

GEM™ Trap Insulation Jacket

GEM Steam Trap Insulation Jacket Technical Datasheet



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The GEM Trap

The GEM Trap is a low maintenance steam trap with no moving parts; it will not wear and is performance guaranteed* on saturated steam for 10 years. The unique orifice and multistaged throat technology utilises the expansion of the flash steam created by the pressure differential across the trap to control the flow of condensate.

Operating over variable loads, the GEM Trap will suit all industrial applications. The single piece bodies are manufactured from wear and corrosion resistant grades of stainless steel.

The GEM Trap is the most energy efficient steam trap on the market and is supplied with a full sizing and commissioning service.

GEM TRAP INSULATION JACKET

The GEM Trap Insulation Jacket range is designed for use with GEM Steam Traps and is water and heat resistant.

Velcro and tie fastenings ensure a tight seal around the steam trap to minimise energy loss.

All GEM Trap Insulation Jackets are able to accommodate drainage valves where required.

Features

- ▶ Reduce heat loss
- ▶ Protect personnel from hot surfaces
- ▶ Easy removal for trap testing and maintenance
- ▶ Bright orange colour aids with identification

Temperature Rating

- ▶ Inner cloth is rated to 500°C.

Note: Above 220°C the jacket may 'smoke' for a short period of time as coating begins to degrade however this does not affect the integrity of the jacket.

Thermal Conductivity

- ▶ 0.044W/m°C @ 100°C

This varies with temperature according to the graph 'Thermal Conductivity vs. Temperature (Needle Matt)'.
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Energy Savings

In addition to the efficiencies realised from converting to GEM Traps, further energy savings will be recognised by using the appropriate insulation jacket.

By installing, for example, a Flanged Opal GEM Trap with its jacket, **a further 2.8 tonnes/yr of steam[†]** will be saved over installing the same trap without an insulation jacket. This begins to have a large financial impact across the site.

[†] Example heat loss savings for 10 barg steam (180°C) compared to bare trap.



Key GEM Trap Benefits

Quality, Efficiency, Reliability and Service

Permanent Energy Savings

- ▶ Typical payback < 2 years
- ▶ Inherently more efficient than mechanical steam traps

10 Year Performance Guarantee*

- ▶ No moving parts to wear or fail
- ▶ No inserts – no leak path

Reduced Maintenance

- ▶ No on-going trap surveys
- ▶ Minimal annual maintenance

Improved Process Control

- ▶ No pressurisation of condensate return system
- ▶ Elimination of steam trap related waterhammer

Performs Across Industrial Variable Loads

- ▶ Each trap supplied with full sizing and commissioning service

* Reduced guarantee offered for superheated steam

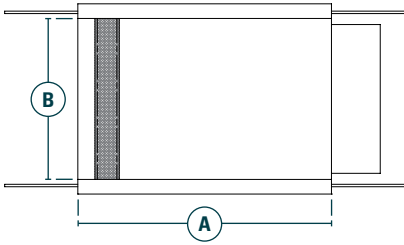
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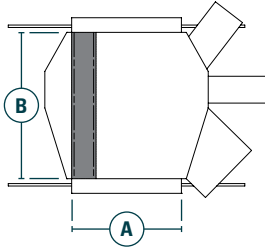


Product Diagram

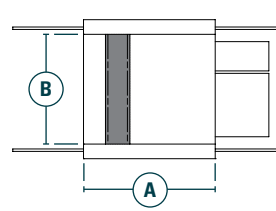
Ruby / Ruby Filter:



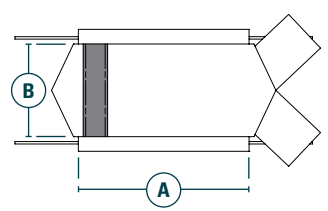
Sapphire:



Opal / Flanged Opal:



Emerald:



Dimensions and Weights

Jacket	Trap Type	Trap Size	A	B	Weight
RUBYSML	Ruby / Ruby Filter	DN15, DN20, DN25	660mm	320mm	0.95kg
RUBYMED	Ruby / Ruby Filter	DN40, DN50	835mm	355mm	1.30kg
RUBYLRG	Ruby / Ruby Filter	DN80, DN100	1135mm	425mm	2.20kg
MEDJACKET	Sapphire	DN15, DN20, DN25	225mm	300mm	0.55kg
XLJACKET	Sapphire	DN40, DN50	360mm	375mm	1.00kg
OPALJACKET	Opal	DN15, DN20	270mm	225mm	0.45kg
OPALFJACKET	Flanged Opal	DN15, DN20, DN25 Up to 1500# flange	625mm	495mm	1.60kg
EMJACKET	Emerald	DN15, DN20	350mm	190mm	0.55kg

Materials

Component	Material
Inner Cloth	Silicone coated glass cloth
Outer Cloth	Silicone coated 'E-glass' cloth
Outer Cloth Pigment	Orange, UV stable, anti-static
Insulation	Needle Matt
Thread	Kevlar
Velcro	Fire retardant
Cord	Glass cord

Installation

- ▶ Use the correct insulation jacket for your GEM Trap.
- ▶ Wrap the jacket around the trap and seal the Velcro ensuring the Velcro tabs are located on the underside of the trap to provide a more water resistant cover and allow any moisture to drain.
- ▶ Tie the cord around the ends to seal the jacket to the pipe.
- ▶ If a drainage valve is installed, ensure the Velcro tabs are secured either side of the valve on the underside of the trap.

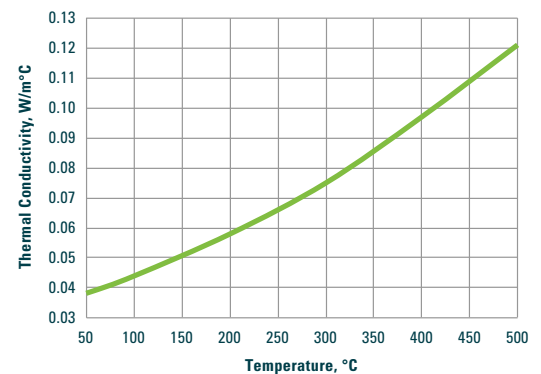
Handling

In new condition the jacket is perfectly safe and can be secured by hand or with gloves if the steam system is operating and the traps are at steam temperature. If the outer or inner cloth becomes damaged and the insulation material is exposed use correct PPE for irritant materials.

- ▶ Thermal Energy reserve the right to amend material specification

All certification/inspection requirements must be stated at time of order placement.

Thermal Conductivity vs. Temperature (Needle Matt)



Disposal

The jackets are non-recyclable and non-combustible. They should be disposed of in a responsible and suitable manner.

FOR FURTHER INFORMATION

For further information on the full GEM Trap range contact us at enq@thermalenergy.com or visit www.thermalenergy.com



An Innovative Technology Company Providing Custom Energy and Emission Reduction Solutions

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