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Diffusion Pumps for Applied Films Glass Coating Systems

*INSTRUCTION MANUAL
SUPPLEMENT*

VHS-10 AND HS-16

Manual Number 699901575
Revision C
April 2006

Diffusion Pumps for Applied Films Glass Coating Systems

Warranty

Products manufactured by Seller are warranted against defects in materials and workmanship for twelve (12) months from date of shipment thereof to Customer, and Seller's liability under valid warranty claims is limited, at the option of Seller, to repair, to replace, or refund of an equitable portion of the purchase price of the Product. Items expendable in normal use are not covered by this warranty. All warranty replacement or repair of parts shall be limited to equipment malfunctions which, in the sole opinion of Seller, are due or traceable to defects in original materials or workmanship. All obligations of Seller under this warranty shall cease in the event of abuse, accident, alteration, misuse, or neglect of the equipment. In-warranty repaired or replaced parts are warranted only for the remaining unexpired portion of the original warranty period applicable to the repaired or replaced parts. After expiration of the applicable warranty period, Customer shall be charged at the then current prices for parts, labor, and transportation.

Reasonable care must be used to avoid hazards. Seller expressly disclaims responsibility for loss or damage caused by use of its Products other than in accordance with proper operating procedures.

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Varian Inc./Applied Films have no control over the use of this equipment and is not responsible for personal injury or damage resulting from its use. The safe use and disposal of hazardous or potentially hazardous materials of any kind is the sole responsibility of the user. Observe all WARNINGS and CAUTIONS to minimize the serious hazards involved.

It is the sole responsibility of the users of Varian, Inc./Applied Films equipment to comply with all local, state and federal safety requirements (laws and regulations) applicable to their system. Employ the services of an industrial hygienist and/or a qualified chemical safety engineer in order to ensure safe installation and use.

Warranty Replacement and Adjustment

All claims under warranty must be made promptly after occurrence of circumstances giving rise thereto, and must be received within the applicable warranty period by Seller or its authorized representative. Such claims should include the Product serial number, the date of shipment, and a full description of the circumstances giving rise to the claim. Before any Products are returned for repair and/or adjustment, written authorization from Seller or its authorized representative for the return and instructions as to how and where these Products should be returned must be obtained. Any Product returned to Seller for examination shall be prepaid via the means of transportation indicated as acceptable by Seller. Seller reserves the right to reject any warranty claim not promptly reported and any warranty claim on any item that has been altered or has been returned by non-acceptable means of transportation. When any Product is returned for examination and inspection, or for any other reason, Customer shall be responsible for all damage resulting from improper packing or handling, and for loss in transit, notwithstanding any defect or non-conformity in the Product. In all cases, Seller has the sole responsibility for determining the cause and nature of failure, and Seller's determination with regard thereto shall be final.

If it is found that Seller's Product has been returned without cause and is still serviceable, Customer will be notified and the Product returned at its expense; in addition, a charge for testing and examination may be made on Products so returned.

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To Contact Varian, Inc.

In the United States, you can contact Varian, Inc. Customer Service at 1-800-8VARIAN.

Internet users:

- Send email to Customer Service & Technical Support at vpl.customer.support@varianinc.com
- Visit our web site at www.varianinc.com/vacuum
- Order on line at www.evarian.com

See the back cover of this manual for a listing of our sales and service offices.

To Contact Diffusion Pumps for Applied Films

1. Internet at www.appliedfilms.com
 - For customer support launch, *customer care* to input a detailed technical issue. Expect a response within one business day.
2. E-mail
 - Contact Jay Cowan, Customer Support manager, jay.cowan@appliedfilms.com
3. Telephone
 - Request customer support, toll free (US only) 1-800-523-7213
 - Request customer support, direct dial +1-707-423-2109
4. Fax
 - Request customer support via fax +1-707-425-6071

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General

Varian, Inc. supplies VHS-10 and HS-16 diffusion pumps customized for use in coating systems produced by Applied Films. This manual supplements the standard VHS-10 and HS-16 diffusion pump instruction manuals. Refer to the standard instruction manuals for general information regarding safety, installation, operation and maintenance. These manuals can be purchased through Varian, Inc. (Table 1).

