

Renova AB has successfully installed four ACF5000 emission monitoring systems from ABB



In order to improve the functionality and efficiency of the gas analysis performance, Renova AB, a waste-to-energy plant in Gothenburg, Sweden, decided to re-invest in ABB's ACF5000 CEM systems for all 4 incinerators.

Measurement made easy

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01 Renova AB waste-to-energy plant at Sävenäs/Gothenburg, Sweden.

Introduction and background

Renova's waste-to-energy plant at Sävenäs in Gothenburg is one of the world's most advanced facilities for the incineration of waste to produce heating and electricity. Around 300 trucks deliver waste to the plant daily. The waste is burned in four furnaces and the thermal energy generated is then transformed into electricity and district heating. From every tonne of waste combusted, Renova recovers 3.3 MWh of energy in the form of electricity and district heating. 60 percent of the electricity production is labelled as biofuel-based origin. Every year, the waste-to-energy plant provides 30 percent of district heating in the region's network and 5 percent of the electricity needs of Gothenburg's population.

Renova is handling 560,000 tons of waste per year and the main part of the garbage comes from ten municipalities in the Gothenburg region and it is being transported by truck to the incinerators.

The flue gases from the combustion process are cleaned in several stages and are well within the EU requirements when emitted.

In November 2017 an open public procurement for 4 analyzer systems was published and all gas analysis suppliers received an official request. After the supplier assessment process ABB was chosen.

The order was settled in February 2018 and delivery of the first (out of four) ACF5000 analyzer was carried through in May 2018. The four ACF5000 analyzers were delivered one at the time, every 4 weeks.

What are the main benefits with ABB and the ACF5000 emission monitoring systems?

We ask Mr Jan Skåhlberg, Instrumentation & Power and Mr Mikael Strand, Project leader, who concordantly express their opinion about ABB's analyzer installations:

"We made a re-investment for all 4 analyzer systems. The old analyzers had fallen for the age line and before we also had different lab-like analyzer suppliers. We came to the conclusion that it is better and more practical with one single supplier for the 4 analyzer systems. And then for example use the same spare parts for all analyzer systems."

"Technically the ACF5000 works very well with accurate measurements and we are very satisfied with the performance of the ABB-installations."

"The benefit we've seen with ACF5000 is the robustness, reliability and overall stability including the very stable simultaneous measurements of 15 gas components, including CH₄, CO₂, HCl, NH₃, NO, SO₂, H₂O, CO, O₂."

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01 Process flow
— Waste becomes heat
and electricity, Renova
AB, Gothenburg.
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02 Probe measuring
flue gases.
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03 Renova waste bunker
at Sävenäs plant in
Gothenburg, Sweden.
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04 Easy to use HMI
of ACF5000 in harsh
environment.

Further, ACF5000 is offering some useful features:

- Automatic calibration - a built-in validation unit, QAL3 (Quality Level 3). The validation is done automatically once a week. This works as the customer's own quality control. The QAL3 validation unit is also a quality assurance for your process.
- Remote control available on all 4 analyzers.
- 3G router remote connectivity is available on each ACF5000 cabinet.
- Dynamic QR-code available on each ACF5000 cabinet.

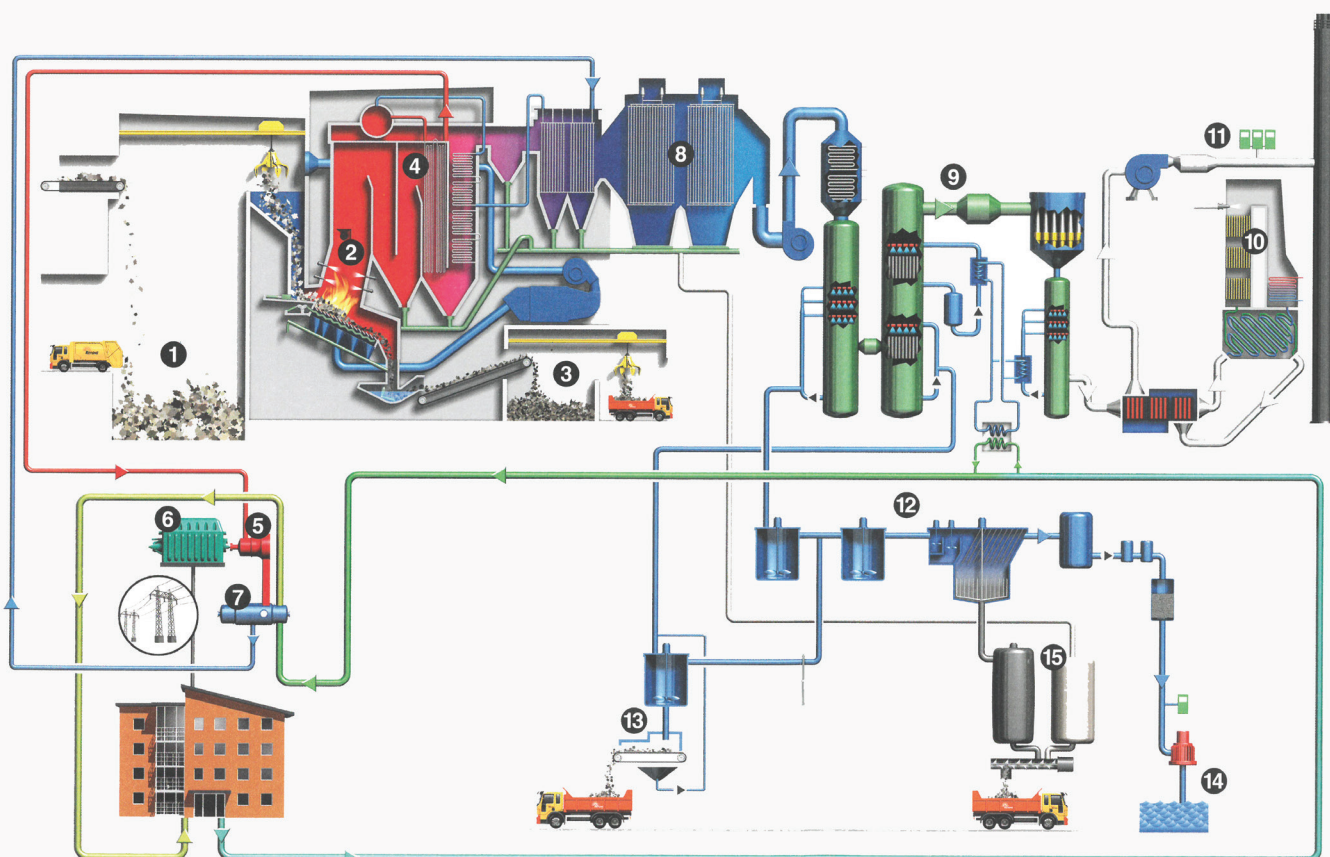
"The built-in QAL3 validation unit has really facilitated my life. The validation unit is saving time and has freed up time for me to work with other things at the plant", says Jan Skåhlberg.

