

# LabEvent T/500/60/3

## Compact temperature test chamber

With a test chamber volume of 580 liters and an optimized footprint of only 1.4 m², the LabEvent T/500/60/3 offers maximum performance in the smallest of spaces. Equipped with our established F-gas cooling technology (R449A/R23), the system impresses with its high efficiency. Thanks to its plug-&-play operation via a 230V electrical outlet and the air-cooled variant, the test chamber can be commissioned quickly right at the workplace without any problems.

**Our highlights:**

¬ Minimal installation site requirements

¬ High-precision absolute humidity control

¬ Also available for minimal requirements

¬ Wide range of connectivity options

¬ Multi-level test specimen protection

¬ Optimized for limited space

**Applications:**

The LabEvent T/500/60/3 is the ideal solution when the highest test requirements meet limited space in the lab, especially for smaller test specimens and for low to medium testing requirements. Be it for function tests, electrical assemblies, circuit boards or lithium-ion batteries, with the LabEvent T/500/60/3 you can reliably conduct storage and aging tests. Limited temperature cycling tests can also be carried out. For safety-critical applications, the chamber is also available with Hazard Level and offers full flexibility through numerous interfaces and mechanical adjustments.

# Technical Data.

| LabEvent T/500/60/3 | |
|---|---|
| **GENERAL DATA** | |
| Temperature Change rate, heating (air-cooled) [K/min] | 3.3 |
| Temperature Change rate, cooling (air-cooled) [K/min] | 4.3 |
| **TEMPERATURE TEST PERFORMANCE DATA** | |
| Temperature range [°C] | -60 ... 130 |
| Temperature homogeneity, spatially [K] | 0.5 ... 1.5 |
| Temperature deviation in time [K] | 0.2 ... 0.5 |
| Max. Heat Compensation at 20 °C (air-cooled) [W] | 2000 |
| **CONSUMPTION AND CONNECTION DATA** | |
| Electrical Connection | CEE-Connector, 16 A |
| Connection cable length | 3,5m cable |
| Power Rating [kW] | 6.3 |
| Current Rating [A] | 14 |
| Refrigerant | R449A/R23 |
| **TEST SPACE** | |
| Testspace volume [l] | 580 |
| Test Space Dimensions (H x W x D) [mm] | 1250 x 710 x 655 |
| Material test space housing | Stainless steel, 1.4301, surface III D glossy |
| Test Space Door Dimensions (H x W (mm) | 1 x 1 |
| **EXTERNAL HOUSING** | |
| External Dimensions (HxWxD) [mm] | 2130 x 1025 x 1400 |
| Material external housing | Galvanised sheet steel |
| Access port right | 1 piece, approx. ø 80 mm stainless steel incl. closed silicone plug + slotted foam silicone plug |
| **DIMENSIONS & WEIGHT** | |

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| | |
|---|---|
| **Total Weight [kg]** | 530 |
| **Total load [kg]** | 160 |
| **OPERATING AND AMBIENT CONDITIONS** | |
| **Sound Pressure Level [dB(A)]** | 62 |
| **INTERNAL FITTINGS** | |
| **Total load per insert basket [kg]** | 20 |
| **Total load of the insert baskets [kg]** | 100 |

