

Thermoreactors

Thermoreactors for COD and all other thermal digestion processes

Thermoreactors are required for the determination of COD, total nitrogen or total phosphorus. They ensure complete digestion of the sample, as they maintain the necessary high reaction temperature throughout the defined period. For sample digestion three crack sets are available: crack set 10 (model 14687, 100 digestions) and crack set 10-C (model 14688, 25 cuvettes) for heavy metal, as well as crack set 20 for total nitrogen (model 14963, 90 determinations).

In each of the WTW thermoreactors, the most important temperatures and digestion times are stored in 8, easily selectable digestion programs. In addition to these 8 fixed standard programs, CR 3200 and CR 4200 thermoreactors allow you to store 8 of your own user-defined programs. Suitable for 16 mm cuvettes.

Thermoreactors

- Programs for routine tests
- Rapid digestion for COD
- Quality assurance with testing sensor (optional)



CR 2200



CR 3200



CR 4200

Fast Digestion for CSB

New programs for COD

For COD digestion, programs according to various international standard methods are available. On demand of many customers, a rapid digestion for 20 minutes at 148 °C (298.4 °F) is provided, as this timespan has proven to be sufficient for many applications.

All reactors have timer functions. All reactors display when the reaction temperature is reached.

Safety precautions

Along with superior safety, all WTW thermoreactors optimize the heat transmission between the heating block and cuvettes. The safety hood prevents chemicals from splashing in the event of a broken cuvette, a covering provides protection from contact with the heating block surface.

CR 2200

Ideal for performing routine water analysis tests with small sample amounts, as 7 programs are available for digestion of 12 sample cuvettes at 100, 120, 148 and 150 °C (212, 248 and 298.4 °F).

CR 3200

In addition, you can program the CR 3200 to carry out 8 of your individual digestions at freely selectable temperatures up to 170 °C (338 °F).

CR 4200

The right choice for performing multiple tests simultaneously, such as COD (148 °C/298.4 °F) and total-N (120 °C/248 °F), as the two thermoblocks for 12 cuvettes can each be controlled separately. It also has memory for 8 of your own user-defined programs with free temperature selection up to 170 °C (338 °F).

Temperature Probe TFK CR

Quality Assurance:

Quality assurance is constantly increasing in importance, even in the operational analysis sector. The CR 3200 and CR 4200 thermoreactors are both equipped with the external temperature probe TFK CR (Order No. 250 100) as a testing aid. This temperature probe can be plugged into the interface in place of a cuvette, and the set and actual temperatures can be outputted either to a printer or a PC. This means that the function can not only be monitored, but also documented.

Application Areas and Technical Data Thermoreactors

Application Areas	CR 2200	CR 3200	CR 4200
Routine measurements	●	●	●
Wastewater	●	●	●
Specialized tasks in wastewater	–	●	●
Specialized tasks in wastewater and in laboratories	–	●	●
Number of samples, max.	1 x 12	2 x 12, same program	2 x 12, different programs
8 pre-stored programs	100 °C (212 °F) 30 min, 60 min, 120 °C (248 °F) with 30 min, 60 min, 120 min, 148 °C (298.4 °F) 120 min, 20 min 150 °C (302 °F) 120 min	100 °C (212 °F) 30 min, 60 min, 120 °C (248 °F) with 30 min, 60 min, 120 min, 148 °C (298.4 °F) 120 min, 20 min 150 °C (302 °F) 120 min	100 °C (212 °F) 30 min, 60 min, 120 °C (248 °F) with 30 min, 60 min, 120 min, 148 °C (298.4 °F) 120 min, 20 min 150 °C (302 °F) 120 min
User programs	–	8 freely selectable 25-170 °C (77-338 °F)	8 freely selectable 25-170 °C (77-338 °F)
Control accuracy	±1 °C ±1 digit		
Safety class	I to DIN VDE 0700 part 1/11.90		
Instrument safety	EN 61010, UL 3101, CAN/CSA C22.2-1010; EN 61010-2-010, IEC-CAN/CSA C22.2-1010.2.010		
Dimensions	W: 256 mm (10.08 in); H: 185 mm (7.28 in), open: 290 mm (11.42 in); D: 315 mm (12.4 in)		

Ordering Information

Model		Order No.
CR 2200	Reactor (230 VAC with Europlug*) for COD and other thermal digestions. For up to 12 reaction cuvettes. (Regional power supply available on demand)	1P21-1
CR 3200	Reactor (230 VAC with Europlug*) for COD and other thermal digestions. For up to 2x12 reaction cuvettes. (Regional power supply available on demand)	1P22-1
CR 4200	Reactor (230 VAC with Europlug*) for COD and other thermal digestions. For up to 2x12 reaction cuvettes in two separately controllable heating blocks. (Regional power supply available on demand)	1P23-1



*) other plugs are available