The Future of
Climate Control

Rittal the Authority for Comprehensive Climate Control
Focus On The Future

Rittal climate control guarantees progress

Many companies talk about the future, Rittal is shaping it. We have chosen a forward-thinking approach for climate control development and environmental protection is the focus of our research.

Rittal has been the trendsetter in the climate control market for many years. Since 1992 Pro Ozone has become the global term for environmentally friendly cooling technology. At one time the only environmental issue was to replace the coolants R22 and R12, that were destroying the ozone layer. Now we are dealing with the greenhouse effect, a result of the ozone layer destruction. Rittal is searching for ways to replace the coolant R134a and reduce emissions.

During the operation of an air conditioner only 3% of the CO₂-creation in the environment is the result of the coolant, the other 97% is the result of the electric power consumption. All Rittal climate control products have been consistently designed for energy-efficiency.

Our newest feature, Rittal Liquid Cooling offers an innovative approach to enclosure cooling with effective and progressive climate control options.

History of successes for Rittal innovations

1983 Beginning of Rittal’s enclosure climate control production. The focus of our development and design at the time: Reducing strain on the environment with energy efficient and highly effective equipment.

1988 First enclosure air conditioner equipped with microcontroller.

1992 First air conditioner without the coolant R22/R12, Pro Ozone.

1994 First Design-air conditioner line, with updated microcontroller.

2002 Rittal TopTherm, the new generation of air conditioners and the beginning of Rittal’s liquid cooling concept.

Rittal’s CMC remote monitoring system provides surveillance of air conditioners and chiller systems via the Internet.

Experience – Research – Development

Constant communication with our global customers, combined with Rittal’s vast experience with climate control research and development, create many options for your specific application.

Rittal develops customized solutions, with the aid of its own accredited laboratories, computer supported flow models (CFD) and infrared-thermography.
Better selection, better quality, better value

Rittal has expanded the successful TopTherm program with the addition of several new air conditioners and heat exchangers. Our system wide cross-platform concept makes a variety of cost effective solutions possible. It facilitates special solutions for all sorts of individual needs and applications.

New liquid cooling concepts

New performance standards for CPUs, network components, hard drives and other hardware have been set. Liquid can absorb and dissipate a thousand times more heat in comparison to air by volume, therefore Rittal has established new dimensions in its development of cooling technology.

Rittal looks to the future.
Rittal’s climate control offers perfect solutions for forward-thinking and comprehensive process control. Perfectly coordinated enclosure systems, climate control technology and remote monitoring systems provide state-of-the-art security and availability for your production facility. Rittal is able to develop customized climate control solutions for virtually any application.

Identical installation cutouts for a variety of air conditioners, heat exchangers and fans, make the installation of climate control simple and adaptable to your individual cooling needs.

Rittal climate control –
We insist on top quality, great value, environmentally friendly and highly effective equipment.

Rittal TopTherm air conditioners, in a performance class by itself.
Rittal TopTherm air conditioners are built to the highest standards. Functional design, high degree of effectiveness, targeted cold air routing, and centralized monitoring make TopTherm air conditioners top performers.

- Technology: Ideal combination of comfort, safety and flexibility.
- Cooling performance: Generated and distributed effectively.
- Design: Form follows function, aesthetically pleasing and an eye-catching design.
- Service: Layout, project planning, and thermal analysis.

Chiller systems multitask in cooling technology
The efficiency of chillers is ideal for applications where high cooling requirements exist. Chillers apply a comprehensive approach to process, machine and fluid cooling. Chillers are able to dissipate large heat loads with air/water heat exchangers and cooling elements from enclosures and components.

- All inclusive, service: Project planning, prototypes, quoting, installation and start-up and service agreement.
- Cost advantage: Globally available off-the-shelf components make economizing easy.
Air/air heat exchangers use the cooler ambient air to effectively dissipate heat from the enclosure by using hermetically sealed air circuits (using a counter current, or cross-flow concept). Ambient air and dust are unable to ingress the enclosure.

Air/water heat exchangers cool the enclosure interior by integration into an existing cooling water cycle or connection to a chiller. This makes efficient dissipation of high heat loads under the most extreme conditions possible.

Filter fans with a very low profile design, low noise and high output. Prerequisite: cool, relatively clean ambient air.

19” Climate control: Rack-mounted air conditioners, rack-mounted fans and blowers. Cooling is most effective when installed directly below the electronic equipment.

Heaters prevent the formation of condensation. This is especially valuable for outside locations or unheated rooms.

Climate control accessories make achieving the perfect climate solution even easier.
## Climate Control

### Overview

#### Air Conditioners

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#### Climate Control Doors

- For 600 mm (26.2”) wide TS8 modular enclosures,
  - Useful cooling capacity 1250/1500 W (4269/5738 BTU) | 26 |
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#### Climate Control Tailored To Enclosures

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<td>Continuous thermal output 10 – 300 W (34 – 1025 BTU)</td>
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#### Accessories For Climate Control

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Rittal’s climate control creates the desired ambient conditions for virtually any application, including sensitive electronics. A wide range of air conditioners, chillers, heat exchangers, filter fans and enclosure heaters protect against adverse physical and thermal conditions. Rittal also offers a wide range of system accessories.

**4.1 Climate Control Doors**

For single-door TS8 modular enclosures with thermostat

<table>
<thead>
<tr>
<th>Useful cooling capacity W (BTU)</th>
<th>For modular enclosure dimensions H x W x D mm (inches)</th>
<th>Voltage V, Hz</th>
<th>Part No. SK</th>
<th>Certifications</th>
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<tr>
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</table>

Delivery times available on request.

Enhanced operational reliability and a longer service life for electronics

- Climate controlled enclosure systems
- Air conditioners
- Chillers
- Heat exchangers
- Filter fan units
- Roof-mounted fans
- Rack-mounted climate control
- Enclosure heaters
- Cooling

Detailed information can be found on pages 22 – 118 or on our website: www.rittal-corp.com

The current status of certifications may be found on our website: www.rittal-corp.com

**4.1 Climate Controlled Enclosures**

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Delivery times available on request.
4.1 Climate Control Doors
For single-door TS8 modular enclosures with microcontroller

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1) Delivery times available on request.

