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SK 3313.410
Liquid Cooling Package

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SK 3313.410 - Liquid Cooling Package LCP Rack DX

Rack-based cooling on one to two IT racks. Continuous cooling output adjustment due to the use of an output-controlled compressor in the LCP Rack DX (evaporator) An external condenser is required to operate the unit.





Features

Model No.	SK 3313.410
Design	DX
Benefits	Maximum energy efficiency due to EC fan technology and IT-based control Minimal pressure loss at the air end, which in turn minimises the power consumption of the fans Control of the server inlet temperature Thanks to the speed-regulated compressor, the cooling output is ideally adapted to actual requirements With redundant temperature sensor integrated at the air end as standard Specific maintenance of the LCP DX due to separation of cooling and server racks
Applications	Ideal for IT cooling of small and medium-sized locations One or two racks can be cooled separately

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Features

Function principle	The LCP draws in the air at the sides at the rear of the server enclosures, cools it using high-performance compact impellers, and blows the cooled air back into the front part of the server enclosure at the sides Absorbed thermal energy is emitted to the ambient air at the external condenser location, without heating up the installation room
Material	Sheet steel, spray-finished
Colour	RAL 7035
Options	Humidifier Dehumidification and reheater Condensate drain pump Low-temperature/high-temperature condenser (-40 °C/+53 °C)
Design	Rack cooling
Monitoring	Direct connection of the unit via SNMP over Ethernet Integration into RiZone
Total cooling output to DIN EN 14511	Useful cooling output L22 L35: 12 kW Useful cooling output L22 L45: 10 kW
Total cooling output/Number of fan modules	12 kW/4
Total cooling output	12 kW
Modulation range	3 - 12 kW
Air throughput (unimpeded air flow)	At 50 Hz: 4,800 m³/h
Dimensions	Width: 300 mm Height: 2,000 mm Depth: 1,000 mm
To fit enclosure type	VX IT
Installation in bayed enclosure suite	Flush
Rated operating voltage	380 V - 480 V, 3~, 50 Hz/60 Hz
Rated current max.	At 50 Hz: 7.5 A

Features

Max. cooling output	12 kW
Type of electrical connection	Connection clamp
Duty cycle	100 %
EC fan	Yes
SNMP card	Yes
Fans may be exchanged with the system operational	Yes
Temperature control	Linear fan control Inverter-controlled compressor
Pre-fuse	Miniature circuit-breaker/fuse: 20 A
Storage temperature range	-20 °C...50 °C
Operating temperature range	5 °C...35 °C
Noise level	At 50 Hz: 68 dB(A)
Protection category to IEC 60 529	IP 20
Options	Humidifier Dehumidification and reheater Condensate drain pump Low-temperature/high-temperature condenser (-40 °C/+53 °C)
Packs of	1 pc(s).
Net weight	193 kg
Gross weight	207 kg
CRA risk class	Default (Low Risk)
Customs tariff number	84186900
ETIM 9	EC002515
ETIM 8	EC002515
ECLASS 8.0	27180712
Product description	LCP Rack DX, 12 kW, flush, RAL 7035, WHD: 300 x 2000 x 1000 mm, 380 – 480 V/3~/50 – 60 Hz

Approvals

Explanations

Declaration of conformity

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Tender text

LCP Rack DX, 3313.410 WHD (mm) 300x2000x1000

IT-optimised design, providing ideal support for "front-to-back" air routing for the 482.6 mm (19") installations.

As a direct condenser, the integrated air/refrigerant heat exchanger guarantees a cooling output of up to 12 kW with standard server enclosure dimensions, the lowest possible weight, and comprehensive possibilities for monitoring.
The LCP Rack DX is mounted on the side of the rack, with which it then forms a closed system.
The warm server air is drawn in directly from the rear of the rack and the cooled air is blown back in front of the 19" equipment level from the side, over the whole height of the enclosure.
The LCP Rack DX is closed up to the server rack at the front and rear and there forms a flush joint with the rack.
The LCP Rack DX can be used to cool either one or two server racks.

In its maximum configuration, the unit is equipped with four EC fans, for maximum efficiency and minimum power consumption.
The flow characteristics of the heat exchanger are optimised for the lowest possible pressure losses on the air side. This minimises the energy consumption of the fans.

An integrated inverter with corresponding controller serves to regulate the speed of the installed compressor.
This permits stepless adaptation of the output, also in partial-load operation, and by reducing energy consumption also achieves a reduction in operating costs.

Alongside the compressor, the cooling circuit of the LCP Rack DX comprises a collecting tank, liquid separator, electronic expansion valve, optimised heat exchanger, high and low-pressure sensors, Schrader valves, filter dryer, non-return valve, high-pressure switch and shut-off devices.
The refrigerant connections and the electrical power connection to the unit can be realised from above or below.
The system comprising LCP Rack DX and external condenser must be filled with refrigerant R410A after installation at the site.

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The LCP Rack DX and the server rack remain separate from each other. This simplifies assembly and service work and excludes the need for unwanted access to the server rack for maintenance purposes. Maintenance and service for all relevant components can be realised quickly and simply thanks to the optimised layout. The fans can be exchanged quickly and at any time, even while the system is operational (hot swapping).
The fans are installed in the cold air section, which increases their service life.

Condensate management is integrated into the unit. Any condensate is collected in a collecting tray in the base and from there discharged to the outside via a hose.

Thanks to the integrated controller, the LCP Rack DX operates fully autonomously. The setpoint is the server intake air temperature, which is automatically held constant at the set value.
Three sensors are present in each case for detection of the cold and warm air temperatures, providing for the appropriate redundancy.

Monitoring and alarm management for all physical parameters is realised via SNMP and Ethernet.
The SNMP card is integrated as standard in the electrical box, already connected to the main board.

A display with operating keys is integrated on the front of the unit to display and set the physical parameters.

The external condenser SK 3311.360 is needed to operate the LCP Rack DX. Installation and commissioning on site, laying of the refrigerant pipes, and evacuation and filling of the system with refrigerant are not included in the scope of supply and must be realised by correspondingly qualified persons.

Technical specifications:
Useful cooling output:„
12 kW at 35 °C ambient temperature at place of installation of the condenser
10 kW at 45 °C ambient temperature at place of installation of the condenser
Installed fans: 4

Air throughput: max. 4,800 m³/h
Intake temperature, set: 22 °C
Connection, liquid side: 12 mm, external thread
Connection, gas intake side: 12 mm, external thread
Power supply:„400 V, 3~, N, PE, 50/ 60 Hz (voltage range 380-480 V)
Max. connected load: 4,700 W
Refrigerant: R410A
Connection length, max.: 45 m
Height difference (condenser higher/lower), max: 20/3 m
Dimensions (WxHxD): 300 x 2000 x 1000 mm
Weight: 181 kg
Colour: RAL 7035
Integrated SNMP card for network connection

Option on application:
Humidifier
Dehumidification + heater
Condensate pump
High temperature condenser (up to +53°C)
Low temperature condenser + winter kit (down to -40°C)

Needed accessories:
3311.360„
Air cooled condenser for 3313.410 (-20°C to +45°C)