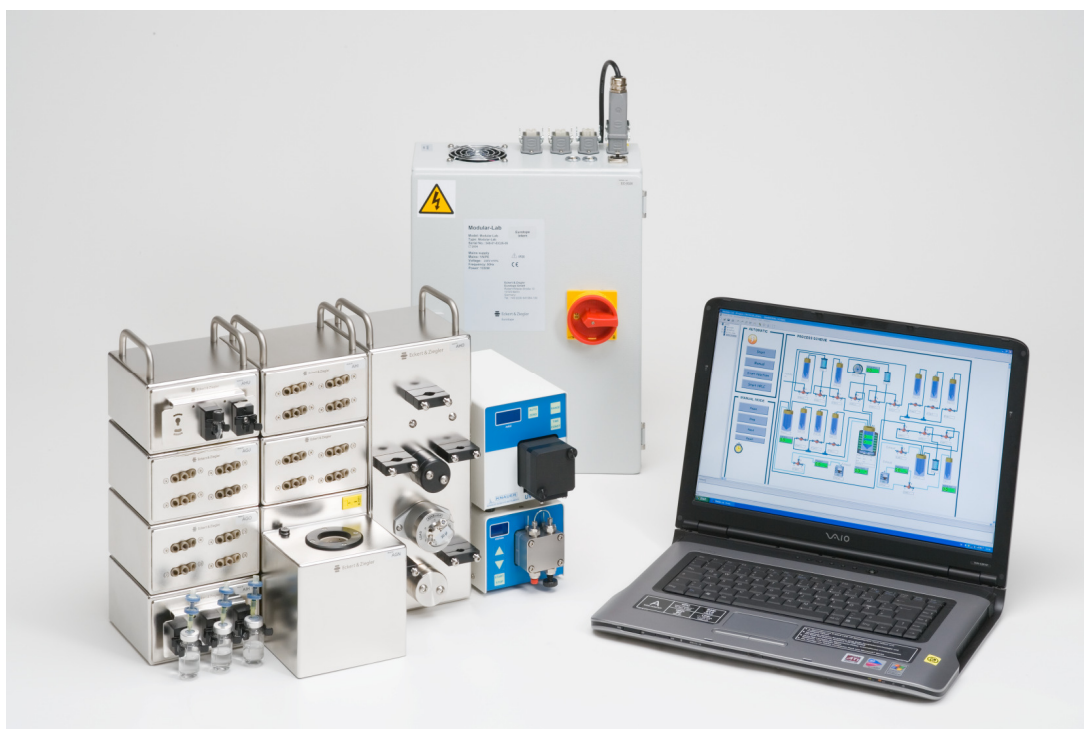


Modular-Lab

Product Information



Modular-Lab is a fully automated system for the development and synthesis of radiopharmaceuticals.

■ Description

Modular-Lab* has been specifically designed to allow versatile radiopharmaceutical development and production. The system enables custom synthesis processes to be assembled from a set of unit operation modules. The small, sealed, stainless steel modules are stacked and connected by process tubing and by a single electrical cable. An intuitive graphical interface is used to design and control the synthesis process.

■ Advantages

Modular-Lab's unique, modular approach combines the speed and safety of a remote, fully-automated system with the flexibility to configure syntheses for novel PET tracers. Cleaning and sanitation routines can be programmed to take place between runs or overnight. With this multifunctionality, Modular-Lab supports research as well as routine production. Disposable components such as valves, tubing, cartridges and others are standard, off-the-shelf units and can be exchanged as needed for different applications. Modular-Lab can be applied to a wide range of compounds and isotopes. The modules can be arranged to fit even very small hot cells.

■ Versatility

Available modules include a Peltier/Heater reactor system with solid-state temperature control from -40°C to $+150^{\circ}/220^{\circ}\text{C}$, a wide variety of valve modules, instruments for temperature, pressure and radiation detection, a compact semi-preparative HPLC module, analytical HPLC and TLC modules, and many others. The intuitive user interface is easy to program by drag and drop of graphical symbols and is compliant with GMP, cGMP, GLP and GAMP 4/5 requirements. Parameters such as temperature, activity, UV detector readings, flow rates, or valve settings can be monitored easily in one window. Reports containing all relevant data and information are created automatically after each run.

*patent pending

■ Safety Functions

Reliable, automated synthesis, with remote monitoring provided as necessary through the graphical computer interface, eliminates the need for hands-on operation and can significantly reduce radiation exposure to lab personnel.

■ Application Examples

[¹⁸F]FEC, [¹⁸F]FDG, [¹⁸F]Fluoroethyltyrosine, [¹⁸F]Flumazenil, [¹⁸F]MISO, [¹¹C]Choline, [¹¹C]Methyl Iodide, [¹³¹I]MIBG, ⁶⁸Ga-DOTA-peptides, ⁶⁴Cu applications, customized synthesis

■ Technical Data

Main Unit	
Dimensions (W x D x H) of the Peltier Reactor Module (PRM)	130 x 201 x 155 mm
Dimensions (W x D x H) of the Vial Holder Module (VHM)	130 x 130 x 76 mm
Dimensions (W x D x H) of the Valve Modules	130 x 130 x 76 mm
Power supply	115 V ~ 60 Hz or 230 V ~ 50 Hz
Power consumption	standard 480 W, 2 x bus 1050 W, extension to 2100 W possible
Environment temperature	+10°C – +40°C
Environment humidity	max. 70% rel.
Module Characteristics	
Reactor module equipped with	camera, stirrer, lift, activity detector, pressure detector and temperature sensor
Reactor volume	variable from 1 – 24 mL
Cooling/Heating	peltier elements or heating foil (-40°C to +150°/220°C)
Liquid transport	vacuum pump and/or pressure
Unit Control	
Software	Modular-Lab Software (cGMP, GAMP 4/5, 21 CFR part 11 compliant)
Interfaces	Ethernet

Please note: Modular-Lab makes use of locally available, off-the-shelf tubing, connectors, vials and valves.

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