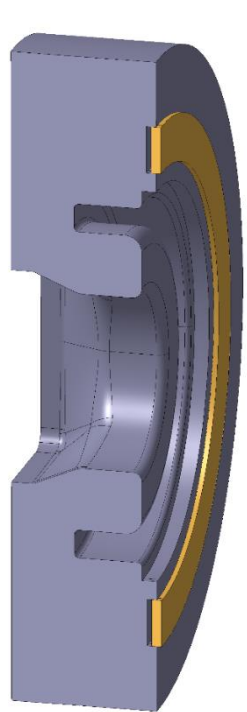


# Double Height Waveguide Flange Updates

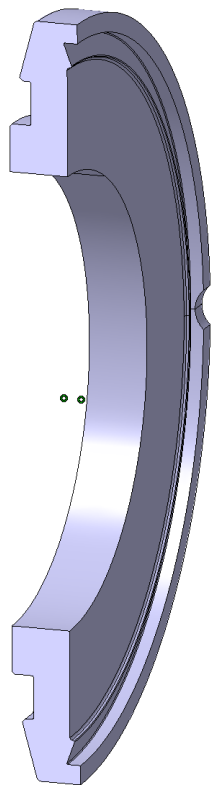
[Matthew Capstick](#)

17-02-2021

# Choke Mode Flange Mechanical



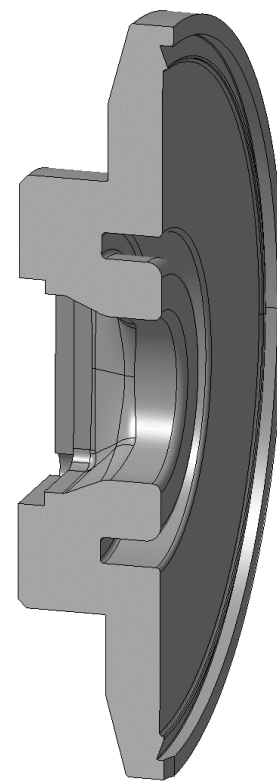
*Choke Mode RF  
Geometry*



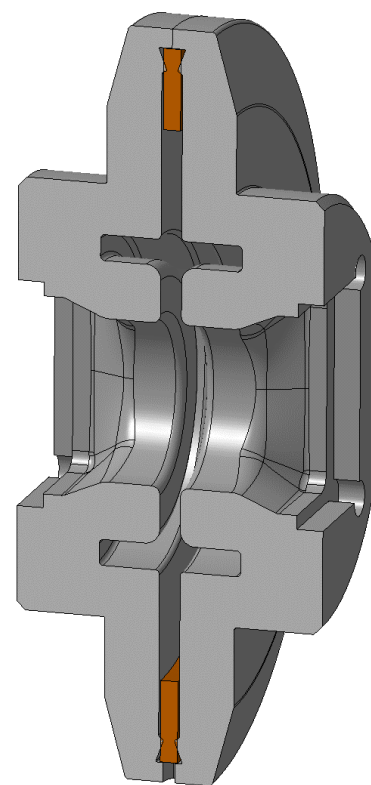
*QCF DN63*



