            | 10S  | 2.88  | .120 | 2.50  |
| NPS 3                | 10S  | 3.50  | .120 | 3.00  |
| NPS 3-1/2            | 10S  | 4.00  | .120 | 3.50  |
| NPS 4                | 10S  | 4.50  | .120 | 4.00  |
| NPS 5                | 10S  | 5.56  | .134 | 5.00  |
| NPS 6                | 10S  | 6.62  | .134 | 6.00  |
| NPS 8                | 10S  | 8.62  | .148 | 8.00  |
| NPS 10               | 10S  | 10.75 | .165 | 10.00 |
| NPS 12               | 10S  | 12.75 | .180 | 12.00 |
| NPS 14               | 10S  | 14.00 | .188 | 14.00 |
| NPS 16               | 10S  | 16.00 | .188 | 16.00 |
| NPS 18               | 10S  | 18.00 | .188 | 18.00 |
| NPS 20               | 10S  | 20.00 | .218 | 20.00 |
| NPS 22               | 10S  | 22.00 | .218 | 22.00 |
| NPS 24               | 10S  | 24.00 | .250 | 24.00 |





CONFIGURATION  
**2L**

## 90° Elbow, Long

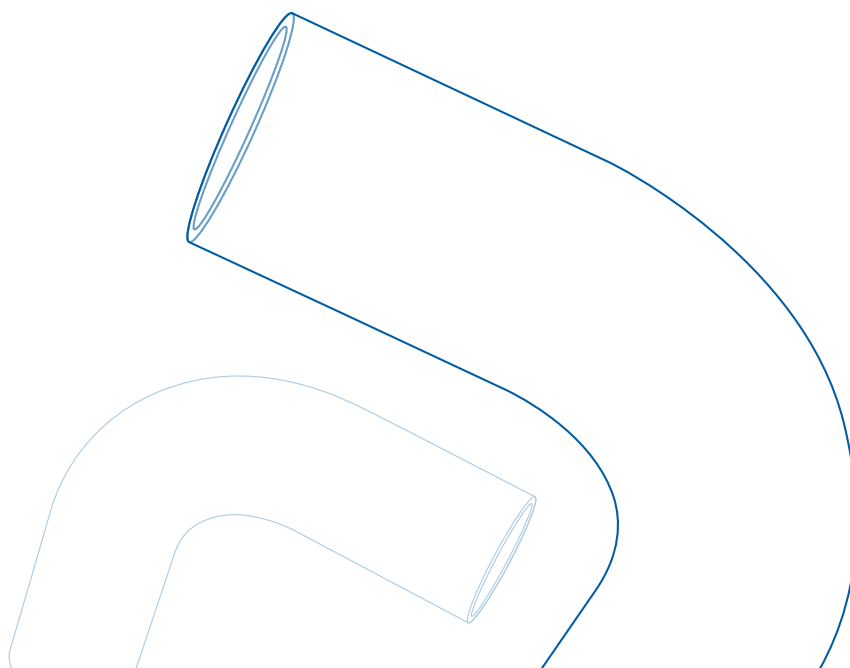
Valex Standard, JIS Pipe

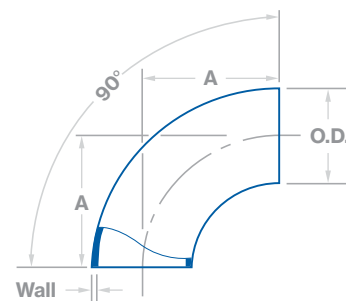
| Product Lines |              |               |               |                 | Dimensions in Millimeters |       |         |          |     |       |
|---------------|--------------|---------------|---------------|-----------------|---------------------------|-------|---------|----------|-----|-------|
| 401<br>(EP)   | LDEP<br>(EP) | 201<br>(BA-S) | 101<br>(BA-S) | CFOS<br>(BA/AP) | Size                      | O.D.  | 5S Wall | 10S Wall | A   | R     |
| •             |              |               |               |                 | 8A                        | 13.8  | 1.20    | 1.65     | 55  | 25.4  |
| •             |              |               |               |                 | 10A                       | 17.3  | 1.20    | 1.65     | 62  | 25.4  |
| •             |              | •             | •             | •               | 15A                       | 21.7  | 1.65    | 2.10     | 75  | 38.1  |
| •             |              | •             | •             | •               | 20A                       | 27.2  | 1.65    | 2.10     | 75  | 38.1  |
| •             | •            | •             | •             | •               | 25A                       | 34.0  | 1.65    | 2.80     | 75  | 38.1  |
| •             | •            | •             | •             | •               | 32A                       | 42.7  | 1.65    | 2.80     | 94  | 47.6  |
| •             | •            | •             | •             | •               | 40A                       | 48.6  | 1.65    | 2.80     | 104 | 57.2  |
| •             | •            |               | •             | •               | 50A                       | 60.5  | 1.65    | 2.80     | 123 | 76.2  |
| •             | •            | •             | •             | •               | 65A                       | 76.3  | 2.10    | 3.00     | 147 | 95.3  |
| •             | •            | •             | •             | •               | 80A                       | 89.1  | 2.10    | 3.00     | 166 | 114.3 |
| •             | •            | •             | •             | •               | 100A                      | 114.3 | 2.10    | 3.00     | 204 | 152.4 |
| •             | •            | •             | •             | •               | 125A                      | 139.8 | 2.80    | 3.40     | 250 | 190.5 |
| •             | •            | •             | •             | •               | 150A                      | 165.2 | 2.80    | 3.40     | 290 | 228.6 |
| •             | •            | •             | •             | •               | 200A                      | 216.3 | 2.80    | 4.00     | 375 | 304.8 |
| •             | •            | •             | •             | •               | 250A                      | 267.4 | 3.40    | 4.00     | 461 | 381.0 |
| •             | •            | •             | •             | •               | 300A                      | 318.5 | 4.00    | 4.50     | 537 | 457.2 |
|               | •            | •             | •             | •               | 350A                      | 355.6 | 4.00    | 5.00     | 613 | 533.4 |
|               | •            | •             | •             | •               | 400A                      | 406.4 | 4.50    | 5.00     | 690 | 609.6 |
|               | •            | •             | •             | •               | 450A                      | 457.2 | 4.50    | 5.00     | 766 | 685.8 |
|               | •            | •             | •             | •               | 500A                      | 508.0 | 5.00    | 5.50     | 842 | 762.0 |
|               | •            | •             | •             | •               | 550A                      | 558.8 | 5.00    | 5.50     | 918 | 838.2 |
|               | •            | •             | •             | •               | 600A                      | 609.6 | 5.50    | 6.50     | 994 | 914.4 |



CONFIGURATION  
**2S**

| Dimensions in Millimeters |       |         |          |     |       |
|---------------------------|-------|---------|----------|-----|-------|
| Size                      | O.D.  | 5S Wall | 10S Wall | A   | R     |
| 25A                       | 34.0  | 1.65    | 2.80     | 62  | 25.4  |
| 32A                       | 42.7  | 1.65    | 2.80     | 78  | 31.8  |
| 40A                       | 48.6  | 1.65    | 2.80     | 85  | 38.1  |
| 50A                       | 60.5  | 1.65    | 2.80     | 97  | 50.8  |
| 65A                       | 76.3  | 2.10    | 3.00     | 115 | 63.5  |
| 80A                       | 89.1  | 2.10    | 3.00     | 128 | 76.2  |
| 100A                      | 114.3 | 2.10    | 3.00     | 153 | 101.6 |
| 125A                      | 139.8 | 2.80    | 3.40     | 185 | 127.0 |
| 150A                      | 165.2 | 2.80    | 3.40     | 210 | 152.4 |
| 200A                      | 216.3 | 2.80    | 4.00     | 275 | 203.2 |
| 250A                      | 267.4 | 3.40    | 4.00     | 334 | 254.0 |
| 300A                      | 318.5 | 4.00    | 4.50     | 384 | 304.8 |
| 350A                      | 355.6 | 4.00    | 5.00     | 435 | 355.6 |
| 400A                      | 406.4 | 4.50    | 5.00     | 486 | 406.4 |
| 450A                      | 457.2 | 4.50    | 5.00     | 573 | 457.2 |
| 500A                      | 508.0 | 5.00    | 5.50     | 588 | 508.0 |
| 550A                      | 558.8 | 5.00    | 5.50     | 640 | 558.8 |
| 600A                      | 609.6 | 5.50    | 6.50     | 690 | 609.6 |



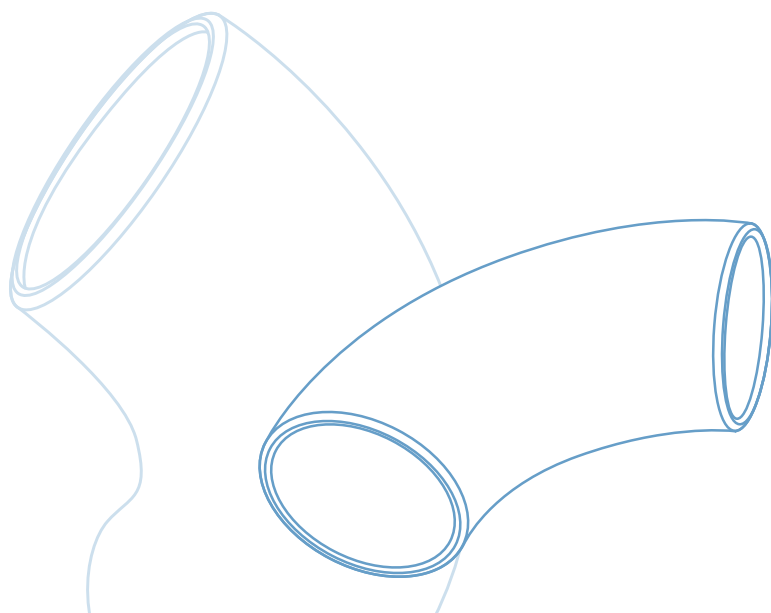


CONFIGURATION  
**2LS**

## 90° Elbow, Long

JIS B2312 / B2313 Standard, JIS Pipe

| Product Lines |              |               |               |                 | Dimensions in Millimeters |       |         |          |        |
|---------------|--------------|---------------|---------------|-----------------|---------------------------|-------|---------|----------|--------|
| 401<br>(EP)   | LDEP<br>(EP) | 201<br>(BA-S) | 101<br>(BA-S) | CFOS<br>(BA/AP) | Size                      | O.D.  | 5S Wall | 10S Wall | A      |
| •             |              | •             | •             | •               | 15A                       | 21.7  | 1.65    | 2.10     | 38.1   |
| •             |              | •             | •             | •               | 20A                       | 27.2  | 1.65    | 2.10     | 38.1   |
| •             | •            | •             | •             | •               | 25A                       | 34.0  | 1.65    | 2.80     | 38.1   |
| •             | •            | •             | •             | •               | 32A                       | 42.7  | 1.65    | 2.80     | 47.6   |
| •             | •            | •             | •             | •               | 40A                       | 48.6  | 1.65    | 2.80     | 57.2   |
| •             | •            | •             | •             | •               | 50A                       | 60.5  | 1.65    | 2.80     | 76.2   |
| •             | •            | •             | •             | •               | 65A                       | 76.3  | 2.10    | 3.00     | 95.3   |
| •             | •            | •             | •             | •               | 80A                       | 89.1  | 2.10    | 3.00     | 114.3  |
| •             | •            | •             | •             | •               | 90A                       | 101.6 | 2.10    | 3.00     | 133.4  |
| •             | •            | •             | •             | •               | 100A                      | 114.3 | 2.10    | 3.00     | 152.4  |
| •             | •            | •             | •             | •               | 125A                      | 139.8 | 2.80    | 3.40     | 190.5  |
| •             | •            | •             | •             | •               | 150A                      | 165.2 | 2.80    | 3.40     | 228.6  |
| •             | •            | •             | •             | •               | 200A                      | 216.3 | 2.80    | 4.00     | 304.8  |
| •             | •            | •             | •             | •               | 250A                      | 267.4 | 3.40    | 4.00     | 381.0  |
| •             | •            | •             | •             | •               | 300A                      | 318.5 | 4.00    | 4.50     | 457.2  |
|               | •            | •             | •             | •               | 350A                      | 355.6 | 4.00    | 5.00     | 533.4  |
|               | •            | •             | •             | •               | 400A                      | 406.4 | 4.50    | 5.00     | 609.6  |
|               | •            | •             | •             | •               | 450A                      | 457.2 | 4.50    | 5.00     | 685.8  |
|               | •            | •             | •             | •               | 500A                      | 508.0 | 5.00    | 5.50     | 762.0  |
|               | •            | •             | •             | •               | 550A                      | 558.8 | 5.00    | 5.50     | 838.2  |
|               | •            | •             | •             | •               | 600A                      | 609.6 | 5.50    | 6.50     | 914.4  |
|               | •            |               | •             | •               | 650A                      | 660.4 | 5.50    | 8.00     | 990.6  |
|               | •            |               | •             | •               | 700A                      | 711.2 | 5.50    | 8.00     | 1066.8 |
|               | •            |               | •             | •               | 750A                      | 762.0 | 6.50    | 8.00     | 1143.0 |
|               | •            |               | •             | •               | 800A                      | 812.8 | N/A     | 8.00     | 1219.2 |







## Dimensions in Millimeters

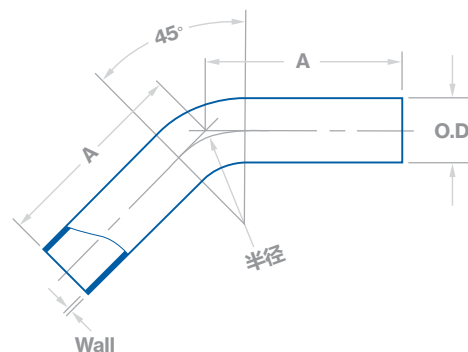
[illegible]

| Size | O.D.  | 5S Wall | 10S Wall | A     |
|------|-------|---------|----------|-------|
| 25A  | 34.0  | 1.65    | 2.80     | 25.4  |
| 32A  | 42.7  | 1.65    | 2.80     | 31.8  |
| 40A  | 48.6  | 1.65    | 2.80     | 38.1  |
| 50A  | 60.5  | 1.65    | 2.80     | 50.8  |
| 65A  | 76.3  | 2.10    | 3.00     | 63.5  |
| 80A  | 89.1  | 2.10    | 3.00     | 76.2  |
| 90A  | 101.6 | 2.10    | 3.00     | 88.9  |
| 100A | 114.3 | 2.10    | 3.00     | 101.6 |
| 125A | 139.8 | 2.80    | 3.40     | 127.0 |
| 150A | 165.2 | 2.80    | 3.40     | 152.4 |
| 200A | 216.3 | 2.80    | 4.00     | 203.2 |
| 250A | 267.4 | 3.40    | 4.00     | 254.0 |
| 300A | 318.5 | 4.00    | 4.50     | 304.8 |
| 350A | 355.6 | 4.00    | 5.00     | 355.6 |
| 400A | 406.4 | 4.50    | 5.00     | 406.4 |
| 450A | 457.2 | 4.50    | 5.00     | 457.2 |
| 500A | 508.0 | 5.00    | 5.50     | 508.0 |
| 550A | 558.8 | 5.00    | 5.50     | 558.8 |
| 600A | 609.6 | 5.50    | 6.50     | 609.6 |
| 650A | 660.4 | 5.50    | 8.00     | 660.4 |
| 700A | 711.2 | 5.50    | 8.00     | 711.2 |
| 750A | 762.0 | 6.50    | 8.00     | 762.0 |
| 800A | 812.8 | N/A     | 8.00     | 812.8 |



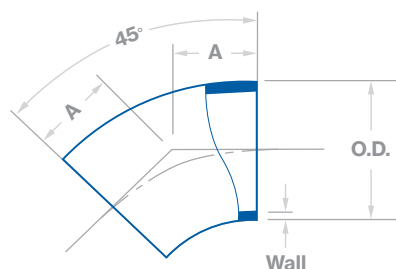
# 45° Elbow

Valex Standard, ASTM Tube



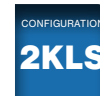
| Product Lines |            |            |
|---------------|------------|------------|
| 401 (EP)      | 201 (BA-S) | 222 (BA-S) |
| •             | •          | •          |
| •             | •          | •          |
| •             | •          | •          |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |

| Dimensions in Inches |       |             |       |      |
|----------------------|-------|-------------|-------|------|
| Size                 | O.D.  | Wall        | A     | R    |
| 1/4"                 | .250  | .035 / .039 | 1.100 | .56  |
| 3/8"                 | .375  | .035 / .039 | 2.000 | .56  |
| 1/2"                 | .500  | .049        | 2.500 | .75  |
| 3/4"                 | .750  | .065        | 2.500 | 1.13 |
| 1"                   | 1.000 | .065        | 3.125 | 1.50 |
| 1-1/2"               | 1.500 | .065        | 2.500 | 2.25 |
| 2"                   | 2.000 | .065        | 3.000 | 3.00 |
| 2-1/2"               | 2.500 | .065        | 3.375 | 3.75 |
| 3"                   | 3.000 | .065        | 3.625 | 4.50 |
| 4"                   | 4.000 | .083        | 4.500 | 6.00 |
| 6"                   | 6.000 | .109        | 8.750 | 9.00 |

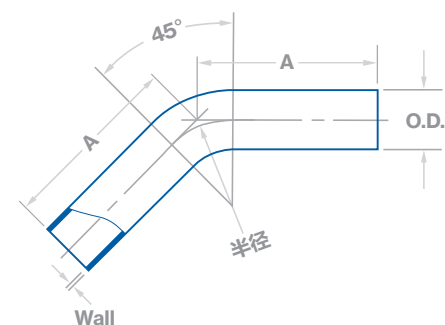


# 45° Elbow, Long

ASME B16.9 Standard, ASME Pipe



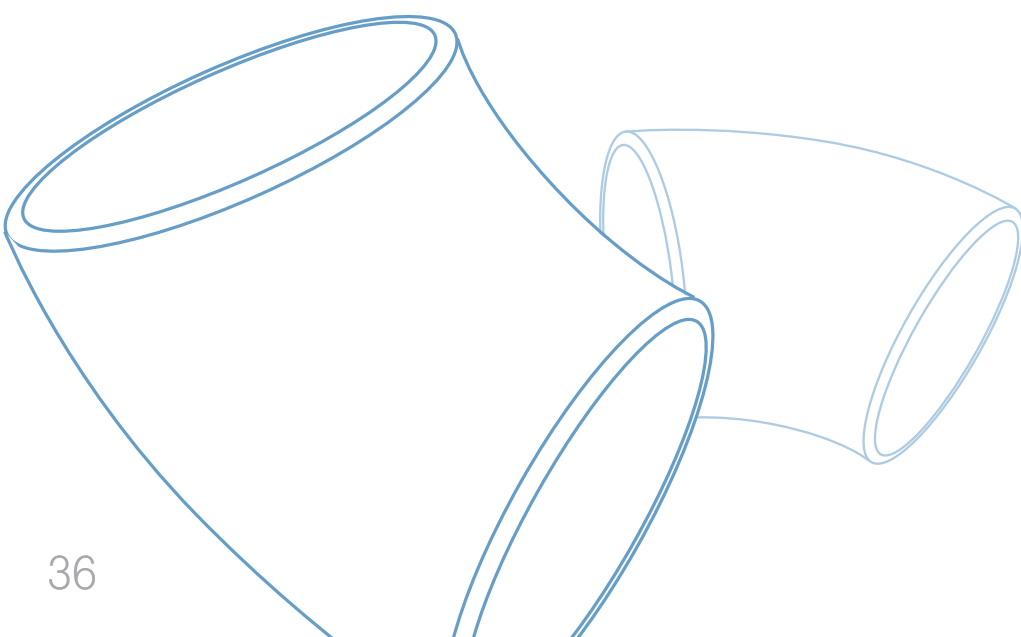
| Product Lines |              | Dimensions in Inches |      |       |      |       |
|---------------|--------------|----------------------|------|-------|------|-------|
| LDEP (EP)     | CFOS (BA/AP) | Size                 | Sch. | O.D.  | Wall | A     |
|               | ●            | NPS 1/2              | 10S  | .84   | .083 | .62   |
|               | ●            | NPS 3/4              | 10S  | 1.05  | .083 | .75   |
|               | ●            | NPS 1                | 10S  | 1.32  | .109 | .88   |
|               | ●            | NPS 1-1/4            | 10S  | 1.66  | .109 | 1.00  |
|               | ●            | NPS 1-1/2            | 10S  | 1.90  | .109 | 1.12  |
| ●             | ●            | NPS 2                | 10S  | 2.38  | .109 | 1.38  |
| ●             | ●            | NPS 2-1/2            | 10S  | 2.88  | .120 | 1.75  |
| ●             | ●            | NPS 3                | 10S  | 3.50  | .120 | 2.00  |
| ●             | ●            | NPS 3-1/2            | 10S  | 4.00  | .120 | 2.25  |
| ●             | ●            | NPS 4                | 10S  | 4.50  | .120 | 2.50  |
| ●             | ●            | NPS 5                | 10S  | 5.56  | .134 | 3.12  |
| ●             | ●            | NPS 6                | 10S  | 6.62  | .134 | 3.75  |
| ●             | ●            | NPS 8                | 10S  | 8.62  | .148 | 5.00  |
| ●             | ●            | NPS 10               | 10S  | 10.75 | .165 | 6.25  |
| ●             | ●            | NPS 12               | 10S  | 12.75 | .180 | 7.50  |
| ●             | ●            | NPS 14               | 10S  | 14.00 | .188 | 8.75  |
| ●             | ●            | NPS 16               | 10S  | 16.00 | .188 | 10.00 |
| ●             | ●            | NPS 18               | 10S  | 18.00 | .188 | 11.25 |
| ●             | ●            | NPS 20               | 10S  | 20.00 | .218 | 12.50 |
| ●             | ●            | NPS 22               | 10S  | 22.00 | .218 | 13.50 |
| ●             | ●            | NPS 24               | 10S  | 24.00 | .250 | 15.00 |



# 45° Elbow

Valex Standard, JIS Pipe

| Product Lines |              |               |               |                 | Dimensions in Millimeters |       |         |          |     |       |
|---------------|--------------|---------------|---------------|-----------------|---------------------------|-------|---------|----------|-----|-------|
| 401<br>(EP)   | LDEP<br>(EP) | 201<br>(BA-S) | 101<br>(BA-S) | CFOS<br>(BA/AP) | Size                      | O.D.  | 5S Wall | 10S Wall | A   | R     |
| ●             |              |               |               |                 | 8A                        | 13.8  | 1.20    | 1.65     | 40  | 25.4  |
| ●             |              |               |               |                 | 10A                       | 17.3  | 1.20    | 1.65     | 47  | 25.4  |
| ●             |              | ●             | ●             | ●               | 15A                       | 21.7  | 1.65    | 2.10     | 52  | 38.1  |
| ●             |              | ●             | ●             | ●               | 20A                       | 27.2  | 1.65    | 2.10     | 52  | 38.1  |
| ●             | ●            | ●             | ●             | ●               | 25A                       | 34.0  | 1.65    | 2.80     | 52  | 38.1  |
| ●             | ●            | ●             | ●             | ●               | 32A                       | 42.7  | 1.65    | 2.80     | 66  | 47.6  |
| ●             | ●            | ●             | ●             | ●               | 40A                       | 48.6  | 1.65    | 2.80     | 70  | 57.2  |
| ●             | ●            |               | ●             | ●               | 50A                       | 60.5  | 1.65    | 2.80     | 78  | 76.2  |
| ●             | ●            | ●             | ●             | ●               | 65A                       | 76.3  | 2.10    | 3.00     | 91  | 95.3  |
| ●             | ●            | ●             | ●             | ●               | 80A                       | 89.1  | 2.10    | 3.00     | 99  | 114.3 |
| ●             | ●            | ●             | ●             | ●               | 100A                      | 114.3 | 2.10    | 3.00     | 115 | 152.4 |
| ●             | ●            | ●             | ●             | ●               | 125A                      | 139.8 | 2.80    | 3.40     | 145 | 190.5 |
| ●             | ●            | ●             | ●             | ●               | 150A                      | 165.2 | 2.80    | 3.40     | 155 | 228.6 |
| ●             | ●            | ●             | ●             | ●               | 200A                      | 216.3 | 2.80    | 4.00     | 195 | 304.8 |
| ●             | ●            | ●             | ●             | ●               | 250A                      | 267.4 | 3.40    | 4.00     | 237 | 381.0 |
| ●             | ●            | ●             | ●             | ●               | 300A                      | 318.5 | 4.00    | 4.50     | 269 | 457.2 |
|               | ●            | ●             | ●             | ●               | 350A                      | 355.6 | 4.00    | 5.00     | 296 | 533.4 |
|               | ●            | ●             | ●             | ●               | 400A                      | 406.4 | 4.50    | 5.00     | 333 | 609.6 |
|               | ●            | ●             | ●             | ●               | 450A                      | 457.2 | 4.50    | 5.00     | 365 | 685.8 |
|               | ●            | ●             | ●             | ●               | 500A                      | 508.0 | 5.00    | 5.50     | 400 | 762.0 |
|               | ●            | ●             | ●             | ●               | 550A                      | 558.8 | 5.00    | 5.50     | 432 | 838.2 |
|               | ●            | ●             | ●             | ●               | 600A                      | 609.6 | 5.50    | 6.50     | 464 | 914.4 |



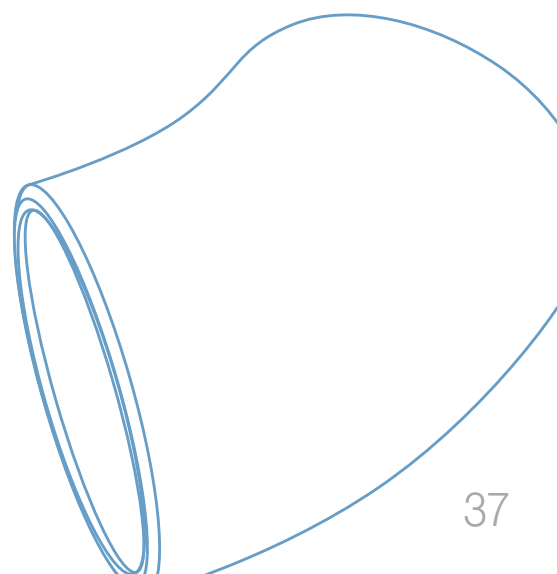
## 45° Elbow, Long

JIS B2312 / B2313 Standard, JIS Pipe

CONFIGURATION  
**2KLS**

| Product Lines |              |               |               |                 |
|---------------|--------------|---------------|---------------|-----------------|
| 401<br>(EP)   | LDEP<br>(EP) | 201<br>(BA-S) | 101<br>(BA-S) | CFOS<br>(BA/AP) |
| ●             |              | ●             | ●             | ●               |
| ●             |              | ●             | ●             | ●               |
| ●             | ●            | ●             | ●             | ●               |
| ●             | ●            | ●             | ●             | ●               |
| ●             | ●            | ●             | ●             | ●               |
| ●             | ●            | ●             | ●             | ●               |
| ●             | ●            | ●             | ●             | ●               |
| ●             | ●            | ●             | ●             | ●               |
| ●             | ●            | ●             | ●             | ●               |
| ●             | ●            | ●             | ●             | ●               |
| ●             | ●            | ●             | ●             | ●               |
| ●             | ●            | ●             | ●             | ●               |
| ●             | ●            | ●             | ●             | ●               |
| ●             | ●            | ●             | ●             | ●               |
|               | ●            | ●             | ●             | ●               |
|               | ●            | ●             | ●             | ●               |
|               | ●            | ●             | ●             | ●               |
|               | ●            | ●             | ●             | ●               |
|               | ●            | ●             | ●             | ●               |
|               | ●            |               | ●             | ●               |
|               | ●            |               | ●             | ●               |

| Dimensions in Millimeters |       |         |          |       |
|---------------------------|-------|---------|----------|-------|
| Size                      | O.D.  | 5S Wall | 10S Wall | A     |
| 15A                       | 21.7  | 1.65    | 2.10     | 15.8  |
| 20A                       | 27.2  | 1.65    | 2.10     | 15.8  |
| 25A                       | 34.0  | 1.65    | 2.80     | 15.8  |
| 32A                       | 42.7  | 1.65    | 2.80     | 19.7  |
| 40A                       | 48.6  | 1.65    | 2.80     | 23.7  |
| 50A                       | 60.5  | 1.65    | 2.80     | 31.6  |
| 65A                       | 76.3  | 2.10    | 3.00     | 39.5  |
| 80A                       | 89.1  | 2.10    | 3.00     | 47.3  |
| 90A                       | 101.6 | 2.10    | 3.00     | 55.3  |
| 100A                      | 114.3 | 2.10    | 3.00     | 63.1  |
| 125A                      | 139.8 | 2.80    | 3.40     | 78.9  |
| 150A                      | 165.2 | 2.80    | 3.40     | 94.7  |
| 200A                      | 216.3 | 2.80    | 4.00     | 126.3 |
| 250A                      | 267.4 | 3.40    | 4.00     | 157.8 |
| 300A                      | 318.5 | 4.00    | 4.50     | 189.4 |
| 350A                      | 355.6 | 4.00    | 5.00     | 220.9 |
| 400A                      | 406.4 | 4.50    | 5.00     | 252.5 |
| 450A                      | 457.2 | 4.50    | 5.00     | 284.1 |
| 500A                      | 508.0 | 5.00    | 5.50     | 315.6 |
| 550A                      | 558.8 | 5.00    | 5.50     | 347.2 |
| 600A                      | 609.6 | 5.50    | 6.50     | 378.7 |
| 650A                      | 660.4 | 5.50    | 8.00     | 410.3 |
| 700A                      | 711.2 | 5.50    | 8.00     | 441.9 |
| 750A                      | 762.0 | 6.50    | 8.00     | 473.4 |
| 800A                      | 812.8 | N/A     | 8.00     | 505.0 |

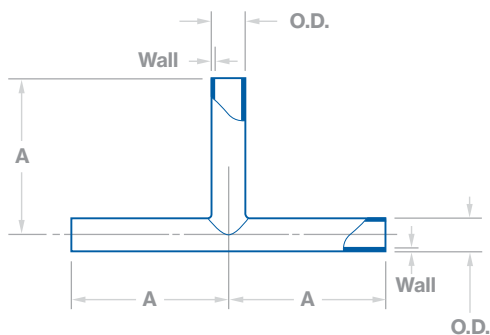


# Tees

- Equal Tees
- Reducing Tees







Dimensions



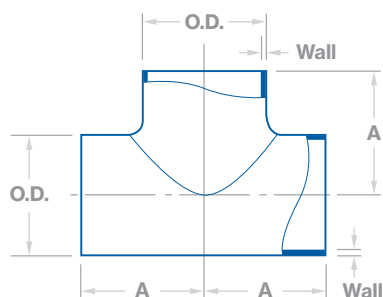
# Equal Tee

Valex Standard, ASTM Tube



| Product Lines |            |            |
|---------------|------------|------------|
| 401 (EP)      | 201 (BA-S) | 222 (BA-S) |
| •             | •          | •          |
| •             | •          | •          |
| •             | •          | •          |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |

| Dimensions in Inches |       |             |        |
|----------------------|-------|-------------|--------|
| Size                 | O.D.  | Wall        | A      |
| 1/4" x 1/4"          | .250  | .035 / .039 | 1.750  |
| 3/8" x 3/8"          | .375  | .035 / .039 | 1.750  |
| 1/2" x 1/2"          | .500  | .049        | 2.125  |
| 3/4" x 3/4"          | .750  | .065        | 2.125  |
| 1" x 1"              | 1.000 | .065        | 2.500  |
| 1-1/2" x 1-1/2"      | 1.500 | .065        | 2.750  |
| 2" x 2"              | 2.000 | .065        | 3.250  |
| 2-1/2" x 2-1/2"      | 2.500 | .065        | 3.500  |
| 3" x 3"              | 3.000 | .065        | 5.500  |
| 4" x 4"              | 4.000 | .083        | 6.000  |
| 6" x 6"              | 6.000 | .109        | 10.625 |



# Equal Tee

ASME B16.9 Standard, ASME Pipe



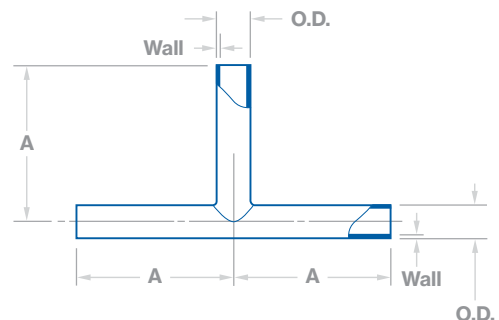
| Product Lines |              |
|---------------|--------------|
| LDEP (EP)     | CFOS (BA/AP) |
|               | •            |
|               | •            |
|               | •            |
|               | •            |
|               | •            |
| •             | •            |
| •             | •            |
| •             | •            |
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| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |

| Dimensions in Inches  |      |       |      |       |
|-----------------------|------|-------|------|-------|
| Size                  | Sch. | O.D.  | Wall | A     |
| NPS 1/2 x NPS 1/2     | 10S  | .84   | .083 | 1.00  |
| NPS 3/4 x NPS 3/4     | 10S  | 1.05  | .083 | 1.12  |
| NPS 1 x NPS 1         | 10S  | 1.32  | .109 | 1.50  |
| NPS 1-1/4 x NPS 1-1/4 | 10S  | 1.66  | .109 | 1.88  |
| NPS 1-1/2 x NPS 1-1/2 | 10S  | 1.90  | .109 | 2.25  |
| NPS 2 x NPS 2         | 10S  | 2.38  | .109 | 2.50  |
| NPS 2-1/2 x NPS 2-1/2 | 10S  | 2.88  | .120 | 3.00  |
| NPS 3 x NPS 3         | 10S  | 3.50  | .120 | 3.38  |
| NPS 3-1/2 x NPS 3-1/2 | 10S  | 4.00  | .120 | 3.75  |
| NPS 4 x NPS 4         | 10S  | 4.50  | .120 | 4.12  |
| NPS 5 x NPS 5         | 10S  | 5.56  | .134 | 4.88  |
| NPS 6 x NPS 6         | 10S  | 6.62  | .134 | 5.62  |
| NPS 8 x NPS 8         | 10S  | 8.62  | .148 | 7.00  |
| NPS 10 x NPS 10       | 10S  | 10.75 | .165 | 8.50  |
| NPS 12 x NPS 12       | 10S  | 12.75 | .180 | 10.00 |
| NPS 14 x NPS 14       | 10S  | 14.00 | .188 | 11.00 |
| NPS 16 x NPS 16       | 10S  | 16.00 | .188 | 12.00 |
| NPS 18 x NPS 18       | 10S  | 18.00 | .188 | 13.50 |
| NPS 20 x NPS 20       | 10S  | 20.00 | .218 | 15.00 |
| NPS 22 x NPS 22       | 10S  | 22.00 | .218 | 16.50 |
| NPS 24 x NPS 24       | 10S  | 24.00 | .250 | 17.00 |



| Product Lines |            |            |
|---------------|------------|------------|
| 401 (EP)      | 201 (BA-S) | 222 (BA-S) |
| ●             | ●          |            |
| ●             | ●          |            |
| ●             | ●          |            |
| ●             | ●          |            |
| ●             | ●          |            |

| Size            | O.D.  | Wall | A     |
|-----------------|-------|------|-------|
| 1-1/2" x 1-1/2" | 1.500 | .065 | 2.375 |
| 2" x 2"         | 2.000 | .065 | 2.875 |
| 2-1/2" x 2-1/2" | 2.500 | .065 | 3.125 |
| 3" x 3"         | 3.000 | .065 | 3.375 |
| 4" x 4"         | 4.000 | .083 | 4.125 |

[illegible]

| Size | O.D.  | 5S Wall | 10S Wall | A   |
|------|-------|---------|----------|-----|
| 8A   | 13.8  | 1.20    | 1.65     | 42  |
| 10A  | 17.3  | 1.20    | 1.65     | 49  |
| 15A  | 21.7  | 1.65    | 2.10     | 59  |
| 20A  | 27.2  | 1.65    | 2.10     | 65  |
| 25A  | 34.0  | 1.65    | 2.80     | 68  |
| 32A  | 42.7  | 1.65    | 2.80     | 88  |
| 40A  | 48.6  | 1.65    | 2.80     | 95  |
| 50A  | 60.5  | 1.65    | 2.80     | 102 |
| 65A  | 76.3  | 2.10    | 3.00     | 121 |
| 80A  | 89.1  | 2.10    | 3.00     | 130 |
| 100A | 114.3 | 2.10    | 3.00     | 145 |
| 125A | 139.8 | 2.80    | 3.40     | 160 |
| 150A | 165.2 | 2.80    | 3.40     | 170 |
| 200A | 216.3 | 2.80    | 4.00     | 190 |
| 250A | 267.4 | 3.40    | 4.00     | 230 |
| 300A | 318.5 | 4.00    | 4.50     | 267 |
| 350A | 355.6 | 4.00    | 5.00     | 293 |
| 400A | 406.4 | 4.50    | 5.00     | 318 |
| 450A | 457.2 | 4.50    | 5.00     | 356 |
| 500A | 508.0 | 5.00    | 5.50     | 395 |
| 550A | 558.8 | 5.00    | 5.50     | 432 |
| 600A | 609.6 | 5.50    | 6.50     | 445 |

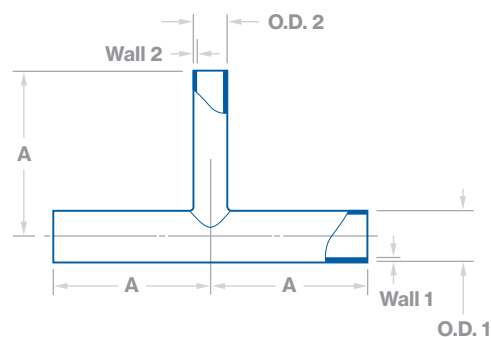


JIS B2312 / B2313 Standard, JIS Pipe

## Product Lines

## Dimensions in Millimeters

Three blue line-art cylinders of different sizes and orientations, arranged in a cluster. One cylinder is large and oriented diagonally from the bottom left towards the top right. Another is smaller and oriented diagonally from the top left towards the bottom right. The third is the smallest and oriented horizontally, positioned between the other two.



# Reducing Tee

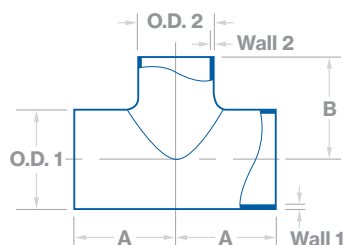
Valex Standard, ASTM Tube

[illegible]

| Dimensions in Inches |       |             |        |             |       |
|----------------------|-------|-------------|--------|-------------|-------|
| Size                 | O.D 1 | Wall 1      | O.D. 2 | Wall 2      | A     |
| 3/8" x 1/4"          | .375  | .035 / .039 | .250   | .035 / .039 | 1.750 |
| 1/2" x 1/4"          | .500  | .049        | .250   | .035 / .039 | 2.125 |
| 1/2" x 3/8"          | .500  | .049        | .375   | .035 / .039 | 2.125 |
| 3/4" x 1/4"          | .750  | .065        | .250   | .035 / .039 | 2.125 |
| 3/4" x 3/8"          | .750  | .065        | .375   | .035 / .039 | 2.125 |
| 3/4" x 1/2"          | .750  | .065        | .500   | .049        | 2.125 |
| 1" x 1/4"            | 1.000 | .065        | .250   | .035 / .039 | 2.500 |
| 1" x 3/8"            | 1.000 | .065        | .375   | .035 / .039 | 2.500 |
| 1" x 1/2"            | 1.000 | .065        | .500   | .049        | 2.500 |
| 1" x 3/4"            | 1.000 | .065        | .750   | .065        | 2.500 |
| 1-1/2" x 1/4"        | 1.500 | .065        | .250   | .035 / .039 | 2.750 |
| 1-1/2" x 3/8"        | 1.500 | .065        | .375   | .035 / .039 | 2.750 |
| 1-1/2" x 1/2"        | 1.500 | .065        | .500   | .049        | 2.750 |
| 1-1/2" x 3/4"        | 1.500 | .065        | .750   | .065        | 2.750 |
| 1-1/2" x 1"          | 1.500 | .065        | 1.000  | .065        | 2.750 |
| 2" x 1/4"            | 2.000 | .065        | .250   | .035 / .039 | 3.250 |
| 2" x 3/8"            | 2.000 | .065        | .375   | .035 / .039 | 3.250 |
| 2" x 1/2"            | 2.000 | .065        | .500   | .049        | 3.250 |
| 2" x 3/4"            | 2.000 | .065        | .750   | .065        | 3.250 |
| 2" x 1"              | 2.000 | .065        | 1.000  | .065        | 3.250 |
| 2" x 1-1/2"          | 2.000 | .065        | 1.500  | .065        | 3.250 |
| 2-1/2" x 1/4"        | 2.500 | .065        | .250   | .035 / .039 | 3.500 |
| 2-1/2" x 3/8"        | 2.500 | .065        | .375   | .035 / .039 | 3.500 |
| 2-1/2" x 1/2"        | 2.500 | .065        | .500   | .049        | 3.500 |
| 2-1/2" x 3/4"        | 2.500 | .065        | .750   | .065        | 3.500 |
| 2-1/2" x 1"          | 2.500 | .065        | 1.000  | .065        | 3.500 |
| 2-1/2" x 1-1/2"      | 2.500 | .065        | 1.500  | .065        | 3.500 |
| 2-1/2" x 2"          | 2.500 | .065        | 2.000  | .065        | 3.500 |
| 3" x 1/4"            | 3.000 | .065        | .250   | .035 / .039 | 3.750 |
| 3" x 3/8"            | 3.000 | .065        | .375   | .035 / .039 | 3.750 |
| 3" x 1/2"            | 3.000 | .065        | .500   | .049        | 3.750 |
| 3" x 3/4"            | 3.000 | .065        | .750   | .065        | 3.750 |
| 3" x 1"              | 3.000 | .065        | 1.000  | .065        | 3.750 |
| 3" x 1-1/2"          | 3.000 | .065        | 1.500  | .065        | 3.750 |
| 3" x 2"              | 3.000 | .065        | 2.000  | .065        | 3.750 |
| 3" x 2-1/2"          | 3.000 | .065        | 2.500  | .065        | 3.750 |
| 4" x 1/4"            | 4.000 | .083        | .250   | .035 / .039 | 4.250 |
| 4" x 3/8"            | 4.000 | .083        | .375   | .035 / .039 | 4.250 |
| 4" x 1/2"            | 4.000 | .083        | .500   | .049        | 4.250 |
| 4" x 3/4"            | 4.000 | .083        | .750   | .065        | 4.250 |
| 4" x 1"              | 4.000 | .083        | 1.000  | .065        | 4.250 |
| 4" x 1-1/2"          | 4.000 | .083        | 1.500  | .065        | 4.250 |
| 4" x 2"              | 4.000 | .083        | 2.000  | .065        | 4.250 |
| 4" x 2-1/2"          | 4.000 | .083        | 2.500  | .065        | 4.250 |
| 4" x 3"              | 4.000 | .083        | 3.000  | .065        | 6.000 |

## Valex Standard, ASTM Tube CONTINUED

CONFIGURATION  
**7R**

[illegible]

| Size        | O.D 1 | Wall 1 | O.D. 2 | Wall 2      | A      |
|-------------|-------|--------|--------|-------------|--------|
| 6" x 1/4"   | 6.000 | .109   | .250   | .035 / .039 | 6.000  |
| 6" x 3/8"   | 6.000 | .109   | .375   | .035 / .039 | 6.000  |
| 6" x 1/2"   | 6.000 | .109   | .500   | .049        | 6.000  |
| 6" x 3/4"   | 6.000 | .109   | .750   | .065        | 6.000  |
| 6" x 1"     | 6.000 | .109   | 1.000  | .065        | 6.000  |
| 6" x 1-1/2" | 6.000 | .109   | 1.500  | .065        | 6.000  |
| 6" x 2"     | 6.000 | .109   | 2.000  | .065        | 6.000  |
| 6" x 2-1/2" | 6.000 | .109   | 2.500  | .065        | 6.000  |
| 6" x 3"     | 6.000 | .109   | 3.000  | .065        | 11.000 |
| 6" x 4"     | 6.000 | .109   | 4.000  | .083        | 11.000 |

| LDEP (EP) | CFOS (BA/AP) |
|-----------|--------------|
|           | •            |
|           | •            |
|           | •            |
|           | •            |
|           | •            |
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| •         | •            |
| •         | •            |

| Size                  | Sch.      | O.D. 1 | Wall 1 | O.D. 2 | Wall 2 | A    | B    |
|-----------------------|-----------|--------|--------|--------|--------|------|------|
| NPS 3/4 x NPS 1/2     | 10S x 10S | 1.05   | .083   | .84    | .083   | 1.12 | 1.12 |
| NPS 1 x NPS 1/2       | 10S x 10S | 1.32   | .109   | .84    | .083   | 1.50 | 1.50 |
| NPS 1 x NPS 3/4       | 10S x 10S | 1.32   | .109   | 1.05   | .083   | 1.50 | 1.50 |
| NPS 1-1/4 x NPS 1/2   | 10S x 10S | 1.66   | .109   | .84    | .083   | 1.88 | 1.88 |
| NPS 1-1/4 x NPS 3/4   | 10S x 10S | 1.66   | .109   | 1.05   | .083   | 1.88 | 1.88 |
| NPS 1-1/4 x NPS 1     | 10S x 10S | 1.66   | .109   | 1.32   | .109   | 1.88 | 1.88 |
| NPS 1-1/2 x NPS 1/2   | 10S x 10S | 1.90   | .109   | .84    | .083   | 2.25 | 2.25 |
| NPS 1-1/2 x NPS 3/4   | 10S x 10S | 1.90   | .109   | 1.05   | .083   | 2.25 | 2.25 |
| NPS 1-1/2 x NPS 1     | 10S x 10S | 1.90   | .109   | 1.32   | .109   | 2.25 | 2.25 |
| NPS 1-1/2 x NPS 1-1/4 | 10S x 10S | 1.90   | .109   | 1.66   | .109   | 2.25 | 2.25 |
| NPS 2 x NPS 3/4       | 10S x 10S | 2.38   | .109   | 1.05   | .083   | 2.50 | 1.75 |
| NPS 2 x NPS 1         | 10S x 10S | 2.38   | .109   | 1.32   | .109   | 2.50 | 2.00 |
| NPS 2 x NPS 1-1/4     | 10S x 10S | 2.38   | .109   | 1.66   | .109   | 2.50 | 2.25 |
| NPS 2 x NPS 1-1/2     | 10S x 10S | 2.38   | .109   | 1.90   | .109   | 2.50 | 2.38 |
| NPS 2-1/2 x NPS 1     | 10S x 10S | 2.88   | .120   | 1.32   | .109   | 3.00 | 2.25 |
| NPS 2-1/2 x NPS 1-1/4 | 10S x 10S | 2.88   | .120   | 1.66   | .109   | 3.00 | 2.50 |
| NPS 2-1/2 x NPS 1-1/2 | 10S x 10S | 2.88   | .120   | 1.90   | .109   | 3.00 | 2.62 |
| NPS 2-1/2 x NPS 2     | 10S x 10S | 2.88   | .120   | 2.38   | .109   | 3.00 | 2.75 |
| NPS 3 x NPS 1-1/4     | 10S x 10S | 3.50   | .120   | 1.66   | .109   | 3.38 | 2.75 |
| NPS 3 x NPS 1-1/2     | 10S x 10S | 3.50   | .120   | 1.90   | .109   | 3.38 | 2.88 |
| NPS 3 x NPS 2         | 10S x 10S | 3.50   | .120   | 2.38   | .109   | 3.38 | 3.00 |
| NPS 3 x NPS 2-1/2     | 10S x 10S | 3.50   | .120   | 2.88   | .120   | 3.38 | 3.25 |
| NPS 3-1/2 x NPS 1-1/2 | 10S x 10S | 4.00   | .120   | 1.90   | .109   | 3.75 | 3.12 |
| NPS 3-1/2 x NPS 2     | 10S x 10S | 4.00   | .120   | 2.38   | .109   | 3.75 | 3.25 |
| NPS 3-1/2 x NPS 2-1/2 | 10S x 10S | 4.00   | .120   | 2.88   | .120   | 3.75 | 3.50 |
| NPS 3-1/2 x NPS 3     | 10S x 10S | 4.00   | .120   | 3.50   | .120   | 3.75 | 3.62 |



