



Pyrolyser Mini

Raddec Pyrolyser Mini System for extraction of volatile radionuclides

The Pyrolyser Mini system is a compact two zone combustion furnace designed to complement the existing Pyrolyser-Trio family of combustion furnaces. The Pyrolyser Mini has been designed to be installed and operated in confined spaces. Worktubes can operate in a horizontal or vertical orientation



Key features

- Compact design capable of being installed in fume cupboards, glove boxes or mobile laboratories.
- Operates at 220-240 VAC/13A socket. 200 VAC option available.
- Heating zones rated to 900°C.
- Can operate without oxygen for some sample types.
- Uses two heating zones to reducing the overall dimensions of the system.
- Power supplies and other controls housed within an external enclosure connected to the furnace via a detachable umbilical cable. This enables location outside the fume cupboard/glove box.
- Two samples can be processed simultaneously during each run.
- The furnace system is mounted on a swivel joint allowing the entire furnace to be rotated forwards to permit easy access to the work tubes during work tube replacement.
- Work tubes can be orientated vertically or horizontally.
- All necessary glassware supplied with system.

Specifications & system requirements

General	Pyrolyser-2 Mini
Number of independent furnace zones	2
Number of independent sample work-tubes that can be loaded	2
Minimum sample throughput	2 samples/day
Maximum sample size per tube	Up to 20 g (dry) but depends on combustibility
Typical catalyst lifetime per work-tube	10 g loading lasts about 20 determinations
Typical lifetime of silica liners and worktubes	2 years is typical
Overall mass	Approx. 55 kg (furnace unit)
Overall instrument dimensions (w d h)	400 x 450 x 750 mm (furnace unit)
Power demand	220-240 VAC; 200 VAC option available

Controllers	
Sample zone temperature control	Eurotherm 3504 (in separate control box connected via umbilical)
Catalyst zone temperature control	
Over-temperature protection	Yes
Number of user-defined programs	10
PC-based programming possible	No
Data logging (with USB output)	No
Gas supplies	Laboratory compressed air at 1 bar (oxygen supply optional) adjusted via flowmeters in external control box
Automatic gas switching	Available as an option if Oxygen and Air are required
Trapping media for HTO and CO ₂	1% Nitric acid in water and Carbosorb™
Bubbler trapping efficiencies	>95% for ³ H and 95% ¹⁴ C
Typical LSC detection limits (2s) - ³ H and ¹⁴ C	Nominally 0.010 Bq/g sample (for a 5 g sample and a 2 hour count)

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