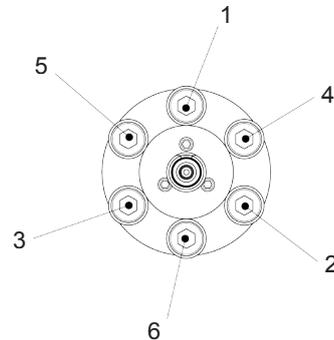
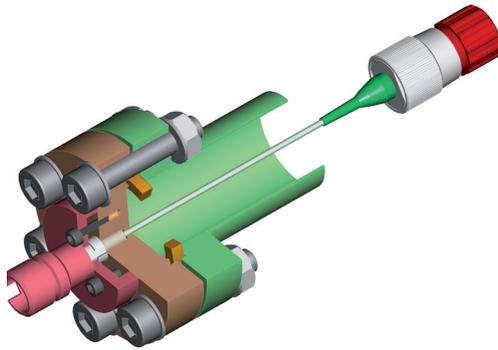


ASSEMBLY INSTRUCTIONS FOR CF VACUUM FLANGES



Technical information about CF flanges:

The CF flanges (also called ConFlat flanges) are commonly used for Ultra-High Vacuum (UHV) applications. A CF sealing assembly contains 2 identical flanges, a soft sealing gasket and some fastening bolts. The face on the vacuum side of both flanges, normally made from austenitic stainless steel, has an annular groove and a knife edge. The standard sealing gasket made of copper (or a gasket from silver plated copper or Viton) is placed in the groove between the flanges and compressed by tightening the screws. The knife edge of the flanges creates an annular groove on the gasket. The gasket material flows laterally and fills the surface imperfections, creating a vacuum-tight seal.

The size of the CF flanges is defined and named DNxx where xx code corresponds to the inner nominal diameter of the passage of a bored connecting flange.

You can find more information on the CF flanges by referring to the ISO 3669-2 standard.

Diamond Vacuum Feedthrough (V-FT)

The Diamond V-FT is based on a CF-DN16 flange with an external diameter of 34 [mm] and an internal diameter of 16mm, used to place the optical adapters.

The V-FT is delivered with standard copper seals and needs 6 high-quality stainless steel screws size M4 (class A2-70 at least) and corresponding washers (ISO-7092, inox).

V-FT assembly instructions:

1. Apply a small amount of high-quality anti-seize lubricant to the screws.
2. Inspect and use only flanges with sealing surfaces that are perfectly clean and free of scratches.
3. Wear clean, lint-free gloves and unpack the gasket.
4. Place the gasket in the annular groove of the counter flange.
5. Insert the V-FT's connector in the vacuum chamber and align the bolt holes and the leak test grooves of the flanges.
6. Tighten the bolts using a torque wrench, in small increments and following the indicated sequence until a torque of 1.9 [Nm]* is reached.
7. Do not re-use any copper gaskets!

*This is just a reference value that corresponds to the maximum tightening torque for a lubricated M4 screw! Small variations are possible depending on the quality of the employed screws and lubricant.