



The Proactive Mill Temperature Monitoring System



AN INNOVATIVE SYSTEM THAT MONITORS THE TEMPERATURE INSIDE YOUR MILL AND
MANAGES THE RISKS ASSOCIATED WITH EXCURSIONS AND COMBUSTIBLE DUST

MILLPRO | MILL TEMPERATURE MONITORING SYSTEM

ALWAYS ON GUARD

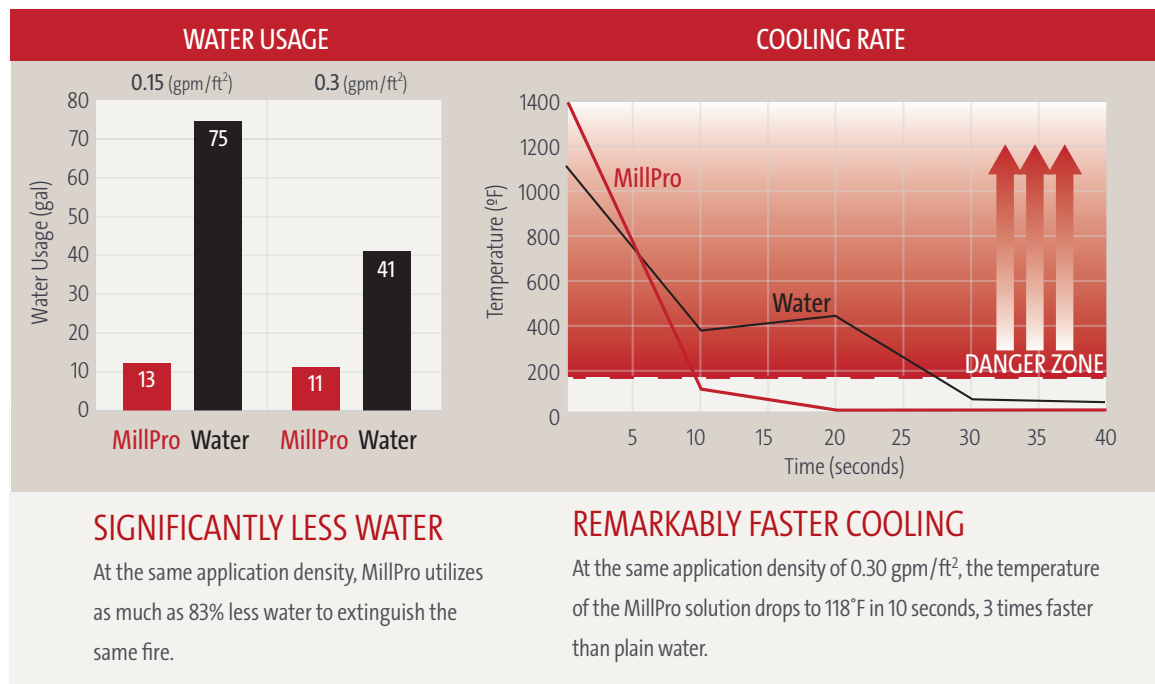
Mills are the heart of your plant — they profoundly influence your ability to generate power economically. Reliability, performance and capacity are critical factors in their role in conditioning coal for proper combustion and delivering 100% of the fuel to the boiler.

Yet, firing high-moisture and highly-reactive sub bituminous coals, which are inherently pre-disposed to mill fires and puffs, exposes your utility to risk of damage, shut down and unsafe working conditions. The MillPro Mill Temperature Monitoring System is always on guard, helping you proactively manage these risks.

Unlike traditional systems, the MillPro System incorporates mill outlet temperature management, CO monitoring and fire suppression. This unique combination of features, along with MillPro's capability to operate continuously while the mill is in service, helps ensure that temperatures and coal dust within the mill are managed, greatly reducing the risks associated with excursions and combustible dust.

RAPID SUPPRESSION/EXTINGUISHMENT

Key to the MillPro System is the MillPro Temperature Suppressant Encapsulating Agent (MillPro TS-EA). The MillPro TS-EA actually changes the surface of every water molecule, adding a new molecular skin to each droplet. The new and unique molecular design allows for specific alignment within a water droplet to accomplish significantly higher heat reduction with a much lower application density than with water alone. Once an excursion occurs, MillPro TS-EA is injected into the mill as a fine mist and cooling begins immediately, reducing damage to your equipment and returning your mill to standard operating conditions within seconds.



