



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 Vallex representative.

# Product Lines

Ultra High Purity,  
Electropolished

- 401
- 301
- LDEP

Cleaned for  
Oxygen Service

- 201
- 101
- CFOS

V22® Alloy (N06022)

- 444
- 222

444

LDEP

CFOS

301

401

201

101

222

# Product Line Selector

Does the process use electropolished or non-electropolished product?

Start

## Electropolished

## Non-Electropolished

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

(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\*

Highly Corrosive Systems\*

(UHP) or Single Melt

(UHP) Standard Level of Testing & Certification

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

V22®  
N06022  
Alloy

V22®  
N06022  
Alloy

Ra: 5 & 10 µin

Ra: 20 µin

Ra: 5, 7 & 10 µin

316L

304L  
316L

304

Various Finish Options

Ra: 20 µin

Ra: 10 µin

Ra: 20 & 25 µin

Ra: 30, 40 & 200 µin

\* 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: 1/8" to 6"

ASTM Coiled Tube: 1/4" to 1/2"

ASTM Fittings: 1/4" to 6"

JIS Pipe: 8A to 300A

### I.D. Surface Finish Options

A5: 5 µin Ra max

A7: 7 µin Ra max

B0: 10 µin Ra max

C0: 10 µin 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 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 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 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 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  $\mu\text{in}$  Ra average, 25  $\mu\text{in}$  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 Vallex 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  $\mu\text{in Ra}$   
6" = 200  $\mu\text{in Ra}$

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

### 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 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.



# 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 Vallex 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 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 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  $\mu$ m Ra max      B0: 10  $\mu$ m Ra max  
A7: 7  $\mu$ m Ra max      C0: 10  $\mu$ m 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 Vallex 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 Vallex 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

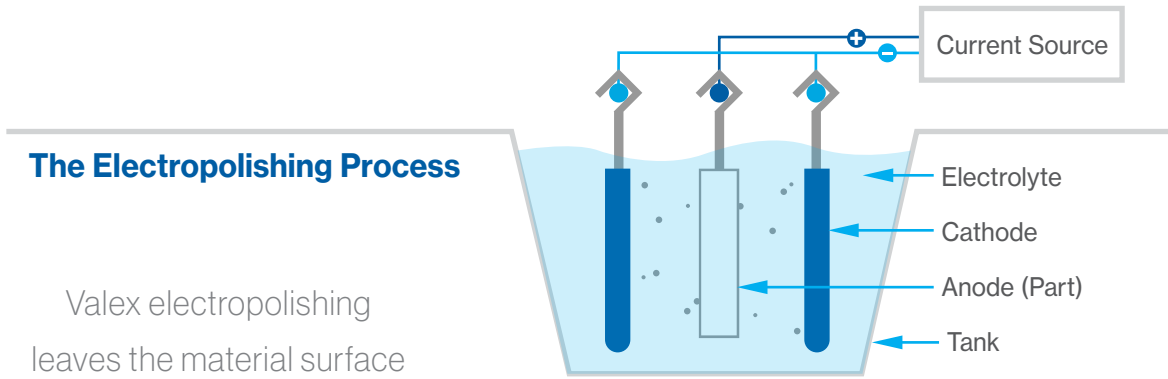
### Packaging

Assembled product packaged per applicable specification.

## Smoothing Out the Peaks & Valleys

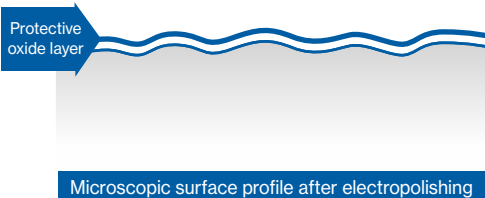
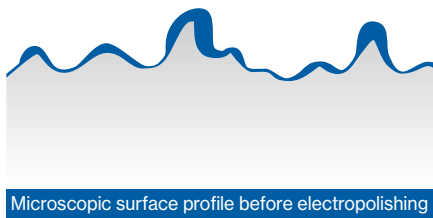
When the highest levels of purity, corrosion resistance, and overall performance are required, customers select Valex UHP electropolished (EP) products. Under magnification, raw material surfaces appear rough, and composed of many “peaks and valleys”. During our EP process, surface metal is removed ion-by-ion, 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.

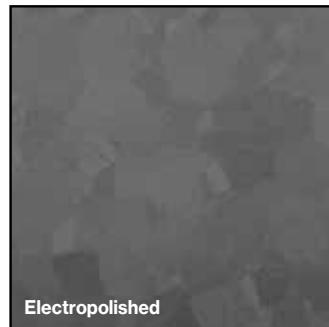
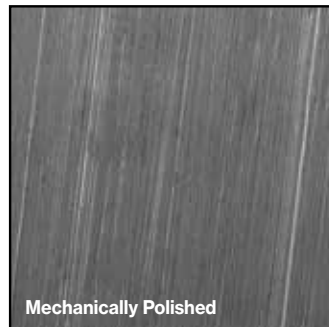
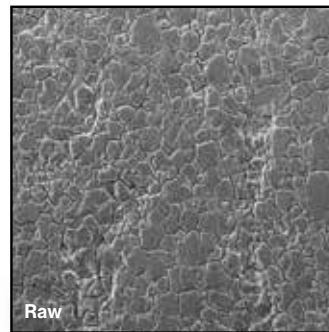


Valex electropolishing leaves the material surface microscopically smooth & essentially featureless.

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.

