

## Make your hydro site heat water and dramatically cut energy costs

- Dramatically lower energy costs.
- Cut your carbon emissions.
- Gain energy independence.

### Patented thermal technology for micro and small hydro sites.

Developed with over a decade of innovation and engineering expertise, the Rotaheater Pico range enhances your hydropower resource, enabling efficient generation of heat, electricity, or both. Save money whilst significantly reducing your carbon emissions.

Operating at 97% efficiency and suitable for both commercial and domestic use, our patented thermal technology is reliable and straightforward to install.

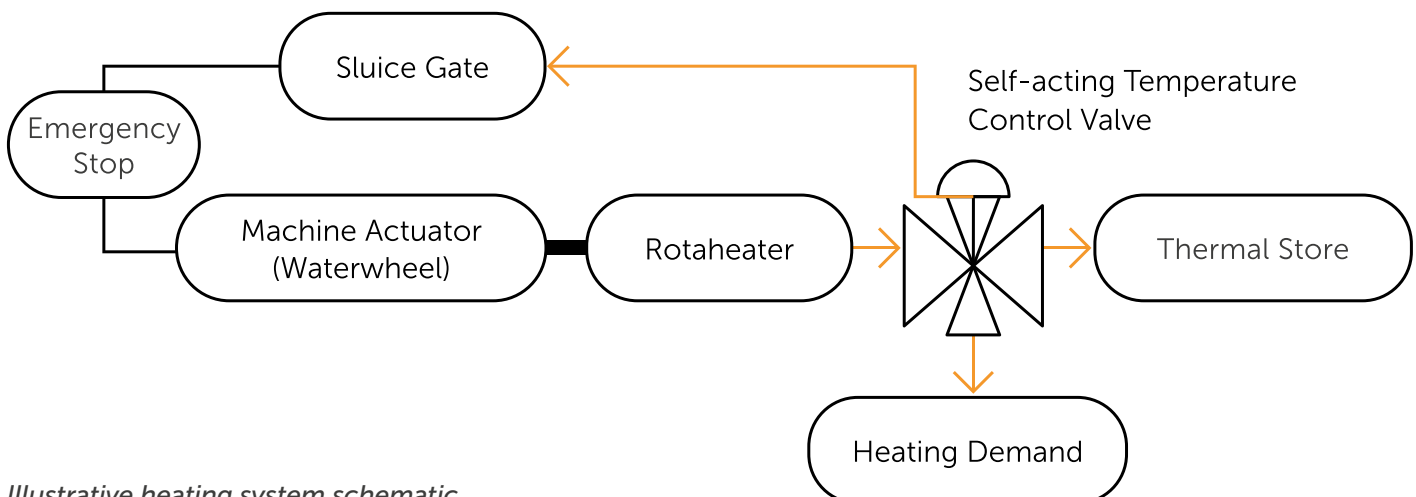


### Straightforward installation

Our Rotaheaters are designed for straightforward, reliable installation, making it easy to adapt the majority of existing hydropower setups quickly. With minimal components and a clear integration process, the system can typically be installed by a local technician with suitable components within a few hours.

### Certified and Verified for Safety and Performance

The performance and outstanding efficiency of each Rotaheater model has been independently verified to the ISO 14034 standard by BRE Global. Rotaheaters also comply with the UK Supply of Machinery (Safety) Regulations 2008, meeting rigorous safety and quality standards for reliable low-carbon heating.



Illustrative heating system schematic

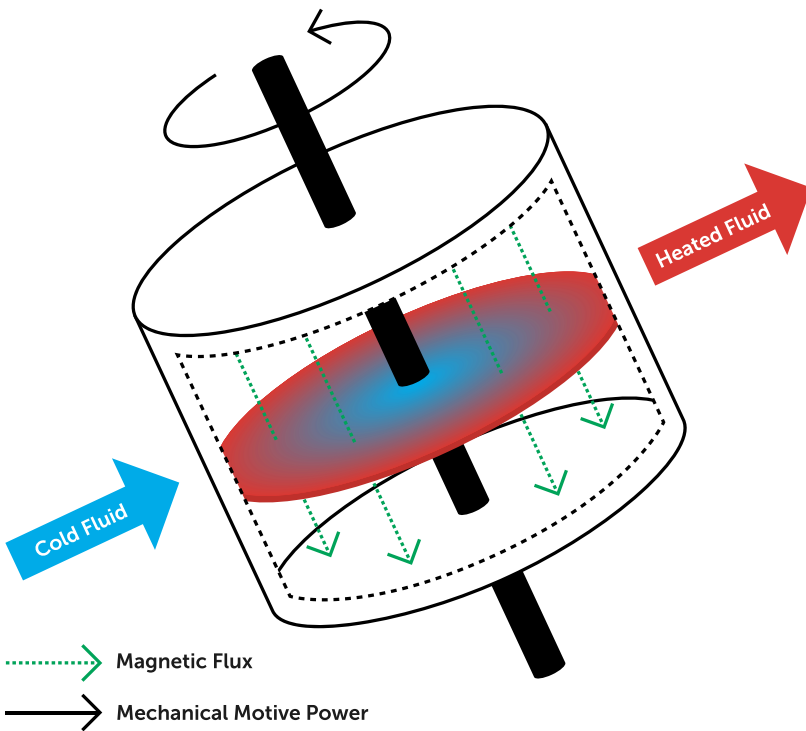
## How It Works

- Flexible Installation.
- Low Maintenance Requirements.
- Integrate With Existing Electricity Generation.

