# FERROVAC GMBH

**ULTRA HIGH VACUUM TECHNOLOGY** 

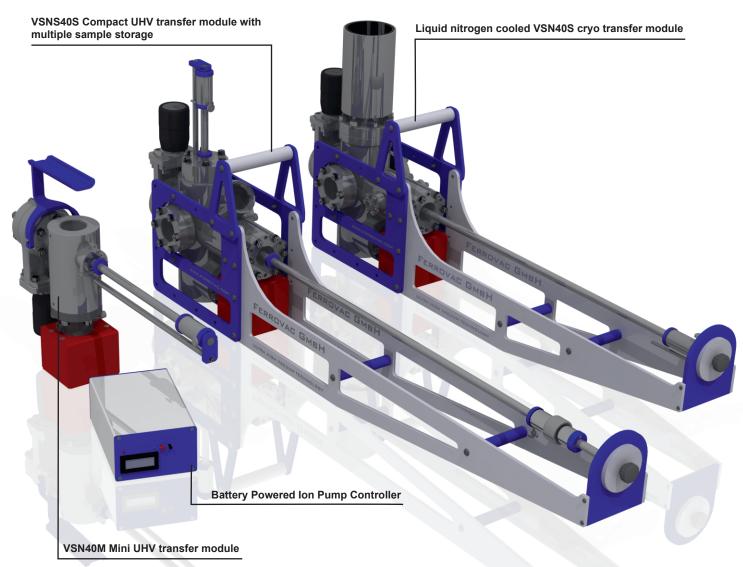
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### **VSN40 UHV SUITCASE**

To ultimately control the environment of a sample to prevent its change from the native state prior to analysis is a demand of nearly every analytical method. A careful control of external conditions of the specimen in terms of atmosphere, pressure and temperature is crucial for obtaining meaningful experimental results. Very often, it is also a necessity to apply complementary analytical techniques on the same specimen. New concepts are therefore needed, to transport and transfer samples between all involved preparation- and analytical instruments while maintaining ultra high vacuum (UHV) conditions and in many cases ultimate temperature control. Here we present UHV and cryo transfer modules that can be implemented to a theoretically unlimited number of participating instruments.



The modular concept of our transfer modules allows for a high level of customization. Please visit our website to learn more about the concepts of specimen transfer between independent instruments or contact us directly at suitcase@ferrovac.com for a detailed discussion of your requirements.

Ferrovac transfer modules are shipped under true ultra high vacuum conditions.

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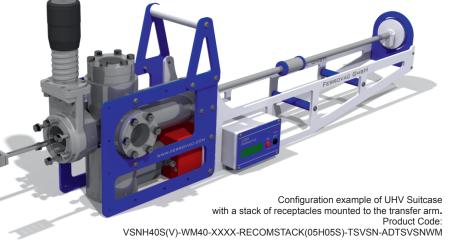
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#### **Storage Sample Transfer**

Instead of a single sample transfer mechanism, a sample storage unit, such as a stack of receptacles, can be mounted on the sample transfer manipulator.

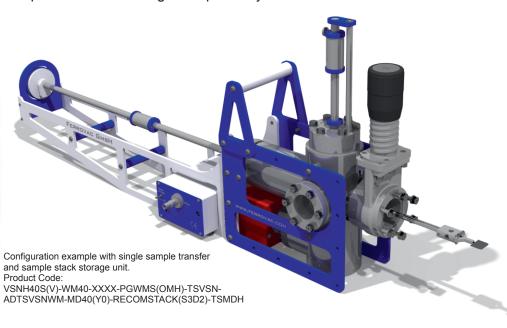
An external manipulator is needed to grab the samples from that storage once the suitcase is connected to a system.



#### Single Sample Transfer with sample storage option

An optional key feature is to install an additional linear/rotary feedthrough featuring a stack of receptacles serving as storage for multiple samples.

This allows the user to store and transport multiple samples under UHV conditions in one go. While connected to a host system, a larger number of samples can be exchanged sequentially.



#### References:

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- L.T. Stephenson et al., PLoS ONE 13 (2018), pp. 1-13.
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- D.K. Schreiber et al., Ultramicroscopy 194 (2018), pp. 89-99.
- R.M. Ulfig et al., Microscopy and Microanalysis 23 (2017), pp. 622-623.