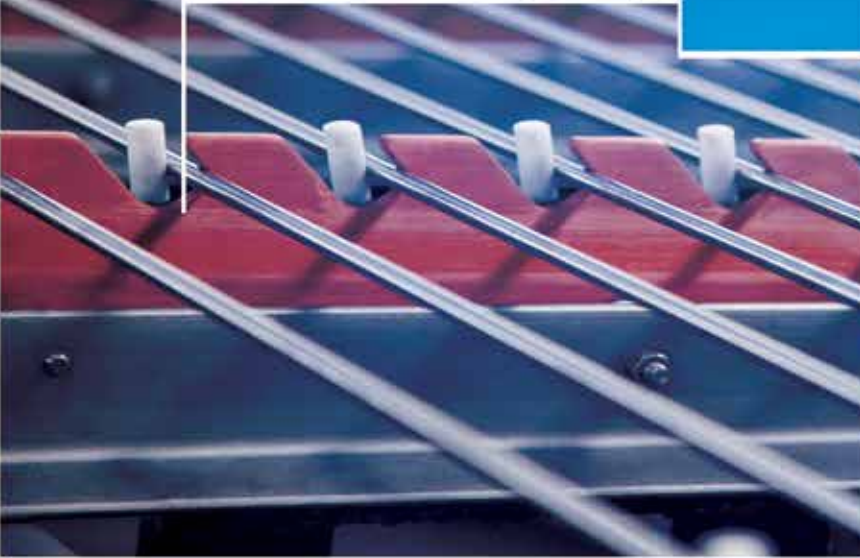


# Process

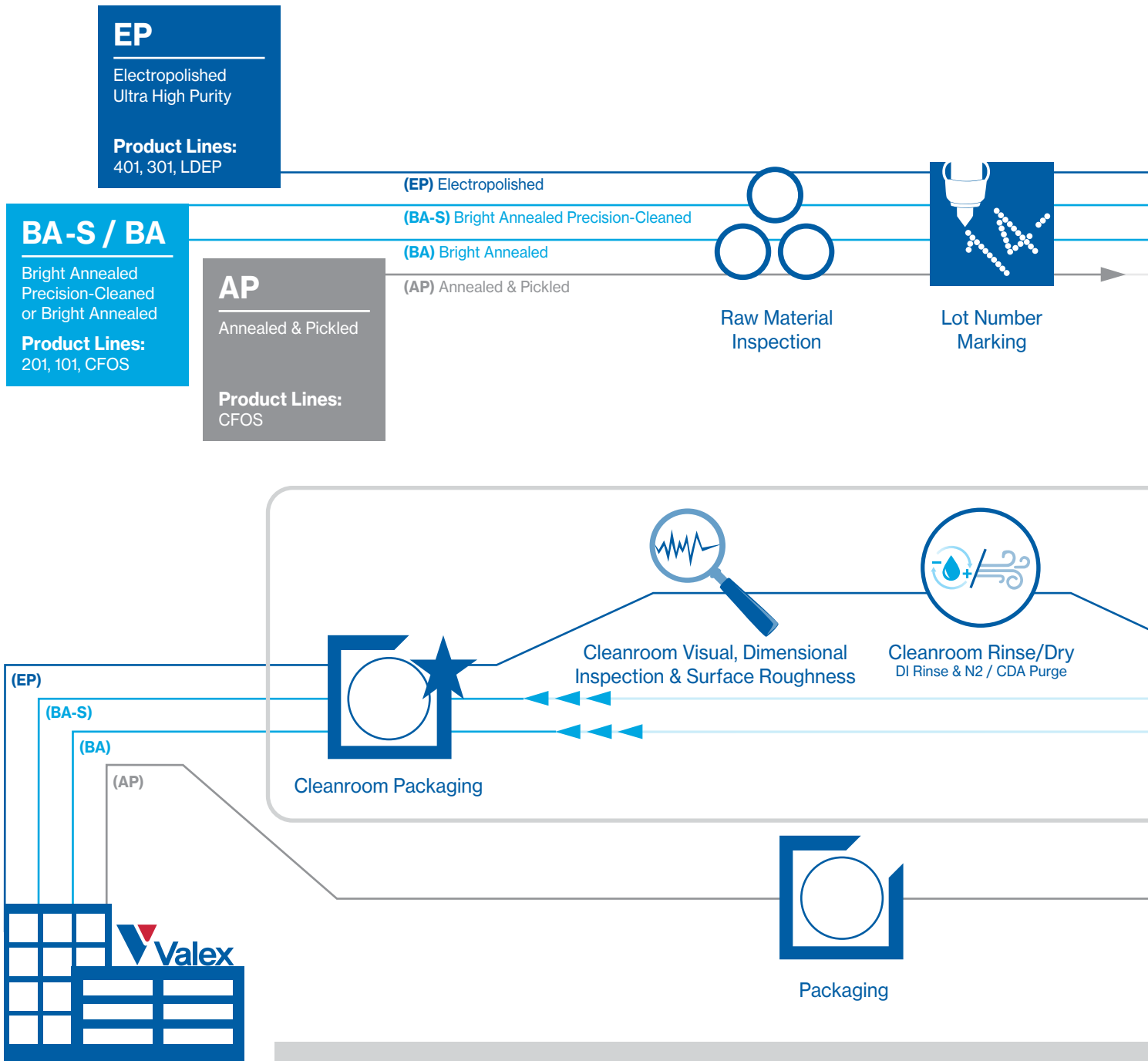
## Processed for Success

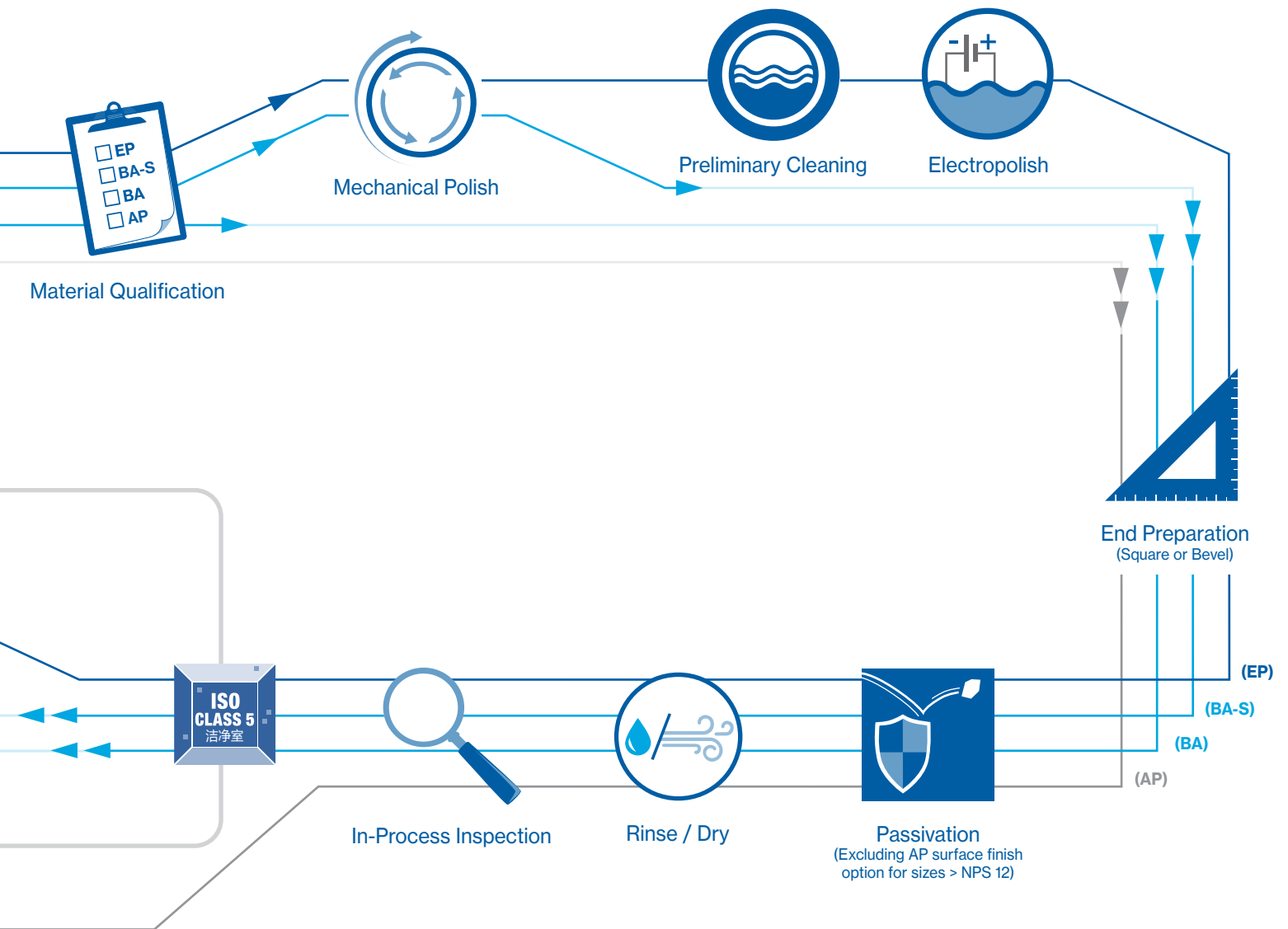
Continued refinement and advancement is the inevitable progression for Valex-designed manufacturing equipment and processes. Over the years, these developments have resulted in the largest range of choice for size and surface finish options of ASTM, ASME, and JIS components available to our customers.

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.

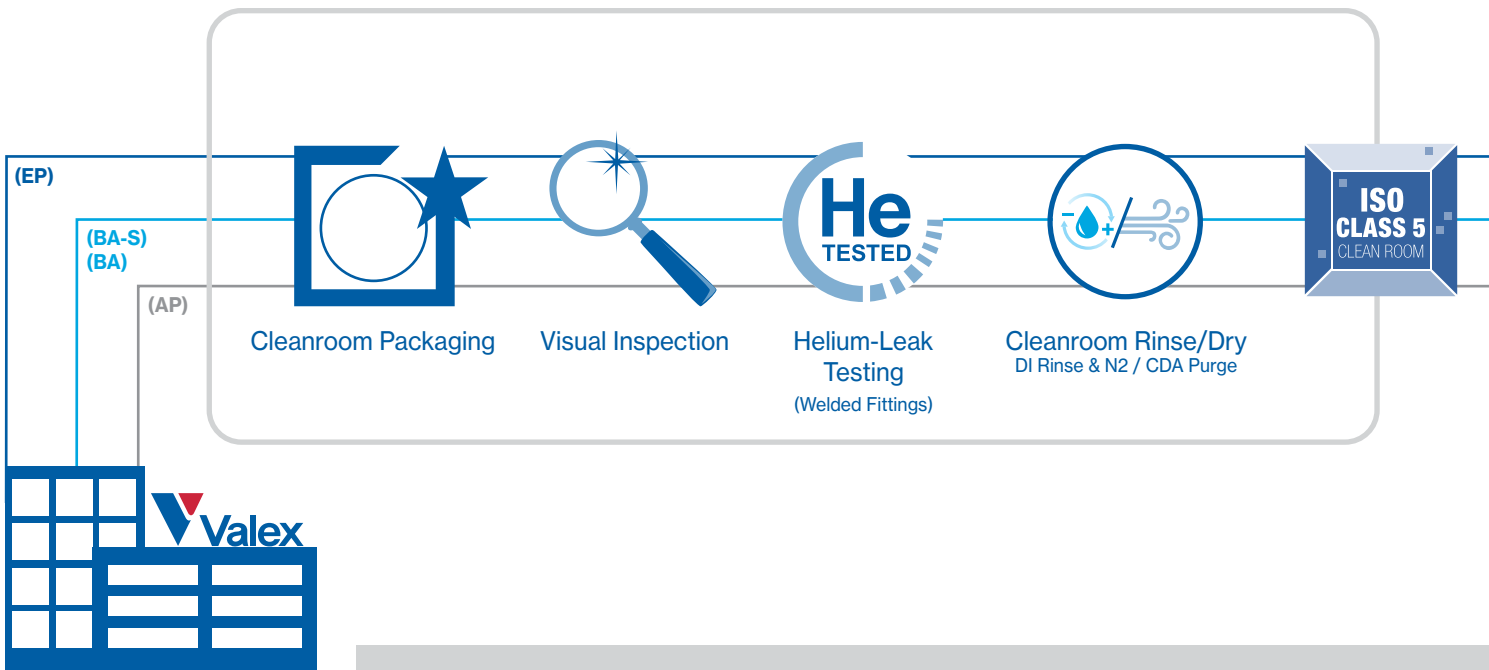
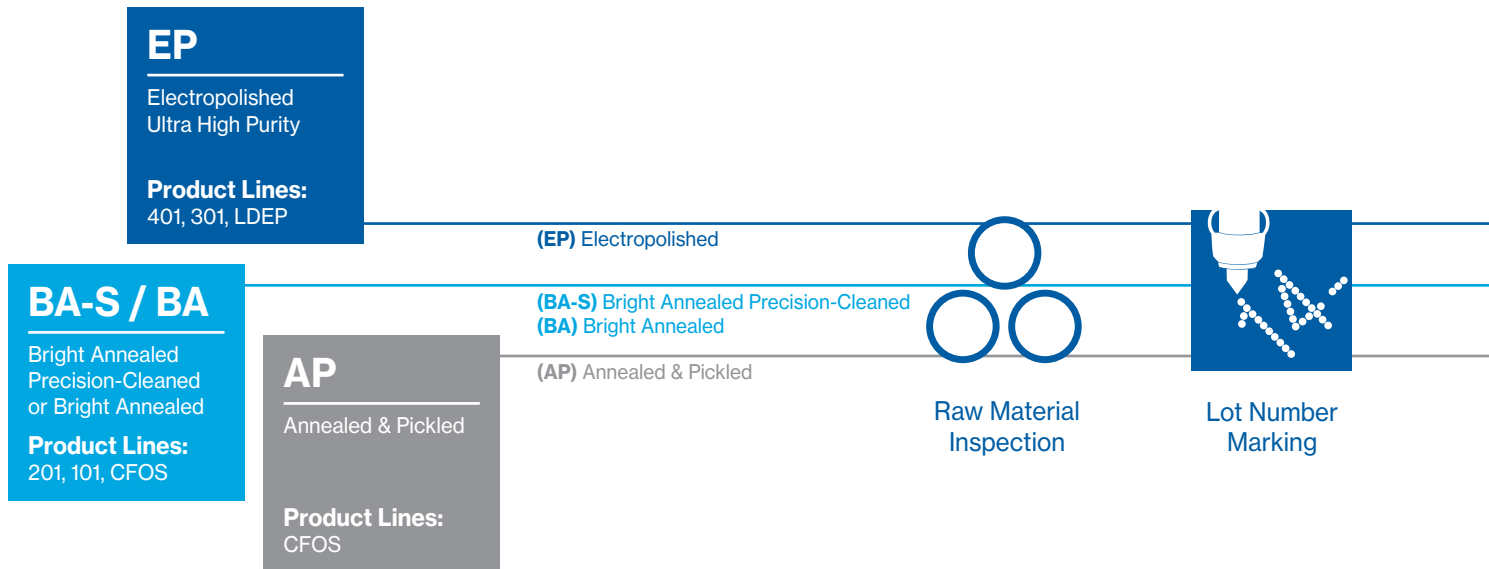


# Tube & Pipe Process

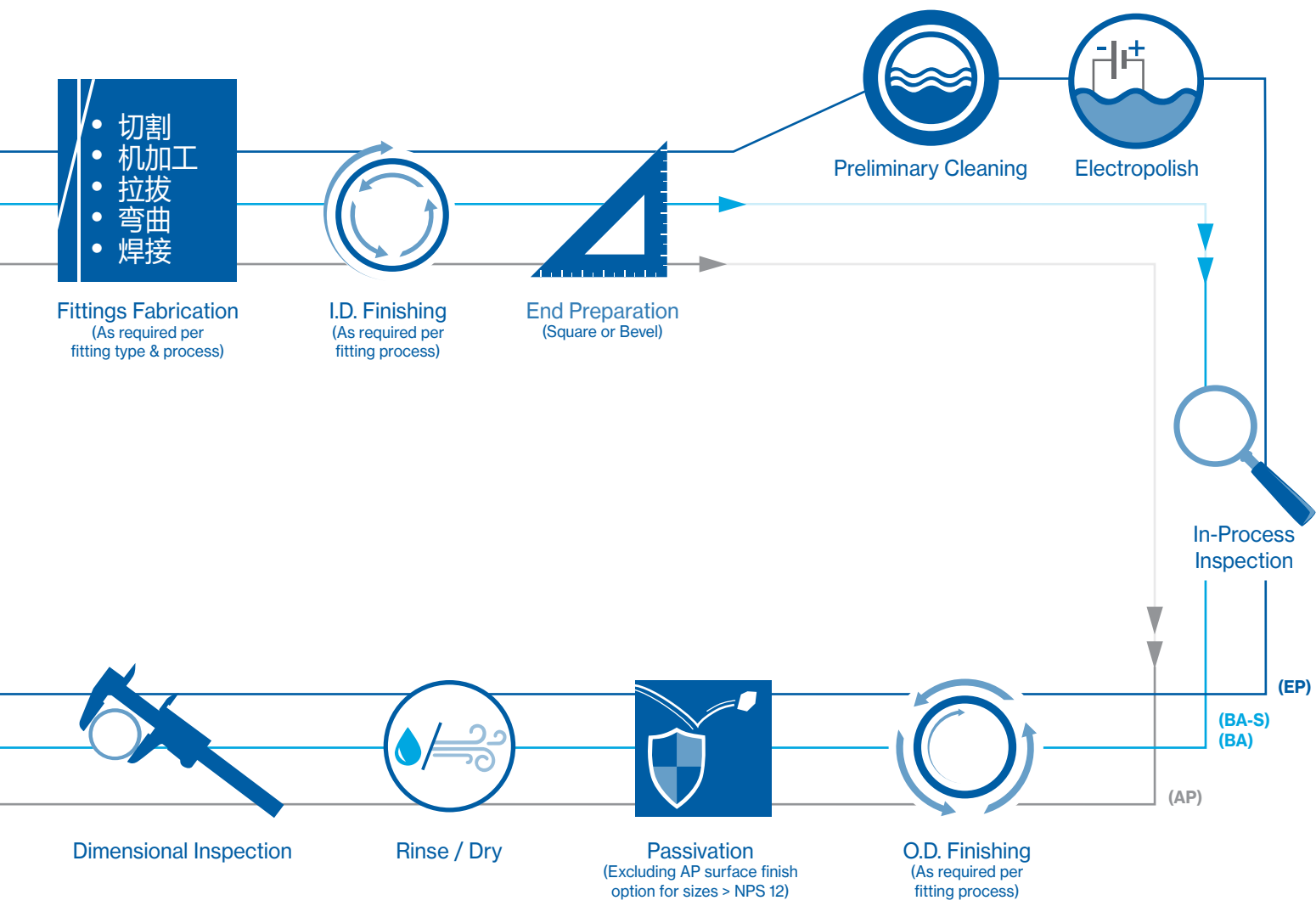




# Fittings Process

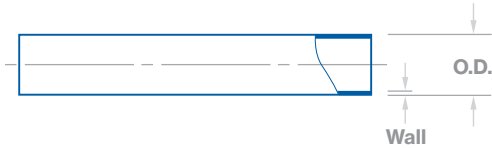


Valex Inventory



# Tube & Pipe





# Tube

ASTM A269 / A632

Product Lines					Dimensions in Inches							
401 (EP)	301 (EP)	201 (BA-S)	101 (BA-S)	CFOS (BA/AP)	Size	O.D.	Wall	Weight per 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 (EP)	222 (BA-S)	Size	O.D.	Wall	Weight per 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

