

CLOSED-LOOP FILTRATION FOR PIGGING & DECOKING



Advantages

- Capable of saving hundreds of thousands of gallons of water every shift
- Minimizes on-site footprint
- Captures waste material
- Quantifies coke removal
- Decreases wastewater treatment
- Recycles soda ash
- Minimizes safety risks
- Reduces environmental footprint

Closed-Loop filtration is an optional feature of USA DeBusk's pigging and decoking service. As part of a self-contained system, the filtration unit operates continuously during the decoking process to remove and capture entrained particulates from the effluent and provide clean water for nonstop decoking. The filtration unit has a compact footprint and increases the overall safety and environmental sustainability of the pigging process.

DECREASES WATER CONSUMPTION

Furnace pigging and decoking is a mechanical cleaning process that uses low-pressure, high-volume water to propel pigs and remove internal deposits that accumulate on the inner surface of industrial piping. Proven to be highly effective, the decoking process can consume hundreds of thousands of gallons of water every shift. After the initial fill of a fired heater, Closed-Loop filtration recycles the water continuously. Compared to conventional pigging operations, Closed-Loop filtration can reduce total water requirements by as much as 90%.

REDUCES FOOTPRINT

The massive volume of water required for conventional pigging may require dozens of temporary storage vessels, consuming valuable space, adding to equipment rental costs, and creating hazards for other workers maneuvering at the job site. Closed-Loop filtration relieves congestion and eliminates the expense of temporary water storage.



Mobile filtration unit



Advanced pigging pumper



Recycles up to 90% of water needed for pigging

CLOSED-LOOP FILTRATION IS THE MOST EFFECTIVE AND ECONOMICAL DISPOSAL METHOD FOR SOLIDS AND WASTEWATER AVAILABLE TO THE INDUSTRIAL MARKET.

ELIMINATES DISPOSAL PROBLEMS

Conventional pigging can discharge dirty water at rates as high as 450 gpm. This can strain plant wastewater facilities and limit the availability of utility water for other plant processes.

In many cases, discharged water is pumped into additional temporary tanks that must be continually emptied into long-term storage for disposal at a later date. Closed-Loop filtration eliminates this waste stream, as well as the safety risks of disposal trucks constantly moving throughout the plant.

ALLOWS QUANTIFICATION OF DEPOSITS

By capturing the solids removed from the furnace, Closed-Loop filtration confirms the effectiveness of the pigging process. The captured material may also be used to analyze the contamination of the fired heater. The customer can quantify the total volume of removed material and calculate the average coke thickness that existed on the ID of coils throughout the furnace. Material samples can also be sent for laboratory testing to better understand the condition of the furnace and identify any issues present in the process.

PROVIDES THIRD-PARTY SAVINGS

Cleaning and reusing water reduces or eliminates the need for costly portable storage tanks, pumps, hoses, vacuum trucks, fuel, and personnel required to transport and process waste. Equally important, it mitigates risks by eliminating the need for multiple contractors and activities on site.

CONSERVES SODA ASH

Dependent on the fired heater metallurgy, the heater coils may need to be neutralized with soda ash solution to prevent corrosion. In these cases, Closed-Loop filtration offers additional savings by effectively recovering and recycling the neutralization solution, reducing soda ash requirements up to 80%.

ENVIRONMENTAL SUSTAINABILITY

Reclaiming up to 90% of the water needed for the pigging process promotes tangible sustainability. It can prevent millions of gallons of wastewater, as well as the energy, expense, and risk involved in transportation, treatment, and disposal. With Closed-Loop filtration, solids are removed, soda ash solution is recycled, and wastewater is minimized.