Rotaheaters work by converting mechanical rotational power (such as from a waterwheel) directly into thermal energy with 97% efficiency.

As water drives the hydropower system, it turns a magnetic coupling within the Rotaheater, generating heat through a process similar to the way an induction hob works.

This heat is then transferred to water, or another fluid, which circulates through your heating system, providing a steady, clean source of warmth without relying on traditional fossil fuel or electricity supplies.



*Rotaheater patented thermal technology*

## Case study:

### How we reconfigured a 17th century waterwheel

The 14ft waterwheel site in Derbyshire generated 7kW of electricity, significantly exceeding domestic needs, with the surplus electricity being exported to the National Grid.

The waterwheel's mechanical drive was reconfigured to incorporate a Rotaheater Pico within a day. Half of the power generated is now used to heat a series of radiators, replacing the use of heating oil.

By eliminating the cost of heating oil, the property reduced its financial costs, dramatically outperforming the cost-benefit of exporting surplus power to the National Grid.

Operational since August 2017, the system was configured to maintain a steady flow of clean heat at 55°C, with a flow rate exceeding 720 L per hour and an efficiency of over 97%. The average cost-savings for a property of this size is in the region of £2,000-£3,000 per annum.



#### Registered details

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Is my property suitable for a Rotaheater installation?

Properties with operational or restorable waterwheels are ideal candidates. If your property has a waterwheel or another source of mechanical rotational energy, a Rotaheater could be a suitable heating solution.

How is the Rotaheater installed?

The Rotaheater is connected to your existing hydropower installation (or any mechanical rotational power) and integrated into heating systems, such as the radiators at a property. Installation typically requires the expertise of a millwright for the mechanical setup and a plumber for the heating system integration. We can put you in touch with both.

Would generating electricity with my waterwheel save more on my electricity bill than using a Rotaheater?

A 7 kW waterwheel powering a Rotaheater can efficiently heat your home and, if your site is also equipped with a suitable electrical generation system, export surplus energy to the National Grid. By using half the energy for heating (30,660 kWh annually) and exporting the rest, you achieve significant savings on heating costs while still offsetting your electricity bill. A dual system of this sort might be expected to outperform the savings from electricity generation alone.

How does a Rotaheater compare to sources such as a heat pump as a source of heat?

Rotaheaters offers a lower upfront cost compared to heat pumps, as they do not require new radiators or extensive system upgrades. While heat pumps rely on electricity and can strain grid capacity, Rotaheaters utilise renewable mechanical energy already available on site, providing efficient, cost-effective, and carbon-free heating for suitable properties independent of an electricity supply.

How can I monitor the performance of my Rotaheater enabled system?

Rotaheater enabled systems can be monitored and controlled in real-time by you at home and remotely. An attached monitoring unit can be provided to access key performance metrics, enabling you to track temperature output, energy generation, and system efficiency. For more comprehensive monitoring, some configurations may include automated alerts and reporting features to keep you informed about system performance over time.

What maintenance does the Rotaheater require?

The Rotaheater is designed for low maintenance. The main components requiring attention are the bearings, which may need replacement every 3-5 years, depending on usage.

How much heat can a Rotaheater generate?

Rotaheaters are available in models capable of delivering from 3kW to over 200kW of heat, depending on the size and speed of the mechanical energy source. The performance of Rotaheaters have been independently verified by BRE Global to ISO 14034. They can heat fluids to temperatures up to 110°C.

Can the Rotaheater work alongside my existing heating system?

Yes, the Rotaheater can be integrated with your current heating system, providing supplementary heat and reducing the load on traditional heating methods.

What is the environmental impact of using a Rotaheater?

By utilising renewable mechanical energy sources, the Rotaheater produces heat without any carbon emissions, contributing to a reduction in your overall carbon footprint.

How can I find out more or get a Rotaheater installed?

For more information or to discuss installation, please contact Rotaheat at [info@rotaheat.co.uk](mailto:info@rotaheat.co.uk) or call +44 (0) 7762 912 448. You can also visit our website at [www.rotaheat.co.uk](http://www.rotaheat.co.uk) for additional details.

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