For two-door TS8 modular enclosures

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Delivery times available on request.
4.1 Climate Control Sidewalls
For TS8 modular enclosures

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<td>3331.216(1)</td>
<td>31</td>
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<tr>
<td></td>
<td>2000 x 600 (78.7 x 23.6) 400, 2~, 50/60</td>
<td>3331.240(1)</td>
<td>31</td>
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</tr>
</tbody>
</table>

(1) Delivery times available on request.

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4.1 TopTherm Roof-Mounted Air Conditioners
For the office sector

<table>
<thead>
<tr>
<th>Useful cooling capacity W (BTU)</th>
<th>Dimensions H x W x D (mm)</th>
<th>Voltage V, Hz</th>
<th>Part No. SK</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1200 (4100)</td>
<td>415 x 597 x 510 (16.3 x 23.5 x 20.1)</td>
<td>115, 50/60</td>
<td>3273.515(1)</td>
<td>34</td>
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<tr>
<td></td>
<td></td>
<td>230, 50/60</td>
<td>3273.500</td>
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</table>

(1) Delivery times available on request.
### 4.1 TopTherm Roof-Mounted Air Conditioners

<table>
<thead>
<tr>
<th>Useful cooling capacity W (BTU)</th>
<th>Dimensions H x W x D (mm)</th>
<th>Voltage V, Hz</th>
<th>Part No. SK</th>
<th>Certifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>510 (1740)</td>
<td>415 x 597 x 375 (16.3 x 23.5 x 14.8)</td>
<td>230, 50/60</td>
<td>3382.200</td>
<td>UL, CUL, DIN, GS</td>
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<td>115, 50/60</td>
<td>3382.600</td>
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<tr>
<td>810 (2770)</td>
<td>415 x 597 x 375 (16.3 x 23.5 x 14.8)</td>
<td>230, 50/60</td>
<td>3359.200</td>
<td>UL, CUL, DIN, GS</td>
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<td>115, 50/60</td>
<td>3359.600</td>
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<tr>
<td>1080 (3690)</td>
<td>415 x 597 x 475 (16.3 x 23.5 x 18.7)</td>
<td>230, 50/60</td>
<td>3383.200</td>
<td>UL, CUL, DIN, GS</td>
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<td>115, 50/60</td>
<td>3383.600</td>
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<tr>
<td>1520 (5190)</td>
<td>415 x 597 x 475 (16.3 x 23.5 x 18.7)</td>
<td>230, 50/60</td>
<td>3385.200</td>
<td>UL, CUL, DIN, GS</td>
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<td>115, 50/60</td>
<td>3385.600</td>
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<tr>
<td>2130 (7274)</td>
<td>415 x 597 x 475 (16.3 x 23.5 x 18.7)</td>
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<td>115, 50/60</td>
<td>3386.600</td>
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<tr>
<td>3300 (11,270)</td>
<td>470 x 796 x 580 (18.5 x 31.3 x 22.8)</td>
<td>400, 3~ 50/60</td>
<td>3387.240</td>
<td>UL, CUL, DIN, GS</td>
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<td>460, 3~ 60</td>
<td>3387.640</td>
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<td>4200 (14,344)</td>
<td>470 x 796 x 580 (18.5 x 31.3 x 22.8)</td>
<td>400, 3~ 50/60</td>
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<td>460, 3~ 60</td>
<td>3387.640</td>
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Delivery times available on request.
To order air conditioners with integrated condensate evaporators, add .XX1 to the part number, ie. XXXX.XX1.

### 4.1 Wall-mounted Air Conditioners

<table>
<thead>
<tr>
<th>Useful cooling capacity W (BTU)</th>
<th>Dimensions H x W x D (mm)</th>
<th>Voltage V, Hz</th>
<th>Condenser design</th>
<th>Part No. SK</th>
<th>Certifications</th>
</tr>
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<tbody>
<tr>
<td>270 (920)</td>
<td>353.5 x 526 x 105 (13.9 x 20.7 x 4.1)</td>
<td>230, 50/60</td>
<td>left</td>
<td>3201.100</td>
<td>UL, CUL, DIN, GS</td>
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<td>3202.100</td>
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### 4.1 TopTherm Wall-Mounted Air Conditioners

<table>
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<tr>
<th>Useful cooling capacity W (BTU)</th>
<th>Dimensions H x W x D (mm)</th>
<th>Voltage V, Hz</th>
<th>Part No. SK</th>
<th>Certifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>320 (1090)</td>
<td>340 x 525 x 153 (13.4 x 20.7 x 6.0)</td>
<td>230, 50/60</td>
<td>3302.300</td>
<td>UL, CUL, DIN, GS</td>
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<td></td>
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<td>115, 60</td>
<td>3302.310</td>
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</table>
### 4.1 TopTherm Wall-Mounted Air Conditioners

