



Case Study

digestec DAB-2 and DAB-3 | TU Darmstadt

User

The group of Chemical Technology II of the Technische Universität (TU) Darmstadt focuses on the development of nanoporous materials for applications in the fields of catalysis research, adsorption technology and membrane technology. Priorities are set on materials that refer to metalorganic and covalent organic frameworks, porous polymers as well as zeolites. The activities of the working group consist of both synthesis and exact characterization and testing of catalysis activities or separation efficiency in laboratory scale test facilities.

Product

The Berghof pressure vessels **digestec DAB-2** and **DAB-3** are used.

Application

The working group uses the DAB-2 and DAB-3 pressure vessels for both hydrothermal zeolite synthesis and for production of covalent organic and metalorganic frameworks (COFs & MOFs) under solvothermal conditions. For these applications, the pressure vessels are exposed to temperatures in the range of 150 to 180 °C and pressures around 8 bar (depending on the vapor pressure of the solvent) for up to four days.

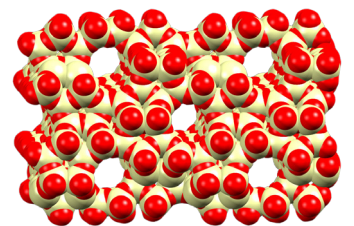


Fig. 1: Crystal structure of zeolite ZSM-5

Voice of customer

„The autoclaves have withstood all experiment conditions tested. Noteworthy are the easy handling and the high robustness of the reactors as well as their wide range of applications regarding different substance classes. The pressure vessel can be opened and closed easily. Thanks to the opening station, it is very easy to insert and remove the PTFE liners.“

Prof. Dr. Marcus Rose (TU Darmstadt, Chemical Technology II)