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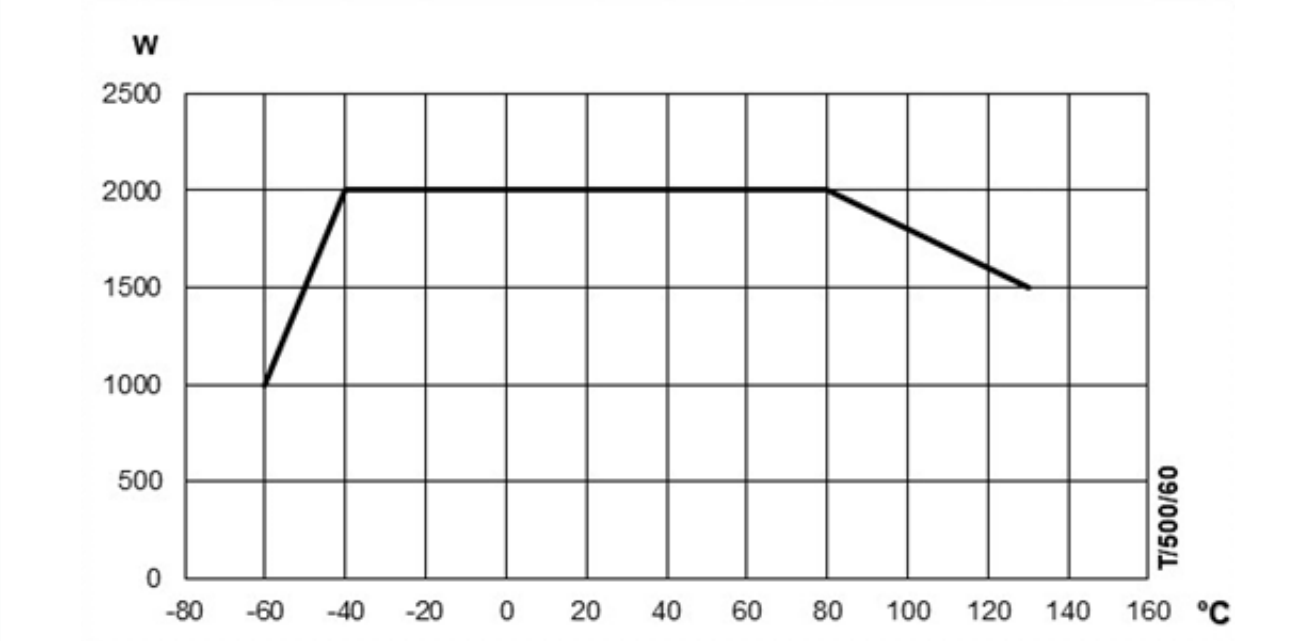
# Selection of relevant options

| Label | Description |
|---|---|
| **Access port, nominal width 50 mm** | Access port Ø 50 mm incl. 1 closed silicone plug and 1 slotted silicone foam plug. |
| **Access port, nominal width 80 mm** | Access port Ø 80 mm incl. 1 closed silicone plug and 1 slotted silicone foam plug. |
| **Access port, nominal width 125 mm** | Access port Ø 125 mm incl. 1 closed silicone plug and 1 slotted silicone foam plug. |
| **Access port in the ceiling, nominal width 50 mm** | The access port (D1) Ø 50 mm is located in the ceiling according to the installation plan, incl. 1 closed silicone plug. |
| **Access port in the ceiling, nominal width 80 mm** | The access port (D1) Ø 80 mm is located in the ceiling according to the installation plan, incl. 1 closed silicone plug. |
| **Access port in the ceiling, nominal width 125 mm** | The access port (D1) Ø 125 mm is located in the ceiling according to the installation plan, incl. 1 closed silicone plug. |
| **Foam silicone plug, nominal width 80 mm, 1 x slotted** | Suitable for an access port with a nominal diameter of 80 mm. The silicone foam plug Ø 87 x 40 mm is provided with a slot. Cables and measuring leads can be inserted into this slot. |
| **Foam silicone plug, nominal width 125 mm, 1 x slotted** | Suitable for an access port with a nominal diameter of 125 mm. The silicone foam plug Ø 132 x 40 mm is provided with a slot. Cables and measuring leads can be inserted into this slot. |
| **Foam silicone plug, nominal width 50 mm, 1 x slotted** | Suitable for an access port with a nominal diameter of 50 mm. The silicone foam plug Ø 56 x 40 mm is provided with a slot. Cables and measuring leads can be inserted into this slot. |
| **Drawer on telescopic rail** | The pull-out drawer on telescopic rails can be positioned at different heights in the adjustment rails mounted on the sides. |
| **Shelf, distributes load max. 100 kg** | Reinforced stainless steel shelf for accommodating a customer-supplied test rig with test specimens. The maximum load capacity is 100 kg per square metre. The shelf can be fitted and removed at any time. |
| **Shelf** | Stainless steel shelves can be placed on the supplied support rails for holding test specimens. Maximum load per shelf: 20 kg uniformly distributed load. |
| **Increased temperature change rate** | Fitting an additional heater increases the rate of temperature change in heating mode to 6 K/min. |
| **Mobile version** | Six steering castors are mounted. The standard cabinet height is increased by 50 mm. |
| **Door with window** | Multi-insulated, heated viewing window in the door. *(Format: 520 mm x 418 mm)* |
| **Door hinged on the right** | The test space door will be hinged on the right hand side of the test cabinet. Door lock and operating panel will be positioned on the left hand side. |
| **Test chamber activation via digital input for ≥ 3 K** | Multi-insulated, heated viewing window in the door. *(Format: 520 mm x 418 mm)* |
| **Extension for climate operation mode** | Modifications to the unit make it possible to carry out climate test runs. Control is provided by a capacitive measurement system. |

