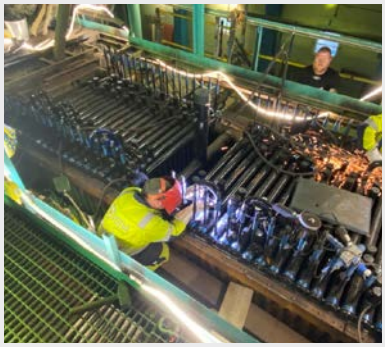
Karlskoga Energi AB

KARLSKOGA, SWEDEN – ECONOMIZER AND BOILER WALL REPLACEMENT

PROJECT CASE HISTORY



Project description

In 2021, Babcock & Wilcox Renewable Service won the project for replacement of the front boiler wall and economizers 1 and 2, as well as the installation of a new rapping device system for cleaning of the heating surface on a waste-to-energy plant (Line 1) in Karlskoga, Sweden.

Delivery includes project management, construction, design, manufacture, delivery, dismantling, installation, commissioning, testing and documentation.

The front wall was replaced one to one, and economizers 1 and 2 were replaced with a new design.

Economizers 1 and 2 consist of 19 sections with 17 tubes each. For each economizer, new vents and drainage were installed, then connected to the existing system.

A new rapping device system was installed on the side wall consisting of 2 x 19 individual pneumatic hammers which strike against each header. Unlike the existing rapping system, the new system is pneumatic, using pressurized air as the medium.

Material Details			
Description	**Material**	**Dimension**	**Norm**
Front wall tubes	16Mo3	63.5 x 4.5	EN 10216-2
Side panel tubes	16Mo3	63.5 x 4.5	EN 10216-2
Fins	16Mo3	Pl. 6 mm	EN 10025-2
Casing plate	S235JRG	Pl. 6 mm	EN 10025-2
Economizer tubes	P235GH-TC1	Ø38 x 4	EN 10216-2
Headers	P235GH-TC1	Ø76.1 x 6.3	EN 10216-2
Filler blocks	16Mo3	Pl. 6 mm	EN 10025-2

Client: Karlskoga Energi AB
Year: 2021

Milestones
Contract: 2021-04-16
Start on site: 2021-09-29
Pressure test: 2021-10-21
Hand over: 2021-11-29

Data
Fuel: Waste
Steam temp: 320°C
Steam pressure: 32 bar(g)

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BABCOCK & WILCOX RENEWABLE

Economizer Specifications		
Description	**Value**	**Unit**
Flue gas flow	33,149	Nm^3/h
Flue gas temperature before economizer	354	°C
Flue gas temperature after economizer	256	°C
Flue gas pressure loss	0.7	mbar
Water flow in economizer	24	t/h
Water temperature before economizer	135	°C
Water temperature after economizer	178	°C
Water pressure loss	1	bar

Scope of supply

- Erection of scaffolding
- Dismantling of existing front wall and economizers 1 and 2
- Installation of new front wall and economizers 1 and 2
- Sootblower system complete with control system and air addition
- Insulation and cladding
- NDT after EN 12952-5
- Mechanical installation of all equipment included in the delivery, including dismantling of existing installations
- Electrical installation of all equipment included in the delivery
- Purchase of all equipment included in the delivery
- Trial run and training of operating personnel
- Operation, maintenance and quality documentation
- CE marking for delivery in accordance with EN requirements

Babcock & Wilcox
Energivej 16
6670 Holsted
Denmark
Phone: +45 72 40 74 65

www.babcock.com/renewable

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