<table>
<thead>
<tr>
<th>Model</th>
<th>Cooling Capacity W (BTU)</th>
<th>Dimensions H x W x D (inches)</th>
<th>Voltage V, Hz</th>
<th>Part No. SK</th>
<th>Certifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>320</td>
<td>15,000</td>
<td>550 x 280 x 140 (21.7 x 11.0 x 5.5)</td>
<td>230, 50/60</td>
<td>3002.100</td>
<td>UL, CUL, DIN, GS</td>
</tr>
<tr>
<td>610</td>
<td>20,800</td>
<td>550 x 280 x 200 (21.7 x 11.0 x 7.9)</td>
<td>230, 50/60</td>
<td>3003.100</td>
<td>UL, CUL, DIN, GS</td>
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<tr>
<td>780</td>
<td>2665</td>
<td>550 x 280 x 280 (21.7 x 11.0 x 10.0)</td>
<td>230, 50/60</td>
<td>3004.100</td>
<td>UL, CUL, DIN, GS</td>
</tr>
<tr>
<td>1060</td>
<td>3600</td>
<td>950 x 400 x 260 (37.4 x 15.7 x 10.2)</td>
<td>230, 50/60</td>
<td>3004.110</td>
<td>UL, CUL, DIN, GS</td>
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<tr>
<td>1510</td>
<td>5150</td>
<td>950 x 400 x 260 (37.4 x 15.7 x 10.2)</td>
<td>230, 50/60</td>
<td>3005.100</td>
<td>UL, CUL, DIN, GS</td>
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<tr>
<td>2350</td>
<td>8000</td>
<td>1580 x 400 x 290 (62.2 x 15.7 x 11.4)</td>
<td>230, 50/60</td>
<td>3007.100</td>
<td>UL, CUL, DIN, GS</td>
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<tr>
<td>2750</td>
<td>9390</td>
<td>1580 x 400 x 290 (62.2 x 15.7 x 11.4)</td>
<td>230, 50/60</td>
<td>3008.100</td>
<td>UL, CUL, DIN, GS</td>
</tr>
<tr>
<td>4400</td>
<td>15,000</td>
<td>1580 x 500 x 340 (62.2 x 19.7 x 13.4)</td>
<td>230, 50/60</td>
<td>3010.100</td>
<td>UL, CUL, DIN, GS</td>
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To order air conditioners with integrated condensate evaporators, add XX1 to the part number, i.e., XXXX.XX1.

### Stainless steel

<table>
<thead>
<tr>
<th>Model</th>
<th>Cooling Capacity W (BTU)</th>
<th>Dimensions H x W x D (inches)</th>
<th>Voltage V, Hz</th>
<th>Part No. SK</th>
<th>Certifications</th>
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<tbody>
<tr>
<td>320</td>
<td>15,000</td>
<td>550 x 280 x 140 (21.7 x 11.0 x 5.5)</td>
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<td>3002.200</td>
<td>UL, CUL, DIN, GS</td>
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<tr>
<td>610</td>
<td>20,800</td>
<td>550 x 280 x 200 (21.7 x 11.0 x 7.9)</td>
<td>230, 50/60</td>
<td>3003.200</td>
<td>UL, CUL, DIN, GS</td>
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<tr>
<td>780</td>
<td>2665</td>
<td>550 x 280 x 280 (21.7 x 11.0 x 10.0)</td>
<td>230, 50/60</td>
<td>3004.200</td>
<td>UL, CUL, DIN, GS</td>
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<tr>
<td>1060</td>
<td>3600</td>
<td>950 x 400 x 260 (37.4 x 15.7 x 10.2)</td>
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<td>3004.210</td>
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<tr>
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<td>5150</td>
<td>950 x 400 x 260 (37.4 x 15.7 x 10.2)</td>
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<td>3005.200</td>
<td>UL, CUL, DIN, GS</td>
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<tr>
<td>2350</td>
<td>8000</td>
<td>1580 x 400 x 290 (62.2 x 15.7 x 11.4)</td>
<td>230, 50/60</td>
<td>3007.200</td>
<td>UL, CUL, DIN, GS</td>
</tr>
<tr>
<td>2750</td>
<td>9390</td>
<td>1580 x 400 x 290 (62.2 x 15.7 x 11.4)</td>
<td>230, 50/60</td>
<td>3008.200</td>
<td>UL, CUL, DIN, GS</td>
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<tr>
<td>4400</td>
<td>15,000</td>
<td>1580 x 500 x 340 (62.2 x 19.7 x 13.4)</td>
<td>230, 50/60</td>
<td>3010.200</td>
<td>UL, CUL, DIN, GS</td>
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To order air conditioners with integrated condensate evaporators, add XX1 to the part number, i.e., XXXX.XX1.

Delivery times available on request.
### 4.1 TopTherm Wall-Mounted Air Conditioners

#### Slimline

<table>
<thead>
<tr>
<th>Part No. SK</th>
<th>With basic controller</th>
<th>With comfort controller</th>
<th>Page</th>
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</thead>
<tbody>
<tr>
<td>3377.100(1)</td>
<td>3377.500(1)</td>
<td>44</td>
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<tr>
<td>3377.110(1)</td>
<td>3377.510(1)</td>
<td>44</td>
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<tr>
<td>3377.140(1)</td>
<td>3377.540(1)</td>
<td>44</td>
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</tbody>
</table>

#### Slimline, Stainless steel

<table>
<thead>
<tr>
<th>Part No. SK</th>
<th>With basic controller</th>
<th>With comfort controller</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3377.200</td>
<td>3377.600</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td>3377.210</td>
<td>3377.610</td>
<td>44</td>
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<tr>
<td>3377.240</td>
<td>3377.640</td>
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Delivery times available on request.

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### 4.1 TopTherm Wall-Mounted Air Conditioners

#### NEMA 4X version

<table>
<thead>
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<th>Part No. SK</th>
<th>Certifications</th>
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<tbody>
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<td>45</td>
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<tr>
<td>3303.114</td>
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<tr>
<td>3304.104</td>
<td>n</td>
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<tr>
<td>3304.114</td>
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<td>3304.144</td>
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<td>3305.114</td>
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<tr>
<td>3328.114</td>
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<td>46</td>
</tr>
<tr>
<td>3328.144</td>
<td>n</td>
<td>46</td>
</tr>
<tr>
<td>3329.104</td>
<td>n</td>
<td>46</td>
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<td>3329.114</td>
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<td>3329.144</td>
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Delivery times available on request.
## 4.2 Chillers

