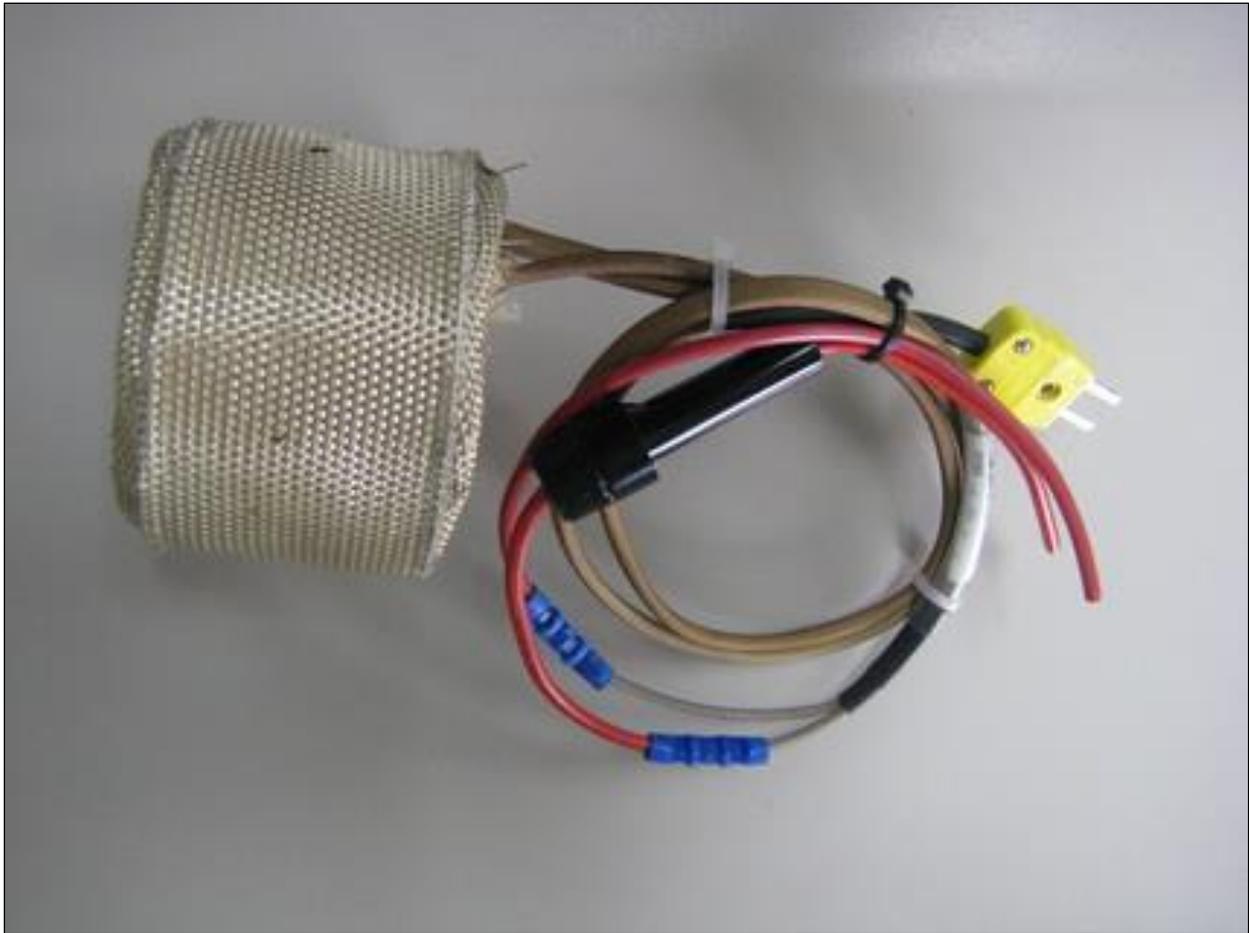


User Operation Manual:

Viewport Heaters



Support

For product related questions or assistance, please use the contact information below:

