Vacuum flanges

Several vacuum flange standards exist with differences in ultimate attainable pressure, size, and ease of attachment. These flange fittings are generally used in vacuum components in the low and medium vacuum range and can be found on a variety of laboratory, production and test equipment. These flange fittings are economical and reusable stainless steel fittings.

1. ASA-ANSI-KF/QF
These flanges are offered with choice of smooth face or O-ring groove. They are available blank or bored to fit tube sizes 1-1/2” through 12” O.D. The vacuum seal is made by compressing an O-ring between a mating pair of flanges. The pair includes a smooth face flange and an O-ring grooved flange.

2. ISO-KF/DN/QF/NW
The ISO standard quick release flange is known by the names Quick Flange (QF), Klein Flange (KF) or NW, sometimes also as DN.

3. ISO-Large (ISO LF/MF)
The ISO large flange standard is known as LF, LFB, MF or sometimes just ISO flange. As in KF-flanges, the flanges are joined by a centering ring and an elastomeric o-ring. An extra spring-loaded circular clamp is often used around the large-diameter o-rings to prevent them from rolling off from the centering ring during mounting.

4. Teflon & Copper gasket on flanges
Deformation of these gaskets fills the small defects in the metal flange.

<table>
<thead>
<tr>
<th>Size (inches)</th>
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<tbody>
<tr>
<td>1/2”</td>
<td>ASA</td>
<td>1”</td>
<td>Int.dia.(mm)</td>
<td>3”</td>
<td>DN63</td>
<td>DN63</td>
<td>Int.dia.(mm)</td>
<td>3½”</td>
<td>DN75</td>
</tr>
<tr>
<td>1¾”</td>
<td>ASA</td>
<td>1 ¼”</td>
<td>DN64</td>
<td>3½”</td>
<td>DN75</td>
<td>DN100</td>
<td>DN100</td>
<td>4”</td>
<td>DN150</td>
</tr>
<tr>
<td>2”</td>
<td>ASA</td>
<td>2”</td>
<td>DN65</td>
<td>4”</td>
<td>DN100</td>
<td>DN200</td>
<td>DN200</td>
<td>5”</td>
<td>DN250</td>
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</table>

IV. Conflat fittings (CF / ISO-F)
Conflat (CF) fittings use a copper or teflon gasket and knife-edge flange to achieve an ultrahigh vacuum seal. Each face of the two mating CF flanges has a knife edge which cuts into the softer copper or teflon gasket, providing an extremely leak-tight, metal-to-metal seal.