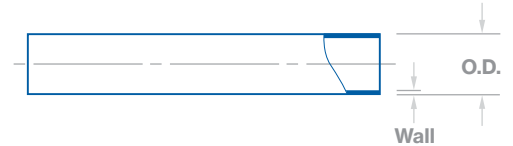
\* Gauge pressure is listed.

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 (EP)	CFOS (BA/AP)	Size	Sch.	O.D.	Wall	Weight per 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

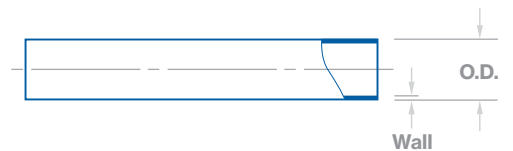
\* Gauge pressure is listed.

Notes:

1. 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).
2. Material: TP304, TP 304L or TP 316L per ASTM A312
3. 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

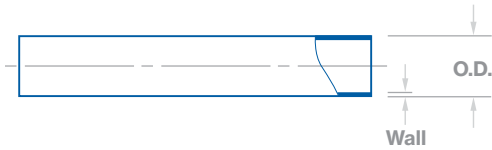


Product Lines		Dimensions in Inches						
LDEP (EP)	CFOS (BA/AP)	Size	Sch.	O.D.	Wall	Weight per foot (lb.)	Maximum Safe Working Pressure*	
							PSI Welded	Bar Welded
●	●	NPS 12	40S	12.750	.375	49.93	697	48
●	●	NPS 14	40S	14.000	.375	54.97	634	44
●	●	NPS 16	40S	16.000	.375	63.04	554	38
●	●	NPS 18	40S	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:

1. 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).
2. Material: TP304, TP 304L or TP 316L per ASTM A312
3. 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

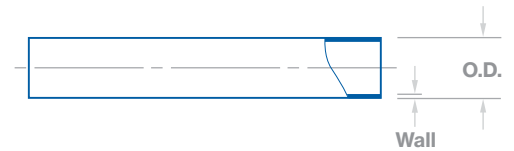
JIS G3459 / G3468, Schedule 5S

Product Lines					Dimensions in Millimeters											
401 (EP)	LDEP (EP)	201 (BA-S)	101 (BA-S)	CFOS (BA/AP)	Size	Sch.	O.D.	Wall	Weight per 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:

1. 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).
2. Material: SUS 304LTP or SUS 316LTP per JIS G3459, and SUS 304 LTPY, SUS 316 LTPY per JIS G3468
3. 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 (EP)	LDEP (EP)	201 (BA-S)	101 (BA-S)	CFOS (BA/AP)	Size	Sch.	O.D.	Wall	Weight per 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	1115.16	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:

1. 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).
2. Material: SUS 304LTP or SUS 316LTP per JIS G3459, and SUS 304 LTPY, SUS 316 LTPY per JIS G3468
3. 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





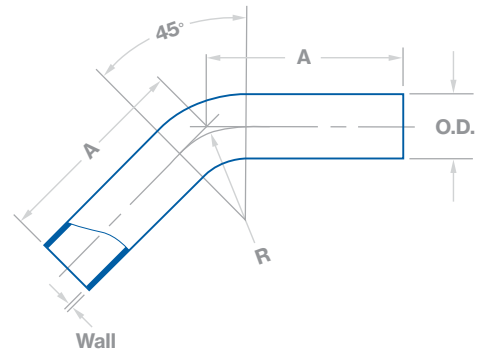








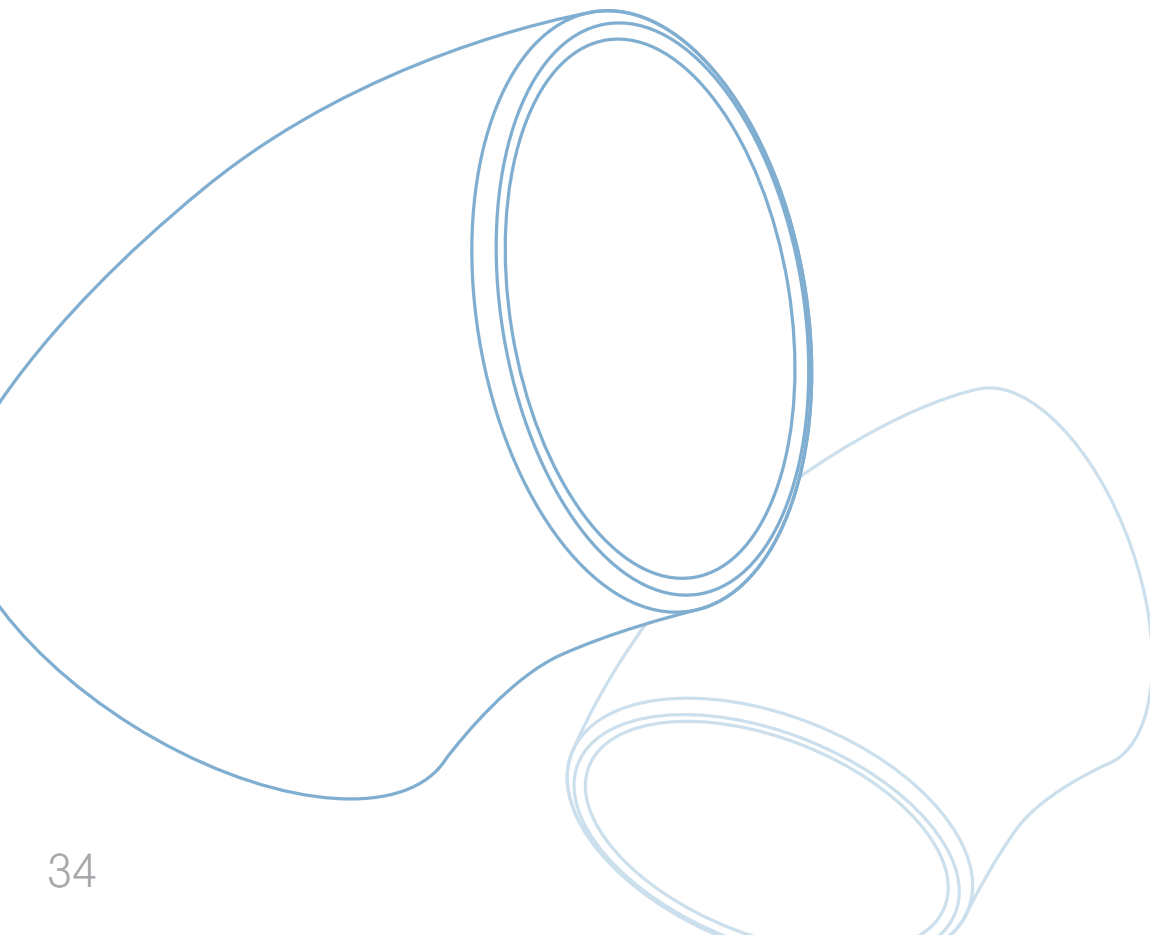


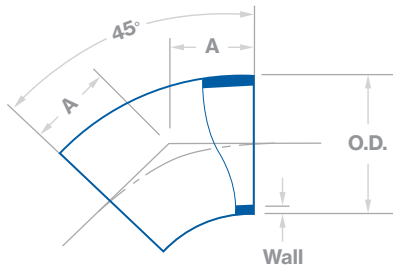


# 45° Elbow

Valex Standard, ASTM Tube

Product Lines			Dimensions in Inches				
401 (EP)	201 (BA-S)	222 (BA-S)	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





# Tees

- Equal Tees
- Reducing Tees















# Reducing Tee

ASME B16.9 Standard, ASME Pipe CONTINUED

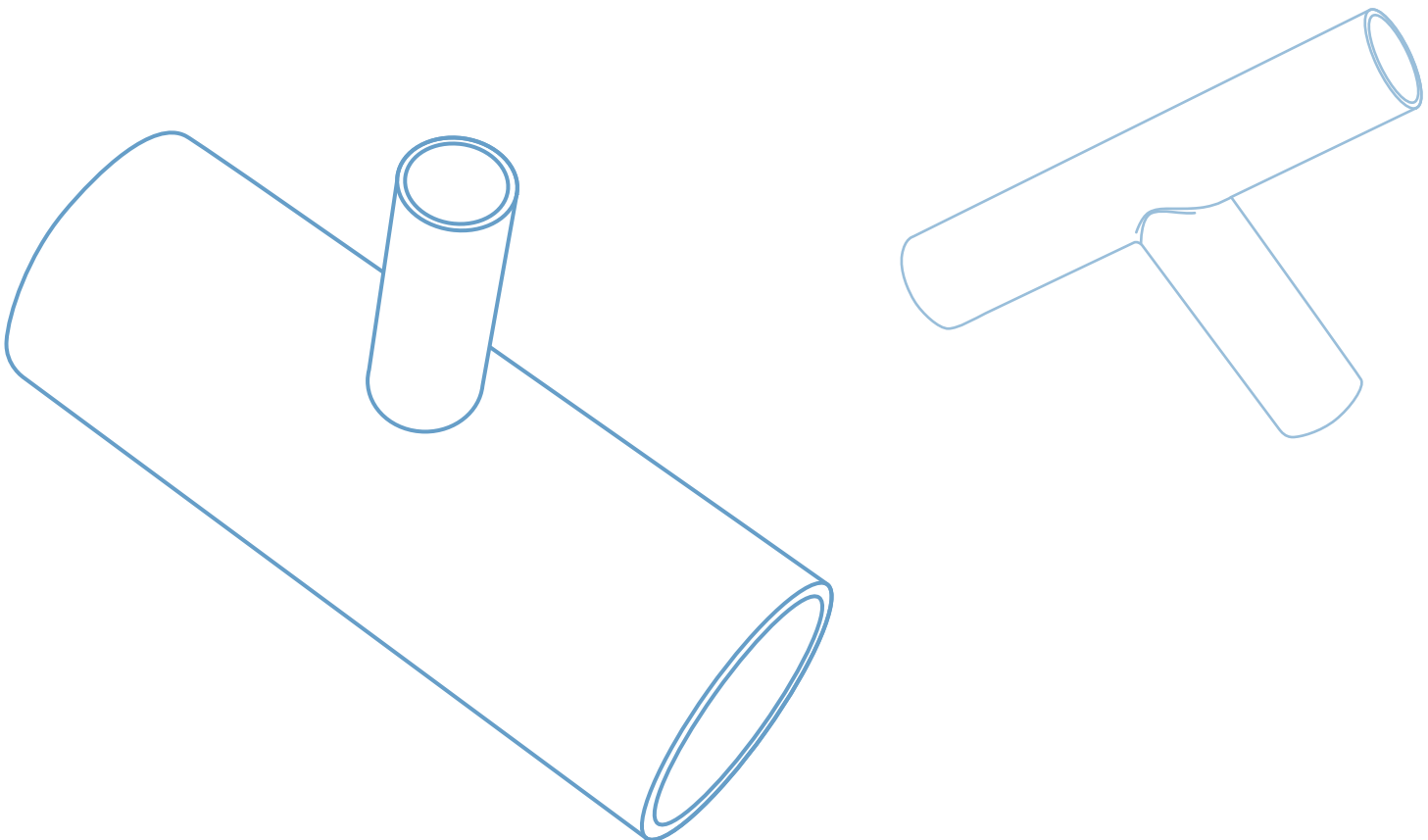
Product Lines		Dimensions in Inches							
LDEP (EP)	CFOS (BA/AP)	Size	Sch.	O.D. 1	Wall 1	O.D. 2	Wall 2	A	B
●	●	NPS 4 x NPS 1-1/2	10S x 10S	4.50	.120	1.90	.109	4.12	3.38
●	●	NPS 4 x NPS 2	10S x 10S	4.50	.120	2.38	.109	4.12	3.50
●	●	NPS 4 x NPS 2-1/2	10S x 10S	4.50	.120	2.88	.120	4.12	3.75
●	●	NPS 4 x 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













