

ELIMINATING HEATING FLUID ISSUES

JACKETED PUMPS FOR STEAM OR HOT OIL HEATING

Most Viking pumps for manufacturing asphaltic roofing are jacketed, to use steam or hot oil to melt the asphalt in the pump before startup. 34 Series pumps have jacketing on the rotor bearing sleeve, casing and head, while 224A Series pumps are jacketed on the bracket and head only. As an option, with either series you can get a jacketed pressure relief valve to prevent overpressure, but with a non-jacketed head only.

Using fluids for heating, whether steam or hot oil, usually requires an insulated supply line and return line, which can make piping very costly, especially for remote pump locations like railcar unloading. Steam condensate can freeze in pump jackets if not adequately drained during a shutdown, which can cause the metal to fracture. And getting the correct temperature to a pump may require extensive heat balancing. To eliminate these issues and more, Viking developed a series of electrically heated pumps.

ELECTRICALLY HEATED PUMPS

Viking's Electrically Heated pumps use cartridge heaters mounted in the head crescent, to heat asphalt in the casing, and in the bracket or back of the casing, to melt asphalt in the seal area, before startup. A thermocouple provides feedback of the measured temperature to a PID controller for precise closed-loop temperature control. Or you can use your plant standard temperature control system if preferred. All sizes are designed for a 300°F temperature rise in about 3 hours, with maximum setting of 450°F using Viking's controller. The head heaters provide sufficient heat to melt asphalt in the pressure relief valve, eliminating the need for a jacketed valve.

ELECTRIC HEAT BENEFITS

- Controller can be set on timer to start 3 hours before normal plant startup
- Once pump is started and hot asphalt is flowing, heaters will automatically shut off if incoming asphalt is hotter than setpoint, saving energy, and will re-heat as needed to maintain set temperature
- Lower cost of installation on remote pumps by eliminating long heating fluid supply & return lines
- Eliminates heat loss from long heating fluid supply & return lines
- Enables heating to only what is required to melt the specific asphalt
- Eliminates the potential for cracking due to condensate freezing if steam heated
- Eliminates the potential for leakage of hot oil
- Pump removal for service is easier by eliminating jacket connections, with no hot oil spillage
- Pumps offer same range of options for seals and hard parts as jacketed models

ELECTRICALLY HEATED MODELS

- 32E Series with packed gland, similar to 34 Series. Four sizes to 450 GPM / 102 m³/hr
- 124E Series with packed gland, similar to 224A Series. 10 sizes to 685 GPM / 155 m³/hr
- 4124E Series with mechanical seal, similar to 4224A Series. 10 sizes to 685 GPM / 155 m³/hr. Note seal may require low pressure steam quench or nitrogen pressurized external flush system.