# Reducing Tee

ASME B16.9 Standard, ASME Pipe CONTINUED

| Product Lines |              | Dimensions in Inches |           |        |        |        |        |       |       |
|---------------|--------------|----------------------|-----------|--------|--------|--------|--------|-------|-------|
| LDEP (EP)     | CFOS (BA/AP) | Size                 | Sch.      | O.D. 1 | Wall 1 | O.D. 2 | Wall 2 | A     | B     |
| •             | •            | NPS 4 x NPS 1-1/2    | 10S x 10S | 4.50   | .120   | 1.90   | .109   | 4.12  | 3.38  |
| •             | •            | NPS 4 x NPS 2        | 10S x 10S | 4.50   | .120   | 2.38   | .109   | 4.12  | 3.50  |
| •             | •            | NPS 4 x NPS 2-1/2    | 10S x 10S | 4.50   | .120   | 2.88   | .120   | 4.12  | 3.75  |
| •             | •            | NPS 4 x NPS 3        | 10S x 10S | 4.50   | .120   | 3.50   | .120   | 4.12  | 3.88  |
| •             | •            | NPS 4 x NPS 3-1/2    | 10S x 10S | 4.50   | .120   | 4.00   | .120   | 4.12  | 4.00  |
| •             | •            | NPS 5 x NPS 2        | 10S x 10S | 5.56   | .134   | 2.38   | .109   | 4.88  | 4.12  |
| •             | •            | NPS 5 x NPS 2-1/2    | 10S x 10S | 5.56   | .134   | 2.88   | .120   | 4.88  | 4.25  |
| •             | •            | NPS 5 x NPS 3        | 10S x 10S | 5.56   | .134   | 3.50   | .120   | 4.88  | 4.38  |
| •             | •            | NPS 5 x NPS 3-1/2    | 10S x 10S | 5.56   | .134   | 4.00   | .120   | 4.88  | 4.50  |
| •             | •            | NPS 5 x NPS 4        | 10S x 10S | 5.56   | .134   | 4.50   | .120   | 4.88  | 4.62  |
| •             | •            | NPS 6 x NPS 2-1/2    | 10S x 10S | 6.62   | .134   | 2.88   | .120   | 5.62  | 4.75  |
| •             | •            | NPS 6 x NPS 3        | 10S x 10S | 6.62   | .134   | 3.50   | .120   | 5.62  | 4.88  |
| •             | •            | NPS 6 x NPS 3-1/2    | 10S x 10S | 6.62   | .134   | 4.00   | .120   | 5.62  | 5.00  |
| •             | •            | NPS 6 x NPS 4        | 10S x 10S | 6.62   | .134   | 4.50   | .120   | 5.62  | 5.12  |
| •             | •            | NPS 6 x NPS 5        | 10S x 10S | 6.62   | .134   | 5.56   | .134   | 5.62  | 5.38  |
| •             | •            | NPS 8 x NPS 3-1/2    | 10S x 10S | 8.62   | .148   | 4.00   | .120   | 7.00  | 6.00  |
| •             | •            | NPS 8 x NPS 4        | 10S x 10S | 8.62   | .148   | 4.50   | .120   | 7.00  | 6.12  |
| •             | •            | NPS 8 x NPS 5        | 10S x 10S | 8.62   | .148   | 5.56   | .134   | 7.00  | 6.38  |
| •             | •            | NPS 8 x NPS 6        | 10S x 10S | 8.62   | .148   | 6.62   | .134   | 7.00  | 6.62  |
| •             | •            | NPS 10 x NPS 4       | 10S x 10S | 10.75  | .165   | 4.50   | .120   | 8.50  | 7.25  |
| •             | •            | NPS 10 x NPS 5       | 10S x 10S | 10.75  | .165   | 5.56   | .134   | 8.50  | 7.50  |
| •             | •            | NPS 10 x NPS 6       | 10S x 10S | 10.75  | .165   | 6.62   | .134   | 8.50  | 7.62  |
| •             | •            | NPS 10 x NPS 8       | 10S x 10S | 10.75  | .165   | 8.62   | .148   | 8.50  | 8.00  |
| •             | •            | NPS 12 x NPS 5       | 10S x 10S | 12.75  | .180   | 5.56   | .134   | 10.00 | 8.50  |
| •             | •            | NPS 12 x NPS 6       | 10S x 10S | 12.75  | .180   | 6.62   | .134   | 10.00 | 8.62  |
| •             | •            | NPS 12 x NPS 8       | 10S x 10S | 12.75  | .180   | 8.62   | .148   | 10.00 | 9.00  |
| •             | •            | NPS 12 x NPS 10      | 10S x 10S | 12.75  | .180   | 10.75  | .165   | 10.00 | 9.50  |
| •             | •            | NPS 14 x NPS 6       | 10S x 10S | 14.00  | .188   | 6.62   | .134   | 11.00 | 9.38  |
| •             | •            | NPS 14 x NPS 8       | 10S x 10S | 14.00  | .188   | 8.62   | .148   | 11.00 | 9.75  |
| •             | •            | NPS 14 x NPS 10      | 10S x 10S | 14.00  | .188   | 10.75  | .165   | 11.00 | 10.12 |
| •             | •            | NPS 14 x NPS 12      | 10S x 10S | 14.00  | .188   | 12.75  | .180   | 11.00 | 10.62 |
| •             | •            | NPS 16 x NPS 6       | 10S x 10S | 16.00  | .188   | 6.62   | .134   | 12.00 | 10.38 |
| •             | •            | NPS 16 x NPS 8       | 10S x 10S | 16.00  | .188   | 8.62   | .148   | 12.00 | 10.75 |
| •             | •            | NPS 16 x NPS 10      | 10S x 10S | 16.00  | .188   | 10.75  | .165   | 12.00 | 11.12 |
| •             | •            | NPS 16 x NPS 12      | 10S x 10S | 16.00  | .188   | 12.75  | .180   | 12.00 | 11.62 |
| •             | •            | NPS 16 x NPS 14      | 10S x 10S | 16.00  | .188   | 14.00  | .188   | 12.00 | 12.00 |
| •             | •            | NPS 18 x NPS 8       | 10S x 10S | 18.00  | .188   | 8.62   | .148   | 13.50 | 11.75 |
| •             | •            | NPS 18 x NPS 10      | 10S x 10S | 18.00  | .188   | 10.75  | .165   | 13.50 | 12.12 |
| •             | •            | NPS 18 x NPS 12      | 10S x 10S | 18.00  | .188   | 12.75  | .180   | 13.50 | 12.62 |
| •             | •            | NPS 18 x NPS 14      | 10S x 10S | 18.00  | .188   | 14.00  | .188   | 13.50 | 13.00 |
| •             | •            | NPS 18 x NPS 16      | 10S x 10S | 18.00  | .188   | 16.00  | .188   | 13.50 | 13.00 |
| •             | •            | NPS 20 x NPS 8       | 10S x 10S | 20.00  | .218   | 8.62   | .148   | 15.00 | 12.75 |
| •             | •            | NPS 20 x NPS 10      | 10S x 10S | 20.00  | .218   | 10.75  | .165   | 15.00 | 13.12 |
| •             | •            | NPS 20 x NPS 12      | 10S x 10S | 20.00  | .218   | 12.75  | .180   | 15.00 | 13.62 |
| •             | •            | NPS 20 x NPS 14      | 10S x 10S | 20.00  | .218   | 14.00  | .188   | 15.00 | 14.00 |
| •             | •            | NPS 20 x NPS 16      | 10S x 10S | 20.00  | .218   | 16.00  | .188   | 15.00 | 14.00 |
| •             | •            | NPS 20 x NPS 18      | 10S x 10S | 20.00  | .218   | 18.00  | .188   | 15.00 | 14.50 |

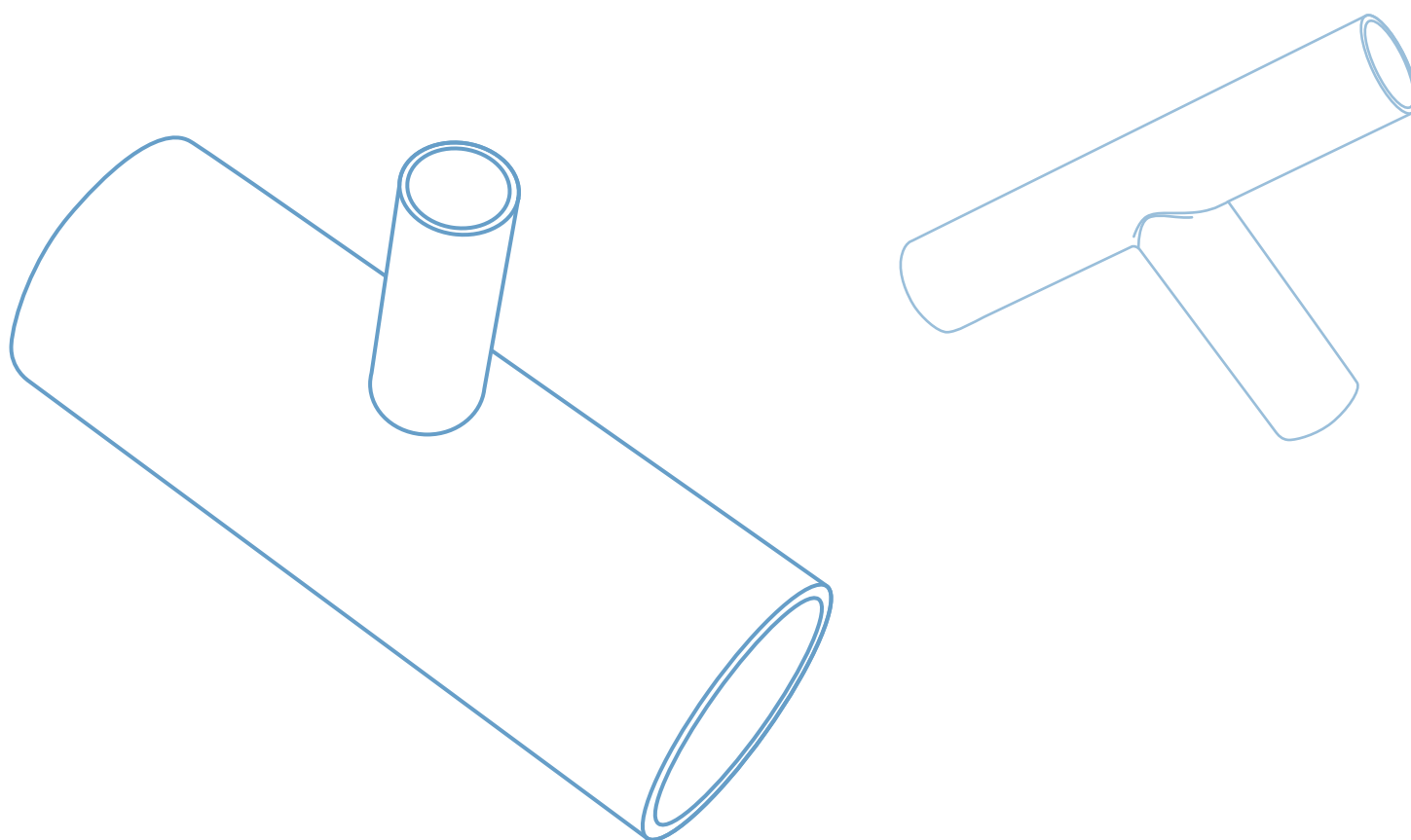


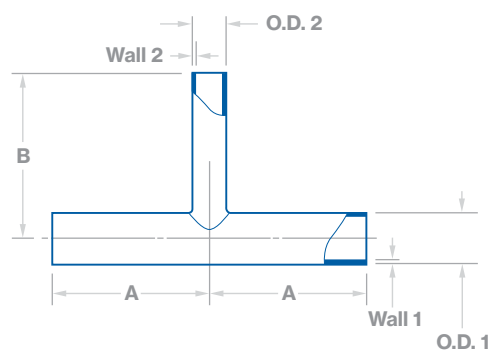
# Reducing Tee

ASME B16.9 Standard, ASME Pipe CONTINUED



| Product Lines |              | Dimensions in Inches |           |        |        |        |        |       |       |
|---------------|--------------|----------------------|-----------|--------|--------|--------|--------|-------|-------|
| LDEP (EP)     | CFOS (BA/AP) | Size                 | Sch.      | O.D. 1 | Wall 1 | O.D. 2 | Wall 2 | A     | B     |
| •             | •            | NPS 22 x NPS 10      | 10S x 10S | 22.00  | .218   | 10.75  | .165   | 16.50 | 14.12 |
| •             | •            | NPS 22 x NPS 12      | 10S x 10S | 22.00  | .218   | 12.75  | .180   | 16.50 | 14.62 |
| •             | •            | NPS 22 x NPS 14      | 10S x 10S | 22.00  | .218   | 14.00  | .188   | 16.50 | 15.00 |
| •             | •            | NPS 22 x NPS 16      | 10S x 10S | 22.00  | .218   | 16.00  | .188   | 16.50 | 15.00 |
| •             | •            | NPS 22 x NPS 18      | 10S x 10S | 22.00  | .218   | 18.00  | .188   | 16.50 | 15.50 |
| •             | •            | NPS 22 x NPS 20      | 10S x 10S | 22.00  | .218   | 20.00  | .218   | 16.50 | 16.00 |
| •             | •            | NPS 24 x NPS 10      | 10S x 10S | 24.00  | .250   | 10.75  | .165   | 17.00 | 15.12 |
| •             | •            | NPS 24 x NPS 12      | 10S x 10S | 24.00  | .250   | 12.75  | .180   | 17.00 | 15.62 |
| •             | •            | NPS 24 x NPS 14      | 10S x 10S | 24.00  | .250   | 14.00  | .188   | 17.00 | 16.00 |
| •             | •            | NPS 24 x NPS 16      | 10S x 10S | 24.00  | .250   | 16.00  | .188   | 17.00 | 16.00 |
| •             | •            | NPS24 x NPS 18       | 10S x 10S | 24.00  | .250   | 18.00  | .188   | 17.00 | 16.50 |
| •             | •            | NPS 24 x NPS 20      | 10S x 10S | 24.00  | .250   | 20.00  | .218   | 17.00 | 17.00 |
| •             | •            | NPS 24 x NPS 22      | 10S x 10S | 24.00  | .250   | 22.00  | .218   | 17.00 | 17.00 |





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# Reducing Tee

Valex Standard, JIS Pipe

Valex Standard, JIS Pipe

## Product Lines

[illegible]

## Dimensions in Millimeters

| Size      | O.D. 1 | 5S Wall 1 | 10S Wall 1 | O.D. 2 | 5S Wall 2 | 10S Wall 2 | A   | B   |
|-----------|--------|-----------|------------|--------|-----------|------------|-----|-----|
| 10A x 8A  | 17.3   | 1.20      | 1.65       | 13.8   | 1.20      | 1.65       | 47  | 44  |
| 15A x 8A  | 21.7   | 1.65      | 2.10       | 13.8   | 1.20      | 1.65       | 47  | 44  |
| 15A x 10A | 21.7   | 1.65      | 2.10       | 17.3   | 1.20      | 1.65       | 52  | 52  |
| 20A x 8A  | 27.2   | 1.65      | 2.10       | 13.8   | 1.20      | 1.65       | 47  | 47  |
| 20A x 10A | 27.2   | 1.65      | 2.10       | 17.3   | 1.20      | 1.65       | 55  | 55  |
| 20A x 15A | 27.2   | 1.65      | 2.10       | 21.7   | 1.65      | 2.10       | 55  | 55  |
| 25A x 8A  | 34.0   | 1.65      | 2.80       | 13.8   | 1.2       | 1.65       | 47  | 50  |
| 25A x 10A | 34.0   | 1.65      | 2.80       | 17.3   | 1.2       | 1.65       | 59  | 59  |
| 25A x 15A | 34.0   | 1.65      | 2.80       | 21.7   | 1.65      | 2.10       | 59  | 59  |
| 25A x 20A | 34.0   | 1.65      | 2.80       | 27.2   | 1.65      | 2.10       | 59  | 59  |
| 32A x 8A  | 42.7   | 1.65      | 2.80       | 13.8   | 1.20      | 1.65       | 57  | 54  |
| 32A x 10A | 42.7   | 1.65      | 2.80       | 17.3   | 1.20      | 1.65       | 68  | 62  |
| 32A x 15A | 42.7   | 1.65      | 2.80       | 21.7   | 1.65      | 2.10       | 68  | 62  |
| 32A x 20A | 42.7   | 1.65      | 2.80       | 27.2   | 1.65      | 2.10       | 68  | 62  |
| 32A x 25A | 42.7   | 1.65      | 2.80       | 34.0   | 1.65      | 2.8        | 68  | 62  |
| 40A x 8A  | 48.6   | 1.65      | 2.80       | 13.8   | 1.20      | 1.65       | 57  | 57  |
| 40A x 10A | 48.6   | 1.65      | 2.80       | 17.3   | 1.20      | 1.65       | 68  | 65  |
| 40A x 15A | 48.6   | 1.65      | 2.80       | 21.7   | 1.65      | 2.10       | 68  | 65  |
| 40A x 20A | 48.6   | 1.65      | 2.80       | 27.2   | 1.65      | 2.10       | 68  | 65  |
| 40A x 25A | 48.6   | 1.65      | 2.80       | 34.0   | 1.65      | 2.8        | 68  | 65  |
| 40A x 32A | 48.6   | 1.65      | 2.80       | 42.7   | 1.65      | 2.8        | 77  | 77  |
| 50A x 8A  | 60.5   | 1.65      | 2.80       | 13.8   | 1.20      | 1.65       | 57  | 63  |
| 50A x 10A | 60.5   | 1.65      | 2.80       | 17.3   | 1.20      | 1.65       | 68  | 71  |
| 50A x 15A | 60.5   | 1.65      | 2.80       | 21.7   | 1.65      | 2.10       | 68  | 71  |
| 50A x 20A | 60.5   | 1.65      | 2.80       | 27.2   | 1.65      | 2.10       | 68  | 71  |
| 50A x 25A | 60.5   | 1.65      | 2.80       | 34.0   | 1.65      | 2.8        | 68  | 71  |
| 50A x 32A | 60.5   | 1.65      | 2.80       | 42.7   | 1.65      | 2.8        | 83  | 83  |
| 50A x 40A | 60.5   | 1.65      | 2.80       | 48.6   | 1.65      | 2.8        | 83  | 83  |
| 65A x 8A  | 76.3   | 2.10      | 3.00       | 13.8   | 1.20      | 1.65       | 61  | 71  |
| 65A x 10A | 76.3   | 2.10      | 3.00       | 17.3   | 1.20      | 1.65       | 72  | 79  |
| 65A x 15A | 76.3   | 2.10      | 3.00       | 21.7   | 1.65      | 2.10       | 72  | 79  |
| 65A x 20A | 76.3   | 2.10      | 3.00       | 27.2   | 1.65      | 2.10       | 72  | 79  |
| 65A x 25A | 76.3   | 2.10      | 3.00       | 34.0   | 1.65      | 2.8        | 72  | 79  |
| 65A x 32A | 76.3   | 2.10      | 3.00       | 42.7   | 1.65      | 2.8        | 88  | 90  |
| 65A x 40A | 76.3   | 2.10      | 3.00       | 48.6   | 1.65      | 2.8        | 88  | 90  |
| 65A x 50A | 76.3   | 2.10      | 3.00       | 60.5   | 1.65      | 2.8        | 88  | 90  |
| 80A x 8A  | 89.1   | 2.10      | 3.00       | 13.8   | 1.20      | 1.65       | 61  | 77  |
| 80A x 10A | 89.1   | 2.10      | 3.00       | 17.3   | 1.20      | 1.65       | 72  | 85  |
| 80A x 15A | 89.1   | 2.10      | 3.00       | 21.7   | 1.65      | 2.10       | 72  | 85  |
| 80A x 20A | 89.1   | 2.10      | 3.00       | 27.2   | 1.65      | 2.10       | 72  | 85  |
| 80A x 25A | 89.1   | 2.10      | 3.00       | 34.0   | 1.65      | 2.80       | 72  | 85  |
| 80A x 32A | 89.1   | 2.10      | 3.00       | 42.7   | 1.65      | 2.80       | 88  | 96  |
| 80A x 40A | 89.1   | 2.10      | 3.00       | 48.6   | 1.65      | 2.80       | 88  | 96  |
| 80A x 50A | 89.1   | 2.10      | 3.00       | 60.5   | 1.65      | 2.80       | 88  | 96  |
| 80A x 65A | 89.1   | 2.10      | 3.00       | 76.3   | 2.10      | 3.00       | 103 | 103 |



CONFIGURATION  
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| Dimensions in Millimeters |        |           |            |        |           |            |     |     |
|---------------------------|--------|-----------|------------|--------|-----------|------------|-----|-----|
| Size                      | O.D. 1 | 5S Wall 1 | 10S Wall 1 | O.D. 2 | 5S Wall 2 | 10S Wall 2 | A   | B   |
| 100A x 8A                 | 114.3  | 2.10      | 3.00       | 13.8   | 1.20      | 1.65       | 61  | 90  |
| 100A x 10A                | 114.3  | 2.10      | 3.00       | 17.3   | 1.20      | 1.65       | 72  | 98  |
| 100A x 15A                | 114.3  | 2.10      | 3.00       | 21.7   | 1.65      | 2.10       | 72  | 98  |
| 100A x 20A                | 114.3  | 2.10      | 3.00       | 27.2   | 1.65      | 2.10       | 72  | 98  |
| 100A x 25A                | 114.3  | 2.10      | 3.00       | 34.0   | 1.65      | 2.80       | 72  | 98  |
| 100A x 32A                | 114.3  | 2.10      | 3.00       | 42.7   | 1.65      | 2.80       | 88  | 109 |
| 100A x 40A                | 114.3  | 2.10      | 3.00       | 48.6   | 1.65      | 2.80       | 88  | 109 |
| 100A x 50A                | 114.3  | 2.10      | 3.00       | 60.5   | 1.65      | 2.80       | 88  | 109 |
| 100A x 65A                | 114.3  | 2.10      | 3.00       | 76.3   | 2.10      | 3.00       | 116 | 116 |
| 100A x 80A                | 114.3  | 2.10      | 3.00       | 89.1   | 2.10      | 3.00       | 116 | 116 |
| 125A x 8A                 | 139.8  | 2.80      | 3.40       | 13.8   | 1.20      | 1.65       | 80  | 110 |
| 125A x 10A                | 139.8  | 2.80      | 3.40       | 17.3   | 1.20      | 1.65       | 100 | 120 |
| 125A x 15A                | 139.8  | 2.80      | 3.40       | 21.7   | 1.65      | 2.10       | 100 | 120 |
| 125A x 20A                | 139.8  | 2.80      | 3.40       | 27.2   | 1.65      | 2.10       | 100 | 120 |
| 125A x 25A                | 139.8  | 2.80      | 3.40       | 34.0   | 1.65      | 2.80       | 100 | 120 |
| 125A x 32A                | 139.8  | 2.80      | 3.40       | 42.7   | 1.65      | 2.80       | 120 | 130 |
| 125A x 40A                | 139.8  | 2.80      | 3.40       | 48.6   | 1.65      | 2.80       | 120 | 130 |
| 125A x 50A                | 139.8  | 2.80      | 3.40       | 60.5   | 1.65      | 2.80       | 120 | 130 |
| 125A x 65A                | 139.8  | 2.80      | 3.40       | 76.3   | 2.10      | 3.00       | 140 | 140 |
| 125A x 80A                | 139.8  | 2.80      | 3.40       | 89.1   | 2.10      | 3.00       | 140 | 140 |
| 125A x 100A               | 139.8  | 2.80      | 3.40       | 114.3  | 2.10      | 3.00       | 140 | 140 |
| 150A x 8A                 | 165.2  | 2.80      | 3.40       | 13.8   | 1.20      | 1.65       | 90  | 130 |
| 150A x 10A                | 165.2  | 2.80      | 3.40       | 17.3   | 1.20      | 1.65       | 110 | 140 |
| 150A x 15A                | 165.2  | 2.80      | 3.40       | 21.7   | 1.65      | 2.10       | 110 | 140 |
| 150A x 20A                | 165.2  | 2.80      | 3.40       | 27.2   | 1.65      | 2.10       | 110 | 140 |
| 150A x 25A                | 165.2  | 2.80      | 3.40       | 34.0   | 1.65      | 2.80       | 110 | 140 |
| 150A x 32A                | 165.2  | 2.80      | 3.40       | 42.7   | 1.65      | 2.80       | 130 | 150 |
| 150A x 40A                | 165.2  | 2.80      | 3.40       | 48.6   | 1.65      | 2.80       | 130 | 150 |
| 150A x 50A                | 165.2  | 2.80      | 3.40       | 60.5   | 1.65      | 2.80       | 130 | 150 |
| 150A x 65A                | 165.2  | 2.80      | 3.40       | 76.3   | 2.10      | 3.00       | 150 | 160 |
| 150A x 80A                | 165.2  | 2.80      | 3.40       | 89.1   | 2.10      | 3.00       | 150 | 160 |
| 150A x 100A               | 165.2  | 2.80      | 3.40       | 114.3  | 2.10      | 3.00       | 150 | 160 |
| 150A x 125A               | 165.2  | 2.80      | 3.40       | 139.8  | 2.80      | 3.40       | 170 | 170 |
| 200A x 8A                 | 216.3  | 2.80      | 4.00       | 13.8   | 1.20      | 1.65       | 100 | 150 |
| 200A x 10A                | 216.3  | 2.80      | 4.00       | 17.3   | 1.20      | 1.65       | 120 | 160 |
| 200A x 15A                | 216.3  | 2.80      | 4.00       | 21.7   | 1.65      | 2.10       | 120 | 160 |
| 200A x 20A                | 216.3  | 2.80      | 4.00       | 27.2   | 1.65      | 2.10       | 120 | 160 |
| 200A x 25A                | 216.3  | 2.80      | 4.00       | 34.0   | 1.65      | 2.80       | 120 | 160 |
| 200A x 32A                | 216.3  | 2.80      | 4.00       | 42.7   | 1.65      | 2.80       | 140 | 170 |
| 200A x 40A                | 216.3  | 2.80      | 4.00       | 48.6   | 1.65      | 2.80       | 140 | 170 |
| 200A x 50A                | 216.3  | 2.80      | 4.00       | 60.5   | 1.65      | 2.80       | 140 | 170 |
| 200A x 65A                | 216.3  | 2.80      | 4.00       | 76.3   | 2.10      | 3.00       | 160 | 180 |
| 200A x 80A                | 216.3  | 2.80      | 4.00       | 89.1   | 2.10      | 3.00       | 160 | 180 |
| 200A x 100A               | 216.3  | 2.80      | 4.00       | 114.3  | 2.10      | 3.00       | 160 | 180 |
| 200A x 125A               | 216.3  | 2.80      | 4.00       | 139.8  | 2.80      | 3.40       | 180 | 190 |
| 200A x 150A               | 216.3  | 2.80      | 4.00       | 165.2  | 2.80      | 3.40       | 180 | 190 |

CONFIGURATION  
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# Reducing Tee

Valex Standard, JIS Pipe CONTINUED

| Product Lines |              |               |               |                 | Dimensions in Millimeters |        |           |            |        |           |            |     |     |
|---------------|--------------|---------------|---------------|-----------------|---------------------------|--------|-----------|------------|--------|-----------|------------|-----|-----|
| 401<br>(EP)   | LDEP<br>(EP) | 201<br>(BA-S) | 101<br>(BA-S) | CFOS<br>(BA/AP) | Size                      | O.D. 1 | 5S Wall 1 | 10S Wall 1 | O.D. 2 | 5S Wall 2 | 10S Wall 2 | A   | B   |
| •             |              |               |               |                 | 250A x 8A                 | 267.4  | 3.40      | 4.00       | 13.8   | 1.20      | 1.65       | 110 | 180 |
| •             |              |               |               |                 | 250A x 10A                | 267.4  | 3.40      | 4.00       | 17.3   | 1.20      | 1.65       | 130 | 190 |
| •             |              | •             | •             | •               | 250A x 15A                | 267.4  | 3.40      | 4.00       | 21.7   | 1.65      | 2.10       | 130 | 190 |
| •             |              | •             | •             | •               | 250A x 20A                | 267.4  | 3.40      | 4.00       | 27.2   | 1.65      | 2.10       | 130 | 190 |
| •             | •            | •             | •             | •               | 250A x 25A                | 267.4  | 3.40      | 4.00       | 34.0   | 1.65      | 2.80       | 130 | 190 |
| •             | •            | •             | •             | •               | 250A x 32A                | 267.4  | 3.40      | 4.00       | 42.7   | 1.65      | 2.80       | 150 | 200 |
| •             | •            | •             | •             | •               | 250A x 40A                | 267.4  | 3.40      | 4.00       | 48.6   | 1.65      | 2.80       | 150 | 200 |
| •             | •            | •             | •             | •               | 250A x 50A                | 267.4  | 3.40      | 4.00       | 60.5   | 1.65      | 2.80       | 150 | 200 |
| •             | •            | •             | •             | •               | 250A x 65A                | 267.4  | 3.40      | 4.00       | 76.3   | 2.10      | 3.00       | 170 | 210 |
| •             | •            | •             | •             | •               | 250A x 80A                | 267.4  | 3.40      | 4.00       | 89.1   | 2.10      | 3.00       | 170 | 210 |
| •             | •            | •             | •             | •               | 250A x 100A               | 267.4  | 3.40      | 4.00       | 114.3  | 2.10      | 3.00       | 170 | 210 |
| •             | •            | •             | •             | •               | 250A x 125A               | 267.4  | 3.40      | 4.00       | 139.8  | 2.80      | 3.40       | 190 | 220 |
| •             | •            | •             | •             | •               | 250A x 150A               | 267.4  | 3.40      | 4.00       | 165.2  | 2.80      | 3.40       | 190 | 220 |
| •             | •            | •             | •             | •               | 250A x 200A               | 267.4  | 3.40      | 4.00       | 216.3  | 2.80      | 4.00       | 190 | 220 |
| •             |              |               |               |                 | 300A x 8A                 | 318.5  | 4.00      | 4.50       | 13.8   | 1.20      | 1.65       | 130 | 210 |
| •             |              |               |               |                 | 300A x 10A                | 318.5  | 4.00      | 4.50       | 17.3   | 1.20      | 1.65       | 150 | 230 |
| •             |              | •             | •             | •               | 300A x 15A                | 318.5  | 4.00      | 4.50       | 21.7   | 1.65      | 2.10       | 150 | 230 |
| •             |              | •             | •             | •               | 300A x 20A                | 318.5  | 4.00      | 4.50       | 27.2   | 1.65      | 2.10       | 150 | 230 |
| •             | •            | •             | •             | •               | 300A x 25A                | 318.5  | 4.00      | 4.50       | 34.0   | 1.65      | 2.80       | 150 | 230 |
| •             | •            | •             | •             | •               | 300A x 32A                | 318.5  | 4.00      | 4.50       | 42.7   | 1.65      | 2.80       | 170 | 240 |
| •             | •            | •             | •             | •               | 300A x 40A                | 318.5  | 4.00      | 4.50       | 48.6   | 1.65      | 2.80       | 170 | 240 |
| •             | •            | •             | •             | •               | 300A x 50A                | 318.5  | 4.00      | 4.50       | 60.5   | 1.65      | 2.80       | 170 | 240 |
| •             | •            | •             | •             | •               | 300A x 65A                | 318.5  | 4.00      | 4.50       | 76.3   | 2.10      | 3.00       | 190 | 250 |
| •             | •            | •             | •             | •               | 300A x 80A                | 318.5  | 4.00      | 4.50       | 89.1   | 2.10      | 3.00       | 190 | 250 |
| •             | •            | •             | •             | •               | 300A x 100A               | 318.5  | 4.00      | 4.50       | 114.3  | 2.10      | 3.00       | 190 | 250 |
| •             | •            | •             | •             | •               | 300A x 125A               | 318.5  | 4.00      | 4.50       | 139.8  | 2.80      | 3.40       | 250 | 260 |
| •             | •            | •             | •             | •               | 300A x 150A               | 318.5  | 4.00      | 4.50       | 165.2  | 2.80      | 3.40       | 250 | 260 |
| •             | •            | •             | •             | •               | 300A x 200A               | 318.5  | 4.00      | 4.50       | 216.3  | 2.80      | 4.00       | 250 | 260 |
| •             | •            | •             | •             | •               | 300A x 250A               | 318.5  | 4.00      | 4.50       | 267.4  | 3.40      | 4.00       | 250 | 260 |
|               |              | •             | •             | •               | 350A x 15A                | 355.6  | 4.00      | 5.00       | 21.7   | 1.65      | 2.10       | 170 | 240 |
|               |              | •             | •             | •               | 350A x 20A                | 355.6  | 4.00      | 5.00       | 27.2   | 1.65      | 2.10       | 170 | 240 |
|               | •            | •             | •             | •               | 350A x 25A                | 355.6  | 4.00      | 5.00       | 34.0   | 1.65      | 2.80       | 170 | 240 |
|               | •            | •             | •             | •               | 350A x 32A                | 355.6  | 4.00      | 5.00       | 42.7   | 1.65      | 2.80       | 200 | 260 |
|               | •            | •             | •             | •               | 350A x 40A                | 355.6  | 4.00      | 5.00       | 48.6   | 1.65      | 2.80       | 200 | 260 |
|               | •            | •             | •             | •               | 350A x 50A                | 355.6  | 4.00      | 5.00       | 60.5   | 1.65      | 2.80       | 200 | 260 |
|               | •            | •             | •             | •               | 350A x 65A                | 355.6  | 4.00      | 5.00       | 76.3   | 2.10      | 3.00       | 230 | 260 |
|               | •            | •             | •             | •               | 350A x 80A                | 355.6  | 4.00      | 5.00       | 89.1   | 2.10      | 3.00       | 230 | 260 |
|               | •            | •             | •             | •               | 350A x 100A               | 355.6  | 4.00      | 5.00       | 114.3  | 2.10      | 3.00       | 230 | 260 |
|               | •            | •             | •             | •               | 350A x 125A               | 355.6  | 4.00      | 5.00       | 139.8  | 2.80      | 3.40       | 280 | 280 |
|               | •            | •             | •             | •               | 350A x 150A               | 355.6  | 4.00      | 5.00       | 165.2  | 2.80      | 3.40       | 280 | 280 |
|               | •            | •             | •             | •               | 350A x 200A               | 355.6  | 4.00      | 5.00       | 216.3  | 2.80      | 4.00       | 280 | 280 |
|               | •            | •             | •             | •               | 350A x 250A               | 355.6  | 4.00      | 5.00       | 267.4  | 3.40      | 4.00       | 280 | 280 |
|               | •            | •             | •             | •               | 350A x 300A               | 355.6  | 4.00      | 5.00       | 318.5  | 4.00      | 4.50       | 280 | 280 |



CONFIGURATION  
**7R**

[illegible]

| Size        | O.D. 1 | 5S Wall 1 | 10S Wall 1 | O.D. 2 | 5S Wall 2 | 10S Wall 2 | A   | B   |
|-------------|--------|-----------|------------|--------|-----------|------------|-----|-----|
| 400A x 15A  | 406.4  | 4.50      | 5.00       | 21.7   | 1.65      | 2.10       | 180 | 270 |
| 400A x 20A  | 406.4  | 4.50      | 5.00       | 27.2   | 1.65      | 2.10       | 180 | 270 |
| 400A x 25A  | 406.4  | 4.50      | 5.00       | 34.0   | 1.65      | 2.80       | 180 | 270 |
| 400A x 32A  | 406.4  | 4.50      | 5.00       | 42.7   | 1.65      | 2.80       | 200 | 280 |
| 400A x 40A  | 406.4  | 4.50      | 5.00       | 48.6   | 1.65      | 2.80       | 200 | 280 |
| 400A x 50A  | 406.4  | 4.50      | 5.00       | 60.5   | 1.65      | 2.80       | 200 | 280 |
| 400A x 65A  | 406.4  | 4.50      | 5.00       | 76.3   | 2.10      | 3.00       | 230 | 280 |
| 400A x 80A  | 406.4  | 4.50      | 5.00       | 89.1   | 2.10      | 3.00       | 230 | 280 |
| 400A x 100A | 406.4  | 4.50      | 5.00       | 114.3  | 2.10      | 3.00       | 230 | 280 |
| 400A x 125A | 406.4  | 4.50      | 5.00       | 139.8  | 2.80      | 3.40       | 280 | 290 |
| 400A x 150A | 406.4  | 4.50      | 5.00       | 165.2  | 2.80      | 3.40       | 280 | 290 |
| 400A x 200A | 406.4  | 4.50      | 5.00       | 216.3  | 2.80      | 4.00       | 280 | 290 |
| 400A x 250A | 406.4  | 4.50      | 5.00       | 267.4  | 3.40      | 4.00       | 280 | 290 |
| 400A x 300A | 406.4  | 4.50      | 5.00       | 318.5  | 4.00      | 4.50       | 280 | 290 |
| 400A x 350A | 406.4  | 4.50      | 5.00       | 355.6  | 4.00      | 5.00       | 300 | 300 |
| 450A x 15A  | 457.2  | 4.50      | 5.00       | 21.7   | 1.65      | 2.10       | 180 | 295 |
| 450A x 20A  | 457.2  | 4.50      | 5.00       | 27.2   | 1.65      | 2.10       | 180 | 295 |
| 450A x 25A  | 457.2  | 4.50      | 5.00       | 34.0   | 1.65      | 2.80       | 180 | 295 |
| 450A x 32A  | 457.2  | 4.50      | 5.00       | 42.7   | 1.65      | 2.80       | 200 | 310 |
| 450A x 40A  | 457.2  | 4.50      | 5.00       | 48.6   | 1.65      | 2.80       | 200 | 310 |
| 450A x 50A  | 457.2  | 4.50      | 5.00       | 60.5   | 1.65      | 2.80       | 200 | 310 |
| 450A x 65A  | 457.2  | 4.50      | 5.00       | 76.3   | 2.10      | 3.00       | 230 | 310 |
| 450A x 80A  | 457.2  | 4.50      | 5.00       | 89.1   | 2.10      | 3.00       | 230 | 310 |
| 450A x 100A | 457.2  | 4.50      | 5.00       | 114.3  | 2.10      | 3.00       | 230 | 310 |
| 450A x 125A | 457.2  | 4.50      | 5.00       | 139.8  | 2.80      | 3.40       | 280 | 320 |
| 450A x 150A | 457.2  | 4.50      | 5.00       | 165.2  | 2.80      | 3.40       | 280 | 320 |
| 450A x 200A | 457.2  | 4.50      | 5.00       | 216.3  | 2.80      | 4.00       | 280 | 320 |
| 450A x 250A | 457.2  | 4.50      | 5.00       | 267.4  | 3.40      | 4.00       | 280 | 320 |
| 450A x 300A | 457.2  | 4.50      | 5.00       | 318.5  | 4.00      | 4.50       | 280 | 320 |
| 450A x 350A | 457.2  | 4.50      | 5.00       | 355.6  | 4.00      | 5.00       | 340 | 340 |
| 450A x 400A | 457.2  | 4.50      | 5.00       | 406.4  | 4.50      | 5.00       | 340 | 340 |
| 500A x 15A  | 508.0  | 5.00      | 5.50       | 21.7   | 1.65      | 2.10       | 180 | 325 |
| 500A x 20A  | 508.0  | 5.00      | 5.50       | 27.2   | 1.65      | 2.10       | 180 | 325 |
| 500A x 25A  | 508.0  | 5.00      | 5.50       | 34.0   | 1.65      | 2.80       | 180 | 325 |
| 500A x 32A  | 508.0  | 5.00      | 5.50       | 42.7   | 1.65      | 2.80       | 200 | 340 |
| 500A x 40A  | 508.0  | 5.00      | 5.50       | 48.6   | 1.65      | 2.80       | 200 | 340 |
| 500A x 50A  | 508.0  | 5.00      | 5.50       | 60.5   | 1.65      | 2.80       | 200 | 340 |
| 500A x 65A  | 508.0  | 5.00      | 5.50       | 76.3   | 2.10      | 3.00       | 230 | 340 |
| 500A x 80A  | 508.0  | 5.00      | 5.50       | 89.1   | 2.10      | 3.00       | 230 | 340 |
| 500A x 100A | 508.0  | 5.00      | 5.50       | 114.3  | 2.10      | 3.00       | 230 | 340 |
| 500A x 125A | 508.0  | 5.00      | 5.50       | 139.8  | 2.80      | 3.40       | 280 | 360 |
| 500A x 150A | 508.0  | 5.00      | 5.50       | 165.2  | 2.80      | 3.40       | 280 | 360 |
| 500A x 200A | 508.0  | 5.00      | 5.50       | 216.3  | 2.80      | 4.00       | 280 | 360 |



# Reducing Tee

Valex Standard, JIS Pipe CONTINUED

| Product Lines |              |               |               |                 | Dimensions in Millimeters |        |           |            |        |           |            |     |     |
|---------------|--------------|---------------|---------------|-----------------|---------------------------|--------|-----------|------------|--------|-----------|------------|-----|-----|
| 401<br>(EP)   | LDEP<br>(EP) | 201<br>(BA-S) | 101<br>(BA-S) | CFOS<br>(BA/AP) | Size                      | O.D. 1 | 5S Wall 1 | 10S Wall 1 | O.D. 2 | 5S Wall 2 | 10S Wall 2 | A   | B   |
|               | •            | •             | •             | •               | 500A x 250A               | 508.0  | 5.00      | 5.50       | 267.4  | 3.40      | 4.00       | 280 | 360 |
|               | •            | •             | •             | •               | 500A x 300A               | 508.0  | 5.00      | 5.50       | 318.5  | 4.00      | 4.50       | 280 | 360 |
|               | •            | •             | •             | •               | 500A x 350A               | 508.0  | 5.00      | 5.50       | 355.6  | 4.00      | 5.00       | 380 | 380 |
|               | •            | •             | •             | •               | 500A x 400A               | 508.0  | 5.00      | 5.50       | 406.4  | 4.50      | 5.00       | 380 | 380 |
|               | •            | •             | •             | •               | 500A x 450A               | 508.0  | 5.00      | 5.50       | 457.2  | 4.50      | 5.00       | 380 | 380 |
|               |              | •             | •             | •               | 550A x 15A                | 558.8  | 5.00      | 5.50       | 21.7   | 1.65      | 2.10       | 180 | 350 |
|               |              | •             | •             | •               | 550A x 20A                | 558.8  | 5.00      | 5.50       | 27.2   | 1.65      | 2.10       | 180 | 350 |
|               | •            | •             | •             | •               | 550A x 25A                | 558.8  | 5.00      | 5.50       | 34.0   | 1.65      | 2.80       | 180 | 350 |
|               | •            | •             | •             | •               | 550A x 32A                | 558.8  | 5.00      | 5.50       | 42.7   | 1.65      | 2.80       | 200 | 380 |
|               | •            | •             | •             | •               | 550A x 40A                | 558.8  | 5.00      | 5.50       | 48.6   | 1.65      | 2.80       | 200 | 380 |
|               | •            | •             | •             | •               | 550A x 50A                | 558.8  | 5.00      | 5.50       | 60.5   | 1.65      | 2.80       | 200 | 380 |
|               | •            | •             | •             | •               | 550A x 65A                | 558.8  | 5.00      | 5.50       | 76.3   | 2.10      | 3.00       | 230 | 380 |
|               | •            | •             | •             | •               | 550A x 80A                | 558.8  | 5.00      | 5.50       | 89.1   | 2.10      | 3.00       | 230 | 380 |
|               | •            | •             | •             | •               | 550A x 100A               | 558.8  | 5.00      | 5.50       | 114.3  | 2.10      | 3.00       | 230 | 380 |
|               | •            | •             | •             | •               | 550A x 125A               | 558.8  | 5.00      | 5.50       | 139.8  | 2.80      | 3.40       | 280 | 400 |
|               | •            | •             | •             | •               | 550A x 150A               | 558.8  | 5.00      | 5.50       | 165.2  | 2.80      | 3.40       | 280 | 400 |
|               | •            | •             | •             | •               | 550A x 200A               | 558.8  | 5.00      | 5.50       | 216.3  | 2.80      | 4.00       | 280 | 400 |
|               | •            | •             | •             | •               | 550A x 250A               | 558.8  | 5.00      | 5.50       | 267.4  | 3.40      | 4.00       | 280 | 400 |
|               | •            | •             | •             | •               | 550A x 300A               | 558.8  | 5.00      | 5.50       | 318.5  | 4.00      | 4.50       | 280 | 400 |
|               | •            | •             | •             | •               | 550A x 350A               | 558.8  | 5.00      | 5.50       | 355.6  | 4.00      | 5.00       | 420 | 420 |
|               | •            | •             | •             | •               | 550A x 400A               | 558.8  | 5.00      | 5.50       | 406.4  | 4.50      | 5.00       | 420 | 420 |
|               | •            | •             | •             | •               | 550A x 450A               | 558.8  | 5.00      | 5.50       | 457.2  | 4.50      | 5.00       | 420 | 420 |
|               | •            | •             | •             | •               | 550A x 500A               | 558.8  | 5.00      | 5.50       | 508.0  | 5.00      | 5.50       | 420 | 420 |
|               |              | •             | •             | •               | 600A x 15A                | 609.6  | 5.50      | 6.50       | 21.7   | 1.65      | 2.10       | 180 | 375 |
|               |              | •             | •             | •               | 600A x 20A                | 609.6  | 5.50      | 6.50       | 27.2   | 1.65      | 2.10       | 180 | 375 |
|               | •            | •             | •             | •               | 600A x 25A                | 609.6  | 5.50      | 6.50       | 34.0   | 1.65      | 2.80       | 180 | 375 |
|               | •            | •             | •             | •               | 600A x 32A                | 609.6  | 5.50      | 6.50       | 42.7   | 1.65      | 2.80       | 200 | 390 |
|               | •            | •             | •             | •               | 600A x 40A                | 609.6  | 5.50      | 6.50       | 48.6   | 1.65      | 2.80       | 200 | 390 |
|               | •            | •             | •             | •               | 600A x 50A                | 609.6  | 5.50      | 6.50       | 60.5   | 1.65      | 2.80       | 200 | 390 |
|               | •            | •             | •             | •               | 600A x 65A                | 609.6  | 5.50      | 6.50       | 76.3   | 2.10      | 3.00       | 230 | 390 |
|               | •            | •             | •             | •               | 600A x 80A                | 609.6  | 5.50      | 6.50       | 89.1   | 2.10      | 3.00       | 230 | 390 |
|               | •            | •             | •             | •               | 600A x 100A               | 609.6  | 5.50      | 6.50       | 114.3  | 2.10      | 3.00       | 230 | 390 |
|               | •            | •             | •             | •               | 600A x 125A               | 609.6  | 5.50      | 6.50       | 139.8  | 2.80      | 3.40       | 280 | 410 |
|               | •            | •             | •             | •               | 600A x 150A               | 609.6  | 5.50      | 6.50       | 165.2  | 2.80      | 3.40       | 280 | 410 |
|               | •            | •             | •             | •               | 600A x 200A               | 609.6  | 5.50      | 6.50       | 216.3  | 2.80      | 4.00       | 280 | 410 |
|               | •            | •             | •             | •               | 600A x 250A               | 609.6  | 5.50      | 6.50       | 267.4  | 3.40      | 4.00       | 280 | 410 |
|               | •            | •             | •             | •               | 600A x 300A               | 609.6  | 5.50      | 6.50       | 318.5  | 4.00      | 4.50       | 280 | 410 |
|               | •            | •             | •             | •               | 600A x 350A               | 609.6  | 5.50      | 6.50       | 355.6  | 4.00      | 5.00       | 430 | 430 |
|               | •            | •             | •             | •               | 600A x 400A               | 609.6  | 5.50      | 6.50       | 406.4  | 4.50      | 5.00       | 430 | 430 |
|               | •            | •             | •             | •               | 600A x 450A               | 609.6  | 5.50      | 6.50       | 457.2  | 4.50      | 5.00       | 430 | 430 |
|               | •            | •             | •             | •               | 600A x 500A               | 609.6  | 5.50      | 6.50       | 508.0  | 5.00      | 5.50       | 430 | 430 |
|               | •            | •             | •             | •               | 600A x 550A               | 609.6  | 5.50      | 6.50       | 558.8  | 5.00      | 5.50       | 430 | 430 |



