

## Internal Trace Heating

### Applications

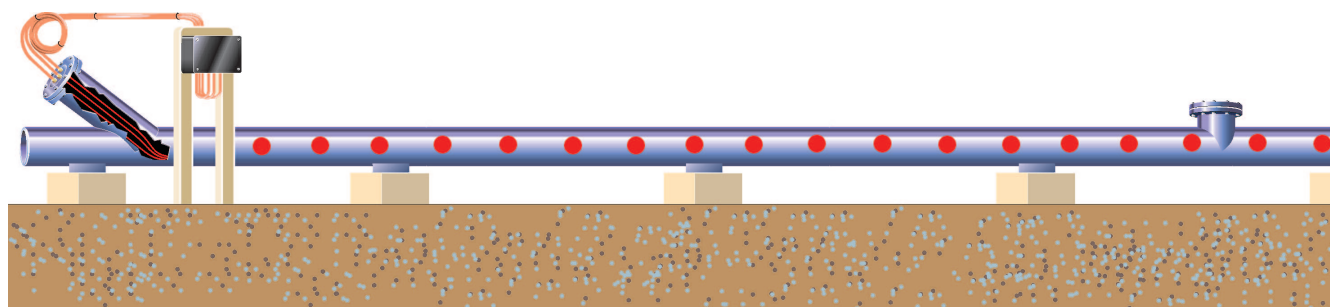
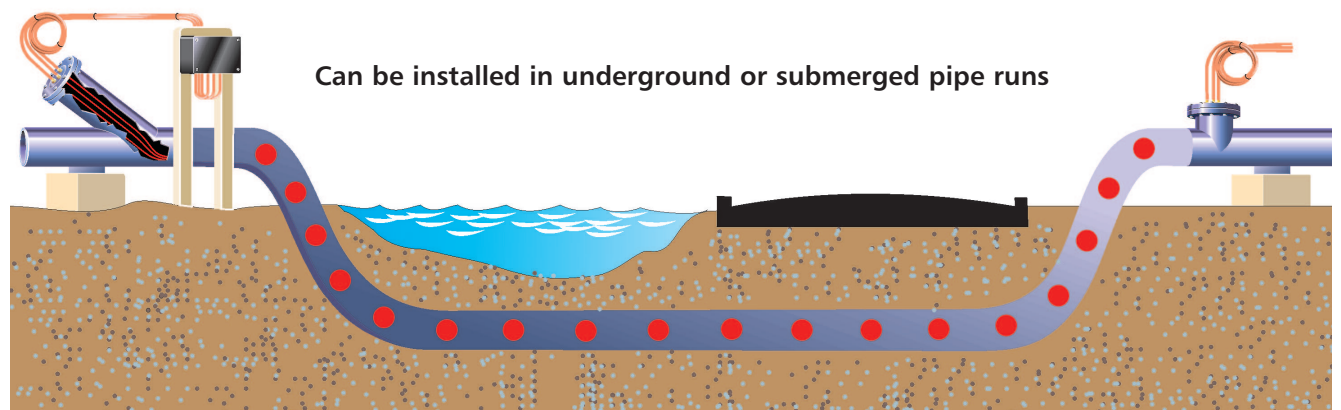
- Widely used as a method to maintain the pumping viscosity of fuel oil within jetty off loading and distribution pipework.
- Internals can be installed in 6mm to 1000mm diameter pipework, using single or three phase systems in circuit lengths up to 1000 metres.
- Internal heating of tanks and vessels can be effected utilising heating grids

### Benefits of Internal Trace Heating

- Renewal of redundant systems with no necessity to remove thermal insulation
- Higher degree of safety in flameproof areas
- Cables not subject to corrosion from external sources
- Minimises mechanical damage
- Higher efficiency of heating resulting in a shorter heat-up time
- Temperature raising of pipework with NO thermal insulation fitted

### Advantages

- By placing a direct heat source into a product, the temperature raising response time and efficiency is significantly improved
- Internal trace heating can provide a design solution for many other different applications.



# Internal Trace Heating

Cross Electrical (Nottingham) Ltd offer both internal and external electrical trace heating systems - one system complements, not replaces, the other.

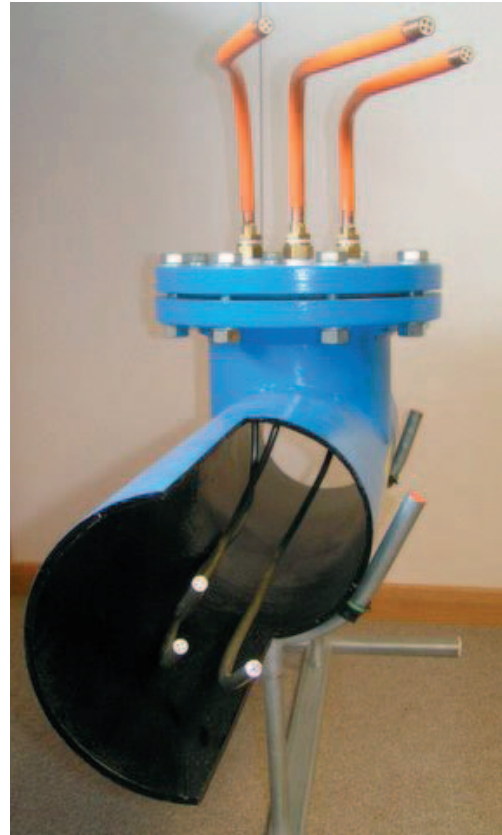
The choice is usually dictated by the type of application and physical site conditions. For example, a long length of fuel oil pipeline will often favour internal tracing, so long as the pipeline is not required to be pigged. A pipeline with a large number of valves, flanges and bends on the other hand, will favour external tracing.

Liquids such as fuel oil or chemicals that are viscous at low temperatures are normally passed through a pipe as part of the process or for transport.

Internal trace heating ensures that the viscosity is kept low when the pipeline is full of the product - especially in cold weather.

Internal heating is effective in areas where the pipes are used infrequently as the product temperature can be raised to a more fluid state in much shorter time.

Special glands and adapters are used to exit and enter the pipework through flanges.



## SELECT AND COMBINE ANY OF THE FOLLOWING

- Low/High Voltage.....12 Volts to 500 volts
- Low/High Temperature.....5°C to 150°C
- Low/High Pressure.....0 to 15 BAR.g
- Small Bore/Large Diameter.....6mm Nb to 1000mm Nb
- Short Length/Long Length.....1 metre to 1000 metres

## APPLY INSIDE

- Overland Pipework .....or..... Overhead Pipework
- Underground Pipework .....or..... Underwater Pipework
- Metal Pipework .....or..... Plastic Pipework

### Various cable options

Heavy duty, robust and durable stainless steel or cupro-nickel sheathed mineral insulated cables are normally proposed for industrial applications.



1 Core



2 Core



3 Core  
3 Phase



4 Core  
Single Phase  
3 Phase

### Various cable options

For small bore process and diesel fuel pipework. 2 to 6mm diameter PFA insulated cables are utilised



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