Table 1 Diffusion Pump Instruction Manual Part Number

Diffusion Pump	Instruction Manual Part Number
VHS-10	699901023
HS-16	699901140

The pumps differ from the standard Varian, Inc. offerings in the following ways:

- ❑ A custom inlet baffle is installed on the pumps to optimize the pump speed for coating applications.
- ❑ The electrical box has been relocated to under the foreline (HS-16 only) and an electrical connector has been added to reduce installation time.
- ❑ The HS-16 cooling system has been modified to reduce installation time. There is now only one water inlet and one water outlet on the pump. The standard VHS-10 pump already provides this water hookup option. Both the VHS-10 and HS-16 are fitted with custom water connections using the customer specified thread sizes.

Refer to Figure 1 on page 3 and Figure 2 on page 4 for pump dimensions.

Field Replacement Parts

Refer to the VHS-10 or HS-16 instruction manual for a full listing of replacement parts available for these pumps. Table 2 lists the heater and crush plate part numbers by model number.



Crush plates are not reusable and are changed with every heater replacement.

Table 2 Replacement Heater and Crush Plate Part Numbers

Pump Part No.	Voltage/ Wattage	Pump Type	Heater Part No.	Crush plate Part No.
R1330310	380 V/3200 W	HS-16	647316051	K4919001
R1330311	440 V/3200 W	HS-16	647316042	K4919001
R1330312	480 V/3200 W	HS-16	647316033	K4919001
R2356301	380 V/2200 W	VHS-10	647310160	K7667001
R2356302	400 V/2200 W	VHS-10	647310190	K7667001
R2356303	440 V/2200 W	VHS-10	647310200	K7667001
R2356304	480 V/2200 W	VHS-10	647310170	K7667001

Electrical Wiring

Electrical power is supplied to the pumps through a power connector mounted on the electrical box. A spare connector and wire harness is available through Varian, Inc. (PN# R2323002 (VHS-10) or R2323001 (HS-16)). The mating (female) connector is available (PN# R2323003, same part number for either VHS-10 or HS-16). Refer to Figure 3 and Figure 4 on page 5 for pump wiring diagrams.

