Name of the organization
ENEA (Italian National Agency for New Technologies, Energy and Sustainable Economic Development)

Name of the infrastructure / laboratory
ENEA C.R. Casaccia - Via Anguillarese 301 – 00123 Rome, Italy

Address and country of the infrastructure / laboratory
ENEA C.R. Casaccia - Via Anguillarese 301 – 00123 Rome, Italy

Person responsible of the access / Contact person
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Main field of activity of the infrastructure / laboratory
- *Hydrogen Storage*

Short description of the infrastructure / laboratory
The PCT is a gas sorption analyzer capable of measuring a number of properties including gas absorption/desorption and cycling capacity of gas-solid interactions. The possibility to set the working temperature up to 500°C and to increase the pressure up to 80 bar allow to test hydrogen storage materials with different physical-chemical properties. The maximum hydrogen flow, 500ml min-1, allow to measure large quantity of sample. From different temperature measurements the enthalpies of reaction and the activation energy can be also evaluated. A user friendly interface allows a simple utilization of the instrumentation.
The PARR Hydrogenation system is a gas sorption analyzer capable of measuring gas absorption/desorption capacity and cycling properties of gas-liquid interactions. The volume of the vessel is 600 ml. The stirred vessel allows testing hydrogenation reactions at pressure up to 200 bar. The temperature can be accurately adjusted up to 350°C. The process controller can handle a wide variety of inputs and outputs to control gas flows and reaction temperature. The motor control provides true closed loop feedback control of the reactor stirring speed. The PARR Hydrogenation system has a PC interface custom tailored to the application.

Instruments and tools available for the above mentioned research
PARR: the system consists of six parts: hydraulic circuit with valves and flow meter; heater control unit; cooling system; oven and sample holder; process control unit; hydrogen supplier. It works in a batch mode, where all reactants are charged into the reactor before the reaction is started.
PCT: The system consists of six parts: a two stage vacuum pump; hydraulic circuit with valves and flow meters; heater control unit; oven and sample holder (2 or 200cc); process control unit; hydrogen supplier.

Access not available yet.
Information on the installation will be further updated.