

VHG-500 - Valved Mercury Cell

- Excellent flux stability over time
- Run to run reproducibility
- Range of operational pressures controlled from 1E-4 to 1E-7 Torr
- High quality layer
- Robustness
- Large mercury capacity
- Significant saving in time



Product introduction

The Riber VHG source is an evolution of the sources used widely by researchers and producers of Mercury containing epitaxial structures on Compact 21, Epineat, MBE 412 and MBE49 systems.

The new design takes these benefits a step further by further improving the ease of use of the cell and the control of the mercury flux.

The new design allows a sufficiently high volume of mercury to be stored and maintained at constant temperature such that the daily

consumption of raw material does not perturb the equilibrium and also maintains the mercury source at constant temperature when the cell is not in use by simply closing the valve. The mercury flux is controlled by a micrometric valve inert to mercury.

The range of operational pressures that can be controlled covers 1E-4 to 1E-7 Torr without difficulty. The design of the "heated stage" further ensures a uniform temperature and thus a stable flux.

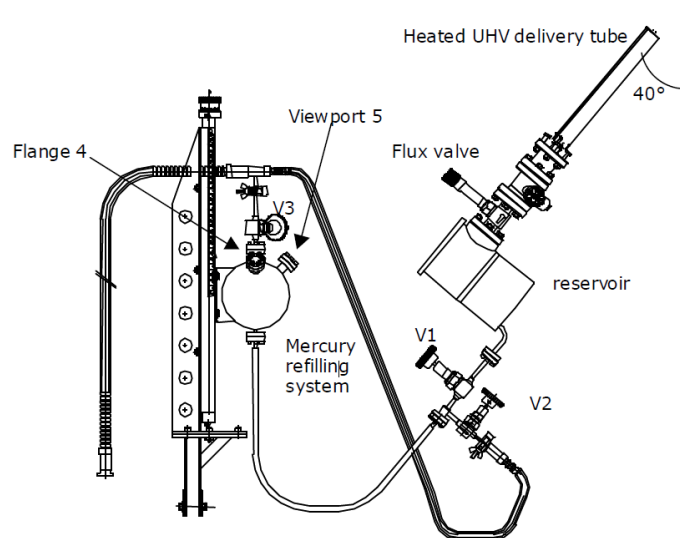
The cell dimensions allow process run times of several tens of hours without

refilling. The refill of the "heated stage" is made from the "main storage tank" which can hold as much as 10 kgs of mercury.

The refill of the "main storage tank" can be made without breaking vacuum in the growth chamber and in an ergonomic manner.

The robustness and reliability of the design has also been further improved thanks to its all-metal design.

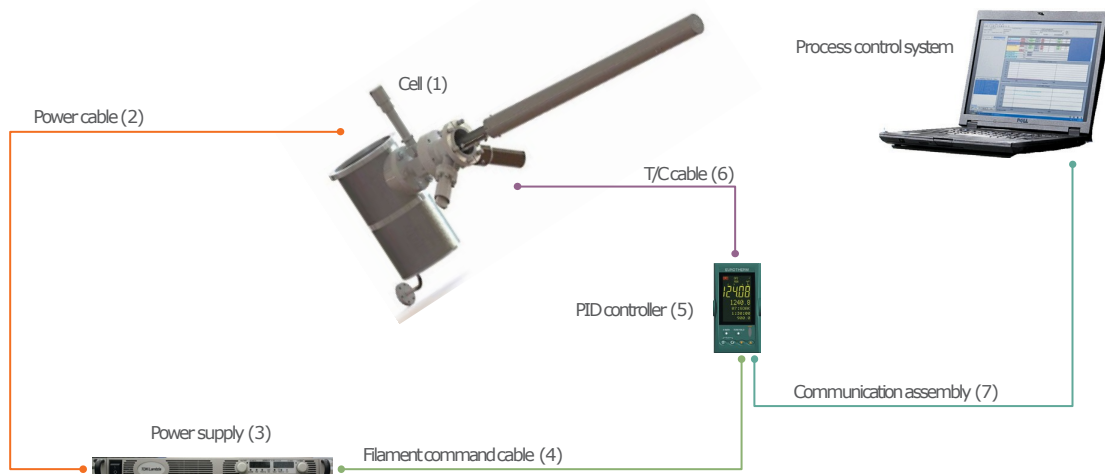
Layout



Specifications

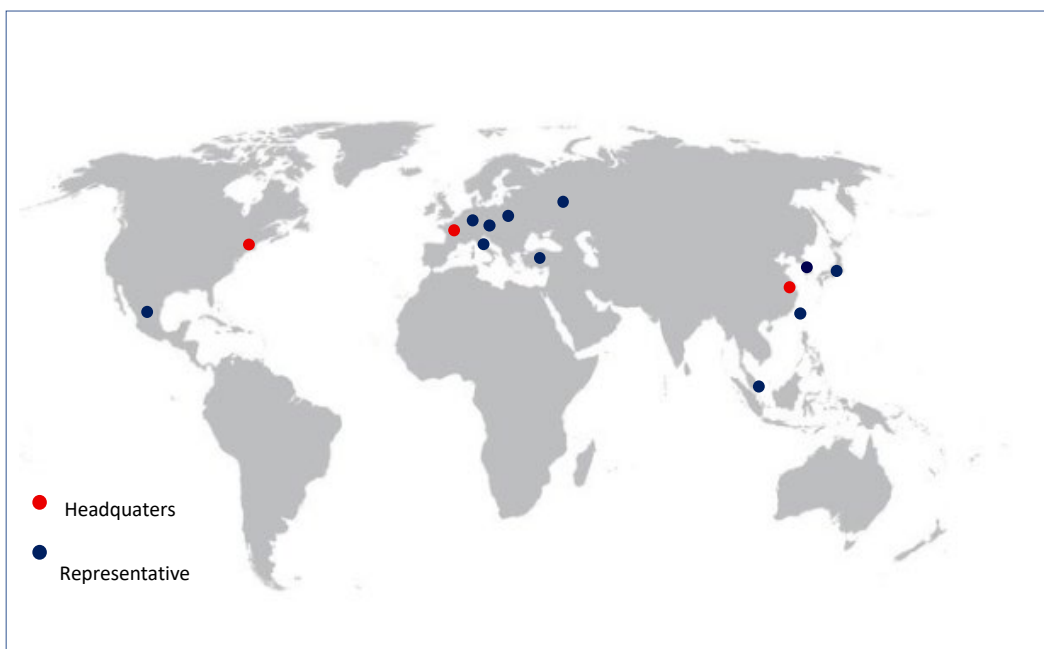
| Characteristics | VHG 500 |
|--|------------------------------|
| Heated UHV Delivery tube | |
| Diffuser | PBN |
| Mounting flange (min) | CF 63 |
| Maximum continuous operating temperature | 300°C |
| Maximum outgassing temperature | 350°C |
| Valve | |
| Valve actuator | Micrometer |
| Heater | Heated mantles |
| Maximum outgassing temperature | 300°C |
| Operating temperature | 250°C |
| Automatic valve controller | AVP 6504 or S3PC recommended |
| Reservoir | |
| Useful capacity (max load dimensions cc) | 500 cc |
| Thermocouple | Two |
| Maximum outgassing temperature | 180°C |
| Typical operating temperature | 180°C |

Component interfacing



RIBER SALES AND SERVICE NETWORK

For more information, please contact your local sales representative



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