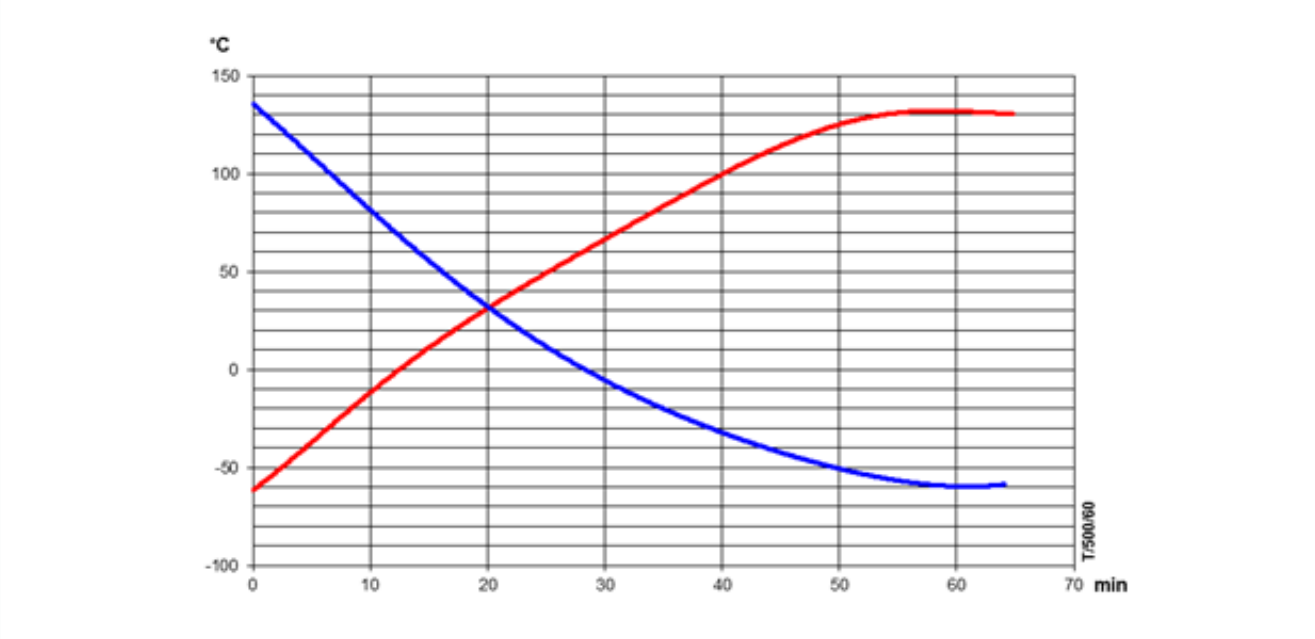
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|---|---|
| **GN2/Compressed air connection** | For operation with a customer-provided compressed air dryer or for the supply of an inert gas. The function can be activated/deactivated via the control panel or the S!MPATI® software. The installation room must be well ventilated during operation with GN2; otherwise, there is a risk of suffocation. |
| **Compressed air dryer for dew points to -30 °C uncontrolled** | Dehumidification unit for dew points down to -30 °C (uncontrolled operation) to prevent condensation on the test specimens during temperature tests. The unit is switched on or off via a digital switching channel. The unit is self-regenerating. |
| **Temperature measurement on test specimen** | Movable temperature sensor Pt 100 with flexible cable for temperature measurement at any point in the test room or on the test object. The measured value is displayed in °C on the control panel and can be called up via the interfaces or the free analogue outputs of the measured value card. |
| **Temperature measurement on the test specimen** | Many norms, such as the new version of IEC 60068-2-14 Nb, require close observation and recording of the temperature of the test specimen during the test phases. Our test chamber can be equipped with additional temperature sensors, the values from which are displayed and recorded on the display (via USB or with S!MPATI®). One of the sensors can also be used as a control sensor if required. |
| **Temperature measurement on test specimen (max. 1 sensor) switchable as control sensor** | The changeover is via a digital switch channel. The measured value is displayed on the control unit and can be called up via the interfaces. The sensor is inserted into the test space via the standard port. |
| **Temperature measurement on the test specimen using the NiCrNi sheath thermocouple** | Movable temperature sensor as Ni-Cr-Ni thermocouple with flexible cable for temperature measurement anywhere in the test space or on the test specimen. The flexible cable length is approx. 5m and the sensor is 3m in length. |
| **Temperature measurement on the test specimen via NiCrNi thermocouple wire** | Movable temperature sensor as Ni-Cr-Ni thermocouple wire, welded measuring tips, with a flexible cable for temperature measurement anywhere in the test space or on the test specimen. The flexible cable length is approx. 5 m. |
| **Temperature measurement at the test specimen by means of thermocouple Ni-Cr-Ni, switchable as control sensor** | The switchover is via digital switch channel. The measured value is displayed on the control unit and can be called up via the interfaces. |
| **Temperature measurement on the test specimen via transmitter using a NiCrNi thermocouple** | Movable temperature sensor as Ni-Cr-Ni thermocouple with flexible cable for temperature measurement anywhere in the test space or on the test specimen. |
| **Analog measured value card** | There are 5 outputs 0 to 10 V and 4 inputs for Pt 100 available for the processing and output of analogue measuring signals. |
| **Analogue measured value card: 4 thermocouples, NiCrNi inputs and 5 outputs** | 5 - 6 outputs 0 to 10 V and 4 inputs for Ni-Cr-Ni thermocouple type K are available for the processing and output of analogue measurement signals. |
| **Water cooling** | A water-cooled unit is installed instead of the air-cooled refrigerating assembly. Cooling water control ensures minimum water consumption. |

