

J | Ä | S | P | I



**Experience.
Quality.
Reliability.**

Electric boiler for the emergency reserve market FCR-D



For the more unstable electricity market than before, frequency correcting solutions are needed. With the Jäspi FIL SG electric boiler, which can be quickly switched on and off, you can participate in the FCR-D electricity emergency reserve market.

More information:
[FingridOyj / YouTube](#)



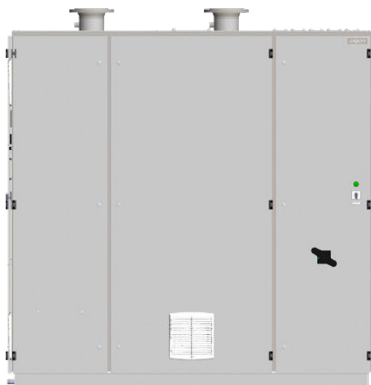
The need for balancing the electricity market is growing

The ongoing energy transition towards renewable energy means a decrease in the share of traditionally flexible, predictable energy production in the network, while the share of wind power and solar power increases. Electricity consumption is predicted to grow drastically in the next few years, and electricity must be produced every moment as much as it is consumed. Power system reserves are needed to balance sudden consumption changes during the day.

- » The frequency must be corrected and react to fast, unpredictable changes. The consumption increases and the frequency decreases, e.g. in the evenings and in severe frosts.
- » **FCR-D**, which is the second fastest of the common frequency-controlled interference reserve markets in the Nordic countries, and activates in a few seconds, aims to keep the frequency at a minimum of 49.5 Hz or a maximum of 50.5 Hz when the frequency deviates from the normal frequency rang.
- » Reserves refer to power plants, consumption sites and energy storages that change their output as needed (energy production or consumption). Some of the reserves are acquitted automatically and some on request. Fingrid buys reserves based on offers.
- » Sudden changes in frequency can cause damage. By maintaining the emergency reserve market, service reliability is maintained.



FIL SG
150 - 400



FIL SG
500 - 1500

Jäspi FIL SG electric boiler

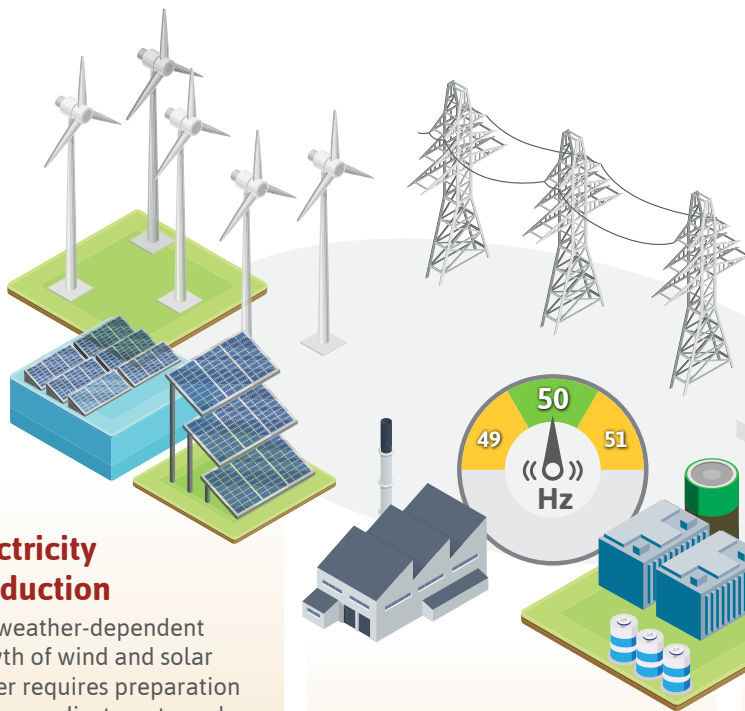
Electric boiler that can be used to participate also FCR-D for the emergency reserve market.

- » Models 150-1600 kW
- » Power steps 0-15
- » Four control methods:
 - 1) Emergency reserve use, i.e. SG
 - 2) Outdoor temperature control* + SG
 - 3) Target temperature control* + SG
 - 4) External control + SG
- » Electricity connection and water volume must be large enough
- » Comprehensive remote monitoring and management options
- » Safety features built-in

* Possibility to use stock exchange electricity.

Technical info in the
datasheet: www.jaspi.fi





Electricity production

The weather-dependent growth of wind and solar power requires preparation for large adjustment needs. Electricity may be produced momentarily either too much or too little, in which case the frequency of the electricity grid increases or decreases too much.

Consumer of electricity

Society is becoming electrified and the necessary amount of electricity must be available at all times.

Power plant

Fingrid takes care of maintaining the frequency of the electricity grid by buying reserves based on offers. The standard frequency of the electricity market is 50 Hz.

Reserve facility

For example, a power plant, consumer or energy storage that changes or maintains power as needed. The reserve facility receives financial compensation for its participation in the emergency reserve market.

FCR-D up/down

The frequency-controlled operating reserve must be able to adjust both up and down. Up-regulation refers to increasing electricity production or reducing consumption. Correspondingly, down-regulation means reducing electricity production or increasing consumption.

- » FIL SG is suitable for the FCR-D up/down market, for normal electric boiler use and with limitations for the process industry
- » For both dynamic and static use
- » When storing the thermal energy produced by the device, you must be prepared for a 30-minute continuous interruption of the electricity grid*



* Based on 04/2024 data.

Steps to the market

- » The reserve facility needs an external service provider (reserve supplier)
- » Technical readiness with real estate and equipment

More info:
www.fingrid.fi





JÄSPI®

AKVATERM

System supplier's reliable heating solutions for large properties

Kaukora Oy is one of the leading manufacturers of heating equipment in Finland. For over 70 years the Jäspi and Jämä brands have produced more than two million items of heating equipment. We specialise in developing and supplying heating and hot water systems for residential housing, industrial facilities, farms, schools, sport and shopping center.

Your experienced partner for construction and renovation projects

When choosing a heating system, there is no single correct solution. However, Jäspi offers an option for the heating of every property, which ensures sufficient heat in winter and cooling in summer.

System solution from one manufacturer makes sense

It is good to think of heating as a system solution. One system supplier guarantees a tested and functionally reliable whole. When the manufacturer knows the hardware down to the details, the best possible support is also available.

Widest product range in Finland

The life cycle of high-quality heating equipment is long. That's why it's especially important that the equipment supplier is a manufacturer that can still serve you years from now. Kaukora's device is always a safe and functional choice. From Finland's widest product range, you can find a reliable solution for all heating needs.



Jäspi products are manufactured by Kaukora Oy at the factories in Raisio and Turku and have been awarded the Key Flag Symbol, which is a guarantee that a product is made in Finland.

Kaukora Oy

Tuotekatu 11, PL 21, 21200 Raisio

Dealer:

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All forms of energy and the widest collection

Kaukora has the widest range of devices on the market in several products, regardless of the energy form. The source of energy can be air, earth, oil, gas or electricity - Jäspi has an alternative. Jäspi's heat pump solutions can always be monitored remotely, even if they combine different heating technologies.

Experience and professionalism at your service

Extensive experience in the field of heating has widened our specialization. Our northern cold climate has taught us how to produce equipment with key features of efficiency, reliability and durability. Because we design and manufacture all our products, we can provide you with the best possible planning, installation and user support.

Contact us!

Let's plan a working solution together

Our salespeople are heating experts who will be glad to help you choose the optimal option for each location.



Contact our project export salespeople:

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We cooperate with heating associations

