

BASF Steam Boiler, Belgium

165 MW



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190t/h @ 125 bar/520°C

A Denarad Boiler for a reliable steam supply

Project Description

BASF Antwerp NV (Belgium) is the largest integrated chemical production center in Belgium and the second largest BASF production platform in the world. The range of products of BASF Antwerp NV includes basic and specialized chemical products, plastics and pre-products. BASF Antwerp has decided to build a new steam production unit in order to become independent of a third party for the supply of steam. For several years BASF has indeed been dependent on a COGEN facility owned by a major electricity producer. Due to high energy prices of gas, this COGEN installation was no longer able to produce steam on a regular basis and at a cost effective price for BASF.

The contract

In February 2013, BASF Antwerp ordered a new DENARAD steam boiler to John Cockerill Energy for its Antwerp plant in order to assure a more reliable steam production. The John Cockerill DENARAD industrial water tube boiler has a capacity of 190 tons per hour with pressure of 125 bars and a steam temperature of 520°C. The John Cockerill scope included all the auxiliary equipment, i.e. a deaerator, BFW-pumps, combustion air fans, flue gas recirculation fan, a sampling cabinet, chemical dosing with NH₃, a blow down vessel, silencers and a 40 meters high stack.

Plant operation

The John Cockerill DENARAD steam boiler is designed for frequent low load operation whereby steam outlet temperature of 505°C is guaranteed.

Furthermore this DENARAD steam boiler has to ramp-up in less than 10 minutes in case of power failure of other steam suppliers on-site.

Fuel

- Natural gas & fuel gas to reach site in the second year of commercial operation

Boiler

- 1 Water Tube Boiler DENARAD type – Industrial Boiler
- Triple pressure

Performances

STEAM	°C	BarA	lb/hr
HP	520	125	190
IP	300	51	50
LP	245	17.7	200