



Heating
Cooling
Mixing

All for one, and one with all!

The Thermomixer and ThermoStat plus product range

eppendorf



Time – Space – Precision: Answering today's laboratory and application requirements

The **Thermomixer comfort**, **Thermomixer compact** and **ThermoStat plus**: Our sample preparation instruments have been specially developed to meet your individual requirements. Their diverse features make them ideally suited for a wide range of applications (see table at right).

Shared product features

- Robust design and precise control
- Easy to operate
- Contact-safe thanks to ideal heat insulation: shielded thermoblocks prevent direct contact with heaters
- Extremely small footprint – ideal for individual lab workstations
- Dry temperature control technology eliminates contamination that can occur when using water baths



| Thermomixer comfort | Thermomixer compact | ThermoStat plus |
|---|--|---|
| Feature | | |
| heats cools mixes | heats mixes | heats cools |
| Temperature control range | | |
| from approx. 13 °C below RT to 99 °C | from approx. 4 °C above RT to 99 °C | from approx. -5 °C to 99 °C |
| Application examples | | |
| <ul style="list-style-type: none"> • Cultivation of bacteria (e.g., in connection with the Eppendorf® Lid_{Bac} tube*) • Cultivation of yeasts • Bead technology (e.g., protein purification) • Immunoprecipitation • Enzyme reactions (e.g., DNA restriction digestion, cDNA production via reverse transcription, Proteinase K digestion) • Transformation • Denaturation of DNA, RNA, proteins • Isolation of DNA fragments from agarose gels (with Perfectprep® Gel Cleanup kit*) • Plasmid isolation (with FastPlasmid® Mini kit*) • Hybridization experiments on slides/microarrays • Gentle thawing of deep-frozen solutions such as buffers • and much more | <ul style="list-style-type: none"> • Cultivation of bacteria (e.g., in connection with the Eppendorf Lid_{Bac} tube*) • Cultivation of yeasts • Bead technology (e.g., protein purification) • Enzyme reactions at temperatures 4 °C above RT (e.g., DNA restriction digestion, cDNA production of reverse transcription, Proteinase K digestion) • Transformation • Isolation of DNA fragments from agarose gels (with Perfectprep Gel Cleanup kit*) • Plasmid isolation (with FastPlasmid Mini kit*) • Denaturation of DNA, RNA, proteins • and much more | <ul style="list-style-type: none"> • Storage of enzymes, nucleic acids, etc., at defined temperatures • Enzyme reactions (e.g., DNA restriction digestion, cDNA production via reverse transcription, Proteinase K digestion) • Transformation • Denaturation of DNA, RNA, proteins • Cell lysis • <i>In vitro</i> translation • Ligation • Hybridization experiments on slides/microarrays • Gentle thawing of deep-frozen solutions such as buffers • and much more |

*For ordering information please see the last page.

Mixing, cooling and heating – The all-in-one answer: Thermomixer comfort

The Thermomixer comfort conveniently offers simultaneous mixing and temperature control. It meets even the highest demands for user-friendliness and flexibility: its counter-cooling ability provides efficient cooling thereby greatly expanding both its temperature control functions and range of applications.

Ten different thermoblocks are available, all of which can be simply and quickly exchanged, to adapt the unit to daily and/or changing requirements in the laboratory. Two freely selectable program sequences with incubating, mixing and rest phases, as well as subsequent cooling to 13 °C below room temperature, make everyday lab routines much easier.

The Eppendorf Thermomixer comfort is your reliable partner for short reaction times and efficient lab routines.

Product features

- Wide temperature control and application ranges thanks to active counter-cooling
- Excellent mixing and incubating performance
- Short-mix function
- Flexible programming: two independent programs with separate mixing and rest phases
- RS-232 interface and documentation according to GLP
- Ten different exchangeable thermoblocks offer a high degree of flexibility
- Automatic thermoblock identification and display of the maximum revolutions
- Quiet operation due to perfect fit of the test tubes in thermoblock





Mixing and heating – The classic: Thermomixer compact

Small and perfectly designed: The Thermomixer compact is the classic thermomixer for 24 x 1.5 ml micro test tubes. The Thermomixer compact's impressive features include an extremely small footprint, a straightforward design and high stability – even at maximum mixing frequency.

Product features

- Dedicated for 24 x 1.5 ml micro test tubes
- Short-mix function
- Includes an IsoTherm rack and an IsoTherm cooling pack for sample storage at 0 °C
- Small footprint
- Quiet operation due to perfect fit of the test tubes in the thermoblock

Focusing on heating and cooling: ThermoStat plus

Convenient and accurate temperature control for all commonly used lab tubes is the concept behind our ThermoStat plus. The result is a compact benchtop thermostat with Peltier technology. Its most notable strength is its ability to maintain different temperature levels: it can heat up samples to 99 °C and also cool them down to as low as -5 °C.