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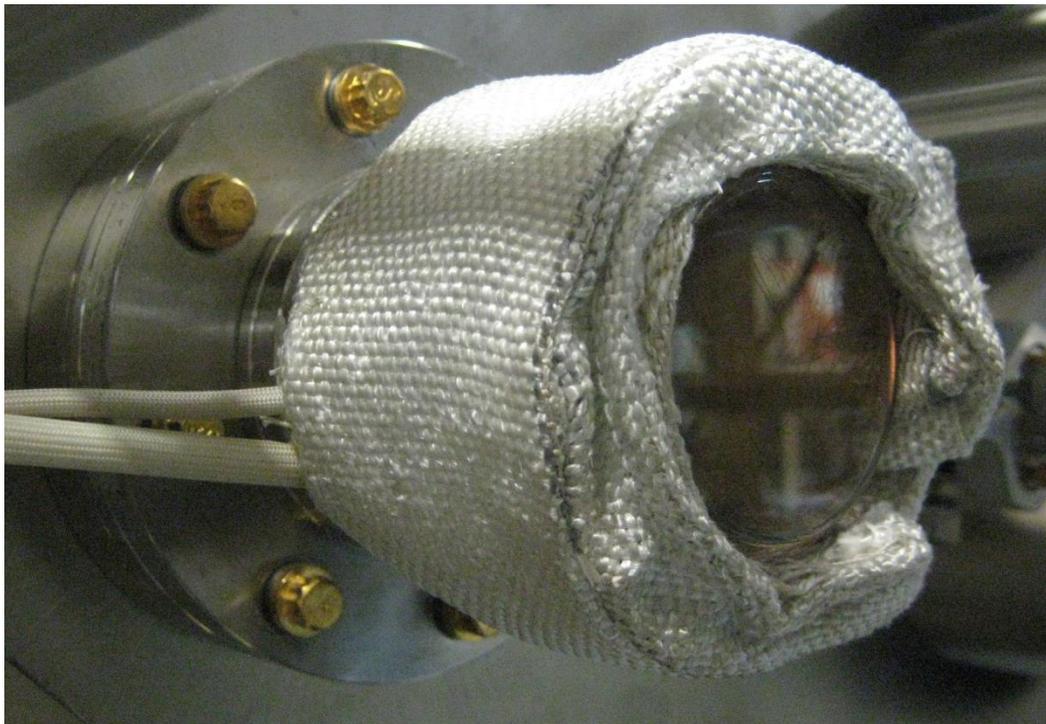
INTRODUCTION

Product Description

The VH-1.5 (P/N 10-0102) and VH-2 (P/N-0103) viewport heaters have been specifically engineered for use with Bomco Strain Free Ultra High Vacuum Windows. The heaters are available in 2 sizes to fit both either the B5935 or the B5936.

INSTALLATION

To install the heater, simply slide the heater over the viewport as shown below. It should slide on easily.



A suitable variable output power supply should be connected to the heater. The heater is rated for 24V operation (AC or DC) at a current 2.2 Amps for the VH-1.5 and 3.1 Amps for the

VH-2. This provides 55W and 75W respectively. Exceeding more than 3 amps for the VH-1.5 or 4 amps for the VH-2 will permanently damage the heater and a fuse has been included to protect against over current.

A variable transformer such as the Philmore 48-1205, Staco 3PN1010B, or Payne 36TBP-1-5 is typically used to provide AC current to the heater. When applying current, increase the voltage gradually in 3 or more steps while waiting 3 minutes between steps. The temperature should be monitored with the included k-type thermocouple and should not exceed 475 °C initially. The heater is rated to a maximum of 500 °C. A DC power supply may also be used. If operating the heater with a PID controller, ensure that the maximum current rating is not exceeded.

A temperature of 475 °C is usually enough to prevent significant condensation of arsenic on the viewport. Depending on the type and quantities of material present in the vacuum chamber, some coating may still slowly occur (as when using antimony). In many cases, periodically covering the entire window and heater with 2 layers of aluminum foil for a period of 24 hours will get the window clear again.

NOTE: During initial warmup, some visible smoke and a burning odor will be released from the heater. This is normal and will stop after the first 10-15 minutes of full temperature operation.