

# Upclose

Story - Slurry Pump Solutions for US Refineries

March 2009

## **Weir Minerals Hazleton Provide Slurry Pump Solutions to US Refineries**

Weir Hazleton, have been successful providing the petroleum industry with a long term solution for gas scrubbing on Fluid Catalytic Cracking Units (FCCU). FCC technology increases the profitability & efficiency of a refinery and has become integral to the petroleum processing industry. The process is severe and demands high quality equipment with enduring reliability.

As North America and the World move toward stringent emission controls across all industrial sectors, the refining industry have been using Wet Gas Scrubber (WGS) technology on their FCCUs to ensure emissions are kept in line with environmental regulations. The WGS uses a chemical solution in contact with the flue gas to remove acid gases like SO<sub>x</sub> & NO<sub>x</sub>, catalyst particulate and other harmful pollutants. The Hazleton specialty slurry pumps are used to re-circulate this scrubbing solution, which accumulates very fine and severely erosive catalyst particles as a result of the scrubbing process.

The refinery industry demands performance for these installations and have identified that they want pumps that provide extended operating life. That means operating 5+ years between planned maintenance intervals in an effort to reduce process down time and maintenance costs. It also means rapid deliveries to meet accelerated project schedules and environmental compliance dates, as well as conforming to each refiner's particular design and performance specifications.

## Hazleton Specialty Slurry Pumps - solutions for Refineries



## Case Study

# Hazleton Specialty Slurry Pumps



*Hazleton CTC 20-30 with 20" suction and discharge*

### Fact File :

#### Application:

Gas Scrubbing on Fluid Catalytic Cracking Units (FCCU)

#### Slurry:

catalyst slurry

#### Concentration:

up to 50%

#### Flow rate:

up to 24000 GPM

#### Head:

up to 900 ft

#### Temperature:

up to 800 deg F

#### Pump materials:

Hard chrome iron specialists, with materials to suit applications

#### Efficiencies:

up to 90%

### Contact Details :

For further information on this case study please contact:

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To meet the customer's requirements Hazleton slurry pumps are engineered to order for each application and incorporate design features and standards that not only ensure durability and reliability, but also differentiate us from the competition. Some of which include:

- Hydraulic design incorporates Hazleton's unique "Controlled Diffusion" process to minimize erosive vortices and reduce volute velocities for longer wear life
- Improved efficiencies vs the competition. Typically 3-5% higher.
- Utilization of materials and specialty coatings to achieve maximum wear life
- Wear life requirements can be designed into the pump at the forefront of the design process
- Back pullout and front pullout design allows in-place inspection and maintenance
- Conformance to API 610 10th Edition
- Design to customer specifications
- Quick design/ delivery

Under the leadership of Hazleton's Technical Director - Tom Stirling and with the partnership of our adjacent foundry partner (Hazleton Casting Co.), and the Hazleton Operations team, Weir Hazleton has been able to develop, design, engineer, and ship completely new engineered to order pump designs in less than 30 weeks to meet customer's accelerated schedules.

It has been by fulfilling the customer's requirements and taking a flexible approach to develop, design, and rapidly deliver engineered to order slurry pump solutions that Hazleton specialty slurry pumps is quickly becoming the pump of choice in a growing number of refinery wet scrubbing systems.



*Hazleton CTC-CL center line support high temperature pumps*



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