# Reducing Tee

Valex Standard, JIS Pipe CONTINUED

Product Lines					Dimensions in Millimeters								
401 (EP)	LDEP (EP)	201 (BA-S)	101 (BA-S)	CFOS (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



CONFIGURATION  
**7RS**

# Reducing Tee

JIS B2312 / B2313 Standard, JIS Pipe CONTINUED

Product Lines					Dimensions in Millimeters								
401 (EP)	LDEP (EP)	201 (BA-S)	101 (BA-S)	CFOS (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

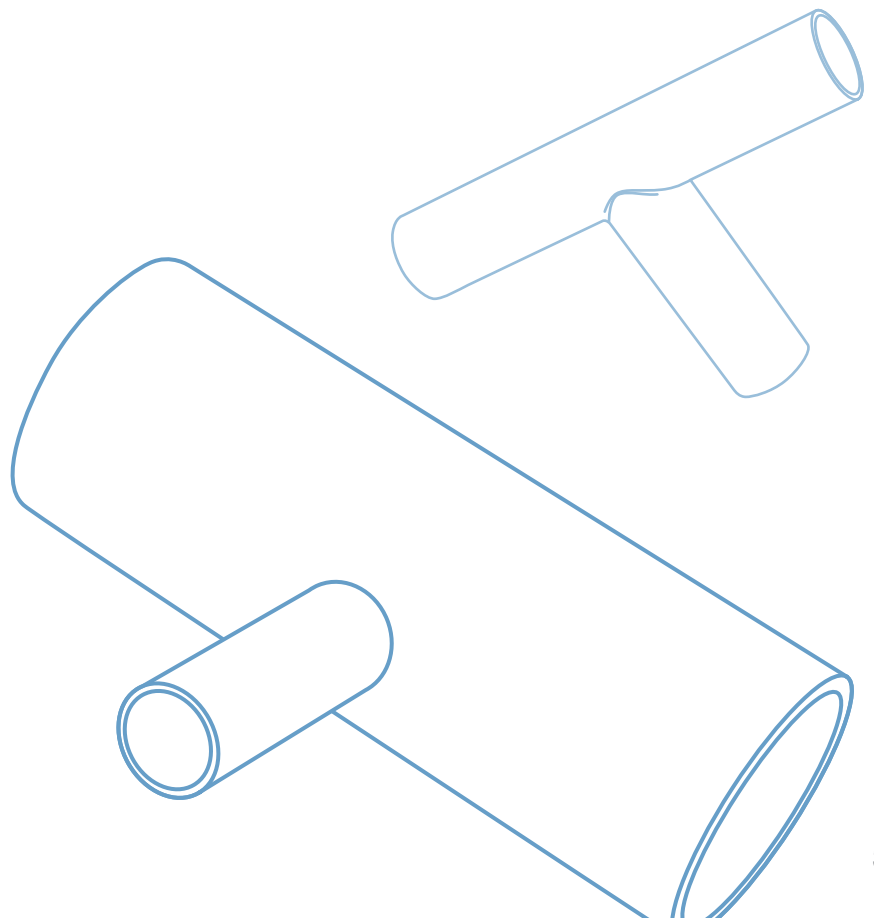
# Reducing Tee

JIS B2312 / B2313 Standard, JIS Pipe CONTINUED

CONFIGURATION  
**7RS**

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

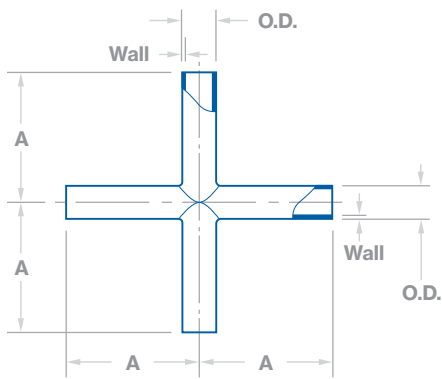
Dimensions in Millimeters								
Size	O.D. 1	5S Wall 1	10S Wall 1	O.D. 2	5S Wall 2	10S Wall 2	A	B
650A x 500A	660.4	5.50	8.00	508.0	5.00	5.50	495.3	457.2
650A x 550A	660.4	5.50	8.00	558.8	5.00	5.50	495.3	469.9
650A x 600A	660.4	5.50	8.00	609.6	5.50	6.50	495.3	482.6
700A x 550A	711.2	5.50	8.00	558.8	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





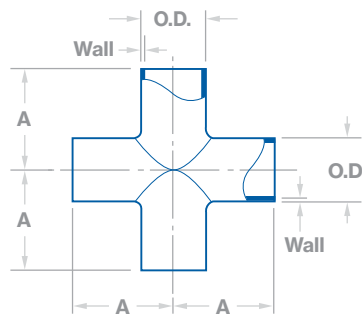
# Equal Cross

Valex Standard, ASTM Tube



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



Product Lines	
LDEP (EP)	CFOS (BA/AP)
	●
	●
	●
	●
	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●

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

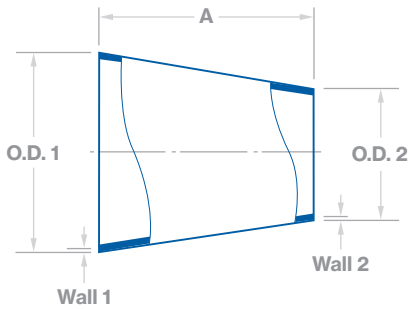
# Reducers

- Concentric Reducers
- Cap Reducers









# Concentric Reducer

ASME B16.9 Standard, ASME Pipe

CONFIGURATION  
**31**

Product Lines	
LDEP (EP)	CFOS (BA/AP)
	●
	●
	●
	●
	●
	●
	●
	●
	●
	●
	●
	●
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●	●
	●
	●
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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  
**31**

# 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





















# End Caps

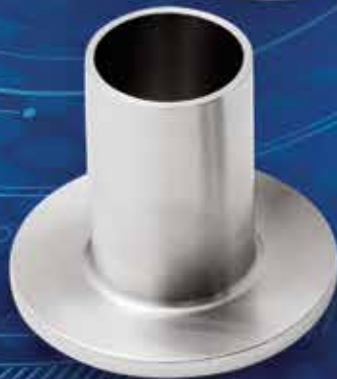
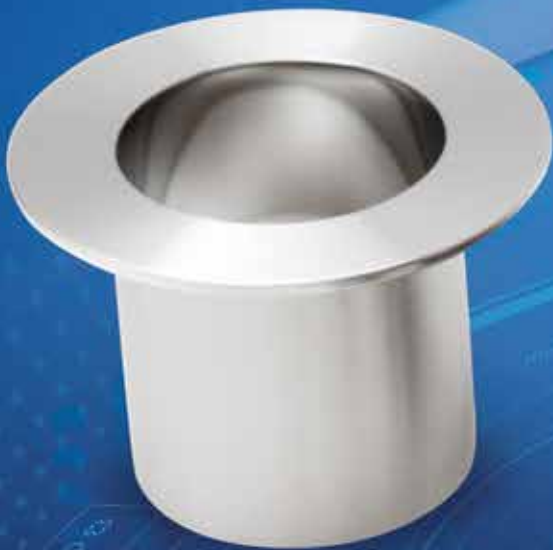


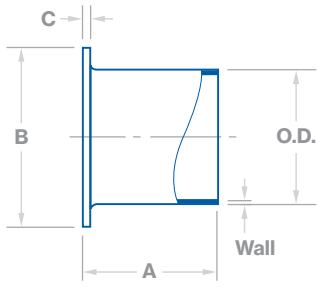




# Stub Ends

- Tube Stub Ends
- Lap Joint Stub Ends





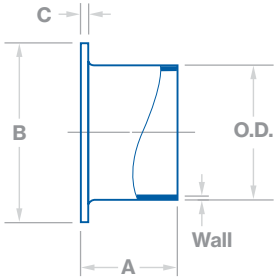
# Tube Stub End, Long

Valex Standard, ASTM Tube

CONFIGURATION  
**38LE**  
Use With  
**38PF**

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

CONFIGURATION  
**38SE**  
Use With  
**38PF**

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

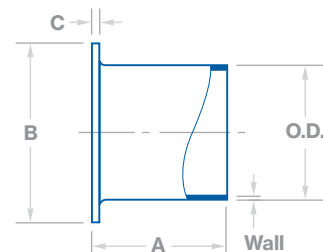




CONFIGURATION  
**38L**  
Use With  
**38LJ**

# Lap Joint Stub End

Valex Standard, Nominal Pressure 5K



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

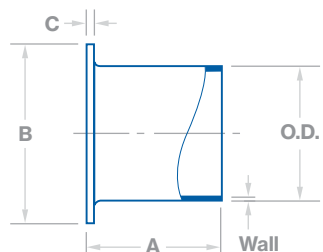
Dimensions in Millimeters							
Size	O.D.	5S Wall	10S Wall	A*	R	B	C
15A	21.7	1.65	2.10	55	3.0	44	2.5
20A	27.2	1.65	2.10	55	3.0	49	2.5
25A	34.0	1.65	2.80	55	3.0	59	2.5
32A	42.7	1.65	2.80	70	3.0	70	2.5
40A	48.6	1.65	2.80	70	3.0	75	2.5
50A	60.5	1.65	2.80	70	4.0	85	2.5
65A	76.3	2.10	3.00	75	4.0	110	2.5
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.

