# Why you should choose Fluid Filled rails

## FLUID FILLED HEATING METHOD

**Fluid filled rails contain a fluid that is mostly water. A thermostatic cartridge element is fitted to one of the vertical tubes and works in much the same way as an electric hot water geyser.**

**The element heats the fluid in the immediate vicinity, which causes this fluid to move in an upward direction. Ultimately, this process results in a circulation of warm fluid throughout the rail. In this way, the entire rail is heated to the ideal temperature.**

## DRY ELEMENT HEATING METHOD

**Dry element rails are partially threaded with silicone wrapped wire. The wire heats the surrounding air which in turn heats the steel tubes. Areas that can't be threaded (50% of each vertical tube) are therefore not heated.**

## ADVANTAGES OF FLUID FILLED

**Elements use up to 50% less electricity than equivalent sized dry elements.**

**Surface temperatures (critical to safety) are controlled automatically.**

### Thermostatic

**Because the element used in fluid filled rails is thermostatic, it is able to monitor and control the internal fluid temperature. The element heats the internal fluid to roughly 70°C before automatically switching off. Only when that fluid has dropped to a temperature of around 55°C, does it automatically switch on and begin reheating.**

**This has two benefits:**

1) **Although your rail is on and effective, it does not use any power while the internal fluid temperature drops from 70°C to 55°C.**
2) **By controlling the internal fluid temperature, the element effectively contributes to controlling the surface temperature between 55°C and 40°C.**

## Circulation

**The other important contributing factor to effective surface temperature control is internal fluid circulation. The area on rails most prone to excessive levels of heat is beneath draped towels. Most of the heat emitted from this part of the rail is trapped by the towel and can't escape. Ingeniously, the fluid circulation in fluid filled rails absorbs some of the heat built up beneath the towels and transfers it to cooler parts of the rail.**

## WEAKNESS OF DRY ELEMENT RAILS

**The inherent weakness of dry element rails is their inability to safely control the surface temperature beneath towels.**

**Manufacturers of dry element rails openly admit that surface temperatures of their rails reach 75°C above room temperature. When one considers that room temperatures of 26°C are typical; DRY ELEMENT RAILS CAN THEREFORE REACH TEMPERATURES IN EXCESS OF 100°C!**

### Dry elements have no thermostat

**Because dry elements have no thermostat, they are unable to monitor internal temperatures and therefore effectively control surface temperatures. Even when surface temperatures reach dangerously high levels of 100°C, the element continues to draw power and emit heat!**

### No circulation in dry element rails

**With no fluid circulation in dry element rails, there is no way to redistribute the heat build-up beneath the towels. Unless power is cut or the towels are removed (exposing incredibly hot bars), standard dry element rails do not have a mechanism to reduce these dangerous heat levels.**

**In an attempt to remedy the situation, dry element rail manufacturers will attempt to convince you to purchase expensive power control units. Unless you want to fiddle with this control switch daily, this manual option is best avoided. One needs to manually adjust the power setting depending on whether your towel is damp or dry. Further, most of these power control switches are supplied with only a few months guarantee.**

### Higher running costs

**Due to the absence of a thermostat, dry elements will continue to draw power continuously while on. As explained above, elements in fluid filled rails only draw power when required to re-heat the internal fluid temperature from 55°C to 70°C.**

**Based on the above and depending on the ambient temperature, dry elements use up to 100% more power than equivalent sized elements used in fluid filled rails. Although it is true that dry element rails require slightly smaller elements, this definitely does not offset the running costs of dry elements being non-thermostatic.**