GFZ Helmholtz Centre for Geosciences

TECHNOLOGY OFFER

Flow-through cell

Innovative laboratory setup for analyzing porous

For all laboratory investigations that analyze the flow through porous rocks or other materials, a cost-effective apparatus design is of interest. It was developed and successfully tested at the German Research Center for Geosciences for geothermal applications, but can also be used in the chemical or process engineering industry as soon as the flow of (aggressive) fluids through porous materials is important.

The reason for the development is a geoscientific application: the economic use of deep geothermal reservoirs to provide heat often requires hydraulic enhancement by means of suitable measures ("stimulation"). The improvement of rock flowability can be achieved chemically, among other things. The effectiveness of chemical stimulation fluids with regard to the dissolution of minerals depends on the type of rock encountered and requires prior selection based on laboratory tests. This requires equipment that is highly resistant when using these stimulation fluids.

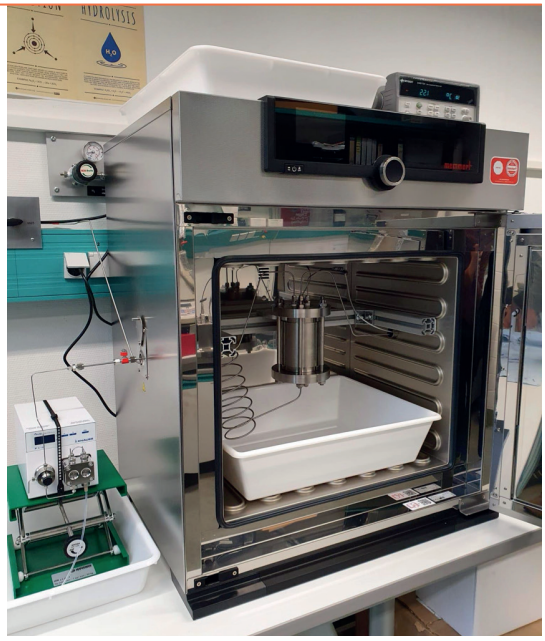

Photo: GFZ

Unique selling points

- easy to handle
- safe & reliable
- llong-term resistance to the fluids used
- great flexibility with regard to the dimensions of the rock samples to be flowed through
- modular - enables components to be replaced quickly and selectively

User / Customers

Interested companies should be prepared to manufacture and market the device under license. The device can be used in scientific laboratories, by authorities or analytical companies. In addition to use in a geoscientific context (geothermal energy, fossil fuels, material storage), it could also be used in the chemical or process engineering industry if, for example, porous materials need to be flowed through with aggressive fluids for development purposes.

Stage of development

A prototype has been completed and is in operation. Design drawings are available. Further support from GFZ staff in the context of production launch and marketing can be provided.

Offer

Licensing of the technology to interested companies, incl. transfer of the design documentation.

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