

# Pipeline & Furnace Cleaning

A dry, fast cleaning solution for piping

# (Mini) Sandjet®

## DRY, INERT, FAST

A fast and safe cleaning solution under dry and inert conditions, Sandjet® and Mini Sandjet® provide smoother, cleaner surfaces for better heat transfer and longer lifetime. We offer an extremely fast, environmentally friendly solution without the use of water or chemicals.



**a.hak**  
**INDUSTRIAL SERVICES**

**Multiple services, singular solutions  
for the Oil, Gas & Petrochemical Industry**



For systems where the use of water for cleaning tubes is prohibited or limited to a minimum, (Mini)Sandjet® cleaning is a safe, fast and effective option. The technique is based on a cleaning agent, shot or grit that is injected with high velocity dry nitrogen or air through the furnace tubes or pipeline system. Sandjetting is the best cleaning solution for VCM furnaces, oxygen pipelines and heat exchangers.

#### ADVANTAGES

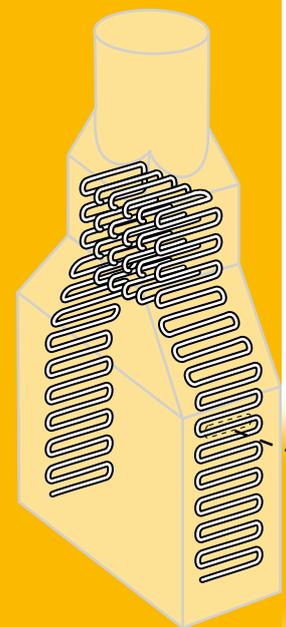
- Fast cleaning
- No (polluted) water
- No chemicals
- Environmentally friendly
- Dry conditions
- Inert when using nitrogen
- Contaminants are removed
- More effective than High Pressure cleaning
- Cleaning results up to SA 2

#### APPLIED SOLUTION

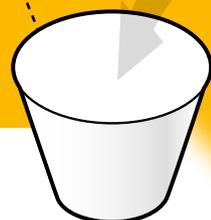
For A.Hak Industrial Services, work begins well before the cleaning starts. Our specialists use the system drawings and a model to determine optimal cleaning parameters and timeframe.

Mini Sandjet® is typically used for small diameters (app. <math>2\frac{1}{2}</math>") such as heat exchangers. Sandjet® is suitable for larger diameter ( $\geq 2\frac{1}{2}</math>") systems such as furnaces and pipelines.$