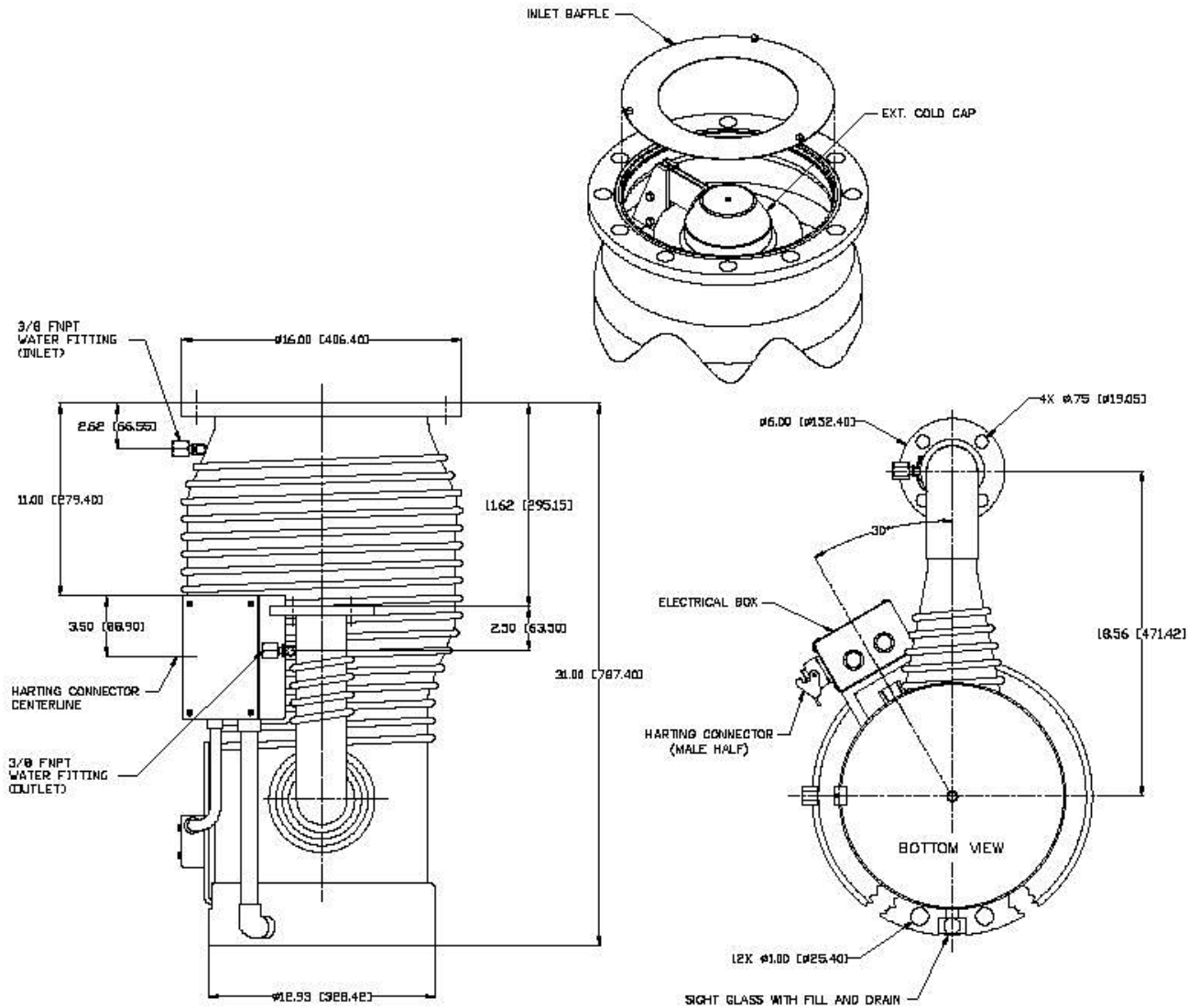


Figure 1 VHS-10 Dimension Diagram

Diffusion Pumps for Applied Films Glass Coating Systems

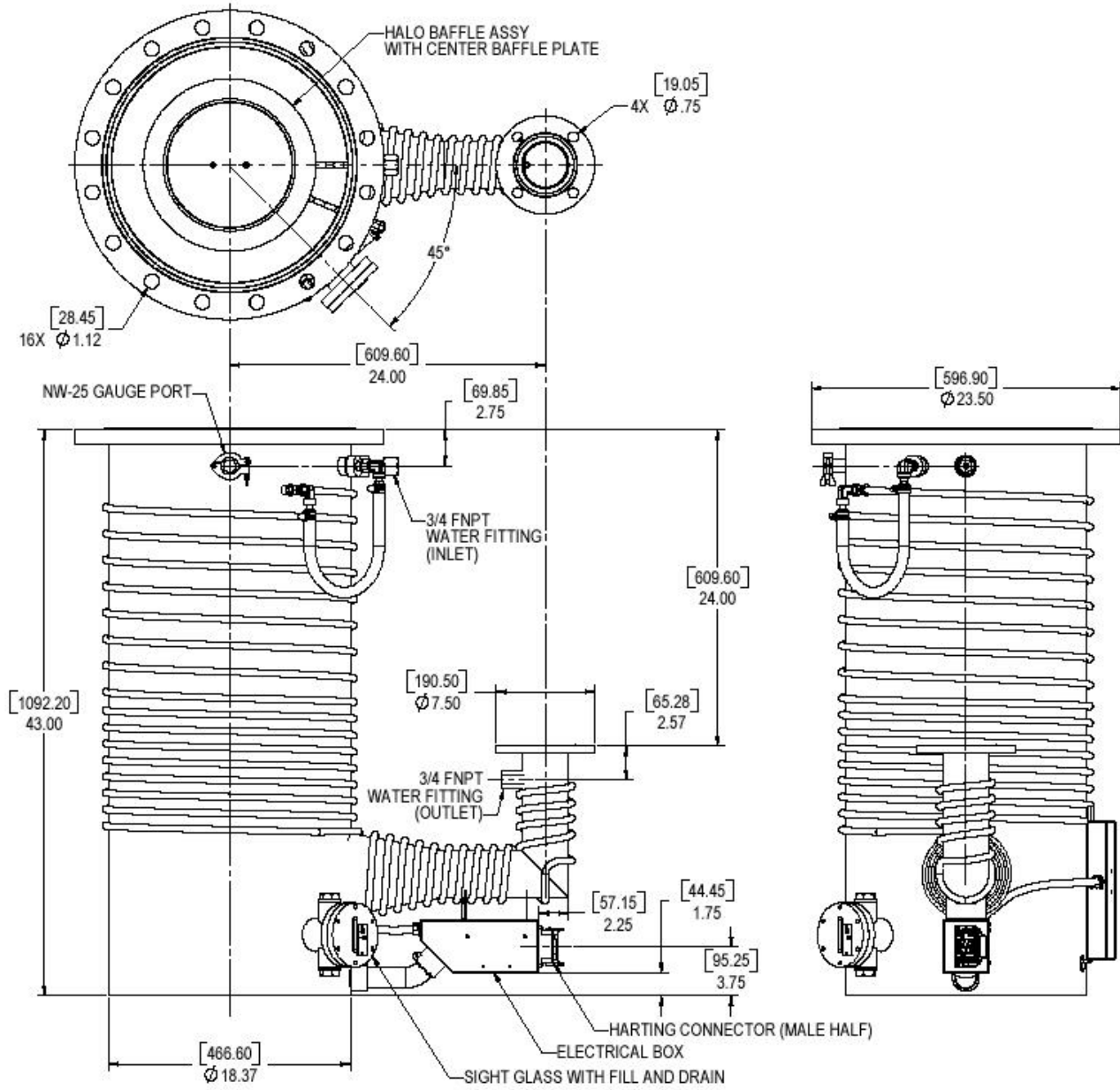