"Also, ABB is providing very good service to Renova and we are very pleased with the good cooperation we have on all levels in the company. It is easy to get in contact with ABB's service personnel", conclude Strand and Skåhlberg.

About the Renova Group

The Renova Group is owned by ten municipalities in western Sweden (Ale, Gothenburg, Härryda, Kungälv, Lerum, Mölndal, Partille, Stenungsund, Tjörn and Öckerö). Our mission is to work with our owner municipalities in taking responsibility for waste and recycling over the long term. We aim to deliver community benefit through business activities and to actively contribute to sustainable development within our owners' region.

The Group consists of the parent company Renova AB and subsidiary Renova Miljö AB. The parent company is the owner-municipalities' own waste expert and carries out tasks directly allocated by them. The subsidiary Renova Miljö AB operates on a competitive market and offers complete solutions in waste and recycling to businesses, municipalities and other public enterprises in our owners' region.





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Our goal is to always be able to offer the best range of services within our industry, with environment, quality and customer service remaining paramount. Renova offers:

- Collection and transportation of all types of waste and recyclable materials
- Environmentally-friendly waste management
- Services for property owners and the construction industry
- Advice and training

“Renova and ABB, we’ve had a very good customer-supplier relationship for more than 30 years now.”

Mr Pontus Gimfalk, Electrical Manager, Mr Jan Skåhlberg, Instrumentation & Power and Mr Mikael Strand, Project leader ACF5000, all three Renova AB.



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Facts and figures of Renova Sävenäs plant	
Number of employees	120
Number of incinerators for waste burning	4
Treated waste per year	560,000 tons
Total waste capacity in all 4 roster incinerators	75 tons of waste/hour
Waste capacity of the 2 large incinerators	22 tons of waste/hour each
Waste capacity of the 2 small incinerators	15 tons of waste/hour each
Height of the 2 large incinerators	32 meters high
Height of chimney at Sävenäs plant	126 meters high (with 4 flue gas pipes)



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01 Control room at Renova, Sävenäs/Gothenburg, Sweden.

02 Jan Skåhlberg and Tobias Almroth at the ACF5000 analyzer.

03 CEM System ACF5000 CEM.

ABB is a global market leader in continuous emission monitoring systems (CEMS). This also includes the solution that has been installed at Renova AB in Gothenburg, Sweden.

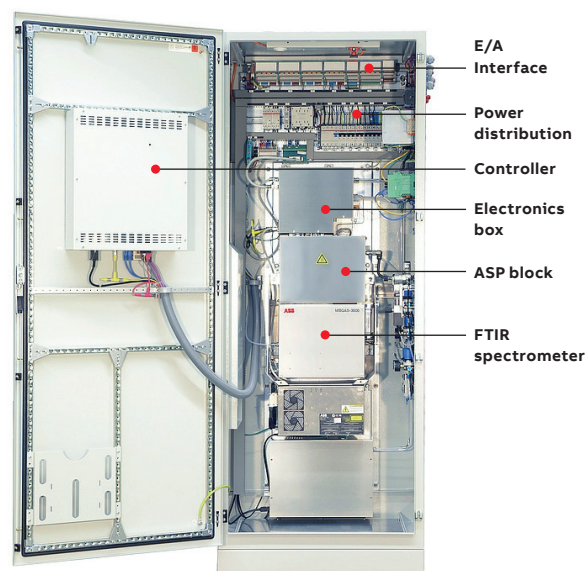
The ACF5000 uses the FTIR technology developed at the ABB Québec plant and Frankfurt plant in continuous gas analysis, which also includes in-house system construction. Therefore, ABB has all the core competences which are needed for system solutions like the ACF5000 available in-house.

ACF5000 – The standard in FTIR CEMS

- Complete turnkey system, from sampling to measured value.
- Approval in accordance with DIN EN 15267 and DIN EN 14181.
- Certified maintenance interval.
- 6 months by TÜV-Rheinland.
- 12 months (MCERTS) by CSA/SIRA in England.
- The ACF5000 is the first multi-component emissions device which has obtained a certified 12-month maintenance interval.
- Remote maintenance and diagnosis possible.
- Lowest operating and maintenance costs.
- Availability of > 97% per year.



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