CONFIGURATION  
**38L**  
Use With  
**38LJ**

# Lap Joint Stub End

Valex Standard, Nominal Pressure 10K



Product Lines				
401 (EP)	LDEP (EP)	201 (BA-S)	101 (BA-S)	CFOS (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

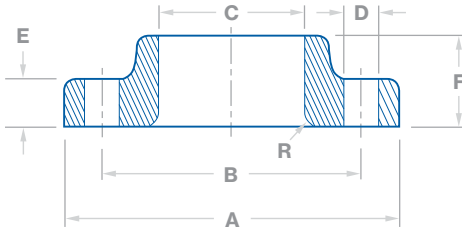
- Weld Neck Flanges
- Blind Flanges
- Blank Flanges
- Lap Joint Flanges
- Tube Plate Flanges











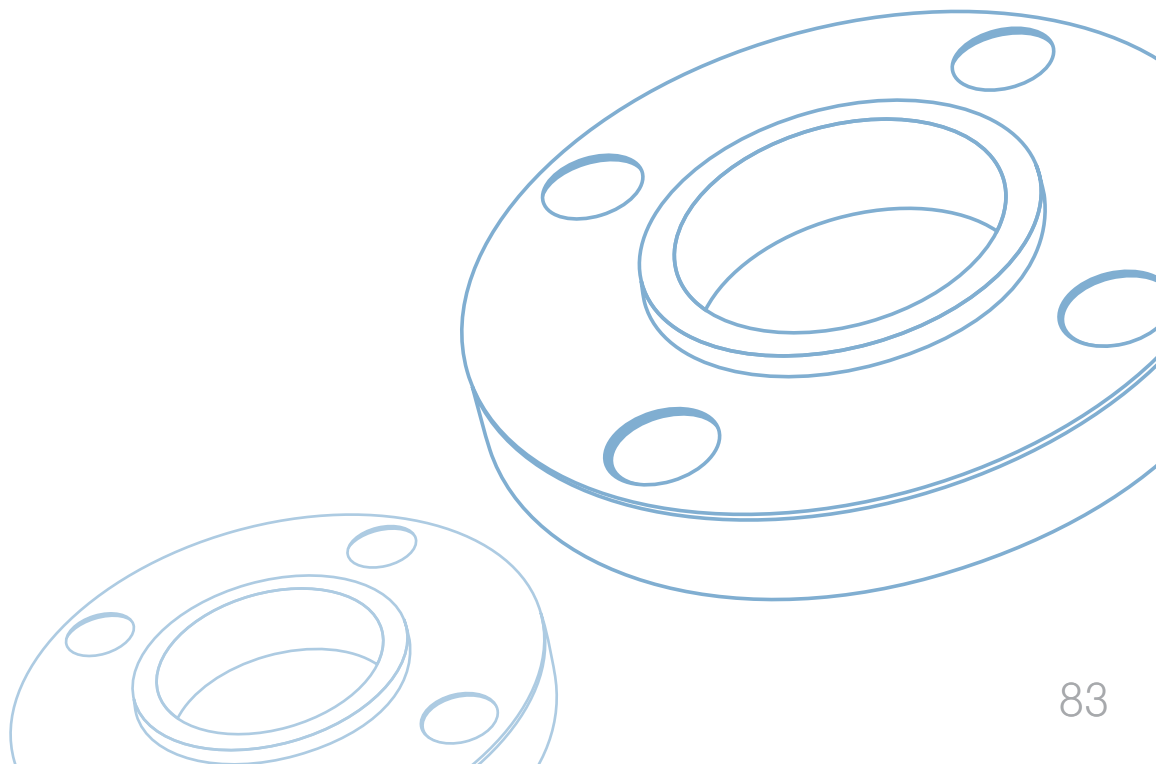
# Lap Joint Flange

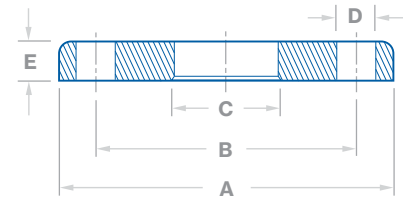
ASME B16.5 Standard, Class 150



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.





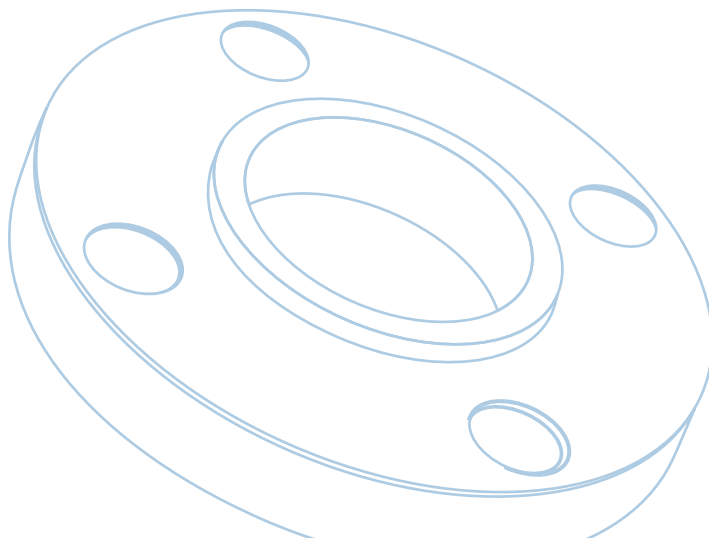
CONFIGURATION  
**38LJ**  
Use With  
**38L**

# Lap Joint Flange

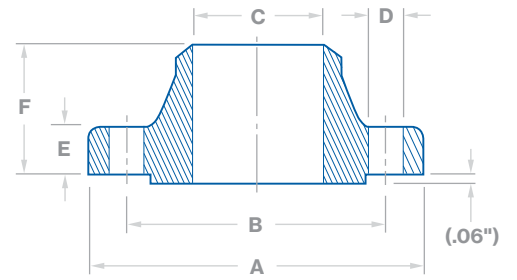
JIS B2220 Standard, Nominal Pressure 5K

Compatible with Product Lines*					Dimensions in Millimeters						
401 (EP)	LDEP (EP)	201 (BA-S)	101 (BA-S)	CFOS (BA/AP)	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.





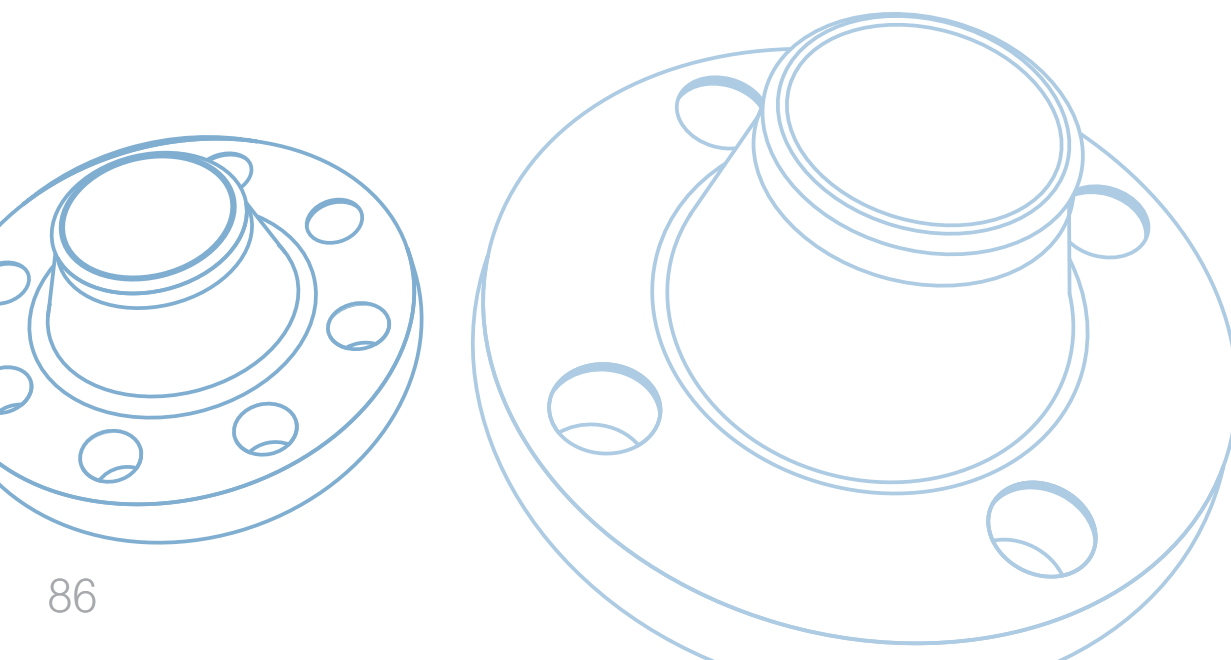


CONFIGURATION  
**38WN**

# 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



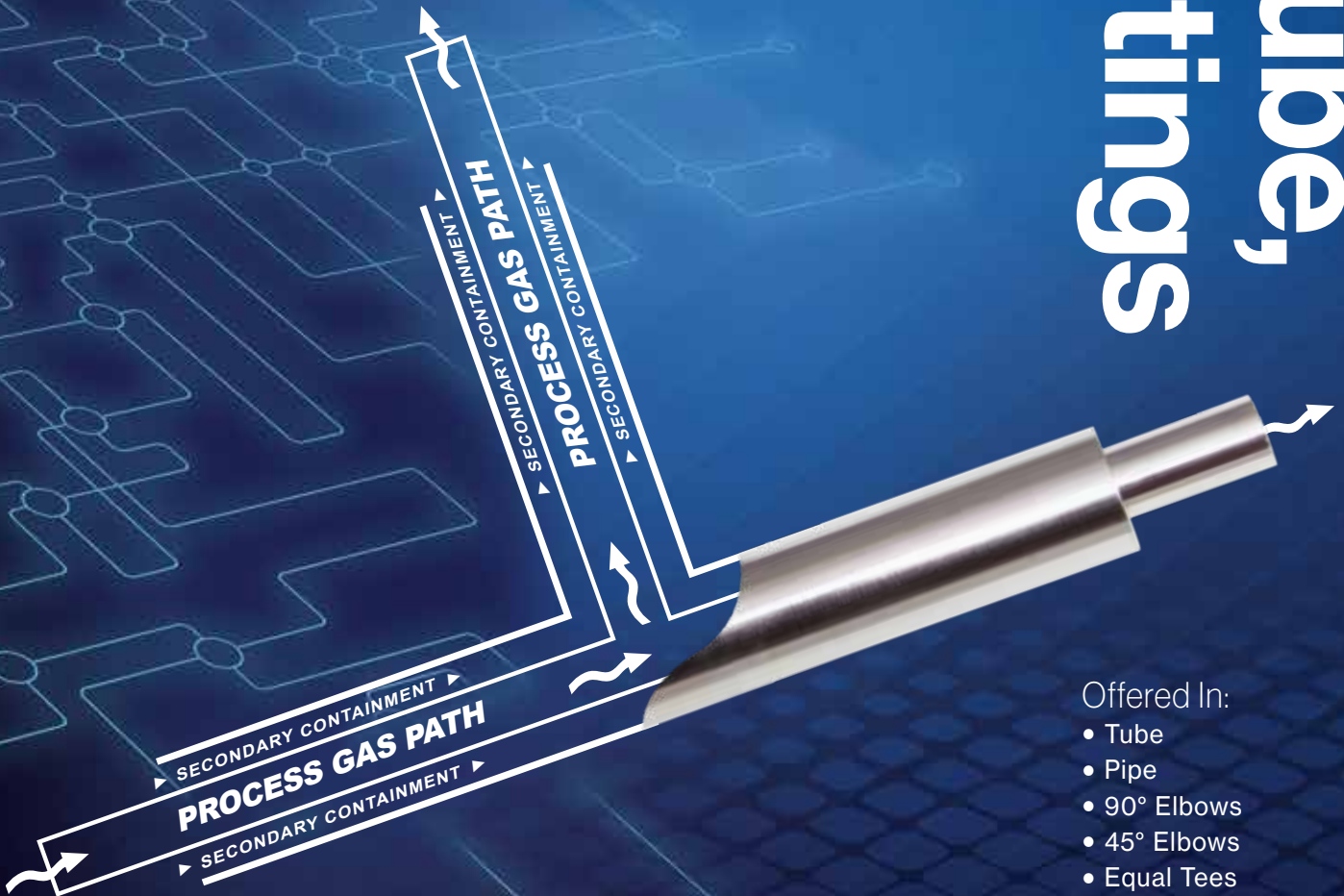




# Coaxial Tube, Pipe & Fittings

## Coaxial Tube System

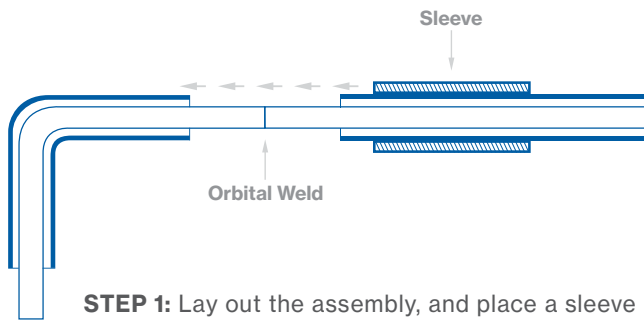
Valex pioneered the stainless steel Coaxial Tube System more than 30 years ago to meet the requirements set forth in codes and ordinances written at the inception of the semiconductor industry. Since then, we've gone on to design and deliver a full range of tube, pipe and fittings that "double-contain"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



