

ShockEvent T/300/V2

Vertical shock test chamber

The ShockEvent T/300/V2 is a dual-zone vertical shock test chamber with elevator technology specially developed for reliability and durability tests. It has a hot chamber (+50 °C to +220 °C) and a cold chamber (-80 °C to 100 °C). The test specimen moves between these two chambers in a basket, secured with protection grids. The ShockEvent T/300/V2 allows the performance of endurance tests of over 1000 cycles without defrosting. It compresses the “transfer zone” between the cold and hot zones with a transfer time of 12 seconds, thus allowing a defined and extremely rapid change in temperature.

Our highlights:

¬ Protect your valuable test material.

¬ Flexibility and a wide range of standards

¬ User-Friendliness and Connectivity

¬ Maximum reliability and reproducibility

¬ Exceptionally high load-bearing capacity and durability

¬ Energy Efficiency and Sustainability

Applications:

The T/300/V2 vertical shock test chamber fulfills the main international norms for thermal shock tests. The chamber’s excellent temperature distribution means that the ShockEvent T/300/V2 is suitable for a wide range of applications. Typical areas of application are the automotive industry, aerospace, defense and arms technology as well as the electronics and packaging industries. It is used to the same extent in development, quality assurance and series release and makes a significant contribution to product validation and safety.

Technical Data.

ShockEvent T/300/V2	
TEMPERATURE SHOCK TEST PERFORMANCE DATA	
Temperature deviation in time [K]	0.3 ... 1
Temperature homogeneity, spatially [K]	0.5 ... 2
Recovery time, MIL-STD-883 [min]	15
COLD CHAMBER PERFORMANCE DATA	
Temperature range cold chamber [°C]	-80 ... 100
Temperature Change rate, heating (cold chamber) [K/min]	1.5
Temperature Change rate, cooling (cold chamber) [K/min]	5
HOT CHAMBER PERFORMANCE DATA	
Temperature range hot chamber [°C]	50 ... 220
Temperature Change rate, heating (hot chamber) [K/min]	11
CONSUMPTION AND CONNECTION DATA	
Voltage Rating	3/N/PE AC 400 V ±10 % 50 Hz
Electrical Connection	CEE-Connector, 63 A
Power Rating [kW]	30
Current Rating [A]	50
Cooling (air-cooled/water-cooled)	- / ✓
Refrigerant	R449A/R23
TEST SPACE	
Testspace volume [l]	300
Test Space Dimensions (H x W x D) [mm]	610 x 770 x 650
Material test space housing	Stainless steel, 1.4301, surface III D glossy
EXTERNAL HOUSING	
External Dimensions (HxWxD) [mm]	2900 x 1320 x 2380
Material external housing	Galvanised sheet steel

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Finish of the external housing	Grey-white (RAL 9002); solvent-free; powder-coated
Access port ceiling	1 piece, approx. ø 80 mm stainless steel
DIMENSIONS & WEIGHT	
Total Weight [kg]	950
Total load [kg]	100
OPERATING AND AMBIENT CONDITIONS	
Sound Pressure Level [dB(A)]	58
Ambient Temperature Range [°C]	10 ... 35
CONTROL, OPERATION & INTERFACES	
Switching inputs	4 digital inputs for feedback from customer equipment. Load max. 24 V-DC and approx. 30 mA
Switching outputs	4 digital outputs for control of customer-provided devices by means of potential-free contacts, max. load 24 V-DC, 0,5 A
Webpanel	10" (25.4 cm) Webpanel
INTERNAL FITTINGS	
Total load per insert basket [kg]	4
Maximum number of insert baskets [pcs]	8