Exchangeable thermoblocks ensure effective heat transfer and the flexibility to adapt to your particular application. Operating the ThermoStat plus is incredibly easy: Simply select the temperature and press 'Start' to initiate the timer. Both the temperature and run time can be programmed for special applications.

Product features

- Precise temperature control
- Choice of 11 different exchangeable thermoblocks
- Temperature control range from -5 °C to 99 °C
- Temperature/run time can be programmed individually; up to four temperature levels and four time phases possible in succession
- The run time for the linear transition between two temperature levels can be individually programmed
- User-friendly operation
- RS-232 interface and documentation in accordance with GLP





Extra special: Exchangeable thermo- blocks for slides and microarrays

Our new exchangeable thermoblocks are ideal for hybridization experiments using 1 to 4 slides. We have specially designed two thermoblocks for use with microarray slides:

The Exchangeable thermoblock for slides DC is designed for use with Eppendorf DualChip specific gene expression slides, and a general purpose Exchangeable thermoblock for slides is available for standard glass slides.

Product features

- Exchangeable thermoblocks for 1 to 4 slides (standard object holder format) or Eppendorf DualChips
- Uniform heating and atmospheric control improves signal-to-background ratio, increases signal intensity and results in excellent reproducibility
- Increased hybridization efficiency due to rapid and homogeneous mixing of the sample (when using the Thermomixer comfort)
- High level of spatial and temporal temperature stability during hybridization
- System ensures the highest level of homogeneity of the hybridization parameters between the chambers
- Reservoir pads ensures high air humidity and prevents drying out
- Temperature usage range from 10 °C to 70 °C, but no more than 10 °C less than ambient temperature
- Light-proof interior
- The pressure plate of the exchangeable thermoblock for DC slides ensures optimal hybridization signals when using Eppendorf DualChips

Exchangeable thermoblocks for Thermomixer comfort and ThermoStat plus

The exchangeable thermoblock system for the Thermomixer comfort and ThermoStat plus ensure a precise "fit" for all common lab tubes:

From simple temperature control of a chemical to complex enzyme reactions and hybridization experiments, and from MTPs to 50 ml Falcon® tubes – the application possibilities are practically endless!

Product features

- Contact-safe thanks to shielded thermoblocks
- Better laboratory hygiene – eliminates stale water in water baths
- Efficient and simple exchange of all thermoblocks
- Tubes are visible during operation and easily accessible
- Exchangeable thermoblocks for each of the following test tube types:
 - 24 x 0.5 ml, 24 x 1.5 ml, 24 x 2.0 ml(All micro tube blocks (0.5 ml, 1.5 ml and 2.0 ml) come complete with an IsoTherm Starter Pack which includes an IsoTherm rack and IsoTherm cool pack for 0 °C)
- MTPs and deepwell plates
- Adapter plate for 96 x 0.2 ml PCR tubes and PCR plates easily inserts into Exchangeable thermoblock for MTPs
- Lab tubes with \varnothing of 11 mm–11.9 mm and height of 30 mm–76 mm (e.g., head space)
- 8 x 15 ml Falcon tubes
- 4 x 50 ml Falcon tubes
- 1.5 ml–2 ml cryotubes
- 1–4 slides or Eppendorf DualChips
- Exclusively for ThermoStat plus: CombiBox provides a universal temperature control (e.g., as a personal table-top refrigerator for the preparation/cooling of enzymes) for flasks and beakers with a height of up to 60 mm