## Dimensions in Millimeters

[illegible]

| Size        | O.D. 1 | 5S Wall 1 | 10S Wall 1 | O.D. 2 | 5S Wall 2 | 10S Wall 2 | A     | B     |
|-------------|--------|-----------|------------|--------|-----------|------------|-------|-------|
| 20A x 15A   | 27.2   | 1.65      | 2.10       | 21.7   | 1.65      | 2.10       | 28.6  | 28.6  |
| 25A x 15A   | 34.0   | 1.65      | 2.80       | 21.7   | 1.65      | 2.10       | 38.1  | 38.1  |
| 25A x 20A   | 34.0   | 1.65      | 2.80       | 27.2   | 1.65      | 2.10       | 38.1  | 38.1  |
| 32A x 15A   | 42.7   | 1.65      | 2.80       | 21.7   | 1.65      | 2.10       | 47.6  | 47.6  |
| 32A x 20A   | 42.7   | 1.65      | 2.80       | 27.2   | 1.65      | 2.10       | 47.6  | 47.6  |
| 32A x 25A   | 42.7   | 1.65      | 2.80       | 34.0   | 1.65      | 2.80       | 47.6  | 47.6  |
| 40A x 15A   | 48.6   | 1.65      | 2.80       | 21.7   | 1.65      | 2.10       | 57.2  | 57.2  |
| 40A x 20A   | 48.6   | 1.65      | 2.80       | 27.2   | 1.65      | 2.10       | 57.2  | 57.2  |
| 40A x 25A   | 48.6   | 1.65      | 2.80       | 34.0   | 1.65      | 2.80       | 57.2  | 57.2  |
| 40A x 32A   | 48.6   | 1.65      | 2.80       | 42.7   | 1.65      | 2.80       | 57.2  | 57.2  |
| 50A x 20A   | 60.5   | 1.65      | 2.80       | 27.2   | 1.65      | 2.10       | 63.5  | 44.5  |
| 50A x 25A   | 60.5   | 1.65      | 2.80       | 34.0   | 1.65      | 2.80       | 63.5  | 50.8  |
| 50A x 32A   | 60.5   | 1.65      | 2.80       | 42.7   | 1.65      | 2.80       | 63.5  | 57.2  |
| 50A x 40A   | 60.5   | 1.65      | 2.80       | 48.6   | 1.65      | 2.80       | 63.5  | 60.3  |
| 65A x 25A   | 76.3   | 2.10      | 3.00       | 34.0   | 1.65      | 2.80       | 76.2  | 57.2  |
| 65A x 32A   | 76.3   | 2.10      | 3.00       | 42.7   | 1.65      | 2.80       | 76.2  | 63.5  |
| 65A x 40A   | 76.3   | 2.10      | 3.00       | 48.6   | 1.65      | 2.80       | 76.2  | 66.7  |
| 65A x 50A   | 76.3   | 2.10      | 3.00       | 60.5   | 1.65      | 2.80       | 76.2  | 69.9  |
| 80A x 32A   | 89.1   | 2.10      | 3.00       | 42.7   | 1.65      | 2.80       | 85.7  | 69.9  |
| 80A x 40A   | 89.1   | 2.10      | 3.00       | 48.6   | 1.65      | 2.80       | 85.7  | 73.0  |
| 80A x 50A   | 89.1   | 2.10      | 3.00       | 60.5   | 1.65      | 2.80       | 85.7  | 76.2  |
| 80A x 65A   | 89.1   | 2.10      | 3.00       | 76.3   | 2.10      | 3.00       | 85.7  | 82.6  |
| 90A x 40A   | 101.6  | 2.10      | 3.00       | 48.6   | 1.65      | 2.80       | 95.3  | 79.4  |
| 90A x 50A   | 101.6  | 2.10      | 3.00       | 60.5   | 1.65      | 2.80       | 95.3  | 82.6  |
| 90A x 65A   | 101.6  | 2.10      | 3.00       | 76.3   | 2.10      | 3.00       | 95.3  | 88.9  |
| 90A x 80A   | 101.6  | 2.10      | 3.00       | 89.1   | 2.10      | 3.00       | 95.3  | 92.1  |
| 100A x 40A  | 114.3  | 2.10      | 3.00       | 48.6   | 1.65      | 2.80       | 104.8 | 85.7  |
| 100A x 50A  | 114.3  | 2.10      | 3.00       | 60.5   | 1.65      | 2.80       | 104.8 | 88.9  |
| 100A x 65A  | 114.3  | 2.10      | 3.00       | 76.3   | 2.10      | 3.00       | 104.8 | 95.3  |
| 100A x 80A  | 114.3  | 2.10      | 3.00       | 89.1   | 2.10      | 3.00       | 104.8 | 98.4  |
| 100A x 90A  | 114.3  | 2.10      | 3.00       | 101.6  | 2.10      | 3.00       | 104.8 | 101.6 |
| 125A x 50A  | 139.8  | 2.80      | 3.40       | 60.5   | 1.65      | 2.80       | 123.8 | 104.8 |
| 125A x 65A  | 139.8  | 2.80      | 3.40       | 76.3   | 2.10      | 3.00       | 123.8 | 108.0 |
| 125A x 80A  | 139.8  | 2.80      | 3.40       | 89.1   | 2.10      | 3.00       | 123.8 | 111.1 |
| 125A x 90A  | 139.8  | 2.80      | 3.40       | 101.6  | 2.10      | 3.00       | 123.8 | 114.3 |
| 125A x 100A | 139.8  | 2.80      | 3.40       | 114.3  | 2.10      | 3.00       | 123.8 | 117.5 |
| 150A x 65A  | 165.2  | 2.80      | 3.40       | 76.3   | 2.10      | 3.00       | 142.9 | 120.7 |
| 150A x 80A  | 165.2  | 2.80      | 3.40       | 89.1   | 2.10      | 3.00       | 142.9 | 123.8 |
| 150A x 90A  | 165.2  | 2.80      | 3.40       | 101.6  | 2.10      | 3.00       | 142.9 | 127.0 |
| 150A x 100A | 165.2  | 2.80      | 3.40       | 114.3  | 2.10      | 3.00       | 142.9 | 130.2 |
| 150A x 125A | 165.2  | 2.80      | 3.40       | 139.8  | 2.80      | 3.40       | 142.9 | 136.5 |



CONFIGURATION  
**7RS**

# Reducing Tee

JIS B2312 / B2313 Standard, JIS Pipe CONTINUED

| Product Lines |              |               |               |                 | Dimensions in Millimeters |        |           |            |        |           |            |       |       |
|---------------|--------------|---------------|---------------|-----------------|---------------------------|--------|-----------|------------|--------|-----------|------------|-------|-------|
| 401<br>(EP)   | LDEP<br>(EP) | 201<br>(BA-S) | 101<br>(BA-S) | CFOS<br>(BA/AP) | Size                      | O.D. 1 | 5S Wall 1 | 10S Wall 1 | O.D. 2 | 5S Wall 2 | 10S Wall 2 | A     | B     |
| ●             | ●            | ●             | ●             | ●               | 200A x 90A                | 216.3  | 2.80      | 4.00       | 101.6  | 2.10      | 3.00       | 177.8 | 152.4 |
| ●             | ●            | ●             | ●             | ●               | 200A x 100A               | 216.3  | 2.80      | 4.00       | 114.3  | 2.10      | 3.00       | 177.8 | 155.6 |
| ●             | ●            | ●             | ●             | ●               | 200A x 125A               | 216.3  | 2.80      | 4.00       | 139.8  | 2.80      | 3.40       | 177.8 | 161.9 |
| ●             | ●            | ●             | ●             | ●               | 200A x 150A               | 216.3  | 2.80      | 4.00       | 165.2  | 2.80      | 3.40       | 177.8 | 168.3 |
| ●             | ●            | ●             | ●             | ●               | 250A x 100A               | 267.4  | 3.40      | 4.00       | 114.3  | 2.10      | 3.00       | 215.9 | 184.2 |
| ●             | ●            | ●             | ●             | ●               | 250A x 125A               | 267.4  | 3.40      | 4.00       | 139.8  | 2.80      | 3.40       | 215.9 | 190.5 |
| ●             | ●            | ●             | ●             | ●               | 250A x 150A               | 267.4  | 3.40      | 4.00       | 165.2  | 2.80      | 3.40       | 215.9 | 193.7 |
| ●             | ●            | ●             | ●             | ●               | 250A x 200A               | 267.4  | 3.40      | 4.00       | 216.3  | 2.80      | 4.00       | 215.9 | 203.2 |
| ●             | ●            | ●             | ●             | ●               | 300A x 125A               | 318.5  | 4.00      | 4.50       | 139.8  | 2.80      | 3.40       | 254.0 | 215.9 |
| ●             | ●            | ●             | ●             | ●               | 300A x 150A               | 318.5  | 4.00      | 4.50       | 165.2  | 2.80      | 3.40       | 254.0 | 219.1 |
| ●             | ●            | ●             | ●             | ●               | 300A x 200A               | 318.5  | 4.00      | 4.50       | 216.3  | 2.80      | 4.00       | 254.0 | 228.6 |
| ●             | ●            | ●             | ●             | ●               | 300A x 250A               | 318.5  | 4.00      | 4.50       | 267.4  | 3.40      | 4.00       | 254.0 | 241.3 |
|               | ●            | ●             | ●             | ●               | 350A x 150A               | 355.6  | 4.00      | 5.00       | 165.2  | 2.80      | 3.40       | 279.4 | 238.1 |
|               | ●            | ●             | ●             | ●               | 350A x 200A               | 355.6  | 4.00      | 5.00       | 216.3  | 2.80      | 4.00       | 279.4 | 247.7 |
|               | ●            | ●             | ●             | ●               | 350A x 250A               | 355.6  | 4.00      | 5.00       | 267.4  | 3.40      | 4.00       | 279.4 | 257.2 |
|               | ●            | ●             | ●             | ●               | 350A x 300A               | 355.6  | 4.00      | 5.00       | 318.5  | 4.00      | 4.50       | 279.4 | 269.9 |
|               | ●            | ●             | ●             | ●               | 400A x 150A               | 406.4  | 4.50      | 5.00       | 165.2  | 2.80      | 3.40       | 304.8 | 263.5 |
|               | ●            | ●             | ●             | ●               | 400A x 200A               | 406.4  | 4.50      | 5.00       | 216.3  | 2.80      | 4.00       | 304.8 | 273.1 |
|               | ●            | ●             | ●             | ●               | 400A x 250A               | 406.4  | 4.50      | 5.00       | 267.4  | 3.40      | 4.00       | 304.8 | 282.6 |
|               | ●            | ●             | ●             | ●               | 400A x 300A               | 406.4  | 4.50      | 5.00       | 318.5  | 4.00      | 4.50       | 304.8 | 295.3 |
|               | ●            | ●             | ●             | ●               | 400A x 350A               | 406.4  | 4.50      | 5.00       | 355.6  | 4.00      | 5.00       | 304.8 | 304.8 |
|               | ●            | ●             | ●             | ●               | 450A x 200A               | 457.2  | 4.50      | 5.00       | 216.3  | 2.80      | 4.00       | 342.9 | 298.5 |
|               | ●            | ●             | ●             | ●               | 450A x 250A               | 457.2  | 4.50      | 5.00       | 267.4  | 3.40      | 4.00       | 342.9 | 308.0 |
|               | ●            | ●             | ●             | ●               | 450A x 300A               | 457.2  | 4.50      | 5.00       | 318.5  | 4.00      | 4.50       | 342.9 | 320.7 |
|               | ●            | ●             | ●             | ●               | 450A x 350A               | 457.2  | 4.50      | 5.00       | 355.6  | 4.00      | 5.00       | 342.9 | 330.2 |
|               | ●            | ●             | ●             | ●               | 450A x 400A               | 457.2  | 4.50      | 5.00       | 406.4  | 4.50      | 5.00       | 342.9 | 330.2 |
|               | ●            | ●             | ●             | ●               | 500A x 200A               | 508.0  | 5.00      | 5.50       | 216.3  | 2.80      | 4.00       | 381.0 | 323.9 |
|               | ●            | ●             | ●             | ●               | 500A x 250A               | 508.0  | 5.00      | 5.50       | 267.4  | 3.40      | 4.00       | 381.0 | 333.4 |
|               | ●            | ●             | ●             | ●               | 500A x 300A               | 508.0  | 5.00      | 5.50       | 318.5  | 4.00      | 4.50       | 381.0 | 346.1 |
|               | ●            | ●             | ●             | ●               | 500A x 350A               | 508.0  | 5.00      | 5.50       | 355.6  | 4.00      | 5.00       | 381.0 | 355.6 |
|               | ●            | ●             | ●             | ●               | 500A x 400A               | 508.0  | 5.00      | 5.50       | 406.4  | 4.50      | 5.00       | 381.0 | 355.6 |
|               | ●            | ●             | ●             | ●               | 500A x 450A               | 508.0  | 5.00      | 5.50       | 457.2  | 4.50      | 5.00       | 381.0 | 368.3 |
|               | ●            | ●             | ●             | ●               | 550A x 400A               | 558.8  | 5.00      | 5.50       | 406.4  | 4.50      | 5.00       | 419.1 | 381.0 |
|               | ●            | ●             | ●             | ●               | 550A x 450A               | 558.8  | 5.00      | 5.50       | 457.2  | 4.50      | 5.00       | 419.1 | 393.7 |
|               | ●            | ●             | ●             | ●               | 550A x 500A               | 558.8  | 5.00      | 5.50       | 508.0  | 5.00      | 5.50       | 419.1 | 406.4 |
|               | ●            | ●             | ●             | ●               | 600A x 450A               | 609.6  | 5.50      | 6.50       | 457.2  | 4.50      | 5.00       | 431.8 | 419.1 |
|               | ●            | ●             | ●             | ●               | 600A x 500A               | 609.6  | 5.50      | 6.50       | 508.0  | 5.00      | 5.50       | 431.8 | 431.8 |
|               | ●            | ●             | ●             | ●               | 600A x 550A               | 609.6  | 5.50      | 6.50       | 558.8  | 5.00      | 5.50       | 431.8 | 431.8 |

# Reducing Tee

JIS B2312 / B2313 Standard, JIS Pipe CONTINUED

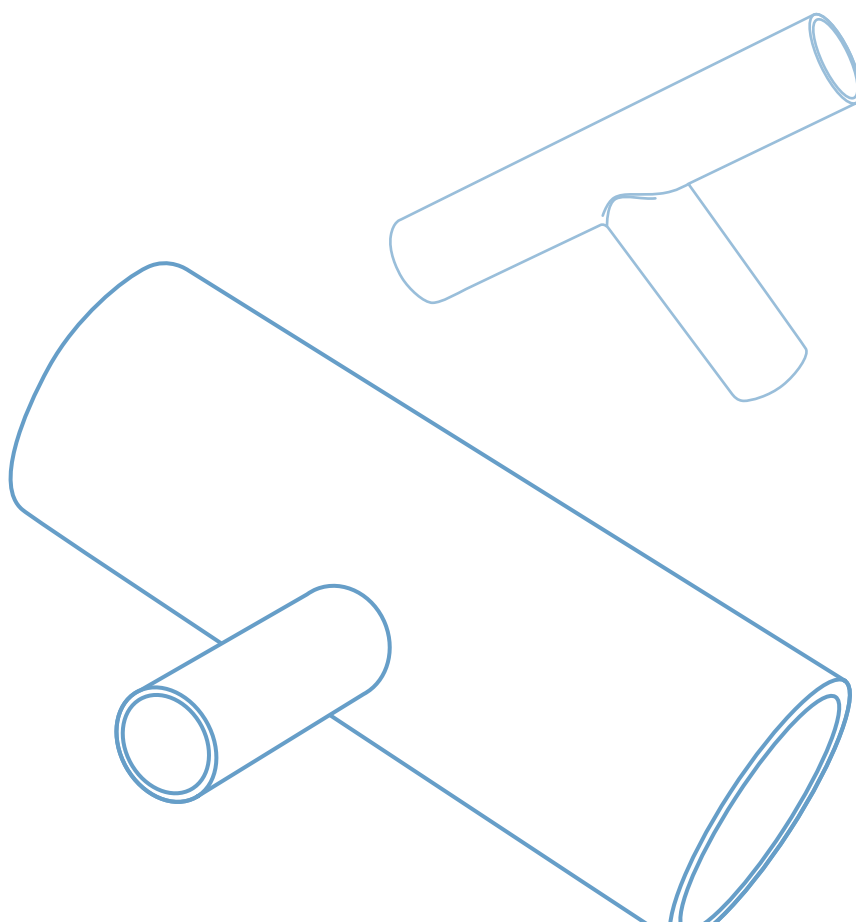
CONFIGURATION  
**7RS**

## Product Lines

| 401<br>(EP) | LDEP<br>(EP) | 201<br>(BA-S) | 101<br>(BA-S) | CFOS<br>(BA/AP) |
|-------------|--------------|---------------|---------------|-----------------|
| •           |              |               | •             | •               |
| •           |              |               | •             | •               |
| •           |              |               | •             | •               |
| •           |              |               | •             | •               |
| •           |              |               | •             | •               |
| •           |              |               | •             | •               |
| •           |              |               | •             | •               |
| •           |              |               | •             | •               |
| •           |              |               | •             | •               |
| •           |              |               | •             | •               |
| •           |              |               | •             | •               |
| •           |              |               | •             | •               |

## Dimensions in Millimeters

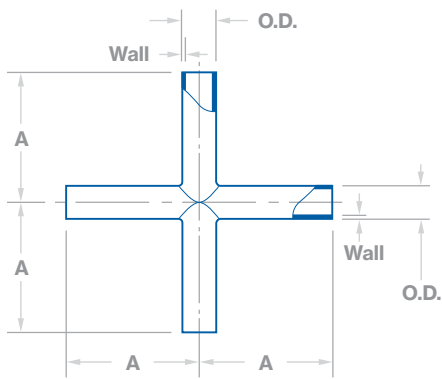
| Size        | O.D. 1 | 5S Wall 1 | 10S Wall 1 | O.D. 2 | 5S Wall 2 | 10S Wall 2 | A     | B     |
|-------------|--------|-----------|------------|--------|-----------|------------|-------|-------|
| 650A x 500A | 660.4  | 5.50      | 8.00       | 508.0  | 5.00      | 5.50       | 495.3 | 457.2 |
| 650A x 550A | 660.4  | 5.50      | 8.00       | 558.8  | 5.00      | 5.50       | 495.3 | 469.9 |
| 650A x 600A | 660.4  | 5.50      | 8.00       | 609.6  | 5.50      | 6.50       | 495.3 | 482.6 |
| 700A x 550A | 711.2  | 5.50      | 8.00       | 558.8  | 5.00      | 5.50       | 520.7 | 495.3 |
| 700A x 600A | 711.2  | 5.50      | 8.00       | 609.6  | 5.50      | 6.50       | 520.7 | 508.0 |
| 700A x 650A | 711.2  | 5.50      | 8.00       | 660.4  | 5.50      | 8.00       | 520.7 | 520.7 |
| 750A x 600A | 762.0  | 6.50      | 8.00       | 609.6  | 5.50      | 6.50       | 558.8 | 533.4 |
| 750A x 650A | 762.0  | 6.50      | 8.00       | 660.4  | 5.50      | 8.00       | 558.8 | 546.1 |
| 750A x 700A | 762.0  | 6.50      | 8.00       | 711.2  | 5.50      | 8.00       | 558.8 | 546.1 |
| 800A x 650A | 812.8  | N/A       | 8.00       | 660.4  | 5.50      | 8.00       | 596.9 | 571.5 |
| 800A x 700A | 812.8  | N/A       | 8.00       | 711.2  | 5.50      | 8.00       | 596.9 | 571.5 |
| 800A x 750A | 812.8  | N/A       | 8.00       | 762.0  | 6.50      | 8.00       | 596.9 | 584.2 |



# Crosses

- Equal Crosses





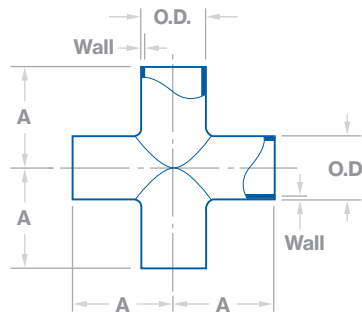
# Equal Cross

Valex Standard, ASTM Tube

CONFIGURATION  
**9**

| Product Lines |            |            |
|---------------|------------|------------|
| 401 (EP)      | 201 (BA-S) | 222 (BA-S) |
| •             | •          | •          |
| •             | •          | •          |
| •             | •          | •          |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |

| Dimensions in Inches |       |             |        |
|----------------------|-------|-------------|--------|
| Size                 | O.D.  | Wall        | A      |
| 1/4" x 1/4"          | .250  | .035 / .039 | 1.750  |
| 3/8" x 3/8"          | .375  | .035 / .039 | 1.750  |
| 1/2" x 1/2"          | .500  | .049        | 2.125  |
| 3/4" x 3/4"          | .750  | .065        | 2.125  |
| 1" x 1"              | 1.000 | .065        | 2.500  |
| 1-1/2" x 1-1/2"      | 1.500 | .065        | 2.750  |
| 2" x 2"              | 2.000 | .065        | 3.250  |
| 2-1/2" x 2-1/2"      | 2.500 | .065        | 3.500  |
| 3" x 3"              | 3.000 | .065        | 5.500  |
| 4" x 4"              | 4.000 | .083        | 6.000  |
| 6" x 6"              | 6.000 | .109        | 10.625 |



# Equal Cross

ASME B16.9 Standard, ASME Pipe

CONFIGURATION  
**9**

| Product Lines |              |
|---------------|--------------|
| LDEP (EP)     | CFOS (BA/AP) |
|               | •            |
|               | •            |
|               | •            |
|               | •            |
|               | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
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| •             | •            |
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| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |

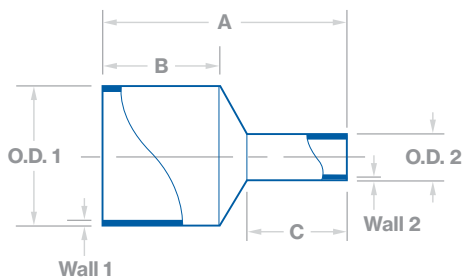
| Dimensions in Inches  |           |       |      |       |
|-----------------------|-----------|-------|------|-------|
| Size                  | Sch.      | O.D.  | Wall | A     |
| NPS 1/2 x NPS 1/2     | 10S x 10S | .84   | .083 | 1.00  |
| NPS 3/4 x NPS 3/4     | 10S x 10S | 1.05  | .083 | 1.12  |
| NPS 1 x NPS 1         | 10S x 10S | 1.32  | .109 | 1.50  |
| NPS 1-1/4 x NPS 1-1/4 | 10S x 10S | 1.66  | .109 | 1.88  |
| NPS 1-1/2 x NPS 1-1/2 | 10S x 10S | 1.90  | .109 | 2.25  |
| NPS 2 x NPS 2         | 10S x 10S | 2.38  | .109 | 2.50  |
| NPS 2-1/2 x NPS 2-1/2 | 10S x 10S | 2.88  | .120 | 3.00  |
| NPS 3 x NPS 3         | 10S x 10S | 3.50  | .120 | 3.38  |
| NPS 3-1/2 x NPS 3-1/2 | 10S x 10S | 4.00  | .120 | 3.75  |
| NPS 4 x NPS 4         | 10S x 10S | 4.50  | .120 | 4.12  |
| NPS 5 x NPS 5         | 10S x 10S | 5.56  | .134 | 4.88  |
| NPS 6 x NPS 6         | 10S x 10S | 6.62  | .134 | 5.62  |
| NPS 8 x NPS 8         | 10S x 10S | 8.62  | .148 | 7.00  |
| NPS 10 x NPS 10       | 10S x 10S | 10.75 | .165 | 8.50  |
| NPS 12 x NPS 12       | 10S x 10S | 12.75 | .180 | 10.00 |
| NPS 14 x NPS 14       | 10S x 10S | 14.00 | .188 | 11.00 |
| NPS 16 x NPS 16       | 10S x 10S | 16.00 | .188 | 12.00 |
| NPS 18 x NPS 18       | 10S x 10S | 18.00 | .188 | 13.50 |
| NPS 20 x NPS 20       | 10S x 10S | 20.00 | .218 | 15.00 |
| NPS 22 x NPS 22       | 10S x 10S | 22.00 | .218 | 16.50 |
| NPS 24 x NPS 24       | 10S x 10S | 24.00 | .250 | 17.00 |

# Reducers

- Concentric Reducers
- Cap Reducers







Dimensions



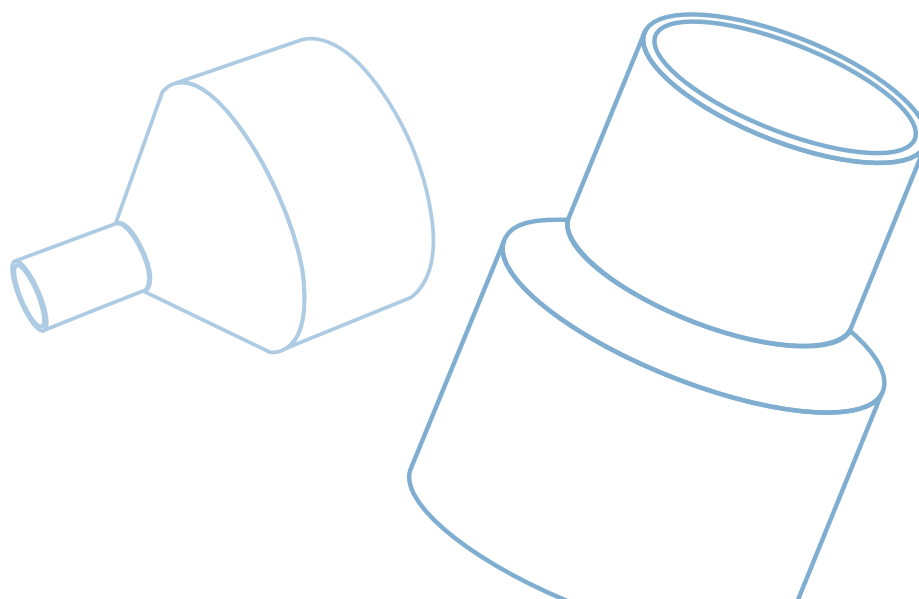
# Concentric Reducer, Short

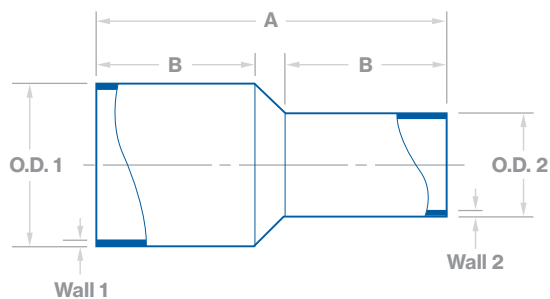
Valex Standard, ASTM Tube

CONFIGURATION  
**31S**

| Product Lines |            |            |
|---------------|------------|------------|
| 401 (EP)      | 201 (BA-S) | 222 (BA-S) |
| •             | •          | •          |
| •             | •          | •          |
| •             | •          | •          |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |
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| •             | •          |            |
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| •             | •          |            |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |

| Dimensions in Inches |        |             |        |             |       |      |      |
|----------------------|--------|-------------|--------|-------------|-------|------|------|
| Size                 | O.D. 1 | Wall 1      | O.D. 2 | Wall 2      | A     | B    | C    |
| 3/8" x 1/4"          | .375   | .035 / .039 | .250   | .035 / .039 | 1.500 | .73  | .73  |
| 1/2" x 1/4"          | .500   | .049        | .250   | .035 / .039 | 1.500 | .70  | .73  |
| 1/2" x 3/8"          | .500   | .049        | .375   | .035 / .039 | 1.500 | .73  | .73  |
| 3/4" x 1/4"          | .750   | .065        | .250   | .035 / .039 | 2.000 | .96  | .90  |
| 3/4" x 3/8"          | .750   | .065        | .375   | .035 / .039 | 2.000 | .96  | .93  |
| 3/4" x 1/2"          | .750   | .065        | .500   | .049        | 2.000 | .96  | .97  |
| 1" x 1/4"            | 1.000  | .065        | .250   | .035 / .039 | 2.000 | .98  | .80  |
| 1" x 3/8"            | 1.000  | .065        | .375   | .035 / .039 | 2.000 | .98  | .84  |
| 1" x 1/2"            | 1.000  | .065        | .500   | .049        | 2.000 | .98  | .88  |
| 1" x 3/4"            | 1.000  | .065        | .750   | .065        | 2.000 | .98  | .95  |
| 1-1/2" x 1/4"        | 1.500  | .065        | .250   | .035 / .039 | 2.250 | .98  | .91  |
| 1-1/2" x 3/8"        | 1.500  | .065        | .375   | .035 / .039 | 2.250 | .98  | .95  |
| 1-1/2" x 1/2"        | 1.500  | .065        | .500   | .049        | 2.250 | .98  | .98  |
| 1-1/2" x 3/4"        | 1.500  | .065        | .750   | .065        | 2.250 | .98  | 1.05 |
| 1-1/2" x 1"          | 1.500  | .065        | 1.000  | .065        | 2.250 | 1.00 | 1.11 |
| 2" x 1/4"            | 2.000  | .065        | .250   | .035 / .039 | 2.500 | 1.00 | 1.00 |
| 2" x 3/8"            | 2.000  | .065        | .375   | .035 / .039 | 2.500 | 1.00 | 1.03 |
| 2" x 1/2"            | 2.000  | .065        | .500   | .049        | 2.500 | 1.00 | 1.07 |
| 2" x 3/4"            | 2.000  | .065        | .750   | .065        | 2.500 | 1.00 | 1.14 |
| 2" x 1"              | 2.000  | .065        | 1.000  | .065        | 3.375 | 1.00 | 1.00 |
| 2" x 1-1/2"          | 2.000  | .065        | 1.500  | .065        | 2.500 | 1.00 | 1.00 |





## CONFIGURATION

31

# Concentric Reducer

## Valex Standard, ASTM Tube

[illegible]

| Dimensions in Inches |        |             |        |             |        |       |
|----------------------|--------|-------------|--------|-------------|--------|-------|
| Size                 | O.D. 1 | Wall 1      | O.D. 2 | Wall 2      | A      | B     |
| 3/8" x 1/4"          | .375   | .035 / .039 | .250   | .035 / .039 | 2.750  | 1.344 |
| 1/2" x 1/4"          | .500   | .049        | .250   | .035 / .039 | 2.750  | 1.313 |
| 1/2" x 3/8"          | .500   | .049        | .375   | .035 / .039 | 2.750  | 1.344 |
| 3/4" x 1/4"          | .750   | .065        | .250   | .035 / .039 | 2.750  | 1.250 |
| 3/4" x 3/8"          | .750   | .065        | .375   | .035 / .039 | 2.750  | 1.281 |
| 3/4" x 1/2"          | .750   | .065        | .500   | .049        | 2.750  | 1.313 |
| 1" x 1/4"            | 1.000  | .065        | .250   | .035 / .039 | 3.000  | 1.313 |
| 1" x 3/8"            | 1.000  | .065        | .375   | .035 / .039 | 3.000  | 1.344 |
| 1" x 1/2"            | 1.000  | .065        | .500   | .049        | 3.000  | 1.375 |
| 1" x 3/4"            | 1.000  | .065        | .750   | .065        | 3.000  | 1.438 |
| 1-1/2" x 1/4"        | 1.500  | .065        | .250   | .035 / .039 | 5.250  | 2.313 |
| 1-1/2" x 3/8"        | 1.500  | .065        | .375   | .035 / .039 | 5.250  | 2.344 |
| 1-1/2" x 1/2"        | 1.500  | .065        | .500   | .049        | 5.250  | 2.375 |
| 1-1/2" x 3/4"        | 1.500  | .065        | .750   | .065        | 5.250  | 2.438 |
| 1-1/2" x 1"          | 1.500  | .065        | 1.000  | .065        | 5.250  | 2.500 |
| 2" x 1/4"            | 2.000  | .065        | .250   | .035 / .039 | 5.500  | 2.313 |
| 2" x 3/8"            | 2.000  | .065        | .375   | .035 / .039 | 5.500  | 2.344 |
| 2" x 1/2"            | 2.000  | .065        | .500   | .049        | 5.500  | 2.375 |
| 2" x 3/4"            | 2.000  | .065        | .750   | .065        | 5.500  | 2.438 |
| 2" x 1"              | 2.000  | .065        | 1.000  | .065        | 5.500  | 2.500 |
| 2" x 1-1/2"          | 2.000  | .065        | 1.500  | .065        | 5.500  | 2.625 |
| 2-1/2" x 1/4"        | 2.500  | .065        | .250   | .035 / .039 | 5.750  | 2.313 |
| 2-1/2" x 3/8"        | 2.500  | .065        | .375   | .035 / .039 | 5.750  | 2.344 |
| 2-1/2" x 1/2"        | 2.500  | .065        | .500   | .049        | 5.750  | 2.375 |
| 2-1/2" x 3/4"        | 2.500  | .065        | .750   | .065        | 5.750  | 2.438 |
| 2-1/2" x 1"          | 2.500  | .065        | 1.000  | .065        | 5.750  | 2.500 |
| 2-1/2" x 1-1/2"      | 2.500  | .065        | 1.500  | .065        | 5.750  | 2.625 |
| 2-1/2" x 2"          | 2.500  | .065        | 2.000  | .065        | 5.750  | 2.750 |
| 3" x 1/2"            | 3.000  | .065        | .500   | .049        | 6.000  | 2.375 |
| 3" x 3/4"            | 3.000  | .065        | .750   | .065        | 6.000  | 2.438 |
| 3" x 1"              | 3.000  | .065        | 1.000  | .065        | 6.000  | 2.500 |
| 3" x 1-1/2"          | 3.000  | .065        | 1.500  | .065        | 6.000  | 2.625 |
| 3" x 2"              | 3.000  | .065        | 2.000  | .065        | 6.000  | 2.750 |
| 4" x 3/4"            | 4.000  | .083        | .750   | .065        | 6.500  | 2.438 |
| 4" x 1"              | 4.000  | .083        | 1.000  | .065        | 6.500  | 2.500 |
| 4" x 1-1/2"          | 4.000  | .083        | 1.500  | .065        | 6.500  | 2.625 |
| 4" x 2"              | 4.000  | .083        | 2.000  | .065        | 6.500  | 2.750 |
| 4" x 2-1/2"          | 4.000  | .083        | 2.500  | .065        | 6.500  | 2.875 |
| 4" x 3"              | 4.000  | .083        | 3.000  | .065        | 6.500  | 3.000 |
| 6" x 1"              | 6.000  | .109        | 1.000  | .065        | 11.500 | 3.000 |
| 6" x 1-1/2"          | 6.000  | .109        | 1.500  | .065        | 11.500 | 3.000 |
| 6" x 2"              | 6.000  | .109        | 2.000  | .065        | 11.500 | 3.000 |
| 6" x 2-1/2"          | 6.000  | .109        | 2.500  | .065        | 11.500 | 3.000 |
| 6" x 3"              | 6.000  | .109        | 3.000  | .065        | 11.500 | 3.000 |
| 6" x 4"              | 6.000  | .109        | 4.000  | .083        | 11.500 | 3.000 |





## ASME B16.9 Standard, ASME Pipe

## CONFIGURATION

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| Dimensions in Inches  |           |        |        |        |        |      |
|-----------------------|-----------|--------|--------|--------|--------|------|
| Size                  | Sch.      | O.D. 1 | Wall 1 | O.D. 2 | Wall 2 | A    |
| NPS 3/4 x NPS 1/2     | 10S x 10S | 1.05   | .083   | .84    | .083   | 1.50 |
| NPS 1 x NPS 1/2       | 10S x 10S | 1.32   | .109   | .84    | .083   | 2.00 |
| NPS 1 x NPS 3/4       | 10S x 10S | 1.32   | .109   | 1.05   | .083   | 2.00 |
| NPS 1-1/4 x NPS 1/2   | 10S x 10S | 1.66   | .109   | .84    | .083   | 2.00 |
| NPS 1-1/4 x NPS 3/4   | 10S x 10S | 1.66   | .109   | 1.05   | .083   | 2.00 |
| NPS 1-1/4 x NPS 1     | 10S x 10S | 1.66   | .109   | 1.32   | .109   | 2.00 |
| NPS 1-1/2 x NPS 1/2   | 10S x 10S | 1.90   | .109   | .84    | .083   | 2.50 |
| NPS 1-1/2 x NPS 3/4   | 10S x 10S | 1.90   | .109   | 1.05   | .083   | 2.50 |
| NPS 1-1/2 x NPS 1     | 10S x 10S | 1.90   | .109   | 1.32   | .109   | 2.50 |
| NPS 1-1/2 x NPS 1-1/4 | 10S x 10S | 1.90   | .109   | 1.66   | .109   | 2.50 |
| NPS 2 x NPS 3/4       | 10S x 10S | 2.38   | .109   | 1.05   | .083   | 3.00 |
| NPS 2 x NPS 1         | 10S x 10S | 2.38   | .109   | 1.32   | .109   | 3.00 |
| NPS 2 x NPS 1-1/4     | 10S x 10S | 2.38   | .109   | 1.66   | .109   | 3.00 |
| NPS 2 x NPS 1-1/2     | 10S x 10S | 2.38   | .109   | 1.90   | .109   | 3.00 |
| NPS 2-1/2 x NPS 1     | 10S x 10S | 2.88   | .120   | 1.32   | .109   | 3.50 |
| NPS 2-1/2 x NPS 1-1/4 | 10S x 10S | 2.88   | .120   | 1.66   | .109   | 3.50 |
| NPS 2-1/2 x NPS 1-1/2 | 10S x 10S | 2.88   | .120   | 1.90   | .109   | 3.50 |
| NPS 2-1/2 x NPS 2     | 10S x 10S | 2.88   | .120   | 2.38   | .109   | 3.50 |
| NPS 3 x NPS 1-1/4     | 10S x 10S | 3.50   | .120   | 1.66   | .109   | 3.50 |
| NPS 3 x NPS 1-1/2     | 10S x 10S | 3.50   | .120   | 1.90   | .109   | 3.50 |
| NPS 3 x NPS 2         | 10S x 10S | 3.50   | .120   | 2.38   | .109   | 3.50 |
| NPS 3 x NPS 2-1/2     | 10S x 10S | 3.50   | .120   | 2.88   | .120   | 3.50 |
| NPS 3-1/2 x NPS 1-1/4 | 10S x 10S | 4.00   | .120   | 1.66   | .109   | 4.00 |
| NPS 3-1/2 x NPS 1-1/2 | 10S x 10S | 4.00   | .120   | 1.90   | .109   | 4.00 |
| NPS 3-1/2 x NPS 2     | 10S x 10S | 4.00   | .120   | 2.38   | .109   | 4.00 |
| NPS 3-1/2 x NPS 2-1/2 | 10S x 10S | 4.00   | .120   | 2.88   | .120   | 4.00 |
| NPS 3-1/2 x NPS 3     | 10S x 10S | 4.00   | .120   | 3.50   | .120   | 4.00 |
| NPS 4 x NPS 1-1/2     | 10S x 10S | 4.50   | .120   | 1.90   | .109   | 4.00 |
| NPS 4 x NPS 2         | 10S x 10S | 4.50   | .120   | 2.38   | .109   | 4.00 |
| NPS 4 x NPS 2-1/2     | 10S x 10S | 4.50   | .120   | 2.88   | .120   | 4.00 |
| NPS 4 x NPS 3         | 10S x 10S | 4.50   | .120   | 3.50   | .120   | 4.00 |
| NPS 4 x NPS 3-1/2     | 10S x 10S | 4.50   | .120   | 4.00   | .120   | 4.00 |
| NPS 5 x NPS 2         | 10S x 10S | 5.56   | .134   | 2.38   | .109   | 5.00 |
| NPS 5 x NPS 2-1/2     | 10S x 10S | 5.56   | .134   | 2.88   | .120   | 5.00 |
| NPS 5 x NPS 3         | 10S x 10S | 5.56   | .134   | 3.50   | .120   | 5.00 |
| NPS 5 x NPS 3-1/2     | 10S x 10S | 5.56   | .134   | 4.00   | .120   | 5.00 |
| NPS 5 x NPS 4         | 10S x 10S | 5.56   | .134   | 4.50   | .120   | 5.00 |
| NPS 6 x NPS 2-1/2     | 10S x 10S | 6.62   | .134   | 2.88   | .120   | 5.50 |
| NPS 6 x NPS 3         | 10S x 10S | 6.62   | .134   | 3.50   | .120   | 5.50 |
| NPS 6 x NPS 3-1/2     | 10S x 10S | 6.62   | .134   | 4.00   | .120   | 5.50 |
| NPS 6 x NPS 4         | 10S x 10S | 6.62   | .134   | 4.50   | .120   | 5.50 |
| NPS 6 x NPS 5         | 10S x 10S | 6.62   | .134   | 5.56   | .134   | 5.50 |

CONFIGURATION  
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# Concentric Reducer

ASME B16.9 Standard, ASME Pipe CONTINUED

| Product Lines |              | Dimensions in Inches |           |        |        |        |        |       |
|---------------|--------------|----------------------|-----------|--------|--------|--------|--------|-------|
| LDEP (EP)     | CFOS (BA/AP) | Size                 | Sch.      | O.D. 1 | Wall 1 | O.D. 2 | Wall 2 | A     |
| ●             | ●            | NPS 8 x NPS 3-1/2    | 10S x 10S | 8.62   | .148   | 4.00   | .120   | 6.00  |
| ●             | ●            | NPS 8 x NPS 4        | 10S x 10S | 8.62   | .148   | 4.50   | .120   | 6.00  |
| ●             | ●            | NPS 8 x NPS 5        | 10S x 10S | 8.62   | .148   | 5.56   | .134   | 6.00  |
| ●             | ●            | NPS 8 x NPS 6        | 10S x 10S | 8.62   | .148   | 6.62   | .134   | 6.00  |
| ●             | ●            | NPS 10 x NPS 4       | 10S x 10S | 10.75  | .165   | 4.50   | .120   | 7.00  |
| ●             | ●            | NPS 10 x NPS 5       | 10S x 10S | 10.75  | .165   | 5.56   | .134   | 7.00  |
| ●             | ●            | NPS 10 x NPS 6       | 10S x 10S | 10.75  | .165   | 6.62   | .134   | 7.00  |
| ●             | ●            | NPS 10 x NPS 8       | 10S x 10S | 10.75  | .165   | 8.62   | .148   | 7.00  |
| ●             | ●            | NPS 12 x NPS 5       | 10S x 10S | 12.75  | .180   | 5.56   | .134   | 8.00  |
| ●             | ●            | NPS 12 x NPS 6       | 10S x 10S | 12.75  | .180   | 6.62   | .134   | 8.00  |
| ●             | ●            | NPS 12 x NPS 8       | 10S x 10S | 12.75  | .180   | 8.62   | .148   | 8.00  |
| ●             | ●            | NPS 12 x NPS 10      | 10S x 10S | 12.75  | .180   | 10.75  | .165   | 8.00  |
| ●             | ●            | NPS 14 x NPS 6       | 10S x 10S | 14.00  | .188   | 6.62   | .134   | 13.00 |
| ●             | ●            | NPS 14 x NPS 8       | 10S x 10S | 14.00  | .188   | 8.62   | .148   | 13.00 |
| ●             | ●            | NPS 14 x NPS 10      | 10S x 10S | 14.00  | .188   | 10.75  | .165   | 13.00 |
| ●             | ●            | NPS 14 x NPS 12      | 10S x 10S | 14.00  | .188   | 12.75  | .180   | 13.00 |
| ●             | ●            | NPS 16 x NPS 8       | 10S x 10S | 16.00  | .188   | 8.62   | .148   | 14.00 |
| ●             | ●            | NPS 16 x NPS 10      | 10S x 10S | 16.00  | .188   | 10.75  | .165   | 14.00 |
| ●             | ●            | NPS 16 x NPS 12      | 10S x 10S | 16.00  | .188   | 12.75  | .180   | 14.00 |
| ●             | ●            | NPS 16 x NPS 14      | 10S x 10S | 16.00  | .188   | 14.00  | .188   | 14.00 |
| ●             | ●            | NPS 18 x NPS 10      | 10S x 10S | 18.00  | .188   | 10.75  | .165   | 15.00 |
| ●             | ●            | NPS 18 x NPS 12      | 10S x 10S | 18.00  | .188   | 12.75  | .180   | 15.00 |
| ●             | ●            | NPS 18 x NPS 14      | 10S x 10S | 18.00  | .188   | 14.00  | .188   | 15.00 |
| ●             | ●            | NPS 18 x NPS 16      | 10S x 10S | 18.00  | .188   | 16.00  | .188   | 15.00 |
| ●             | ●            | NPS 20 x NPS 12      | 10S x 10S | 20.00  | .218   | 12.75  | .180   | 20.00 |
| ●             | ●            | NPS 20 x NPS 14      | 10S x 10S | 20.00  | .218   | 14.00  | .188   | 20.00 |
| ●             | ●            | NPS 20 x NPS 16      | 10S x 10S | 20.00  | .218   | 16.00  | .188   | 20.00 |
| ●             | ●            | NPS 20 x NPS 18      | 10S x 10S | 20.00  | .218   | 18.00  | .188   | 20.00 |
| ●             | ●            | NPS 22 x NPS 14      | 10S x 10S | 22.00  | .218   | 14.00  | .188   | 20.00 |
| ●             | ●            | NPS 22 x NPS 16      | 10S x 10S | 22.00  | .218   | 16.00  | .188   | 20.00 |
| ●             | ●            | NPS 22 x NPS 18      | 10S x 10S | 22.00  | .218   | 18.00  | .188   | 20.00 |
| ●             | ●            | NPS 22 x NPS 20      | 10S x 10S | 22.00  | .218   | 20.00  | .218   | 20.00 |
| ●             | ●            | NPS 24 x NPS 16      | 10S x 10S | 24.00  | .250   | 16.00  | .188   | 20.00 |
| ●             | ●            | NPS 24 x NPS 18      | 10S x 10S | 24.00  | .250   | 18.00  | .188   | 20.00 |
| ●             | ●            | NPS 24 x NPS 20      | 10S x 10S | 24.00  | .250   | 20.00  | .218   | 20.00 |
| ●             | ●            | NPS 24 x NPS 22      | 10S x 10S | 24.00  | .250   | 22.00  | .218   | 20.00 |



