vaqtec srl
Headquarter:
Corso Grosseto 437 – 10151 Torino (TO) – Italy
Tel: +39.011.0968307 – Fax: +39.011.0968393
info@vaqtec.com
www.vaqtec.com
VAT number: IT 09177930014

UHV Con□at® □ange □ttings

The CF sealing mechanism works from atmosphere to the lowest measurable pressures, within the temperature range -196°C. to 450°C. CF sealing mechanism is especially suited to conditionrequiring ultra-high vacuum, very clean environments, high temperatures or the containment of toxic, corrosive or radioactive gasses.
The seal is made by bolting tighter two identical □anges, witch contains a knife-edge, with a □at metal ring gasket between the knifeedge (see the picture). The knife-edge is forced into the metal ring (usually copper). The knife edge press annular grooves in each side of the softer gasket material capable of withstanding high pressures or temperatures, □lls the voids and defects in the knife edges producing an extremely reliable.
There are rotatable and □xed □anges. Rotatable □ange is made from two pieces with the knife-edge part and external bolt holes being separate. Once the knife-edge part is welded in position it is easy to change the orientation of the bolt holes relative to the axis of the port.

This □ange is used where alignment of a component to a chamber or to another component need to be set up accurately before the □ange mounting bolts are tightened. Fixed □ange is a single piece machined item with the bolt hole orientation □xed into position once they are welded.
Con□at® and equivalent □ange names While American manufacturers identify CF □anges using inch, the Europeans identify them with variety of conventions that can generate unpleasant misunderstand. They are many descriptions used to describe the same □ange size as the □ange OD in mm, the ID, in mm, of counterbore that accepts the tube for welding or the ID, in mm, of the largest clear bore.
Thus, the metric equivalent of a bored 23/4" OD CF□ange could be called: CF70 indicating a 70 mm □ange OD DN40CF indicating a 40 mm OD connecting tube or NW38CF indicating a 38,1 mm clear bore and 41,1 mm counterbore and CF23/4" is equivalent to FC70, DN40CF, NW38CF.

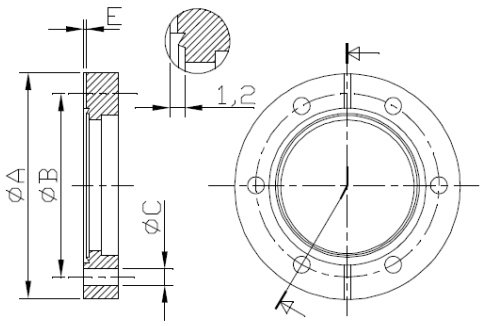
CF Flange name equivalent					OD (mm)	OD(in)
DN16CF	CF34	NW16CF	FC34	CF11/2"	34.00	1.33
DN40CF	CF70	NW40CF	FC70	CF23/4"	70.00	2.73
DN63CF	CF114	NW63CF	FC114	CF41/2"	114.00	4.47
DN100CF	CF150	NW100CF	FC150	CF6"	152.00	5.97
DN160CF	CF200	NW160CF	FC200	CF8"	202.00	7.97
DN200CF	CF250	NW200CF	FC250	CF10"	253.00	9.97
DN250CF	CF300	NW250CF	FC300	CF12"	306.00	13.25

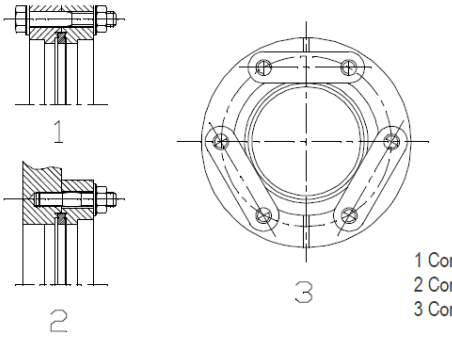
Materials:
Vaqtec range of CF components is manufactured from selected high cleanliness AISI 304 or 316 stainless steel that offers optimum performances at an affordable cost AISI 316 LN stainless steel is also available on request for applications where harder material at higher bakeout temperature and lower magnetic permeability are required.

There are many types of CF gaskets.

Copper gasket	for general application. The most common is the high purity scratch, oxygen free, 1/4 hard copper gasket.
Silver plated copper gasket	protect against flaking oxide production caused by frequent high temperature bakeout
Fully annealed copper gasket	is used to minimize strain during bolt tightening
Aluminium gaskets	is used with aluminium knite-edge flange or with S.S. CF flange non submitted to high temperature bakeout
Viton gasket	re-usable elastomeric gasket used in non-UHV, non-bakeable applications
Gold-plated copper; silver diffused copper; zirconium-copper alloy; Wire of nickel, gold, lead, indium.	gaskets made for special application

vaqtec srl
Headquarter:
Corso Grosseto 437 – 10151 Torino (TO) – Italy
Tel: +39.011.0968307 – Fax: +39.011.0968393
info@vaqtec.com
www.vaqtec.com
VAT number: IT 09177930014





1 Connection with screws
2 Connection with stud screws
3 Connection with DUO nuts

Nominal Diameter	A	O.D.	B	C	N. of Holes	Number of screws	Number of stud screws	Number of DUO nuts
DN 16 CF	34,0	1 ⅓"	27,0	4,3	6	6xM4	6xM4	3xM4
DN 40 CF	69,5	2 ¾"	58,7	6,6	6	6xM6	6xM6	3xM6
DN 63 CF	113,5	4 ½"	92,2	8,4	8	8xM8	8xM8	
DN 100 CF	152,0	6"	130,3	8,4	16	16xM8	16xM8	
DN 160 CF	202,5	8"	181,0	8,4	20	20xM8	20xM8	
DN 200 CF	253,0	10"	231,8	8,4	24	24xM8	24xM8	
DN 250 CF	306,0	12"	284,0	8,4	32	32xM8	32xM8	

Torque specifications:

Bolt size	Torque
M4	9 Nm
M6	16 Nm
M8	20 Nm
M8	35 Nm
M8	45 Nm
M8	45 Nm
Elastometer seal all series	9 – 14 Nm