### Mini

<table>
<thead>
<tr>
<th>Useful cooling capacity W (BTU)</th>
<th>Dimensions H x W x D (mm inches)</th>
<th>Voltage V, Hz</th>
<th>Part No. SK</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1120 (3626)</td>
<td>950 x 400 x 510 (37.4 x 15.7 x 12.2)</td>
<td>400, 3-, 50/60/460, 3-, 60</td>
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<td>3360.100</td>
</tr>
<tr>
<td>2800 (9560)</td>
<td>1580 x 400 x 290 (62.2 x 15.7 x 11.4)</td>
<td>400, 3-, 50/60/460, 3-, 60</td>
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<td>3360.250</td>
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<tr>
<td>4500 (15,370)</td>
<td>1580 x 500 x 340 (62.2 x 19.7 x 13.4)</td>
<td>400, 3-, 50/60/460, 3-, 60</td>
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<td>3360.400</td>
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<tr>
<td>1070 (3650)</td>
<td>400 x 600 x 430 (15.7 x 23.6 x 16.9)</td>
<td>230, 50/60</td>
<td>3318.600</td>
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</tr>
<tr>
<td>1660 (5670)</td>
<td>400 x 600 x 430 (15.7 x 23.6 x 16.9)</td>
<td>230, 50/60</td>
<td>3319.600</td>
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</tr>
<tr>
<td>3400 (11,610)</td>
<td>680 x 600 x 625 (26.8 x 23.6 x 24.6)</td>
<td>400, 3-, 50/60/460, 3-, 60</td>
<td>–</td>
<td>3320.600</td>
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<tr>
<td>5400 (18,440)</td>
<td>680 x 600 x 625 (26.8 x 23.6 x 24.6)</td>
<td>400, 3-, 50/60/460, 3-, 60</td>
<td>3334.600</td>
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</table>

### Freestanding enclosure

<table>
<thead>
<tr>
<th>Useful cooling capacity W (BTU)</th>
<th>Dimensions H x W x D (mm inches)</th>
<th>Voltage V, Hz</th>
<th>Part No. SK</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2100 (7172)</td>
<td>725 x 470 x 540 (28.5 x 18.5 x 21.3)</td>
<td>400, 3-, 50</td>
<td>3336.100</td>
<td>53</td>
</tr>
<tr>
<td>2980 (8811)</td>
<td>965 x 485 x 650 (38.0 x 19.1 x 25.6)</td>
<td>400, 3-, 50</td>
<td>3336.200</td>
<td>53</td>
</tr>
<tr>
<td>3360 (11,475)</td>
<td>965 x 485 x 650 (38.0 x 19.1 x 25.6)</td>
<td>400, 3-, 50</td>
<td>3336.300</td>
<td>53</td>
</tr>
<tr>
<td>5040 (17,213)</td>
<td>1180 x 595 x 800 (46.5 x 23.4 x 31.5)</td>
<td>400, 3-, 50</td>
<td>3336.500</td>
<td>53</td>
</tr>
<tr>
<td>6160 (21,038)</td>
<td>1180 x 595 x 800 (46.5 x 23.4 x 31.5)</td>
<td>400, 3-, 50</td>
<td>3336.600</td>
<td>53</td>
</tr>
<tr>
<td>7700 (26,297)</td>
<td>1180 x 595 x 800 (46.5 x 23.4 x 31.5)</td>
<td>400, 3-, 50</td>
<td>3336.650</td>
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</tr>
<tr>
<td>12600 (43,030)</td>
<td>1178 x 615 x 1160 (46.4 x 24.2 x 45.7)</td>
<td>400, 3-, 50</td>
<td>3336.700</td>
<td>54</td>
</tr>
<tr>
<td>18700 (63,665)</td>
<td>1178 x 615 x 1160 (46.4 x 24.2 x 45.7)</td>
<td>400, 3-, 50</td>
<td>3336.710</td>
<td>54</td>
</tr>
<tr>
<td>20100 (68,645)</td>
<td>1178 x 615 x 1160 (46.4 x 24.2 x 45.7)</td>
<td>400, 3-, 50</td>
<td>3336.720</td>
<td>54</td>
</tr>
<tr>
<td>23350 (76,330)</td>
<td>1178 x 715 x 1360 (46.4 x 28.1 x 53.5)</td>
<td>400, 3-, 50</td>
<td>3336.730</td>
<td>54</td>
</tr>
<tr>
<td>25400 (86,745)</td>
<td>1178 x 715 x 1360 (46.4 x 28.1 x 53.5)</td>
<td>400, 3-, 50</td>
<td>3336.740</td>
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<tr>
<td>32250 (110,140)</td>
<td>1178 x 715 x 1360 (46.4 x 28.1 x 53.5)</td>
<td>400, 3-, 50</td>
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<td>54</td>
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Delivery times available on request.
4.2 Chillers
Freestanding enclosure for oil

<table>
<thead>
<tr>
<th>Useful cooling capacity W (BTU)</th>
<th>Dimensions H x W x D mm (inches)</th>
<th>Voltage V, Hz</th>
<th>Part No. SK</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2550 (8709)</td>
<td>965 x 485 x 650 (38.0 x 19.1 x 25.6)</td>
<td>400, 3~, 50</td>
<td>3337.200</td>
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<tr>
<td>3400 (11,612)</td>
<td>965 x 485 x 650 (38.0 x 19.1 x 25.6)</td>
<td>400, 3~, 50</td>
<td>3337.300</td>
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<tr>
<td>5150 (17,588)</td>
<td>1180 x 595 x 800 (46.5 x 23.4 x 31.5)</td>
<td>400, 3~, 50</td>
<td>3337.500</td>
<td>55</td>
</tr>
<tr>
<td>6700 (22,882)</td>
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<td>400, 3~, 50</td>
<td>3337.600</td>
<td>55</td>
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<tr>
<td>7900 (26,380)</td>
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<td>400, 3~, 50</td>
<td>3337.650</td>
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<tr>
<td>10600 (36,201)</td>
<td>1178 x 615 x 1160 (46.4 x 24.2 x 45.7)</td>
<td>400, 3~, 50</td>
<td>3337.700</td>
<td>56</td>
</tr>
<tr>
<td>15150 (51,740)</td>
<td>1178 x 615 x 1160 (46.4 x 24.2 x 45.7)</td>
<td>400, 3~, 50</td>
<td>3337.710</td>
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</tr>
<tr>
<td>17200 (58,741)</td>
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<tr>
<td>19250 (65,742)</td>
<td>1178 x 715 x 1360 (46.4 x 28.1 x 53.5)</td>
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<td>21600 (73,768)</td>
<td>1178 x 715 x 1360 (46.4 x 28.1 x 53.5)</td>
<td>400, 3~, 50</td>
<td>3337.740</td>
<td>56</td>
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<tr>
<td>26100 (89,136)</td>
<td>1178 x 715 x 1360 (46.4 x 28.1 x 53.5)</td>
<td>400, 3~, 50</td>
<td>3337.750</td>
<td>56</td>
</tr>
</tbody>
</table>

