

# Synthra FDGtwo (Catalog No. 001)

Synthra FDGtwo is a flexible and completely automated radio synthesis system for routine production of [ $^{18}\text{F}$ ]FDG as well as [ $^{18}\text{F}$ ]fluorine labeled compounds like [ $^{18}\text{F}$ ]FMISO, [ $^{18}\text{F}$ ]FLT or [ $^{18}\text{F}$ ]FCh by nucleophilic substitution. The hereby used Synthra FDG Set IV and Synthra FDG Set V cartridges have been utilized more than 500,000 times worldwide in more than 20 years. The Synthra FDGtwo module offers validated, fully automatic modes of operation for either acidic or basic hydrolysis synthesis routes.

## [ $^{18}\text{F}$ ] Labeling Possibilities

- ✓ Synthesis of [ $^{18}\text{F}$ ]FDG:
  - Two independent sets of a single synthesis unit enables two [ $^{18}\text{F}$ ]FDG productions with one setup.
  - Allows up to four FDG synthesis a day
- ✓ The radio synthesis unit has a dedicated sub system for the recovery and collection of [ $^{18}\text{O}$ ]H $_2$ O.
- ✓ The target activity is measured with a separate detector.

## General Features

- ✓ **Heating and cooling capabilities**
  - Two heating zones with cooling capabilities
  - Temperature range: RT °C – 200 °C
- ✓ **Detectors and controllers**
  - Six shielded radiation detectors
  - Two Pressure sensors
- ✓ **Build-in vacuum pump** (< 5 mbar)
- ✓ **Liquid nitrogen trap** for protecting the vacuum pump from radioactive volatiles
- ✓ **Dispensers and valves**
  - HR-dispenser (up to 50.000 steps, 5 mL) for operating of the self-cleaning system
  - Chemically inert valves with small dead volume < 35  $\mu\text{L}$ , 5 bar rated
- ✓ **Self-Cleaning System**
- ✓ **Dimensions** (w x d x h): 42 x 50 x 48 cm
- ✓ **Weight:** approx. 25 kg

## Synthesis Features

- ✓ Two glassy carbon reaction vessels (11 mL)
- ✓ Two independent [ $^{18}\text{F}$ ]fluoride separation cartridge



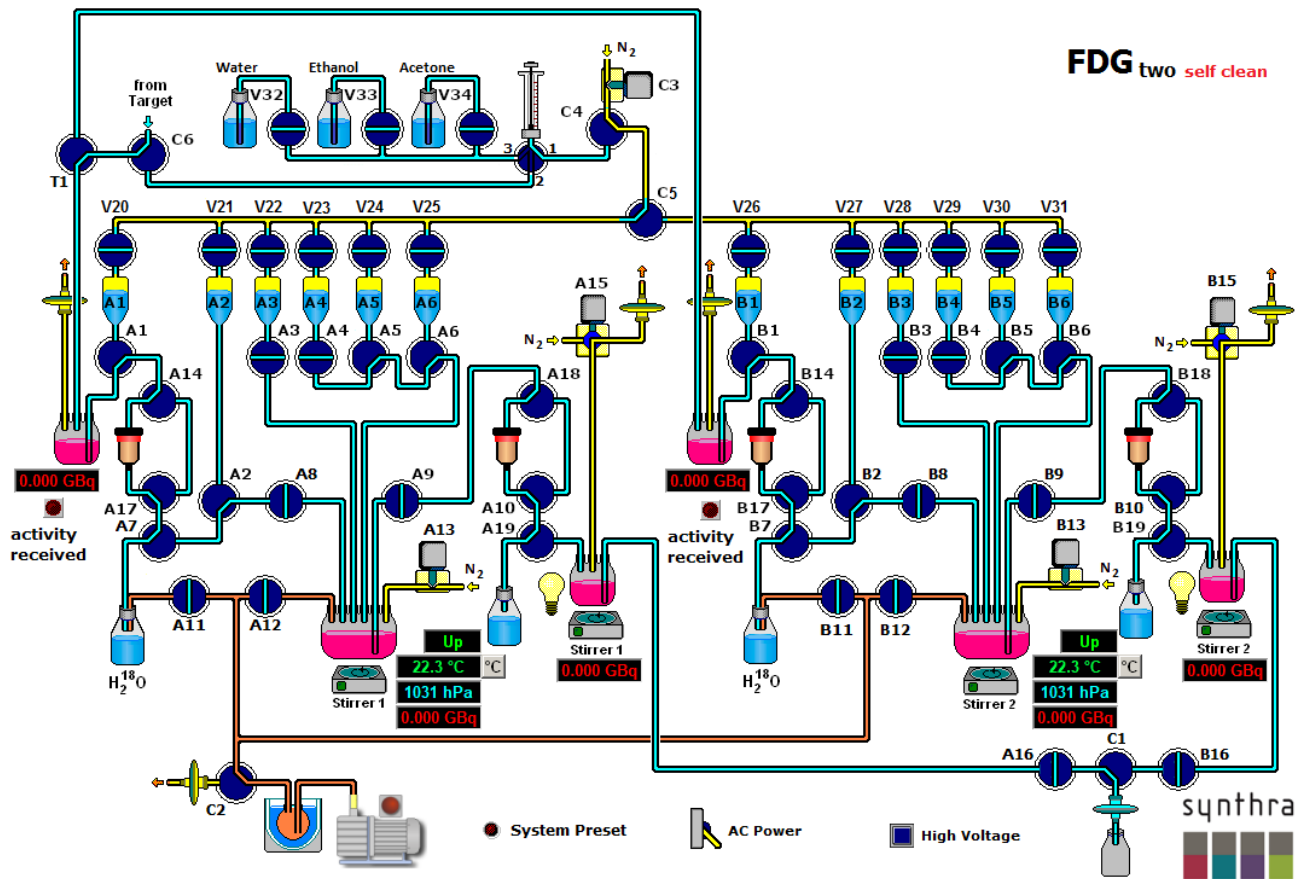
- ✓ Two independent [ $^{18}\text{F}$ ]FDG purification cartridge
- ✓ **Twelve reagent vials**
  - Eight small (1 – 3 mL) and four large (10 – 15 mL) volume glass vials for reagents

## GMP Features

- ✓ Synthesis files for [ $^{18}\text{F}$ ]FDG (acid or basic hydrolysis)
- ✓ **GMP compliant.** Electronic control and data collection (27/18 channels)
- ✓ **21CFRpart11** & **LIMS** compatible

## Terminal Control

- ✓ A laptop (Win 11 Pro) with preinstalled controlling software SynthraView is included
- ✓ Four digital inputs for communication with external devices upon request



The Graphical User Interface (GUI) of the SynthraView software.