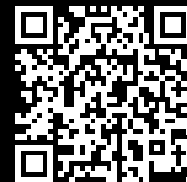# Rittal – The System.

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DK 7998.306

RiMatrix S

State: 03/08/2025 (Source: rittal.com/ro-ro)

DK 7998.306 - RiMatrix S Standard security room

The standardised data centre at your premises is equipped with an additional security room (room-within-a-room) to provide additional protection from fire, water and smoke.

Features

Model No.	DK 7998.306
Product description	The standardised data centre at your premises is equipped with an additional security room (room-within-a-room) to provide additional protection from fire, water and smoke.
Material	Element core made of thermally effective insulation substance Robust, encapsulated sheet steel cassette panels Innovative connection technology using patented profile technology Use of temperature- and humidity-resistant seals Use of fire protection valves Dismantling and reassembly is possible at any time
Supply includes	Advice and ROI calculation Delivery and integration into the customer infrastructure Commissioning and handover Documentation, training and instruction Hotline and service/service agreements
Clearance depth	7.220 mm
Clearance height	2.700 mm
Clearance width	2.750 mm
Climate control (ZUCS)	60 kW + 10 kW n+1 redundant
Number of low-voltage main distributors	1
No. of PDU Basic	14
Serverracks (600x2000x1200mm)	6
Combined network/server rack (800 x 2000 x 1200 mm)	1

Features

Protection standards	Fire resistance EI 90 to EN 1363/F 90 to DIN 4102 Dust- and watertight IP 56 to IEC 60 529 Protection from unauthorised access – Resistance class II EMC basic protection Acrid gas-tightness, based on EN 1634-3 (DIN 18095) Shock test with 3000 Nm energy after 30 minutes flame impingement over standard temperature curve
Burglar resistance	RC 2
Design burglar protection	Yes
Design fire protection	EI 90 to EN 1363 / F 90 to DIN 4102
Humidification and dehumidification system	optional
Room extinguisher system	optional
Design UPS	60 kW + 20 kW n+1 redundant
Version	Single 6
Dimensions	Width: 2,950 mm Height: 2,800 mm Depth: 7,420 mm
Packs of	1 pc(s).
Customs tariff number	85480090
EAN	4028177702493
ETIM 9	EC002499
ECLASS 8.0	27180207

Tender text

Standard data centre 60 kW, 6+1 racks,
including cooling and UPS, installed in a security
room „

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Fully functional data centre comprising an ITC
climate zone for the server and network systems, and a
separate technical climate zone for the UPS equipment
and low-voltage switchgear.

The ITC climate zone comprises a rack suite (depth
1200 mm) with 6 server racks and a network rack, and
is fully isolated from the climate zone for the
electrical equipment by way of self-closing sliding
doors in the cold and hot aisles.

The standard data centre is enclosed in an accurately
dimensioned, modular IT security room. All connecting
elements of the room systems are designed to permit
disassembly and re-use. The enclosure is a steel box
construction. The IT security room is installed as a
room-in-room system and serves to eliminate
potential physical threats. A partition which passes
over the rack systems achieves targeted separation of
the climate zones.
The following qualities are tested and certified in
accordance with the specified requirements:
Fire protection F90 to DIN 4102
Burglar resistance WK2 to ENV 1630
Dust ingress IP5X to EN 60529
Water ingress IPX4 to EN 60529
Acrid gas-tightness in line with DIN 18095
Electromagnetic compatibility (EMC) as per test
certificate in respect of high-frequency interference
and susceptibility

All proof of compliance is to be presented in the form
of system certification.
This serves to confirm the test and certification

conformity of the IT security room, including all installed modules (door, cable and piping bulkhead, climate control, overpressure relief). Cable and piping entry is realised in accordance with the required properties of the room system. Access doors are designed as fire protection doors, with hinges on the left-hand side (DIN definition) and without stay, in accordance with the aforementioned test criteria. The door is opened by way of a semi-cylinder lock, or alternatively with electric control supplied by the customer. The climate control systems and overpressure relief for the case of extinguisher activation comply with the aforementioned test criteria. The relief device is closed without dependency on an external energy supply.