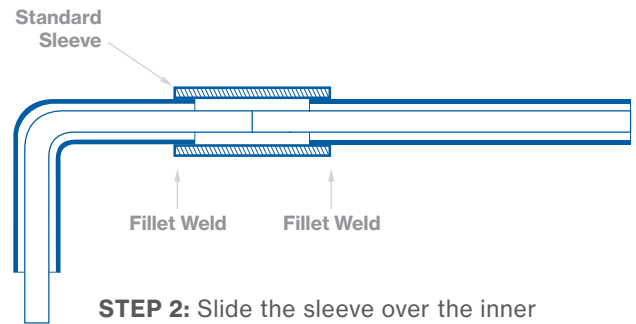
### Offered In:

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

### Sleeve Assembly:

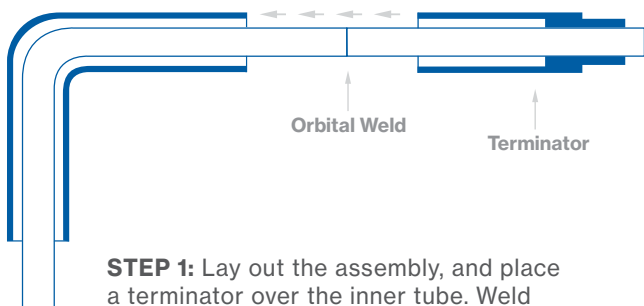


**STEP 1:** Lay out the assembly, and place a sleeve over one of the fittings. Weld the inner tube together, helium-leak test, and inspect the weld.

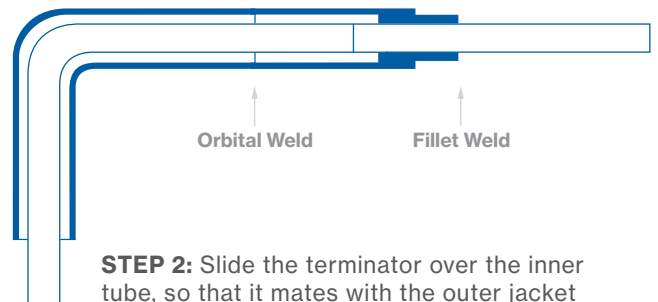


**STEP 2:** Slide the sleeve over the inner tube, so that it completely covers the gap between both outer jackets. Weld both ends, helium-leak test, and inspect.

### Terminator Assembly:

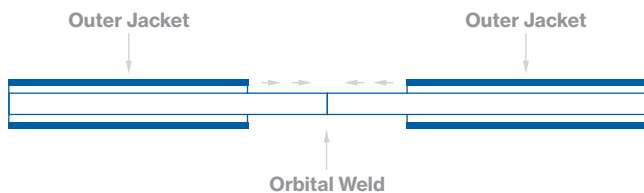


**STEP 1:** Lay out the assembly, and place a terminator over the inner tube. Weld the inner tubes together, helium-leak test, and inspect.

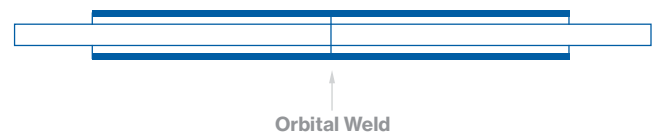


**STEP 2:** Slide the terminator over the inner tube, so that it mates with the outer jacket of the fitting. Weld both ends, helium-leak test, and inspect.

### Tube to Tube Assembly:



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

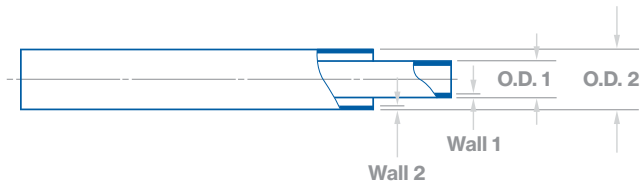


**STEP 2:** Slide the outer jackets together, so they completely enclose the inner tube. Weld, helium-leak test, and inspect.



# Coaxial Tube

ASTM A269 / A632



Product Lines			
401 (EP)	301 (EP)	201 (BA-S)	101 (BA-S)
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	●
●	●	●	●

Dimensions in Inches									
Size* Inner Tube	Inner Tube		Size Outer Tube	Outer Tube		Weight per 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* Inner Tube	Inner Tube		Size Outer Tube	Outer Tube		Weight per 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 (EP)	201 (BA-S)	101 (BA-S)
●		
●	●	●
●	●	●
●	●	●
●	●	●

Dimensions in Millimeters									
Size* Inner Pipe	Inner Pipe		Size Outer Pipe	Outer Pipe		Weight per 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.

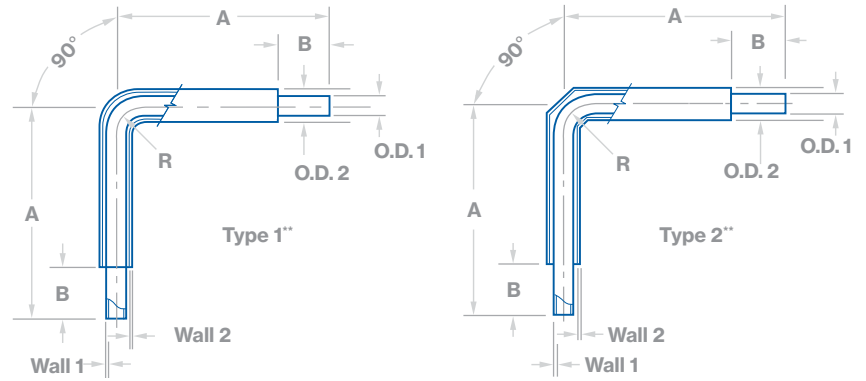


Dimensions

# Coaxial 90° Elbow

Valex Standard, ASTM Tube

CONFIGURATION  
**2**



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

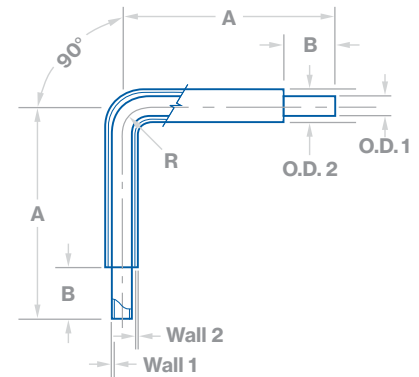
Dimensions in Inches									
Size* Inner Tube	Inner Tube		Size Outer Tube	Outer Tube		A	B	R	
	O.D. 1	Wall 1		O.D. 2	Wall 2				
1/4"	.250	.035	1/2"	.500	.049	4.375	1.00	.98	
3/8"	.375	.035	5/8"	.625	.049	4.125	1.00	1.10	
1/2"	.500	.049	3/4"	.750	.065	4.250	1.00	1.38	
3/4"	.750	.065	1"	1.000	.065	6.750	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"

CONFIGURATION  
**2**

# Coaxial 90° Elbow

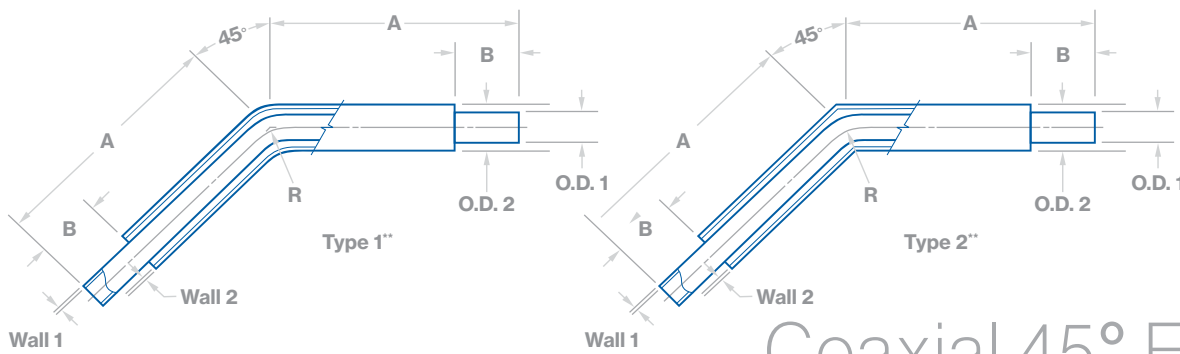
Valex Standard, JIS Pipe



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

Dimensions in Millimeters									
Size* Inner Pipe	Inner Pipe		Size 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.



# Coaxial 45° Elbow

Valex Standard, ASTM Tube



## Product Lines

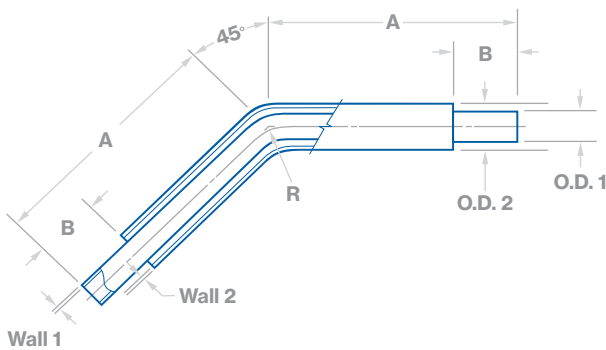
401 (EP)	201 (BA-S)	222 (BA-S)
●	●	●
●	●	●
●	●	●
●	●	●
●	●	●
●	●	●
●	●	●

## Dimensions in Inches

Size* Inner Tube	Inner Tube		Size 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 (EP)	201 (BA-S)
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●

## Dimensions in Millimeters

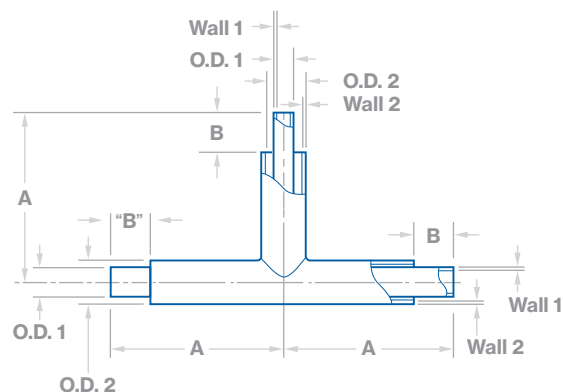
Size* Inner Pipe	Inner Tube		Size Outer Pipe	Outer Pipe		A	B	R
	O.D. 1	5S Wall 1		O.D. 2	5S Wall 2			
10A	17.3	1.20	20A	27.2	1.65	96	40	47.6
15A	21.7	1.65	25A	34.0	1.65	100	40	57.2
20A	27.2	1.65	32A	42.7	1.65	118	40	76.2
25A	34.0	1.65	40A	48.6	1.65	126	40	95.3
32A	42.7	1.65	50A	60.5	1.65	124	46	47.6
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 (EP)	201 (BA-S)	222 (BA-S)
●	●	●
●	●	●
●	●	●
●	●	●
●	●	●
●	●	●
●	●	●