Figure 2 HS-16 Dimension Diagram

Diffusion Pumps for Applied Films Glass Coating Systems

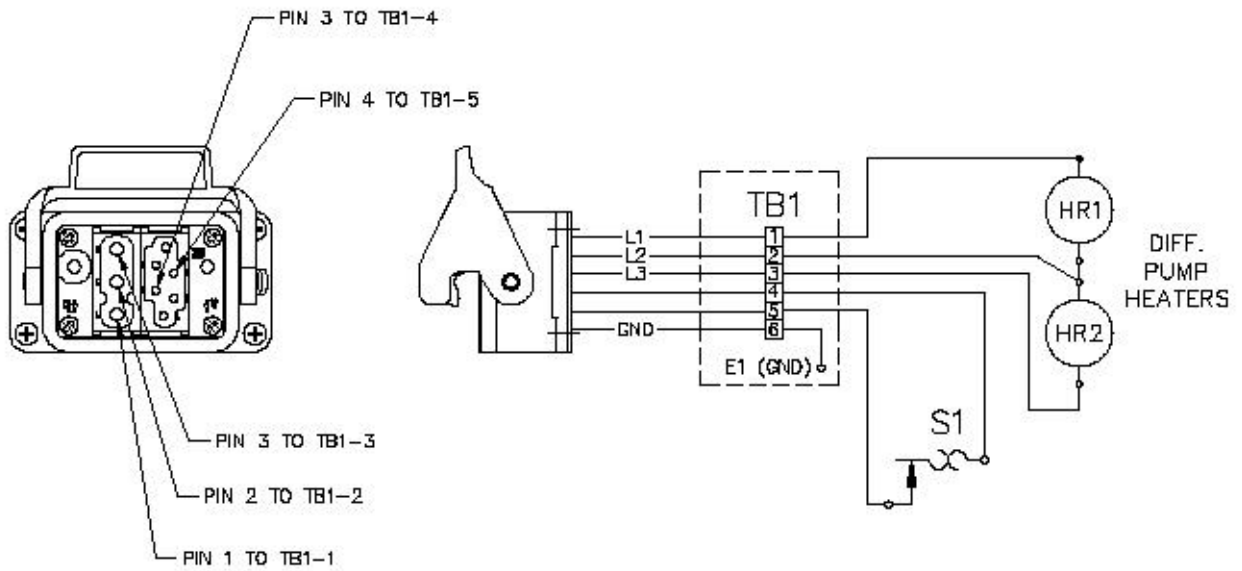