Delivery times available on request.

In the TS8 modular enclosure system

<table>
<thead>
<tr>
<th>Useful cooling capacity W (BTU)</th>
<th>Dimensions H x W x D mm (inches)</th>
<th>Voltage V, Hz</th>
<th>Part No. SK</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6000 (20,249)</td>
<td>2000 x 600 x 600 (78.7 x 23.6 x 23.6)</td>
<td>400, 3~, 50</td>
<td>3335.060</td>
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<tr>
<td>7500 (25,614)</td>
<td>2000 x 600 x 600 (78.7 x 23.6 x 23.6)</td>
<td>400, 3~, 50</td>
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</tr>
<tr>
<td>10000 (34,152)</td>
<td>2000 x 800 x 600 (78.7 x 31.5 x 23.6)</td>
<td>400, 3~, 50</td>
<td>3335.100</td>
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<tr>
<td>12000 (40,982)</td>
<td>2000 x 800 x 600 (78.7 x 31.5 x 23.6)</td>
<td>400, 3~, 50</td>
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<tr>
<td>15000 (51,228)</td>
<td>2000 x 800 x 600 (78.7 x 31.5 x 23.6)</td>
<td>400, 3~, 50</td>
<td>3335.150</td>
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<tr>
<td>20000 (68,304)</td>
<td>2000 x 1200 x 600 (78.7 x 47.2 x 23.6)</td>
<td>400, 3~, 50</td>
<td>3335.200</td>
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<tr>
<td>25000 (83,379)</td>
<td>2000 x 1200 x 600 (78.7 x 47.2 x 23.6)</td>
<td>400, 3~, 50</td>
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Delivery times available on request.
4.2 Chillers
In an industrial enclosure

<table>
<thead>
<tr>
<th>Useful cooling capacity W (BTU)</th>
<th>Dimensions H x W x D mm (inches)</th>
<th>Voltage V, Hz</th>
<th>Part No. SK</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>38430 (131,245)</td>
<td>1400 x 815 x 1560 (55.1 x 32.1 x 61.4)</td>
<td>400, 3~, 50 460, 3~, 60</td>
<td>3339.100</td>
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</tr>
<tr>
<td>43480 (148,492)</td>
<td>1400 x 815 x 1560 (55.1 x 32.1 x 61.4)</td>
<td>400, 3~, 50 460, 3~, 60</td>
<td>3339.200</td>
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</tr>
<tr>
<td>20600 (70,349)</td>
<td>1000 x 1800 x 2000 (39.3 x 70.9 x 78.7)</td>
<td>400, 3~, 50 460, 3~, 60</td>
<td>3339.250</td>
<td>59</td>
</tr>
<tr>
<td>36800 (125,672)</td>
<td>1000 x 1800 x 2000 (39.3 x 70.9 x 78.7)</td>
<td>400, 3~, 50 460, 3~, 60</td>
<td>3339.280</td>
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</tr>
<tr>
<td>66700 (227,792)</td>
<td>2000 x 1550 x 2500 (78.7 x 61.0 x 98.4)</td>
<td>400, 3~, 50 460, 3~, 60</td>
<td>3339.300</td>
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<tr>
<td>75900 (259,212)</td>
<td>2000 x 1550 x 2500 (78.7 x 61.0 x 98.4)</td>
<td>400, 3~, 50 460, 3~, 60</td>
<td>3339.400</td>
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<tr>
<td>50000 (170,750)</td>
<td>1550 x 2000 x 3400 (61.1 x 78.7 x 133.9)</td>
<td>400, 3~, 50 460, 3~, 60</td>
<td>3339.450</td>
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<tr>
<td>172000 (588,094)</td>
<td>2200 x 1630 x 3400 (86.5 x 64.2 x 133.9)</td>
<td>400, 3~, 50 460, 3~, 60</td>
<td>3339.500</td>
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Delivery times available on request.

