

Rotor Air Coolers

Engineered for durability

nem
BALCKE DÜRR

Innovative and Reliable Technology

Rotor Air Coolers (RACs) are essential components in combined cycle plants, where they play a pivotal role in enhancing energy efficiency. These Heat Exchangers utilize residual hot air from the gas turbine to produce steam or heat up water. By extracting heat during this process, RACs retain additional energy, leading to significant improvement of the plant's overall efficiency.

NEM Balcke Dürr supplies RACs with an advanced thermoelastic design, making them perfect for frequent, rapid start-ups and dynamic load changes. NEM Balcke Dürr offers two RAC designs: **Advance Kettle boiled RAC** and **Header type RAC**.

Our patented **Advance Kettle Boiler RAC** **solves the stress corrosion problem** faced by many gas turbines applications by using our **Heat Shield technology**. The innovative design is based on stress corrosion resistant material, elimination of expansion joint and heat protection of critical parts. This **protects** the cooler against **excessive fatigue** due to thermal cycling and **increases the availability** of the plant.

Our Header type RAC features a more thermoelastic design by the use of headers instead of tubesheets. The use of low-finned tubes improves the availability of the RAC, leading to higher efficiency and performance.

Benefits

Advanced Kettle Boiler RAC

- Replacing of existing RACs by maintaining the main connections
- Elimination of expansion joints by use of proper material concepts
- Individual and customized solutions
- Increasing plant's availability and performance
- Flexibility when dealing with the cycling mode operations of the power plant
- Heat shield reduces stress corrosion cracking by avoiding high stresses, temperature gradients and protecting sensitive areas from corrosive media



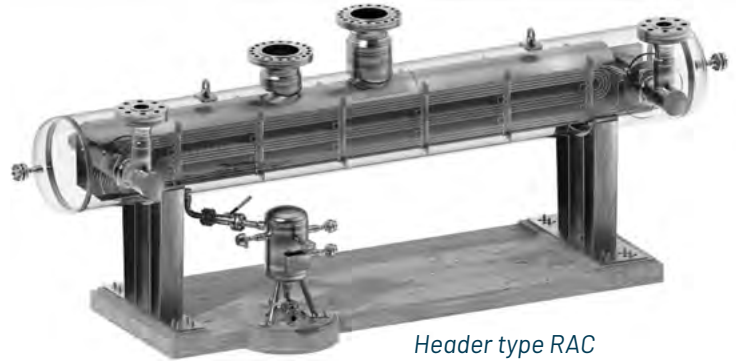
Kettle Boiler RAC



Header type RAC

Technology & Features

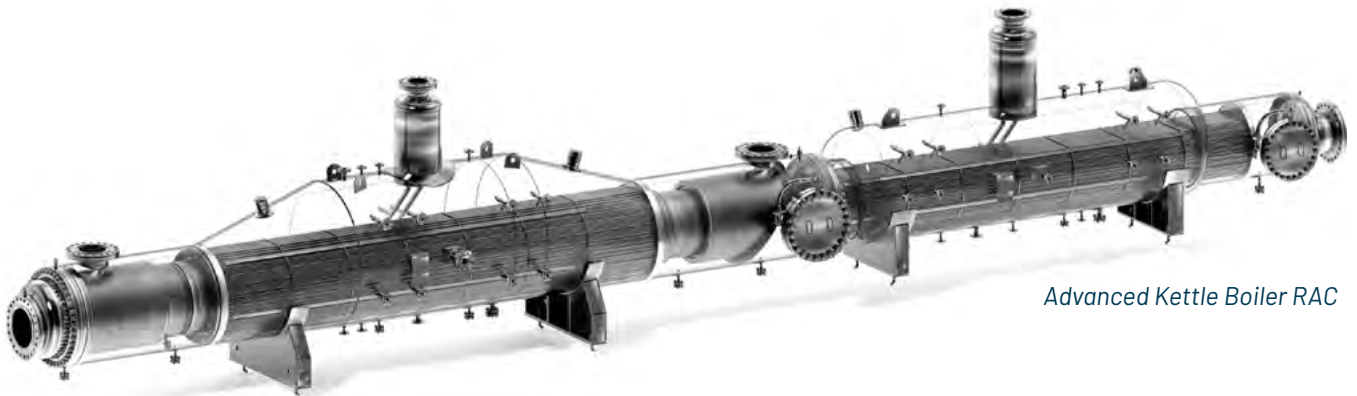
NEM Balcke-Dürr **RACs** can be applied to any type of gas turbines independently from their manufactures. Each solution can be customized to the specific environment of the plant, to ensure maximum efficiency and long-term reliability.



Header type RAC

NEM Balcke-Dürr **Heat Shield Technology** protects all our RACs against excessive fatigue by protecting the surfaces from overheating due to thermal cycling. This results in increased availability of the plant.

We provide comprehensive on-site installation, commissioning, and acceptance testing, for every RAC type ensuring the best service for our customers.



Advanced Kettle Boiler RAC

Application

Advanced Kettle Boiler RAC: Saudi Arabia

- Two pressure stages IP and LP
- Duty 9 MW
- Heat transfer area 300 m² (3229 ft²)
- No. of tubes 450
- Pressure drop air 200 mbar (2.9 psi)
- Weight 26 t (57320 lbs)
- Length 12 m (39.4 ft)

Advanced Kettle Boiler RAC: Mexico

- Two pressure stages IP and LP
- Duty 12 MW
- Heat transfer area 552 m² (5942 ft²)
- No. of tubes 1489 Nos
- Pressure drop air 600 mbar (8.7 psi)
- Weight 34.75 t (69500 lbs)
- Length 19 m (62.33 ft)





Heat Exchanger Solutions

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