



Overview of Indirect Heating

Some of the immersion heaters come in a peculiar format unlike the usual flanged style. There is a great deal of need for immersion heaters whereas the heating rods cannot come into a direct contact with the medium in some applications and/or for some molten medium. For example, heating of oil for flow control requires a steady heat dispersing, which is a difficult task for a flanged heater with highly conductive heating elements. In this case, the heating elements are installed into a separate chamber within the tank container whereas the rods are separated and do not directly contact the medium in the main chamber.

The heaters designed for indirect heating are often called circulation heaters or inline heaters. The primary use of circulation heaters is to keep the medium at a certain temperature in order to maintain the viscosity of the medium for easy flow through a closed circuit. The method of indirect heating offers several advantages in the given application. The oil industry can make the most of the indirect heating application just as these oil products require certain respective temperature at all times in order to maintain the optimal viscosity to provide the best flow rate. Added to that the oil products make the heating elements very susceptible to corrosion. Circulation heaters are usually enclosed in a long pipe shaped enclosure with the heating elements isolated from the main tank chamber to avoid a direct contact with the medium. These are also called inline heaters because of the way they are inserted into the enclosure and the shape thereof.

According to WATCO™, the company that is well known for manufacturing the industrial heaters such as these, inline heaters are often best suited for processing food and hazardous liquids. One of the characteristics of inline heaters is an efficient transfer of heat toward the medium. The heating elements are installed in a separate chamber filled with water or oil to keep the heat steadily disperse through the medium in the main chamber. The advantage it provides makes the inline heater an ideal choice for even the stingiest medium such as asphalt.

An added advantage of indirect heating is the simplicity of maintenance and/or repair. Because the heating elements reside in a separate chamber, there is no need for draining the tank for

maintenance or repair. The heating rods are mounted in a pipe shaped cylinder with the heating elements mounted on a round cap such as one used on screw heaters and then inserted into the cylindrical chamber. The chamber has a separate drain valve to empty the water or oil inside before the maintenance service for calcium deposit in the heating rods.

WATTCO™ builds several different types of inline heaters including the inline gas heater for a closed loop system. While the basic principle of these heaters are more or less the same, there are various different ways to implement the heating solutions. The strength of WATTCO™ is that they build completely customized solution for each situation called for. That's why they are one of the best in the industry. More information can be found at <http://www.wattco.com/circulation-heaters.html>.