4.2 Immersible Chillers
For oil

<table>
<thead>
<tr>
<th>Useful cooling capacity W (BTU)</th>
<th>Dimensions H x W x D mm (inches)</th>
<th>Voltage V, Hz</th>
<th>Part No. SK</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2700 (9120)</td>
<td>1650 x 785 x 785 (65.0 x 30.9 x 30.9)</td>
<td>400, 3~, 50 460, 3~, 60</td>
<td>3338.020</td>
<td>60</td>
</tr>
<tr>
<td>3600 (12,295)</td>
<td>1650 x 785 x 785 (65.0 x 30.9 x 30.9)</td>
<td>400, 3~, 50 460, 3~, 60</td>
<td>3338.040</td>
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<tr>
<td>5200 (17,760)</td>
<td>1650 x 785 x 785 (65.0 x 30.9 x 30.9)</td>
<td>400, 3~, 50 460, 3~, 60</td>
<td>3338.060</td>
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<tr>
<td>6300 (21,515)</td>
<td>1650 x 785 x 785 (65.0 x 30.9 x 30.9)</td>
<td>400, 3~, 50 460, 3~, 60</td>
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<tr>
<td>9500 (32,445)</td>
<td>1650 x 785 x 785 (65.0 x 30.9 x 30.9)</td>
<td>400, 3~, 50 460, 3~, 60</td>
<td>3338.100</td>
<td>61</td>
</tr>
<tr>
<td>11800 (40,300)</td>
<td>1650 x 785 x 785 (65.0 x 30.9 x 30.9)</td>
<td>400, 3~, 50 460, 3~, 60</td>
<td>3338.120</td>
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</tr>
<tr>
<td>13400 (45,760)</td>
<td>1650 x 785 x 785 (65.0 x 30.9 x 30.9)</td>
<td>400, 3~, 50 460, 3~, 60</td>
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<tr>
<td>15200 (51,910)</td>
<td>1650 x 785 x 785 (65.0 x 30.9 x 30.9)</td>
<td>400, 3~, 50 460, 3~, 60</td>
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<tr>
<td>17100 (58,400)</td>
<td>1650 x 785 x 785 (65.0 x 30.9 x 30.9)</td>
<td>400, 3~, 50 460, 3~, 60</td>
<td>3338.180</td>
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</tr>
<tr>
<td>19400 (66,255)</td>
<td>1650 x 785 x 785 (65.0 x 30.9 x 30.9)</td>
<td>400, 3~, 50 460, 3~, 60</td>
<td>3338.200</td>
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</tr>
<tr>
<td>23200 (79,230)</td>
<td>1650 x 785 x 1830 (65.0 x 30.9 x 72.0)</td>
<td>400, 3~, 50 460, 3~, 60</td>
<td>3338.220</td>
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</tr>
<tr>
<td>34500 (117,825)</td>
<td>1650 x 785 x 1830 (65.0 x 30.9 x 72.0)</td>
<td>400, 3~, 50 460, 3~, 60</td>
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<tr>
<td>39100 (133,415)</td>
<td>1650 x 785 x 1830 (65.0 x 30.9 x 72.0)</td>
<td>400, 3~, 50 460, 3~, 60</td>
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</tr>
<tr>
<td>49800 (170,075)</td>
<td>1650 x 1830 x 1830 (65.0 x 72.0 x 72.0)</td>
<td>400, 3~, 50 460, 3~, 60</td>
<td>3338.280</td>
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</tr>
<tr>
<td>54400 (185,785)</td>
<td>1650 x 1830 x 1830 (65.0 x 72.0 x 72.0)</td>
<td>400, 3~, 50 460, 3~, 60</td>
<td>3338.300</td>
<td>62</td>
</tr>
<tr>
<td>67900 (231,890)</td>
<td>1650 x 1830 x 1830 (65.0 x 72.0 x 72.0)</td>
<td>400, 3~, 50 460, 3~, 60</td>
<td>3338.320</td>
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</tr>
<tr>
<td>81300 (277,655)</td>
<td>1650 x 1830 x 1830 (65.0 x 72.0 x 72.0)</td>
<td>400, 3~, 50 460, 3~, 60</td>
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</tr>
<tr>
<td>87200 (297,805)</td>
<td>1650 x 1830 x 1830 (65.0 x 72.0 x 72.0)</td>
<td>400, 3~, 50 460, 3~, 60</td>
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Delivery times available on request.
4.2 Immersible Chillers
For emulsion

<table>
<thead>
<tr>
<th>Useful cooling capacity W (BTU)</th>
<th>Dimensions H x W x D mm (inches)</th>
<th>Voltage V, Hz</th>
<th>Part No. SK</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2700 (9220)</td>
<td>1650 x 785 x 785 (65.0 x 30.9 x 30.9)</td>
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</tr>
<tr>
<td>3600 (12,295)</td>
<td>1650 x 785 x 785 (65.0 x 30.9 x 30.9)</td>
<td>400, 3~, 50; 460, 3~, 60</td>
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<tr>
<td>5200 (17,760)</td>
<td>1650 x 785 x 785 (65.0 x 30.9 x 30.9)</td>
<td>400, 3~, 50; 460, 3~, 60</td>
<td>3338.540</td>
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<tr>
<td>6300 (21,515)</td>
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<td>400, 3~, 50; 460, 3~, 60</td>
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<tr>
<td>9500 (32,445)</td>
<td>1650 x 785 x 785 (65.0 x 30.9 x 30.9)</td>
<td>400, 3~, 50; 460, 3~, 60</td>
<td>3338.580</td>
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</tr>
<tr>
<td>11800 (40,300)</td>
<td>1650 x 785 x 785 (65.0 x 30.9 x 30.9)</td>
<td>400, 3~, 50; 460, 3~, 60</td>
<td>3338.600</td>
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<tr>
<td>13400 (45,765)</td>
<td>1650 x 785 x 785 (65.0 x 30.9 x 30.9)</td>
<td>400, 3~, 50; 460, 3~, 60</td>
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<tr>
<td>15200 (51,910)</td>
<td>1650 x 785 x 785 (65.0 x 30.9 x 30.9)</td>
<td>400, 3~, 50; 460, 3~, 60</td>
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</tr>
<tr>
<td>17100 (58,400)</td>
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<td>400, 3~, 50; 460, 3~, 60</td>
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<tr>
<td>19400 (66,255)</td>
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<tr>
<td>23200 (79,230)</td>
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<td>400, 3~, 50; 460, 3~, 60</td>
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<tr>
<td>34500 (117,825)</td>
<td>1650 x 785 x 1830 (65.0 x 30.9 x 72.0)</td>
<td>400, 3~, 50; 460, 3~, 60</td>
<td>3338.720</td>
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</tr>
<tr>
<td>39100 (133,535)</td>
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<td>400, 3~, 50; 460, 3~, 60</td>
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</tr>
<tr>
<td>49800 (170,075)</td>
<td>1650 x 1830 x 1830 (65.0 x 72.0 x 72.0)</td>
<td>400, 3~, 50; 460, 3~, 60</td>
<td>3338.760</td>
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<tr>
<td>54400 (185,785)</td>
<td>1650 x 1830 x 1830 (65.0 x 72.0 x 72.0)</td>
<td>400, 3~, 50; 460, 3~, 60</td>
<td>3338.780</td>
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<tr>
<td>67900 (231,890)</td>
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<td>400, 3~, 50; 460, 3~, 60</td>
<td>3338.800</td>
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<tr>
<td>81300 (277,655)</td>
<td>1650 x 1830 x 1830 (65.0 x 72.0 x 72.0)</td>
<td>400, 3~, 50; 460, 3~, 60</td>
<td>3338.820</td>
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<tr>
<td>87200 (297,805)</td>
<td>1650 x 1830 x 1830 (65.0 x 72.0 x 72.0)</td>
<td>400, 3~, 50; 460, 3~, 60</td>
<td>3338.840</td>
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Delivery times available on request.