## Dimensions in Inches

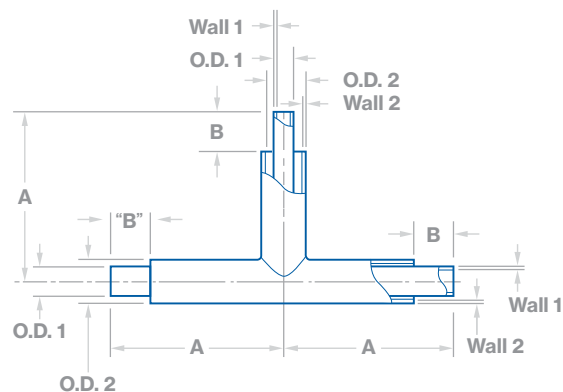
Size* Inner Tube	Inner Tube		Size* Outer Tube	Outer Tube		A	B
	O.D. 1	Wall 1		O.D. 2	Wall 2		
1/4" x 1/4"	.250	.035 / .039	1/2" x 1/2"	.500	.049	3.875	1.00
3/8" x 3/8"	.375	.035 / .039	5/8" x 5/8"	.625	.049	4.000	1.00
1/2" x 1/2"	.500	.049	3/4" x 3/4"	.750	.065	4.000	1.00
3/4" x 3/4"	.750	.065	1" x 1"	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

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

CONFIGURATION  
**7**

# Coaxial Equal Tee

Valex Standard, JIS Pipe



## Product Lines

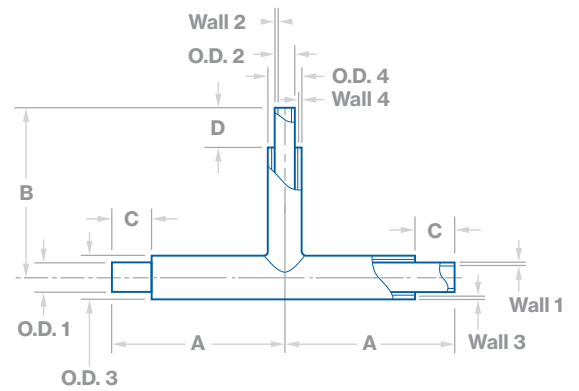
401 (EP)	201 (BA-S)
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●

## Dimensions in Millimeters

Size* Inner Pipe	Inner Pipe		Size* 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

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





CONFIGURATION  
**7R**

# Coaxial Reducing Tee

Valex Standard, JIS Pipe

## Product Lines

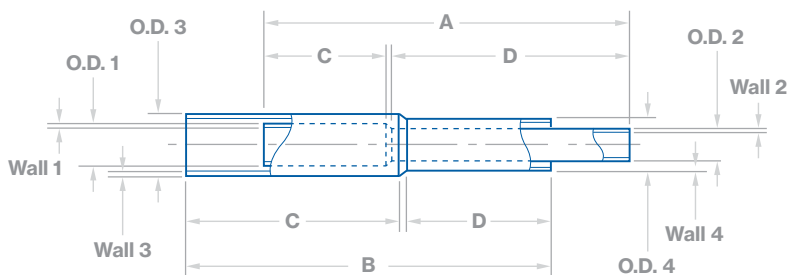
401 (EP)	201 (BA-S)
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●
●	●

## Dimensions in Millimeters

Size* Inner Pipe	Inner Pipe				Size 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.





CONFIGURATION  
**31**

# Coaxial Concentric Reducer

Valex Standard, JIS Pipe

## Product Lines

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

## Dimensions in Millimeters

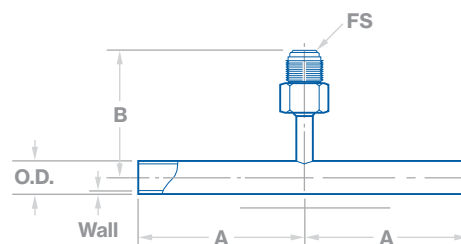
Size* Inner Pipe	Inner Pipe				Size Outer Pipe	Outer Pipe				A	B	C		D	
	O.D. 1	5S Wall 1	O.D. 2	5S Wall 2		O.D. 3	5S Wall 3	O.D. 4	5S Wall 4			Inner	Outer	Inner	Outer
15A x 10A	21.7	1.65	17.3	1.20	25A x 20A	34.0	1.65	27.2	1.65	150.0	160.0	36.0	75.4	85.4	36.0
20A x 10A	27.2	1.65	17.3	1.20	32A x 20A	42.7	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

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

CONFIGURATION  
**7P**

# Coaxial Male Purge Tee

Valex Standard, ASTM Outer Tube Jacket



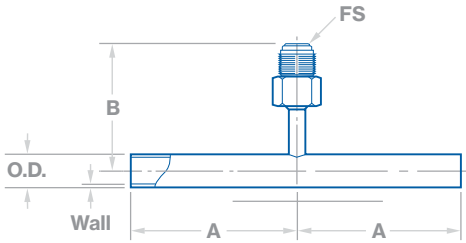
## Compatible with Product Lines

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

## Dimensions in Inches

Compatible Inner Tube	Outer Tube			A	B	Face-Seal 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.



# Coaxial Male Purge Tee

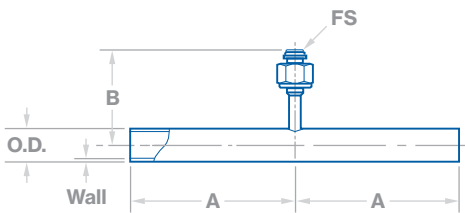
Valex Standard, JIS Outer Pipe Jacket



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

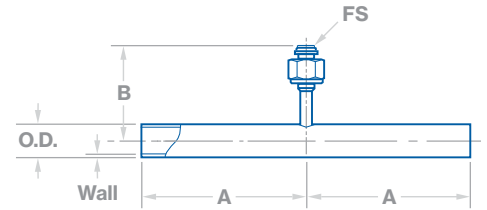
Valex Standard, ASTM Outer Tube Jacket



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.



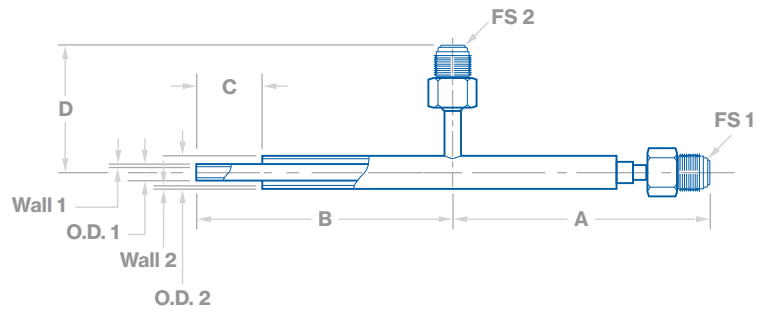
# Coaxial Female Purge Tee

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.



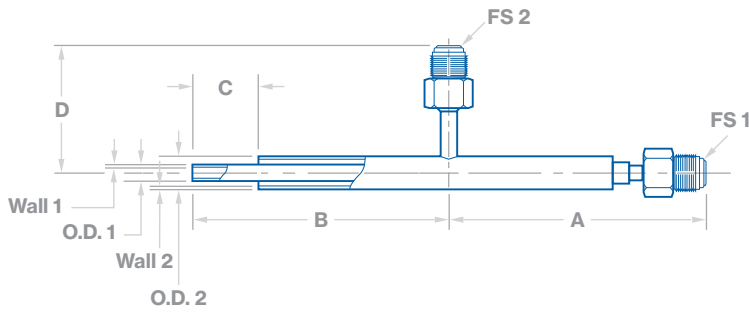
# Coaxial Purge Tee With Male Face-Seal Gland

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

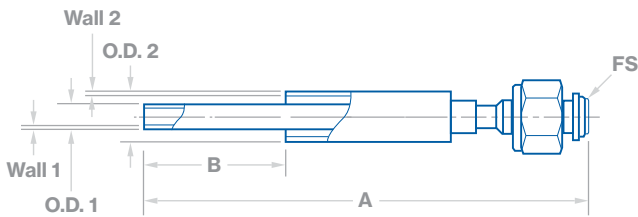
Valex Standard, JIS Pipe

CONFIGURATION  
**7PFS**

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

Dimensions in Inches												
Size* Inner Pipe	Inner Pipe		Size* 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

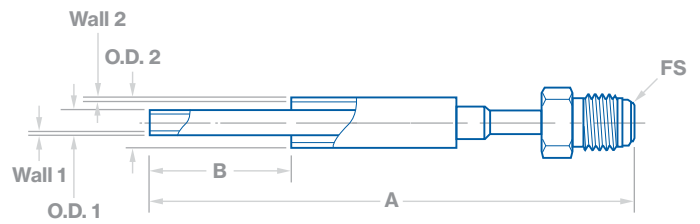
Valex Standard, ASTM Tube

CONFIGURATION  
**14FS**

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

Dimensions in Inches									
Size* Inner Tube	Inner Tube		Size 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**

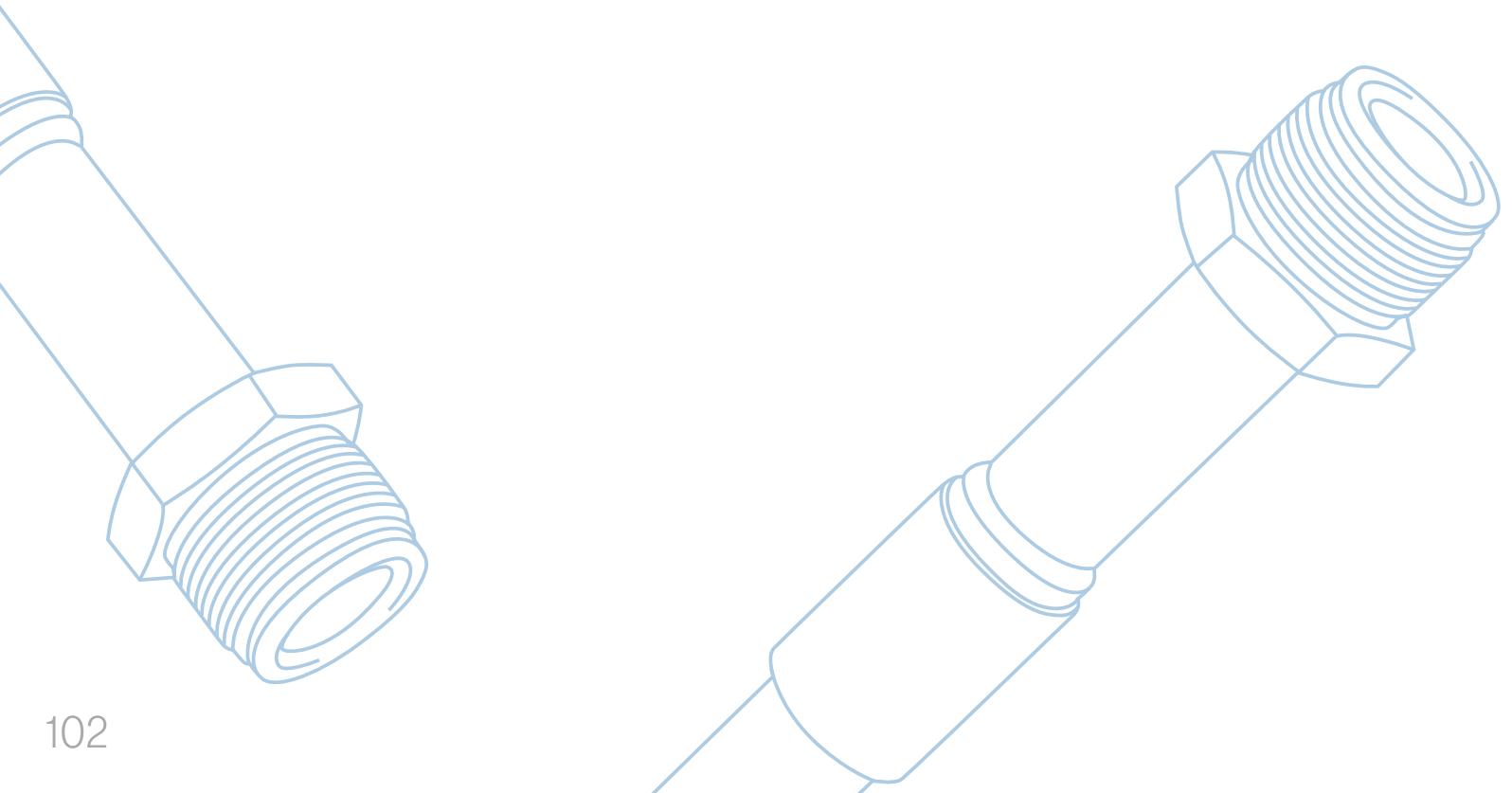
# Coaxial Male Face-Seal Weld Gland

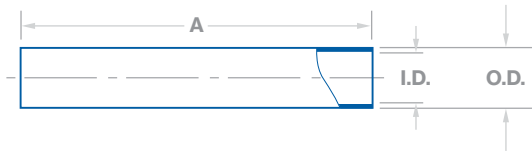
Valex Standard, ASTM Tube

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

Dimensions in Inches									
Size* Inner Tube	Inner Tube		Size 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**