*CF DN63  
Copper  
Gasket*

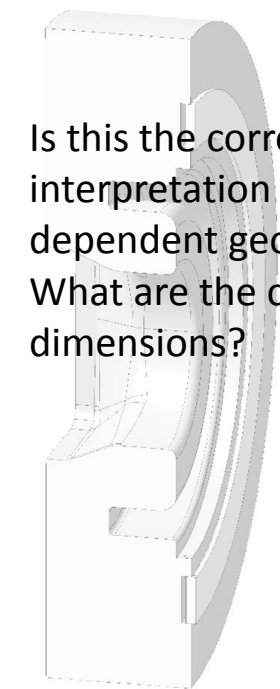


*Combined  
QCF Geometry*

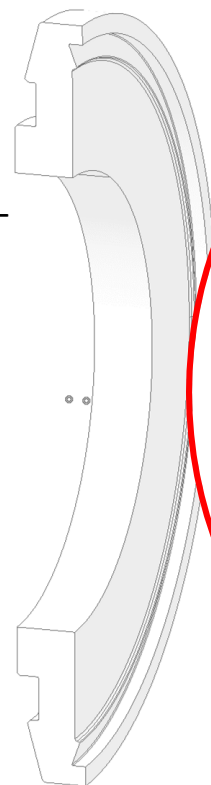


# Choke Mode Flange Mechanical

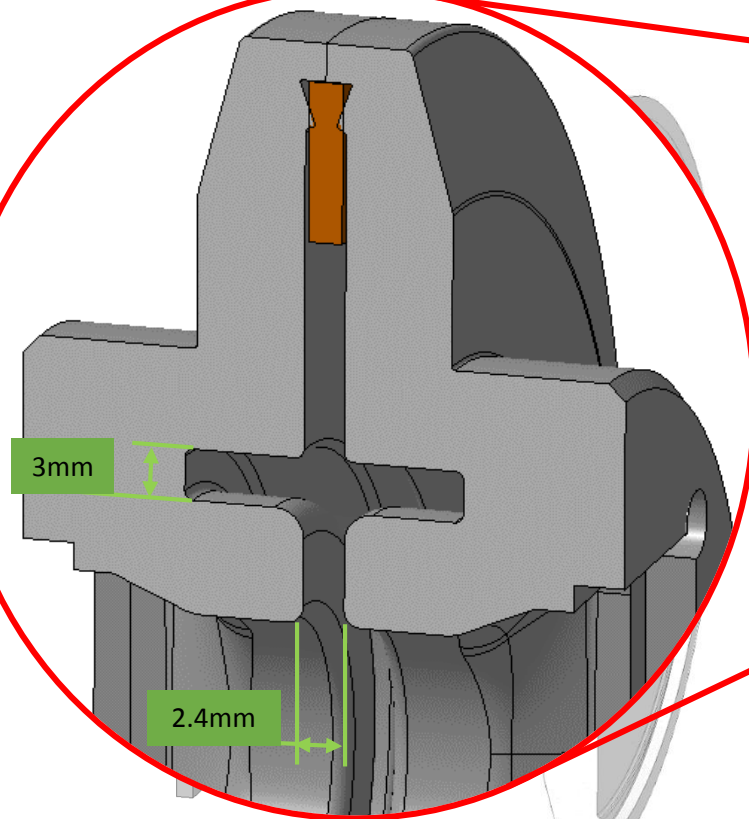
1. Is this the correct interpretation of the RF-dependent geometry?
2. What are the critical dimensions?