Figure 3 VHS-10 Wire Schematic

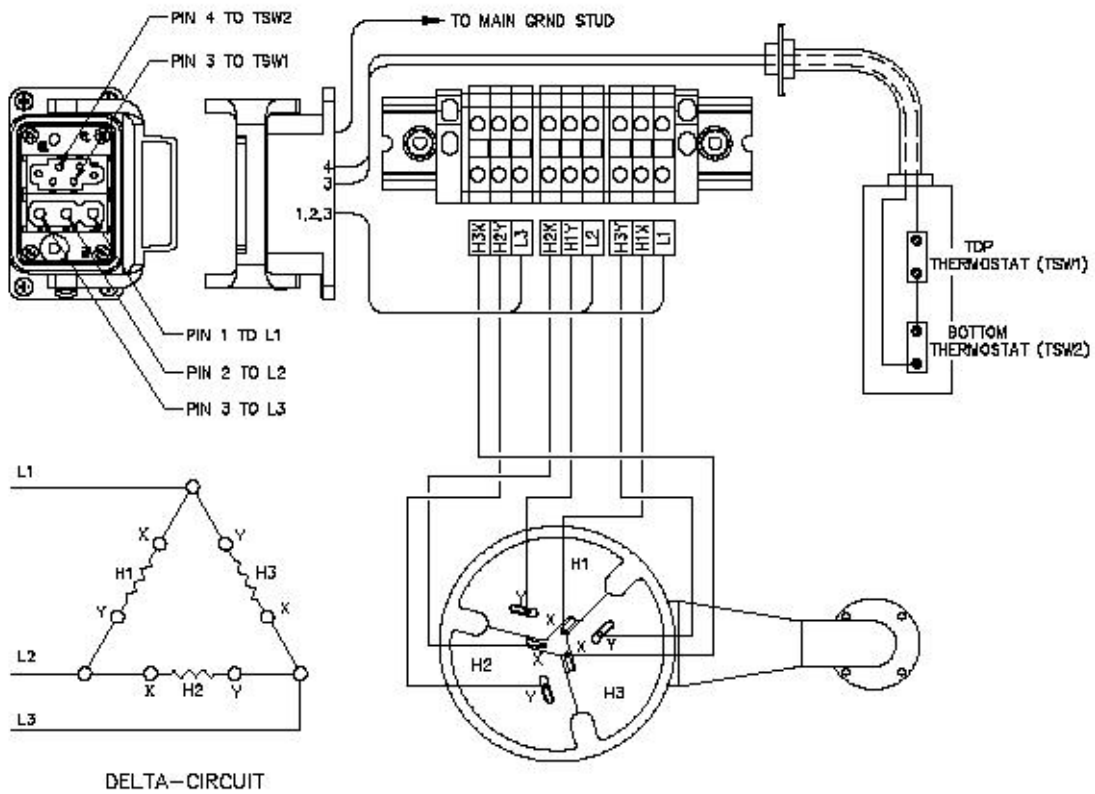


Figure 4 HS-16 Wire Schematic

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