## Valex Standard, JIS Pipe

## CONFIGURATION

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## Dimensions in Millimeters

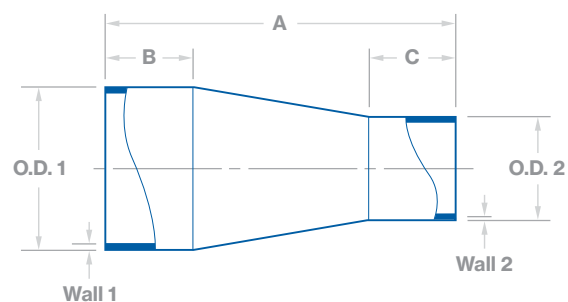
| Size      | O.D. 1 | 5S Wall 1 | 10S Wall 1 | O.D. 2 | 5S Wall 2 | 10S Wall 2 | A   | B  | C  |
|-----------|--------|-----------|------------|--------|-----------|------------|-----|----|----|
| 10A x 8A  | 17.3   | 1.20      | 1.65       | 13.8   | 1.20      | 1.65       | 90  | 36 | 29 |
| 15A x 8A  | 21.7   | 1.65      | 2.10       | 13.8   | 1.20      | 1.65       | 100 | 36 | 29 |
| 15A x 10A | 21.7   | 1.65      | 2.10       | 17.3   | 1.20      | 1.65       | 100 | 36 | 36 |
| 20A x 8A  | 27.2   | 1.65      | 2.10       | 13.8   | 1.20      | 1.65       | 105 | 36 | 29 |
| 20A x 10A | 27.2   | 1.65      | 2.10       | 17.3   | 1.20      | 1.65       | 105 | 36 | 36 |
| 20A x 15A | 27.2   | 1.65      | 2.10       | 21.7   | 1.65      | 2.10       | 105 | 36 | 36 |
| 25A x 8A  | 34.0   | 1.65      | 2.80       | 13.8   | 1.20      | 1.65       | 120 | 36 | 29 |
| 25A x 10A | 34.0   | 1.65      | 2.80       | 17.3   | 1.20      | 1.65       | 120 | 36 | 36 |
| 25A x 15A | 34.0   | 1.65      | 2.80       | 21.7   | 1.65      | 2.10       | 120 | 36 | 36 |
| 25A x 20A | 34.0   | 1.65      | 2.80       | 27.2   | 1.65      | 2.10       | 120 | 36 | 36 |
| 32A x 8A  | 42.7   | 1.65      | 2.80       | 13.8   | 1.20      | 1.65       | 125 | 46 | 29 |
| 32A x 10A | 42.7   | 1.65      | 2.80       | 17.3   | 1.20      | 1.65       | 125 | 46 | 36 |
| 32A x 15A | 42.7   | 1.65      | 2.80       | 21.7   | 1.65      | 2.10       | 125 | 46 | 36 |
| 32A x 20A | 42.7   | 1.65      | 2.80       | 27.2   | 1.65      | 2.10       | 125 | 46 | 36 |
| 32A x 25A | 42.7   | 1.65      | 2.80       | 34.0   | 1.65      | 2.80       | 125 | 46 | 36 |
| 40A x 8A  | 48.6   | 1.65      | 2.80       | 13.8   | 1.20      | 1.65       | 130 | 46 | 29 |
| 40A x 10A | 48.6   | 1.65      | 2.80       | 17.3   | 1.20      | 1.65       | 130 | 46 | 36 |
| 40A x 15A | 48.6   | 1.65      | 2.80       | 21.7   | 1.65      | 2.10       | 130 | 46 | 36 |
| 40A x 20A | 48.6   | 1.65      | 2.80       | 27.2   | 1.65      | 2.10       | 130 | 46 | 36 |
| 40A x 25A | 48.6   | 1.65      | 2.80       | 34.0   | 1.65      | 2.80       | 130 | 46 | 36 |
| 40A x 32A | 48.6   | 1.65      | 2.80       | 42.7   | 1.65      | 2.80       | 130 | 46 | 46 |
| 50A x 8A  | 60.5   | 1.65      | 2.80       | 13.8   | 1.20      | 1.65       | 140 | 46 | 29 |
| 50A x 10A | 60.5   | 1.65      | 2.80       | 17.3   | 1.20      | 1.65       | 140 | 46 | 36 |
| 50A x 15A | 60.5   | 1.65      | 2.80       | 21.7   | 1.65      | 2.10       | 140 | 46 | 36 |
| 50A x 20A | 60.5   | 1.65      | 2.80       | 27.2   | 1.65      | 2.10       | 140 | 46 | 36 |
| 50A x 25A | 60.5   | 1.65      | 2.80       | 34.0   | 1.65      | 2.80       | 140 | 46 | 36 |
| 50A x 32A | 60.5   | 1.65      | 2.80       | 42.7   | 1.65      | 2.80       | 140 | 46 | 46 |
| 50A x 40A | 60.5   | 1.65      | 2.80       | 48.6   | 1.65      | 2.80       | 140 | 46 | 46 |
| 65A x 8A  | 76.3   | 2.10      | 3.00       | 13.8   | 1.20      | 1.65       | 165 | 51 | 29 |
| 65A x 10A | 76.3   | 2.10      | 3.00       | 17.3   | 1.20      | 1.65       | 165 | 51 | 36 |
| 65A x 15A | 76.3   | 2.10      | 3.00       | 21.7   | 1.65      | 2.10       | 165 | 51 | 36 |
| 65A x 20A | 76.3   | 2.10      | 3.00       | 27.2   | 1.65      | 2.10       | 165 | 51 | 36 |
| 65A x 25A | 76.3   | 2.10      | 3.00       | 34.0   | 1.65      | 2.80       | 165 | 51 | 36 |
| 65A x 32A | 76.3   | 2.10      | 3.00       | 42.7   | 1.65      | 2.80       | 165 | 51 | 46 |
| 65A x 40A | 76.3   | 2.10      | 3.00       | 48.6   | 1.65      | 2.80       | 165 | 51 | 46 |
| 65A x 50A | 76.3   | 2.10      | 3.00       | 60.5   | 1.65      | 2.80       | 165 | 51 | 46 |
| 80A x 8A  | 89.1   | 2.10      | 3.00       | 13.8   | 1.20      | 1.65       | 170 | 51 | 29 |
| 80A x 10A | 89.1   | 2.10      | 3.00       | 17.3   | 1.20      | 1.65       | 170 | 51 | 36 |
| 80A x 15A | 89.1   | 2.10      | 3.00       | 21.7   | 1.65      | 2.10       | 170 | 51 | 36 |
| 80A x 20A | 89.1   | 2.10      | 3.00       | 27.2   | 1.65      | 2.10       | 170 | 51 | 36 |
| 80A x 25A | 89.1   | 2.10      | 3.00       | 34.0   | 1.65      | 2.80       | 170 | 51 | 36 |
| 80A x 32A | 89.1   | 2.10      | 3.00       | 42.7   | 1.65      | 2.80       | 170 | 51 | 46 |
| 80A x 40A | 89.1   | 2.10      | 3.00       | 48.6   | 1.65      | 2.80       | 170 | 51 | 46 |
| 80A x 50A | 89.1   | 2.10      | 3.00       | 60.5   | 1.65      | 2.80       | 170 | 51 | 46 |



## Valex Standard, JIS Pipe CONTINUED

## CONFIGURATION 31

| Dimensions in Millimeters |        |           |            |        |           |            |     |    |    |
|---------------------------|--------|-----------|------------|--------|-----------|------------|-----|----|----|
| Size                      | O.D. 1 | 5S Wall 1 | 10S Wall 1 | O.D. 2 | 5S Wall 2 | 10S Wall 2 | A   | B  | C  |
| 200A x 100A               | 216.3  | 2.8       | 4.0        | 114.3  | 2.10      | 3.00       | 280 | 56 | 51 |
| 200A x 125A               | 216.3  | 2.8       | 4.0        | 139.8  | 2.80      | 3.40       | 280 | 56 | 56 |
| 200A x 150A               | 216.3  | 2.8       | 4.0        | 165.2  | 2.80      | 3.40       | 280 | 56 | 56 |
| 250A x 8A                 | 267.4  | 3.4       | 4.0        | 13.8   | 1.20      | 1.65       | 300 | 60 | 29 |
| 250A x 10A                | 267.4  | 3.4       | 4.0        | 17.3   | 1.20      | 1.65       | 300 | 60 | 36 |
| 250A x 15A                | 267.4  | 3.4       | 4.0        | 21.7   | 1.65      | 2.10       | 300 | 60 | 36 |
| 250A x 20A                | 267.4  | 3.4       | 4.0        | 27.2   | 1.65      | 2.10       | 300 | 60 | 36 |
| 250A x 25A                | 267.4  | 3.4       | 4.0        | 34.0   | 1.65      | 2.80       | 300 | 60 | 36 |
| 250A x 32A                | 267.4  | 3.4       | 4.0        | 42.7   | 1.65      | 2.80       | 300 | 60 | 46 |
| 250A x 40A                | 267.4  | 3.4       | 4.0        | 48.6   | 1.65      | 2.80       | 300 | 60 | 46 |
| 250A x 50A                | 267.4  | 3.4       | 4.0        | 60.5   | 1.65      | 2.80       | 300 | 60 | 46 |
| 250A x 65A                | 267.4  | 3.4       | 4.0        | 76.3   | 2.10      | 3.00       | 300 | 60 | 51 |
| 250A x 80A                | 267.4  | 3.4       | 4.0        | 89.1   | 2.10      | 3.00       | 300 | 60 | 51 |
| 250A x 100A               | 267.4  | 3.4       | 4.0        | 114.3  | 2.10      | 3.00       | 300 | 60 | 51 |
| 250A x 125A               | 267.4  | 3.4       | 4.0        | 139.8  | 2.80      | 3.40       | 300 | 60 | 56 |
| 250A x 150A               | 267.4  | 3.4       | 4.0        | 165.2  | 2.80      | 3.40       | 300 | 60 | 56 |
| 250A x 200A               | 267.4  | 3.4       | 4.0        | 216.3  | 2.80      | 4.00       | 300 | 60 | 56 |
| 300A x 8A                 | 318.5  | 4.0       | 4.5        | 13.8   | 1.20      | 1.65       | 325 | 60 | 29 |
| 300A x 10A                | 318.5  | 4.0       | 4.5        | 17.3   | 1.20      | 1.65       | 325 | 60 | 36 |
| 300A x 15A                | 318.5  | 4.0       | 4.5        | 21.7   | 1.65      | 2.10       | 325 | 60 | 36 |
| 300A x 20A                | 318.5  | 4.0       | 4.5        | 27.2   | 1.65      | 2.10       | 325 | 60 | 36 |
| 300A x 25A                | 318.5  | 4.0       | 4.5        | 34.0   | 1.65      | 2.80       | 325 | 60 | 36 |
| 300A x 32A                | 318.5  | 4.0       | 4.5        | 42.7   | 1.65      | 2.80       | 325 | 60 | 46 |
| 300A x 40A                | 318.5  | 4.0       | 4.5        | 48.6   | 1.65      | 2.80       | 325 | 60 | 46 |
| 300A x 50A                | 318.5  | 4.0       | 4.5        | 60.5   | 1.65      | 2.80       | 325 | 60 | 46 |
| 300A x 65A                | 318.5  | 4.0       | 4.5        | 76.3   | 2.10      | 3.00       | 325 | 60 | 51 |
| 300A x 80A                | 318.5  | 4.0       | 4.5        | 89.1   | 2.10      | 3.00       | 325 | 60 | 51 |
| 300A x 100A               | 318.5  | 4.0       | 4.5        | 114.3  | 2.10      | 3.00       | 325 | 60 | 51 |
| 300A x 125A               | 318.5  | 4.0       | 4.5        | 139.8  | 2.80      | 3.40       | 325 | 60 | 56 |
| 300A x 150A               | 318.5  | 4.0       | 4.5        | 165.2  | 2.80      | 3.40       | 325 | 60 | 56 |
| 300A x 200A               | 318.5  | 4.0       | 4.5        | 216.3  | 2.80      | 4.00       | 325 | 60 | 56 |
| 300A x 250A               | 318.5  | 4.0       | 4.5        | 267.4  | 3.40      | 4.00       | 325 | 60 | 60 |
| 350A x 15A                | 355.6  | 4.0       | 5.0        | 21.7   | 1.65      | 2.10       | 455 | 60 | 36 |
| 350A x 20A                | 355.6  | 4.0       | 5.0        | 27.2   | 1.65      | 2.10       | 455 | 60 | 36 |
| 350A x 25A                | 355.6  | 4.0       | 5.0        | 34.0   | 1.65      | 2.80       | 455 | 60 | 36 |
| 350A x 32A                | 355.6  | 4.0       | 5.0        | 42.7   | 1.65      | 2.80       | 455 | 60 | 46 |
| 350A x 40A                | 355.6  | 4.0       | 5.0        | 48.6   | 1.65      | 2.80       | 455 | 60 | 46 |
| 350A x 50A                | 355.6  | 4.0       | 5.0        | 60.5   | 1.65      | 2.80       | 455 | 60 | 46 |
| 350A x 65A                | 355.6  | 4.0       | 5.0        | 76.3   | 2.10      | 3.00       | 455 | 60 | 51 |
| 350A x 80A                | 355.6  | 4.0       | 5.0        | 89.1   | 2.10      | 3.00       | 455 | 60 | 51 |
| 350A x 100A               | 355.6  | 4.0       | 5.0        | 114.3  | 2.10      | 3.00       | 455 | 60 | 51 |
| 350A x 125A               | 355.6  | 4.0       | 5.0        | 139.8  | 2.80      | 3.40       | 455 | 60 | 56 |
| 350A x 150A               | 355.6  | 4.0       | 5.0        | 165.2  | 2.80      | 3.40       | 455 | 60 | 56 |
| 350A x 200A               | 355.6  | 4.0       | 5.0        | 216.3  | 2.80      | 4.00       | 455 | 60 | 56 |



## CONFIGURATION

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# Concentric Reducer

Valex Standard, JIS Pipe CONTINUED

| Product Lines |              |               |               |                 | Dimensions in Millimeters |        |           |            |        |           |            |     |    |    |
|---------------|--------------|---------------|---------------|-----------------|---------------------------|--------|-----------|------------|--------|-----------|------------|-----|----|----|
| 401<br>(EP)   | LDEP<br>(EP) | 201<br>(BA-S) | 101<br>(BA-S) | CFOS<br>(BA/AP) | Size                      | O.D. 1 | 5S Wall 1 | 10S Wall 1 | O.D. 2 | 5S Wall 2 | 10S Wall 2 | A   | B  | C  |
|               | ●            | ●             | ●             | ●               | 350A x 250A               | 355.6  | 4.00      | 5.00       | 267.4  | 3.40      | 4.00       | 455 | 60 | 60 |
|               | ●            | ●             | ●             | ●               | 350A x 300A               | 355.6  | 4.00      | 5.00       | 318.5  | 4.00      | 4.50       | 455 | 60 | 60 |
|               |              | ●             | ●             | ●               | 400A x 15A                | 406.4  | 4.50      | 5.00       | 21.7   | 1.65      | 2.10       | 480 | 65 | 36 |
|               |              | ●             | ●             | ●               | 400A x 20A                | 406.4  | 4.50      | 5.00       | 27.2   | 1.65      | 2.10       | 480 | 65 | 36 |
|               | ●            | ●             | ●             | ●               | 400A x 25A                | 406.4  | 4.50      | 5.00       | 34.0   | 1.65      | 2.80       | 480 | 65 | 36 |
|               | ●            | ●             | ●             | ●               | 400A x 32A                | 406.4  | 4.50      | 5.00       | 42.7   | 1.65      | 2.80       | 480 | 65 | 46 |
|               | ●            | ●             | ●             | ●               | 400A x 40A                | 406.4  | 4.50      | 5.00       | 48.6   | 1.65      | 2.80       | 480 | 65 | 46 |
|               | ●            | ●             | ●             | ●               | 400A x 50A                | 406.4  | 4.50      | 5.00       | 60.5   | 1.65      | 2.80       | 480 | 65 | 46 |
|               | ●            | ●             | ●             | ●               | 400A x 65A                | 406.4  | 4.50      | 5.00       | 76.3   | 2.10      | 3.00       | 480 | 65 | 51 |
|               | ●            | ●             | ●             | ●               | 400A x 80A                | 406.4  | 4.50      | 5.00       | 89.1   | 2.10      | 3.00       | 480 | 65 | 51 |
|               | ●            | ●             | ●             | ●               | 400A x 100A               | 406.4  | 4.50      | 5.00       | 114.3  | 2.10      | 3.00       | 480 | 65 | 51 |
|               | ●            | ●             | ●             | ●               | 400A x 125A               | 406.4  | 4.50      | 5.00       | 139.8  | 2.80      | 3.40       | 480 | 65 | 56 |
|               | ●            | ●             | ●             | ●               | 400A x 150A               | 406.4  | 4.50      | 5.00       | 165.2  | 2.80      | 3.40       | 480 | 65 | 56 |
|               | ●            | ●             | ●             | ●               | 400A x 200A               | 406.4  | 4.50      | 5.00       | 216.3  | 2.80      | 4.00       | 480 | 65 | 56 |
|               | ●            | ●             | ●             | ●               | 400A x 250A               | 406.4  | 4.50      | 5.00       | 267.4  | 3.40      | 4.00       | 480 | 65 | 60 |
|               | ●            | ●             | ●             | ●               | 400A x 300A               | 406.4  | 4.50      | 5.00       | 318.5  | 4.00      | 4.50       | 480 | 65 | 60 |
|               | ●            | ●             | ●             | ●               | 400A x 350A               | 406.4  | 4.50      | 5.00       | 355.6  | 4.00      | 5.00       | 480 | 65 | 60 |
|               |              | ●             | ●             | ●               | 450A x 15A                | 457.2  | 4.50      | 5.00       | 21.7   | 1.65      | 2.10       | 505 | 65 | 36 |
|               |              | ●             | ●             | ●               | 450A x 20A                | 457.2  | 4.50      | 5.00       | 27.2   | 1.65      | 2.10       | 505 | 65 | 36 |
|               | ●            | ●             | ●             | ●               | 450A x 25A                | 457.2  | 4.50      | 5.00       | 34.0   | 1.65      | 2.80       | 505 | 65 | 36 |
|               | ●            | ●             | ●             | ●               | 450A x 32A                | 457.2  | 4.50      | 5.00       | 42.7   | 1.65      | 2.80       | 505 | 65 | 46 |
|               | ●            | ●             | ●             | ●               | 450A x 40A                | 457.2  | 4.50      | 5.00       | 48.6   | 1.65      | 2.80       | 505 | 65 | 46 |
|               | ●            | ●             | ●             | ●               | 450A x 50A                | 457.2  | 4.50      | 5.00       | 60.5   | 1.65      | 2.80       | 505 | 65 | 46 |
|               | ●            | ●             | ●             | ●               | 450A x 65A                | 457.2  | 4.50      | 5.00       | 76.3   | 2.10      | 3.00       | 505 | 65 | 51 |
|               | ●            | ●             | ●             | ●               | 450A x 80A                | 457.2  | 4.50      | 5.00       | 89.1   | 2.10      | 3.00       | 505 | 65 | 51 |
|               | ●            | ●             | ●             | ●               | 450A x 100A               | 457.2  | 4.50      | 5.00       | 114.3  | 2.10      | 3.00       | 505 | 65 | 51 |
|               | ●            | ●             | ●             | ●               | 450A x 125A               | 457.2  | 4.50      | 5.00       | 139.8  | 2.80      | 3.40       | 505 | 65 | 56 |
|               | ●            | ●             | ●             | ●               | 450A x 150A               | 457.2  | 4.50      | 5.00       | 165.2  | 2.80      | 3.40       | 505 | 65 | 56 |
|               | ●            | ●             | ●             | ●               | 450A x 200A               | 457.2  | 4.50      | 5.00       | 216.3  | 2.80      | 4.00       | 505 | 65 | 56 |
|               | ●            | ●             | ●             | ●               | 450A x 250A               | 457.2  | 4.50      | 5.00       | 267.4  | 3.40      | 4.00       | 505 | 65 | 60 |
|               | ●            | ●             | ●             | ●               | 450A x 300A               | 457.2  | 4.50      | 5.00       | 318.5  | 4.00      | 4.50       | 505 | 65 | 60 |
|               | ●            | ●             | ●             | ●               | 450A x 350A               | 457.2  | 4.50      | 5.00       | 355.6  | 4.00      | 5.00       | 505 | 65 | 60 |
|               | ●            | ●             | ●             | ●               | 450A x 400A               | 457.2  | 4.50      | 5.00       | 406.4  | 4.50      | 5.00       | 505 | 65 | 65 |
|               |              | ●             | ●             | ●               | 500A x 15A                | 508.0  | 5.00      | 5.50       | 21.7   | 1.65      | 2.10       | 630 | 70 | 36 |
|               |              | ●             | ●             | ●               | 500A x 20A                | 508.0  | 5.00      | 5.50       | 27.2   | 1.65      | 2.10       | 630 | 70 | 36 |
|               | ●            | ●             | ●             | ●               | 500A x 25A                | 508.0  | 5.00      | 5.50       | 34.0   | 1.65      | 2.80       | 630 | 70 | 36 |
|               | ●            | ●             | ●             | ●               | 500A x 32A                | 508.0  | 5.00      | 5.50       | 42.7   | 1.65      | 2.80       | 630 | 70 | 46 |
|               | ●            | ●             | ●             | ●               | 500A x 40A                | 508.0  | 5.00      | 5.50       | 48.6   | 1.65      | 2.80       | 630 | 70 | 46 |
|               | ●            | ●             | ●             | ●               | 500A x 50A                | 508.0  | 5.00      | 5.50       | 60.5   | 1.65      | 2.80       | 630 | 70 | 46 |
|               | ●            | ●             | ●             | ●               | 500A x 65A                | 508.0  | 5.00      | 5.50       | 76.3   | 2.10      | 3.00       | 630 | 70 | 51 |
|               | ●            | ●             | ●             | ●               | 500A x 80A                | 508.0  | 5.00      | 5.50       | 89.1   | 2.10      | 3.00       | 630 | 70 | 51 |
|               | ●            | ●             | ●             | ●               | 500A x 100A               | 508.0  | 5.00      | 5.50       | 114.3  | 2.10      | 3.00       | 630 | 70 | 51 |
|               | ●            | ●             | ●             | ●               | 500A x 125A               | 508.0  | 5.00      | 5.50       | 139.8  | 2.80      | 3.40       | 630 | 70 | 56 |
|               | ●            | ●             | ●             | ●               | 500A x 150A               | 508.0  | 5.00      | 5.50       | 165.2  | 2.80      | 3.40       | 630 | 70 | 56 |

## Valex Standard, JIS Pipe CONTINUED

CONFIGURATION

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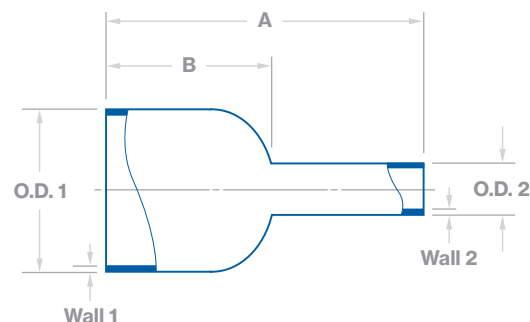
65



CONFIGURATION  
**33**

# Cap Reducer

Valex Standard, JIS Pipe



## Product Lines

| 401<br>(EP) | LDEP<br>(EP) | 201<br>(BA-S) | 101<br>(BA-S) | CFOS<br>(BA/AP) |
|-------------|--------------|---------------|---------------|-----------------|
| •           |              |               |               |                 |
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| •           | •            | •             | •             | •               |

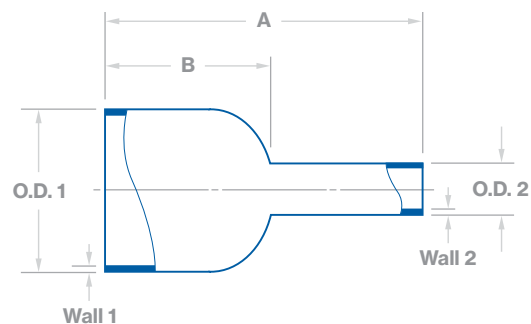
## Dimensions in Millimeters

| Size      | O.D. 1 | 5S Wall 1 | 10S Wall 1 | O.D. 2 | 5S Wall 2 | 10S Wall 2 | A   | B    |
|-----------|--------|-----------|------------|--------|-----------|------------|-----|------|
| 15A x 8A  | 21.7   | 1.65      | 2.10       | 13.8   | 1.20      | 1.65       | 60  | 25.4 |
| 15A x 10A | 21.7   | 1.65      | 2.10       | 17.3   | 1.20      | 1.65       | 67  | 25.4 |
| 20A x 8A  | 27.2   | 1.65      | 2.10       | 13.8   | 1.20      | 1.65       | 60  | 25.4 |
| 20A x 10A | 27.2   | 1.65      | 2.10       | 17.3   | 1.20      | 1.65       | 67  | 25.4 |
| 20A x 15A | 27.2   | 1.65      | 2.10       | 21.7   | 1.65      | 2.10       | 67  | 25.4 |
| 25A x 8A  | 34.0   | 1.65      | 2.80       | 13.8   | 1.20      | 1.65       | 73  | 38.1 |
| 25A x 10A | 34.0   | 1.65      | 2.80       | 17.3   | 1.20      | 1.65       | 80  | 38.1 |
| 25A x 15A | 34.0   | 1.65      | 2.80       | 21.7   | 1.65      | 2.10       | 80  | 38.1 |
| 25A x 20A | 34.0   | 1.65      | 2.80       | 27.2   | 1.65      | 2.10       | 80  | 38.1 |
| 32A x 8A  | 42.7   | 1.65      | 2.80       | 13.8   | 1.20      | 1.65       | 73  | 38.1 |
| 32A x 10A | 42.7   | 1.65      | 2.80       | 17.3   | 1.20      | 1.65       | 80  | 38.1 |
| 32A x 15A | 42.7   | 1.65      | 2.80       | 21.7   | 1.65      | 2.10       | 80  | 38.1 |
| 32A x 20A | 42.7   | 1.65      | 2.80       | 27.2   | 1.65      | 2.10       | 80  | 38.1 |
| 32A x 25A | 42.7   | 1.65      | 2.80       | 34.0   | 1.65      | 2.80       | 80  | 38.1 |
| 40A x 8A  | 48.6   | 1.65      | 2.80       | 13.8   | 1.20      | 1.65       | 73  | 38.1 |
| 40A x 10A | 48.6   | 1.65      | 2.80       | 17.3   | 1.20      | 1.65       | 80  | 38.1 |
| 40A x 15A | 48.6   | 1.65      | 2.80       | 21.7   | 1.65      | 2.10       | 80  | 38.1 |
| 40A x 20A | 48.6   | 1.65      | 2.80       | 27.2   | 1.65      | 2.10       | 80  | 38.1 |
| 40A x 25A | 48.6   | 1.65      | 2.80       | 34.0   | 1.65      | 2.80       | 80  | 38.1 |
| 40A x 32A | 48.6   | 1.65      | 2.80       | 42.7   | 1.65      | 2.80       | 90  | 38.1 |
| 50A x 8A  | 60.5   | 1.65      | 2.80       | 13.8   | 1.20      | 1.65       | 73  | 38.1 |
| 50A x 10A | 60.5   | 1.65      | 2.80       | 17.3   | 1.20      | 1.65       | 80  | 38.1 |
| 50A x 15A | 60.5   | 1.65      | 2.80       | 21.7   | 1.65      | 2.10       | 80  | 38.1 |
| 50A x 20A | 60.5   | 1.65      | 2.80       | 27.2   | 1.65      | 2.10       | 80  | 38.1 |
| 50A x 25A | 60.5   | 1.65      | 2.80       | 34.0   | 1.65      | 2.80       | 80  | 38.1 |
| 50A x 32A | 60.5   | 1.65      | 2.80       | 42.7   | 1.65      | 2.80       | 90  | 38.1 |
| 50A x 40A | 60.5   | 1.65      | 2.80       | 48.6   | 1.65      | 2.80       | 90  | 38.1 |
| 65A x 8A  | 76.3   | 2.10      | 3.00       | 13.8   | 1.20      | 1.65       | 73  | 38.1 |
| 65A x 10A | 76.3   | 2.10      | 3.00       | 17.3   | 1.20      | 1.65       | 80  | 38.1 |
| 65A x 15A | 76.3   | 2.10      | 3.00       | 21.7   | 1.65      | 2.10       | 80  | 38.1 |
| 65A x 20A | 76.3   | 2.10      | 3.00       | 27.2   | 1.65      | 2.10       | 80  | 38.1 |
| 65A x 25A | 76.3   | 2.10      | 3.00       | 34.0   | 1.65      | 2.80       | 80  | 38.1 |
| 65A x 32A | 76.3   | 2.10      | 3.00       | 42.7   | 1.65      | 2.80       | 90  | 38.1 |
| 65A x 40A | 76.3   | 2.10      | 3.00       | 48.6   | 1.65      | 2.80       | 90  | 38.1 |
| 65A x 50A | 76.3   | 2.10      | 3.00       | 60.5   | 1.65      | 2.80       | 90  | 38.1 |
| 80A x 8A  | 89.1   | 2.10      | 3.00       | 13.8   | 1.20      | 1.65       | 85  | 50.8 |
| 80A x 10A | 89.1   | 2.10      | 3.00       | 17.3   | 1.20      | 1.65       | 92  | 50.8 |
| 80A x 15A | 89.1   | 2.10      | 3.00       | 21.7   | 1.65      | 2.10       | 92  | 50.8 |
| 80A x 20A | 89.1   | 2.10      | 3.00       | 27.2   | 1.65      | 2.10       | 92  | 50.8 |
| 80A x 25A | 89.1   | 2.10      | 3.00       | 34.0   | 1.65      | 2.80       | 92  | 50.8 |
| 80A x 32A | 89.1   | 2.10      | 3.00       | 42.7   | 1.65      | 2.80       | 102 | 50.8 |
| 80A x 40A | 89.1   | 2.10      | 3.00       | 48.6   | 1.65      | 2.80       | 102 | 50.8 |
| 80A x 50A | 89.1   | 2.10      | 3.00       | 60.5   | 1.65      | 2.80       | 102 | 50.8 |
| 80A x 65A | 89.1   | 2.10      | 3.00       | 76.3   | 2.10      | 3.00       | 110 | 50.8 |

CONFIGURATION

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| Dimensions in Millimeters |        |           |            |        |           |            |     |       |
|---------------------------|--------|-----------|------------|--------|-----------|------------|-----|-------|
| Size                      | O.D. 1 | 5S Wall 1 | 10S Wall 1 | O.D. 2 | 5S Wall 2 | 10S Wall 2 | A   | B     |
| 100A x 8A                 | 114.3  | 2.10      | 3.00       | 13.8   | 1.20      | 1.65       | 98  | 63.5  |
| 100A x 10A                | 114.3  | 2.10      | 3.00       | 17.3   | 1.20      | 1.65       | 105 | 63.5  |
| 100A x 15A                | 114.3  | 2.10      | 3.00       | 21.7   | 1.65      | 2.10       | 105 | 63.5  |
| 100A x 20A                | 114.3  | 2.10      | 3.00       | 27.2   | 1.65      | 2.10       | 105 | 63.5  |
| 100A x 25A                | 114.3  | 2.10      | 3.00       | 34.0   | 1.65      | 2.80       | 105 | 63.5  |
| 100A x 32A                | 114.3  | 2.10      | 3.00       | 42.7   | 1.65      | 2.80       | 115 | 63.5  |
| 100A x 40A                | 114.3  | 2.10      | 3.00       | 48.6   | 1.65      | 2.80       | 115 | 63.5  |
| 100A x 50A                | 114.3  | 2.10      | 3.00       | 60.5   | 1.65      | 2.80       | 115 | 63.5  |
| 100A x 65A                | 114.3  | 2.10      | 3.00       | 76.3   | 2.10      | 3.00       | 125 | 63.5  |
| 100A x 80A                | 114.3  | 2.10      | 3.00       | 89.1   | 2.10      | 3.00       | 125 | 63.5  |
| 125A x 8A                 | 139.8  | 2.80      | 3.40       | 13.8   | 1.20      | 1.65       | 120 | 76.2  |
| 125A x 10A                | 139.8  | 2.80      | 3.40       | 17.3   | 1.20      | 1.65       | 130 | 76.2  |
| 125A x 15A                | 139.8  | 2.80      | 3.40       | 21.7   | 1.65      | 2.10       | 130 | 76.2  |
| 125A x 20A                | 139.8  | 2.80      | 3.40       | 27.2   | 1.65      | 2.10       | 130 | 76.2  |
| 125A x 25A                | 139.8  | 2.80      | 3.40       | 34.0   | 1.65      | 2.80       | 130 | 76.2  |
| 125A x 32A                | 139.8  | 2.80      | 3.40       | 42.7   | 1.65      | 2.80       | 140 | 76.2  |
| 125A x 40A                | 139.8  | 2.80      | 3.40       | 48.6   | 1.65      | 2.80       | 140 | 76.2  |
| 125A x 50A                | 139.8  | 2.80      | 3.40       | 60.5   | 1.65      | 2.80       | 140 | 76.2  |
| 125A x 65A                | 139.8  | 2.80      | 3.40       | 76.3   | 2.10      | 3.00       | 150 | 76.2  |
| 125A x 80A                | 139.8  | 2.80      | 3.40       | 89.1   | 2.10      | 3.00       | 150 | 76.2  |
| 125A x 100A               | 139.8  | 2.80      | 3.40       | 114.3  | 2.10      | 3.00       | 150 | 76.2  |
| 150A x 8A                 | 165.2  | 2.80      | 3.40       | 13.8   | 1.20      | 1.65       | 130 | 88.9  |
| 150A x 10A                | 165.2  | 2.80      | 3.40       | 17.3   | 1.20      | 1.65       | 140 | 88.9  |
| 150A x 15A                | 165.2  | 2.80      | 3.40       | 21.7   | 1.65      | 2.10       | 140 | 88.9  |
| 150A x 20A                | 165.2  | 2.80      | 3.40       | 27.2   | 1.65      | 2.10       | 140 | 88.9  |
| 150A x 25A                | 165.2  | 2.80      | 3.40       | 34.0   | 1.65      | 2.80       | 140 | 88.9  |
| 150A x 32A                | 165.2  | 2.80      | 3.40       | 42.7   | 1.65      | 2.80       | 150 | 88.9  |
| 150A x 40A                | 165.2  | 2.80      | 3.40       | 48.6   | 1.65      | 2.80       | 150 | 88.9  |
| 150A x 50A                | 165.2  | 2.80      | 3.40       | 60.5   | 1.65      | 2.80       | 150 | 88.9  |
| 150A x 65A                | 165.2  | 2.80      | 3.40       | 76.3   | 2.10      | 3.00       | 160 | 88.9  |
| 150A x 80A                | 165.2  | 2.80      | 3.40       | 89.1   | 2.10      | 3.00       | 160 | 88.9  |
| 150A x 100A               | 165.2  | 2.80      | 3.40       | 114.3  | 2.10      | 3.00       | 160 | 88.9  |
| 150A x 125A               | 165.2  | 2.80      | 3.40       | 139.8  | 2.80      | 3.40       | 170 | 88.9  |
| 200A x 8A                 | 216.3  | 2.80      | 4.00       | 13.8   | 1.20      | 1.65       | 140 | 101.6 |
| 200A x 10A                | 216.3  | 2.80      | 4.00       | 17.3   | 1.20      | 1.65       | 150 | 101.6 |
| 200A x 15A                | 216.3  | 2.80      | 4.00       | 21.7   | 1.65      | 2.10       | 150 | 101.6 |
| 200A x 20A                | 216.3  | 2.80      | 4.00       | 27.2   | 1.65      | 2.10       | 150 | 101.6 |
| 200A x 25A                | 216.3  | 2.80      | 4.00       | 34.0   | 1.65      | 2.80       | 150 | 101.6 |
| 200A x 32A                | 216.3  | 2.80      | 4.00       | 42.7   | 1.65      | 2.80       | 160 | 101.6 |
| 200A x 40A                | 216.3  | 2.80      | 4.00       | 48.6   | 1.65      | 2.80       | 160 | 101.6 |
| 200A x 50A                | 216.3  | 2.80      | 4.00       | 60.5   | 1.65      | 2.80       | 160 | 101.6 |
| 200A x 65A                | 216.3  | 2.80      | 4.00       | 76.3   | 2.10      | 3.00       | 170 | 101.6 |
| 200A x 80A                | 216.3  | 2.80      | 4.00       | 89.1   | 2.10      | 3.00       | 170 | 101.6 |
| 200A x 100A               | 216.3  | 2.80      | 4.00       | 114.3  | 2.10      | 3.00       | 170 | 101.6 |



CONFIGURATION  
**33**

# Cap Reducer

Valex Standard, JIS Pipe CONTINUED

## Product Lines

[illegible]

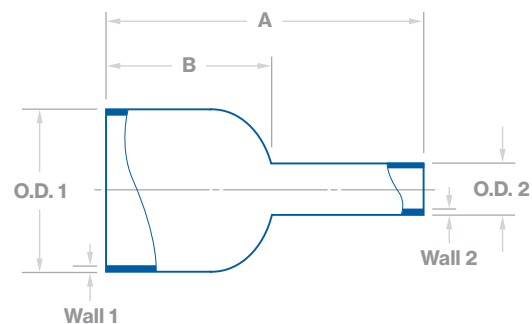
## Dimensions in Millimeters

| Size        | O.D. 1 | 5S Wall 1 | 10S Wall 1 | O.D. 2 | 5S Wall 2 | 10S Wall 2 | A     | B     |
|-------------|--------|-----------|------------|--------|-----------|------------|-------|-------|
| 200A x 125A | 216.3  | 2.80      | 4.00       | 139.8  | 2.80      | 3.40       | 180   | 101.6 |
| 200A x 150A | 216.3  | 2.80      | 4.00       | 165.2  | 2.80      | 3.40       | 180   | 101.6 |
| 250A x 8A   | 267.4  | 3.40      | 4.00       | 13.8   | 1.20      | 1.65       | 156   | 127.0 |
| 250A x 10A  | 267.4  | 3.40      | 4.00       | 17.3   | 1.20      | 1.65       | 163   | 127.0 |
| 250A x 15A  | 267.4  | 3.40      | 4.00       | 21.7   | 1.65      | 2.10       | 163   | 127.0 |
| 250A x 20A  | 267.4  | 3.40      | 4.00       | 27.2   | 1.65      | 2.10       | 163   | 127.0 |
| 250A x 25A  | 267.4  | 3.40      | 4.00       | 34.0   | 1.65      | 2.80       | 163   | 127.0 |
| 250A x 32A  | 267.4  | 3.40      | 4.00       | 42.7   | 1.65      | 2.80       | 173   | 127.0 |
| 250A x 40A  | 267.4  | 3.40      | 4.00       | 48.6   | 1.65      | 2.80       | 173   | 127.0 |
| 250A x 50A  | 267.4  | 3.40      | 4.00       | 60.5   | 1.65      | 2.80       | 173   | 127.0 |
| 250A x 65A  | 267.4  | 3.40      | 4.00       | 76.3   | 2.10      | 3.00       | 178   | 127.0 |
| 250A x 80A  | 267.4  | 3.40      | 4.00       | 89.1   | 2.10      | 3.00       | 178   | 127.0 |
| 250A x 100A | 267.4  | 3.40      | 4.00       | 114.3  | 2.10      | 3.00       | 178   | 127.0 |
| 250A x 125A | 267.4  | 3.40      | 4.00       | 139.8  | 2.80      | 3.40       | 183   | 127.0 |
| 250A x 150A | 267.4  | 3.40      | 4.00       | 165.2  | 2.80      | 3.40       | 183   | 127.0 |
| 250A x 200A | 267.4  | 3.40      | 4.00       | 216.3  | 2.80      | 4.00       | 183   | 127.0 |
| 300A x 8A   | 318.5  | 4.00      | 4.50       | 13.8   | 1.20      | 1.65       | 181.4 | 152.4 |
| 300A x 10A  | 318.5  | 4.00      | 4.50       | 17.3   | 1.20      | 1.65       | 188.4 | 152.4 |
| 300A x 15A  | 318.5  | 4.00      | 4.50       | 21.7   | 1.65      | 2.10       | 188.4 | 152.4 |
| 300A x 20A  | 318.5  | 4.00      | 4.50       | 27.2   | 1.65      | 2.10       | 188.4 | 152.4 |
| 300A x 25A  | 318.5  | 4.00      | 4.50       | 34.0   | 1.65      | 2.80       | 188.4 | 152.4 |
| 300A x 32A  | 318.5  | 4.00      | 4.50       | 42.7   | 1.65      | 2.80       | 198.4 | 152.4 |
| 300A x 40A  | 318.5  | 4.00      | 4.50       | 48.6   | 1.65      | 2.80       | 198.4 | 152.4 |
| 300A x 50A  | 318.5  | 4.00      | 4.50       | 60.5   | 1.65      | 2.80       | 198.4 | 152.4 |
| 300A x 65A  | 318.5  | 4.00      | 4.50       | 76.3   | 2.10      | 3.00       | 203.4 | 152.4 |
| 300A x 80A  | 318.5  | 4.00      | 4.50       | 89.1   | 2.10      | 3.00       | 203.4 | 152.4 |
| 300A x 100A | 318.5  | 4.00      | 4.50       | 114.3  | 2.10      | 3.00       | 203.4 | 152.4 |
| 300A x 125A | 318.5  | 4.00      | 4.50       | 139.8  | 2.80      | 3.40       | 208.4 | 152.4 |
| 300A x 150A | 318.5  | 4.00      | 4.50       | 165.2  | 2.80      | 3.40       | 208.4 | 152.4 |
| 300A x 200A | 318.5  | 4.00      | 4.50       | 216.3  | 2.80      | 4.00       | 208.4 | 152.4 |
| 300A x 250A | 318.5  | 4.00      | 4.50       | 267.4  | 3.40      | 4.00       | 213.4 | 152.4 |
| 350A x 15A  | 355.6  | 4.00      | 5.00       | 21.7   | 1.65      | 2.10       | 201.1 | 165.1 |
| 350A x 20A  | 355.6  | 4.00      | 5.00       | 27.2   | 1.65      | 2.10       | 201.1 | 165.1 |
| 350A x 25A  | 355.6  | 4.00      | 5.00       | 34.0   | 1.65      | 2.80       | 201.1 | 165.1 |
| 350A x 32A  | 355.6  | 4.00      | 5.00       | 42.7   | 1.65      | 2.80       | 211.1 | 165.1 |
| 350A x 40A  | 355.6  | 4.00      | 5.00       | 48.6   | 1.65      | 2.80       | 211.1 | 165.1 |
| 350A x 50A  | 355.6  | 4.00      | 5.00       | 60.5   | 1.65      | 2.80       | 211.1 | 165.1 |
| 350A x 65A  | 355.6  | 4.00      | 5.00       | 76.3   | 2.10      | 3.00       | 216.1 | 165.1 |
| 350A x 80A  | 355.6  | 4.00      | 5.00       | 89.1   | 2.10      | 3.00       | 216.1 | 165.1 |
| 350A x 100A | 355.6  | 4.00      | 5.00       | 114.3  | 2.10      | 3.00       | 216.1 | 165.1 |
| 350A x 125A | 355.6  | 4.00      | 5.00       | 139.8  | 2.80      | 3.40       | 221.1 | 165.1 |
| 350A x 150A | 355.6  | 4.00      | 5.00       | 165.2  | 2.80      | 3.40       | 221.1 | 165.1 |
| 350A x 200A | 355.6  | 4.00      | 5.00       | 216.3  | 2.80      | 4.00       | 221.1 | 165.1 |
| 350A x 250A | 355.6  | 4.00      | 5.00       | 267.4  | 3.40      | 4.00       | 226.1 | 165.1 |

