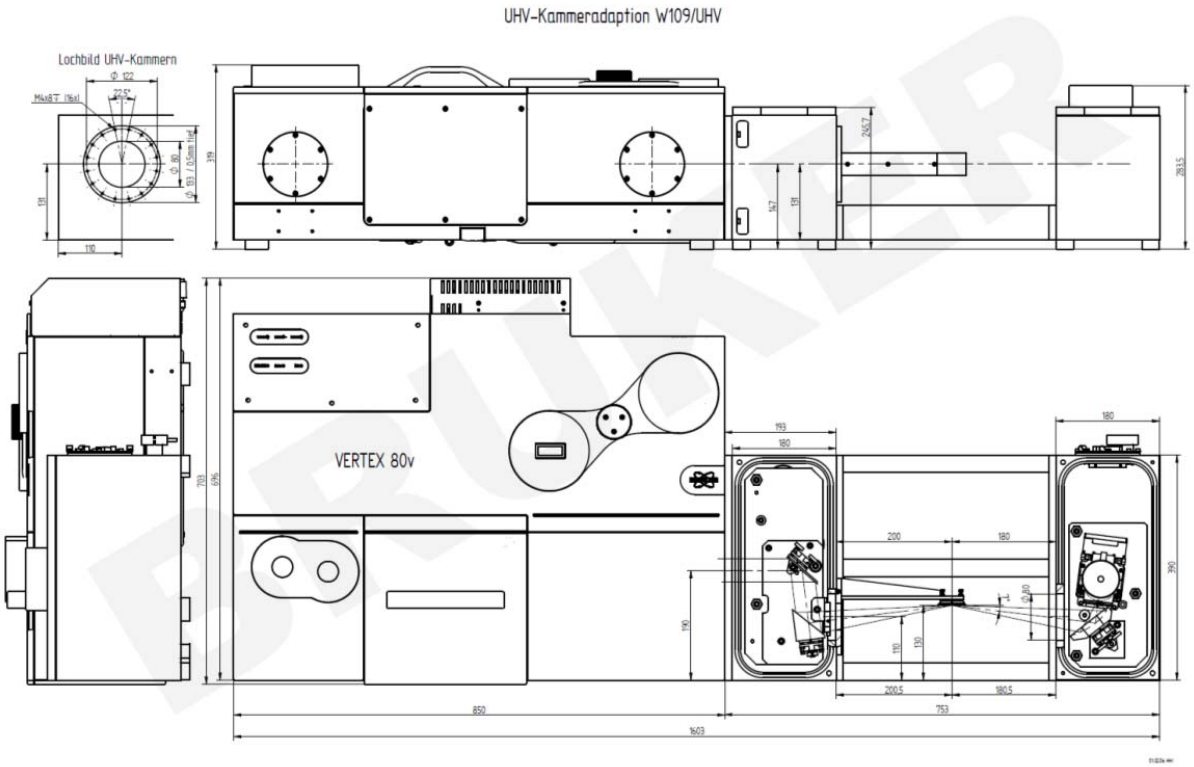
Questionnaire for UHV-IR Adaptation

Dear Bruker customer,

Thank you for your interest in our FT-IR spectrometer for combination with your ultra-high vacuum equipment. In order to efficiently process your request, please invest a few minutes to fill out this form. This will help us to identify your requirements and to offer a system configuration which fits best to your particular needs.



1. Size of the UHV sample chamber

We have various standard configurations for external UHV-IR adaptation bearing different sizes of UHV chambers. Please choose the dimension of your UHV sample chamber from the below list, which will be attached to the FT-IR spectrometer. The distances describe the maximum width of the chamber from flange to flange:

- ☐ 240 mm
- ☐ 360 mm
- ☐ 460 mm
- ☐ 660 mm

Bigger sizes can be accepted in special cased. But please note the rule of thumb: smaller chambers enable better throughput in FT-IR technique.

If you have 3D/2D technical drawings, schematic drawings or photos of this UHV chamber, please forward it to us in advance. If the chamber is not yet built or designed, we can provide you some suggestions and references for chamber design to enable high UHV-FTIR performance.
In case you don't have a technical drawing, to avoid constructional collisions please describe: form and size of the chamber, distance between the input and output ports for IR beam, flange and window sizes of the IR ports, arrangements and size of other ports and flanges on the same chamber, space around the chamber…:

2. Measurement geometry

Which measurement geometry do you prefer for IR measurement in UHV?

- ☐ Transmission
- ☐ Reflection with an incident angle of 83° (IRRAS)

In case of reflection please specify the orientation of the sample:

- ☐ Vertically standing, with front-looking reflecting surface
- ☐ Vertically standing, with back-looking reflecting surface
- ☐ Horizontal lying with upright-looking reflecting surface

3. Sample size and type

Do you have powders or flat samples? Please specify the sample size and the surface properties of flat sample, such as metal, oxide, bulk material, layer system, layer thickness:

4. Required spectral range

Please specify the requested spectral range in wavenumber or wavelength:

5. Combination with photoelastic modulation

UHV-IRRAS can be combined with photoelastic modulator PEM to realize PM-IRRAS measurement technique in UHV. The PEM crystal will be mounted between the UHV chamber and the spectrometer, and operates under ambient condition. That means PEM will further limit the UHV sample chamber size under point 1 in this questionnaire. Please contact us for dedicated discussion. (Learn more about the PM-IRRAS technique on Bruker web page.)

6. Further requirements for spectroscopy

Do you have further requirements in particular for infrared spectroscopy such as e.g. emission, ATR, microscopy, Raman etc.? If so, please specify: