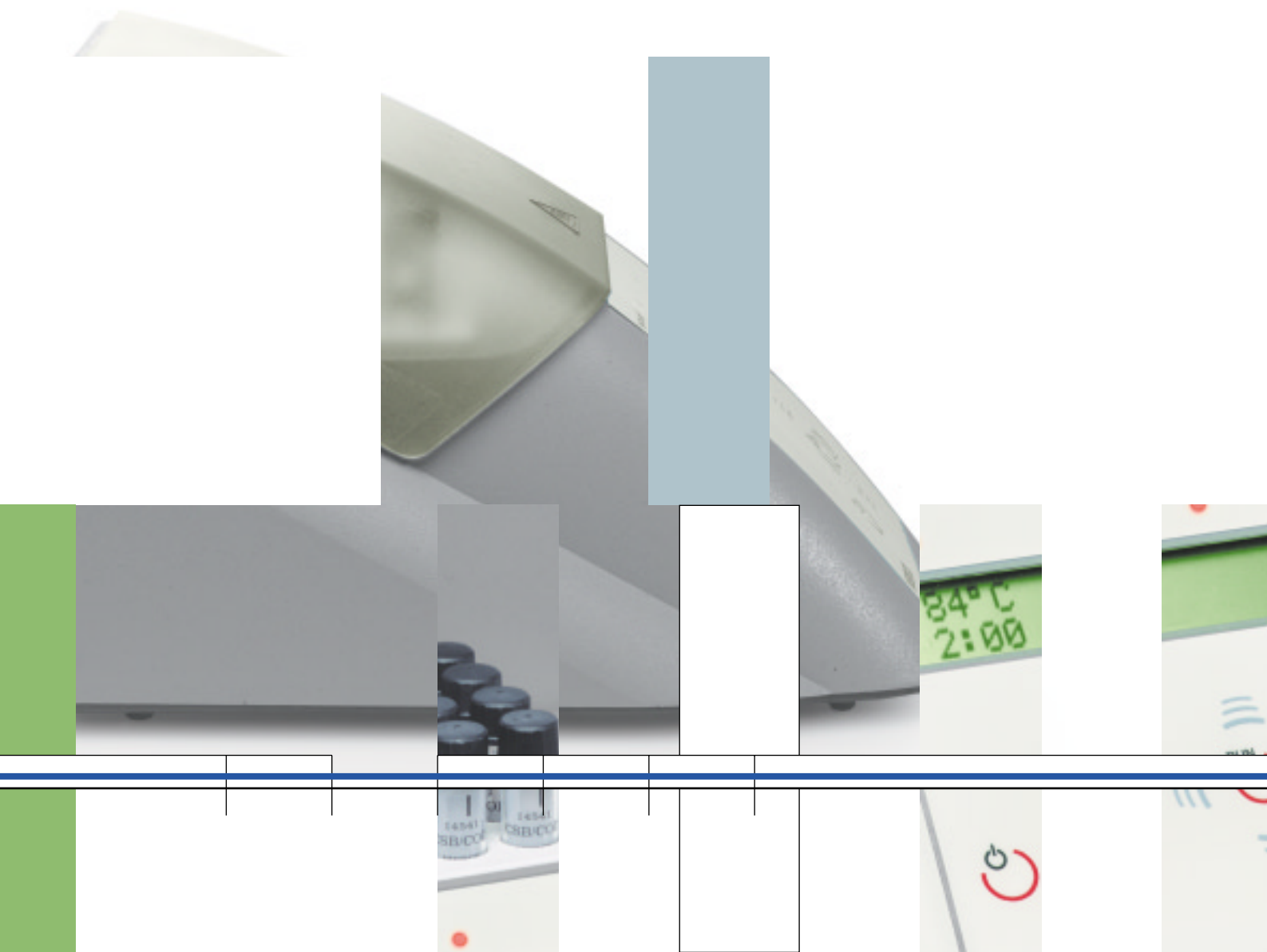


Doing a thorough job.

Thermoreactors for sample digestion



MERCK

LabBusiness

Don't do things by halves.

"Complete sample digestion and a thorough documentation are essential for a correct measurement result."

Reliable sample preparation makes up the overall analysis procedure to perfection. Operation as simple as it can be, speed, precision, and adaptability to what the future holds in store are the unmistakable properties of the new generation of thermoreactors manufactured by Merck. All rounded off by the highest conceivable degree of safety for the user.

An unbroken quality-assurance chain

In these times of certification, a consistent and complete quality-assurance process is an absolute must. The AQS analytical quality-assurance concept of the Spectroquant® product range promotes the fulfilment of this requirement.

With immediate effect the TR 420 and TR 620 thermoreactors are also integrated in this quality-assurance concept. They can be used in the context of test-monitoring procedures, and this by means of a simple check of the desired and actual temperature values using an optional thermosensor. A link-up to the PC also enables the user to comfortably document the result.



High-speed digestion

Time is an all-important factor, and with a high sample throughput in particular it is speed that plays an essential role. In the case of the most relevant parameters such as e.g. COD or total nitrogen, all of Merck's thermoreactors are equipped with standard programmes. These can be called up easily and also enhance the user safety further still. Short heating times (10 minutes to 148 °C) are a further guarantee for rapid results.

Precision through standardization

Standard programmes for routine digestion procedures help to prevent errors occurring. The Spectroquant® thermoreactor family offers five standard programmes and thus in the majority of cases an optimal solution for the day-to-day routine:

- 148 °C, 120 min
e.g. for digestion for COD
- 120 °C, 30 min
e.g. for digestion for total phosphorus
- 120 °C, 60 min
e.g. for digestion for total nitrogen
- 120 °C, 120 min
e.g. for digestion for TOC
- 100 °C, 60 min
e.g. for digestion for total cyanide

This helps to avoid programming errors occurring. The temperature selection, exact to ± 1 °C, makes an important contribution to securing the accuracy of the measurement result.

Future readiness through variability

You've already developed your own digestion programmes? Then the Spectroquant® TR 420 and TR 620 are strong partners for you!

Offering the possibility to run customer-specific programmes, you can add as many more methods as you wish. With a temperature selection from room temperature all the way up to 170 °C and a timer selection from 0 up to 180 minutes. In this way both the TR 420 and the TR 620 are fit for the future already today. This is your guarantee for the greatest possible flexibility in using the thermoreactors – even tomorrow.

Sample preparation – an essential part of

TR 320

»I live for today.«

This model offers all you need for the simple and proper handling of digestions.

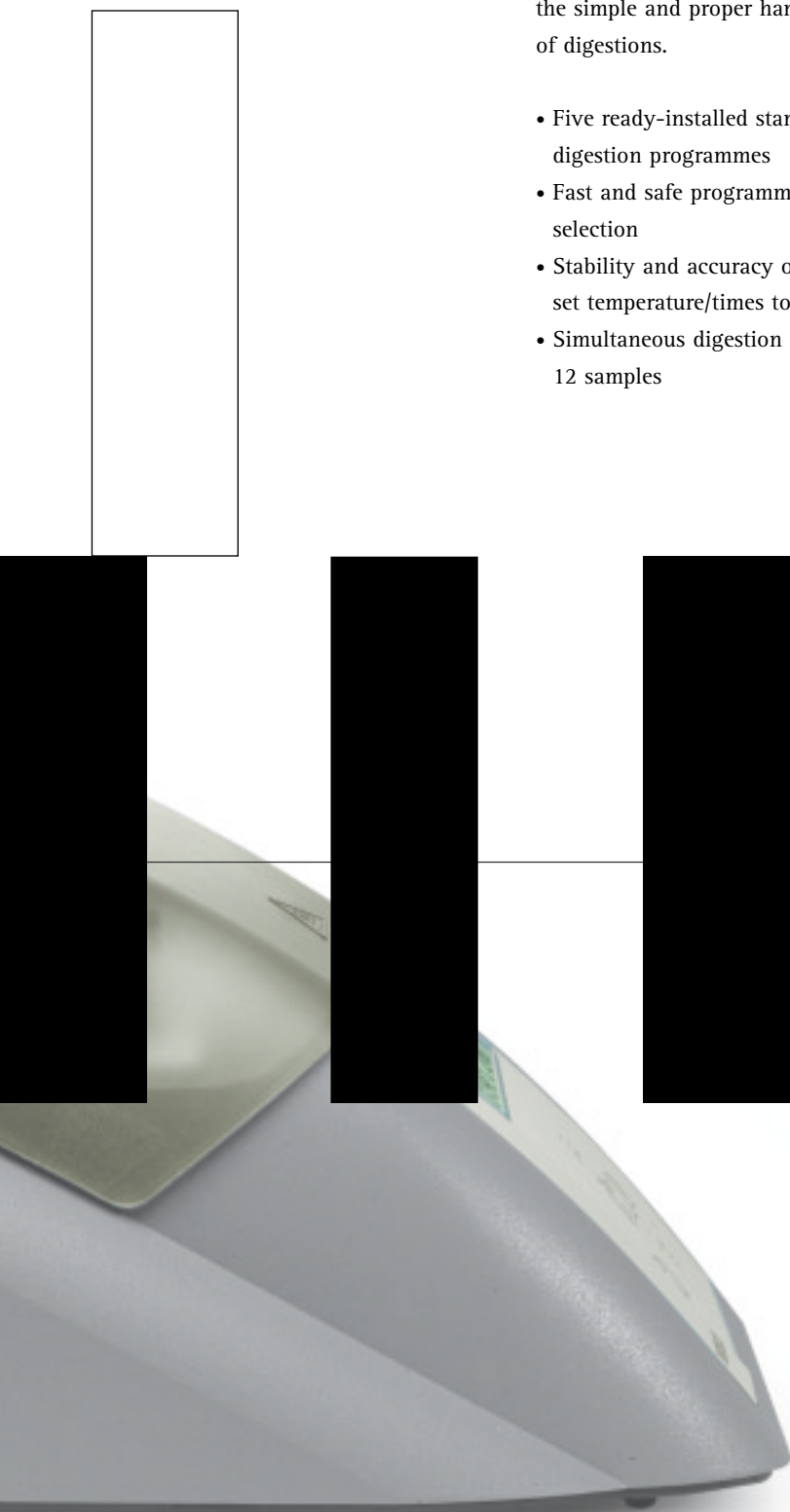
- Five ready-installed standard digestion programmes
- Fast and safe programme selection
- Stability and accuracy of the set temperature/times to ± 1 °C
- Simultaneous digestion of up to 12 samples

TR 420

»Tomorrow's important for me too.«

The TR 420 is **the** thermoreactor. The inclusion into Merck's AQA analytical quality-assurance concept makes this model one of a kind in its product class. It guarantees flexibility of use by means of the free programmability of the methods. The stability and accuracy of the temperature settings are ensured at all times. The use of the thermosensor (optionally available) allows the thermoreactor to be monitored when used as a test device.

- All digestion programmes required in the wastewater-analysis field are ready-installed in the unit.
- Free temperature selection from room temperature up to 170 °C
- Free timer setting from 0 up to 180 minutes
- Simultaneous digestion of up to 24 samples



TR 320

of the analytical process.

TR 620

»My mind is on the future.«

The professional two-in-one unit covers the entire spectrum of applications, a feature that makes it universally deployable. The flexibility of the programming features makes the TR 620 a reliable partner over the long run, too. What's more, this thermoreactor can also be monitored as a testing device by the use of the thermosensor (optionally available).