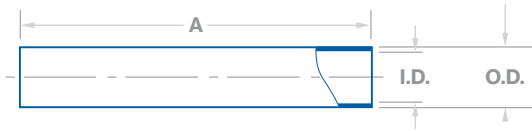
### Compatible with Product Lines

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

### Dimensions in Inches

Compatible Inner Tube	Outer Tube			A (Standard Length)	A (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**

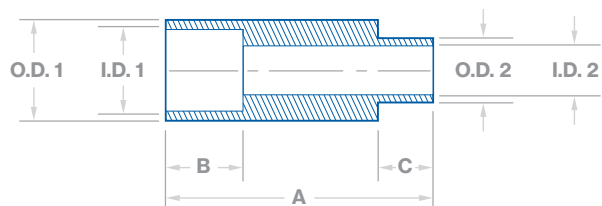
### Compatible with Product Lines

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

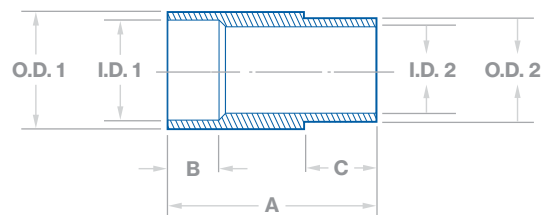
**Compatible with Product Lines**

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

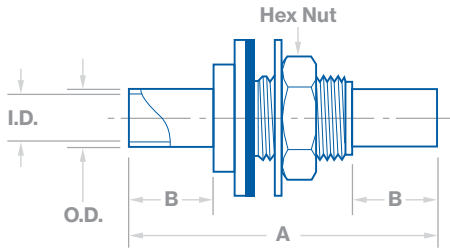
**Compatible with Product Lines**

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.



# Coaxial Bulkhead Fitting

Valex Standard, ASTM Tube

CONFIGURATION  
**17BH**

### 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

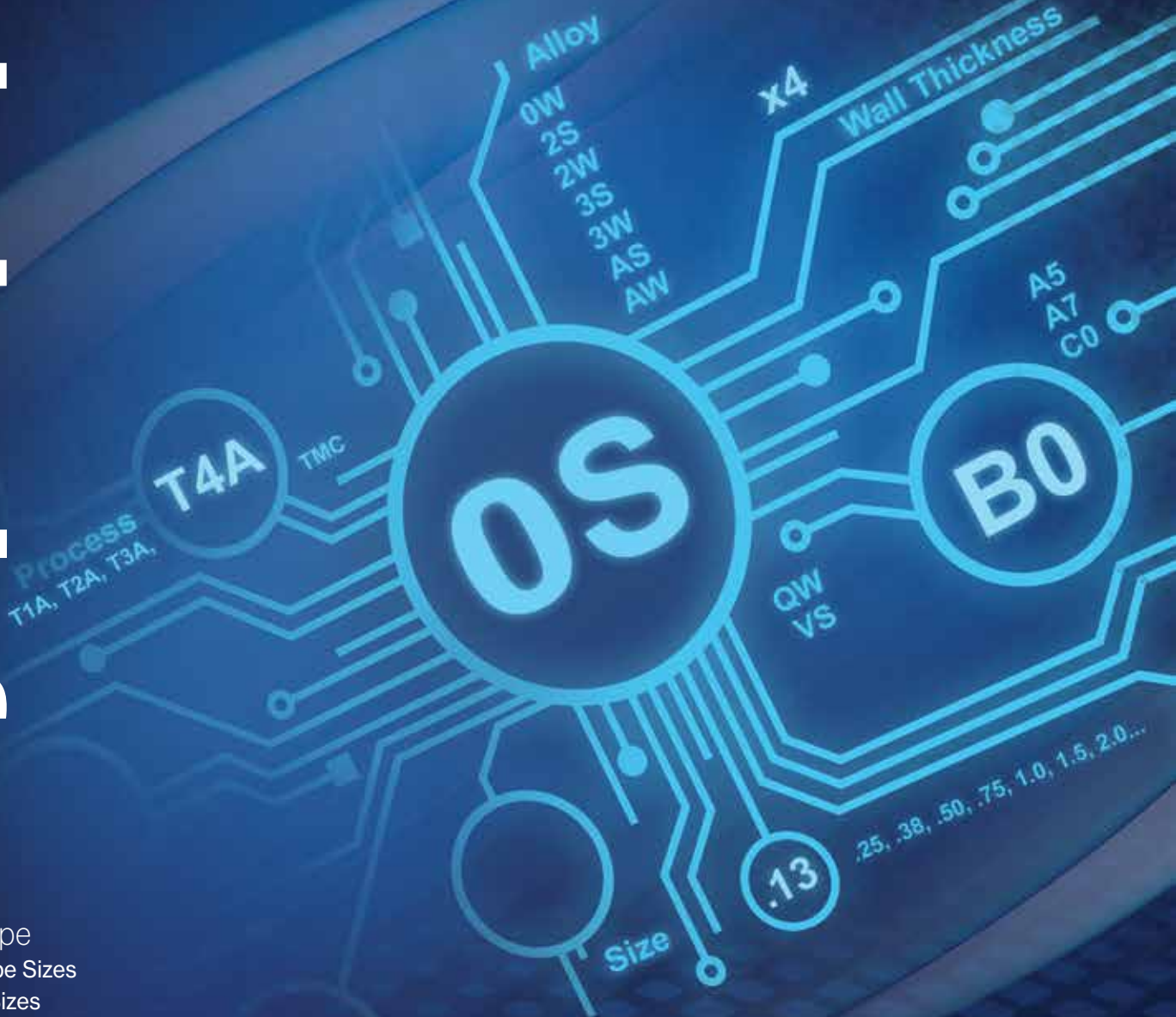
## Fittings

- 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 & 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 & 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

**x 4**

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

#### JIS Pipe Example:

**AW-250BX10S-AP**  
 Valox CFOS Spec Pipe, 304 Welded, JIS Size 250A  
 x Schedule 10, AP Finish Option, Beveled Ends

#### NPS Pipe Example:

**DW-250LX20S-BA40**  
 Valox CFOS Spec Pipe, 304L Welded, NPS 10 (DN 250)  
 x Schedule 20, BA Finish Option with 40 Ra, Squared Ends

### Notes:

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

# Fittings

Product Lines: 401, 201 & 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 Visuals

Single 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<sup>®</sup> C-22<sup>®</sup> 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 & LDEP

ASTM Tube, ASME Pipe & 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<sup>®</sup> 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 & 6-meter Length Tube	4-meter Length 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<sup>®</sup> C-22<sup>®</sup> is available upon request. Hastelloy and C-22 are registered trademarks of Haynes International Inc.

# Coaxial Pipe

Product Lines: 401, 201 & 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 Vallex 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<sup>®</sup> 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 Vallex 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.

# Coaxial Fittings

Product Lines: 401 & 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

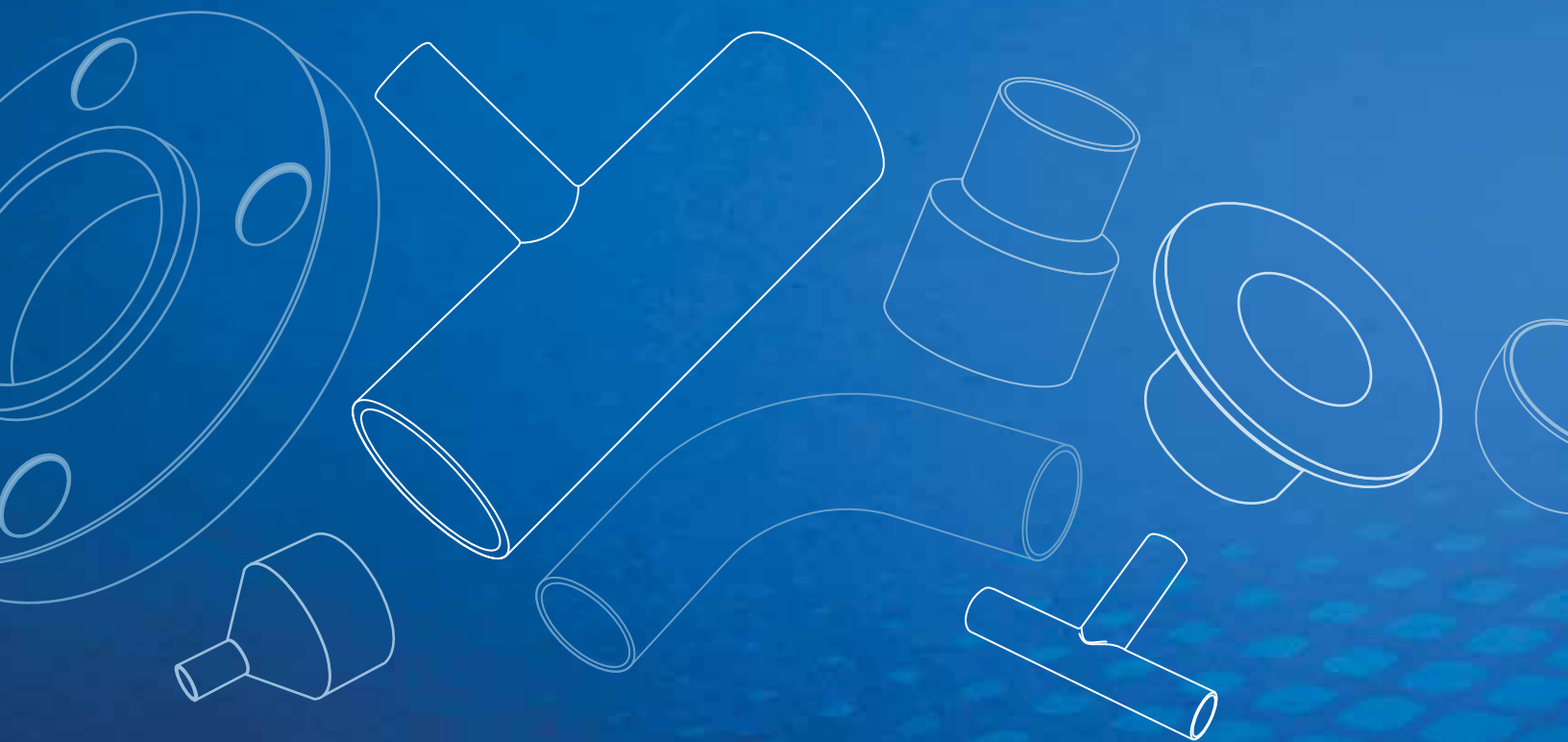
Used only for 401 product line

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

### Notes:

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

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