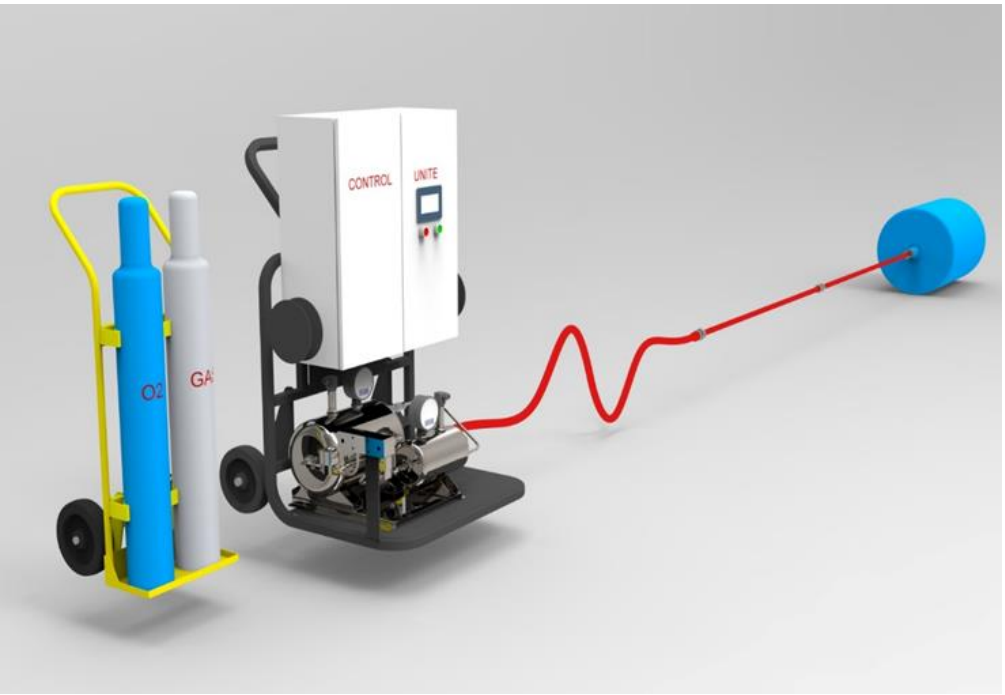
DEEP CLEANING EFFECT WITH PRESSURE WAVE TECHNOLOGY

USER EXPLOSION BOILER

UEBC – Flexible, mobile, cleaning under load

UEBC – WHAT IS IT?



Regularly removing internal contamination from boilers and furnaces allows you to maintain optimal efficiency and prevent unplanned shutdowns.

It is a flexible, mobile cleaning solution for various solid residues that can accumulate in boilers, chambers, and silos. During operation, it uses precisely controlled gas explosions to send a shock wave to gradually clean slag from specific areas of the boiler.

Our patented, proprietary technology uses targeted and controlled gas explosions to generate pressure waves that effectively eliminate residues in industrial facilities.

The mobile PressureWave cleaning system is suitable for use in boilers, steam boilers, silos, chambers, and other exposed parts of energy generation systems. Examples include waste-to-energy plants, biomass, coal and gas power plants, paper and cement factories, and other industrial sectors.

HOW DOES THE SYSTEM WORK?

After an initial assessment, our service specialists insert a water-cooled lance with a pre-mounted special bag through the boiler door or an inspection cover near the surface to be cleaned. There, the special bag filled with a combustible gas mixture is inflated and detonated.

The resulting pressure wave dislodges ash and slag deposits from walls, tube bundles, and filter systems into the inner parts of the system. The loosened debris falls into the chamber and is removed via the discharge system.

The Pressure Wave process is safe for both personnel and equipment and operates at temperatures up to 1200 °C.

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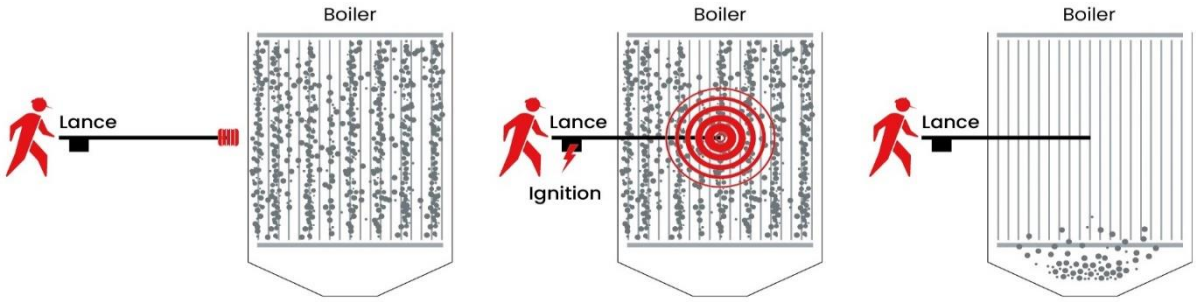
Brief Working Principle:

- A lance is inserted into the boiler from an upper or side port near the area to be cleaned.
- Special bags are inflated with a combustible gas mixture.
- The mixture is detonated remotely.
- The resulting shock wave causes vibrations to eliminate contamination in the targeted area.



Key Benefits:

- **Simple:** Efficient setup and mobilization allow for faster response and start times.
- **Safer:** Uses controlled gas, not explosives, and does not damage tubes or infrastructure.
- **More effective**: A broader shock wave eliminates contamination over a wider area.
- **Greater control:** Manage explosion location and power flexibility to direct explosion residues.
- **Faster:** More explosions between intervals allow cleaning of more positions per shift.

At-a-glance advantages:

- Extends operating time
- Reduces maintenance periods
- Increases availability
- Reduces downtime with cleaning during operation
- Improves efficiency with enhanced heat transfer and reduced pressure loss
- Maximizes fuel flow rates
- Ensures maximum safety for personnel and equipment
- Reduces emissions

Effective Application Areas:

- Furnaces
- Radiation passes
- Evaporator bundles
- Superheater bundles
- Economizer bundles
- Dry and semi-dry FGT systems
- APC Silos
- Winged tube heat exchanger bundles
- ESP (Electrostatic Precipitators)

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