4.3 Air/Water Heat Exchangers
Micro, for wall-mounting

<table>
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<tr>
<th>Useful cooling capacity W (BTU)</th>
<th>Dimensions H x W x D mm (inches)</th>
<th>Voltage V, Hz</th>
<th>Part No. SK</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>300 (1025)</td>
<td>300 x 150 x 85 (11.8 x 5.9 x 3.3)</td>
<td>230, 50/60; 115, 50/60; 24 V (DC)</td>
<td>3212.230</td>
<td>68</td>
</tr>
</tbody>
</table>

1) Delivery times available on request.
4.3 Air/Water Heat Exchangers

Wall-mounted

<table>
<thead>
<tr>
<th>Useful cooling capacity W (BTU)</th>
<th>Dimensions H x W x D mm (inches)</th>
<th>Voltage V, Hz</th>
<th>Part No. SK</th>
<th>Certifications</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>600 (2049)</td>
<td>500 x 200 x 100 (19.7 x 7.9 x 3.9)</td>
<td>230, 50/60</td>
<td>3214.100</td>
<td>Wall mount</td>
<td>69</td>
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<tr>
<td>1000 (3415)</td>
<td>520 x 298 x 135 (20.5 x 11.7 x 5.3)</td>
<td>230, 50/60</td>
<td>3217.100</td>
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<td>69</td>
</tr>
<tr>
<td>1250 (4269)</td>
<td>950 x 200 x 100 (37.4 x 7.9 x 3.9)</td>
<td>230, 50/60</td>
<td>3215.100</td>
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<td>70</td>
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<tr>
<td>1540 (5259)</td>
<td>825 x 380 x 105 (32.4 x 15.0 x 4.1)</td>
<td>230, 50/60</td>
<td>3247.000</td>
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<tr>
<td>2250 (7384)</td>
<td>950 x 400 x 200 (37.4 x 15.7 x 7.9)</td>
<td>230, 50/60</td>
<td>3218.1041)</td>
<td></td>
<td>71</td>
</tr>
<tr>
<td>3000 (10,246)</td>
<td>950 x 400 x 200 (37.4 x 15.7 x 7.9)</td>
<td>230, 50/60</td>
<td>3218.100</td>
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<td>71</td>
</tr>
<tr>
<td>4500 (15,368)</td>
<td>1400 x 450 x 250 (55.1 x 17.7 x 9.8)</td>
<td>230, 50/60</td>
<td>3216.100</td>
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<tr>
<td>7000 (23,905)</td>
<td>450 x 1800 x 300 (17.7 x 70.9 x 11.8)</td>
<td>400, 3~, 50/60</td>
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</table>

1) Delivery times available on request.

4.3 TopTherm Air/Water Heat Exchangers

Roof-mounted

<table>
<thead>
<tr>
<th>Useful cooling capacity W (BTU)</th>
<th>Dimensions H x W x D mm (inches)</th>
<th>Voltage V, Hz</th>
<th>Part No. SK</th>
<th>Certifications</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1875 (6403)</td>
<td>415 x 597 x 475 (16.3 x 23.5 x 18.7)</td>
<td>230, 50/60</td>
<td>3209.1041)</td>
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<td></td>
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<td>115, 50/60</td>
<td>3209.1141)</td>
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<td>72</td>
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<td>400, 2~, 50/60</td>
<td>3209.1441)</td>
<td></td>
<td>72</td>
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<tr>
<td>2500 (8538)</td>
<td>415 x 597 x 475 (16.3 x 23.5 x 18.7)</td>
<td>230, 50/60</td>
<td>3209.100</td>
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<td>72</td>
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<td>115, 50/60</td>
<td>3209.110</td>
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<td>400, 2~, 50/60</td>
<td>3209.1401)</td>
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<td>72</td>
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<tr>
<td>3000 (10,246)</td>
<td>415 x 597 x 475 (16.3 x 23.5 x 18.7)</td>
<td>230, 50/60</td>
<td>3210.1041)</td>
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<td>73</td>
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<tr>
<td></td>
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<td>115, 50/60</td>
<td>3210.1141)</td>
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<td>73</td>
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<td>400, 2~, 50/60</td>
<td>3210.1441)</td>
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<td>73</td>
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<tr>
<td>4000 (13,661)</td>
<td>415 x 597 x 475 (16.3 x 23.5 x 18.7)</td>
<td>230, 50/60</td>
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<td>115, 50/60</td>
<td>3210.110</td>
<td></td>
<td>73</td>
</tr>
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<td></td>
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<td>400, 2~, 50/60</td>
<td>3210.1401)</td>
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</table>

1) Delivery times available on request.

