

# TURNING UP THE HEAT



**LOCATION:**

Tea, South Dakota

**SCOPE OF ENGINE USE:**

Cat® Cat C1.1 U.S. EPA Tier 4 Final,  
EU Stage V Industrial Engine

Cat C2.2 U.S. EPA & CARB Tier 4  
Final Industrial Engine

Cat C3.4 U.S. EPA Tier 4 Final  
Industrial Engine

**CAT DEALER:**

Ziegler

[thermdynamics.com](http://thermdynamics.com)

## NO FLAMES. NO FUMES. NO PROBLEM.

Many of the world's oil and gas fields are frigid places, with temperatures in the tar sands of northern Canada dipping as low as -58°F (-50°C). People and equipment need heat to work, and the liquids used to help power machines on site can't freeze up. But natural gas or propane direct-fired heaters with sparks or open flames bring the risk of fire and explosion, and that made the father-and-son team wonder — could heat be produced safely and reliably using a 1994 diesel engine for power, where the entire combustion process would take place inside an enclosed space?

The answer was yes, and with that, a company was born. First produced in 1994, Therm Dynamics' innovative portable heater design uses diesel, gas or electric power to heat and circulate — not burn — hydraulic oil in a flameless, sparkless, low-pressure environment. The flameless heaters can safely be used in any space that requires warmth, because they don't release any flames or produce hazardous carbon monoxide. Therm Dynamics provides the safest, most reliable, user friendly and self-contained, contaminate free, portable heat on the market today.

That makes Therm Dynamics' flameless heaters ideal for more than just oil and gas companies. They're also popular with construction, restoration, agriculture and industrial operations that require clean, dry, flameless heat to safely thaw frozen ground, cure concrete, dry paint or drywall, remove excess moisture or simply keep workers warm. These innovative heaters are even used as a safe, chemical-free way to eliminate bed bugs.

Therm Dynamics' seven flameless heater models come in a range of sizes to take on a wide variety of heating tasks. The smallest in the lineup, capable of producing a maximum of 250,000 BTUs is the TD225- powered by the Cat C1.1. The next size in the lineup, the TD425, powered by the Cat C2.2, is capable of producing a maximum of 400,000 BTUs. The largest in the lineup, capable of producing a maximum of 625,000 BTUs is the TD625- powered by the Cat C3.4.

## TAKING THE HEAT

With flameless heaters capable of producing 250,000-1,250,000 BTUs per hour — for comparison, a typical home furnace produces around 80,000-100,000 — Therm Dynamics' products can heat almost any size space up to 180°F (82°C). A calculator on the company's website lets customers plug in the size of the area to heat, the existing and desired temperature, and then recommends the best heater for the job. "Most TD425s end up in the tar sands in northern Alberta, where there are a lot of gas valves to be heated," says Rich Koopmann, president of Therm Dynamics. "The TD425 is a smaller BTU heater that's perfect for that task."

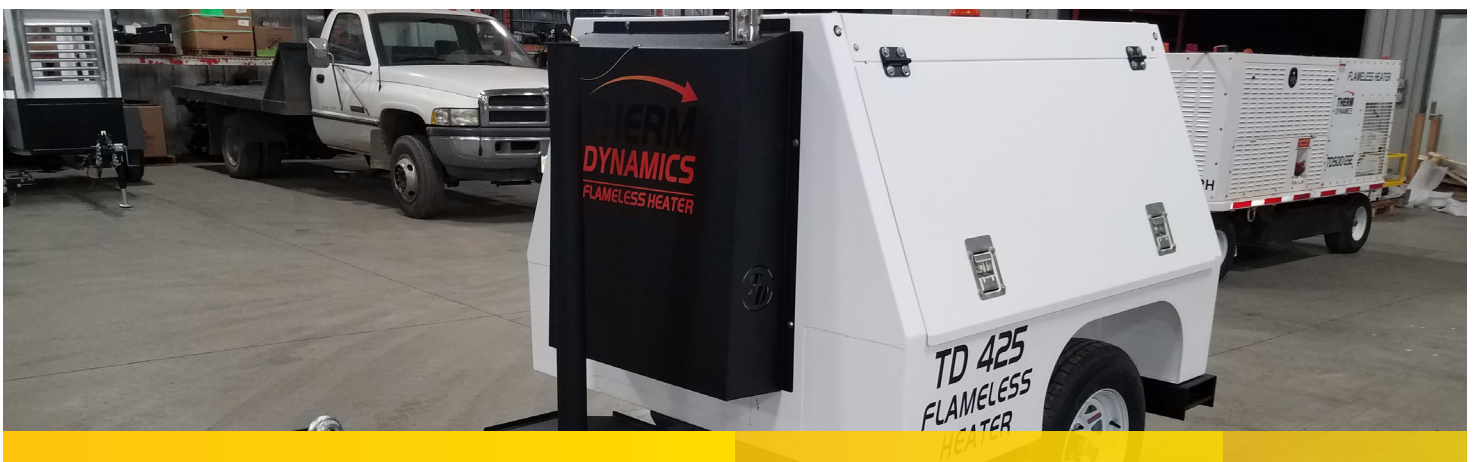
**Moving at the speed of heat.** Even though the TD425 is a small heater by Therm Dynamics' standards, it still requires plenty of power. Unlike an on-highway truck, which runs its diesel engine at full power only about a third of the time, a flameless heater requires 100% power virtually all the time — that's how it generates heat. "The C2.2 has the power curve we need as well as a high RPM, which determines how fast our heat plate spins. The faster it spins, the more heat we can produce," Koopmann says.

**No customer left out in the cold.** Although a small percentage of flameless heaters like the TD425 are purchased, most are sold to rental companies. That means Therm Dynamics never knows exactly where a heater might end up working — making the global support offered by the Cat dealer network critical. "Dependability and service are the reasons we select Cat engines. When it's below zero and the heater's not working, you've got to get it back up and running fast," Koopmann says.

**A higher degree of service.** Therm Dynamics gets both dependability and service from its local Cat dealer, Ziegler. In addition to providing engineering support for the TD425 and other heaters, Ziegler keeps a pool of engines in stock so Therm Dynamics can respond quickly to customer demand. "We're also willing to work with them on a moment's notice on a service issue, whether it's local or not," says Steve Campen, Senior Sales Engineer at Ziegler. "The heater user is as much our customer as Therm Dynamics, and we'll work with the Cat dealer in their location to make sure they get the timely support they need."



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**LET'S DO THE WORK.™**