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| **Electronic cooling water controller** | Automatic adaptation to different inlet temperatures and pressure differences is achieved within certain limits by means of an electronically operated and continuously controlled valve. The cooling water supply is closed reliably during a standstill of the refrigeration unit. The pressure loss compared to the mechanical cooling water controller is minimal. Target users are customers who use re-cooling systems with a lower pressure difference due to supply shortages etc. |
| **Hose kit for cooling water network 3/4", 2x2.5m, flexible** | For connection to a cooling water network, two flexible hoses with a connection of G ¾" and a length of 2.5 m are provided. |
| **Hose kit for cooling water network 3/4", 2x5m, flexible** | For connection to a cooling water network, two flexible hoses with a connection of G ¾" and a length of 5 m are provided. |
| **Insulation of water inlet at a water flow of <+12 °C** | Cooling water hoses in the test chamber are additionally insulated. |
| **Special voltage on request** | Special voltage on request |
| **Adaptation to Bosch regulations for standard and modified standard units** | The adaptation includes the use of the main switch as an EMERGENCY STOP button, the attachment of various information signs, the attachment of a protective cover, and 1 program CD with contents: SIMCON/32-BIN / S!MPAC data backup and UTD/UpToDate3.exe. |

# Further relevant information



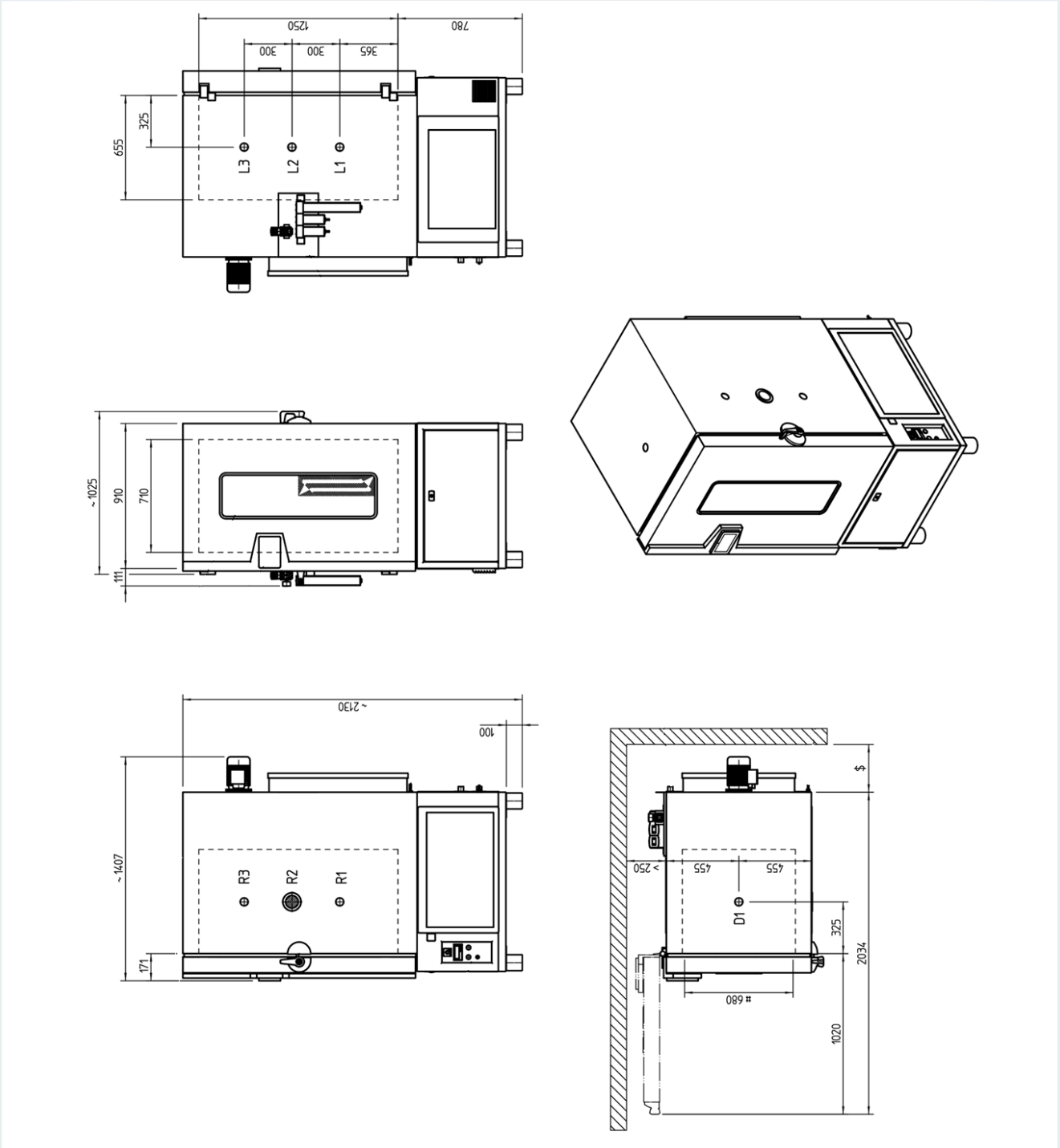

Heat compensation curve LabEvent T500/60/3




Cooling and heating curve LabEvent T/500/60/3

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# Further relevant information




Installation drawing LabEvent T/500/60/3

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