CONFIGURATION  
**33**

## Standard, JIS Pipe CONTINUED

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CONFIGURATION  
**33**

# Cap Reducer

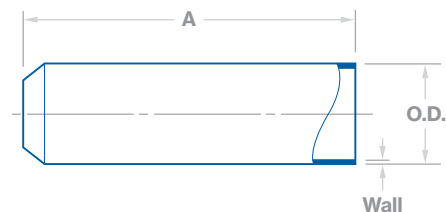
Valex Standard, JIS Pipe CONTINUED

| Product Lines |              |               |               |                 | Dimensions in Millimeters |        |           |            |        |           |            |       |       |
|---------------|--------------|---------------|---------------|-----------------|---------------------------|--------|-----------|------------|--------|-----------|------------|-------|-------|
| 401<br>(EP)   | LDEP<br>(EP) | 201<br>(BA-S) | 101<br>(BA-S) | CFOS<br>(BA/AP) | Size                      | O.D. 1 | 5S Wall 1 | 10S Wall 1 | O.D. 2 | 5S Wall 2 | 10S Wall 2 | A     | B     |
|               | •            | •             | •             | •               | 500A x 250A               | 508.0  | 5.00      | 5.50       | 267.4  | 3.40      | 4.00       | 289.6 | 228.6 |
|               | •            | •             | •             | •               | 500A x 300A               | 508.0  | 5.00      | 5.50       | 318.5  | 4.00      | 4.50       | 294.6 | 228.6 |
|               | •            | •             | •             | •               | 500A x 350A               | 508.0  | 5.00      | 5.50       | 355.6  | 4.00      | 5.00       | 299.6 | 228.6 |
|               | •            | •             | •             | •               | 500A x 400A               | 508.0  | 5.00      | 5.50       | 406.4  | 4.50      | 5.00       | 304.6 | 228.6 |
|               | •            | •             | •             | •               | 500A x 450A               | 508.0  | 5.00      | 5.50       | 457.2  | 4.50      | 5.00       | 309.6 | 228.6 |
|               |              | •             | •             | •               | 550A x 15A                | 558.8  | 5.00      | 5.50       | 21.7   | 1.65      | 2.10       | 290.0 | 254.0 |
|               |              | •             | •             | •               | 550A x 20A                | 558.8  | 5.00      | 5.50       | 27.2   | 1.65      | 2.10       | 290.0 | 254.0 |
|               | •            | •             | •             | •               | 550A x 25A                | 558.8  | 5.00      | 5.50       | 34.0   | 1.65      | 2.80       | 290.0 | 254.0 |
|               | •            | •             | •             | •               | 550A x 32A                | 558.8  | 5.00      | 5.50       | 42.7   | 1.65      | 2.80       | 300.0 | 254.0 |
|               | •            | •             | •             | •               | 550A x 40A                | 558.8  | 5.00      | 5.50       | 48.6   | 1.65      | 2.80       | 300.0 | 254.0 |
|               | •            | •             | •             | •               | 550A x 50A                | 558.8  | 5.00      | 5.50       | 60.5   | 1.65      | 2.80       | 300.0 | 254.0 |
|               | •            | •             | •             | •               | 550A x 65A                | 558.8  | 5.00      | 5.50       | 76.3   | 2.10      | 3.00       | 305.0 | 254.0 |
|               | •            | •             | •             | •               | 550A x 80A                | 558.8  | 5.00      | 5.50       | 89.1   | 2.10      | 3.00       | 305.0 | 254.0 |
|               | •            | •             | •             | •               | 550A x 100A               | 558.8  | 5.00      | 5.50       | 114.3  | 2.10      | 3.00       | 305.0 | 254.0 |
|               | •            | •             | •             | •               | 550A x 125A               | 558.8  | 5.00      | 5.50       | 139.8  | 2.80      | 3.40       | 310.0 | 254.0 |
|               | •            | •             | •             | •               | 550A x 150A               | 558.8  | 5.00      | 5.50       | 165.2  | 2.80      | 3.40       | 310.0 | 254.0 |
|               | •            | •             | •             | •               | 550A x 200A               | 558.8  | 5.00      | 5.50       | 216.3  | 2.80      | 4.00       | 310.0 | 254.0 |
|               | •            | •             | •             | •               | 550A x 250A               | 558.8  | 5.00      | 5.50       | 267.4  | 3.40      | 4.00       | 314.0 | 254.0 |
|               | •            | •             | •             | •               | 550A x 300A               | 558.8  | 5.00      | 5.50       | 318.5  | 4.00      | 4.50       | 319.0 | 254.0 |
|               | •            | •             | •             | •               | 550A x 350A               | 558.8  | 5.00      | 5.50       | 355.6  | 4.00      | 5.00       | 324.0 | 254.0 |
|               | •            | •             | •             | •               | 550A x 400A               | 558.8  | 5.00      | 5.50       | 406.4  | 4.50      | 5.00       | 329.0 | 254.0 |
|               | •            | •             | •             | •               | 550A x 450A               | 558.8  | 5.00      | 5.50       | 457.2  | 4.50      | 5.00       | 334.0 | 254.0 |
|               | •            | •             | •             | •               | 550A x 500A               | 558.8  | 5.00      | 5.50       | 508.0  | 5.00      | 5.50       | 339.0 | 254.0 |
|               |              | •             | •             | •               | 600A x 15A                | 609.6  | 5.50      | 6.50       | 21.7   | 1.65      | 2.10       | 302.7 | 266.7 |
|               |              | •             | •             | •               | 600A x 20A                | 609.6  | 5.50      | 6.50       | 27.2   | 1.65      | 2.10       | 302.7 | 266.7 |
|               | •            | •             | •             | •               | 600A x 25A                | 609.6  | 5.50      | 6.50       | 34.0   | 1.65      | 2.80       | 302.7 | 266.7 |
|               | •            | •             | •             | •               | 600A x 32A                | 609.6  | 5.50      | 6.50       | 42.7   | 1.65      | 2.80       | 312.7 | 266.7 |
|               | •            | •             | •             | •               | 600A x 40A                | 609.6  | 5.50      | 6.50       | 48.6   | 1.65      | 2.80       | 312.7 | 266.7 |
|               | •            | •             | •             | •               | 600A x 50A                | 609.6  | 5.50      | 6.50       | 60.5   | 1.65      | 2.80       | 312.7 | 266.7 |
|               | •            | •             | •             | •               | 600A x 65A                | 609.6  | 5.50      | 6.50       | 76.3   | 2.10      | 3.00       | 317.7 | 266.7 |
|               | •            | •             | •             | •               | 600A x 80A                | 609.6  | 5.50      | 6.50       | 89.1   | 2.10      | 3.00       | 317.7 | 266.7 |
|               | •            | •             | •             | •               | 600A x 100A               | 609.6  | 5.50      | 6.50       | 114.3  | 2.10      | 3.00       | 317.7 | 266.7 |
|               | •            | •             | •             | •               | 600A x 125A               | 609.6  | 5.50      | 6.50       | 139.8  | 2.80      | 3.40       | 322.7 | 266.7 |
|               | •            | •             | •             | •               | 600A x 150A               | 609.6  | 5.50      | 6.50       | 165.2  | 2.80      | 3.40       | 322.7 | 266.7 |
|               | •            | •             | •             | •               | 600A x 200A               | 609.6  | 5.50      | 6.50       | 216.3  | 2.80      | 4.00       | 322.7 | 266.7 |
|               | •            | •             | •             | •               | 600A x 250A               | 609.6  | 5.50      | 6.50       | 267.4  | 3.40      | 4.00       | 327.7 | 266.7 |
|               | •            | •             | •             | •               | 600A x 300A               | 609.6  | 5.50      | 6.50       | 318.5  | 4.00      | 4.50       | 332.7 | 266.7 |
|               | •            | •             | •             | •               | 600A x 350A               | 609.6  | 5.50      | 6.50       | 355.6  | 4.00      | 5.00       | 337.7 | 266.7 |
|               | •            | •             | •             | •               | 600A x 400A               | 609.6  | 5.50      | 6.50       | 406.4  | 4.50      | 5.00       | 342.7 | 266.7 |
|               | •            | •             | •             | •               | 600A x 450A               | 609.6  | 5.50      | 6.50       | 457.2  | 4.50      | 5.00       | 347.7 | 266.7 |
|               | •            | •             | •             | •               | 600A x 500A               | 609.6  | 5.50      | 6.50       | 508.0  | 5.00      | 5.50       | 352.7 | 266.7 |
|               | •            | •             | •             | •               | 600A x 550A               | 609.6  | 5.50      | 6.50       | 558.8  | 5.00      | 5.50       | 357.7 | 266.7 |

# End Caps







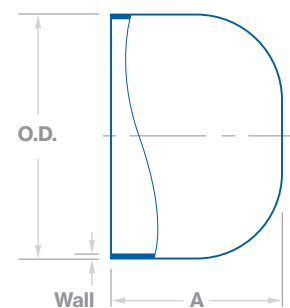
CONFIGURATION  
**16**

## End Cap

Valex Standard, ASTM Tube

| Product Lines |            |            |
|---------------|------------|------------|
| 401 (EP)      | 201 (BA-S) | 222 (BA-S) |
| •             | •          | •          |
| •             | •          | •          |
| •             | •          | •          |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |
| •             | •          |            |

| Dimensions in Inches |       |             |       |
|----------------------|-------|-------------|-------|
| Size                 | O.D.  | Wall        | A     |
| 1/4"                 | .250  | .035 / .039 | 1.125 |
| 3/8"                 | .375  | .035 / .039 | 1.125 |
| 1/2"                 | .500  | .049        | 1.375 |
| 3/4"                 | .750  | .065        | 1.75  |
| 1"                   | 1.000 | .065        | 1.75  |
| 1-1/2"               | 1.500 | .065        | 2.00  |
| 2"                   | 2.000 | .065        | 2.00  |
| 2-1/2"               | 2.500 | .065        | 2.00  |
| 3"                   | 3.000 | .065        | 2.00  |
| 4"                   | 4.000 | .083        | 2.50  |
| 6"                   | 6.000 | .109        | 4.77  |



CONFIGURATION  
**16**

## End Cap

ASME B16.9 Standard, ASME Pipe

| Product Lines |              |
|---------------|--------------|
| LDEP (EP)     | CFOS (BA/AP) |
|               | •            |
|               | •            |
|               | •            |
|               | •            |
|               | •            |
| •             | •            |
| •             | •            |
| •             | •            |
| •             | •            |
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| •             | •            |
| •             | •            |

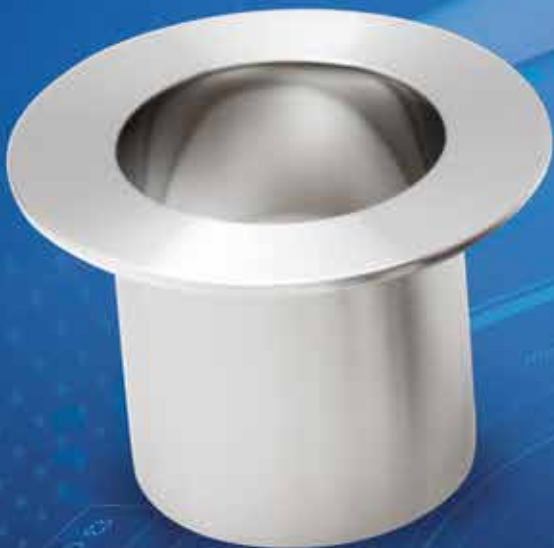
| Dimensions in Inches |      |       |      |       |
|----------------------|------|-------|------|-------|
| Size                 | Sch. | O.D.  | Wall | A     |
| NPS 1/2              | 10S  | .84   | .083 | 1.00  |
| NPS 3/4              | 10S  | 1.05  | .083 | 1.00  |
| NPS 1                | 10S  | 1.32  | .109 | 1.50  |
| NPS 1-1/4            | 10S  | 1.66  | .109 | 1.50  |
| NPS 1-1/2            | 10S  | 1.90  | .109 | 1.50  |
| NPS 2                | 10S  | 2.38  | .109 | 1.50  |
| NPS 2-1/2            | 10S  | 2.88  | .120 | 1.50  |
| NPS 3                | 10S  | 3.50  | .120 | 2.00  |
| NPS 3-1/2            | 10S  | 4.00  | .120 | 2.50  |
| NPS 4                | 10S  | 4.50  | .120 | 2.50  |
| NPS 5                | 10S  | 5.56  | .134 | 3.00  |
| NPS 6                | 10S  | 6.62  | .134 | 3.50  |
| NPS 8                | 10S  | 8.62  | .148 | 4.00  |
| NPS 10               | 10S  | 10.75 | .165 | 5.00  |
| NPS 12               | 10S  | 12.75 | .180 | 6.00  |
| NPS 14               | 10S  | 14.00 | .188 | 6.50  |
| NPS 16               | 10S  | 16.00 | .188 | 7.00  |
| NPS 18               | 10S  | 18.00 | .188 | 8.00  |
| NPS 20               | 10S  | 20.00 | .218 | 9.00  |
| NPS 22               | 10S  | 22.00 | .218 | 10.00 |
| NPS 24               | 10S  | 24.00 | .250 | 10.50 |

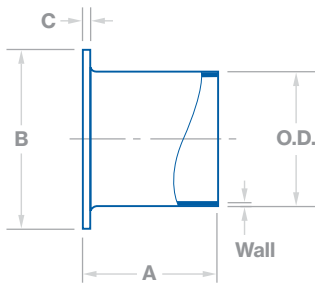




# Stub Ends

- Tube Stub Ends
- Lap Joint Stub Ends





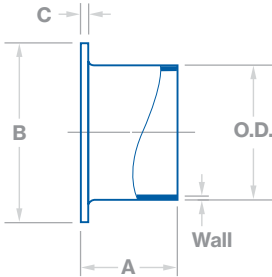
# Tube Stub End, Long

Valex Standard, ASTM Tube



| Product Lines |            |
|---------------|------------|
| 401 (EP)      | 201 (BA-S) |
| •             | •          |
| •             | •          |
| •             | •          |
| •             | •          |
| •             | •          |
| •             | •          |
| •             | •          |
| •             | •          |
| •             | •          |

| Dimensions in Inches |       |      |       |       |      |
|----------------------|-------|------|-------|-------|------|
| Size                 | O.D.  | Wall | A     | B     | C    |
| 1/2"                 | .500  | .049 | 3.500 | 1.500 | .130 |
| 3/4"                 | .750  | .065 | 3.500 | 1.500 | .130 |
| 1"                   | 1.000 | .065 | 3.125 | 2.000 | .130 |
| 1-1/2"               | 1.500 | .065 | 3.250 | 2.875 | .130 |
| 2"                   | 2.000 | .065 | 3.000 | 3.625 | .130 |
| 2-1/2"               | 2.500 | .065 | 4.000 | 4.125 | .130 |
| 3"                   | 3.000 | .065 | 4.250 | 5.000 | .166 |
| 4"                   | 4.000 | .083 | 5.625 | 6.188 | .166 |
| 6"                   | 6.000 | .109 | 7.000 | 8.500 | .218 |



# Tube Stub End, Short

Valex Standard, ASTM Tube



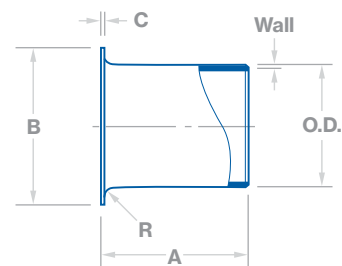
| Product Lines |            |
|---------------|------------|
| 401 (EP)      | 201 (BA-S) |
| •             | •          |
| •             | •          |
| •             | •          |
| •             | •          |
| •             | •          |
| •             | •          |
| •             | •          |
| •             | •          |
| •             | •          |

| Dimensions in Inches |       |      |       |       |      |
|----------------------|-------|------|-------|-------|------|
| Size                 | O.D.  | Wall | A     | B     | C    |
| 1/2"                 | .500  | .065 | 2.000 | 1.500 | .130 |
| 3/4"                 | .750  | .065 | 2.000 | 1.500 | .130 |
| 1"                   | 1.000 | .065 | 1.625 | 2.000 | .130 |
| 1-1/2"               | 1.500 | .065 | 1.750 | 2.875 | .130 |
| 2"                   | 2.000 | .065 | 1.500 | 3.625 | .130 |
| 2-1/2"               | 2.500 | .065 | 2.000 | 4.125 | .130 |
| 3"                   | 3.000 | .065 | 2.250 | 5.000 | .166 |
| 4"                   | 4.000 | .083 | 2.625 | 6.188 | .166 |
| 6"                   | 6.000 | .109 | 3.000 | 8.500 | .218 |

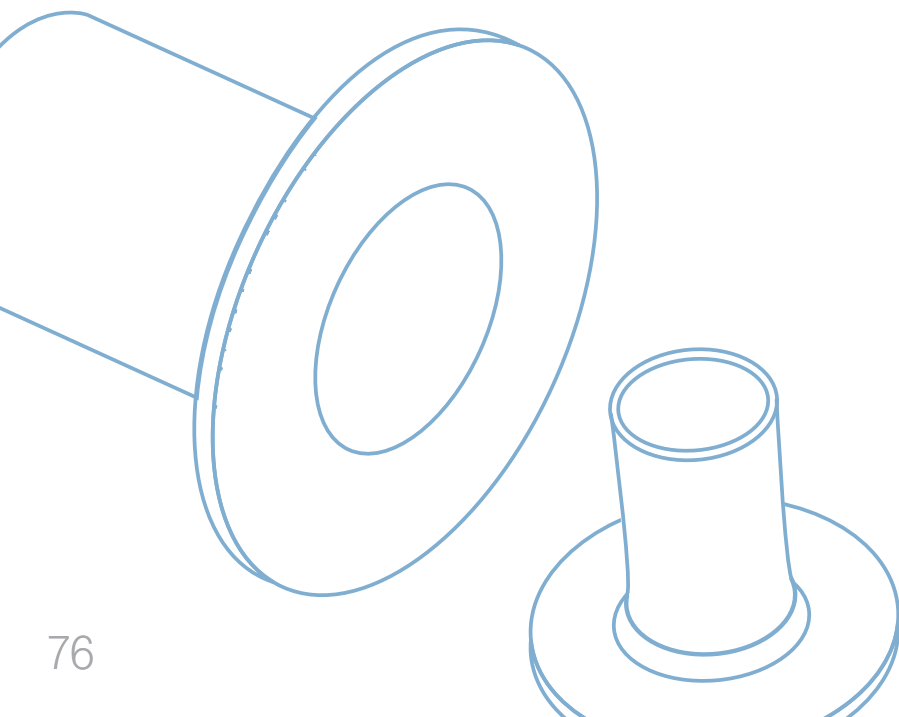


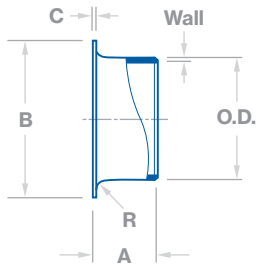
# Lap Joint Stub End, Long

ASME B16.9 Standard, ASME Pipe



| Product Lines |              | Dimensions in Inches |      |                 |      |       |     |       |      |
|---------------|--------------|----------------------|------|-----------------|------|-------|-----|-------|------|
| LDEP (EP)     | CFOS (BA/AP) | Size                 | Sch. | O.D.            | Wall | A     | R   | B     | C    |
|               | •            | NPS 1/2              | 10S  | .809 - .896     | .083 | 3.00  | .12 | 1.38  | .083 |
|               | •            | NPS 3/4              | 10S  | 1.019 - 1.106   | .083 | 3.00  | .12 | 1.69  | .083 |
|               | •            | NPS 1                | 10S  | 1.284 - 1.376   | .109 | 4.00  | .12 | 2.00  | .109 |
|               | •            | NPS 1-1/4            | 10S  | 1.629 - 1.716   | .109 | 4.00  | .19 | 2.50  | .109 |
|               | •            | NPS 1-1/2            | 10S  | 1.869 - 1.965   | .109 | 4.00  | .25 | 2.88  | .109 |
| •             | •            | NPS 2                | 10S  | 2.344 - 2.456   | .109 | 6.00  | .31 | 3.62  | .109 |
| •             | •            | NPS 2-1/2            | 10S  | 2.844 - 2.966   | .120 | 6.00  | .31 | 4.12  | .120 |
| •             | •            | NPS 3                | 10S  | 3.469 - 3.596   | .120 | 6.00  | .38 | 5.00  | .120 |
| •             | •            | NPS 3-1/2            | 10S  | 3.969 - 4.096   | .120 | 6.00  | .38 | 5.50  | .120 |
| •             | •            | NPS 4                | 10S  | 4.469 - 4.593   | .120 | 6.00  | .44 | 6.19  | .120 |
| •             | •            | NPS 5                | 10S  | 5.532 - 5.683   | .134 | 8.00  | .44 | 7.31  | .134 |
| •             | •            | NPS 6                | 10S  | 6.594 - 6.743   | .134 | 8.00  | .50 | 8.50  | .134 |
| •             | •            | NPS 8                | 10S  | 8.594 - 8.743   | .148 | 8.00  | .50 | 10.62 | .148 |
| •             | •            | NPS 10               | 10S  | 10.719 - 10.913 | .165 | 10.00 | .50 | 12.75 | .165 |
| •             | •            | NPS 12               | 10S  | 12.719 - 12.913 | .180 | 10.00 | .50 | 15.00 | .180 |
| •             | •            | NPS 14               | 10S  | 13.969 - 14.170 | .188 | 12.00 | .50 | 16.25 | .188 |
| •             | •            | NPS 16               | 10S  | 15.969 - 16.180 | .188 | 12.00 | .50 | 18.50 | .188 |
| •             | •            | NPS 18               | 10S  | 17.969 - 18.190 | .188 | 12.00 | .50 | 21.00 | .188 |
| •             | •            | NPS 20               | 10S  | 19.969 - 20.240 | .218 | 12.00 | .50 | 23.00 | .218 |
| •             | •            | NPS 24               | 10S  | 23.969 - 24.240 | .250 | 12.00 | .50 | 27.25 | .250 |

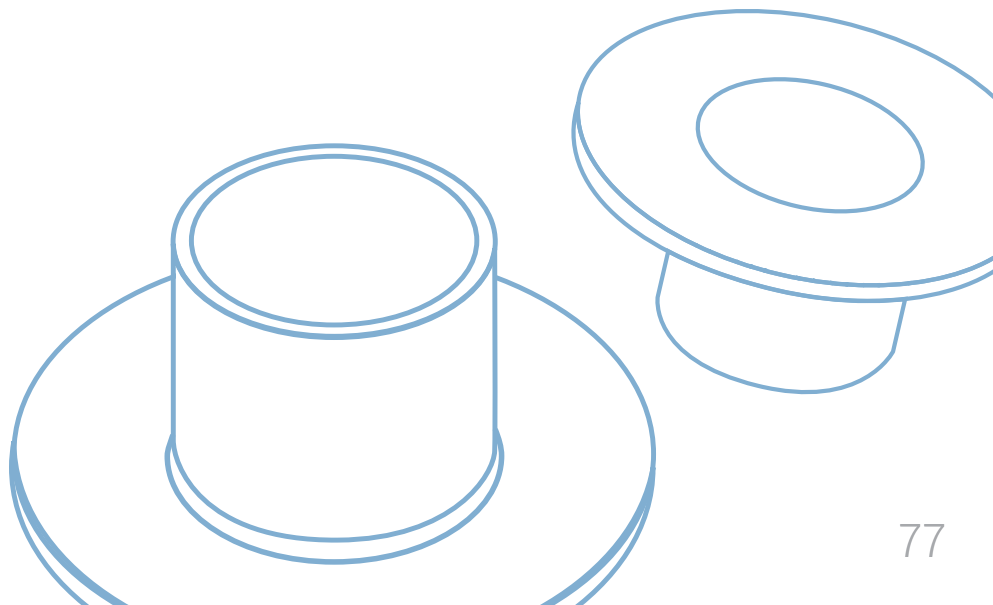




# Lap Joint Stub End, Short

ASME B16.9 Standard, ASME Pipe

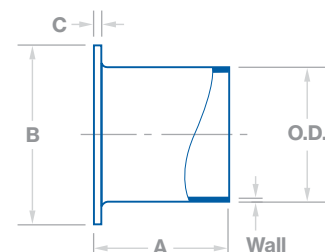
| Product Lines |              | Dimensions in Inches |      |                 |      |      |     |       |      |
|---------------|--------------|----------------------|------|-----------------|------|------|-----|-------|------|
| LDEP (EP)     | CFOS (BA/AP) | Size                 | Sch. | O.D.            | Wall | A    | R   | B     | C    |
|               | •            | NPS 1/2              | 10S  | .809 - .896     | .083 | 2.00 | .12 | 1.38  | .083 |
|               | •            | NPS 3/4              | 10S  | 1.019 - 1.106   | .083 | 2.00 | .12 | 1.69  | .083 |
|               | •            | NPS 1                | 10S  | 1.284 - 1.376   | .109 | 2.00 | .12 | 2.00  | .109 |
|               | •            | NPS 1-1/4            | 10S  | 1.629 - 1.716   | .109 | 2.00 | .19 | 2.50  | .109 |
|               | •            | NPS 1-1/2            | 10S  | 1.869 - 1.965   | .109 | 2.00 | .25 | 2.88  | .109 |
| •             | •            | NPS 2                | 10S  | 2.344 - 2.456   | .109 | 2.50 | .31 | 3.62  | .109 |
| •             | •            | NPS 2-1/2            | 10S  | 2.844 - 2.966   | .120 | 2.50 | .31 | 4.12  | .120 |
| •             | •            | NPS 3                | 10S  | 3.469 - 3.596   | .120 | 2.50 | .38 | 5.00  | .120 |
| •             | •            | NPS 3-1/2            | 10S  | 3.969 - 4.096   | .120 | 3.00 | .38 | 5.50  | .120 |
| •             | •            | NPS 4                | 10S  | 4.469 - 4.593   | .120 | 3.00 | .44 | 6.19  | .120 |
| •             | •            | NPS 5                | 10S  | 5.532 - 5.683   | .134 | 3.00 | .44 | 7.31  | .134 |
| •             | •            | NPS 6                | 10S  | 6.594 - 6.743   | .134 | 3.50 | .50 | 8.50  | .134 |
| •             | •            | NPS 8                | 10S  | 8.594 - 8.743   | .148 | 4.00 | .50 | 10.62 | .148 |
| •             | •            | NPS 10               | 10S  | 10.719 - 10.913 | .165 | 5.00 | .50 | 12.75 | .165 |
| •             | •            | NPS 12               | 10S  | 12.719 - 12.913 | .180 | 6.00 | .50 | 15.00 | .180 |
| •             | •            | NPS 14               | 10S  | 13.969 - 14.170 | .188 | 6.00 | .50 | 16.25 | .188 |
| •             | •            | NPS 16               | 10S  | 15.969 - 16.180 | .188 | 6.00 | .50 | 18.50 | .188 |
| •             | •            | NPS 18               | 10S  | 17.969 - 18.190 | .188 | 6.00 | .50 | 21.00 | .188 |
| •             | •            | NPS 20               | 10S  | 19.969 - 20.240 | .218 | 6.00 | .50 | 23.00 | .218 |
| •             | •            | NPS 24               | 10S  | 23.969 - 24.240 | .250 | 6.00 | .50 | 27.25 | .250 |





# Lap Joint Stub End

Valex Standard, Nominal Pressure 5K



| Product Lines |              |               |               |                 |
|---------------|--------------|---------------|---------------|-----------------|
| 401<br>(EP)   | LDEP<br>(EP) | 201<br>(BA-S) | 101<br>(BA-S) | CFOS<br>(BA/AP) |
| •             |              | •             | •             | •               |
| •             |              | •             | •             | •               |
| •             | •            | •             | •             | •               |
| •             | •            | •             | •             | •               |
| •             | •            | •             | •             | •               |
| •             | •            | •             | •             | •               |
| •             | •            | •             | •             | •               |
| •             | •            | •             | •             | •               |
| •             | •            | •             | •             | •               |
| •             | •            | •             | •             | •               |
| •             | •            | •             | •             | •               |
| •             | •            | •             | •             | •               |
| •             | •            | •             | •             | •               |

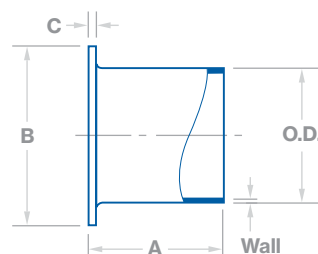
| Dimensions in Millimeters |       |         |          |    |     |     |     |
|---------------------------|-------|---------|----------|----|-----|-----|-----|
| Size                      | O.D.  | 5S Wall | 10S Wall | A* | R   | B   | C   |
| 15A                       | 21.7  | 1.65    | 2.10     | 55 | 3.0 | 44  | 2.5 |
| 20A                       | 27.2  | 1.65    | 2.10     | 55 | 3.0 | 49  | 2.5 |
| 25A                       | 34.0  | 1.65    | 2.80     | 55 | 3.0 | 59  | 2.5 |
| 32A                       | 42.7  | 1.65    | 2.80     | 70 | 3.0 | 70  | 2.5 |
| 40A                       | 48.6  | 1.65    | 2.80     | 70 | 3.0 | 75  | 2.5 |
| 50A                       | 60.5  | 1.65    | 2.80     | 70 | 4.0 | 85  | 2.5 |
| 65A                       | 76.3  | 2.10    | 3.00     | 75 | 4.0 | 110 | 2.5 |
| 80A                       | 89.1  | 2.10    | 3.00     | 75 | 5.0 | 121 | 2.5 |
| 100A                      | 114.3 | 2.10    | 3.00     | 75 | 5.0 | 141 | 2.5 |
| 125A                      | 139.8 | 2.80    | 3.40     | 50 | 5.0 | 182 | 5.0 |
| 150A                      | 165.2 | 2.80    | 3.40     | 50 | 5.0 | 212 | 5.0 |
| 200A                      | 216.3 | 2.80    | 4.00     | 65 | 5.0 | 262 | 7.0 |
| 250A                      | 267.4 | 3.40    | 4.00     | 65 | 5.0 | 324 | 7.0 |
| 300A                      | 318.5 | 4.00    | 4.50     | 65 | 5.0 | 368 | 9.0 |

\* Sizes JIS 100A and smaller are suitable for automatic welding. Sizes JIS 125A and larger are suitable for manual welding.



# Lap Joint Stub End

Valex Standard, Nominal Pressure 10K



| Product Lines |              |               |               |                 |
|---------------|--------------|---------------|---------------|-----------------|
| 401<br>(EP)   | LDEP<br>(EP) | 201<br>(BA-S) | 101<br>(BA-S) | CFOS<br>(BA/AP) |
| •             |              | •             | •             | •               |
| •             |              | •             | •             | •               |
| •             | •            | •             | •             | •               |
| •             | •            | •             | •             | •               |
| •             | •            | •             | •             | •               |
| •             | •            | •             | •             | •               |
| •             | •            | •             | •             | •               |
| •             | •            | •             | •             | •               |
| •             | •            | •             | •             | •               |
| •             | •            | •             | •             | •               |
| •             | •            | •             | •             | •               |
| •             | •            | •             | •             | •               |
| •             | •            | •             | •             | •               |
| •             | •            | •             | •             | •               |

| Dimensions in Millimeters |       |         |          |    |     |     |     |
|---------------------------|-------|---------|----------|----|-----|-----|-----|
| Size                      | O.D.  | 5S Wall | 10S Wall | A* | R   | B   | C   |
| 15A                       | 21.7  | 1.65    | 2.10     | 55 | 3.0 | 51  | 2.5 |
| 20A                       | 27.2  | 1.65    | 2.10     | 55 | 3.0 | 56  | 2.5 |
| 25A                       | 34.0  | 1.65    | 2.80     | 55 | 3.0 | 67  | 2.5 |
| 32A                       | 42.7  | 1.65    | 2.80     | 70 | 3.0 | 76  | 2.5 |
| 40A                       | 48.6  | 1.65    | 2.80     | 70 | 3.0 | 81  | 2.5 |
| 50A                       | 60.5  | 1.65    | 2.80     | 70 | 4.0 | 96  | 2.5 |
| 65A                       | 76.3  | 2.10    | 3.00     | 75 | 4.0 | 116 | 2.5 |
| 80A                       | 89.1  | 2.10    | 3.00     | 75 | 5.0 | 126 | 2.5 |
| 100A                      | 114.3 | 2.10    | 3.00     | 75 | 5.0 | 151 | 2.5 |
| 125A                      | 139.8 | 2.80    | 3.40     | 50 | 5.0 | 182 | 5.0 |
| 150A                      | 165.2 | 2.80    | 3.40     | 50 | 5.0 | 212 | 5.0 |
| 200A                      | 216.3 | 2.80    | 4.00     | 65 | 5.0 | 262 | 7.0 |
| 250A                      | 267.4 | 3.40    | 4.00     | 65 | 5.0 | 324 | 7.0 |
| 300A                      | 318.5 | 4.00    | 4.50     | 65 | 5.0 | 368 | 9.0 |

\* Sizes JIS 100A and smaller are suitable for automatic welding. Sizes JIS 125A and larger are suitable for manual welding.

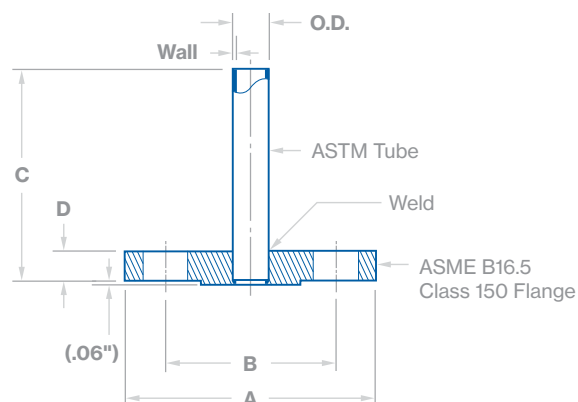


# Flanges

- Weld Neck Flanges
- Blind Flanges
- Blank Flanges
- Lap Joint Flanges
- Tube Plate Flanges







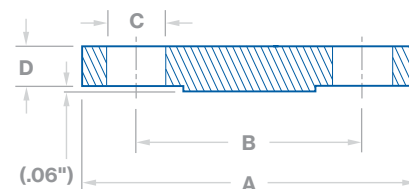
CONFIGURATION  
**38**

# Weld Tube Flange

## ASME B16.5 Class 150 Flange With ASTM Tube Stub

[illegible]

| Dimensions in Inches |             |       |      |       |      |      |     |            |
|----------------------|-------------|-------|------|-------|------|------|-----|------------|
| Tube Size            | Flange Size | O.D.  | Wall | A     | B    | C    | D   | # of Bolts |
| 1/2"                 | NPS 1/2     | .500  | .049 | 3.50  | 2.38 | 3.00 | .38 | 4          |
| 3/4"                 | NPS 3/4     | .750  | .065 | 3.88  | 2.75 | 3.00 | .44 | 4          |
| 1"                   | NPS 1       | 1.000 | .065 | 4.25  | 3.12 | 3.00 | .50 | 4          |
| 1-1/2"               | NPS 1-1/2   | 1.500 | .065 | 5.00  | 3.88 | 3.00 | .62 | 4          |
| 2"                   | NPS 2       | 2.000 | .065 | 6.00  | 4.75 | 3.50 | .69 | 4          |
| 3"                   | NPS 3       | 3.000 | .065 | 7.50  | 6.00 | 4.50 | .88 | 4          |
| 4"                   | NPS 4       | 4.000 | .083 | 9.00  | 7.50 | 4.50 | .88 | 8          |
| 6"                   | NPS 6       | 6.000 | .109 | 11.00 | 9.50 | 4.50 | .94 | 8          |



CONFIGURATION  
**38BF**

# Blind Flange

ASME B16.5 Standard, Class 150

[illegible]

| Dimensions in Inches |       |       |        |      |            |
|----------------------|-------|-------|--------|------|------------|
| Size                 | A     | B     | C      | D    | # of Bolts |
| NPS 1/2              | 3.50  | 2.38  | 5/8"   | .38  | 4          |
| NPS 3/4              | 3.88  | 2.75  | 5/8"   | .44  | 4          |
| NPS 1                | 4.25  | 3.12  | 5/8"   | .50  | 4          |
| NPS 1-1/4            | 4.62  | 3.50  | 5/8"   | .56  | 4          |
| NPS 1-1/2            | 5.00  | 3.88  | 5/8"   | .62  | 4          |
| NPS 2                | 6.00  | 4.75  | 3/4"   | .69  | 4          |
| NPS 2-1/2            | 7.00  | 5.50  | 3/4"   | .81  | 4          |
| NPS 3                | 7.50  | 6.00  | 3/4"   | .88  | 4          |
| NPS 3-1/2            | 8.50  | 7.00  | 3/4"   | .88  | 8          |
| NPS 4                | 9.00  | 7.50  | 3/4"   | .88  | 8          |
| NPS 5                | 10.00 | 8.50  | 7/8"   | .88  | 8          |
| NPS 6                | 11.00 | 9.50  | 7/8"   | .94  | 8          |
| NPS 8                | 13.50 | 11.75 | 7/8"   | 1.06 | 8          |
| NPS 10               | 16.00 | 14.25 | 1"     | 1.12 | 12         |
| NPS 12               | 19.00 | 17.00 | 1"     | 1.19 | 12         |
| NPS 14               | 21.00 | 18.75 | 1-1/8" | 1.31 | 12         |
| NPS 16               | 23.50 | 21.25 | 1-1/8" | 1.38 | 16         |
| NPS 18               | 25.00 | 22.75 | 1-1/4" | 1.50 | 16         |
| NPS 20               | 27.50 | 25.00 | 1-1/4" | 1.62 | 20         |
| NPS 24               | 32.00 | 29.50 | 1-3/8" | 1.81 | 20         |

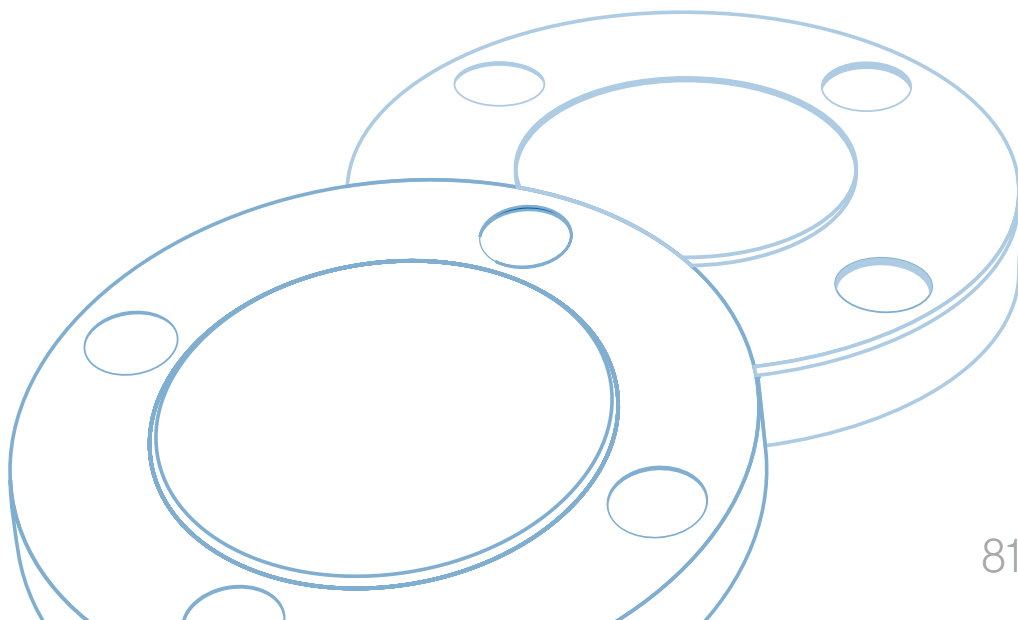


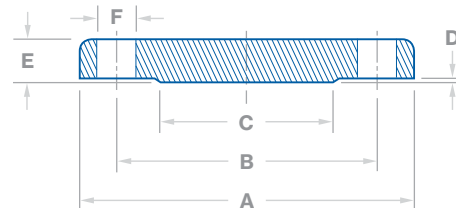
CONFIGURATION  
**38BF**

JIS B2220 Standard, Nominal Pressure 5K

[illegible]

| Dimensions in Millimeters |     |     |     |   |    |    |            |
|---------------------------|-----|-----|-----|---|----|----|------------|
| Size                      | A   | B   | C   | D | E  | F  | # of Bolts |
| 10A                       | 75  | 55  | 39  | 1 | 9  | 12 | 4          |
| 15A                       | 80  | 60  | 44  | 1 | 9  | 12 | 4          |
| 20A                       | 85  | 65  | 49  | 1 | 10 | 12 | 4          |
| 25A                       | 95  | 75  | 59  | 1 | 10 | 12 | 4          |
| 32A                       | 115 | 90  | 70  | 2 | 12 | 15 | 4          |
| 40A                       | 120 | 95  | 75  | 2 | 12 | 15 | 4          |
| 50A                       | 130 | 105 | 85  | 2 | 14 | 15 | 4          |
| 65A                       | 155 | 130 | 110 | 2 | 14 | 15 | 4          |
| 80A                       | 180 | 145 | 121 | 2 | 14 | 19 | 4          |
| 90A                       | 190 | 155 | 131 | 2 | 14 | 19 | 4          |
| 100A                      | 200 | 165 | 141 | 2 | 16 | 19 | 8          |
| 125A                      | 235 | 200 | 176 | 2 | 16 | 19 | 8          |
| 150A                      | 265 | 230 | 206 | 2 | 18 | 19 | 8          |
| 200A                      | 320 | 280 | 252 | 2 | 20 | 23 | 8          |
| 250A                      | 385 | 345 | 317 | 2 | 22 | 23 | 12         |
| 300A                      | 430 | 390 | 360 | 3 | 22 | 23 | 12         |
| 350A                      | 480 | 435 | 403 | 3 | 24 | 25 | 12         |
| 400A                      | 540 | 495 | 463 | 3 | 24 | 25 | 16         |
| 450A                      | 605 | 555 | 523 | 3 | 24 | 25 | 16         |
| 500A                      | 655 | 605 | 573 | 3 | 24 | 25 | 20         |
| 550A                      | 720 | 665 | 630 | 3 | 26 | 27 | 20         |
| 600A                      | 770 | 715 | 680 | 3 | 26 | 27 | 20         |



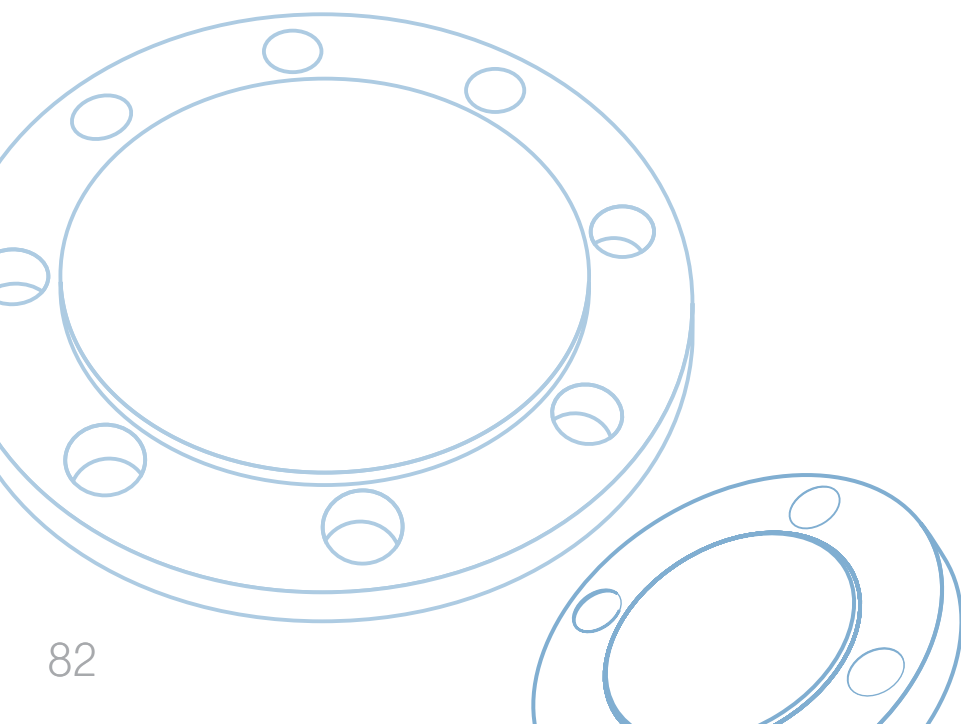


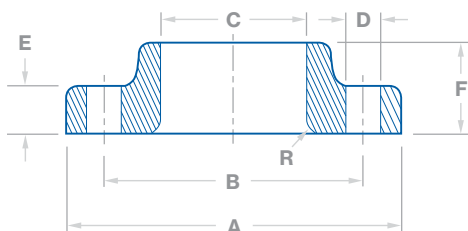
CONFIGURATION  
**38BF**

# Blank Flange

JIS B2220 Standard, Nominal Pressure 10K

| Product Lines |              |               |               |                 | Dimensions in Millimeters |     |     |     |   |    |    |            |
|---------------|--------------|---------------|---------------|-----------------|---------------------------|-----|-----|-----|---|----|----|------------|
| 401<br>(EP)   | LDEP<br>(EP) | 201<br>(BA-S) | 101<br>(BA-S) | CFOS<br>(BA/AP) | Size                      | A   | B   | C   | D | E  | F  | # of Bolts |
| •             |              |               |               |                 | 10A                       | 90  | 65  | 46  | 1 | 12 | 15 | 4          |
| •             |              | •             | •             | •               | 15A                       | 95  | 70  | 51  | 1 | 12 | 15 | 4          |
| •             |              | •             | •             | •               | 20A                       | 100 | 75  | 56  | 1 | 14 | 15 | 4          |
| •             | •            | •             | •             | •               | 25A                       | 125 | 90  | 67  | 1 | 14 | 19 | 4          |
| •             | •            | •             | •             | •               | 32A                       | 135 | 100 | 76  | 2 | 16 | 19 | 4          |
| •             | •            | •             | •             | •               | 40A                       | 140 | 105 | 81  | 2 | 16 | 19 | 4          |
| •             | •            | •             | •             | •               | 50A                       | 155 | 120 | 96  | 2 | 16 | 19 | 4          |
| •             | •            | •             | •             | •               | 65A                       | 175 | 140 | 116 | 2 | 18 | 19 | 4          |
| •             | •            | •             | •             | •               | 80A                       | 185 | 150 | 126 | 2 | 18 | 19 | 8          |
| •             | •            | •             | •             | •               | 90A                       | 195 | 160 | 136 | 2 | 18 | 19 | 8          |
| •             | •            | •             | •             | •               | 100A                      | 210 | 175 | 151 | 2 | 18 | 19 | 8          |
| •             | •            | •             | •             | •               | 125A                      | 250 | 210 | 182 | 2 | 20 | 23 | 8          |
| •             | •            | •             | •             | •               | 150A                      | 280 | 240 | 212 | 2 | 22 | 23 | 8          |
| •             | •            | •             | •             | •               | 200A                      | 330 | 290 | 262 | 2 | 22 | 23 | 12         |
| •             | •            | •             | •             | •               | 250A                      | 400 | 355 | 324 | 2 | 24 | 25 | 12         |
| •             | •            | •             | •             | •               | 300A                      | 445 | 400 | 368 | 3 | 24 | 25 | 16         |
|               | •            | •             | •             | •               | 350A                      | 490 | 445 | 413 | 3 | 26 | 25 | 16         |
|               | •            | •             | •             | •               | 400A                      | 560 | 510 | 475 | 3 | 28 | 27 | 16         |
|               | •            | •             | •             | •               | 450A                      | 620 | 565 | 530 | 3 | 30 | 27 | 20         |
|               | •            | •             | •             | •               | 500A                      | 675 | 620 | 585 | 3 | 30 | 27 | 20         |
|               | •            | •             | •             | •               | 550A                      | 745 | 680 | 640 | 3 | 34 | 33 | 20         |
|               | •            | •             | •             | •               | 600A                      | 795 | 730 | 690 | 3 | 36 | 33 | 24         |





Dimensions



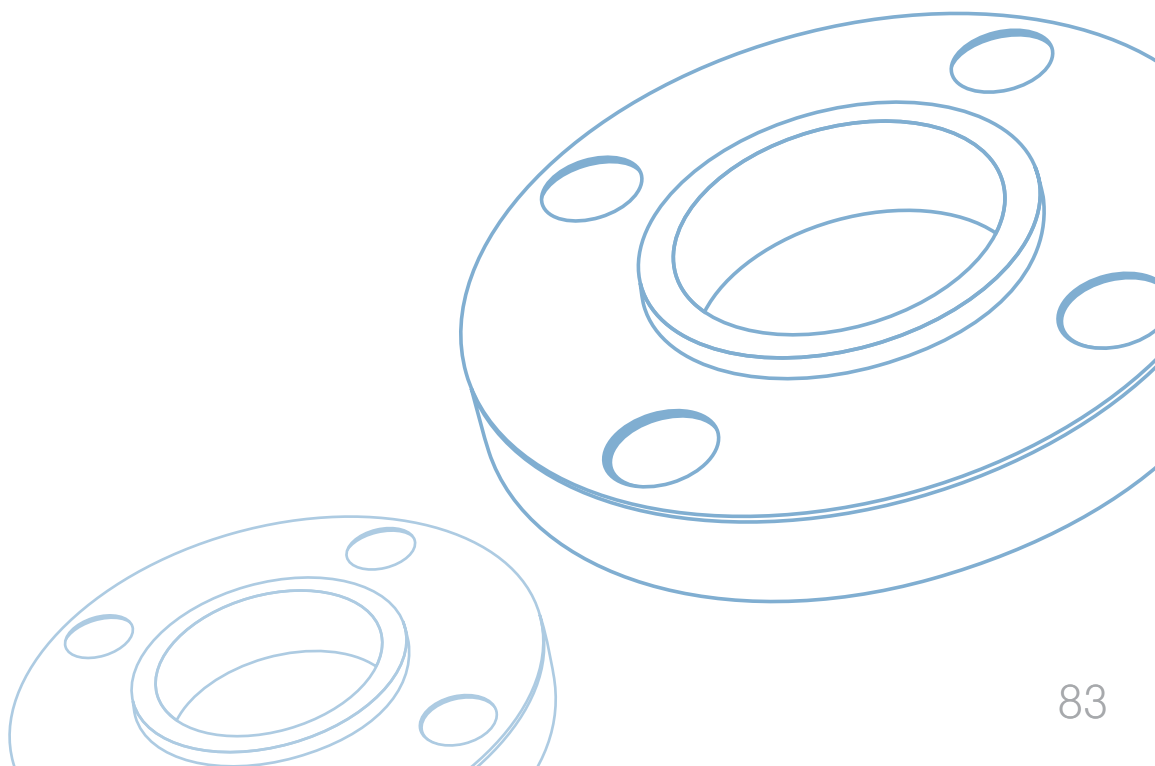
# Lap Joint Flange

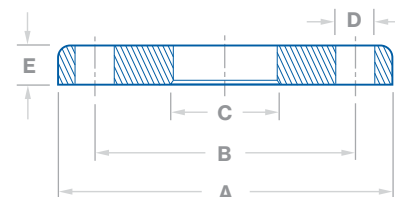
ASME B16.5 Standard, Class 150



| Compatible with Product Lines* |              | Dimensions in Inches |       |       |       |        |      |      |     |            |
|--------------------------------|--------------|----------------------|-------|-------|-------|--------|------|------|-----|------------|
| LDEP (EP)                      | CFOS (BA/AP) | Size                 | A     | B     | C     | D      | E    | F    | R   | # of Bolts |
|                                | ●            | NPS 1/2              | 3.50  | 2.38  | .90   | 5/8"   | .38  | .62  | .12 | 4          |
|                                | ●            | NPS 3/4              | 3.88  | 2.75  | 1.11  | 5/8"   | .44  | .62  | .12 | 4          |
|                                | ●            | NPS 1                | 4.25  | 3.12  | 1.38  | 5/8"   | .50  | .69  | .12 | 4          |
|                                | ●            | NPS 1-1/4            | 4.62  | 3.50  | 1.72  | 5/8"   | .56  | .81  | .19 | 4          |
|                                | ●            | NPS 1-1/2            | 5.00  | 3.88  | 1.97  | 5/8"   | .62  | .88  | .25 | 4          |
| ●                              | ●            | NPS 2                | 6.00  | 4.75  | 2.46  | 3/4"   | .69  | 1.00 | .31 | 4          |
| ●                              | ●            | NPS 2-1/2            | 7.00  | 5.50  | 2.97  | 3/4"   | .81  | 1.12 | .31 | 4          |
| ●                              | ●            | NPS 3                | 7.50  | 6.00  | 3.60  | 3/4"   | .88  | 1.19 | .38 | 4          |
| ●                              | ●            | NPS 3-1/2            | 8.50  | 7.00  | 4.10  | 3/4"   | .88  | 1.25 | .38 | 8          |
| ●                              | ●            | NPS 4                | 9.00  | 7.50  | 4.60  | 3/4"   | .88  | 1.31 | .44 | 8          |
| ●                              | ●            | NPS 5                | 10.00 | 8.50  | 5.69  | 7/8"   | .88  | 1.44 | .44 | 8          |
| ●                              | ●            | NPS 6                | 11.00 | 9.50  | 6.75  | 7/8"   | .94  | 1.56 | .50 | 8          |
| ●                              | ●            | NPS 8                | 13.50 | 11.75 | 8.75  | 7/8"   | 1.06 | 1.75 | .50 | 8          |
| ●                              | ●            | NPS 10               | 16.00 | 14.25 | 10.92 | 1"     | 1.12 | 1.94 | .50 | 12         |
| ●                              | ●            | NPS 12               | 19.00 | 17.00 | 12.92 | 1"     | 1.19 | 2.19 | .50 | 12         |
|                                | ●            | NPS 14               | 21.00 | 18.75 | 14.18 | 1-1/8" | 1.31 | 3.12 | .50 | 12         |
|                                | ●            | NPS 16               | 23.50 | 21.25 | 16.19 | 1-1/8" | 1.38 | 3.44 | .50 | 16         |
|                                | ●            | NPS 18               | 25.00 | 22.75 | 18.20 | 1-1/4" | 1.50 | 3.81 | .50 | 16         |
|                                | ●            | NPS 20               | 27.50 | 25.00 | 20.25 | 1-1/4" | 1.62 | 4.06 | .50 | 20         |
|                                | ●            | NPS 24               | 32.00 | 29.50 | 24.25 | 1-3/8" | 1.81 | 4.38 | .50 | 20         |

\* Lap joint flanges are only available in CFOS, but are compatible with the product lines listed above.





