

# Benefits of Thermal Fluid Heating Over Direct Firing



www.fulton.com  
(315) 298-5121



## Thermal Oil Heaters Offer Reduced Operating Costs and Emissions

Thermal fluid oil heaters have dedicated heat exchangers designed to efficiently transfer heat to the end user instantly and uniformly, using heat transfer fluid. Direct fired heaters are open flamed and are not optimized for efficient, uniform heat transfer.



## Uniform Thermal Oil Heating Results In Superior Product Quality

Thermal fluid heaters allow process temperatures to be controlled to within 1°F over wide application load turndowns.

Near infinite load matching turndown via a combination of firing rate and flow rate allow thermal oil systems to provide consistent product quality.

Thermal fluid systems are designed to provide even heat transfer rates removing localized product overheating and removing the creation of hot spots.

Thermal fluid Systems have near constant temperature in the heat exchange process:

- ▶ Life of cooking oil is extended with relatively lower operating temperatures and uniformed heat distribution.
- ▶ Instant heat when needed due to the stored heat in the thermal fluid piping.

Direct flame processing equipment does not provide an even temperature throughout the process. Flame temperature profile is extreme resulting in uneven heating.



## Thermal Oil Systems Have Greater Installation Safety and Flexibility

A Thermal fluid heater does not have to be installed adjacent to the user. This allows for greater versatility, safety considerations, and design choices as to where to place equipment.

A single thermal fluid heater can supply multiple users in a closed loop system verses having to have one combustion system per direct fired user.

Different temperature zones can be employed in a thermal fluid system using 2-way, 3-way valves, and in some cases secondary loops.

A thermal fluid heater has a dedicated combustion chamber ensuring there is no open flame.



## Simplified Installation and Maintenance

A thermal fluid heater system will permit the following simplifications to ease in installation and maintenance

- ▶ Single fuel supply
- ▶ Single flue system
- ▶ A single heating system allows for consolidation of equipment and maintenance.