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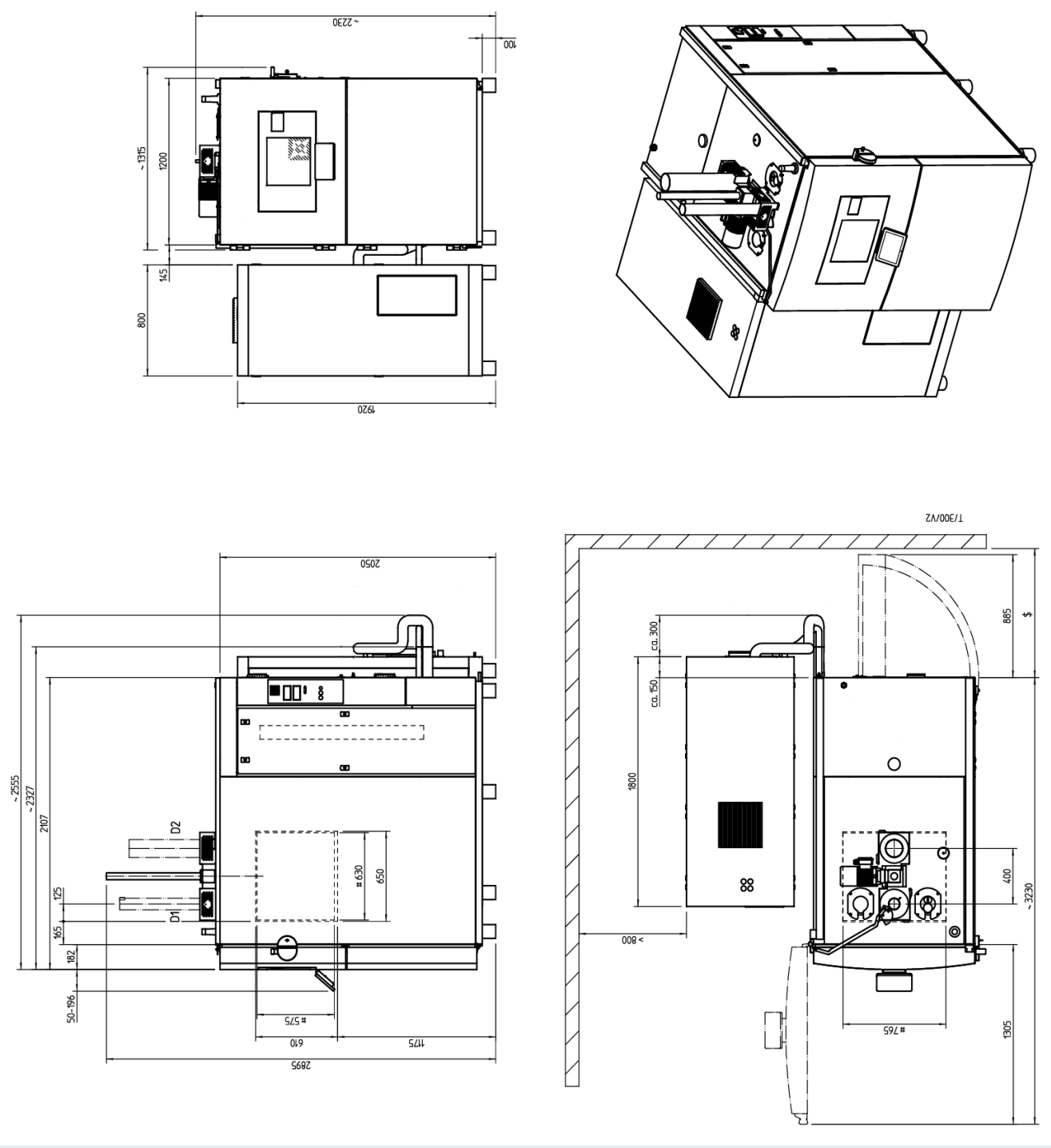
Selection of relevant options

Label	Description
Emergency-stop button on test space housing	The emergency stop button is installed on the outside of the test chamber, at the height of the door lock. When actuated, a message is displayed on the control panel and the test is stopped.
Fault message to potential-free switching contact	If a fault occurs at the test chamber, a potential-free switching contact is actuated.
Temperature measurement on the test specimen	Up to five movable Pt100 temperature sensors with flexible cable enable temperature measurement in the basket or on the test specimen.
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 on the test specimen by thermocouple can be switched to a lifting basket control sensor	The switch takes place via a digital switching channel. The measured value is displayed in 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.
Transfer time, variable	A variable transfer time has the advantage that the stress can be dosed for the test specimen. This is required if the devices are to be used for screening applications. - Selection between 5 levels - Length of time at each level can be selected from 3 seconds to 120 seconds.
Energy meter direct up to 63 A	One total and one program energy meter- also in connection with data acquisition via the optional Software S!MPATI®.
Insulation of water inlet at a water flow of <+12 °C	Cooling water hoses in the test chamber are additionally insulated.
Electronic cooling water controller	Automatic adaptation to different flow temperatures and pressure differences is achieved within certain limits by means of an electronically operated and continuously controlled valve.
Refrigerant pipe, 2-fold	Extension to a total distance of 3 m. Flexible refrigerant pipes are installed between the external condenser and the test chamber.

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Refrigerant pipe, 2-fold	Extension to a total distance of 5 m. Flexible refrigerant pipes are installed between the external condenser and the test chamber.
GN2 / Compressed air connection	Connection with coupling plug DN 7.2 for operation with the customer's compressed air dryer or for the injection of an inert gas into the hot and cold chamber. The function can be enabled/disabled on the control unit or via the S! MPATI® software.
Additional access port Ø 125mm in lift car	Fitting located behind the lifting gear. The standard access port (Ø 80 mm) remains installed.
Wire mesh shelf made of stainless steel	For placing the test specimens, further wire mesh shelves (max. 8 pieces) can be inserted, max. load 4 kg. Total load of all shelves used must not exceed 100 kg.
Insert floor made of stainless steel	This insert floor (max. 8 pieces) made of stainless steel can be used for placing heavy test specimens, max. load 20 kg. The total load of 100 kg must not be exceeded.
LN2-Shock Cooling	Additional cooling for connection on site to a LN2-supply for boosting thermal shock.
Compressed air dryer for dew points to -30 °C unregulated	Dehumidification unit for dew points down to -30 °C (unregulated operation) used to avoid the formation of condensation on the test specimen during temperature tests. The activation of this dehumidification unit is realized via a digital switch channel.
Hose set for cooling water network 1", 2x2, 5m, flexible	For connection to a cooling water network, two flexible hoses with a G 1" connection and a length of 2.5 m are supplied.
Hose set for cooling water network 1", 2x5m, flexible	For connection to a cooling water network, two flexible hoses with a G 1" connection and a length of 5 m are supplied.
Air-cooled condenser with energy-saving EC-technology, installed separately, with flexible lines	The condenser is installed on the same level as the test chamber. It is located behind the test chamber, in a horizontal position with vertical air flow.
Refrigerant R469A instead of R23	

Further relevant information



Technical drawing ShockEvent T/300/V2

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