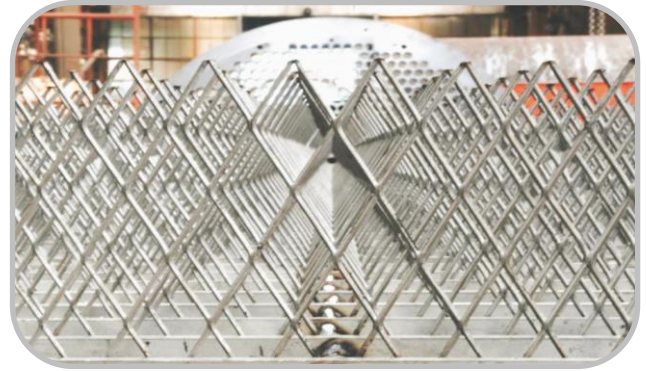


EMBoiler®. When Energy matches with Efficiency

EMbaffle has been selected as Technology Provider for the **Process Boiling equipment** in a major Ammonia Conversion Facility in North America

Facility is forecast to enter in service in October 2016 to provide 600 tonnes per day of anhydrous ammonia which will feed the existing Fertilizer Complex

EMBoiler® can be effectively applied to any Chemical Process where Efficiency is of the essence



EMbaffle patented design overcomes the inherent limitations of the conventional Waste Heat Boiler units

- + syngas cooling and steam generation occur in just **one single piece of equipment**, in a **integrated steam drum** assembly, with consequent benefits in terms of **compactness** and **lightness**
- + **vertical layout** permit to sensibly **reduce footprint** and **encumbrance**
- + **equipment life increases** as a consequence of **reduced crevice corrosion** due to the patented open grid structure

The innovative “fountain design” selected by EMbaffle, respect to competitive solutions achieves :

- + **effective mechanical reliability** by a simpler solution to **reduce stresses** on the channel to tube-sheet joint, tube-sheet and channel closure
- + **superior thermal efficiency** by a better distribution of the steam phase in the shell-side which **avoids hot spots formation**



As a major consequence the EMbaffle design permits to **sensibly reduce** all the related **Capital & Operational Costs**

(up) Innovative Process Boiler design
(down) Conventional Process Boiler design

The Synthesis of Ammonia. Energy Saving in the Chemical Industry

Two gas streams are required : hydrogen, usually produced from natural gas through a Pressure Swing Adsorption unit, and nitrogen, coming from the Air Separation unit

The two streams ($N_2 + H_2$) are compressed at high pressure and, as a consequence, at high temperature and routed to a special heat exchanger where reaction occurs and ammonia is produced

Ammonia reaction is exothermic; part of conversion occurs in the Process Boiler where the released energy is used to vaporize boiling water produced in the facility

Ammonia is condensed, pressurized and stored for further use

Non reacted gases ($N_2 + H_2$) are recycled in the Process

Steam is used as ingredient in the process of natural gas reforming to produce hydrogen

Energy Saving drives the design and operation of the entire Process



Promoting the EMbaffle® technology

EMbaffle B.V. is actively committed in the identification of new potential business opportunities

We operate in consolidated Oil & Gas markets and in emerging high value added segments

Please refer to us to know how to become part of our Network

For any information contact us at:

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