- All digestion programmes required in the wastewater-analysis field are ready-installed in the unit.
- Free temperature selection from room temperature up to 170 °C
- Free timer setting from 0 up to 180 minutes
- Two separately controllable heating blocks enable different digestion programmes to be run in parallel:
 - each with its own temperature/timer programme
 - with a high sample throughput of 2 x 12 samples simultaneously

Ordering list

Cat. No.	Designation
1.71200.0001	Spectroquant® Thermoreactor TR 320
1.71201.0001	Spectroquant® Thermoreactor TR 420
1.71202.0001	Spectroquant® Thermoreactor TR 620
1.71203.0001	Thermosensor for TR 420 and TR 620
1.71204.0001	PC cable for TR 420 and TR 620
1.14687.0001	Crack Set 10 for 100 digestions
1.14688.0001	Crack Set 10 C for 25 digestions
1.14963.0001	Crack Set 20 for 90 digestions



TR 420

TR 620

Spectroquant® TR 320**Spectroquant® TR 420****Spectroquant® TR 620**

Description	Thermoreactor with integrated safety cover	Thermoreactor with integrated safety cover	Thermoreactor with two separately temperature-settable heating zones with integrated safety cover
Display	LCD display showing specified and actual values for the heating time and temperature	LCD display indicating specified and actual values for heating time and temperature	LCD display indicating specified and actual values for heating time and temperature for both heating zones
User safety	Protection on the heating-block surface	Protection on the heating-block surface	Protection on the heating-block surface
Bores	12 bores for cell tests 16 mm ø	24 bores for cell tests 16 mm ø	24 (2x12) bores for cell tests 16 mm ø
Temperature selection	100 °C, 120 °C, and 148 °C \pm 1.0 °C	Room temperature up to 170 °C \pm 1.0 °C	Room temperature up to 170 °C \pm 1.0 °C Each of the two heating zones can separately temperature-set and controlled
Timer selection	–	0 up to 180 min freely adjustable	0 up to 180 min freely adjustable
Programmes	148 °C (120 min) 120 °C (30 min) 120 °C (60 min) 120 °C (120 min) 100 °C (60 min)	148 °C (120 min) 120 °C (30 min) 120 °C (60 min) 120 °C (120 min) 100 °C (60 min) additionally 8 freely selectable programmes, from room temperature up to 170 °C at 0 up to 180 min	148 °C (120 min) 120 °C (30 min) 120 °C (60 min) 120 °C (120 min) 100 °C (60 min) additionally 8 freely selectable programmes, from room temperature up to 170 °C at 0 up to 180 min
Testing-device monitoring	Automatic cut-out at end of heating time	Automatic cut-out at end of heating time	Automatic cut-out at end of heating time
Power supply	Mains version 115 V~/230 V~, 50 Hz/60 Hz convertible	Mains version 115 V~/230 V~, 50 Hz/60 Hz convertible	Mains version 115 V~/230 V~, 50 Hz/60 Hz convertible
Input	max. 280 watts	max. 560 watts	max. 560 watts
Output	–	Unidirectional interface RS 232 with two banana jacks for external thermosensor for test-device monitoring and PC link	Unidirectional interface RS 232 with two banana jacks for external thermosensor for test-device monitoring and PC link
Dimensions	185 x 256 x 315 mm (H x B x D)	185 x 256 x 315 mm (H x B x D)	185 x 256 x 315 mm (H x B x D)
Weight	2.85 kg	3.6 kg	3.6 kg
Tested acc. to	CE, GS, cETLus	CE, GS, cETLus	CE, GS, cETLus
Recommended for following parameters	CSB, TOC, and AOX as well as total contents of cadmium, chromium, copper, cyanide, iron, lead, nickel, nitrogen, phosphorus, silver, and zinc	CSB, TOC, and AOX as well as total contents of cadmium, chromium, copper, cyanide, iron, lead, nickel, nitrogen, phosphorus, silver, and zinc	CSB, TOC, and AOX as well as total contents of cadmium, chromium, copper, cyanide, iron, lead, nickel, nitrogen, phosphorus, silver, and zinc
Warranty	2 years	2 years	2 years

MERCK**Food & Environmental Analysis**
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