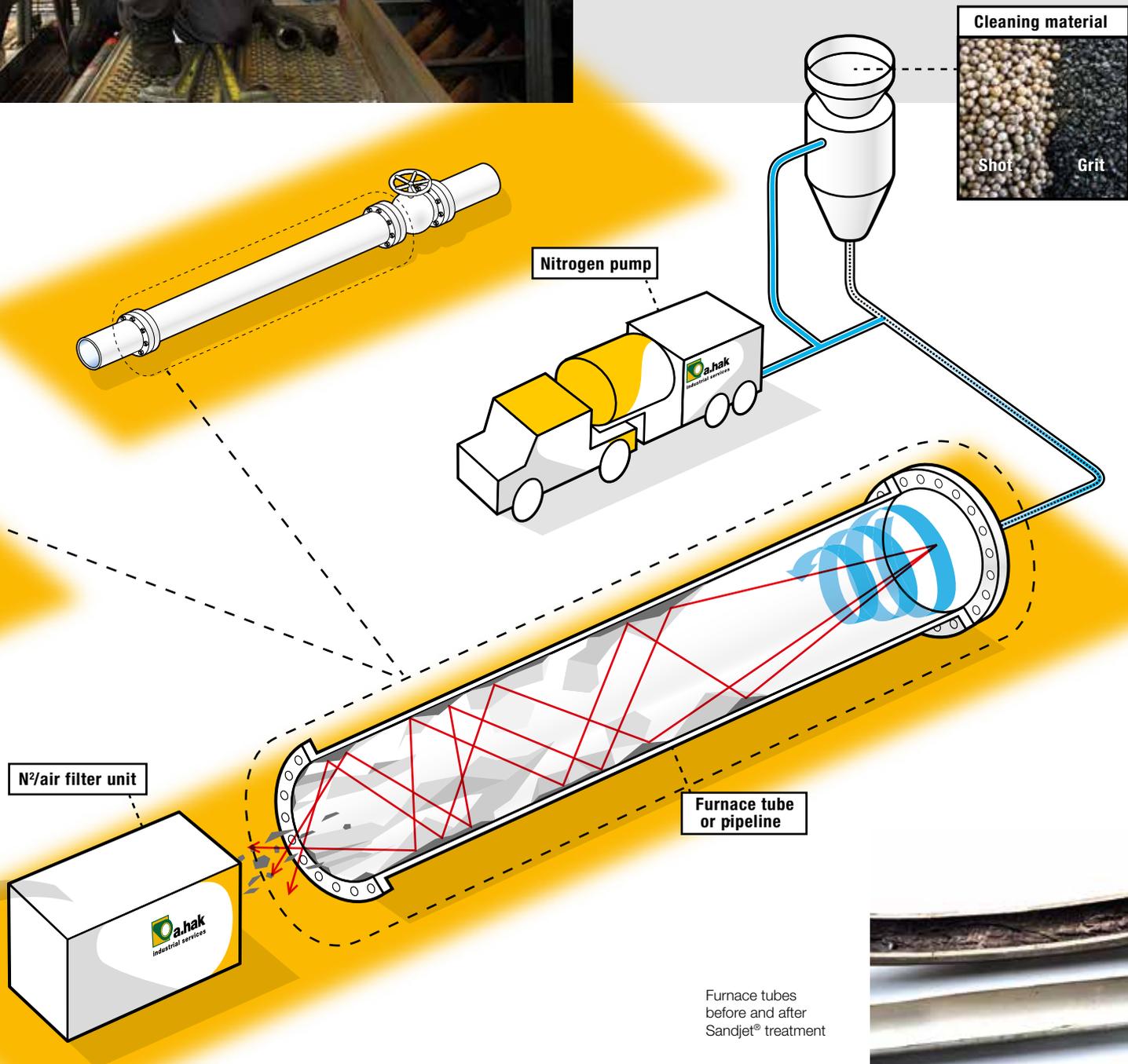
During cleaning, nitrogen or air is pumped into the (Mini) Sandjet® unit at a predetermined flow rate. The correct amount of cleaning agent is then added to the gas stream. This turbulent mix is injected into the piping system for cleaning and polishing. The outlet of the pipeline is connected to a filter unit for separation of deposits and the propellant gas. The nitrogen or air is released into the atmosphere and all waste removed from the system is collected and stored into drums.



Debris hopper



# The best cleaning solution for VCM furnace, oxygen pipelines and



nd heat exchangers

## SANDJET®

In process installations such as VCM plants, the use of water is usually prohibited or limited to a minimum as it will form unwanted hydrochloric acid, corroding the system. Specifically in areas like furnaces, where there is a continual build-up of cokes, a dry cleaning method needs to be used.

The Sandjet® method was developed as a suitable solution for cleaning hard cokes from inside furnace tubes while using high velocity dry nitrogen and a cleaning agent. The result is a clean furnace with a smooth surface to safely start production without the risk of water inside the process system.

## MINI SANDJET®

High pressure cleaning is commonly used for large heat exchangers. In some cases, pressures of up to 2000 bar are used to remove debris from the inside pipeline wall. In a particular case, A.Hak Industrial Services was requested to remove plastic granulate from a heat exchanger that formed an insulation layer. Even at 2000 bar of high pressure cleaning, it was not possible to remove this layer. After some testing at A.Hak Industrial Services, the client was convinced that they were able to remove this layer within less than a minute using only a few bars of pressure and the mini sandjet solution. The result was a clean and smooth surface.



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