new

# High Performance
# Portable UHV Vacuum Suitcase

In modern ultra high vacuum technologies the number of neccessary techniques are increasing. This makes it more and more important to transport samples under vacuum to various experimental facilities in another lab or even to other countries. A typical application is the transport to a beam line where the samples need to be prepared in the home lab and then may not be exposed to the ambient atmosphere. In some cases samples have to be even transported by airfreight where new regulations don't allow battery operated systems.

The tectra high performance vacuum suitcase* is a small portable vacuum chamber with a gate valve and a transfer arm which easily bolts onto introduction systems of many instruments. Crucial part is a newly developed non-evaporable getter pump. The Pump is compact, lightweight, oil and vibration free, generates no magnetic fields and is not affected by such. It maintains a constant pumping speed over a wide range of pressure and can pump e.g. hydrogen very efficiently. The pumping speed for $H_2$ is about 400l/s and for $N_2$ ca. 100l/s. After an initial activation of approx. 1h at 400℃ it can hold UHV conditions for a long time without any battery or other continuous power supply. This makes the tectra vacuum suitcase excellently suitable for long distance transport even with airfreight.

- sample transport under UHV conditions ($10^{-11}$ mbar range)
- light weight (ca. 10 kg)
- no battery operation allowing even airfreight transport
- very compact non-evaporable getter pump
- sample size Ø33mm (optional up to Ø100mm)

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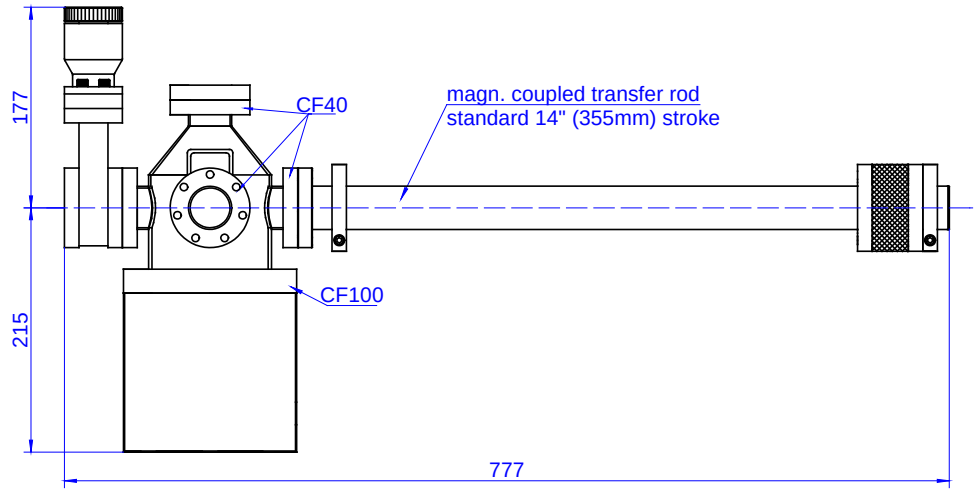
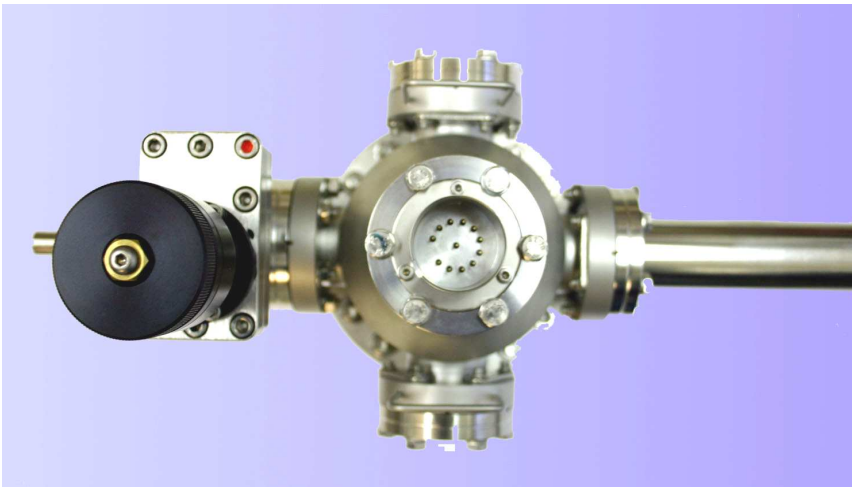
In the standard configuration the sample is introduced through a CF40 (2.75“) gate valve with a magnetically coupled transfer arm. Both the size of the gate valve and the UHV chamber can optionally be increased according to customers demand. The travel of the transfer arm is standard 355mm (14“) but can be altered optionally. The UHV chamber is further equipped with a Bayard-Alpert vacuum gauge and a viewport. 2 handles are provided for easy transport.

**Specification:**

| | |
|---|---|
| UHV Chamber: | Ø100mm |
| Gate Valve: | manually operated, CF40 (optionally up to CF100 and all-metal versions) |
| Viewport: | CF40 (2.75“) |
| Transfer Arm: | magnetically coupled, rotary-linear, stroke 355mm (sample holder not included), other strokes optionally possible |
| Gauge: | Bayard-Alpert gauge AIG17G from AML (optionally: battery operated Pennning gauge) |
| Activation: | Heater 230VAC/50Hz (120VAC/60Hz optionally) |
| Controller: | 2-point temperature controller during activation |
| Optional: | specially designed buffer chamber equipped with $LN_2$ cold trap allowing fast transfer of sample after docking the Suitcase. |




Vacuum Suitcase VS-40-355




High performance portable vacuum suitcase, G. Firpo, F. Buatier de Mongeot,a) C. Boragno, and U. Valbusa
Rev. of Scientific Instruments 76, 026108 (2005)

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