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RM 7857.971 Security rooms

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FRIEDHELM LOH GROUP

RM 7857.971 - Security rooms

Basic protection or high availability protection for data centres. Whether you are planning a new building or an extension to your data centre, we are at your side with decades of experience.

Features

Model No.	RM 7857.971
Design	Basic protection plus room
Product description	The basic protection room - an optimum, modular room-within-a-room solution for protecting IT/infrastructure components. The High Availability room - certified maximum physical protection for data centres and IT system locations.
Note	Tested products are tested as a complete construction. This comprises the cellular structure and installation modules such as doors, cable shields or ventilation units. By contrast, component testing only refers to individual parts.
Corrosive fire gases	Acrid gas-tightness, based on EN 1634-3 (DIN 18095)
Falling debris	Shock test as system test, 1 shock of 200 kg from 1.5 m after 30 minutes flame impingement time
Dust-tightness	IP 5x as system testing to EN 60 529, for the cellular structure and its built-in modules
EMC protection	Protection against high-frequency irradiation and radiation, verified by tests on comparable components by TU Aachen
Fire protection	50 K temperature rise and 85% rel. humidity over 30 minutes, without reheat period F90 as system test, according to the limits of EN 1363 (DIN 4102), for the cellular structure and its built-in modules F120 only as component testing to EN 1363 (DIN 4102), wall system only F90 only as component testing to EN 1363 (DIN 4102), wall system only

Features

Unauthorised access	RC 3 as system test to EN 1627/1630, for the cellular structure and its built-in modules, such as doors RC 2 as system test to EN 1627/1630, for the cellular structure and its built-in modules, such as doors
Water	Extinguisher water, IP x6 as system testing to IEC 60 529, for the cellular structure and its built-in modules Relative humidity, 85%, over 30 minutes
Packs of	1 pc(s).
Net weight	0.009
Gross weight	0.01
EAN	4028177689367
ETIM 9	EC002499
ECLASS 8.0	27180207

Tender text

Material 7857971
General preliminary remarks

The contractor must provide proof of a quality management system to ISO 9001 / EN 29001 at the time a contract is awarded.
Security demands relating to the quality of product realisation necessitate proof of the availability of own assembly personnel. Proof of a corresponding certification system for the assembly personnel is to be furnished.
Reflecting the requirements of the client, the following basic demands are to be met by the IT security room and documented by way of a corresponding certificate.

Fire resistance rating
Fulfilment of the requirements placed on the space enclosure and thermal insulation for 90 minutes (EI 90 in accordance to EN 1363 / EN 13501) for the cellular structure and its incorporated modules such as doors, cable ducts or ventilation units as a system test
Realisation as a room system with test certificate.

Additionally:
Compliance with the limit values 50 K temperature rise (e. g. starting temperature 20°C and temperature rise to 70°C) and 85% relative humidity over 30 minutes, without cooling phase.

Burglar protection
RC 2 system test (resistance class 2 to EN 1627/EN1630)
RC 3 system test (resistance class 3 to EN 1627/EN1630) offer as an option

Dust protection
Dust protection rating IP5x to EN 60529 for the cellular structure and its incorporated modules
Realisation as a room system with test certificate

Splashwater protection
Extinguishing water protection IPx6 to EN 60529 for the cellular structure and its incorporated modules

Realisation as a room system with test certificate

Technical preliminary remarks
The IT security room must comply with the following demands:
The IT security room is a separate room-in-room system. It can be deemed to display the specified fire resistance insofar as the floor (ceiling) on which it stands fulfils the requirements placed on its fire barrier function, insulating effect and load-bearing capacity for a period of 90 minutes.

The contractor is to choose the location of the IT security room to reliably avert potential physical threats from the environment.
Corresponding proof is to be furnished by the contractor.
All connecting elements of the security cell are to be suitable for dismantling and re-connection.
All climate control openings and openings serving for pressure relief in case of flooding with extinguisher gas are to be provided with self-closing covers. The free cross-section of the openings is to be dimensioned in accordance with the project requirements. Closures must function independently of an external power supply in case of fire, i. e. mains-independent mechanically operating closures are themselves to achieve an hermetic seal. It is imperative to provide a possibility for control via a building fire alarm system, and opening must be a deliberate action from outside by way of an electric motor.
Cable entries into the security room are to be verified against the relevant test criteria and in accordance with the rating of the security cell. Proof is to be furnished by the contractor.
The room is to be designed as a steel cassette construction.
All metal components and surfaces are to be treated accordingly and provided with an additional corrosion protection coating.
No flammable materials are to be used as insulation aids, neither in the room itself, nor around walls and ceilings.
It must be guaranteed that the IT security room can be integrated into an existing central fire alarm system and other security alarm systems preferred by the client without problems.
All required properties are to be documented by the tenderer by way of corresponding certificates and test reports.

Technical documentation / Operator manual

The contactor is to supply documentation for the construction project – in three copies and at no extra charge – following completion of all

work and upon acceptance by the project owner.

All documentation is to be copied in DIN A4 format (or else folded in the case of drawings) and presented in separate files organised by trade.

As appropriate for the actual project, the documentation includes:
- Acceptance certificates
- Acceptance reports
- Measurement reports
- Revision plans
- Circuit diagrams
- Test certificates
- Operating and maintenance instructions
- Acceptance reports of official authorities (if necessary)
- Spare parts list showing wearing parts
- Works certificates
- Test reports and approvals

Technical modifications are only permissible where conformant with the applicable test guidelines and standards and with the consent of the client.

By submitting a bid, the tenderer confirms that he guarantees later supplies of all incorporated components for a period of at least 10 years from the date of acceptance. This applies also to those components which the tenderer does not manufacture himself, but merely supplies and installs. Technical changes e. g. for improvements are allowed.

Before performing the work, the tenderer is to produce project and installation plans in which all incorporated parts and infrastructure elements are visible. The plans are to be presented for approval in good time.

IT security rooms, modular security cell

Delivery and assembly of a modular IT security room. The product features correspond to the tender specifications.

The modular IT security room is to be realised as a standalone “steel-sandwich modular design”. It is to take the form of a self-supporting cellular construction suitable for dismantling and

expansion.
The outer skin of the cell is to be protected against external influences from the surrounding building such that damage to the insulating materials is excluded.
The joints between individual elements must be suitable for dismantling and re-connection.
The joints are to be suitable for plugged assembly. The installation circumstances do not always guarantee accessibility for the installation of the wall modules. For this reason, screwed and clamped joints are not permissible on the outside of the security room.

Electrical bonding (potential equalisation) for the steel cassettes is to be provided by way of a 16 mm² copper conductor to the potential equalisation rail in the security room.

External dimensions in mm (required - to be entered by the tenderer)
Length:
Width:
Height:
Height raised Floor:

The technical description and structural design are to be enclosed, together with all required test certificates.

IT security room, access doors

Delivery and assembly of access doors as a single-door system with right or left hinges (as defined by DIN).

The door system is to be verified against the required test criteria.

Proof is to be furnished by the contractor.

Features:

- Designed as fire doors with closing mechanism
or
- Designed as fire doors with closing mechanism and door holder.
- Equipped with electric lock for control by way of an existing access control system, and floating contacts for monitoring of the door position.

Surface finish of the access doors:
Steel, zinc-plated and primed. Final paint finish in RAL 9005.
Minimum (clear) dimensions
Width: 1031 mm
Height: 2031 mm

Installation drawings and the structural design of the door are to be enclosed with the bid.

IT security room, cable and tube ducts

Delivery and assembly of cable and tube ducts for the insertion of data, control and supply cables as well as tubes of the cooling system and fire extinguishing system into the modular IT security room. Proof of the ratings is to be furnished.
The ducts have to be tested with the security cell. Corresponding proof relating to the test criteria is to be furnished by the contractor.

Number and diameters of the cables to be introduced (to be entered by the client):

IT security room, fire protection flap

Fire protection opening with electric drive system
Fire resistance class:„EI 90

To close ventilation and climate control openings and for smoke extraction in case of fire.
Opening dimensions (HxW): 200 x 200 mm
Opening dimensions (HxW): 300 x 300 mm
Opening dimensions (HxW): 500 x 500 mm
Opening dimensions (HxW): 700 x 700 mm

Fire protection opening with pneumatic drive system
Fire resistance class:„EI 90

To close pressure relief openings in case of fire.

Opening dimensions (HxW): 200 x 200 mm
Opening dimensions (HxW): 300 x 300 mm
Opening dimensions (HxW): 500 x 500 mm
Opening dimensions (HxW): 700 x 700 mm

Electronic system control

An electrical system controller is to be offered for coordination of the optional infrastructure elements, such as a fire alarm and extinguisher system, the associated pressure relief, or an electrically operated lock.
Delivery and assembly of the ready-installed and tested electronic control system, including all electrical components in the room.

- Control enclosure (steel housing) with lockable front doors, protection category IP 55
- Colour RAL 7035, stove-enamelled or equivalent, as specified by the client
- Dimensions according to room size and requirements
- Power supply provided on site, single-phase 230 V / 50 Hz or 3-phase 400 V / 50 Hz depending on power requirements
- Control signals supplied by way of floating contacts of the connected monitoring systems (e.g. central alarm system, extinguishing system, etc.)

Basic configuration – enclosure
- RCD protection
- Overvoltage protection to DIN VDE 0110-1:1997-04, class C
- UPS module with integrated batteries in the enclosure
- Freely programmable control relay
- Various floating contacts for external signalling
- Alarm inputs for internal and external fire compartment
Optical-acoustic alarm signal

Combination of horn and pulsed flashing light

Illumination
The illumination is to be installed ready for use. The technical realisation is to comply with the currently applicable standards and guidelines.
The number of lights is dependent on the size of the security room; the lighting intensity is to be designed for an average service value of 500 lux to DIN 5035.

Emergency safety lighting according to EN 1838
Positioned for orientation and to mark escape routes as single

battery-powered lights with a stored energy time of 3 hours.