# Lap Joint Flange

JIS B2220 Standard, Nominal Pressure 5K

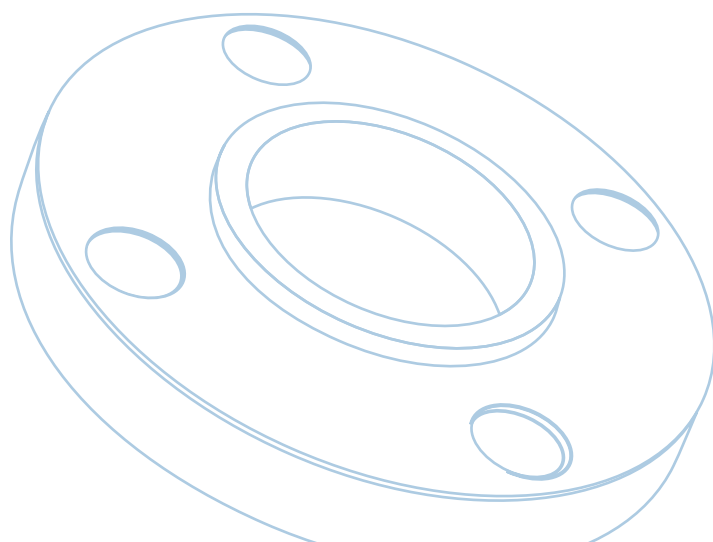
## Compatible with Product Lines\*

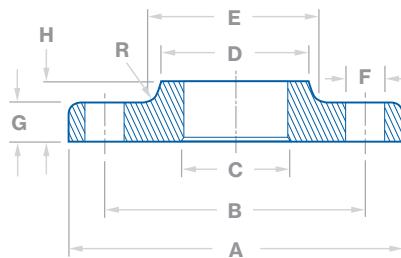
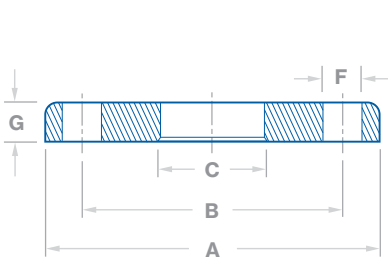
| 401<br>(EP) | LDEP<br>(EP) | 201<br>(BA-S) | 101<br>(BA-S) | CFOS<br>(BA/AP) |
|-------------|--------------|---------------|---------------|-----------------|
| •           |              | •             | •             | •               |
| •           |              | •             | •             | •               |
| •           | •            | •             | •             | •               |
| •           | •            | •             | •             | •               |
| •           | •            | •             | •             | •               |
| •           | •            | •             | •             | •               |
| •           | •            | •             | •             | •               |
| •           | •            | •             | •             | •               |
| •           | •            | •             | •             | •               |
| •           | •            | •             | •             | •               |
| •           | •            | •             | •             | •               |
| •           | •            | •             | •             | •               |
| •           | •            | •             | •             | •               |
| •           | •            | •             | •             | •               |
| •           | •            | •             | •             | •               |

## Dimensions in Millimeters

| Size | A   | B   | C     | D  | E  | # of Bolts |
|------|-----|-----|-------|----|----|------------|
| 15A  | 80  | 60  | 23.4  | 12 | 9  | 4          |
| 20A  | 85  | 65  | 28.9  | 12 | 10 | 4          |
| 25A  | 95  | 75  | 35.6  | 12 | 10 | 4          |
| 32A  | 115 | 90  | 44.3  | 15 | 12 | 4          |
| 40A  | 120 | 95  | 50.4  | 15 | 12 | 4          |
| 50A  | 130 | 105 | 62.7  | 15 | 14 | 4          |
| 65A  | 155 | 130 | 78.7  | 15 | 14 | 4          |
| 80A  | 180 | 145 | 91.6  | 19 | 14 | 4          |
| 100A | 200 | 165 | 116.9 | 19 | 16 | 8          |
| 125A | 235 | 200 | 143.0 | 19 | 16 | 8          |
| 150A | 265 | 230 | 168.4 | 19 | 18 | 8          |
| 200A | 320 | 280 | 219.5 | 23 | 20 | 8          |
| 250A | 385 | 345 | 271.7 | 23 | 22 | 12         |
| 300A | 430 | 390 | 322.8 | 23 | 22 | 12         |

\* Lap joint flanges are only available in CFOS, but are compatible with the product lines listed above.





Dimensions



# Lap Joint Flange

JIS B2220 Standard, Nominal Pressure 10K



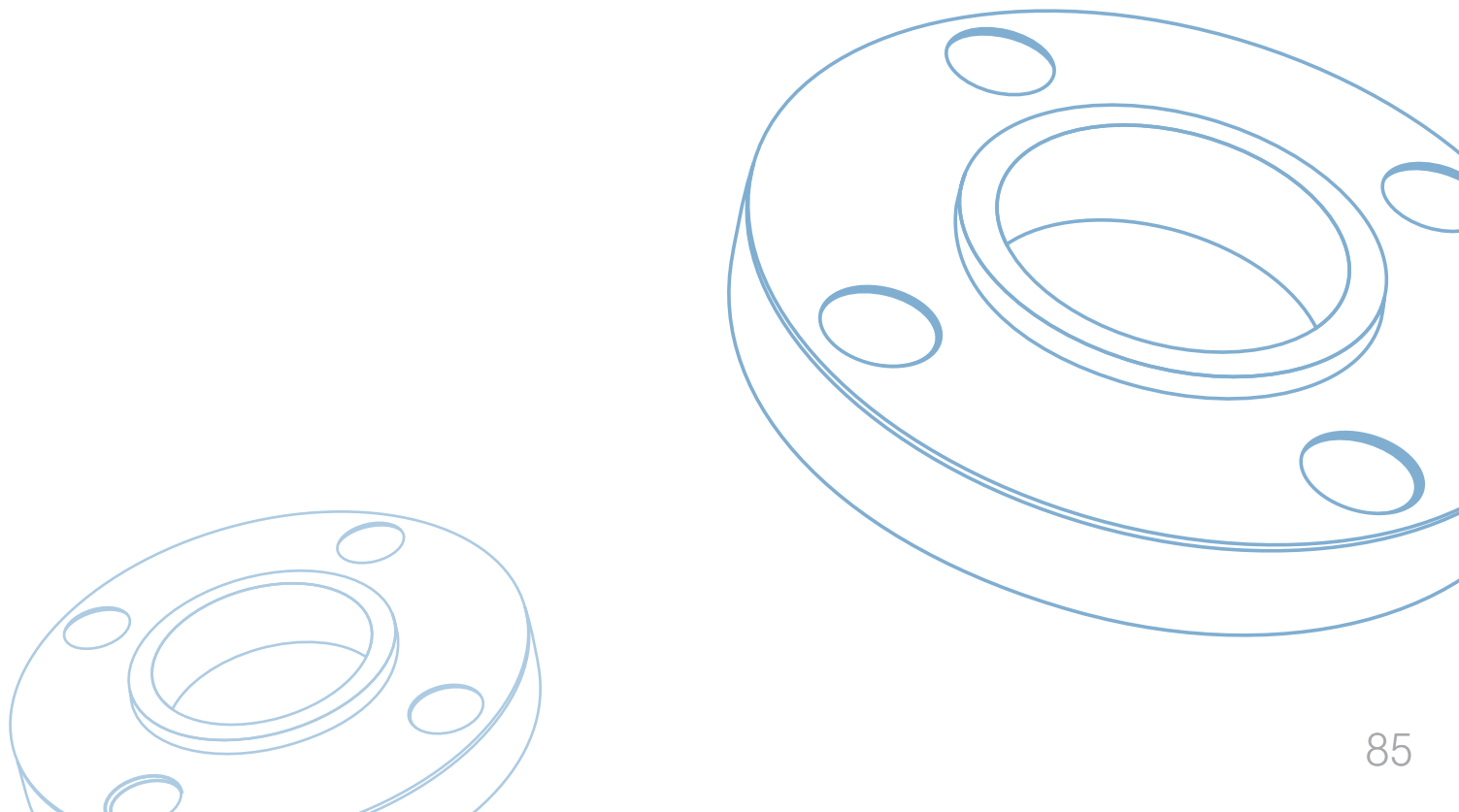
## Compatible with Product Lines\*

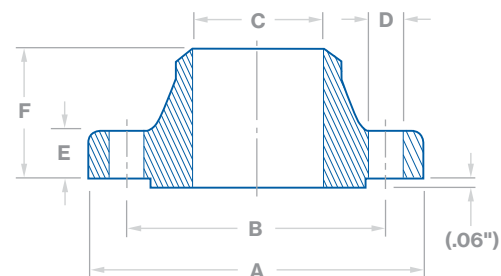
| 401<br>(EP) | LDEP<br>(EP) | 201<br>(BA-S) | 101<br>(BA-S) | CFOS<br>(BA/AP) |
|-------------|--------------|---------------|---------------|-----------------|
| •           |              | •             | •             | •               |
| •           |              | •             | •             | •               |
| •           | •            | •             | •             | •               |
| •           | •            | •             | •             | •               |
| •           | •            | •             | •             | •               |
| •           | •            | •             | •             | •               |
| •           | •            | •             | •             | •               |
| •           | •            | •             | •             | •               |
| •           | •            | •             | •             | •               |
| •           | •            | •             | •             | •               |
| •           | •            | •             | •             | •               |
| •           | •            | •             | •             | •               |
| •           | •            | •             | •             | •               |
| •           | •            | •             | •             | •               |
| •           | •            | •             | •             | •               |

## Dimensions in Millimeters

| Size | A   | B   | C     | D   | E   | F  | G  | H   | R   | # of Bolts |
|------|-----|-----|-------|-----|-----|----|----|-----|-----|------------|
| 15A  | 95  | 70  | 23.4  | N/A | N/A | 15 | 12 | N/A | N/A | 4          |
| 20A  | 100 | 75  | 28.9  |     |     | 15 | 14 |     |     | 4          |
| 25A  | 125 | 90  | 35.6  |     |     | 19 | 14 |     |     | 4          |
| 32A  | 135 | 100 | 44.3  |     |     | 19 | 16 |     |     | 4          |
| 40A  | 140 | 105 | 50.4  |     |     | 19 | 16 |     |     | 4          |
| 50A  | 155 | 120 | 62.7  |     |     | 19 | 16 |     |     | 4          |
| 65A  | 175 | 140 | 78.7  |     |     | 19 | 18 |     |     | 4          |
| 80A  | 185 | 150 | 91.6  |     |     | 19 | 18 |     |     | 8          |
| 100A | 210 | 175 | 116.9 |     |     | 19 | 18 |     |     | 8          |
| 125A | 250 | 210 | 143.0 |     |     | 23 | 20 |     |     | 8          |
| 150A | 280 | 240 | 168.4 |     |     | 23 | 22 |     |     | 8          |
| 200A | 330 | 290 | 219.5 |     |     | 23 | 22 |     |     | 12         |
| 250A | 400 | 355 | 271.7 | 288 | 292 | 25 | 24 | 36  | 6   | 12         |
| 300A | 445 | 400 | 322.8 | 340 | 346 | 25 | 24 | 38  | 6   | 16         |

\* Lap joint flanges are only available in CFOS, but are compatible with the product lines listed above.



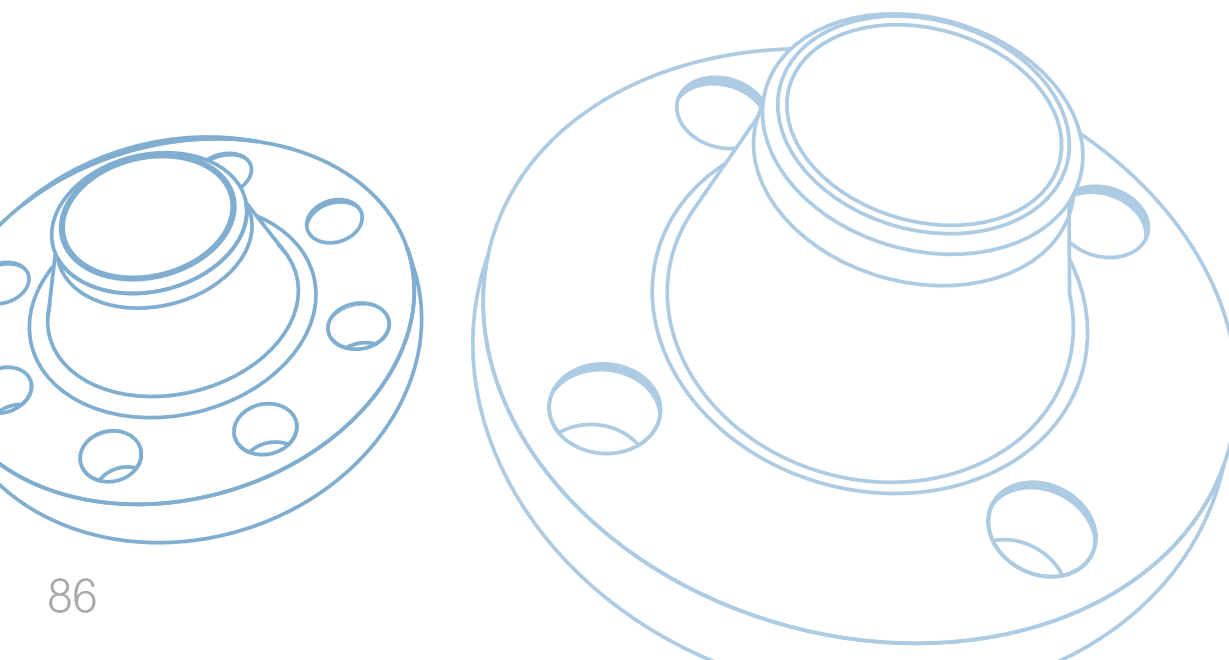


CONFIGURATION  
**38WN**

# Weld Neck Flange

ASME B16.5 Standard, Class 150

| Product Lines |              | Dimensions in Inches |       |       |                    |        |      |      |            |
|---------------|--------------|----------------------|-------|-------|--------------------|--------|------|------|------------|
| LDEP (EP)     | CFOS (BA/AP) | Size                 | A     | B     | C                  | D      | E    | F    | # of Bolts |
|               | ●            | NPS 1/2              | 3.50  | 2.38  | 0.62               | 5/8"   | 0.38 | 1.81 | 4          |
|               | ●            | NPS 3/4              | 3.88  | 2.75  | 0.82               | 5/8"   | 0.44 | 2.00 | 4          |
|               | ●            | NPS 1                | 4.25  | 3.12  | 1.05               | 5/8"   | 0.50 | 2.12 | 4          |
|               | ●            | NPS 1-1/4            | 4.62  | 3.50  | 1.38               | 5/8"   | 0.56 | 2.19 | 4          |
|               | ●            | NPS 1-1/2            | 5.00  | 3.88  | 1.61               | 5/8"   | 0.62 | 2.38 | 4          |
| ●             | ●            | NPS 2                | 6.00  | 4.75  | 2.07               | 3/4"   | 0.69 | 2.44 | 4          |
| ●             | ●            | NPS 2-1/2            | 7.00  | 5.50  | 2.47               | 3/4"   | 0.81 | 2.69 | 4          |
| ●             | ●            | NPS 3                | 7.50  | 6.00  | 3.07               | 3/4"   | 0.88 | 2.69 | 4          |
| ●             | ●            | NPS 3-1/2            | 8.50  | 7.00  | 3.55               | 3/4"   | 0.88 | 2.75 | 8          |
| ●             | ●            | NPS 4                | 9.00  | 7.50  | 4.03               | 3/4"   | 0.88 | 2.94 | 8          |
| ●             | ●            | NPS 5                | 10.00 | 8.50  | 5.05               | 7/8"   | 0.88 | 3.44 | 8          |
| ●             | ●            | NPS 6                | 11.00 | 9.50  | 6.07               | 7/8"   | 0.94 | 3.44 | 8          |
| ●             | ●            | NPS 8                | 13.50 | 11.75 | 7.98               | 7/8"   | 1.06 | 3.94 | 8          |
| ●             | ●            | NPS 10               | 16.00 | 14.25 | 10.02              | 1"     | 1.12 | 3.94 | 12         |
| ●             | ●            | NPS 12               | 19.00 | 17.00 | 12.00              | 1"     | 1.19 | 4.44 | 12         |
|               | ●            | NPS 14               | 21.00 | 18.75 | Customer Specified | 1-1/8" | 1.31 | 4.94 | 12         |
|               | ●            | NPS 16               | 23.50 | 21.25 |                    | 1-1/8" | 1.38 | 4.94 | 16         |
|               | ●            | NPS 18               | 25.00 | 22.75 |                    | 1-1/4" | 1.50 | 5.44 | 16         |
|               | ●            | NPS 20               | 27.50 | 25.00 |                    | 1-1/4" | 1.62 | 5.62 | 20         |
|               | ●            | NPS 24               | 32.00 | 29.50 |                    | 1-3/8" | 1.81 | 5.94 | 20         |







## Product Lines

## Dimensions in Millimeters

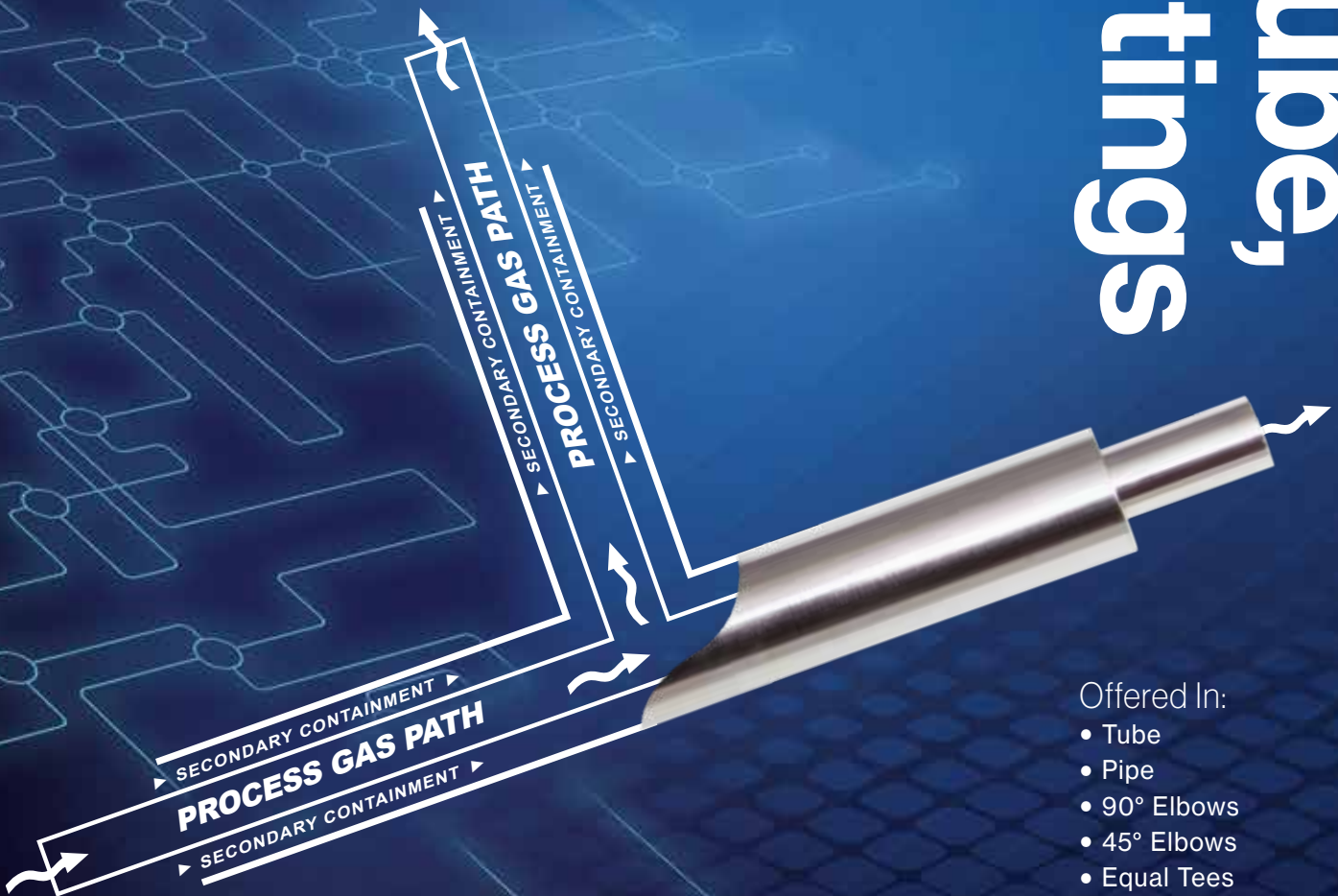
87



# Coaxial Tube, Pipe & Fittings

## Coaxial Tube System

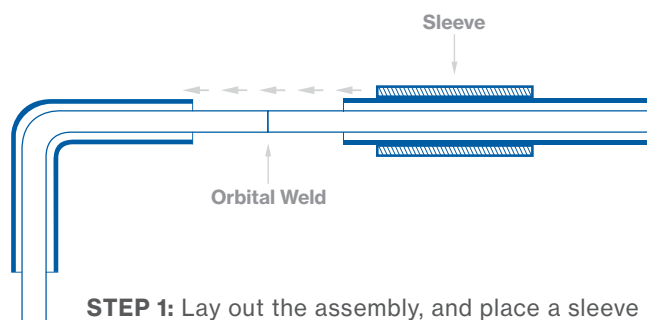
Valex pioneered the stainless steel Coaxial Tube System more than 30 years ago to meet the requirements set forth in codes and ordinances written at the inception of the semiconductor industry. Since then, we've gone on to design and deliver a full range of tube, pipe and fittings that "double-contain" toxic and hazardous gases for particularly dangerous processes. To provide absolute safety, all coaxial products are designed for automatic orbital welding in joint connections.



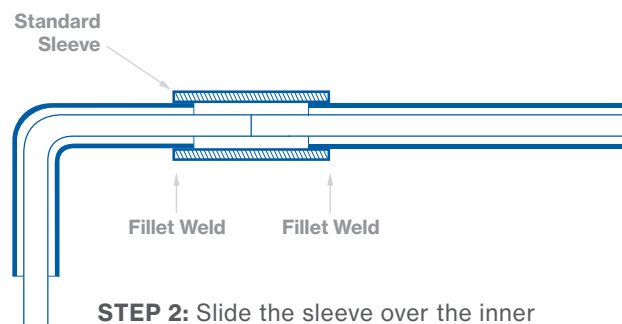
### Offered In:

- Tube
- Pipe
- 90° Elbows
- 45° Elbows
- Equal Tees
- Reducing Tees
- Concentric Reducers
- Purge Tees
- Sleeves
- Weld Glands
- Terminators
- Bulkhead Fittings

## Sleeve Assembly:

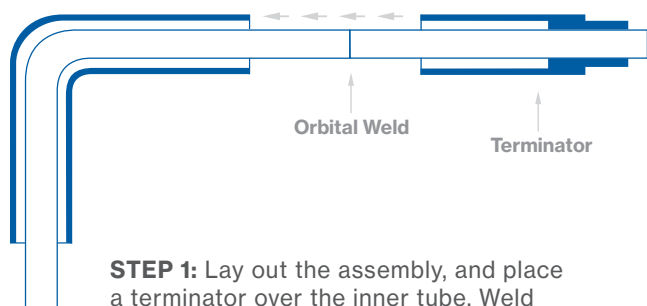


**STEP 1:** Lay out the assembly, and place a sleeve over one of the fittings. Weld the inner tube together, helium-leak test, and inspect the weld.

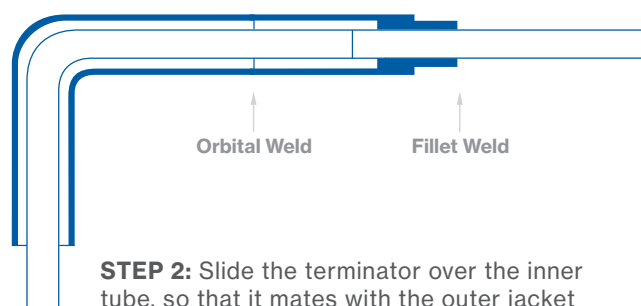


**STEP 2:** Slide the sleeve over the inner tube, so that it completely covers the gap between both outer jackets. Weld both ends, helium-leak test, and inspect.

## Terminator Assembly:

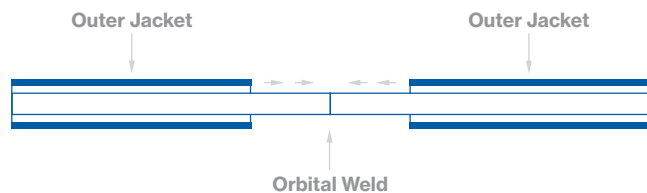


**STEP 1:** Lay out the assembly, and place a terminator over the inner tube. Weld the inner tubes together, helium-leak test, and inspect.

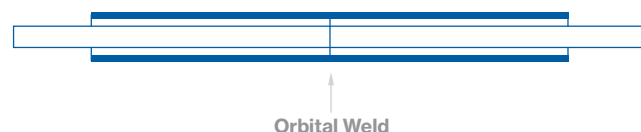


**STEP 2:** Slide the terminator over the inner tube, so that it mates with the outer jacket of the fitting. Weld both ends, helium-leak test, and inspect.

## Tube to Tube Assembly:



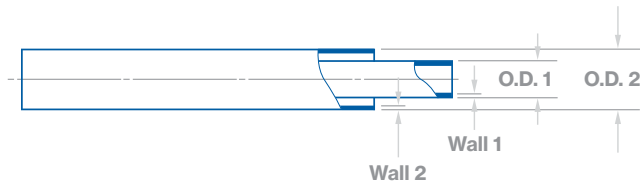
**STEP 1:** Lay out the assembly. Weld the inner tubes together, helium-leak test, and inspect.



**STEP 2:** Slide the outer jackets together, so they completely enclose the inner tube. Weld, helium-leak test, and inspect.

# Coaxial Tube

ASTM A269 / A632



| Product Lines |             |               |               |
|---------------|-------------|---------------|---------------|
| 401<br>(EP)   | 301<br>(EP) | 201<br>(BA-S) | 101<br>(BA-S) |
| ●             | ●           | ●             | ●             |
| ●             | ●           | ●             | ●             |
| ●             | ●           | ●             | ●             |
| ●             | ●           | ●             | ●             |
| ●             | ●           | ●             | ●             |
| ●             | ●           | ●             | ●             |
| ●             | ●           | ●             | ●             |
| ●             | ●           | ●             | ●             |

| Dimensions in Inches |            |        |                    |            |        |                           |                    |     |  |
|----------------------|------------|--------|--------------------|------------|--------|---------------------------|--------------------|-----|--|
| Size*<br>Inner Tube  | Inner Tube |        | Size<br>Outer Tube | Outer Tube |        | Weight per<br>foot (lbs.) | Maximum Pressure** |     |  |
|                      | O.D. 1     | Wall 1 |                    | O.D. 2     | Wall 2 |                           | PSI                | Bar |  |
| 1/4"                 | .250       | .035   | 1/2"               | .500       | .049   | .32                       | 2,509              | 173 |  |
| 1/4"                 | .250       | .039   | 1/2"               | .500       | .049   | .33                       | 2,509              | 173 |  |
| 3/8"                 | .375       | .035   | 5/8"               | .625       | .049   | .43                       | 1,981              | 137 |  |
| 3/8"                 | .375       | .039   | 5/8"               | .625       | .049   | .44                       | 1,981              | 137 |  |
| 1/2"                 | .500       | .049   | 3/4"               | .750       | .065   | .72                       | 2,207              | 152 |  |
| 3/4"                 | .750       | .065   | 1"                 | 1.00       | .065   | 1.13                      | 1,631              | 113 |  |
| 1"                   | 1.00       | .065   | 1-1/4"             | 1.25       | .065   | 1.48                      | 1,294              | 89  |  |
| 1-1/2"               | 1.50       | .065   | 2"                 | 2.00       | .065   | 2.36                      | 796                | 55  |  |
| 2"                   | 2.00       | .065   | 2-1/2"             | 2.50       | .065   | 3.06                      | 635                | 44  |  |

\* Size is based on o.d. of inner tube.  
\*\* Gauge pressure is listed.

- Notes:
- Maximum safe pressure calculated per ASME B 31.3-2020, paragraph 304.1.2 (formula 3a). Calculations assume maximum allowable o.d. and minimum allowable wall thickness (worst case scenario) for the outer jacket only.
  - Pressures listed in the chart above are based on welded outer jacket material. Inner tube and outer jacket tube material per ASTM A269 TP 304L or TP 316L.

# Coaxial Tube

V22® Alloy (N06022) Inner Tube<sup>3</sup>  
with Stainless Steel Outer Jacket

| Product Line |
|--------------|
| 222 (BA-S)   |
| ●            |
| ●            |
| ●            |

| Dimensions in Inches |            |        |                    |            |        |                           |                    |     |  |
|----------------------|------------|--------|--------------------|------------|--------|---------------------------|--------------------|-----|--|
| Size*<br>Inner Tube  | Inner Tube |        | Size<br>Outer Tube | Outer Tube |        | Weight per<br>foot (lbs.) | Maximum Pressure** |     |  |
|                      | O.D. 1     | Wall 1 |                    | O.D. 2     | Wall 2 |                           | PSI                | Bar |  |
| 1/4"                 | .250       | .035   | 1/2"               | .500       | .049   | .33                       | 2,509              | 173 |  |
| 3/8"                 | .375       | .035   | 5/8"               | .625       | .049   | .44                       | 1,981              | 137 |  |
| 1/2"                 | .500       | .049   | 3/4"               | .750       | .065   | .74                       | 2,207              | 152 |  |

\* Size is based on o.d. of inner tube.  
\*\* Gauge pressure is listed.

- Notes:
- Maximum safe pressure calculated per ASME B 31.3-2020, paragraph 304.1.2 (formula 3a). Calculations assume maximum allowable o.d. and minimum allowable wall thickness (worst case scenario) for the outer jacket only.
  - Pressures listed in the chart above are based on welded outer jacket material per ASTM A269 TP 304L or TP 316L. Inner tube material is V22® Alloy (UNS N06022).
  - Material: Haynes Hastelloy® C-22® is available upon request. Hastelloy and C-22 are registered trademarks of Haynes International Inc.

# Coaxial Pipe

JIS G3459, Schedule 5S

| Product Line |               |               |
|--------------|---------------|---------------|
| 401<br>(EP)  | 201<br>(BA-S) | 101<br>(BA-S) |
| ●            |               |               |
| ●            | ●             | ●             |
| ●            | ●             | ●             |
| ●            | ●             | ●             |
| ●            | ●             | ●             |

| Dimensions in Millimeters |            |        |                    |            |        |                           |                    |      |  |
|---------------------------|------------|--------|--------------------|------------|--------|---------------------------|--------------------|------|--|
| Size*<br>Inner Pipe       | Inner Pipe |        | Size<br>Outer Pipe | Outer Pipe |        | Weight per<br>meter (kg.) | Maximum Pressure** |      |  |
|                           | O.D. 1     | Wall 1 |                    | O.D. 2     | Wall 2 |                           | kg/cm²             | MPa  |  |
| 10A                       | 17.3       | 1.20   | 20A                | 27.2       | 1.65   | 1.53                      | 103.45             | 10.1 |  |
| 15A                       | 21.7       | 1.65   | 25A                | 34.0       | 1.65   | 2.14                      | 82.12              | 8.1  |  |
| 20A                       | 27.2       | 1.65   | 32A                | 42.7       | 1.65   | 2.73                      | 64.89              | 6.4  |  |
| 25A                       | 34.0       | 1.65   | 40A                | 48.6       | 1.65   | 3.24                      | 56.81              | 5.6  |  |
| 32A                       | 42.7       | 1.65   | 40A                | 48.6       | 1.65   | 3.60                      | 56.81              | 5.6  |  |

\* Size is based on o.d. of inner tube.  
\*\* Gauge pressure is listed.

- Notes:
- Maximum safe pressure calculated per ASME B 31.3-2020, paragraph 304.1.2 (formula 3a). Calculations assume maximum allowable o.d. and minimum allowable wall thickness (worst case scenario) for the outer jacket only.
  - Pressures listed in the chart above are based on welded outer jacket material. Inner pipe and outer jacket pipe material per SUS 304LTP or SUS 316LTP per JIS G3459, and SUS 304 LTPY, SUS 316 LTPY per JIS G3468.

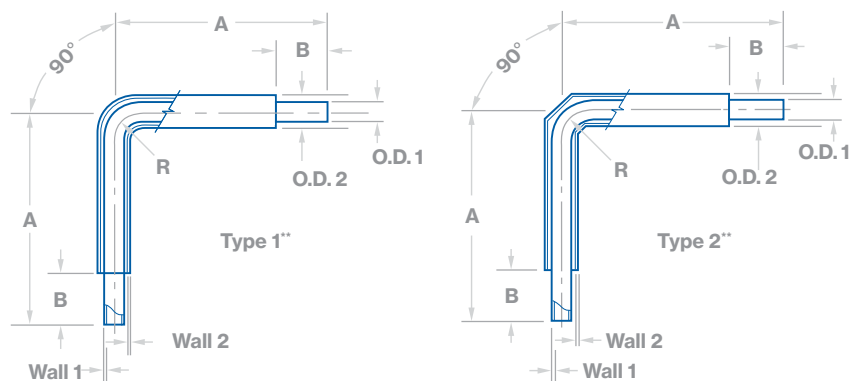


Dimensions

# Coaxial 90° Elbow

Valex Standard, ASTM Tube

CONFIGURATION  
**2**



## Product Lines

| 401<br>(EP) | 201<br>(BA-S) | 222<br>(BA-S) |
|-------------|---------------|---------------|
| ●           | ●             | ●             |
| ●           | ●             | ●             |
| ●           | ●             | ●             |
| ●           | ●             |               |
| ●           | ●             |               |
| ●           | ●             |               |

## Dimensions in Inches

| Size*<br>Inner Tube | Inner Tube |        | Size<br>Outer Tube | Outer Tube |        | A     | B    | R    |
|---------------------|------------|--------|--------------------|------------|--------|-------|------|------|
|                     | O.D. 1     | Wall 1 |                    | O.D. 2     | Wall 2 |       |      |      |
| 1/4"                | .250       | .035   | 1/2"               | .500       | .049   | 4.375 | 1.00 | .98  |
| 3/8"                | .375       | .035   | 5/8"               | .625       | .049   | 4.125 | 1.00 | 1.10 |
| 1/2"                | .500       | .049   | 3/4"               | .750       | .065   | 4.250 | 1.00 | 1.38 |
| 3/4"                | .750       | .065   | 1"                 | 1.000      | .065   | 6.750 | 1.75 | 1.88 |
| 1"                  | 1.000      | .065   | 1-1/4"             | 1.250      | .065   | 7.125 | 1.75 | 1.50 |
| 1-1/2"              | 1.500      | .065   | 2"                 | 2.000      | .065   | 8.375 | 2.00 | 2.25 |
| 2"                  | 2.000      | .065   | 2-1/2"             | 2.500      | .065   | 9.000 | 2.00 | 3.00 |

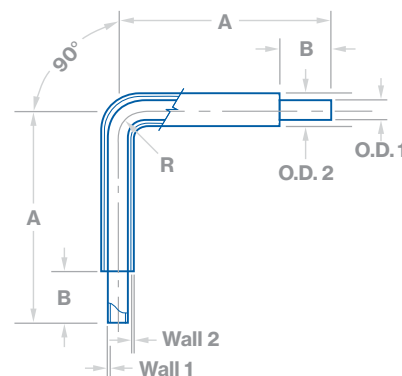
\* Size is based on o.d. of inner tube.

\*\* Type 1: Bend-type components manufactured in sizes 1/4" through 3/4"  
Type 2: Weld-type components manufactured in sizes 1" through 2"

# Coaxial 90° Elbow

Valex Standard, JIS Pipe

CONFIGURATION  
**2**



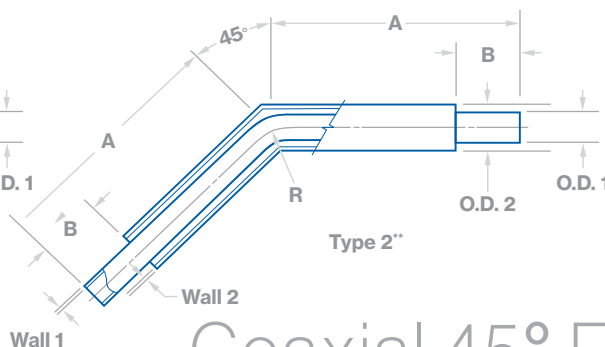
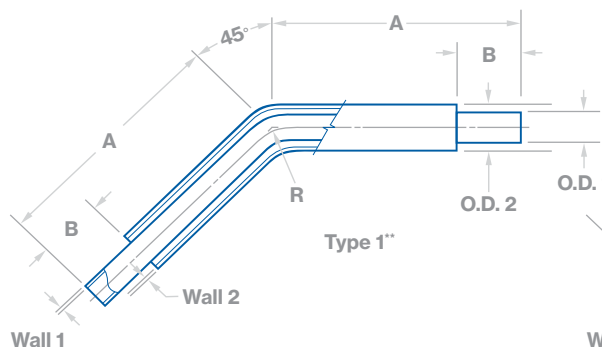
## Product Lines

| 401<br>(EP) | 201<br>(BA-S) |
|-------------|---------------|
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |

## Dimensions in Millimeters

| Size*<br>Inner Pipe | Inner Pipe |           | Size<br>Outer Pipe | Outer Pipe |           | A   | B  | R     |
|---------------------|------------|-----------|--------------------|------------|-----------|-----|----|-------|
|                     | O.D. 1     | 5S Wall 1 |                    | O.D. 2     | 5S Wall 2 |     |    |       |
| 10A                 | 17.3       | 1.20      | 20A                | 27.2       | 1.65      | 124 | 40 | 47.6  |
| 15A                 | 21.7       | 1.65      | 25A                | 34.0       | 1.65      | 134 | 40 | 57.2  |
| 20A                 | 27.2       | 1.65      | 32A                | 42.7       | 1.65      | 163 | 40 | 76.2  |
| 25A                 | 34.0       | 1.65      | 40A                | 48.6       | 1.65      | 182 | 40 | 95.3  |
| 32A                 | 42.7       | 1.65      | 50A                | 60.5       | 1.65      | 143 | 46 | 47.6  |
| 40A                 | 48.6       | 1.65      | 50A                | 60.5       | 1.65      | 168 | 46 | 57.2  |
| 40A                 | 48.6       | 1.65      | 65A                | 76.3       | 2.10      | 161 | 46 | 57.2  |
| 50A                 | 60.5       | 1.65      | 80A                | 89.1       | 2.10      | 174 | 46 | 76.2  |
| 65A                 | 76.3       | 2.10      | 100A               | 114.3      | 2.10      | 204 | 51 | 95.3  |
| 80A                 | 89.1       | 2.10      | 100A               | 114.3      | 2.10      | 204 | 51 | 114.3 |

\* Size is based on o.d. of inner pipe.



Dimensions



## Coaxial 45° Elbow

Valex Standard, ASTM Tube



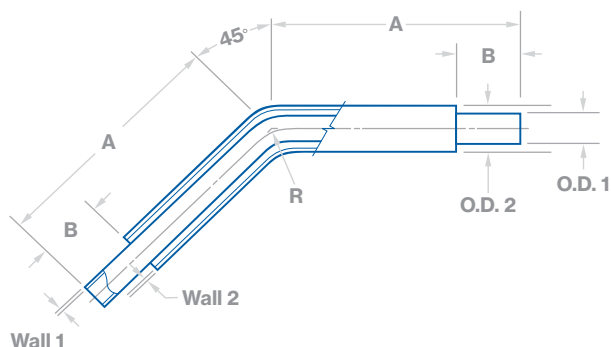
| Product Lines |               |               |
|---------------|---------------|---------------|
| 401<br>(EP)   | 201<br>(BA-S) | 222<br>(BA-S) |
| ●             | ●             | ●             |
| ●             | ●             | ●             |
| ●             | ●             | ●             |
| ●             | ●             |               |
| ●             | ●             |               |
| ●             | ●             |               |

| Dimensions in Inches |            |        |                    |            |        |       |      |      |  |
|----------------------|------------|--------|--------------------|------------|--------|-------|------|------|--|
| Size*<br>Inner Tube  | Inner Tube |        | Size<br>Outer Tube | Outer Tube |        | A     | B    | R    |  |
|                      | O.D. 1     | Wall 1 |                    | O.D. 2     | Wall 2 |       |      |      |  |
| 1/4"                 | .250       | .035   | 1/2"               | .500       | .049   | 4.000 | 1.00 | .98  |  |
| 3/8"                 | .375       | .035   | 5/8"               | .625       | .049   | 3.875 | 1.00 | 1.10 |  |
| 1/2"                 | .500       | .049   | 3/4"               | .750       | .065   | 3.875 | 1.00 | 1.38 |  |
| 3/4"                 | .750       | .065   | 1"                 | 1.000      | .065   | 6.125 | 1.75 | 1.88 |  |
| 1"                   | 1.000      | .065   | 1-1/4"             | 1.250      | .065   | 6.250 | 1.75 | 1.50 |  |
| 1-1/2"               | 1.500      | .065   | 2"                 | 2.000      | .065   | 7.120 | 2.00 | 2.25 |  |
| 2"                   | 2.000      | .065   | 2-1/2"             | 2.500      | .065   | 8.000 | 2.00 | 3.00 |  |

\* Size is based on o.d. of inner tube.