MANAGING MULTIPLE POINTS OF RISK

Without a temperature management system, a coal fired utility plant is at risk for temperature excursions that can lead to ignition of high concentrations of coal dust within the mill.

This exposes plant personnel and the plant to the potential for extensive damage, resulting in long downtimes with overall expenses reaching the millions of dollars.

The MillPro System helps mitigate these risks by the controlled spraying of MillProTS-EA when excursions occur and rapidly reduces the heat.

Smouldering coal from the bunker reaches a point of deflagration (bursts into flames) as it travels through the feeder down to the mill

Raw coal supply is interrupted due to imprecise feeder control and coal flow issues above and below the mill feeder

Coal dust accumulations and settling in mill components allow coal to dry – such accumulations can spontaneously ignite

Excessive pulverizer airflow provides an abundant source of air for combustion of ignition sources including smouldering coal in the classifier, pulverizer or raw coal in the high temperature under bowl

Raw coal which is allowed to spill over into the under bowl section accumulates and is exposed to temperatures of 500° F or higher

TYPICAL
INTERNAL
TEMPERATURES

130°F–140°F

140°F–160°F

500°F–700°F

The MillPro System

- Helps ensure a safe workplace
- Mitigates the risk of temperature excursions
- Reduces high coal dust concentrations in seconds
- Greatly reduces chance of costly shut downs

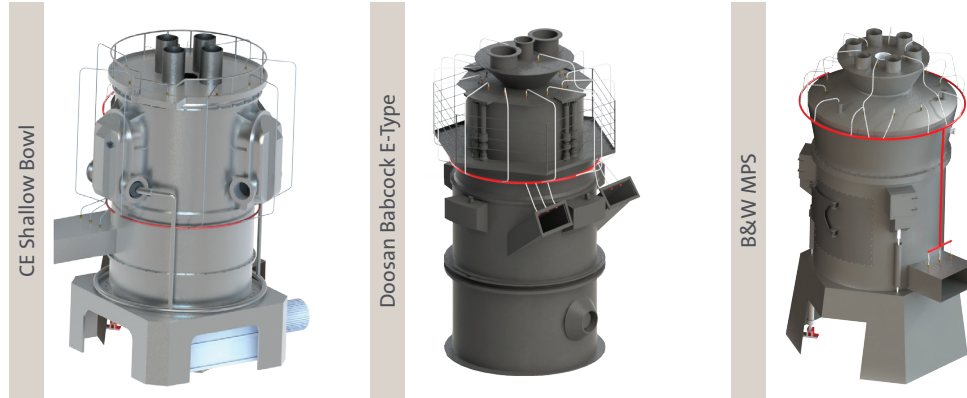
MILLPRO VS. TRADITIONAL INERTING SYSTEMS

LESS RISK | MORE EFFICIENT | MORE EFFECTIVE | LOWER COST

	MillPro	Steam	Water/Fog
Inhibits mill excursions during start-up & shut-down	●	●	●
Inhibits mill excursions due to coal feed interruptions	●		
Internal fire suppression/extinguishing system	●		
External fire suppression/combustible dust management	●		
Rapid cooling of mill internals leading to decreased maintenance intervals	●		
Manages mill outlet temperature excursions before they evolve into fires	●		
Operates while the mill is in service	●		
Low water requirements	●		
Uniform cooling of mill internals	●		
Functions as mill internal wash down	●		●
Can be integrated to protect the entire fuel burning system	●		
In case a fire does occur, accelerated fire suppression & heat removal results in little or no damage to mill internals	●		

MILLPRO | MILL PROTECTION SYSTEM

WORKS WITH ALL MAJOR MILL TYPES



Designed to work with all major mill types, the MillPro System can be customized to fit your existing controls scheme.

CE Shallow Bowl
CE Deep Bowl
Atrita

Doosan Babcock E-Type
Ball Tube
MBF

MPS
EL

COMBINING INDUSTRY LEADING TECHNOLOGIES AND EXPERTISE

Three companies combined their experience and technologies to create MillPro, Inc. Their unique products and services offer solutions to the changing demands of industry, while providing better efficiencies and increased safety.

Benetech USA
Aurora, Illinois
benetechglobal.com

Hazard Control Technologies, Inc.
Fayetteville, Georgia
hct-world.com

Innovative Combustion Technologies, Inc.
Birmingham, Alabama
innovativecombustion.com

LEARN MORE

Contact Benetech to learn more about custom installations of the MillPro mill protection system at 800.843.2625.

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