

# GEM® Trap Servicing Tool (Patent pending)

## GEM® Trap Servicing Tool Technical Datasheet

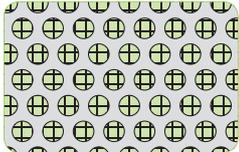


Rev 1 | June 2014

### GEM® Trap Servicing Tool

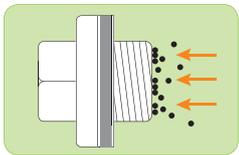
The GEM Trap is a low maintenance steam trap with no moving parts; it will not wear and its performance is guaranteed on saturated steam for 10 years. The Opal and Emerald GEM Traps are designed for low flow rate applications such as steam line drainage. To minimise service requirements they include a multi-stage filtration system.

### Multi-Stage Filtration System:



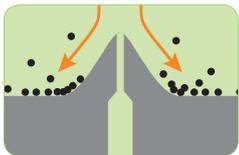
#### Robust Reinforced Strainer Basket

The Opal and Emerald GEM traps incorporate a robust reinforced stainless steel mesh strainer basket as the primary means of removing debris. The strainer basket has a large surface area and a mesh size finer than the trap orifice.



#### Magnetic Filter

We recommend the GEM Trap Secondary Magnetic Filter to provide additional protection from magnetic particles that pass through the strainer.



#### Debris Deflector

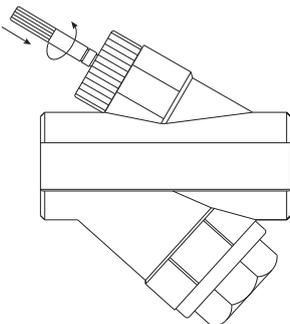
All of our low duty traps are designed with an inverted cone technology which deflects micro particles away from the orifice.

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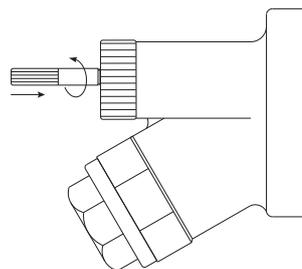
The GEM Trap Servicing Tool is designed to efficiently remove any possible build-up of debris at the orifice. This can be detected with a simple temperature measurement upstream of the trap. If this temperature has dropped below the steam saturation temperature the trap may require servicing.

All Opal and Emerald GEM Traps are fully maintainable in line. Once safe isolation has been achieved, the orifice cap can be removed and the orifice inspected. If required, the Servicing Tool can be engaged and the trap will be back in service within a few minutes.

Servicing tool engaged into Opal



Servicing tool engaged into Emerald



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### GEM® Trap Servicing Tool Items

#### ▶ **ST-1 Locator cap**

A top-hat shaped tool piece which provides simple location of the cleaning rod into the GEM Trap orifice. The knurled surface sits tight against the face of the chamber.

#### ▶ **ST-2 Cleaning rod for GEM Trap orifice sizes T/S with brass protector cap**

This rod has two depth markers to indicate full orifice penetration for the Opal and Emerald GEM Trap. The lower mark is for the Opal Trap and upper mark for the Emerald Trap. The rod has a high tensile steel wire for servicing orifice sizes 'T' and 'S'. The wire protector cap provides a realignment function whilst protecting the user from the sharp end of the wire.

#### ▶ **ST-3 Cleaning rod for GEM Trap orifice sizes X/P with brass protector cap**

The rod has a high tensile steel wire of suitable diameter for servicing orifice sizes 'X' and 'P'. See above.

#### ▶ **ST-4 LED inspection torch**

For visual inspection in the orifice chamber, identification of the orifice marking on the trap and inspection of the filter basket.

#### ▶ **ST-5 Telescopic magnet**

Any magnetic debris can be removed from the strainer and/or orifice chamber using the telescopic magnet pen (max. lift 1kg).

#### ▶ **ST-6 Gas nozzle cleaner set**

An assortment of different diameter needle files housed in a flip-up case. These can be used to service larger orifices and alternative GEM Trap models to the Opal and Emerald.

#### ▶ **ST-7 Carry case**

Black plastic carry case with protective foam inserts to hold each service kit component. The case contains a 140 x 70mm matte laminated instruction document and has a safety information sticker affixed to the rear exterior face.

### Materials

Part	Material
Locator cap	303 Stainless Steel
2 x Cleaning rods	303 Stainless Steel rod, Brass Cap and High Tensile Steel wire
LED inspection torch	Aluminium, includes 4 x cell LR 44 batteries
Telescopic magnet	N42 Nickel plated pen with <math><1\text{cm}^3</math> Neodymium & Samarium Cobalt Magnets
Gas nozzle cleaner Set	High strength steel needle files in Anodised Aluminium case
Carry case	Black Polypropylene with foam inner

### Dimensions and Weights

- ▶ Outside dimensions 160 x 142 x 36 mm
- ▶ Weight with tools: approx. 750g

### Available Spares

- ▶ Each Servicing Tool component can be replaced where necessary, and additional sizes of cleaning rods are available upon request.

## FOR FURTHER INFORMATION

To receive more information on the Opal GEM® Trap, or to find out about the whole GEM® Trap range call + 44 (0) 117 917 7010 or visit the Thermal Energy website: [www.thermalenergy.com](http://www.thermalenergy.com)