

# Ruhrpumpen Decoking System prove to be very stable and reliable

Since 2000 the technology in delayed coking units has changed drastically. In combination with the development of automatic top and bottom valves, automatic drilling/cutting tools and hoist drivers have high performance cutting systems realized large improvements in safety and reliability.

Dr Wolfgang Paul from Ruhrpumpen has many years of experience in the Decoking business and managed to bring the products of Ruhrpumpen to a higher level. With the increase in size of the coke drums an increase of Jet Pump Power did follow. Until recently the power of the cutting equipment had not been increased but Ruhrpumpen developed drive systems for decoking Hoists and Drill Stem Drives, driven hydraulically or electrically. The power of these components followed the tendency of the coke drum volume and Jet Pump Power to meet the actual requirements of modern coke cutting systems.

“The new features result in more safe and reliable service as well as in reduced operation time” Wolfgang Paul explains. Further advantages are provided when using the Hoists and Drill Stem Drives together with the other components of the Ruhrpumpen Coke Cutting System like Crosshead with Free Fall Arrestor, Auto-Switch Cutting Tool and the Control System

“With our decoking tools we have helped many customers around the globe” Wolfgang Paul adds. One of Ruhrpumpen's clients; Eng. Elis Pinto, who is the Technical Services & Reliability Superintendent at PDVSA in Venezuela is very pleased with the change he made to the Ruhrpumpen Decoking unit. He tells his story:

“At our company we count with a hydraulic coke cutting system that includes Jet water pump, flow control valve and drilling tool as a whole. We have had several seal failures and seal ruptures. At the end of year 2004 we experienced a coke bed collapse in two different coke drums, almost simultaneously due to seal rupture in two different cutting tools. As a consequence of this event we were forced to shut down the DCU and entered recirculation mode until we could pull out the trapped drill stem from the drums” The company then decided to investigate the causes and they came to the conclusion that despite using high quality elastometers they had just reduced the frequency of faults but not eliminated the design flaws from the tool. “I remember that we needed a solution as soon as possible, because you can imagine the cost of this shut down”.

“When investigating more about the options in the market we



learned that users of the Hydraulic Coke Drilling System with cutting tools manufactured by Ruhrpumpen had been using this for over four years without failure” .Mr Pinto continuous.

Wolfgang Paul: “Of course we were willing to help out and we arranged to have a performance test run or trial out with one of our drilling tool, which started by mid 2007. At this moment this same cutting tool still operates without presenting imputable faults to its design and components.” The operators of PDVSA commented that besides this the tool has more advantages, like lighter weight, less coke exposed area surface, only a 30% wider than the drill stem itself, easier to switch from drilling to cutting position just with the soft turn of a key wrench, cleaner because it does not have to be taken out of the drum to switch positions and best of all, easier to handle and maintain because it has less mechanical parts inside. It is more versatile and reliable. Meanwhile Ruhrpumpen improved the tool further and provides manual as well as automatic Drilling/Cutting Tools, as requested by the clients. Upgrades of manual tools to automatic switch tools could be made easily.

If you customers would like to have more information about possible improvements within their company they can let us know via e-mail at [info@ruhrpumpen.com](mailto:info@ruhrpumpen.com)

*“We will continue to use the Decoking products from Ruhrpumpen, this will represent a significant saving in maintenance and a considerable increase in the reliability of the system for our operations.”*

**Eng. Elis Pinto**

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