

Care and operation of the Glas-Col Heating Mantle

Standard Heating Mantles Care And Operation

Mode d'emploi et guide d'entretien des chauffe-ballons Glas-Col

With proper care and operation, Glas-Col mantles will give long and efficient service. Contamination, overheating and general misuse will greatly reduce the life of a mantle.

The Glas-Col mantle consists of an insulated electrical-resistance heater and requires only a controlled, electrical power source. The use of a variable transformer, other manual control, or an automatic controller is recommended to prevent overheating and to effect accurate temperature control. A selection of temperature and voltage control devices is available from Glas-Col.

The limitation in the operation of the Glas-Col mantle is the maximum temperature allowed for the heating zone. This is 450°C for the glass fabric in Series O, M and TM mantles and 650°C for Series S, STM, and RFM mantles. Some Series O, M and TM mantles are equipped with iron constantan thermocouples to measure this temperature. Under usual conditions, 650°C will not be exceeded, and therefore, Series S, STM and RFM mantles do not have thermocouples except on special order.

Series O spherical and hemispherical mantles should be used with the appropriate Glas-Col support. (Cat. No. 0-524 through 0-550 extension supports or 0-504 and 0-505 tripod supports.) The use of these supports is the only method approved by Glas-Col, and we do not assume responsibility for mantles damaged as a result of being supported otherwise—for example, directly on ring stands, cork rings, lab jacks, etc.

For maximum safety, the three-prong plug of the cord on the Series M, S, TM and STM mantles should always be inserted into a grounded outlet. Since the exterior of Series O mantles is an insulator, these mantles are furnished with two-wire cords.

Maintenance of the Glas-Col mantle on a regular schedule is not required. Of course, any damage which occurs to the mantle should be repaired immediately. Glas-Col mantles should be protected from chemical spillage and corrosive atmospheres so far as practical. Damage from spillage on Series M or TM mantles can be reduced greatly by using the Glas-Col Splash Guard or Poncho Safety Shield.

In 12-liter Series O spherical mantles, there are three heating circuits—two in the lower half and one in the upper half. The heat input in each circuit should be controlled with a suitable control device. The two lower circuits furnish heat for boiling the liquid contents, while the upper circuit prevents condensation of the vapors. It may often be necessary to operate the upper circuit at no more than 50% of full power. For low-boiling liquids, the upper circuit need not be used. When the flask is more than half full of liquid, the two bottom circuits may be operated at the rated voltage. When the liquid level falls below the halfway mark in the flask, the power to the upper circuit of the lower half should be reduced to 50% or less. This will prevent superheating of the vapors, and overheating of the glass fabric in this circuit.

A similar procedure should be followed when using a Series M, TM, S or STM mantle with a Series MO heating top. The procedure is also applicable to other multiple-circuit mantles.

4

Limited Warranty

Glas-Col is not responsible for damage to apparatus due to improper installation or through attempts to operate the apparatus beyond its rated capacity, intentional or otherwise. Glas-Col warrants products of its manufacture to be free from defects in material and workmanship and agrees to repair or replace without charge any products found defective upon examination at the factory. With proper installation, avoidance of contamination and excess temperature, Glas-Col mantles should provide efficient operation and long service life.

Glas-Col heating mantles are intended for laboratory or industrial use only. Glas-Col reserves the right to make product refinements without prior notice.

CAUTION

Heaters which may be left unattended should be operated through automatic temperature-limiting controls.

ATTENTION

Tout radiateur susceptible de non-surveillance devrait fonctionner sous commande des contrôles de température automatiques.