Distillation columns

Distillation columns

Troubleshooting
Process Engineering

Problem solution during operation

- Pressure control optimization at the gas collecting main
  – Coke Plant in France
- Reduction of tar water content in the tar separator by hydro-dynamic simulations
  – Coke Plant in Belgium
- Optimization of the process control to minimize deposits in the coke oven gas network
  – Coke Plant in Korea
- Realization of energy saving potentials in the pressurized air and steam network
  – Coke Plant in Germany
- Increase of efficiency of distillation columns
  – Coke Plant in Korea

Our services
Coke Making Technology

If your projects require process oriented planning and also safe execution, then DMT is a capable partner whose coke making technology division covers the whole spectrum of process engineering with innovative solutions.

- **Refurbishment of coke plants** – Development and implementation of projects during operation of the coke oven gas cleaning plant
- **Plant extension and modernization** – Planning and turn-key supply of coke oven gas cleaning equipment
- **Development of innovative products and process engineering solutions** – Innovative PROVen© system for single-chamber pressure control, new furnace door gasket and door cleaning system, optimized processes for gas cleaning, dust emission reduction at the quenching tower, increase of the efficiency by process optimization
- **Consulting services** – Layout optimization of equipment or components for the efficient utilization of (the resource) coal, concepts to solve operational problems

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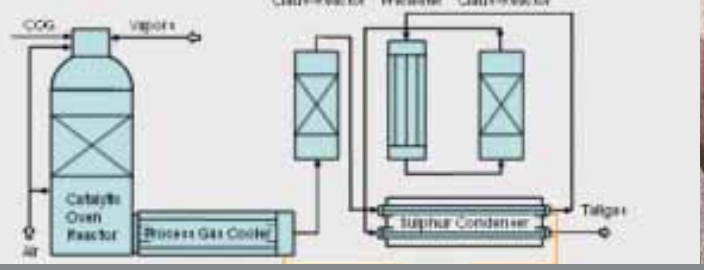
DMT

Coke Making Technology –
Next generation technologies

Virtually opened heating chambers of a coke oven battery

By-product plant



Claus plant with ammonia cracking

By-product plant

Ammonium Sulfate Plant – Completed projects

Turn-key supply of an ammonium sulfate plant at a coke plant in France

- To clean the ammonia loaded coke oven gas a half-direct process was used where the coke oven gas passes through so called spray saturators
- Three of the existing saturators were replaced by two new saturators including the downstream peripheral devices
- The volume of coke oven gas treated amounts to 45.000 Nm^3/h per saturator
- The ammonia loading could be reduced from 9 g to < 30 mg per Nm^3 coke oven gas
- Pressure drop in the saturator is recorded with less than 130 mm WC (13 mbar)

Completion: May 2008
Project duration: 17 months

Claus Plant – Completed projects

Design of four Claus plants for coke plants in Korea
The Claus process is an important component of low-emission coke production.

Contract included:

- Basic Engineering for 4 Claus plants at two different sites in Korea
- Delivery of key components for the process
- Support of erection supervision and commissioning

The throughput of each plant is 6.000 m^3 vapors per hour consisting mainly of H_2S, NH_3, HCN, H_2O

Completion: September 2007
Project duration: 26 months

Cooling and Chilled Water System – Completed projects

Turn-key supply of a cooling and chilled water system at a coke plant in Germany
Low temperatures guarantee a better cleaning efficiency of the coke oven gas in the scrubbing plants. This means an improvement of the emission value and the quality of the products especially in the warmer summer months. To match the increased requirement of cooling capacity an existing cooling tower was replaced by a new one and additionally a new chilled water system was erected.

- The new cooling tower was designed for an amount of 2.900 m^3/h cooling water. This amount is cooled down from 43°C to a temperature of 26°C
- The new chilled water system consists of two compression refrigerating plants. Per unit 462 m^3/h chiller water is chilled down from 24°C to a temperature of 17°C

This project was realized in a consortium with Axima Refrigeration GmbH, Lindau, Germany.

Completion: October 2007
Project duration: 11 months

Plot of an ammonium sulfate plant

Site visit in Gwangyang, Korea

Cooling towers