



Slovakian factory benefits from renewable energy

Brother Industries s.r.o. located in Slovakia is one of the 28 manufacturing plants of the Japanese company Brother Industries Ltd and has leading position in re-manufacturing and recycling of cartridges for laser printers.





The Brother Industries factory in Krupina

Brother Industries in Krupina

Located in Krupina, Slovakia, BROTHER INDUSTRIES s.r.o. is one of the 28 manufacturing plants of the Japanese company Brother Industries, Ltd.

The factory in Krupina has a leading position in Brother Group in re-manufacturing and recycling color and monochrome toner cartridges for laser printers.

The company employs about 200 people and complies with the strictest ecological criteria, placing strong emphasis on supporting environmental activities.

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

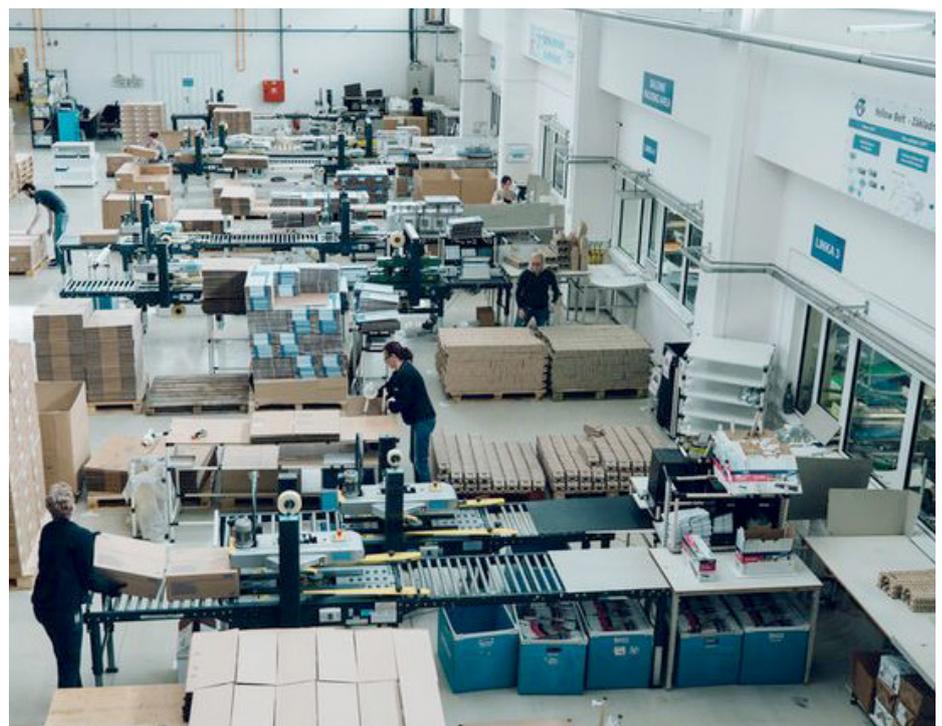
The factory requires all three functions: heating, hot water and cooling. Up to now, the plant has been heated by 6 gas boilers with a capacity of around 600 kW. The company was looking for an efficient and economical way of cooling, and identified the heat pump as the best solution. At the same time, using the heat pump as a supplementary energy

source, they will benefit from the additional heating and savings it provides in winter.

The chosen solution involved two Thermia Mega M inverter-driven ground source heat pumps to provide heating and cooling for the production hall, warehouse and facilities like offices and canteen: a total area of around 2000 m². Energy is drawn from the ground

water via exiting wells. In the production hall and warehouse, fan coils are located just under the ceiling. There is also a cleanroom in the building that requires a stable temperature of 21°C throughout the year.

Both the gas boilers and the heat pumps are connected to the same heat distribution system. The heat pumps supply energy up to 55°C,



Packaging line



Production line

the gas boilers above 55°C. This ensures ample energy during winter peaks. Now that the project is complete, about 40% of the heating is supplied by the heat pumps.

Thermia Mega M is a new commercial ground source heat pump featuring an inverter-driven compressor. The main advantage of this heat pump is that it can

continuously adjust heating or cooling output to current demand. This means it can supply 100 per cent of the building's energy requirements. In addition, Thermia Mega can also provide simultaneous heating and cooling.

Energy efficiency and environmental footprint

The heat pump technology was implemented in March 2021.

The groundwater source has also been optimized for heating. The benefits are:

- Approx. 40% savings on natural gas consumption
- Cooling comfort – when the temperature outside is 35°C, indoor comfort is maintained at 25°C



Thermia Mega heat pumps with buffer tank

Fact Box:

Location: Krupina, Slovakia

Commissioning date:

March 2021

Characteristics of the building

- Heated and cooled area: 2000 m²

Applied solution:

Geothermal heating

- 2x Thermia Mega M (14 – 59 kW) ground source heat pumps in cascade
- Ground water well as energy source
- Heating buffer tank 1500 liters
- Fan coils

Energy saving: 40% of natural gas consumption per year

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IVAR CS spol. s r. o. acts as a commercial and technical representative of several European companies in the fields of water, heating, gas, filtration and water treatment, pumping equipment, solar systems and heat pumps, storage tanks, fan coils and air conditioning. Our primary goal is customer satisfaction. Therefore, we provide a wide range of products in sufficient quantities as to be always ready for immediate delivery.

IVAR updated its organizational and technical parameters introduced during the 2000 global quality standards: ISO 9001 and environmental policy with ISO 14001 in 2004. IVAR CS is continuously increasing its sales in the Czech and Slovak markets. One of the principal ways of achieving this is the participation in exhibitions and fairs. Exhibitions allow IVAR to build awareness from the general public and maintain contact with individual customers.

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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. All components inside our ground source heat pumps are made in Europe by world-leading industry specialists.