Technical specifications

| | Thermomixer comfort | Thermomixer compact | ThermoStat plus |
|-----------------------------------|---|--|---|
| Temperature control range: | from approx. 13 °C below RT to 99 °C | from approx. 4 °C above RT to 99 °C | Block: From -5 °C to 99 °C Usable temperature range from: (30 °C below RT) to 99 °C |
| Lowest setting value: | +1 °C | +1 °C | -5 °C |
| Mixing frequency: | 300–1,500 1/min | 300–1,400 1/min | – |
| Incubating accuracy: | ±0.5 °C between 20 °C and 45 °C ±2 °C below 20 °C and above 45 °C, max. -2 °C below set value with MTPs | ± 1 °C between 20 °C and 45 °C ± 2 °C below 20 °C and above 45 °C | at 0 °C ± 1.0 °C at 37 °C ± 0.5 °C at 90 °C ± 1.0 °C |
| Heat-up speed: | approx. 5 °C/min | approx. 5 °C/min | approx. 5 °C/min |
| Cool-down speed: | 2–3 °C/min between 99 °C and RT 0.5–1 °C/min between RT and 13 °C below RT | – | 6 °C/min between 99 °C and 25 °C, 1.5 °C/min between 25 °C and -5 °C |
| Range of time phases: | 0:01 to 99:59 hours | – | 0:01 to 99:59 hours |
| Mixing stroke: | 3 mm (circular path) | 3 mm (circular path) | – |
| Power supply: | 100 V–240 V, 50 Hz–60 Hz | 100 V–240 V, 50 Hz–60 Hz | 100 V–240 V, 50 Hz–60 Hz |
| Power requirement: | 90 W | 90 W | 75 W |
| Interface: | RS-232 interface | – | RS-232 interface |
| Dimensions (W x D x H): | 22 x 25 x 12 cm (H without block) | 16,5 x 24 x 13,5 cm | 22 x 25 x 12 cm (H without block) |
| Weight of basic device: | 3.2 kg | 2.4 kg | 5 kg |

Technical specifications on exchangeable thermoblocks for Thermomixer comfort and ThermoStat plus

| Exchangeable thermoblock for | Max. Temp | Max. rpm |
|--|-----------|----------|
| 24 micro test tubes, 0.5 ml | 99 °C | 1,500 |
| 24 micro test tubes, 1.5 ml | 99 °C | 1,400 |
| 24 micro test tubes, 2.0 ml | 99 °C | 1,400 |
| PCR and deepwell plates, MTPs | 70 °C | 1,400* |
| Tubes with ø 11 mm–11.9 mm, height 30 mm–76 mm | 99 °C | 1,400 |
| 8 Falcon tubes 15 ml | 99 °C | 750 |
| 4 Falcon tubes 50 ml | 99 °C | 750 |
| 1.5 ml–2 ml cryotubes | 99 °C | 1,400 |
| 4 slides or 4 DualChip microarrays | 70 °C | 1,400 |
| CombiBox (ThermoStat plus only) | 95 °C | 0 |

*With a load of e.g., 200 g, the max. rpm is 800.

Ordering information

| Article | Order no. |
|--|--------------|
| Thermomixer comfort Basic device without exchangeable thermoblock | 5355 000.011 |
| Thermomixer compact Complete with thermoblock for 1.5 ml tubes, 1 IsoTherm rack and IsoTherm cool pack for 0 °C, Set | 5250 000.013 |
| ThermoStat plus Basic device without exchangeable thermoblock | 5352 000.010 |
| Accessories | |
| Exchangeable thermoblocks for micro test tubes, complete with IsoTherm rack and IsoTherm cool pack 0 °C for 24 x 0.5 ml micro test tubes | 5361 000.015 |
| for 24 x 1.5 ml micro test tubes | 5360 000.011 |
| for 24 x 2.0 ml micro test tubes | 5362 000.019 |
| Exchangeable thermoblock for MTPs and deepwell plates, with lid | 5363 000.012 |
| Adapter plate for 96 x 0.2 ml PCR tubes and PCR plates, to insert in Exchangeable thermoblock for MTPs | 5363 007.009 |
| Exchangeable thermoblock for 24 micro test tubes, ø 11 mm–11.9 mm, height 30 mm–76 mm | 5364 000.016 |
| Exchangeable thermoblock for Falcon tubes for 8 x 15 ml tubes | 5366 000.013 |
| for 4 x 50 ml tubes | 5365 000.010 |
| Exchangeable thermoblock for 24 x 1.5 ml–2 ml cryotubes, external diameter max. 12.5 mm; all base shapes | 5367 000.017 |
| Exchangeable thermoblock for 4 slides, for hybridization experiments | 5368 000.010 |
| Exchangeable thermoblock for slides DC, for 4 Eppendorf DualChip microarrays – on request | 5368 000.100 |
| Exchangeable thermoblock CombiBox for all tube types (ThermoStat plus only) Interior 13.5 x 9.0 x 6.0 cm (W x D x H) | 5352 100.007 |
| Perfectprep Gel Cleanup , 100 preps | 0032 007.740 |
| FastPlasmid Mini , 100 preps | 0032 007.653 |
| Eppendorf Lid_{Bac} contains 100x 2.0 ml Safe-Lock tubes and 100 membrane lids | 0030 099.702 |



● IsoTherm-System®
for 0.5 ml, 1.5 ml and 2.0 ml test tubes.

eppendorf
In touch with life