\*\* Type 1: Bend-type components manufactured in sizes 1/4" through 3/4"

Type 2: Weld-type components manufactured in sizes 1" through 2"



## Coaxial 45° Elbow

Valex Standard, JIS Pipe



| Product Lines |               |
|---------------|---------------|
| 401<br>(EP)   | 201<br>(BA-S) |
| ●             | ●             |
| ●             | ●             |
| ●             | ●             |
| ●             | ●             |
| ●             | ●             |
| ●             | ●             |
| ●             | ●             |
| ●             | ●             |

| Dimensions in Millimeters |            |           |                    |            |           |     |    |       |
|---------------------------|------------|-----------|--------------------|------------|-----------|-----|----|-------|
| Size*<br>Inner Pipe       | Inner Tube |           | Size<br>Outer Pipe | Outer Pipe |           | A   | B  | R     |
|                           | O.D. 1     | 5S Wall 1 |                    | O.D. 2     | 5S Wall 2 |     |    |       |
| 10A                       | 17.3       | 1.20      | 20A                | 27.2       | 1.65      | 96  | 40 | 47.6  |
| 15A                       | 21.7       | 1.65      | 25A                | 34.0       | 1.65      | 100 | 40 | 57.2  |
| 20A                       | 27.2       | 1.65      | 32A                | 42.7       | 1.65      | 118 | 40 | 76.2  |
| 25A                       | 34.0       | 1.65      | 40A                | 48.6       | 1.65      | 126 | 40 | 95.3  |
| 32A                       | 42.7       | 1.65      | 50A                | 60.5       | 1.65      | 124 | 46 | 47.6  |
| 40A                       | 48.6       | 1.65      | 50A                | 60.5       | 1.65      | 149 | 46 | 57.2  |
| 40A                       | 48.6       | 1.65      | 65A                | 76.3       | 2.10      | 137 | 46 | 57.2  |
| 50A                       | 60.5       | 1.65      | 80A                | 89.1       | 2.10      | 145 | 46 | 76.2  |
| 65A                       | 76.3       | 2.10      | 100A               | 114.3      | 2.10      | 166 | 51 | 95.3  |
| 80A                       | 89.1       | 2.10      | 100A               | 114.3      | 2.10      | 166 | 51 | 114.3 |

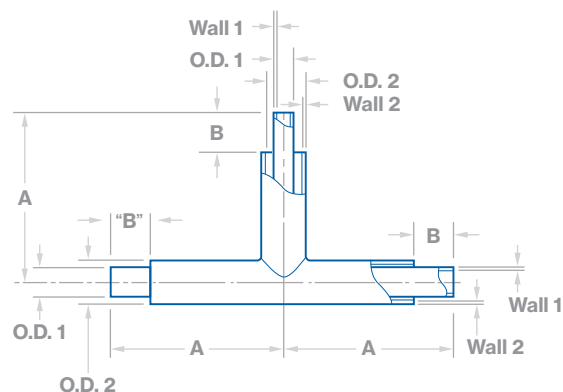
\* Size is based on o.d. of inner pipe.



CONFIGURATION  
**7**

# Coaxial Equal Tee

Valex Standard, ASTM Tube



## Product Lines

| 401<br>(EP) | 201<br>(BA-S) | 222<br>(BA-S) |
|-------------|---------------|---------------|
| ●           | ●             | ●             |
| ●           | ●             | ●             |
| ●           | ●             | ●             |
| ●           | ●             |               |
| ●           | ●             |               |
| ●           | ●             |               |
| ●           | ●             |               |

\* Size is based on o.d. of inner tube.

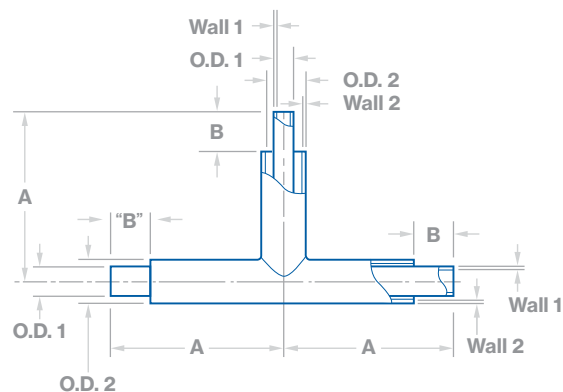
## Dimensions in Inches

| Size*<br>Inner Tube | Inner Tube |             | Size*<br>Outer Tube | Outer Tube |        | A     | B    |
|---------------------|------------|-------------|---------------------|------------|--------|-------|------|
|                     | O.D. 1     | Wall 1      |                     | O.D. 2     | Wall 2 |       |      |
| 1/4" x 1/4"         | .250       | .035 / .039 | 1/2" x 1/2"         | .500       | .049   | 3.875 | 1.00 |
| 3/8" x 3/8"         | .375       | .035 / .039 | 5/8" x 5/8"         | .625       | .049   | 4.000 | 1.00 |
| 1/2" x 1/2"         | .500       | .049        | 3/4" x 3/4"         | .750       | .065   | 4.000 | 1.00 |
| 3/4" x 3/4"         | .750       | .065        | 1" x 1"             | 1.000      | .065   | 6.375 | 1.75 |
| 1" x 1"             | 1.000      | .065        | 1-1/4" x 1-1/4"     | 1.250      | .065   | 6.500 | 1.75 |
| 1-1/2" x 1-1/2"     | 1.500      | .065        | 2" x 2"             | 2.000      | .065   | 7.625 | 2.00 |
| 2" x 2"             | 2.000      | .065        | 2-1/2" x 2-1/2"     | 2.500      | .065   | 8.000 | 2.00 |

CONFIGURATION  
**7**

# Coaxial Equal Tee

Valex Standard, JIS Pipe



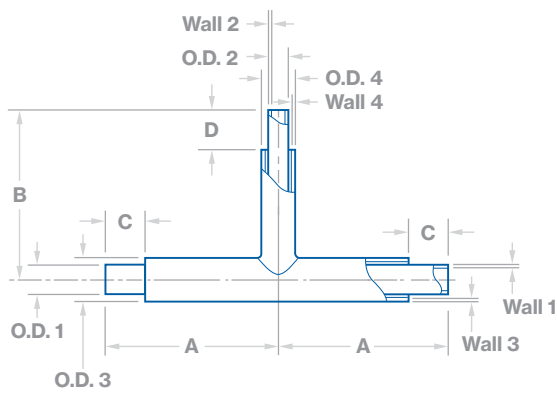
## Product Lines

| 401<br>(EP) | 201<br>(BA-S) |
|-------------|---------------|
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |

\* Size is based on o.d. of inner pipe.

## Dimensions in Millimeters

| Size*<br>Inner Pipe | Inner Pipe |           | Size*<br>Outer Pipe | Outer Pipe |           | A   | B  |
|---------------------|------------|-----------|---------------------|------------|-----------|-----|----|
|                     | O.D. 1     | 5S Wall 1 |                     | O.D. 2     | 5S Wall 2 |     |    |
| 10A x 10A           | 17.3       | 1.20      | 20A x 20A           | 27.2       | 1.65      | 95  | 40 |
| 15A x 15A           | 21.7       | 1.65      | 25A x 25A           | 34.0       | 1.65      | 99  | 40 |
| 20A x 20A           | 27.2       | 1.65      | 32A x 32A           | 42.7       | 1.65      | 114 | 40 |
| 25A x 25A           | 34.0       | 1.65      | 40A x 40A           | 48.6       | 1.65      | 117 | 40 |
| 32A x 32A           | 42.7       | 1.65      | 50A x 50A           | 60.5       | 1.65      | 129 | 46 |
| 40A x 40A           | 48.6       | 1.65      | 50A x 50A           | 60.5       | 1.65      | 129 | 46 |
| 40A x 40A           | 48.6       | 1.65      | 65A x 65A           | 76.3       | 2.10      | 143 | 46 |
| 50A x 50A           | 60.5       | 1.65      | 80A x 80A           | 89.1       | 2.10      | 149 | 46 |
| 65A x 65A           | 76.3       | 2.10      | 100A x 100A         | 114.3      | 2.10      | 167 | 51 |
| 80A x 80A           | 89.1       | 2.10      | 100A x 100A         | 114.3      | 2.10      | 167 | 51 |



# Coaxial Reducing Tee

Valex Standard, ASTM Tube

CONFIGURATION  
**7R**

## Product Lines

| 401<br>(EP) | 201<br>(BA-S) |
|-------------|---------------|
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |

## Dimensions in Inches

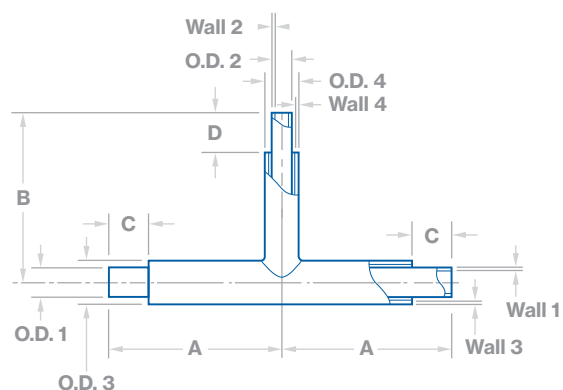
| Size*<br>Inner Tube | Inner Tube |             |        |             | Size<br>Outer Tube | Outer Tube |        |        |        | A     | B     | C    | D    |
|---------------------|------------|-------------|--------|-------------|--------------------|------------|--------|--------|--------|-------|-------|------|------|
|                     | O.D. 1     | Wall 1      | O.D. 2 | Wall 2      |                    | O.D. 3     | Wall 3 | O.D. 4 | Wall 4 |       |       |      |      |
| 3/8" x 1/4"         | .375       | .035 / .039 | .250   | .035 / .039 | 5/8" x 1/2"        | .625       | .049   | .500   | .049   | 3.875 | 4.125 | 1.00 | 1.00 |
| 1/2" x 1/4"         | .500       | .049        | .250   | .035 / .039 | 3/4" x 1/2"        | .750       | .065   | .500   | .049   | 3.875 | 4.125 | 1.00 | 1.00 |
| 1/2" x 3/8"         | .500       | .049        | .375   | .035 / .039 | 3/4" x 5/8"        | .750       | .065   | .625   | .049   | 4.000 | 4.125 | 1.00 | 1.00 |
| 3/4" x 1/4"         | .750       | .065        | .250   | .035 / .039 | 1" x 1/2"          | 1.000      | .065   | .500   | .049   | 6.125 | 4.250 | 1.75 | 1.00 |
| 3/4" x 3/8"         | .750       | .065        | .375   | .035 / .039 | 1" x 5/8"          | 1.000      | .065   | .625   | .049   | 6.250 | 4.250 | 1.75 | 1.00 |
| 3/4" x 1/2"         | .750       | .065        | .500   | .049        | 1" x 3/4"          | 1.000      | .065   | .750   | .065   | 6.250 | 4.250 | 1.75 | 1.00 |
| 1" x 1/4"           | 1.000      | .065        | .250   | .035 / .039 | 1-1/4" x 1/2"      | 1.250      | .065   | .500   | .049   | 6.125 | 4.375 | 1.75 | 1.00 |
| 1" x 3/8"           | 1.000      | .065        | .375   | .035 / .039 | 1-1/4" x 5/8"      | 1.250      | .065   | .625   | .049   | 6.250 | 4.375 | 1.75 | 1.00 |
| 1" x 1/2"           | 1.000      | .065        | .500   | .049        | 1-1/4" x 3/4"      | 1.250      | .065   | .750   | .065   | 6.250 | 4.375 | 1.75 | 1.00 |
| 1" x 3/4"           | 1.000      | .065        | .750   | .065        | 1-1/4" x 1"        | 1.250      | .065   | 1.000  | .065   | 6.375 | 6.625 | 1.75 | 1.75 |
| 1-1/2" x 1/2"       | 1.500      | .065        | .500   | .049        | 2" x 3/4"          | 2.000      | .065   | .750   | .065   | 7.000 | 7.000 | 2.00 | 1.75 |
| 1-1/2" x 3/4"       | 1.500      | .065        | .750   | .065        | 2" x 1"            | 2.000      | .065   | 1.000  | .065   | 7.125 | 7.000 | 2.00 | 1.75 |
| 1-1/2" x 1"         | 1.500      | .065        | 1.000  | .065        | 2" x 1-1/4"        | 2.000      | .065   | 1.250  | .065   | 7.250 | 7.000 | 2.00 | 1.75 |
| 2" x 1/2"           | 2.000      | .065        | .500   | .049        | 2-1/2" x 3/4"      | 2.500      | .065   | .750   | .065   | 7.750 | 9.000 | 2.00 | 1.75 |
| 2" x 1"             | 2.000      | .065        | 1.000  | .065        | 2-1/2" x 1-1/4"    | 2.500      | .065   | 1.250  | .065   | 8.000 | 7.250 | 2.00 | 1.75 |

\* Size is based on o.d. of inner tube.



# Coaxial Reducing Tee

Valex Standard, JIS Pipe



## Product Lines

| 401<br>(EP) | 201<br>(BA-S) |
|-------------|---------------|
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |
| ●           | ●             |

## Dimensions in Millimeters

| Size*<br>Inner Pipe | Inner Pipe |           |        |           | Size<br>Outer Pipe | Outer Pipe |           |        |           | A   | B   | C  | D  |
|---------------------|------------|-----------|--------|-----------|--------------------|------------|-----------|--------|-----------|-----|-----|----|----|
|                     | O.D. 1     | 5S Wall 1 | O.D. 2 | 5S Wall 2 |                    | O.D. 3     | 5S Wall 3 | O.D. 4 | 5S Wall 4 |     |     |    |    |
| 15A x 10A           | 21.7       | 1.65      | 17.3   | 1.20      | 25A x 15A          | 34.0       | 1.65      | 21.7   | 1.65      | 99  | 99  | 40 | 40 |
| 20A x 10A           | 27.2       | 1.65      | 17.3   | 1.65      | 32A x 15A          | 42.7       | 1.65      | 21.7   | 1.65      | 108 | 102 | 40 | 40 |
| 20A x 15A           | 27.2       | 1.65      | 21.7   | 1.65      | 32A x 20A          | 42.7       | 1.65      | 27.2   | 1.65      | 108 | 102 | 40 | 40 |
| 25A x 10A           | 34.0       | 1.65      | 17.3   | 1.65      | 40A x 20A          | 48.6       | 1.65      | 27.2   | 1.65      | 108 | 105 | 40 | 40 |
| 25A x 15A           | 34.0       | 1.65      | 21.7   | 1.65      | 40A x 25A          | 48.6       | 1.65      | 34.0   | 1.65      | 108 | 105 | 40 | 40 |
| 25A x 20A           | 34.0       | 1.65      | 27.2   | 1.65      | 40A x 32A          | 48.6       | 1.65      | 42.7   | 1.65      | 117 | 117 | 40 | 40 |
| 32A x 10A           | 42.7       | 1.65      | 17.3   | 1.65      | 50A x 15A          | 60.5       | 1.65      | 21.7   | 1.65      | 114 | 111 | 46 | 40 |
| 32A x 15A           | 42.7       | 1.65      | 21.7   | 1.65      | 50A x 20A          | 60.5       | 1.65      | 27.2   | 1.65      | 114 | 111 | 46 | 40 |
| 32A x 20A           | 42.7       | 1.65      | 27.2   | 1.65      | 50A x 32A          | 60.5       | 1.65      | 42.7   | 1.65      | 129 | 123 | 46 | 40 |
| 32A x 25A           | 42.7       | 1.65      | 34.0   | 1.65      | 50A x 40A          | 60.5       | 1.65      | 48.6   | 1.65      | 129 | 123 | 46 | 40 |

\* Size is based on o.d. of inner tube.

# Coaxial Concentric Reducer

## Valex Standard, ASTM Tube

CONFIGURATION

**31**

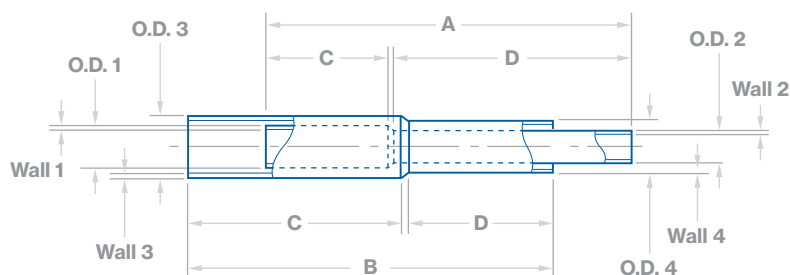
## Product Lines

[illegible]

## Dimensions in Inches

| Size*<br>Inner Tube | Inner Tube |             |        |             | Size<br>Outer Tube | Outer Tube |        |        |        | A    | B    | C     |       | D     |       |
|---------------------|------------|-------------|--------|-------------|--------------------|------------|--------|--------|--------|------|------|-------|-------|-------|-------|
|                     | O.D. 1     | Wall 1      | O.D. 2 | Wall 2      |                    | O.D. 3     | Wall 3 | O.D. 4 | Wall 4 |      |      | Inner | Outer | Inner | Outer |
| 3/8" x 1/4"         | .375       | .035 / .039 | .250   | .035 / .039 | 5/8" x 1/2"        | .625       | .049   | .500   | .049   | 4.00 | 4.00 | 1.34  | 2.34  | 2.60  | 1.47  |
| 1/2" x 1/4"         | .500       | .049        | .250   | .035 / .039 | 3/4" x 1/2"        | .750       | .065   | .500   | .049   | 4.00 | 4.00 | 1.31  | 2.31  | 2.56  | 1.56  |
| 1/2" x 3/8"         | .500       | .049        | .375   | .035 / .039 | 3/4" x 5/8"        | .750       | .065   | .625   | .049   | 4.00 | 4.00 | 1.34  | 2.34  | 2.59  | 1.59  |
| 3/4" x 1/4"         | .750       | .065        | .250   | .035 / .039 | 1" x 1/2"          | 1.000      | .065   | .500   | .049   | 5.00 | 5.75 | 2.00  | 3.88  | 2.75  | 1.63  |
| 3/4" x 3/8"         | .750       | .065        | .375   | .035 / .039 | 1" x 5/8"          | 1.000      | .065   | .625   | .065   | 5.00 | 5.75 | 2.03  | 3.79  | 2.78  | 1.54  |
| 3/4" x 1/2"         | .750       | .065        | .500   | .049        | 1" x 3/4"          | 1.000      | .065   | .750   | .065   | 5.00 | 5.75 | 2.06  | 3.94  | 2.81  | 1.69  |
| 1" x 1/4"           | 1.000      | .065        | .250   | .035 / .039 | 1-1/4" x 1/2"      | 1.250      | .065   | .500   | .049   | 5.00 | 5.75 | 2.06  | 3.81  | 2.56  | 1.56  |
| 1" x 3/8"           | 1.000      | .065        | .375   | .035 / .039 | 1-1/4" x 5/8"      | 1.250      | .065   | .625   | .049   | 5.00 | 5.75 | 2.09  | 3.84  | 2.59  | 1.59  |
| 1" x 1/2"           | 1.000      | .065        | .500   | .049        | 1-1/4" x 3/4"      | 1.250      | .065   | .750   | .065   | 5.00 | 5.75 | 2.13  | 3.88  | 2.63  | 1.63  |
| 1" x 3/4"           | 1.000      | .065        | .750   | .065        | 1-1/4" x 1"        | 1.250      | .065   | 1.000  | .065   | 6.50 | 6.50 | 2.19  | 3.94  | 4.19  | 2.44  |
| 1-1/2" x 1/4"       | 1.500      | .065        | .250   | .035 / .039 | 2" x 1/2"          | 2.000      | .065   | .500   | .049   | 5.75 | 6.75 | 2.31  | 4.38  | 2.81  | 1.63  |
| 1-1/2" x 3/8"       | 1.500      | .065        | .375   | .035 / .039 | 2" x 5/8"          | 2.000      | .065   | .625   | .049   | 5.75 | 6.75 | 2.34  | 4.41  | 2.84  | 1.66  |
| 1-1/2" x 1/2"       | 1.500      | .065        | .500   | .049        | 2" x 3/4"          | 2.000      | .065   | .750   | .065   | 5.75 | 6.75 | 2.38  | 4.44  | 2.88  | 1.69  |
| 1-1/2" x 3/4"       | 1.500      | .065        | .750   | .065        | 2" x 1"            | 2.000      | .065   | 1.000  | .065   | 7.25 | 7.50 | 2.44  | 4.50  | 4.44  | 2.50  |
| 1-1/2" x 1"         | 1.500      | .065        | 1.000  | .065        | 2" x 1-1/4"        | 2.000      | .065   | 1.250  | .065   | 7.25 | 7.50 | 2.50  | 4.56  | 4.50  | 2.56  |
| 2" x 1/4"           | 2.000      | .065        | .250   | .035 / .039 | 2-1/2" x 1/2"      | 2.500      | .065   | .500   | .049   | 6.00 | 7.00 | 2.31  | 4.38  | 2.81  | 1.63  |
| 2" x 3/8"           | 2.000      | .065        | .375   | .035 / .039 | 2-1/2" x 5/8"      | 2.500      | .065   | .625   | .049   | 6.00 | 7.00 | 2.34  | 4.41  | 2.84  | 1.66  |
| 2" x 1/2"           | 2.000      | .065        | .500   | .049        | 2-1/2" x 3/4"      | 2.500      | .065   | .750   | .065   | 6.00 | 7.00 | 2.38  | 4.44  | 2.88  | 1.69  |
| 2" x 3/4"           | 2.000      | .065        | .750   | .065        | 2-1/2" x 1"        | 2.500      | .065   | 1.000  | .065   | 7.50 | 7.75 | 2.44  | 4.50  | 4.44  | 2.50  |
| 2" x 1"             | 2.000      | .065        | 1.000  | 0.65        | 2-1/2" x 1-1/4"    | 2.500      | .065   | 1.250  | .065   | 7.50 | 7.75 | 2.50  | 4.56  | 4.50  | 2.56  |
| 2" x 1-1/2"         | 2.000      | .065        | 1.500  | .065        | 2-1/2" x 2"        | 2.500      | .065   | 2.000  | .065   | 8.00 | 8.00 | 2.63  | 4.75  | 5.13  | 3.00  |

\* Size is based on o.d. of inner tube.



CONFIGURATION  
**31**

## Coaxial Concentric Reducer

Valex Standard, JIS Pipe

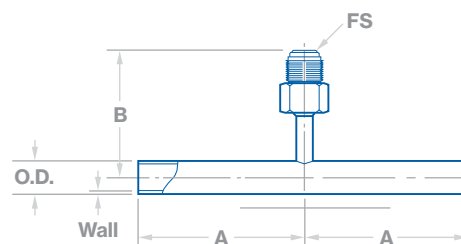
### Product Lines

| 401 (EP) | 201 (BA-S) |
|----------|------------|
| ●        | ●          |
| ●        | ●          |
| ●        | ●          |
| ●        | ●          |
| ●        | ●          |
| ●        | ●          |
| ●        | ●          |
| ●        | ●          |
| ●        | ●          |

\* Size is based on o.d. of inner pipe.

### Dimensions in Millimeters

| Size*<br>Inner Pipe | Inner Pipe |           |        |           | Size<br>Outer Pipe | Outer Pipe |           |        |           | A     | B     | C     |       | D     |       |
|---------------------|------------|-----------|--------|-----------|--------------------|------------|-----------|--------|-----------|-------|-------|-------|-------|-------|-------|
|                     | O.D. 1     | 5S Wall 1 | O.D. 2 | 5S Wall 2 |                    | O.D. 3     | 5S Wall 3 | O.D. 4 | 5S Wall 4 |       |       | Inner | Outer | Inner | Outer |
| 15A x 10A           | 21.7       | 1.65      | 17.3   | 1.20      | 25A x 20A          | 34.0       | 1.65      | 27.2   | 1.65      | 150.0 | 160.0 | 36.0  | 75.4  | 85.4  | 36.0  |
| 20A x 10A           | 27.2       | 1.65      | 17.3   | 1.20      | 32A x 20A          | 42.7       | 1.65      | 27.2   | 1.65      | 155.0 | 155.0 | 36.0  | 75.4  | 85.4  | 36.0  |
| 20A x 15A           | 27.2       | 1.65      | 21.7   | 1.65      | 32A x 25A          | 42.7       | 1.65      | 34.0   | 1.65      | 155.0 | 155.0 | 36.0  | 75.4  | 85.4  | 36.0  |
| 25A x 10A           | 34.0       | 1.65      | 17.3   | 1.20      | 40A x 20A          | 48.6       | 1.65      | 27.2   | 1.65      | 160.0 | 160.0 | 36.0  | 75.4  | 75.4  | 36.0  |
| 25A x 15A           | 34.0       | 1.65      | 21.7   | 1.65      | 40A x 25A          | 48.6       | 1.65      | 34.0   | 1.65      | 160.0 | 160.0 | 36.0  | 75.4  | 75.4  | 36.0  |
| 25A x 20A           | 34.0       | 1.65      | 27.2   | 1.65      | 40A x 32A          | 48.6       | 1.65      | 42.7   | 1.65      | 160.0 | 160.0 | 36.0  | 75.4  | 75.4  | 46.0  |
| 32A x 10A           | 42.7       | 1.65      | 17.3   | 1.20      | 50A x 20A          | 60.5       | 1.65      | 27.2   | 1.65      | 170.0 | 170.0 | 46.0  | 75.4  | 80.4  | 36.0  |
| 32A x 15A           | 42.7       | 1.65      | 21.7   | 1.65      | 50A x 25A          | 60.5       | 1.65      | 34.0   | 1.65      | 170.0 | 170.0 | 46.0  | 75.4  | 80.4  | 36.0  |
| 32A x 20A           | 42.7       | 1.65      | 27.2   | 1.65      | 50A x 32A          | 60.5       | 1.65      | 42.7   | 1.65      | 170.0 | 170.0 | 46.0  | 65.4  | 80.4  | 46.0  |
| 32A x 25A           | 42.7       | 1.65      | 34.0   | 1.65      | 50A x 40A          | 60.5       | 1.65      | 48.6   | 1.65      | 170.0 | 170.0 | 46.0  | 65.4  | 80.4  | 46.0  |



CONFIGURATION  
**7P**

## Coaxial Male Purge Tee

Valex Standard, ASTM Outer Tube Jacket

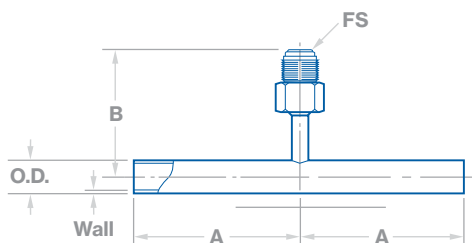
### Compatible with Product Lines

| 401 (EP) | 201 (BA-S) | 222 (BA-S) |
|----------|------------|------------|
| ●        | ●          | ●          |
| ●        | ●          | ●          |
| ●        | ●          | ●          |
| ●        | ●          | ●          |
| ●        | ●          | ●          |
| ●        | ●          | ●          |
| ●        | ●          | ●          |

### Dimensions in Inches

| Compatible<br>Inner Tube | Outer Tube |       |      | A     | B    | Face-Seal<br>Size |
|--------------------------|------------|-------|------|-------|------|-------------------|
|                          | Size       | O.D.  | Wall |       |      |                   |
| 1/4"                     | 1/2"       | .500  | .049 | 2.875 | 1.90 | 1/4"              |
| 3/8"                     | 5/8"       | .625  | .049 | 3.000 | 1.96 | 1/4"              |
| 1/2"                     | 3/4"       | .750  | .065 | 3.000 | 2.01 | 1/4"              |
| 3/4"                     | 1"         | 1.000 | .065 | 4.625 | 2.14 | 1/4"              |
| 1"                       | 1-1/4"     | 1.250 | .065 | 4.750 | 2.26 | 1/4"              |
| 1-1/2"                   | 2"         | 2.000 | .065 | 5.625 | 2.64 | 1/4"              |
| 2"                       | 2-1/2"     | 2.500 | .065 | 5.750 | 2.89 | 1/4"              |

Note:  
1. Purge tees are offered in grade TP 316L for all product lines.



Dimensions



# Coaxial Male Purge Tee

Valex Standard, JIS Outer Pipe Jacket



## Compatible with Product Lines

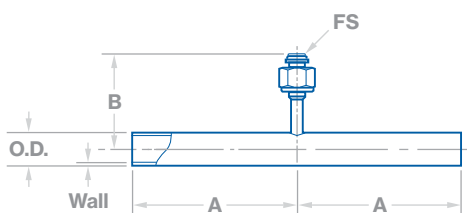
| 401 (EP) | 201 (BA-S) |
|----------|------------|
| •        | •          |
| •        | •          |

## Dimensions in Millimeters

| Compatible Inner Pipe | Size | Outer Pipe |      | A  | B    | Face-Seal Size |
|-----------------------|------|------------|------|----|------|----------------|
|                       |      | O.D.       | Wall |    |      |                |
| 10A                   | 20A  | 27.2       | 1.65 | 55 | 52.5 | 1/4"           |
| 15A                   | 25A  | 34.0       | 1.65 | 59 | 56.5 | 1/4"           |

Note:

1. Purge tees are offered in grade TP 316L for all product lines.



# Coaxial Female Purge Tee

Valex Standard, ASTM Outer Tube Jacket



## Compatible with Product Lines

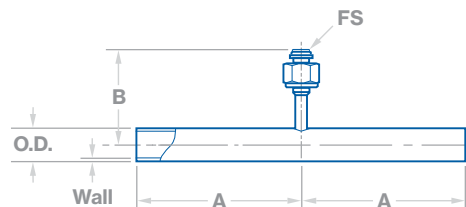
| 401 (EP) | 201 (BA-S) | 222 (BA-S) |
|----------|------------|------------|
| •        | •          | •          |
| •        | •          | •          |
| •        | •          | •          |
| •        | •          | •          |
| •        | •          | •          |
| •        | •          | •          |
| •        | •          | •          |

## Dimensions in Inches

| Compatible Inner Tube | Size   | Outer Tube |      | A     | B    | Face-Seal Size |
|-----------------------|--------|------------|------|-------|------|----------------|
|                       |        | O.D.       | Wall |       |      |                |
| 1/4"                  | 1/2"   | .500       | .049 | 2.875 | 1.90 | 1/4"           |
| 3/8"                  | 5/8"   | .625       | .049 | 3.000 | 1.96 | 1/4"           |
| 1/2"                  | 3/4"   | .750       | .065 | 3.000 | 2.01 | 1/4"           |
| 3/4"                  | 1"     | 1.000      | .065 | 4.625 | 2.14 | 1/4"           |
| 1"                    | 1-1/4" | 1.250      | .065 | 4.750 | 2.26 | 1/4"           |
| 1-1/2"                | 2"     | 2.000      | .065 | 5.625 | 2.64 | 1/4"           |
| 2"                    | 2-1/2" | 2.500      | .065 | 5.750 | 2.89 | 1/4"           |

Note:

1. Purge tees are offered in grade TP 316L for all product lines.



# Coaxial Female Purge Tee

Valex Standard, JIS Outer Pipe Jacket

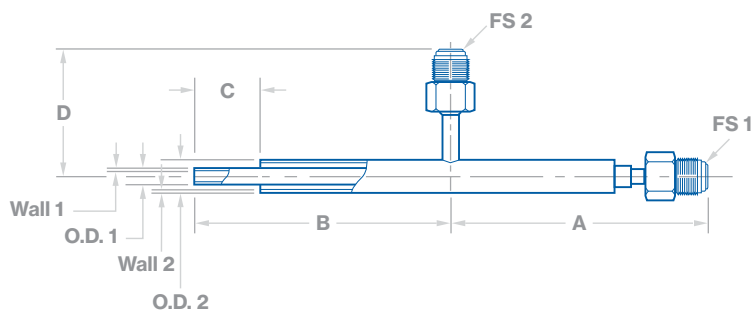
## Compatible with Product Lines

| 401 (EP) | 201 (BA-S) |
|----------|------------|
| •        | •          |
| •        | •          |

## Dimensions in Inches

| Compatible Inner Pipe | Size | Outer Pipe |      | A  | B    | Face-Seal Size |
|-----------------------|------|------------|------|----|------|----------------|
|                       |      | O.D.       | Wall |    |      |                |
| 10A                   | 20A  | 27.2       | 1.65 | 55 | 42.5 | 1/4"           |
| 15A                   | 25A  | 34.0       | 1.65 | 59 | 46.5 | 1/4"           |

Note:  
1. Purge tees are offered in grade TP 316L for all product lines.



# Coaxial Purge Tee With Male Face-Seal Gland

Valex Standard, ASTM Tube

## Product Lines

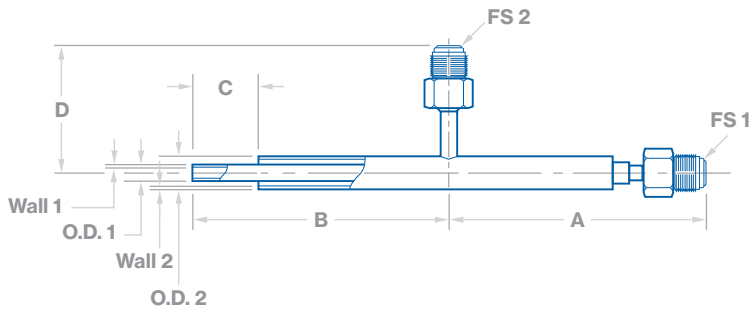
| 401 (EP) | 201 (BA-S) |
|----------|------------|
| •        | •          |
| •        | •          |
| •        | •          |
| •        | •          |

## Dimensions in Inches

| Size* Inner Tube | Inner Tube |        | Size* Outer Tube | Outer Tube |        | A     | B     | C    | D    | Face-Seal Size |      |
|------------------|------------|--------|------------------|------------|--------|-------|-------|------|------|----------------|------|
|                  | O.D. 1     | Wall 1 |                  | O.D. 2     | Wall 2 |       |       |      |      | FS 1           | FS 2 |
| 1/4"             | .250       | .035   | 1/2"             | .500       | .049   | 3.875 | 3.875 | 1.00 | 1.90 | 1/4"           | 1/4" |
| 3/8"             | .375       | .035   | 5/8"             | .625       | .049   | 4.000 | 4.000 | 1.00 | 1.96 | 3/8"           | 1/4" |
| 1/2"             | .500       | .049   | 3/4"             | .750       | .065   | 4.000 | 4.000 | 1.00 | 2.01 | 1/2"           | 1/4" |
| 3/4"             | .750       | .065   | 1"               | 1.000      | .065   | 6.000 | 6.000 | 1.00 | 2.18 | 3/4"           | 1/4" |

\* Size is based on o.d. of inner tube.





# Coaxial Purge Tee With Male Face-Seal Gland

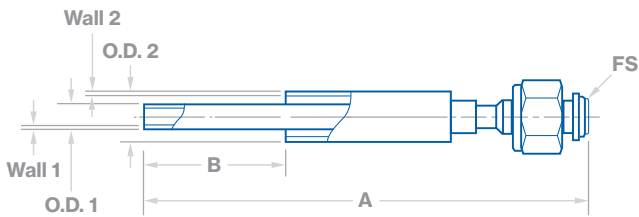
Valex Standard, JIS Pipe

CONFIGURATION  
**7PFS**

| Product Lines |            |
|---------------|------------|
| 401 (EP)      | 201 (BA-S) |
| •             | •          |
| •             | •          |

| Dimensions in Inches |            |        |                     |            |        |       |      |      |      |                |      |
|----------------------|------------|--------|---------------------|------------|--------|-------|------|------|------|----------------|------|
| Size*<br>Inner Pipe  | Inner Pipe |        | Size*<br>Outer Pipe | Outer Pipe |        | A     | B    | C    | D    | Face-Seal Size |      |
|                      | O.D. 1     | Wall 1 |                     | O.D. 2     | Wall 2 |       |      |      |      | FS 1           | FS 2 |
| 10A                  | 17.3       | 1.20   | 20A                 | 27.2       | 1.65   | 100.0 | 95.0 | 40.0 | 52.5 | 1/4"           | 1/4" |
| 15A                  | 21.7       | 1.65   | 25A                 | 34.0       | 1.65   | 104.0 | 99.0 | 40.0 | 56.5 | 1/4"           | 1/4" |

\* Size is based on o.d. of inner tube.



# Coaxial Female Face-Seal Weld Gland

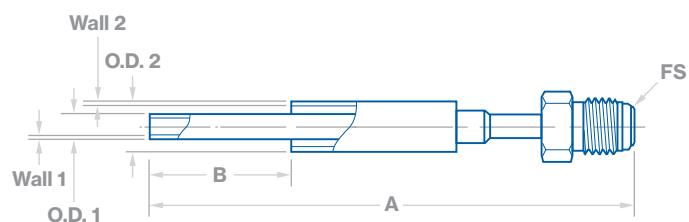
Valex Standard, ASTM Tube

CONFIGURATION  
**14FS**

| Product Lines |            |
|---------------|------------|
| 401 (EP)      | 201 (BA-S) |
| •             | •          |
| •             | •          |
| •             | •          |
| •             | •          |
| •             | •          |

| Dimensions in Inches |            |        |                    |            |        |      |               |                |  |
|----------------------|------------|--------|--------------------|------------|--------|------|---------------|----------------|--|
| Size*<br>Inner Tube  | Inner Tube |        | Size<br>Outer Tube | Outer Tube |        | A    | B             | Face-Seal Size |  |
|                      | O.D. 1     | Wall 1 |                    | O.D. 2     | Wall 2 |      |               | FS             |  |
| 1/4"                 | .250       | .035   | 1/2"               | .500       | .049   | 3.50 | .850 - 1.060  | 1/4"           |  |
| 3/8"                 | .375       | .035   | 5/8"               | .625       | .049   | 3.50 | .850 - 1.060  | 3/8"           |  |
| 1/2"                 | .500       | .049   | 3/4"               | .750       | .065   | 3.50 | .850 - 1.060  | 1/2"           |  |
| 3/4"                 | .750       | .065   | 1"                 | 1.000      | .065   | 7.50 | 1.845 - 1.970 | 3/4"           |  |
| 1"                   | 1.000      | .065   | 1-1/4"             | 1.250      | .065   | 7.75 | 1.805 - 1.930 | 1"             |  |

\* Size is based on o.d. of inner tube.



CONFIGURATION  
**15FS**

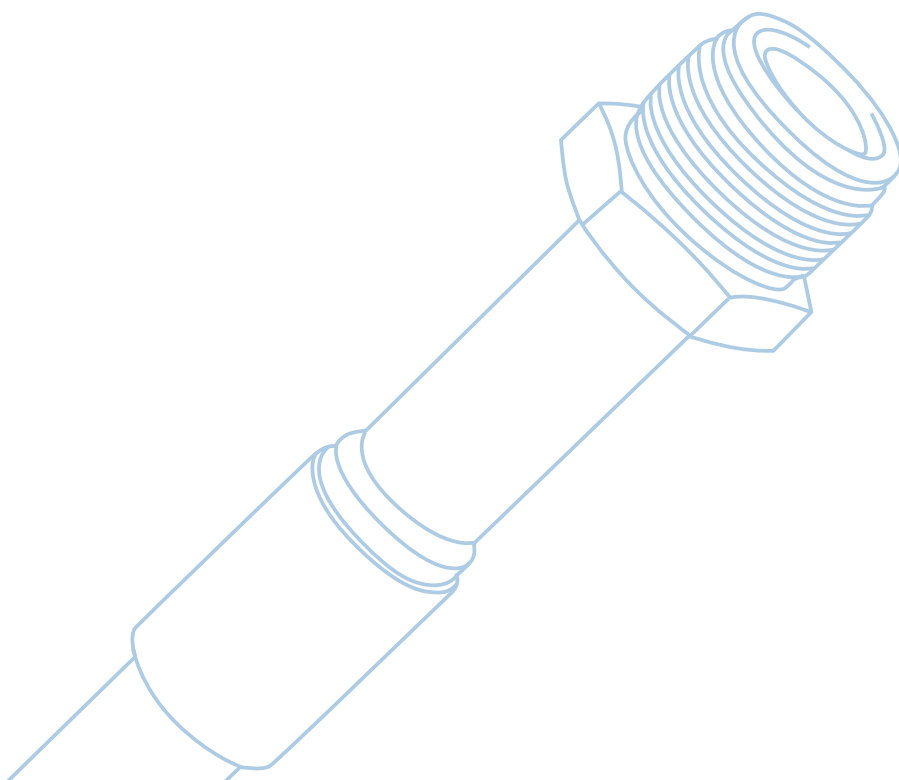
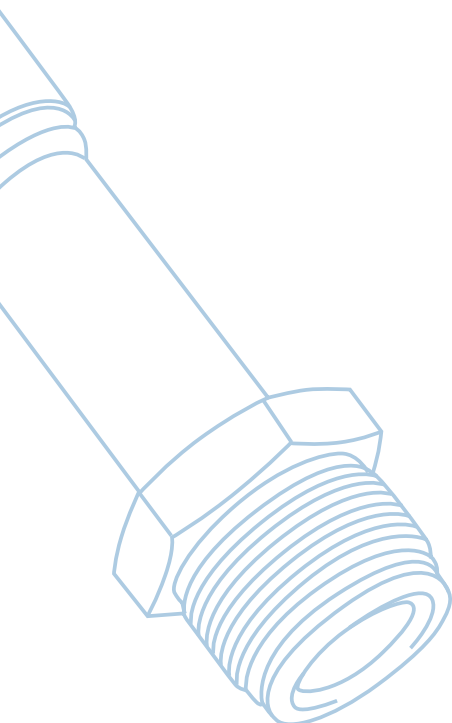
# Coaxial Male Face-Seal Weld Gland

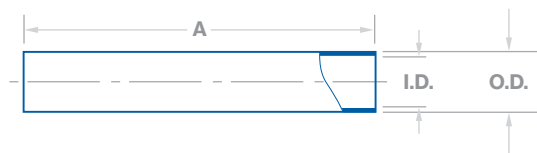
Valex Standard, ASTM Tube

| Product Lines |            |
|---------------|------------|
| 401 (EP)      | 201 (BA-S) |
| •             | •          |
| •             | •          |
| •             | •          |
| •             | •          |
| •             | •          |

| Dimensions in Inches |            |        |                    |            |        |      |               |                |  |
|----------------------|------------|--------|--------------------|------------|--------|------|---------------|----------------|--|
| Size*<br>Inner Tube  | Inner Tube |        | Size<br>Outer Tube | Outer Tube |        | A    | B             | Face-Seal Size |  |
|                      | O.D. 1     | Wall 1 |                    | O.D. 2     | Wall 2 |      |               | FS             |  |
| 1/4"                 | .250       | .035   | 1/2"               | .500       | .049   | 3.50 | .850 - 1.060  | 1/4"           |  |
| 3/8"                 | .375       | .035   | 5/8"               | .625       | .049   | 3.50 | .850 - 1.060  | 3/8"           |  |
| 1/2"                 | .500       | .049   | 3/4"               | .750       | .065   | 3.50 | .850 - 1.060  | 1/2"           |  |
| 3/4"                 | .750       | .065   | 1"                 | 1.000      | .065   | 7.50 | 1.845 - 1.970 | 3/4"           |  |
| 1"                   | 1.000      | .065   | 1-1/4"             | 1.250      | .065   | 7.75 | 1.805 - 1.930 | 1"             |  |

\* Size is based on o.d. of inner tube.





# Coaxial Sleeve

Valex Standard, ASTM Tube

CONFIGURATION

12

## Compatible with Product Lines

| 401 (EP) | 201 (BA-S) | 222 (BA-S) |
|----------|------------|------------|
| •        | •          | •          |
| •        | •          | •          |
| •        | •          | •          |
| •        | •          | •          |
| •        | •          |            |
| •        | •          |            |
| •        | •          |            |

## Dimensions in Inches

| Compatible Inner Tube | Outer Tube |       |       | A<br>(Standard Length) | A<br>(Additional Lengths) |
|-----------------------|------------|-------|-------|------------------------|---------------------------|
|                       | Size       | O.D.  | I.D.  |                        |                           |
| 1/4"                  | 5/8"       | .625  | .507  | 2.50                   | 4.00 / 5.00 / 6.00        |
| 3/8"                  | 3/4"       | .750  | .632  | 2.50                   | 4.00 / 5.00 / 6.00        |
| 1/2"                  | 7/8"       | .875  | .758  | 2.50                   | 4.00 / 5.00 / 6.00        |
| 3/4"                  | 1-1/4"     | 1.125 | 1.008 | 4.00                   | 4.00 / 5.00 / 6.00        |
| 1"                    | 1-3/8"     | 1.375 | 1.258 | 4.00                   | N/A                       |
| 1-1/2"                | 2-1/4"     | 2.125 | 2.023 | 4.50                   | N/A                       |
| 2"                    | 2-5/8"     | 2.625 | 2.523 | 4.50                   | N/A                       |

Note:

1. Sleeves are offered in grade TP 316L for all product lines.



# Coaxial Sleeve

Valex Standard, JIS Pipe

CONFIGURATION

12

## Compatible with Product Lines

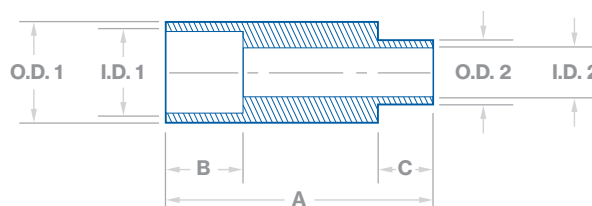
| 401 (EP) | 201 (BA-S) |
|----------|------------|
| •        | •          |
| •        | •          |
| •        | •          |
| •        | •          |
| •        | •          |
| •        | •          |
| •        | •          |
| •        | •          |

## Dimensions in Millimeters

| Compatible Inner Pipe | Outer Pipe |       | A   |
|-----------------------|------------|-------|-----|
|                       | O.D.       | I.D.  |     |
| 10A                   | 31.0       | 27.7  | 100 |
| 15A                   | 37.8       | 34.5  | 100 |
| 20A                   | 46.6       | 43.3  | 112 |
| 25A                   | 52.6       | 49.3  | 112 |
| 32A                   | 52.6       | 49.3  | 112 |
| 40A                   | 65.3       | 61.3  | 112 |
| 50A                   | 81.4       | 77.2  | 112 |
| 65A                   | 94.4       | 90.2  | 112 |
| 80A                   | 119.8      | 115.6 | 132 |

Note:

1. Sleeves are offered in grade TP 316L for all product lines.



CONFIGURATION  
**16**

## Coaxial Terminator

Valex Standard, ASTM Tube

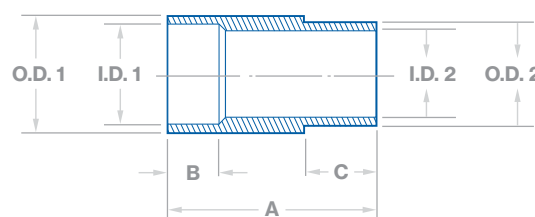
### Compatible with Product Lines

| 401 (EP) | 201 (BA-S) | 222 (BA-S) |
|----------|------------|------------|
| •        | •          | •          |
| •        | •          | •          |
| •        | •          | •          |
| •        | •          | •          |
| •        | •          | •          |
| •        | •          | •          |
| •        | •          | •          |

### Dimensions in Inches

| Size*  | O.D. 1 | I.D. 1 | O.D. 2 | I.D. 2 | A    | B   | C   |
|--------|--------|--------|--------|--------|------|-----|-----|
| 1/4"   | .500   | .402   | .325   | .255   | 1.25 | .37 | .25 |
| 3/8"   | .625   | .527   | .450   | .380   | 1.25 | .37 | .25 |
| 1/2"   | .750   | .620   | .603   | .506   | 1.25 | .37 | .25 |
| 3/4"   | 1.000  | .870   | .885   | .756   | 2.00 | .50 | .25 |
| 1"     | 1.250  | 1.120  | 1.135  | 1.006  | 2.00 | .50 | .25 |
| 1-1/2" | 2.000  | 1.870  | 1.635  | 1.511  | 2.25 | .75 | .25 |
| 2"     | 2.500  | 2.360  | 2.135  | 2.011  | 2.25 | .75 | .25 |

\* Terminator size indicates the size of coax tubing the terminator is compatible with.



