



## John Deere agro machinery for green farming powered by green and renewable technology

Baltic Agro Machinery, the John Deere dealer in Estonia, is now benefitting from geothermal technology.





Baltic Agro Machinery headquarters in Estonia

### New headquarters flooded with natural daylight

Baltic Agro Machinery OÜ is the official representative of John Deere agricultural and gardening technology in Estonia. With three offices in the region, Baltic Agro sells machinery and spare parts, provides after-sales services and advises customers on the use of John Deere farm technology.

In 2016, the decision was taken to construct a new head office building with a showroom, back

office, warehouse and maintenance workshop. From the outset of the project, the investor in the new headquarters wanted to include renewable energy facilities that would provide the latest energy-efficiency technologies. After extensive research, the choice was made to use Thermia ground-source heat pumps to provide all the heating, hot water and cooling via geothermal energy.

New office buildings of this type are often built with glazed facades, as employees and customers

alike love the natural daylight it allows into the building. For all its advantages, however, extensive glazing requires more energy from the heating and cooling system. During summer, solar heat needs to be compensated by cool air while winter heat losses require more heating energy.



Show room

*‘Thanks to Thermia’s modern and efficient geothermal energy system, the new Baltic Agro Machinery office in Harjumaa can provide comfort at work, save money and reduce our environmental impact’*

commented Toomas Kibus, head of the renewable energy & heating department at Airwave.



## Fact Box

**Location:** Harjumaa near Tallinn, Estonia

**Completion date:** January 2017

**Type of building:** office, workshop and warehouse

**Heat demand:** 166 kW

**Cooling demand:** 96 kW

**Applied solution:**  
2 x Thermia Mega XL 88 kW ground source heat pumps

**Energy distribution system:**  
Floor heating and fan coils units



Office

### Thermia heat pumps – the most efficient solution for heating and cooling

The main building with the showroom and office, warehouse and workshop has a floor space of 4,950 m<sup>2</sup>. Heat is distributed via floor heating and cooling with fan coil units. The geothermal installation consists of two Thermia Mega XL ground-source heat pumps, each providing 88 kW of heating capacity. The heat pump is based on ground source, horizontal loops with a total length of 8,300 meters.

Cooling for the office and showroom is provided by

natural 'passive' cooling. Mean heat surplus from the office is collected and deposited in the ground. Using the 5-10 °C ground temperature, the system can provide comfortable cooling and is much more cost-efficient than traditional air-conditioning.

Thanks to the geothermal solution from Thermia, Baltic Agro Machinery's office in Harjumaa can provide clients and employees with a comfortable indoor climate all year round while and at the same time providing the highest available standard in energy efficiency and ecological protection.



Thermia Mega XL heat pumps



AIR WAVE

# AIRWAVE OÜ – THE LEADING PARTNER IN HEATING AND RENEWABLE ENERGY IN THE BALTIC STATES REGION

Airwave LLC is one of the largest heating, ventilation and air conditioning systems suppliers in the Baltic States and has been active in this field since 1999. With head offices in Tallinn, Riga and Vilnius, it distributes equipment in Estonia, Latvia and Lithuania. Airwave's product range includes heat pumps, air conditioners, ventilation machines, humidifiers, dehumidifiers, water chillers, installation accessories and tools. We are a major authorized distributor and service center for leading international brands in heating and air-conditioning. The Airwave quality management system complies with ISO 9001:2008 requirements.

Our customers are professional cooling and ventilation equipment installation companies and the contractors of specialized equipment for HVAC applications. Airwave has over 200 regular customers across the Baltic region.

APK Ehitus OÜ is an installation company with extensive experience in geothermal energy that offers its customers a complete solution. APK Ehitus OÜ can deliver and manage all phases of the project, from the design and installation of boreholes or horizontal loops as the ground source, through heat distribution systems and up to the commissioning of the entire heating system.

Airwave OÜ

Suur-Sõjamäe 50a, 11415 Tallinn, Estonia, Phone: 00 372 600 0970, 00 372 600 0971, E-mail: info@airwave.ee; www.airwave.ee



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### Pioneering heat pumps

For the last 50 years, we have dedicated all our resources and knowledge to developing and endlessly refining one product: the heat pump. Our focus on geothermal energy has given us world leading knowledge in heat pump technology.



### Engineered with passion

Developing truly sustainable renewable energy solutions can only be achieved with passionate, dedicated, and uncompromising experts. Some of Europe's most highly qualified engineers can be found in our own R&D center.



### Born in Sweden

All our products are designed, manufactured, and tested in Sweden using the latest technology and the highest quality components. We are proud to count world-leading industry specialist, Danfoss, among our technology partners.

