



SOLAR SHIELD

NATURE'S WAY OF COOLING

Truck Spray
System Overview

The Problem:

Many manufacturing and distribution facilities have truck trailers that remain on their lots for days or even weeks at a time. These trailers become like ovens, trapping in heat from constant exposure to the sun. Temperatures can reach in excess of 130°F. This can potentially become a health hazard for employees or damage temperature sensitive products.



Can Anything Be Done?

- ❑ **Some have tried portable A/C units mounted at each dock door, but these are costly to own, expensive to run, and don't provide much relief to an employee at the opposite end of the trailer for an extended period of time.**
- ❑ **High velocity dock door fans can help, but they will initially blow the excess heat back into the loading dock area. More is needed to eliminate this heat on a continuous basis...**

The Solution: Evaporative Cooling!

By intermittently spraying a fine mist of water on the trailer and allowing for evaporation, you can eliminate its roof as a source of radiant heat. This means you can lower the temperature inside your trailers on even the hottest days!



How Does Evaporative Cooling Work?

Think of your body as an example. When we get hot, our bodies produce perspiration on the surface of our skin. When perspiration evaporates, it carries heat away from our body. This helps us stay cool and maintain a normal core temperature.



A Solution As Old As Time...

- ▣ **Queen Semiramis of Babylon placed gardens on the palace roof, harnessing the cooling effect of evaporation**
- ▣ **Romans circulated water from the aqueducts through the walls of their homes to maintain a cooler temperature**
- ▣ **Civil War soldiers placed wet canvases over their tents to keep them cool during the hot summer months**

System Components





The entire truck spray system is hard wired to a programmable control box. The box groups dock doors together in “zones.” This means multiple doors could be sprayed at a time, depending on water pressure.



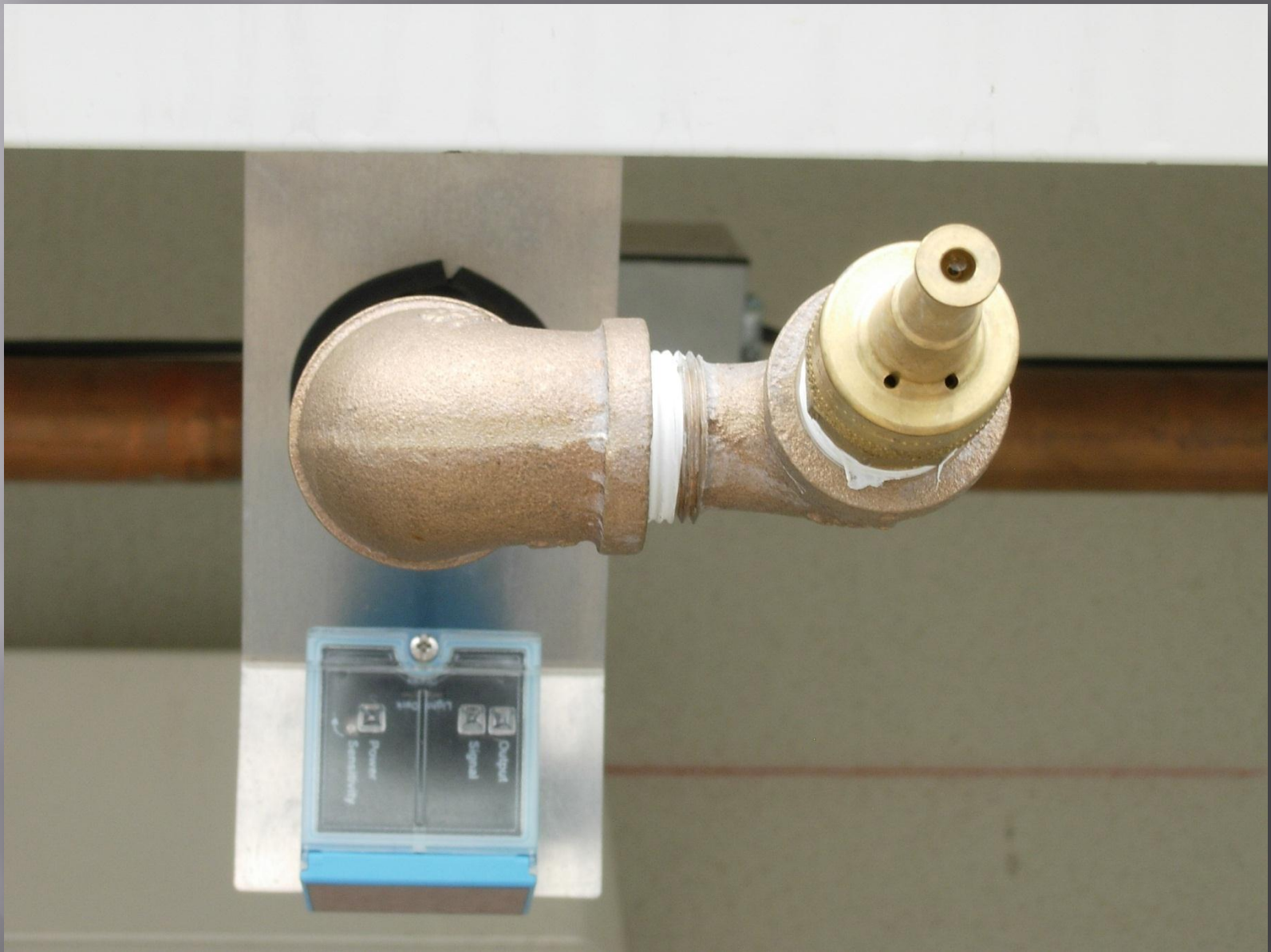
A thermostat wired into the control scheme ensures the system only operates when temperatures are hot enough to allow for evaporation - a feature designed to prevent unnecessary use of water.



Each dock door is equipped with a spray nozzle assembly designed for maximum roof coverage and evaporative effect.



The nozzle is engineered to cover the entire trailer roof with each spray cycle.



A sensor mounted beneath the nozzle will only allow a dock door to be sprayed IF a trailer is present, eliminating indiscriminate use of water.

FAQs



How much water does the system use?

When the system is in operation, the spray nozzle assembly will activate for 6-7 seconds and deliver approximately a 1/2 gallon of water to the trailer's roof. A "dwell time" of 5 minutes between each spray cycle is allotted for evaporation to take place.



What kind of a temperature drop can be expected?



It is not uncommon for our truck spray system to lower the temperature by 40°F. If the trailer is sprayed in regular cycles, the inside will remain within 10 degrees of ambient temperature.

Other Benefits of Truck Spray System?

Cooler trailers means:

- ✓ **Reduction in number of heat stress related injuries**
- ✓ **Increase in employee efficiency**
- ✓ **Less damage to temperature sensitive products**
- ✓ **Overall improvement in working conditions and safety**



Why Choose Solar Shield™ ?

- ▣ **Over 30 years experience in the evaporative cooling industry**
- ▣ **Each system carefully designed to meet your facility's needs**
- ▣ **Professional installation by our knowledgeable staff**
- ▣ **Cost of installation includes the first winterization and startup of your system by Solar Shield™**

Want to Learn More?

Visit us online at

www.pattersonroofcooling.com

Contact your regional Solar Shield™ sales rep
1-800-768-3985

We look forward to serving all of your
evaporative cooling needs!