



webuild 

Trotec Case Study

Customer: Webuild SpA
(Italy, Rome and Milan)
www.webuildgroup.com

Location: Rogun
(Republic of Tajikistan, Central Asia)

Sector: Construction and engineering

Benefits:

- 24/7 construction activity and rapid construction progress – even in winter temperatures, snow or frost.
- Maintaining the water circulation of the suspension fluid – even at minus temperatures.

Trotec products:

electric heating units of the TEH series

Trotec heating units ensure construction progress on schedule for the construction of the world's tallest dam

The high-performance TEH 300 electric heating units are developed and produced in Germany and provide clean heat for the construction of the Rogun Dam in Tajikistan.

Webuild SpA is an Italian industrial company specialised in infrastructure sectors such as hydropower plants, water management and green buildings. Projects include roads, bridges, railway and metro lines, dams, hydraulic tunnels, desalination and water treatment plants, stadiums, cultural centres and corporate headquarters. The company is active in more than 50 countries on five continents (Africa, America, Asia, Europe, Oceania) with 35,000 employees.

Trotec is an internationally acting German company that has specialised in the development, production and commercialisation of solutions for monitoring and controlling the key air parameters (temperature, air quality, humidity). The approaches offered by Trotec on the one hand include

solutions that can be utilised on a modular basis, but just as well provide possibilities tailored to individual customer requirements for industry and construction. In the present case, these are high-performance electric heating units to withstand winter temperatures.

For the realisation of complex concrete plants during the construction of a dam, the heating units used must always supply constant energy and heat even in the harshest environmental conditions. In addition, the heat must be clean and free of emissions. Webuild, the Italian construction company that uses high-performance heating units from Trotec, has to face these challenges.

Case Study: Rogun

Trotec heating for large construction sites



The Rogun hydropower power plant – the highest water dam in the world

The dam wall of Central Asia's highest hydropower plant will be 335 metres high when the mega project is completed on schedule in 2033. The Rogun hydropower plant and associated dam (rockfill dam with clay core) will be constructed in several phases by Webuild SpA, on the Vakhsh River in the Pamirs, a high mountain range in Central Asia. For comparison: The Berlin TV Tower is 368 metres high. This gives an idea of the hydropower potential that the Rogun hydropower plant will harness in the near future. It is planned that the power plant with a capacity of 3,600 MW (roughly equivalent to the output of three nuclear power plants) will double Tajikistan's current energy production.

In order to keep the foundations of the dam dry during the planned construction period, the Vakhsh River will be diverted through tunnels in a mountainside. A complex challenge for the engineers, as work on the dam project has to take place in winter conditions and at low temperatures which will affect the water level that is to be considered. In order to proceed with the construction of the hydropower plant as scheduled, despite winter temperatures and sub-zero temperatures, and also to ensure the circulation of the support slurry made of water, the facilities for producing the slurry are heated with high-performance electric heating units from Trotec.

High-performance electric heating units TEH 300 – clean heating solutions.

During the construction of the dam, the extremely robust TEH 300 heating units from Trotec are used, which were specially developed for large-scale heating scenarios even in the harshest environmental conditions. A TEH 300 unit generates up to 6,000 cubic metres of hot air per hour. This heat is immediately available and can be transported to the desired location by means of hot air hoses over distances of up to 100 metres.

When carrying out civil engineering and tunnelling work on the dam project, the electric heating units of the TEH series

score with their clean electric heat, which is provided 100 % emission-free. When using these electric heating units, additional ventilation ducts or systems for the removal of combustion gases are not required. In rough construction site conditions and even in the harshest climate, the TEH heating units also impress with their sophisticated design, which ensures low-maintenance operation. Set it up, install it, switch it on – and immediately benefit from hot large air volumes and constant ambient temperatures.

Improvement thanks to Trotec's solution:

- **24/7 construction activity and rapid construction progress – even in winter temperatures, snow or frost.**
- **Maintaining the water circulation of the suspension fluid – even at minus temperatures.**

High-performance electric heating unit TEH 300

- **Professional quality "made in Germany" – originally produced by Trotec**
- **80 kW heating capacity, air flow rate max. 6,000 m³/h at 600 Pa**
- **Reliable, portable "Plug & Play" solution: just set it up, install it, switch it on – all done!**
- **Electronically controlled multi-stage switching for air volume and temperature**
- **Suitable for air transport distances of 100 metres hose length**
- **Stackable construction**
- **Equipped as standard with shock protection frame, crane lugs, forklift slots and transport wheels with parking brakes**
- **Optionally also available as special models for use in certain ex-proof zones**

Further information on the electric heating units of the TEH series:



[Electric heating units of the TEH series](#)

