

TECH NOTES

VB-TN-001 Rev.A

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INSULATING JACKET FOR COLD WEATHER PROTECTION

Operation

Freezing can affect the overall plant operation. It can also inhibit the equipment's primary safety function. An insulating jacket provides a cost-effective method to additional cold weather protection for Varec Biogas safety equipment installed outdoors. Digester gas has saturated vapor that is susceptible to freezing when exposed to extreme cold.

Varec Biogas can provide tailor-made insulating jackets for safety equipment we manufacture.



The following Varec Biogas equipment is typically specified with tailor-made insulating jackets because these items are frequently installed outdoors. Varec Biogas can provide insulating jackets for other Varec Biogas equipment. Please see the equipment guideline provided on Page 3.

Model 5810B/5820B/5811B/5821B Pressure and Vacuum Relief Valve with Flame Arrester

This unit is installed on top of digesters to provide for emergency pressure and vacuum relief (See photo left). The end-of-line flame arrester prevents any potential flame flashbacks

Model 440 Pressure Regulator and Flame Trap Assembly

This unit is typically installed on the gas line header to the waste gas burner (see right photo, next page)

The deflagration flame arrester that comes with this unit is recommended for installation at no more than 15 feet from the potential flame source.

The waste gas burner is installed outdoors, at least 50 feet from any digester or buildings that house gas control equipment per Water Environment Federation, Manual of Practice, No. 8 (MOP 8) recommendations.

In order to meet the 15 feet recommended installation for the flame arrester, the Model 440 is installed outdoors and requires protection from cold weather conditions.



Specification

The standard specification of the insulating jacket is constructed with a silicone impregnated woven glass cloth lining with a 1" thick, 6-lb density fiberglass insulating material.

Through-cover quilting pins provide firm support for the insulation. The pins keep the insulation from shifting inside the liner and jacket.

This provides dimensional stability and uniform heat retention. The silicone lining has inside seams and folded closing seams with two parallel rows of stitching.

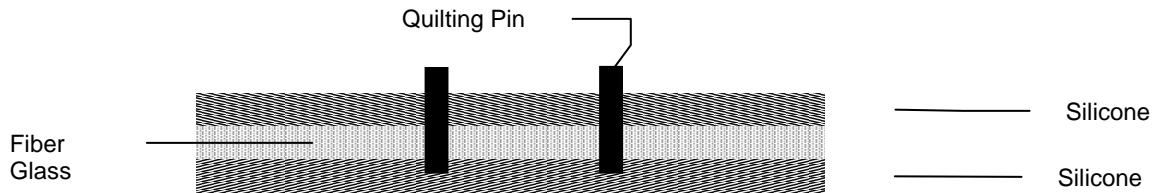
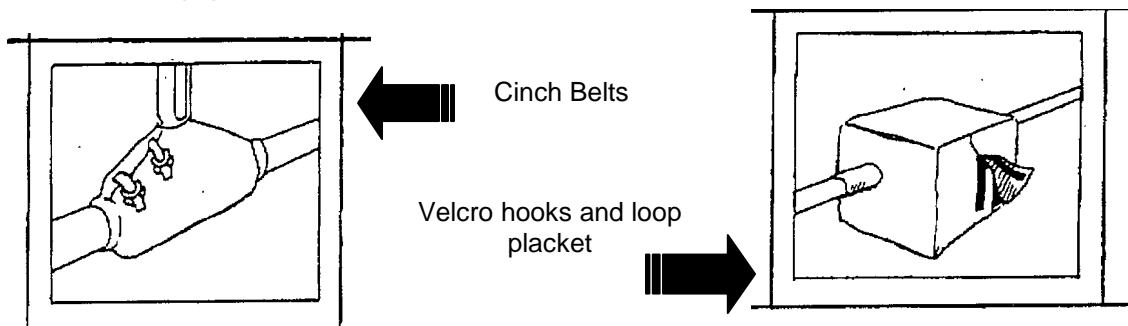


FIGURE 1 – CROSS-SECTIONAL VIEW - INSULATING JACKET FOR TEMPERATURES UPTO 500° F (STANDARD)

Installation

The insulating jacket supplied with the Varec Biogas equipment is fastened and removed using a combination of velcro and cinch belts as shown in the illustration below. This allows for easy access to the equipment.



INSULATING JACKET EQUIPMENT AVAILABILITY GUIDELINE



Model 2010B/2020B/2011B/2021B
Pressure and Vacuum Relief Valve



Model 246 Low Pressure Manual Drip
Trap



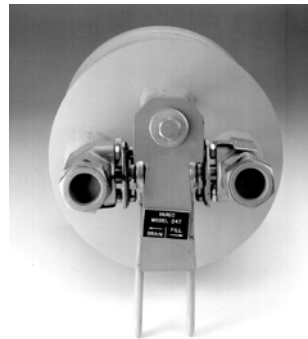
Model 5000/5010 Flame Arrester
*The insulating jacket provides access to the
removable cover.*



Model 246AT Low Pressure Electrically-
Actuated Drip Trap

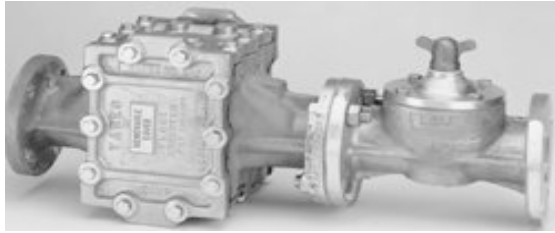


Safety Selector Valve (SSV)



Model 247 High Pressure Manual Drip
Trap

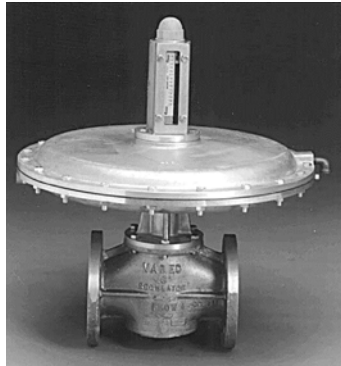
*(Electric actuated version, photo not shown can
also be provided with an insulating jacket)*



Model 450 Flame Trap Assembly



Model 7100B/7101B Pressure (Explosion) Relief Valve



Model 386 Back Pressure Regulator



Model 3500B/3600B/3650B/
3501B/3601B/3651B Vacuum Relief Valve



Model 211 Back Pressure Check Valve

Please consult the factory for insulating jacket availability for Varec equipment not pictured in this guideline.