



Product BULLETIN

EMPYRE SYSTEM OPTIMIZER

The Empyre System Optimizer (ESO) is designed with a low loss header which includes a Danfoss VTC valve, complete with a pump flange and bypass piping. The Danfoss VTC tempering valve was selected for its simplicity and reliability.

The **Empyre Elite** Empyre System Optimizer comes with a pump and fittings, ready to be plumbed into your system.

The pump and fittings are not supplied with the **Empyre Pro Series** ESO, allowing the installer to properly size the pump and pipe between the unit and the building. **If more than one building is being heated, more than one Empyre System Optimizer will be required.**

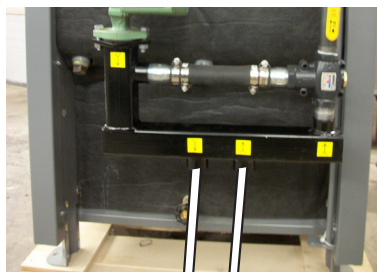
The Empyre System Optimizer is available in 2 sizes: 1 inch for the Empyre Elite 100 for buildings where approximately 100,000 BTU's are required, and 1 1/4" for the Empyre Elite 200, Pro Series 200 and Pro Series 400, where approximately 200,000 BTU's are required.



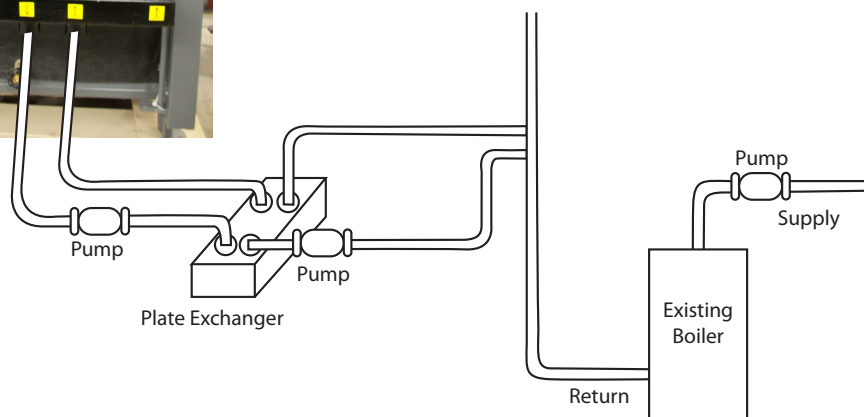
The Empyre System Optimizer is mandatory on all Empyre Elite and Pro Series installations in order to maintain the warranty.

HOW THE EMPYRE SYSTEM OPTIMIZER AND VALVE OPERATES

The Empyre System Optimizer provides a constant circulation of water through the boiler and the Danfoss VTC tempering valve. Water is drawn off the low loss header by the building piping system and returned to that same loop where it mixes with the water in the low loss header. Before it reenters the boiler, it passes through the tempering valve. If the water entering the valve is too cold, the valve starts to slow the water returning and mixes it with water coming directly from the boiler. If the return water temperature drops below 140°F (60°C) the valve will stop the water from entering the system and will open again when the boiler water rises in temperature.



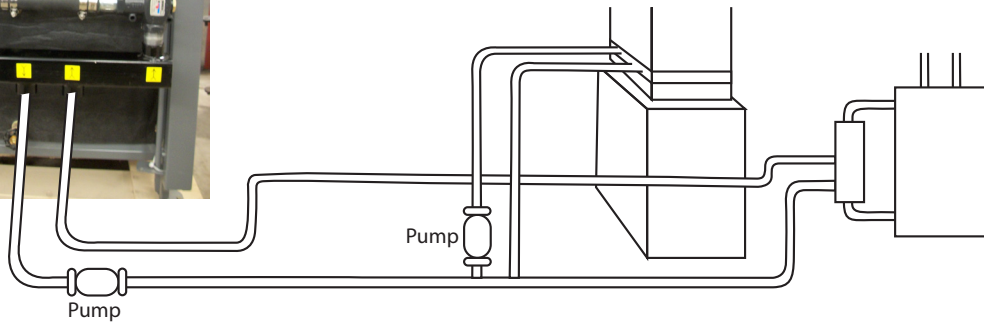
Connect to Existing Boiler



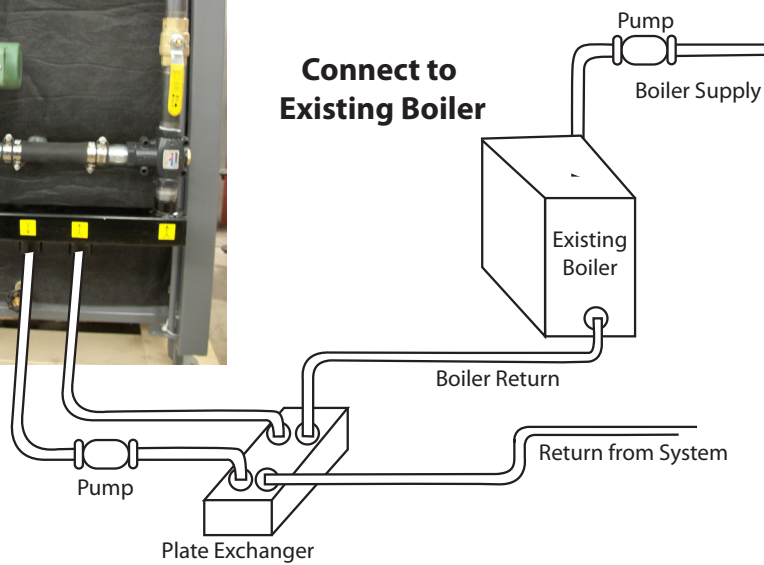
EMPYRE SYSTEM OPTIMIZER



**Connect to
Existing Furnace**



**Connect to
Existing Boiler**





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