



HydrogenCooler

Cooling technology for the hydrogen industry



- Solutions for electrolysers & hydrogen refuelling stations
- High operational reliability, designed for continuous operation
- Sustainable technology that conserves resources
- S7 control system for optimum process control & remote diagnostics
- Global service network



Cooling technology for electrolysis plants

The amount of heat lost within the electrolysis process varies depending on the type and design of the electrolyser. These systems may be based on alkaline electrolysis (AEL), proton exchange membrane electrolysis (PEM), high-temperature electrolysis (HTE) or anion exchange membrane electrolysis (AEM). The excess heat must be dissipated by cooling in order to keep the stack within the desired temperature range. In addition, heat dissipation is required to compress the hydrogen that is produced. In small systems, the electrolyser and compressor can be cooled separately. For larger systems, the use of a central cooling system is recommended.

In order to achieve a hydrogen purity of up to 99.9%, the residual moisture (water vapour) is also condensed out of the hydrogen that is produced by means of a cooling unit.

FrigorTec offers a wide range of cooling units with a narrow range of specific outputs that are perfectly matched to the type of electrolyser. As part of a multi-year research project to optimise hydrogen production, we have developed solutions for various system sizes and variants. This means we can select the right solution for the respective on-site requirements and customise it as necessary.

Application area

- Stationary hydrogen production
- Hydrogen production in mobile containers
- Customised solutions



Cooling technology for hydrogen refuelling stations

The temperature range required to cool hydrogen at refuelling stations varies depending on the application and the specific requirements of the respective systems.

A pressure of 700 bar is required for fuel cell cars. For a lorry equipped with a fuel cell, a pressure of 350 bar is required. The cooling temperature should be around -40°C with short-term fluctuations.

The cooling technology must be specially designed for this application so that it can react quickly and reliably to changing conditions, especially fluctuating loads. The sophisticated, modern cooling technology from FrigorTec guarantees efficient cooling performance. Our systems are based on a modular design that allows them to be flexibly customised in response to the prevailing conditions on site. They utilise an S7 Siemens control system that enables optimum process control as well as remote access to the control system and fault diagnosis.



FrigorTec GmbH is certified to DIN EN ISO 9001 : 2015.

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