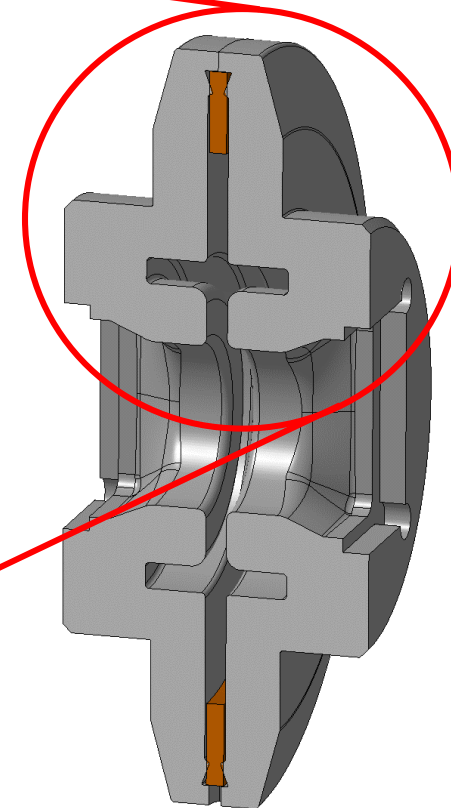
*Choke Mode RF Geometry*



*QCF DN63*

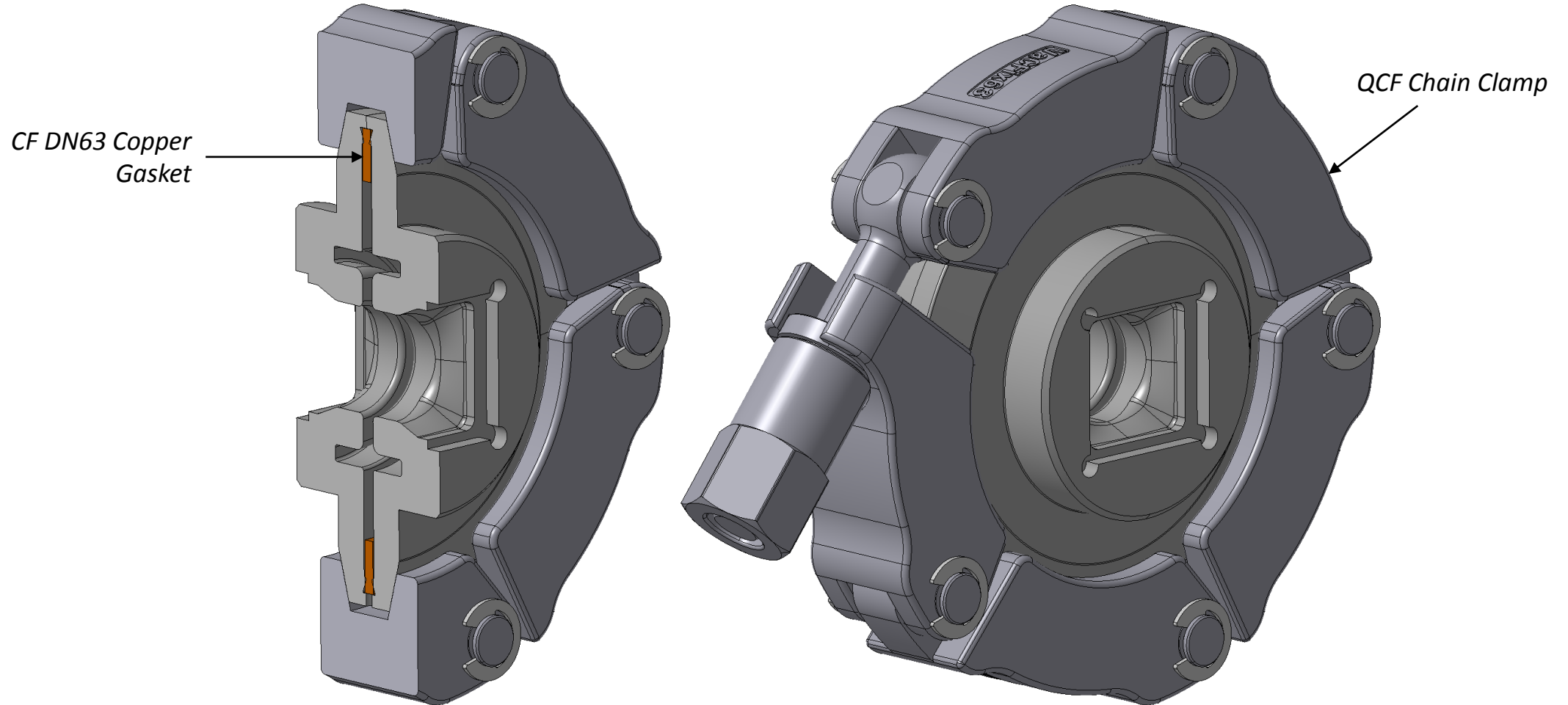


*CF DN63  
Copper  
Gasket*



*Combined  
QCF Geometry*

# Choke Mode Flange Standard Parts



# Choke Mode Flange Waveguide

Double Height Waveguide Dimensions:

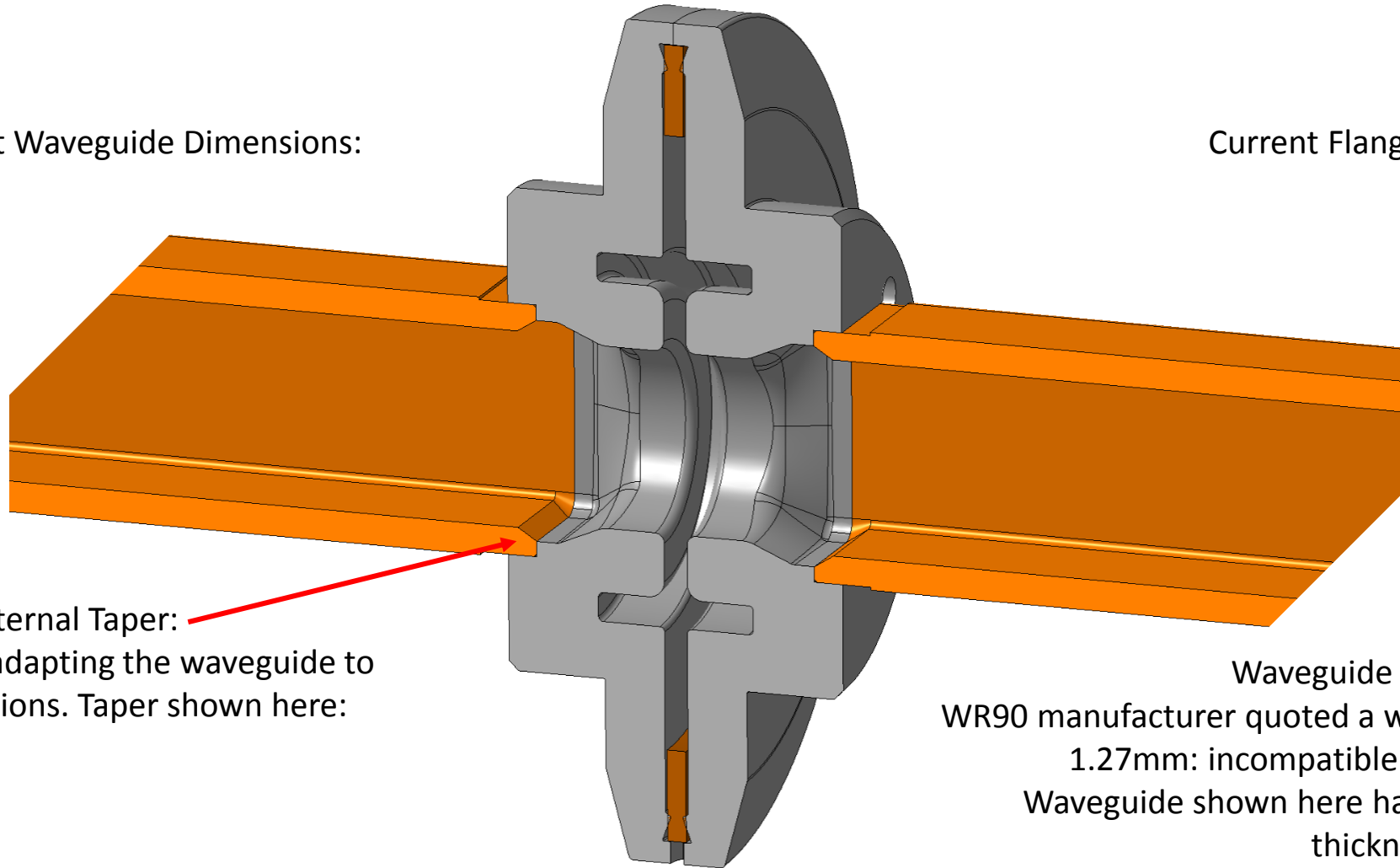
H = 22.86mm

V = 20.32mm

Current Flange Dimensions:

H = 22.86mm

V = 22.86mm



Waveguide Internal Taper:

Possibility of adapting the waveguide to flange dimensions. Taper shown here:

