



H-CUBE

PRO Hastelloy

CONTINUOUS FLOW HYDROGENATION REACTOR WITH IMPROVED CHEMICAL RESISTANCE FOR ADVANCED CHEMISTRY

The H-Cube® Pro Hastelloy is designed to extend the available chemical space of its renowned counterpart, the classic stainless steel H-Cube® Pro. The whole liquid path of the system is made from Hastelloy C to improve chemical resistance. By this, working with corrosive reagents becomes as easy as any other continuous flow hydrogenation reaction with the H-Cube® product family.



Features

- Hastelloy C pump head.
- Hastelloy C tubing.
- Hastelloy C CatCart® columns with a wide range of heterogeneous catalysts.
- No need for hydrogen cylinders, as hydrogen is generated on-demand by the system from water.
- Wide temperature range (10-150°C).
- Wide pressure range (from atmospheric pressure to 100 bar).
- No catalyst handling with pre-filled CatCarts®.
- High throughput.
- Great reaction control.

Applicable corrosive reagents

- Mineral acids and bases.
- Strong oxidizers (such as ferric and cupric chlorides).
- Nitric, formic and acetic acids, acetic anhydride.
- Wet chlorine.
- Sea water and brine solutions.
- Hypochlorite and chlorine dioxide solutions.

How does it work?

- Hydrogen is generated by the electrolysis of water inside the system.
- The microHPLC pump delivers pure solvent into the system, where it is mixed with hydrogen using a mixer valve.
- The gas-liquid mixture passes through the reaction zone while the system sets the selected parameters (pressure, temperature, and flow rate).
- When the desired parameters are achieved and the system becomes stable, the input can be changed from the solvent to the solution of the reactants.

- The reaction mixture passes through a packed column containing solid catalyst (CatCart®), where the reaction takes place. The product leaves the column, but the catalyst stays in the column.
- The product is collected in the collection vial.
- The reaction scale can range from milligrams to grams.

Technical parameters

Pressure range	From atmospheric pressure to 100 bar
Reaction temperature range	From 10 to 150 °C
Liquid flow rate	0.1 - 3 mL/min
Optimal liquid flow rates	0.5 - 2 mL/min
Maximum hydrogen production rate	60 Nml/min (in 100% Bub. Det. Mode)
Required water specifications	Deionized water with recommended conductivity of 14 MΩcm

System specifications

Dimensions	Height: 40 cm (15.75") (including touch screen) Width: 37 cm (14.6") Depth: 51 cm (20.1")
Weight	23 kg (46.3 lbs)
Power requirements	115-230 VAC 5 A / 115 VAC 2.5 A / 230 VAC 47-63 Hz, 300 W
Water reservoir capacity	300 mL



For more information, please visit
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