The 600 mm wide hot aisle and the 950 mm wide cold aisle are partitioned within the security room and are to this end provided with a partitioning panel which passes over the server/network racks.

The standard data centre incorporates a fully functional raised-floor construction, with air intake and outlet grilles in the form of dip-galvanised gratings.

Air-circulating cooling units (CRAC systems) are installed in the cavity space of the raised floor. The CRAC systems do not occupy space within the rack (Zero U-Space Cooling Systems).

A CRAC system is installed under each server rack. Each CRAC system offers a nominal cooling output of 12 kW; the average heat load capacity per rack is thus 10 kW, taking into account n+1 redundancy over the total number of CRAC systems.

The intake temperature for cooling is 20°C, observing temperature limit values according to ASHRAE 2008 (max. 27°C) within the cold aisle.

The UPS climate zone possesses a further CRAC system

to dissipate the UPS heat loss. Through direct injection of the UPS cooling air, a temperature level of max. 22°C is maintained within the climate zone, in accordance with the Eurobat guidelines on the environment for 10-year batteries.

The cooled intake air is blown into the cold aisle by EC fans under the floor gratings. Flat filter fleeces are fitted between the fan grilles and the floor gratings to filter the circulating air.

The intake temperature and speed of the EC fans are regulated by a controller in the standard data centre, which communicates with the controller of an optional chiller station via a system bus for purposes of energy efficiency optimisation. The controller is not accommodated in the IT racks and thus does not occupy rack installation space.

The standard data centre is equipped ready for use with a cold piping system comprising polypropylene piping; the individual heat exchangers are connected by way of high-pressure hoses.

Required chiller set provided by the customer:
The standard data centre must be equipped with a straight ball valve to regulate the air intake temperature to the target value, a flowmeter and two temperature sensors to measure the coolant flow volume and the feed and return temperatures, as well as to calculate the heat output.

Required chiller set must be supplied:
The standard data centre must be supplied without ball valve and sensors for the coolant.
The volume of the medium is regulated by the variable-speed pump of the chiller station of the standard data centre; the sensors are fitted in the chiller station.

The standard data centre is equipped with a modular UPS system with 20 kW modules. The system provides for

n+1 redundancy, and thus four UPS modules are supplied to cover the possible connected load of 60 kW for the ITC hardware.

The UPS system possesses 10 battery strings with 28 Ah batteries, which are assigned jointly to all UPS modules and ensure autonomy for a period of 13 minutes.

The standard data centre incorporates switchgear with fused feeders for the installed rack suite. The switchgear spreads the feeders over two panels to establish an A/B power supply. The UPS system feeds supply path A. Supply path B must be connected to the mains supply via overvoltage protection.

From the switchgear, the distribution busbars of the individual racks are wired ready for use and comprise Power Distribution Units with 24 C13 and 6 C19 sockets. Each rack is provided with two PDUs to establish an A/B power supply.

The power supply is routed above the racks. The data cables are routed to the IT racks separately from the power supply cables. The installation of the data cables is to be performed by the site operator/customer.

Lighting and service socket are protected by way of an RCCB. Emergency lighting is installed.

The standard data centre is equipped with an early fire detection system. To this end, air is drawn from the raised floor of the hot aisle via a perforated plastic pipe. The alarm is given by a monitoring system with Web access and SNMP interface.

The standard data centre is assembled and installed directly on the customer's premises (without IT cabling; connection to the chiller and mains power supply are to be ordered separately).

The room system is installed by certified personnel. Evidence of corresponding certification of the installation personnel is to be presented.

Standard data centre version with 6+1 racks in a security room

Outside dimensions   Inside dimensions
Length: 7420 mm   Length: 7220 mm
Width: 2950 mm   Width: 2750 mm
Height: 2800 mm   Height: 2700 mm

Walls without door require an assembly clearance of 100 mm to the building walls. The roof of the enclosures requires an assembly clearance of 200 mm to the building ceiling.„