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Dart Cleaning



Pigging of heat exchangers produces less waste water

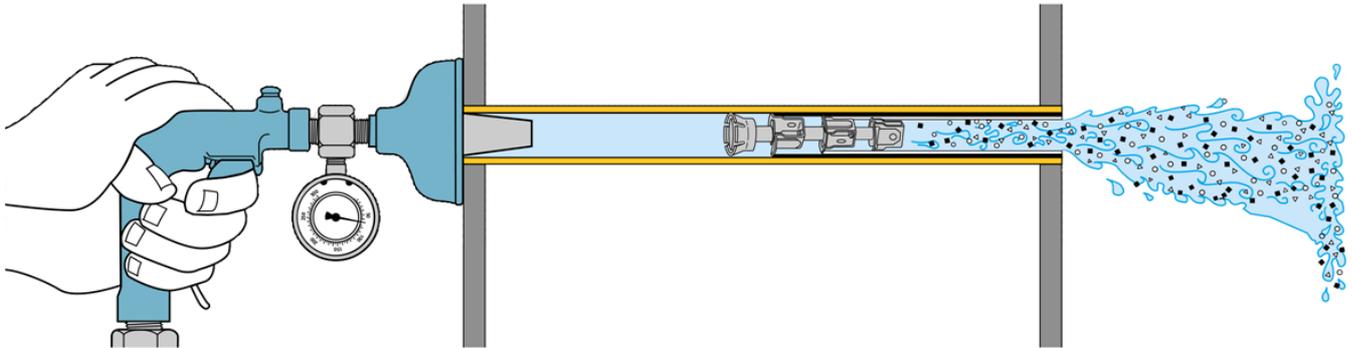
The cleaning of heat exchangers in the (petro)chemical industry is usually carried out with high-pressure water. However, it is worth considering other methods. Mourik used an alternative technique for a number of clients, with promising results.



▲ Assortment of scrapers and brushes

The pressure used in cleaning has become increasingly powerful over the years, as higher pressures and increased flow-rates have been used. Alongside this, automated cleaning techniques have delivered improvements in safety, whilst also increasing speed and optimising throughput time. However, cleaning with high pressure inherently involves the consumption of considerable amounts of water. Most HD units have a flow rate of up to 240 litres per minute, generating a waste water flow that must be taken into account.

For this reason, Mourik continues to undertake research into techniques that can mitigate the impact, or in some cases replace traditional techniques. Ultrasonic cleaning, for example, supports traditional HD cleaning on an ever more frequent number of turnarounds, with spectacular results in terms of water saving.



▲ Pigging tubes of heat exchangers with mechanical scrapers, propelled with low pressure water

Alternative

Mourik has employed an alternative technique since 2014, using pigging with mechanical scrapers propelled by water under low-pressure to clean heat exchangers. This is a relatively easy to use method, whereby scrapers are placed in each pipe by hand, to be forced through the heat-exchanger using a special water gun. A wide range of scrapers and brushes are available to suit different diameters and types of contamination.

Safety

The pigging method works manually. A relatively low water pressure of 40 bar is used, limiting the risk to the user compared to traditional high-pressure work. Hence, the requirements for establishing a safe-working zone are significantly less burdensome. The method can also be employed in-situ as long as provision can be made to safely capture the pigs that are ejected from the heat-exchanger. This can be achieved by placing a sail at the end of the equipment, immediately catching the released residue.

This method can easily be applied in-situ

Savings

The flow during pigging is considerably smaller than when using high-pressure cleaning. During automatic HD cleaning a few hundred litres of water are consumed; in theory, pigging only requires the volume of each pipe. In practice this often achieves a reduction in water consumption in excess of 90%.

Working safely, delivering quality, protecting our environment and creating maximum value together: it's in our DNA.

Mourik, imagine what's NEXT.

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