CONFIGURATION  
**16**

## Coaxial Terminator

Valex Standard, JIS Pipe

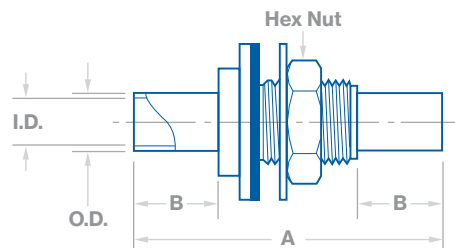
### Compatible with Product Lines

| 401 (EP) | 201 (BA-S) |
|----------|------------|
| •        | •          |
| •        | •          |
| •        | •          |
| •        | •          |
| •        | •          |
| •        | •          |
| •        | •          |
| •        | •          |
| •        | •          |

### Dimensions in Millimeters

| Size* | O.D. 1 | I.D. 1 | O.D. 2 | I.D. 2 | A     | B     | C    |
|-------|--------|--------|--------|--------|-------|-------|------|
| 10A   | 27.2   | 23.9   | 20.73  | 17.60  | 46.35 | 12.70 | 6.35 |
| 15A   | 34.0   | 30.7   | 25.13  | 22.00  | 46.35 | 12.70 | 6.35 |
| 20A   | 42.7   | 39.4   | 30.63  | 27.50  | 46.35 | 12.70 | 6.35 |
| 25A   | 42.7   | 39.4   | 37.47  | 34.34  | 46.35 | 12.70 | 6.35 |
| 25A   | 48.6   | 45.3   | 37.47  | 34.34  | 46.35 | 12.70 | 6.35 |
| 32A   | 60.5   | 57.2   | 46.26  | 43.13  | 52.35 | 19.05 | 6.35 |
| 40A   | 60.5   | 57.2   | 52.22  | 49.09  | 52.35 | 19.05 | 6.35 |
| 50A   | 76.3   | 72.1   | 64.24  | 61.11  | 52.35 | 19.05 | 6.35 |
| 65A   | 89.1   | 84.9   | 81.19  | 77.06  | 57.5  | 25.40 | 6.35 |
| 80A   | 114.3  | 110.1  | 94.12  | 89.99  | 57.5  | 25.40 | 6.35 |

\* Terminator size indicates the size of coax piping the terminator is compatible with.



Dimensions



# Coaxial Bulkhead Fitting

Valex Standard, ASTM Tube



## Compatible with Product Lines

| 401 (EP) | 201 (BA-S) | 222 (BA-S) |
|----------|------------|------------|
| •        | •          | •          |
| •        | •          | •          |
| •        | •          | •          |
| •        | •          |            |
| •        | •          |            |

## Dimensions in Inches

| Size* | O.D.  | I.D.  | A     | B    | Hex Nut      |
|-------|-------|-------|-------|------|--------------|
| 1/4"  | .500  | .402  | 3.625 | 1.00 | 3/4-16UNF    |
| 3/8"  | .625  | .527  | 3.625 | 1.00 | 7/8-14UNF    |
| 1/2"  | .750  | .620  | 3.625 | 1.00 | 1-1/16-12UNF |
| 3/4"  | 1.000 | .870  | 5.125 | 1.75 | 1-5/16-12UNF |
| 1"    | 1.250 | 1.120 | 5.125 | 1.75 | 1-5/8-12UNF  |

\* Bulkhead fitting size indicates the size of coax tubing the bulkhead fitting is compatible with.  
Note: Bulkhead fittings are offered in grade TP 316L for all product lines.

# Ordering Info.

## Tube & Pipe

- ASTM Tube Sizes
- JIS Pipe Sizes
- ASTM Tube, ASTM Pipe & JIS Pipe Sizes

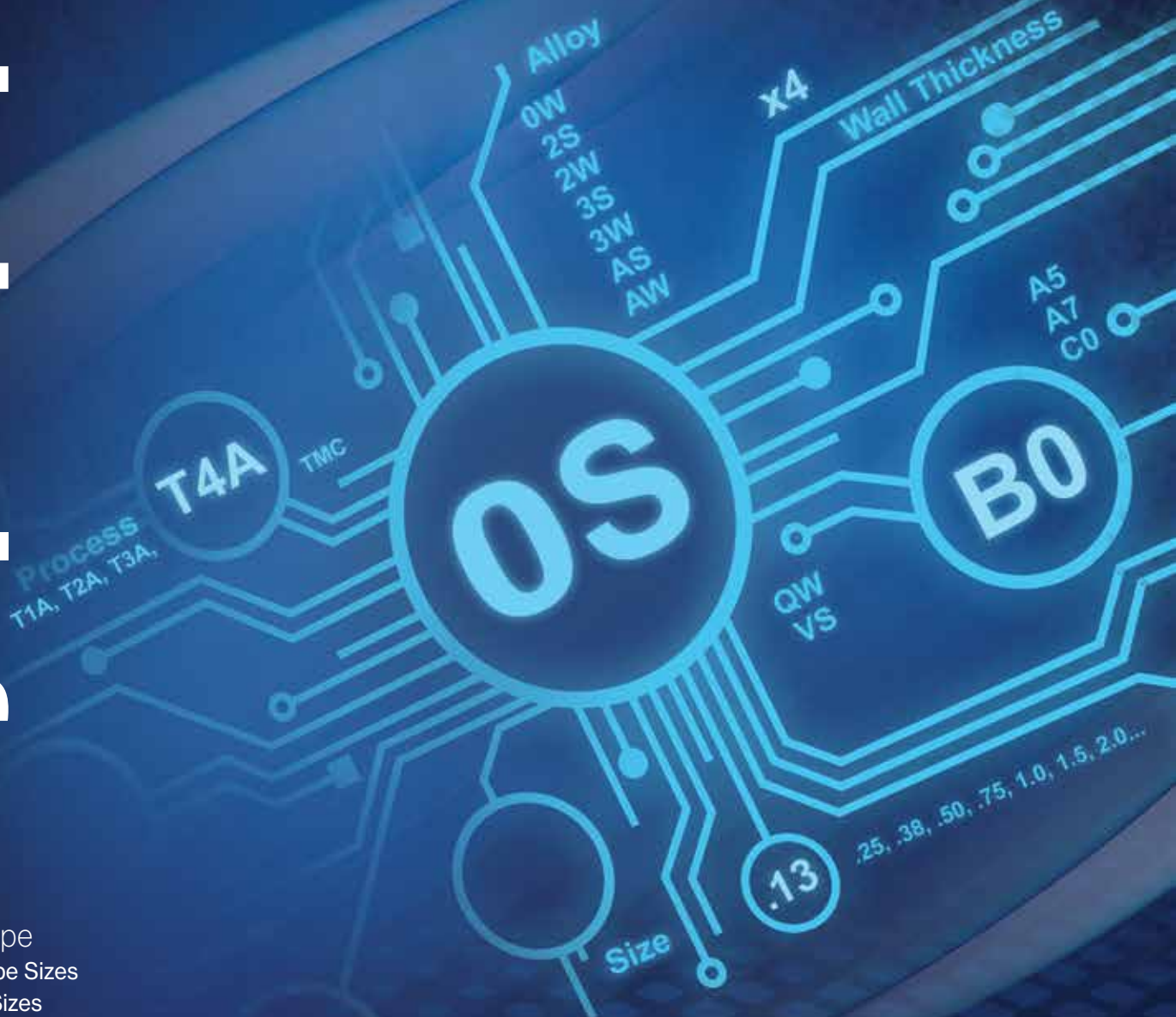
## Fittings

- ASTM Tube Sizes
- JIS Pipe Sizes
- ASTM Tube, ASTM Pipe & JIS Pipe Sizes

## Coaxial Tube, Pipe & Fittings

- ASTM Tube Sizes
- JIS Pipe Sizes

To place an order, please submit your order request to [inquire@valex.com](mailto:inquire@valex.com).  
To find your nearest distributor go to [Valex.com](http://Valex.com)



# Tube

Product Lines: 401, 301, 201, 101, 444 &amp; 222

ASTM Tube Sizes

Example 1:

T 4 A - Q S - . 1 3 x4 - 0 2 8 B 0

Use Only for 4-meter Length Tube

Example 2:

T 2 A - 0 S - 0 0 5 0 0 - 0 4 9

T 4 A

## Process

T1A = SP-9204 (Product Line 101)  
T2A = SP 9206 (Product Line 201)  
T3A = SP-9223 (Product Line 301)  
T4A = SP-9220 (Product Line 401)  
TMC = SP-9207 (Product Line 222)<sup>2</sup>  
TNE = SP-9241 (Product line 444)

Q S

## Alloy<sup>1</sup>

0S = 316L Seamless  
0W = 316L Welded  
1S = 304L Seamless  
1W = 304L Welded  
2S = 304L Seamless  
2W = 304L Welded  
3S = 304L Seamless  
3W = 304L Welded  
AS = 304 Seamless  
AW = 304 Welded  
HS = V22<sup>®</sup> Alloy (UNS N06022)<sup>2</sup>  
KS = 316L Seamless VIM/VAR  
NS = 316L Seamless (ASTM Standard)  
NW = 316L Welded (ASTM Standard)  
RS = 316L Seamless  
RW = 316L Welded  
QS = 316L Seamless  
QW = 316L Welded  
VS = 316L Seamless VIM/VAR

. 1 3

## Size

Use for:  
20-foot or 6-meter  
Length Tube

Used only for  
4-meter Length Tube

|       |                      |
|-------|----------------------|
| 00125 | .13 = .125" Diameter |
| 00250 | .25 = .25" Diameter  |
| 00375 | .38 = .375" Diameter |
| 00500 | .50 = .5" Diameter   |
| 00750 | .75 = .75" Diameter  |
| 01000 | 1.0 = 1" Diameter    |
| 01500 | 1.5 = 1.5" Diameter  |
| 02000 | 2.0 = 2" Diameter    |
| 02500 | 2.5 = 2.5" Diameter  |
| 03000 | 3.0 = 3" Diameter    |
| 04000 | 4.0 = 4" Diameter    |
| 06000 | 6.0 = 6" Diameter    |

x4

Used Only  
for 4-meter Length Tube

0 2 8

## Wall Thickness

028 = .028" Thick  
035 = .035" Thick  
039 = .039" Thick  
049 = .049" Thick  
065 = .065" Thick  
083 = .083" Thick  
109 = .109" Thick

B 0

## Surface Finish

Used only for 401 product line

A5 = 5 µin Ra Max  
A7 = 7 µin Ra Max  
B0 = 10 µin Ra Max  
C0 = 10 µin Ra

Used only for 444 product line

-A = 5 µin Ra Max  
-B = 10 µin Ra Max

## Notes:

1. See Valex SP-9200 sheet 9 for breakdown of alloy chemistries and melt type.

2. Material: Haynes Hastelloy<sup>®</sup> C-22<sup>®</sup> is available upon request. Hastelloy and C-22 are registered trademarks of Haynes International Inc.



# Tube

Product Lines: 444

ASTM Tube Sizes

Example:

**H** **E** **1** - **.** **2** **5** x **1** **8** - **5** **R** **A**

**H** **E** **1**

## Process

HE1 = SP-9241 (V22® Alloy, UNS N06022)<sup>2</sup>

**.** **2** **5**

## Size

.25 = 1/4" O.D. X .035" Wall  
 .38 = 3/8" O.D. X .035" Wall  
 .50 = 1/2" O.D. X .049" Wall  
 .75 = 3/4" O.D. X .065" Wall

**1** **8**

## Segment Length

XX = Segment Length in Inches

**5** **R** **A**

## Surface Finish

5Ra = 5 µin Ra  
 10Ra = 10 µin Ra

## Notes:

1. See Valex SP-9200 sheet 9 for breakdown of alloy chemistries and melt type.
2. Material: Haynes Hastelloy® C-22® is available upon request. Hastelloy and C-22 are registered trademarks of Haynes International Inc.

# Pipe

Product Lines: 401, 201 &amp; 101

JIS Pipe Sizes

Example 1:

P 4 A - R S - 0 5 0 A x4 - 0 5 S B 0

Use Only for 4-meter Length Pipe

Example 2:

P 2 A - R S - 0 1 5 0 A - 1 0 S

P 4 A

## Process

P1A = SP-9204 (Product Line 101)  
P2A = SP 9206 (Product Line 201)  
P4A = SP-9220 (Product Line 401)

R S

## Alloy<sup>1</sup>

1S = 304L Seamless (JIS Standard)  
1W = 304L Welded (JIS Standard)  
AS = 304 Seamless  
AW = 304 Welded  
BS = 316L Seamless VOD/VAR  
NS = 316L Seamless (JIS Standard)  
NW = 316L Welded (JIS Standard)  
RS = 316L Seamless  
RW = 316L Welded

0 5 0

## Size

Use for:  
20-foot or 6-meter  
Length Pipe

4-meter  
Length Pipe

|      |     |   |           |
|------|-----|---|-----------|
| 0008 | 008 | = | 8A Pipe   |
| 0010 | 010 | = | 10A Pipe  |
| 0015 | 015 | = | 15A Pipe  |
| 0020 | 020 | = | 20A Pipe  |
| 0025 | 025 | = | 25A Pipe  |
| 0032 | 032 | = | 32A Pipe  |
| 0040 | 040 | = | 40A Pipe  |
| 0050 | 050 | = | 50A Pipe  |
| 0065 | 065 | = | 65A Pipe  |
| 0080 | 080 | = | 80A Pipe  |
| 0090 | 090 | = | 90A Pipe  |
| 0100 | 100 | = | 100A Pipe |
| 0125 | 125 | = | 125A Pipe |
| 0150 | 150 | = | 150A Pipe |
| 0200 | 200 | = | 200A Pipe |
| 0250 | 250 | = | 250A Pipe |
| 0300 | 300 | = | 300A Pipe |
| 0350 | 350 | = | 350A Pipe |
| 0400 | 400 | = | 400A Pipe |
| 0450 | 450 | = | 450A Pipe |
| 0500 | 500 | = | 500A Pipe |
| 0550 | 550 | = | 550A Pipe |
| 0600 | 600 | = | 600A Pipe |
| 0650 | 650 | = | 650A Pipe |
| 0700 | 700 | = | 700A Pipe |
| 0750 | 750 | = | 750A Pipe |
| 0800 | 800 | = | 800A Pipe |

A

## End Type

A = Square  
B = 32.5° Beveled  
C = Square, +10% / -15% Wall  
D = 32.5° Beveled, +10% / -15% Wall  
J = Square, -20% Wall  
K = 32.5° Beveled, -20% Wall

x4

Used Only  
for 4-meter Length Pipe

0 5 S

## Schedule

### 6m Pipe:

05S = JIS Schedule 5  
10S = JIS Schedule 10

### 4m Pipe:

05 = JIS Schedule 5  
10 = JIS Schedule 10

B 0

## Surface Finish

Used only for 401 product line

A5 = 5µin Ra Max  
A7 = 7µin Ra Max  
B0 = 10µin Ra Max  
C0 = 10µin Ra

## Notes:

1. See Valex SP-9200 sheet 9 for breakdown of alloy chemistries and melt type.

# Tube & Pipe

Product Lines: CFOS & LDEP

ASTM Tube, ASTM Pipe & JIS Pipe Sizes

Example :

**D W** - **1 5 0** **L** x **1 0 S** - **B A 4 0**

## D | W

### Process / Alloy

CS = 316L Seamless  
CW = 316L Welded  
DS = 304L Seamless  
DW = 304L Welded  
AS = 304 Seamless  
AW = 304 Welded

## 1 | 5 | 0

### Size

#### ASTM Tube:

1/4 = .25" O.D.  
3/8 = .375" O.D.  
1/2 = .5" O.D.  
3/4 = .75" O.D.  
1 = 1" O.D.  
1-1/2 = 1.5" O.D.  
2 = 2" O.D.  
2-1/2 = 2.5" O.D.  
3 = 3" O.D.  
4 = 4" O.D.  
6 = 6" O.D.

#### JIS & NPS Pipe:

25 = DN 25 (JIS 25A)  
32 = DN 32 (JIS 32A)  
40 = DN 40 (JIS 40A)  
50 = DN 50 (NPS 2 / JIS 50A)  
65 = DN 65 (NPS 2-1/2 / JIS 65A)  
80 = DN 80 (NPS 3 / JIS 80A)  
90 = DN 90 (NPS 3-1/2 / JIS 90A)  
100 = DN 100 (NPS 4 / JIS 100A)  
125 = DN 125 (NPS 5 / JIS 125A)  
150 = DN 150 (NPS 6 / JIS 150A)  
200 = DN 200 (NPS 8 / JIS 200A)  
250 = DN 250 (NPS 10 / JIS 250A)

300 = DN 300 (NPS 12 / JIS 300A)  
350 = DN 350 (NPS 14 / JIS 350A)  
400 = DN 400 (NPS 16 / JIS 400A)  
450 = DN 450 (NPS 18 / JIS 450A)  
500 = DN 500 (NPS 20 / JIS 500A)  
550 = DN 550 (NPS 22 / JIS 550A)  
600 = DN 600 (NPS 24 / JIS 600A)  
650 = DN 650 (JIS 650A)  
700 = DN 700 (JIS 700A)  
750 = DN 750 (NPS 30 / JIS 750A)  
800 = DN 800 (JIS 800A)

## L

### End Type

#### ASTM Tube:

Blank = Square

#### JIS Pipe:

A = Square  
B = Beveled  
J = Square, -20% Wall  
K = Beveled, -20% Wall

#### NPS Pipe:

L = Square  
M = Beveled  
N = Square, -20% Wall  
P = Beveled, -20% Wall

## 1 | 0 | S

### Wall Thickness

#### Tube Wall:

.035 = .035"  
.039 = .039"  
.049 = .049"  
.065 = .065"  
.083 = .083"  
.109 = .109"

#### Pipe Wall:

5S = Schedule 5  
10S = Schedule 10  
40S = Schedule 40  
80S = Schedule 80

## B | A | 4 | 0

### Surface Finish

AP = O.D. = AP, I.D. = AP  
ODMP = O.D. = MP, I.D. = AP  
BA = O.D. = BA, I.D. = BA 200 Ra Max  
BA40 = O.D. = BA, I.D. = 40 Ra BA  
EP10 = O.D. = BA, I.D. = EP 10 Ra Ave / 15 Ra Max  
EP = O.D. = BA, I.D. = EP 20 Ra Ave / 25 Ra Max  
ID40 = O.D. = AP, I.D. = 40 Ra Max  
IDMP = O.D. = AP, I.D. = BA 200 Ra Max

#### ASTM Tube Example:

##### CS-1/2x.049-BA

Valex CFOS Spec Tube, 316L Seamless, 1/2" O.D. x .049" Wall, BA Finish Option, Squared Ends

#### JIS Pipe Example:

##### AW-250BX10S-AP

Valex CFOS Spec Pipe, 304 Welded, JIS Size 250A x Schedule 10, AP Finish Option, Beveled Ends

#### NPS Pipe Example:

##### DW-250LX20S-BA40

Valex CFOS Spec Pipe, 304L Welded, NPS 10 (DN 250) x Schedule 20, BA Finish Option with 40 Ra, Squared Ends

### Notes:

1. Per Vallex Specification SP-9234 (CFOS) and SP-9235 (LDEP)
2. Process codes are not available for all size and finish codes. Please contact Vallex for item number availability.

# Fittings

Product Lines: 401, 201 &amp; 222

ASTM Tube Sizes

Example:

**E** **7 R** - **. 7 5** x ( **. 5** ) - **B 0**

Used Only for Reducing Fittings

**E****Process / Alloy<sup>1</sup>**

- B = SP-9206 (Product Line 201)  
0S/0W/A4 (316L)
- D = SP-9206 (Product Line 201)  
2S/2W (304L)
- E = SP-9220 (Product Line 401)  
0S/0W/A4 (316L)
- H = SP-9207 (Product Line 222)  
HS (V22<sup>®</sup> Alloy, UNS N06022)<sup>2</sup>
- Q = SP-9220 (Product Line 401)  
VS (316L)
- RB = SP-9206 (Product Line 201)  
RS/RW (316L)
- RE = SP-9220 (Product Line 401)  
RS/RW (316L)

**7 R****Configuration**

- 2 = 90° Elbow
- 2W = 90° Elbow, WLD
- 2K = 45° Elbow
- 2KW = 45° Elbow, WLD
- 7 = Equal Tee
- 7W = Equal Tee, WLD
- 7R = Reducing Tee
- 7RW = Reducing Tee, WLD
- 7RWW = Reducing Tee, WLD x WLD
- 9 = Cross
- 16 = End Cap
- 16W = End Cap, WLD
- 31 = Conc. Reducer
- 31(S) = Conc. Reducer, Short Type
- 31W = Conc. Reducer, WLD x SMLS
- 31WW = Conc. Reducer, WLD x WLD
- 38 = Weld Neck Flange w/ SMLS Tube
- 38W = Weld Neck Flange w/ WLD Tube
- 38SE = Tube Stub End, Short
- 38LE = Tube Stub End, Long
- 38PF = Tube Plate Flange

**. 7 5****Size**

- .25 = 1/4" O.D. x .035" Wall
- .25M = 1/4" O.D. x .039" (1mm) Wall
- .375 = 3/8" O.D. x .035" Wall
- .375M = 3/8" O.D. x .039" (1mm) Wall
- .5 = 1/2" O.D. x .049" Wall
- .75 = 3/4" O.D. x .065" Wall
- .75M = 3/4" O.D. x .049" Wall
- 1 = 1" O.D. x .065" Wall
- 1.5 = 1-1/2" O.D. x .065" Wall
- 2 = 2" O.D. x .065" Wall
- 2.5 = 2-1/2" O.D. x .065" Wall
- 3 = 3" O.D. x .065" Wall
- 4 = 4" O.D. x .083" Wall
- 6 = 6" O.D. x .109" Wall

( **. 5** )**Used Only for Reducing Fittings**

Please refer to "size" code if applicable.

**B 0****Surface Finish**

Used only for 401 product line

- A5 = 5 µin Ra Max
- A7 = 7 µin Ra Max
- B0 = 10 µin Ra Max
- C0 = 10 µin Ra

Single Wall Fitting Example 1:  
**E2-.5-B0**Valex 401 Spec, 90° Elbow, 1/2" O.D. x .049" Wall,  
10 Ra Max, 0S Chemistry, Standard VisualsSingle Wall Fitting Example 2:  
**Q7R-1x.5-A5**Valex 401 Spec, Reducing Tee, 1" (.065" Wall) x 1/2" (.049" Wall),  
5 Ra Max, VS Chemistry, Superior Visuals**Notes:**

1. See Vallex SP-9200 sheet 9 for breakdown of alloy chemistries and melt type.

2. Material: Haynes Hastelloy® C-22® is available upon request. Hastelloy and C-22 are registered trademarks of Haynes International Inc.

# Fittings

Product Lines: 401, 201 & 101

JIS Pipe Sizes

Example:

**J E** **7 R W** - **8 0 A T** x ( **4 0 A T** ) - **B 0**

Used Only for Reducing Fittings

## J | E

### Process / Alloy<sup>1</sup>

|    |   |                            |              |
|----|---|----------------------------|--------------|
| JA | = | SP-9204 (Product Line 101) | AS/AW (304)  |
| JB | = | SP-9206 (Product Line 201) | RS/RW (316L) |
| JD | = | SP-9206 (Product Line 201) | AS/AW (304)  |
| JE | = | SP-9220 (Product Line 401) | RS/RW (316L) |
| JF | = | SP-9206 (Product Line 201) | NS/NW (316L) |
| JG | = | SP-9206 (Product Line 201) | QS/QW (316L) |
| JH | = | SP-9220 (Product Line 401) | NS/NW (316L) |
| JJ | = | SP-9220 (Product Line 401) | QS/QW (316L) |
| JK | = | SP-9204 (Product Line 101) | 1S/1W (304L) |
| JL | = | SP-9206 (Product Line 201) | 1S/1W (304L) |

## 7 | R | W

### Configuration

|       |   |                                                     |
|-------|---|-----------------------------------------------------|
| 2S    | = | 90° Elbow, Short Radius                             |
| 2L    | = | 90° Elbow, Long Radius                              |
| 2WS   | = | 90° Elbow, Short Radius, WLD                        |
| 2WL   | = | 90° Elbow, Long Radius, WLD                         |
| 2K    | = | 45° Elbow                                           |
| 2KW   | = | 45° Elbow, WLD                                      |
| 2SS   | = | 90° Elbow, Short, JIS B2312                         |
| 2LS   | = | 90° Elbow, Long, JIS B2312                          |
| 2WSS  | = | 90° Elbow, Short, JIS B2313, WLD                    |
| 2WLS  | = | 90° Elbow, Long, JIS B2313, WLD                     |
| 2KLS  | = | 45° Elbow, Long, JIS B2312                          |
| 2KWLS | = | 45° Elbow, Long, JIS B2313, WLD                     |
| 7     | = | Equal Tee                                           |
| 7W    | = | Equal Tee, WLD                                      |
| 7R    | = | Reducing Tee                                        |
| 7RW   | = | Reducing Tee, WLD                                   |
| 7RWW  | = | Reducing Tee, WLD x WLD                             |
| 7RN   | = | Reducing Tee, No Riser                              |
| 7S    | = | Equal Tee, JIS B2312 / B2313                        |
| 7RS   | = | Reducing Tee, JIS B2312 / B2313                     |
| 7RSN  | = | Reducing Tee, JIS B2312 / B2313, No Riser           |
| 16    | = | End Cap                                             |
| 16W   | = | End Cap, WLD                                        |
| 31    | = | Conc. Reducer                                       |
| 31W   | = | Conc. Reducer, WLD x SMLS                           |
| 31WW  | = | Conc. Reducer, WLD x WLD                            |
| 31FF  | = | Conc. Reducer, Formed, No Tangent                   |
| 31FS  | = | Conc. Reducer, No Tangent Large, Small Tangent SMLS |

|      |   |                                                     |
|------|---|-----------------------------------------------------|
| 31SF | = | Conc. Reducer, Large Tangent SMLS, No Tangent Small |
| 31FW | = | Conc. Reducer, No Tangent Large, Small Tangent WLD  |
| 31WF | = | Conc. Reducer, Large Tangent WLD, No Tangent Small  |
| 33   | = | Conc. Reducer, Cap Type                             |
| 33FF | = | Cap Reducer, Formed, No Tangent                     |
| 33FS | = | Cap Reducer, No Tangent Large, Small Tangent SMLS   |
| 33SF | = | Cap Reducer Large Tangent SMLS, No Tangent Small    |
| 33FW | = | Cap Reducer, No Tangent Large, Small Tangent WLD    |
| 33WF | = | Cap Reducer, Large Tangent WLD, No Tangent Small    |
| 38BF | = | Blank Flange                                        |
| 38L  | = | Lap Joint Stub End, JIS                             |
| 38LJ | = | Lap Joint Flange                                    |
| 38WN | = | Weld Neck Flange                                    |

## 8 | 0

### Size

|     |   |           |
|-----|---|-----------|
| 8   | = | 8A Pipe   |
| 10  | = | 10A Pipe  |
| 15  | = | 15A Pipe  |
| 20  | = | 20A Pipe  |
| 25  | = | 25A Pipe  |
| 32  | = | 32A Pipe  |
| 40  | = | 40A Pipe  |
| 50  | = | 50A Pipe  |
| 65  | = | 65A Pipe  |
| 80  | = | 80A Pipe  |
| 90  | = | 90A Pipe  |
| 100 | = | 100A Pipe |
| 125 | = | 125A Pipe |
| 150 | = | 150A Pipe |
| 200 | = | 200A Pipe |
| 250 | = | 250A Pipe |
| 300 | = | 300A Pipe |
| 350 | = | 350A Pipe |
| 400 | = | 400A Pipe |
| 450 | = | 450A Pipe |
| 500 | = | 500A Pipe |
| 550 | = | 550A Pipe |
| 600 | = | 600A Pipe |

## A

### End Type

|   |   |                                 |
|---|---|---------------------------------|
| A | = | Square                          |
| B | = | 32.5° Beveled                   |
| C | = | Square, +10% / -15% Wall        |
| D | = | 32.5° Beveled, +10% / -15% Wall |
| J | = | Square, -20% Wall               |
| K | = | 32.5° Beveled, -20% Wall        |

### Flange Type

|   |   |         |
|---|---|---------|
| S | = | JIS 5K  |
| T | = | JIS 10K |

## T

### Schedule

|       |   |     |
|-------|---|-----|
| Blank | = | 5S  |
| T     | = | 10S |

### Face-Type (Flange Only)

|   |   |              |
|---|---|--------------|
| 1 | = | Full Face    |
| 2 | = | Raised Face  |
| 3 | = | Grooved Face |

### Flange Type/ Schedule

#### (Lap Joint Stub End Only)

|       |   |              |
|-------|---|--------------|
| Blank | = | JIS 5K / 5S  |
| V     | = | JIS 10K / 5S |

## ( 4 | 0 | A | T )

### Used Only for Reducing Fittings

Please refer to the "size, end type and schedule" codes if applicable.

## B | 0

### Surface Finish

Used only for 401 product line

|    |   |               |
|----|---|---------------|
| A5 | = | 5 µin Ra Max  |
| A7 | = | 7 µin Ra Max  |
| B0 | = | 10 µin Ra Max |
| C0 | = | 10 µin Ra     |

### Notes:

1. See Vallex SP-9200 sheet 9 for breakdown of alloy chemistries and melt type.

# Fittings

Product Lines: CFOS &amp; LDEP

ASTM Tube, ASME Pipe &amp; JIS Pipe Sizes

Example:

**D F** **7 R W** - **8 4 P T** ( **8 1 P T** ) - **1**

Used Only for Reducing Fittings

## D F

### Alloy

AF = 304  
CF = 316L  
DF = 304L

## 7 R W

### Configuration

2S = 90° Elbow, Short Radius  
2L = 90° Elbow, Long Radius  
2WS = 90° Elbow, Short Radius, WLD  
2WL = 90° Elbow, Long Radius, WLD  
2K = 45° Elbow  
2KW = 45° Elbow, WLD  
2SS = 90° Elbow, Short, ASME B16.9 / JIS B2312  
2LS = 90° Elbow, Long, ASME B16.9 / JIS B2312  
2WSS = 90° Elbow, Short, ASME B16.9 / JIS B2312, WLD  
2WLS = 90° Elbow, Long, ASME B16.9 / JIS B2312, WLD  
2KLS = 45° Elbow, Long, ASME B16.9 / JIS B2312  
2KWLS = 45° Elbow, Long, ASME B16.9 / JIS B2312, WLD  
7 = Equal Tee  
7W = Equal Tee, WLD  
7R = Reducing Tee  
7RW = Reducing Tee, WLD  
7RWW = Reducing Tee, WLD x WLD  
7S = Equal Tee, JIS B2312  
7RS = Reducing Tee, JIS B2312  
9 = Equal Cross  
16 = End Cap  
16W = End Cap, WLD  
31 = Conc. Reducer  
31W = Conc. Reducer, WLD x SMLS  
31WW = Conc. Reducer, WLD x WLD  
33 = Cap Reducer  
38BF = Blind / Blank Flange  
38L = Lap Joint Stub End, JIS  
38LA = Lap Joint Stub End, Long Pattern, Type "A", ASME B16.9

38SA = Lap Joint Stub End, Short Pattern, Type "A", ASME B16.9  
38LJ = Lap Joint Flange  
38WN = Weld Neck Flange

## 8 4

### Size

#### ASTM Tube:

|                     |                    |
|---------------------|--------------------|
| 04 = .25" Diameter  | 32 = 2" Diameter   |
| 06 = .375" Diameter | 40 = 2.5" Diameter |
| 08 = .5" Diameter   | 48 = 3" Diameter   |
| 12 = .75" Diameter  | 64 = 4" Diameter   |
| 16 = 1" Diameter    | 96 = 6" Diameter   |
| 24 = 1.5" Diameter  |                    |

#### JIS & NPS Pipe:

70 = DN 15 (NPS 1/2 / JIS 15A)  
71 = DN 20 (NPS 3/4 / JIS 20A)  
72 = DN 25 (NPS 1 / JIS 25A)  
73 = DN 32 (NPS 1-1/4 / JIS 32A)  
74 = DN 40 (NPS 1-1/2 / JIS 40A)  
75 = DN 50 (NPS 2 / JIS 50A)  
76 = DN 65 (NPS 2-1/2 / JIS 65A)  
77 = DN 80 (NPS 3 / JIS 80A)  
78 = DN 90 (NPS 3-1/2 / JIS 90A)  
79 = DN 100 (NPS 4 / JIS 100A)  
80 = DN 125 (NPS 5 / JIS 125A)  
81 = DN 150 (NPS 6 / JIS 150A)  
82 = DN 200 (NPS 8 / JIS 200A)  
83 = DN 250 (NPS 10 / JIS 250A)  
84 = DN 300 (NPS 12 / JIS 300A)  
85 = DN 350 (NPS 14 / JIS 350A)  
86 = DN 400 (NPS 16 / JIS 400A)  
87 = DN 450 (NPS 18 / JIS 450A)  
88 = DN 500 (NPS 20 / JIS 500A)  
89 = DN 550 (NPS 22 / JIS 550A)  
90 = DN 600 (NPS 24 / JIS 600A)  
91 = DN 600 (JIS 650A)  
92 = DN 700 (JIS 700A)  
93 = DN 750 (JIS 750A)  
94 = DN 800 (JIS 800A)

#### Fitting Example 1:

**CF31W-82PT81PT-4**

Valex LDEP Spec, Concentric Reducer, NPS 8 (Sch 10)  
x NPS 6 (Sch 10), 20 Ra, EP, 316L

## P

### Type Code

#### ASTM Tube:

Blank = Square

#### JIS Pipe:

A = Square  
B = Beveled  
J = Square, -20% Wall  
K = Beveled, -20% Wall

#### NPS Pipe:

L = Square  
M = Beveled  
N = Square, -20% Wall  
P = Beveled, -20% Wall

#### Flange Type:

Q = Class 150, B16.5  
R = Class 300, B16.5  
S = JIS B2220, 5K  
T = JIS B2220, 10K

## T

### Wall

#### ASTM Tube:

B = .035" Wall  
C = .039" Wall  
D = .049" Wall  
F = .065" Wall  
G = .083" Wall  
J = .109" Wall

#### JIS & NPS Pipe:

Blank = 5S  
T = 10S  
V = 40S  
W = 80S

#### Flange Type (Flange Only):

1 = Flat / Full Face  
2 = Raised Face  
3 = Grooved Face

**( 8 1 P T )**

### Used Only for Reducing Fittings

Please refer to "size, end type and wall" codes if applicable.

## 1

### Surface Finish

Blank = No Finish Requirement

1 = O.D. = AP, I.D. = AP  
2 = O.D. = BA, I.D. = BA 200 Ra Max  
3 = O.D. = BA, I.D. = 40 Ra BA  
4 = O.D. = BA, I.D. = EP 20 Ra Ave / 25 Ra Max  
5 = O.D. = AP, I.D. = 40 Ra BA  
6 = O.D. = AP, I.D. = BA 200 Ra Max  
7 = O.D. = MP, I.D. = AP  
8 = O.D. = BA, ID = EP 10 Ra Ave / 15 Ra Max

# Coaxial Tube

Product Lines: 401, 301, 201, 101 & 222

ASTM Tube Sizes

Example:

**C** **T** **4** **A** - **W** - **V** **S** - **.** **3** **7** **5** **x4** - **A** **5**

Use Only for 4-meter Length Tube

## **C** **T** **4** **A**

### Inner Process

CT1A = SP-9204 (Product Line 101)  
CT2A = SP-9206 (Product Line 201)  
CT3A = SP-9223 (Product Line 301)  
CT4A = SP-9220 (Product Line 401)  
CTMC = SP-9207 (Product Line 222)<sup>2</sup>  
CTNE = SP-9241 (Product Line 444)

## **W**

### Outer Alloy<sup>1</sup>

OS = 316L OS Seamless  
OW = 316L OW Welded  
1S = 304L Seamless  
1W = 304L Welded  
2S = 304L Seamless  
2W = 304L Welded  
AW = 304 Welded  
NS = 316L Seamless (ASTM Standard)  
NW = 316L Welded (ASTM Standard)  
RS = 316L Seamless  
RW = 316L Welded  
VS = 316L Seamless VIM/VAR

## **V** **S**

### Inner Alloy<sup>1</sup>

OS = 316L Seamless  
OW = 316L Welded  
2S = 304L Seamless  
2W = 304L Welded  
3S = 304L Seamless  
3W = 304L Welded  
HS = V22® Alloy (UNS N06022)<sup>2</sup>  
KS = 316L Seamless VIM/VAR  
NS = 316L Seamless (ASTM Standard)  
NW = 316L Welded (ASTM Standard)  
QS = 316L Seamless  
QW = 316L Welded  
RS = 316L Seamless  
RW = 316L Welded  
VS = 316L Seamless VIM/VAR

## **.** **3** **7** **5** ( **X** **X** **X** **X** )

### Inner Size

#### Use for:

| 20-foot<br>& 6-meter<br>Length Tube | 4-meter<br>Length<br>Tube |                             |
|-------------------------------------|---------------------------|-----------------------------|
| .25                                 | .25                       | = .25" Diameter             |
| .25M                                | .25M                      | = .25" Diameter (1mm Wall)  |
| .375                                | .38                       | = .375" Diameter            |
| .375M                               | .38M                      | = .375" Diameter (1mm Wall) |
| .5                                  | .5                        | = .5" Diameter              |
| .75                                 | .75                       | = .75" Diameter             |
| 1                                   | 1                         | = 1" Diameter               |
| 1.5                                 | 1.5                       | = 1.5" Diameter             |
| 2                                   | 2                         | = 2" Diameter               |

### x4

### Used Only for 4-Meter Length Tube

## **A** **5**

### Surface Finish

Used only for 401 product line

A5 = 5 µin Ra Max  
A7 = 7 µin Ra Max  
B0 = 10 µin Ra Max  
C0 = 10 µin Ra

Used only for 444 product line

-A = 5 µin Ra Max  
-B = 10 µin Ra Max

### Notes:

1. See Valex SP-9200 sheet 9 for breakdown of alloy chemistries and melt type.

2. Material: Haynes Hastelloy® C-22® is available upon request. Hastelloy and C-22 are registered trademarks of Haynes International Inc.



# Coaxial Pipe

Product Lines: 401, 201 &amp; 101

JIS Pipe Sizes

Example:

**C** **P** **4** **A** - **A** **W** - **R** **S** - **0** **2** **0** **A** x4 - **A** **5**

Use Only for 4-meter Length Tube

## C | P | 4 | A

### Inner Process

CP1A = SP-9204 (Product Line 101)  
CP2A = SP-9206 (Product Line 201)  
CP4A = SP-9220 (Product Line 401)

## A | W

### Outer Alloy<sup>1</sup>

AS = 304 Seamless  
AW = 304 Welded  
NS = 316L Seamless (JIS Standard)  
NW = 316L Welded (JIS Standard)  
RS = 316L Seamless  
RW = 316L Welded

## R | S

### Inner Alloy<sup>1</sup>

1S = 304L Seamless (JIS Standard)  
1W = 304L Welded (JIS Standard)  
NS = 316L Seamless (JIS Standard)  
NW = 316L Welded (JIS Standard)  
RS = 316L Seamless  
RW = 316L Welded

## 0 | 2 | 0 ( X | X )

### Inner Size

Use for:  
20-foot  
or 6-meter  
Length Tube

4-meter  
Length  
Tube

|     |    |                        |
|-----|----|------------------------|
| 008 | 08 | = 8A Pipe, Schedule 5  |
| 010 | 10 | = 10A Pipe, Schedule 5 |
| 015 | 15 | = 15A Pipe, Schedule 5 |
| 020 | 20 | = 20A Pipe, Schedule 5 |
| 025 | 25 | = 25A Pipe, Schedule 5 |
| 032 | 32 | = 32A Pipe, Schedule 5 |

## A

### End Type

A = Square  
B = 32.5° Beveled  
C = Square, +10% / -15% Wall  
D = 32.5° Beveled, +10% / -15% Wall  
J = Square, +Unspecified / -20% Wall  
K = 32.5° Beveled, +Unspecified / -20% Wall

## x4

### Used Only for 4-Meter Length Tube

## A | 5

### Surface Finish

Used only for 401 product line

A5 = 5 µin Ra Max  
A7 = 7 µin Ra Max  
B0 = 10 µin Ra Max  
C0 = 10 µin Ra

### Notes:

1. See Valex SP-9200 sheet 9 for breakdown of alloy chemistries and melt type.

# Coaxial Fittings

Product Lines: 401, 201 & 222

ASTM Tube Sizes

Example:

**C** **3 1** - **5** x ( **. 2 5** ) - **B 0**

Use Only for Reducing Fittings

**C**

## Inner Process / Alloy<sup>1</sup>

- C = SP-9220 (Product Line 401)  
OS/OW (316L)
- CB = SP-9206 (Product Line 201)  
OS/OW (316L)
- HC = SP-9207 (Product Line 222)  
HS (V22® Alloy, UNS N06022)<sup>2</sup>
- R = SP-9220 (Product Line 401)  
VS (316L)
- RC = SP-9220 (Product Line 401)  
RS/RW (316L)
- W = SP-9220 (Product Line 401)  
KS (316L)
- WB = SP-9206 (Product Line 201)  
KS (316L)

## Outer Alloy<sup>1</sup>

- Blank = OS/OW (316L)
- 2 = 2S/2W (304L)
- A = AW (304)
- N = NS (316L)
- R = RS/RW (316L)

**3 1**

## Configuration

- 2 = 90° Elbow
- 2K = 45° Elbow
- 7 = Equal Tee
- 7R = Reducing Tee
- 7P = Coax Purge Tee, Male
- 7PF = Coax Purge Tee, Female
- 7PFS = Coax Purge Tee w/ FS, Male
- 12 = Coax Sleeve
- 12E = Coax Sleeve (4=4", 5=5", 6=6")
- 14FS = Coax FS Weld Gland, Female
- 15FS = Coax FS Weld Gland, Male
- 16 = Coax Terminator
- 17BH = Coax Bulkhead Fitting
- 31 = Concentric Reducer

**. 5**

## Size

- .25 = 1/4" O.D. x .035" Wall Inner Tube  
1/2" O.D. x .049" Wall Outer Tube
- .25M = 1/4" O.D. x .039" (1mm) Wall Inner Tube  
1/2" O.D. x .049" Wall Outer Tube
- .375 = 3/8" O.D. x .035" Wall Inner Tube  
5/8" O.D. x .049" Wall Outer Tube
- .375M = 3/8" O.D. x .039" (1mm) Wall Inner Tube  
5/8" O.D. x .049" Wall Outer Tube
- .5 = 1/2" O.D. x .049" Wall Inner Tube  
3/4" O.D. x .065" Wall Outer Tube
- .75 = 3/4" O.D. x .065" Wall Inner Tube  
1" O.D. x .065" Wall Outer Tube
- .75M = 3/4" O.D. x .049" Wall Inner Tube  
1" O.D. x .065" Wall Outer Tube
- 1 = 1" O.D. x .065" Wall Inner Tube  
1-1/4" O.D. x .065" Wall Outer Tube
- 1.5 = 1-1/2" O.D. x .065" Wall Inner Tube  
2" O.D. x .065" Wall Outer Tube
- 2 = 2" O.D. x .065" Wall Inner Tube  
2-1/2" O.D. x .065" Wall Outer Tube

( **. 2 5** )

## Used Only

### for Reducing Fittings

Please refer to the size code for dimensions, if applicable.

**B 0**

## Surface Finish

Used only for 401 product line

- A5 = 5 µin Ra Max
- A7 = 7 µin Ra Max
- B0 = 10 µin Ra Max
- C0 = 10 µin Ra

Coaxial Fitting Example 1:

**C2-.25-A5**

Valex 401 Spec, Coaxial 90° Elbow, 1/4" (.035" wall) Inner, 1/2" (.049" Wall) Outer, Superior Visuals, 5 Ra Max, OS Inner Chemistry, OS Outer Chemistry.

## Notes:

1. See Valox SP-9200 sheet 9 for breakdown of alloy chemistries and melt type.

2. Material: Haynes Hastelloy® C-22® is available upon request. Hastelloy and C-22 are registered trademarks of Haynes International Inc.

# Coaxial Fittings

Product Lines: 401 &amp; 201

JIS Pipe Sizes

Example:

**J C N** **7 R** - **2 5 A** x ( **2 0 A** ) - **A 5**

Use Only for Reducing Fittings

**J | C**

## Inner Process

- JC = SP-9220 (Product Line 401) RS/RW (316L)
- JK = SP-9206 (Product Line 201) NS/NW (316L)
- JL = SP-9206 (Product Line 201) QS/QW (316L)
- JM = SP-9220 (Product Line 401) NS/NW (316L)
- JN = SP-9220 (Product Line 401) QS/QW (316L)

**N**

## Outer Alloy<sup>1</sup>

- 1 = 1S/1W (304L)
- A = AW (304)
- N = NS (316L)
- R = RS/RW (316L)

**7 R**

## Configuration

- 2 = 90° Elbow
- 2K = 45° Elbow
- 7 = Equal Tee
- 7R = Reducing Tee
- 7P = Coax Purge Tee, Male
- 7PF = Coax Purge Tee, Female
- 7PFS = Coax Purge Tee with FS, Male
- 12 = Coax Sleeve
- 14FS = Coax FS weld Gland, Female
- 15FS = Coax FS weld Gland, Male
- 16 = Coax Terminator
- 17BH = Coax Bulkhead Fitting
- 31 = Concentric Reducer

**X X X X**

## Size

- 10 = 10A x Schedule 5 Inner Pipe  
20A x Schedule 5 Outer Pipe
- 15 = 15A x Schedule 5 Inner Pipe  
25A x Schedule 5 Outer Pipe
- 20 = 20A x Schedule 5 Inner Pipe  
32A x Schedule 5 Outer Pipe
- 25 = 25A x Schedule 5 Inner Pipe  
40A x Schedule 5 Outer Pipe
- 32 = 32A x Schedule 5 Inner Pipe  
40A x Schedule 5 Outer Pipe
- 40A = 40A x Schedule 5 Inner Pipe  
50A x Schedule 5 Outer Pipe
- 40B = 40A x Schedule 5 Inner Pipe  
65A x Schedule 5 Outer Pipe

**A**

## End Type

- A = Square
- B = 32.5° Beveled
- C = Square, +10% / -15% Wall
- D = 32.5° Beveled, +10% / -15% Wall
- J = Square, +Unspecified / -20% Wall
- K = 32.5° Beveled, +Unspecified / -20% Wall

**x ( 2 0 A )**

## Used Only

### for Reducing Fittings

Please refer to "Size" and "End Type" codes if applicable.

**A | 5**

## Surface Finish

Used only for 401 product line

- A5 = 5 µin Ra Max
- A7 = 7 µin Ra Max
- B0 = 10 µin Ra Max
- C0 = 10 µin Ra

## Notes:

1. See Valex SP-9200 sheet 9 for breakdown of alloy chemistries and melt type.





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