

Material Type:	304, 304L, 316, 316L, 316LN, 321, & 6061. For metal UHV sealing OFHC & silver-plated copper.
Dimensions:	<p>Tube Sizes: 1/2" o.d. to 10" o.d. (6.35mm to 152.4mm)</p> <p>Pipe Size: NPS 12 (323.9mm o.d.)</p> <p>Flanges: NW10 to NW160, ISO63 to ISO500, CF1.33" to CF16.50"</p> <p>Face Seal Fittings: ¼" to ½"</p> <p>Compression Fittings: ¼" to ½"</p> <p>NPT/FNPT Fittings: ¾ to 2</p>
Reference Documents:	<p>ASTM: A 269, A 312, A 774, A 778, A 403, A 380, G93 CGA: G-4.1</p> <p>DIN: DIN 28404 ISO: 1609, 3669</p>
Tube/Pipe Lengths:	<p>Tube: 20-foot (6.096 m) nominal lengths</p> <p>Pipe: NPS 12 per A 312</p>
Manufacturing Method & Mechanical Properties:	<p>Tube, Pipe, Tube & Pipe Fittings: Welded</p> <p>NW & ISO Series: DIN 28404 & ISO 1609</p> <p>CF Series: ISO 3669</p> <p>Formed Bellows: Formed 321 SS</p> <p>Edge Welded Bellows: 316L laser, plasma, arc, or e-beam welded</p> <p>Hose Braid: 304 SS single braid</p> <p>Clamps: 304, 316L SS, cast aluminum, & machined 6061 T6</p>
Tolerances:	<p>Tube Length: 18.5 ft to 20.083 ft (5.64m to 6.121m)</p> <p>Pipe Length: NPS 12 standard length per A 312</p> <p>Fittings Tolerance:</p> <ul style="list-style-type: none"> • 1/4" to 4" (6.35mm to 102mm): ± 1/16" (±1.59mm) of catalog linear dimension • 6" (152.4mm): ± 1/8" (3.18mm) of catalog linear dimension • Wall Thickness: A 269 ± 10%, A 774/A 778 ± 12.5%, NPS 12 per A 312 <p>O.D. Butt weld Fittings:</p> <ul style="list-style-type: none"> • 1/2" to 1" (12.7mm to 25.4mm): ± .005" (± 0.127mm) • 1-1/2" to 3" (38.1mm to 76.2mm): ± .010" (± 0.254mm) • 4" (101.6mm): ± .015" (± 0.381mm) • 6" (152.4mm): ± .012" (± 0.305mm)
Surface Finish:	<ul style="list-style-type: none"> • Standard Finish (BA), Mechanically Polished, & Electropolished • Machined finish for Flanges
Testing & Inspection:	<ul style="list-style-type: none"> • Visual inspection
Marking & Traceability:	<p>Tube & Pipe: "VALEX", size, wall thickness, alloy, & heat/lot number.</p> <p>Butt weld Fittings: "VALEX", size, alloy, heat number & certificate of origin.</p>
Labeling:	Each component's bag is affixed with a label identifying the component's part number, description, and quantity.
Packaging:	Components are capped, bagged, and packaged for shipment in such a manner which prevents damage to product and primary-product packaging.