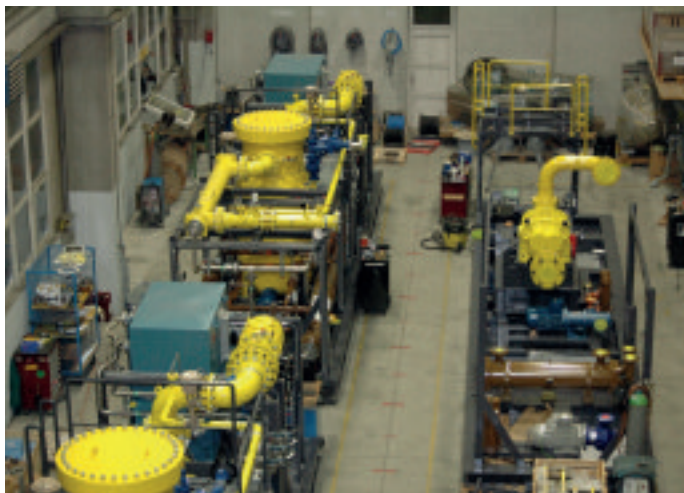


Enerproject Stays In The Loop

Company provides refrigeration compression units for Swedish neutron accelerator



Enerproject, a Switzerland-based compressor packager and engineering services provider, completed a gas compression project for the European Spallation Source, a futuristic facility for research on neutron sources under construction in Lund, Sweden.

The European Spallation Source's unique capabilities will include research on materials and life sciences, energy, environmental technology and fundamental physics. The facility will employ advanced research tools including what is meant to be the world's most powerful linear neutron accelerator.

The neutron accelerator is designed for generating neutrons for study. This action creates a tremendous amount of energy, which means a massive cooling source is needed.

As part of the project's contract, Enerproject needed to supply the helium refrigeration compression units to feed a cryogenic cold box by Linde Kryotechnick AG. Helium inside the cold box is refrigerated at a temperature of -433°F (-258°C).

Continuous Operation

The neutron source requires continuous operation to guarantee the reliability of the experiments, which makes the cooling system a crucial element. Enerproject had to concentrate the design of the compressor units with reliability as the most important criteria.

"Since helium is a very light gas, in the design of the compressor package, we had to be particularly careful with the materials selected for the connections," said Vito Notari, general sales manager of Enerproject.

The scope of delivery included two gas compressor packages with oil lube systems, water-cooled electric motors and on-skid control cabinet. The two packages did not need particular foundations.

■ A helium compressor package by Enerproject has been installed at the Spallation Source facility used for research on neutron sources in Sweden. The neutron source needs a reliable cooling system, which is operated with helium.

The two, oil-injected screw compressors are designed for continuous use, delivering 1869 cfm (3000 Nm³/h) at 310.4 psig (21.4 barg). Because the suction pressure is close to 0 psi (0 bar), the driver size is 1.2 MW.

"The project also aimed to, and successfully achieved, limiting costs for the operation and maintenance," Notari said.

One of the project's key requirement for these compressors was related to high availability, as these units have to operate for two years without interruptions. The delivery contract included commissioning and maintenance with 24/7 remote assistance by Enerproject. **CT2**

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