

Laboratory Refrigerator, with air circulation

Internally spark resistant

TC 1004-ex



External Dimension: W = 750 mm
 D = 730 mm
 H = 1640 mm

Inside Dimension: W = 600 mm
 D = 560 mm
 H = 1452 mm

Capacity: 554 l

Temperature range: 1°C to 15°C

Housing

galvanized sheet steel with white epoxy coating. Isolated door supplied as standard with right hand hinge (reversible). Grease resistant magnetic seal.

Interior space

of high-quality plastic. Cleaning friendly by rounded corners, slippery surface in the interior, meets highest hygiene requirements

Isolation

Polyurethane, free of CFCS

Air circulating cooling

for fast, uniform temperature control, the temperature gradient was reduced to a minimum.

Interior fittings

5 pcs. glass shelves, height adjustable, dimension: 600x550 mm, max. load 40 kg per shelf

Control system located above door.

High quality temperature controller, with capillary sensor, (located outside)

Set value analogue adjustable

Digital Temperature display, outside

Working range from 1°C to 15°C

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Refrigerating unit

Refrigerating unit fully hermetically sealed, forced ventilation, fitted on vibration - absorbing mounts (ambient temperature max. 32°C), low noise (43 dBA/1m), energy saving compressor with high quality vaporisation system.
Refrigerant: environment friendly R600a

Defrost

Automatic defrost, with manual dew water collector inside

Electrical dates

Power supply 230 V/50 Hz / single-phase
Energy consumption 0,98 KW (24 Std.)
Power cable 1,5 m with schuko plug

Packing details (palletized)

Dimensions: approx. 80x80x180 cm
Net weight: approx. 77kg
Gross weight: approx. 84 kg
Country of Origin: European Union
Customs clearance code: 8418 5090

Technical indication:

This refrigerator is classified as “**internally spark resistant**” and have no electrical components in the interior, reducing the risk of fire or explosion. (The class of explosion protection provided by this equipment meets Federal German safety regulations for laboratory equipment DGUV Information 213-850. The appropriate regulations must be observed in other countries).

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Qualifications

DQ (Design Qualification)

Definition: Documented proof that the quality-related, GMP-related requirements has been adequately addressed in the design of equipment, including buildings, premises and auxiliary equipment

The user-requirement profiles (specifications) are documented and confirmed by us. On request, a specification can be created by us.

IQ (Installation Qualification)

Definition: Documented proof that critical equipment and systems have been delivered and installed in accordance with the set requirements and government regulations.

The IQ documentation is worked out by us especially for the delivered machine and is made available to you. The IQ documentation must be carried out by the customer itself.

OQ (Operational Qualification)

Definition: Documented proof that critical equipment and systems in accordance with the set requirements in the whole operating range are working as intended in accordance with predetermined limits.

The OQ documentation is worked out by us especially for the delivered machine and is made available to you. The OQ documentation must be carried out by the customer itself.

CQ (Calibration Qualification) according to DIN 13277:2022-05

Definition: Documented proof that critical measuring equipment in the intended range in accordance with predetermined tolerances operate reliably under current operating conditions

Verifying the temperature in the unloaded cooling unit (after reaching the steady state)

1 temperature on 3 measuring levels with 5 measuring points each

(Measurement with calibrated PT 1000 sensors). Test time 4 hours, then open door for 60 seconds.

During this time, the limit values specified in DIN 13277:2022-05 must not be exceeded. Repeat the door opening after one hour.

The temperature measurements are carried out on our premises. The evaluation of the measurements, including graphical representation, is made in written form. The values must not exceed the limit values specified in DIN 13277:2022-05. **(Other measuring methods possible on request)**

PQ (Performance-Qualification) according to DIN 13277:2022-05

Definition: Documented proof that critical equipment and systems in accordance with the set requirements in the whole workspace under current working conditions (with product) provide the requested services

The calibration described above is carried out under real conditions on site. Optionally, the measurement can be carried out in a loaded or unloaded state. The measurement evaluation, including graphical representation, is made in written form. The values must not exceed the limits specified in DIN 13277:2022-05. exceeded. **(Other measuring methods possible on request)**