

## **NESS** Inert Gas Fire Extinguishing System (NEA)

### Extinguishing a thermal oil fire in the heater

Thermal oil is used above its flash point in thermal oil systems. It is combustible. When there is a leak inside a thermal oil heater, e.g. in the coil, the thermal oil can burn. Once ignited it will continue to burn even when the fuel burner is off, as long as there is enough oxygen and a continuous leakage of thermal oil.

There are two effective ways to extinguish such a fire, either with inert gas or with water mist. In both variants, the fire is extinguished by removing oxygen. For inert gas extinguishing systems, nitrogen or argon can be used.

Argon is the best choice for horizontal heaters. It is heavier than air and spreads evenly throughout the interior. Nitrogen is the best choice for vertical heaters. It is lighter than air and therefore rises quickly to the burner. Both gases are inexpensive and available in pressurized bottles.

### Your advantages at a glance

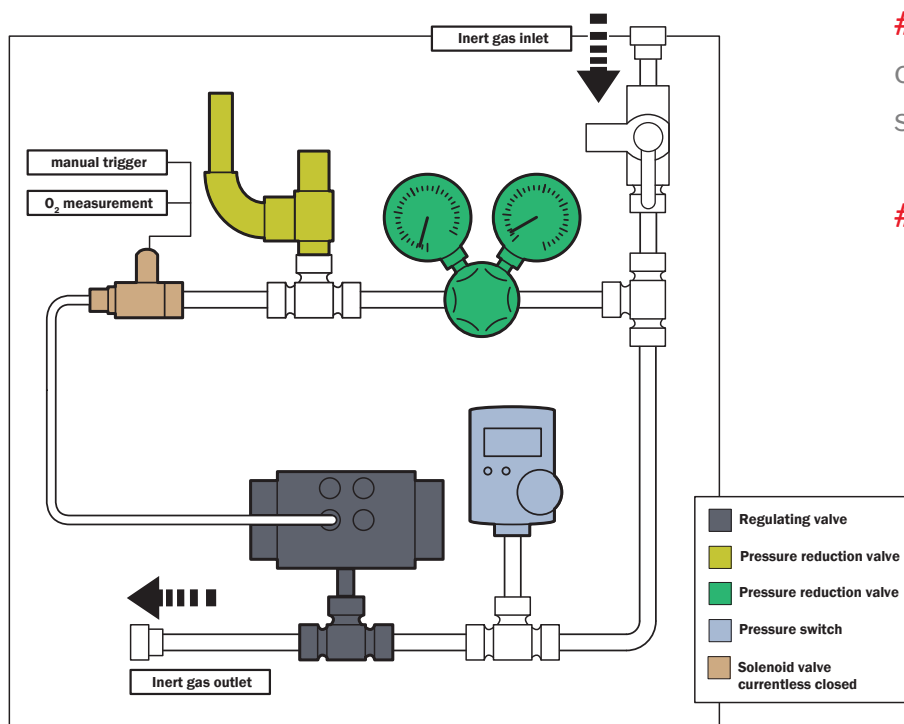
- Additional safety for thermal oil heaters
- Manual or automatic triggering
- Can be used with nitrogen or argon
- Retrofittable



Heater prepared for Inert Gas Fire Extinguishing System (NEA)

Functionality Inert Gas Fire Extinguishing System:

Used with nitrogen or argon



**#1** For new systems or retrofits to existing systems

**#2** Fail safe control

## Provides additional safety for thermal oil heaters

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Pressurized air is not needed. The inert gas is stored in bottles at a pressure between 200 bar and 300 bar. A minimum pressure switch is used to detect a loss of the inert gas in the storage bottles.

The inert gas itself is used for the actuator of the regulating valve. When the solenoid valve opens, the regulating valve also opens and the gas is released.

An emergency power supply is necessary. A manual valve with a position indicator switch is used to disarm the fire extinguishing system for maintenance of the heater.

**The amount of inert gas stored in the bottles must be determined, depending on the size of the heater.**

The volume of the heater and other flue gas / combustion air vessels or ducts are calculated and used to size the system. Typical gas volume exchange ratios are applied.

NESS fire extinguishing systems for thermal oil heaters can be ordered optionally for new systems or retrofitted to existing systems.

**The NESS Inert Gas Fire Extinguishing System (NEA) offers additional safety thanks to the fast extinguishing of the flame and can be adapted to different heater sizes.**