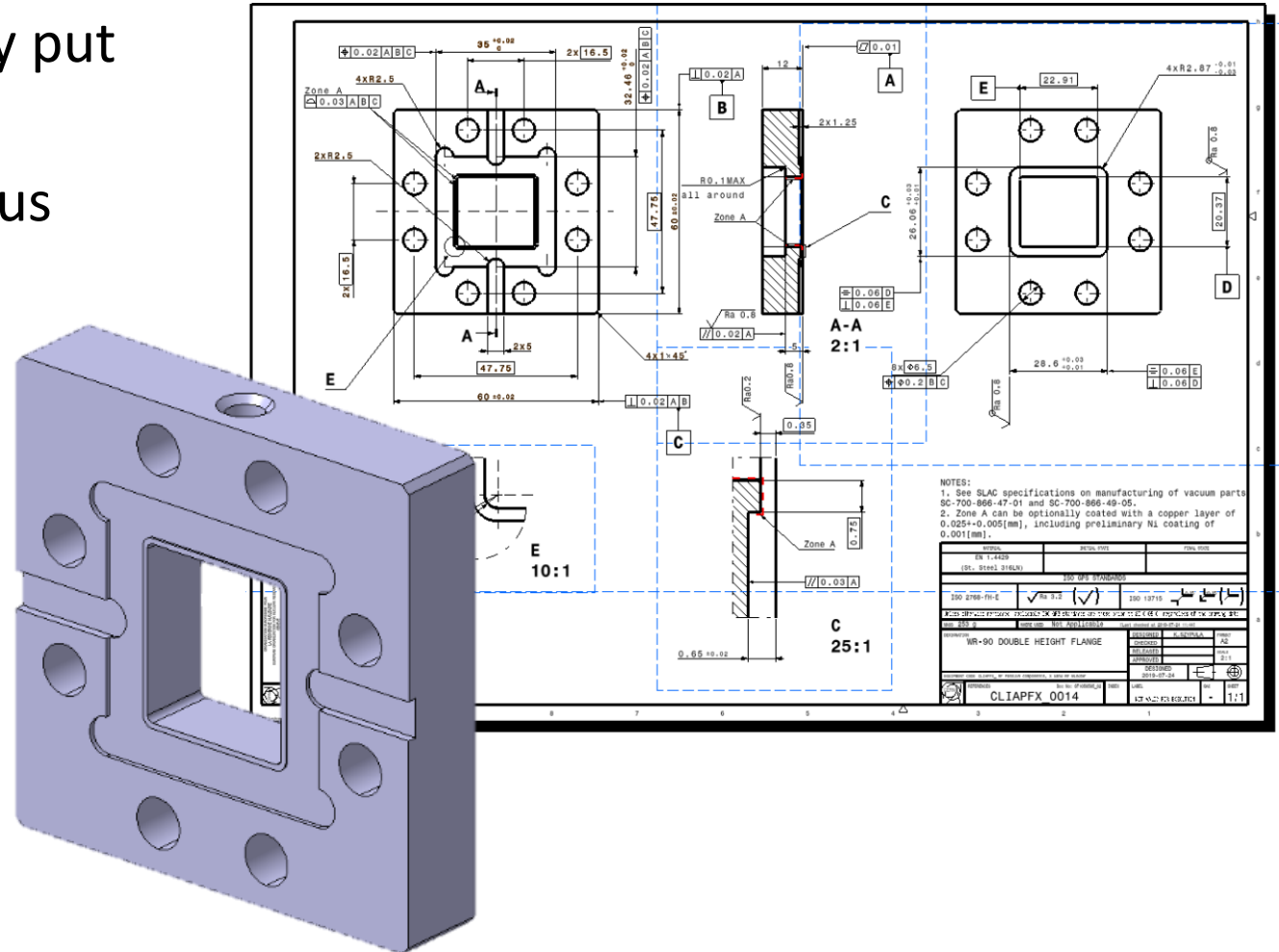
H = 2.00mm

V = 1.27mm

Waveguide Wall Thickness:  
WR90 manufacturer quoted a wall thickness of  
1.27mm: incompatible with this taper.  
Waveguide shown here has 2.5 x the wall  
thickness (3.175mm).

# Double Height WR90 Flange

- A design and drawing was already put together Kamil
- Essentially identical to the previous WR90 rectangular flange
- Doubling the width slightly changes the bolt spacing
  - Might effect the sealing pressure:
    - Standard round CF: 444.44 N/mm
    - Current WR90: 535.48 N/mm
    - Double Height WR90: 444.89 N/mm



# Vacuum Testing Possibility

- The design means the gasket should be relatively easy to vacuum test
- This would not test the flange-waveguide connection