4.3 Air/Water Heat Exchangers

As a sidewall for TS8 modular enclosures

<table>
<thead>
<tr>
<th>Useful cooling capacity W (BTU)</th>
<th>For modular enclosure dimensions H x D mm (inches)</th>
<th>Dimensions H x W x D mm (inches)</th>
<th>Voltage V, Hz</th>
<th>Part No. SK</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>700 (2391)</td>
<td>1800 x 600 (70.9 x 23.6)</td>
<td>1800 x 600 x 95 (70.9 x 23.6 x 3.7)</td>
<td>230, 50/60</td>
<td>3316.180</td>
<td>74</td>
</tr>
<tr>
<td>700 (2391)</td>
<td>2000 x 600 (78.7 x 23.6)</td>
<td>2000 x 600 x 95 (78.7 x 23.6 x 3.7)</td>
<td>230, 50/60</td>
<td>3316.200</td>
<td>74</td>
</tr>
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</table>
### 4.3 TopTherm Air/Air Heat Exchangers

**Wall-mounting**

<table>
<thead>
<tr>
<th>Specific thermal capacity</th>
<th>Dimensions H x W x D (mm / inches)</th>
<th>Voltage V, Hz</th>
<th>Part No. SK</th>
<th>Certifications</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.0 W/C</td>
<td>200 x 400 x 146 (7.8 x 15.7 x 4.8)</td>
<td>230, 50/60</td>
<td>3125.800</td>
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<td>77</td>
</tr>
<tr>
<td>17.5 W/C</td>
<td>550 x 280 x 150 (21.7 x 11.0 x 5.9)</td>
<td>230, 50/60</td>
<td>3126.100</td>
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<td>75</td>
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<tr>
<td>30.0 W/C</td>
<td>950 x 400 x 205 (37.4 x 15.7 x 8.1)</td>
<td>230, 50/60</td>
<td>3127.100</td>
<td>2.3</td>
<td>75</td>
</tr>
<tr>
<td>45.0 W/C</td>
<td>950 x 400 x 225 (37.4 x 15.7 x 8.9)</td>
<td>230, 50/60</td>
<td>3128.100</td>
<td>2.3</td>
<td>75</td>
</tr>
<tr>
<td>60.0 W/C</td>
<td>950 x 400 x 225 (37.4 x 15.7 x 8.9)</td>
<td>230, 50/60</td>
<td>3129.100</td>
<td>2.3</td>
<td>75</td>
</tr>
<tr>
<td>62.0 W/C</td>
<td>400 x 1360 x 110 (15.7 x 53.0 x 4.3)</td>
<td>230, 50/60</td>
<td>3130.100</td>
<td>2.3</td>
<td>77</td>
</tr>
<tr>
<td>90.0 W/C</td>
<td>1580 x 400 x 215 (62.2 x 15.7 x 8.5)</td>
<td>230, 50/60</td>
<td>3131.100</td>
<td>2.3</td>
<td>76</td>
</tr>
</tbody>
</table>

### 4.4 Filter Fan Unit

<table>
<thead>
<tr>
<th>Air displacement, unimpeded air flow</th>
<th>Voltage V, Hz</th>
<th>Part No. SK</th>
<th>Certifications</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>20/25 m³/h (12/15 cfm)</td>
<td>230, 50/60</td>
<td>3321.107</td>
<td>2.3</td>
<td>79</td>
</tr>
<tr>
<td>20 m³/h (12 cfm)</td>
<td>24 (DC)</td>
<td>3321.027</td>
<td>2.3</td>
<td>79</td>
</tr>
<tr>
<td>55/66 m³/h (32/39 cfm)</td>
<td>230, 50/60</td>
<td>3322.107</td>
<td>2.3</td>
<td>79</td>
</tr>
<tr>
<td>55 m³/h (32 cfm)</td>
<td>24 (DC)</td>
<td>3322.027</td>
<td>2.3</td>
<td>79</td>
</tr>
<tr>
<td>105/120 m³/h (62/71 cfm)</td>
<td>230, 50/60</td>
<td>3323.107</td>
<td>2.3</td>
<td>80</td>
</tr>
<tr>
<td>105 m³/h (62 cfm)</td>
<td>24 (DC)</td>
<td>3323.027</td>
<td>2.3</td>
<td>80</td>
</tr>
<tr>
<td>160/180 m³/h (94/106 cfm)</td>
<td>230, 50/60</td>
<td>3324.107</td>
<td>2.3</td>
<td>80</td>
</tr>
<tr>
<td>180 m³/h (106 cfm)</td>
<td>24 (DC)</td>
<td>3324.027</td>
<td>2.3</td>
<td>80</td>
</tr>
<tr>
<td>230/265 m³/h (135/158 cfm)</td>
<td>230, 50/60</td>
<td>3325.107</td>
<td>2.3</td>
<td>81</td>
</tr>
<tr>
<td>230 m³/h (135 cfm)</td>
<td>24 (DC)</td>
<td>3325.027</td>
<td>2.3</td>
<td>81</td>
</tr>
<tr>
<td>550/600 m³/h (324/353 cfm)</td>
<td>230, 50/60</td>
<td>3326.107</td>
<td>2.3</td>
<td>82</td>
</tr>
<tr>
<td>700/720 m³/h (412/424 cfm)</td>
<td>230, 50/60</td>
<td>3327.107</td>
<td>2.3</td>
<td>82</td>
</tr>
<tr>
<td>1160 m³/h (680 cfm)</td>
<td>230, 50/60</td>
<td>9964.986</td>
<td>2.3</td>
<td>82</td>
</tr>
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</table>

1) Delivery times available on request.
4.4 Filter Fan Unit – EMC

<table>
<thead>
<tr>
<th>Air displacement, unimpeded air flow</th>
<th>Voltage V, Hz</th>
<th>Part No. SK</th>
<th>Certifications</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>20/25 m³/h (12/15 cfm)</td>
<td>230, 50/60</td>
<td>3321.607</td>
<td>■ ■</td>
<td>83</td>
</tr>
<tr>
<td></td>
<td>115, 50/60</td>
<td>3321.6171)</td>
<td>■ ■</td>
<td>83</td>
</tr>
<tr>
<td>55/66 m³/h (33/39 cfm)</td>
<td>230, 50/60</td>
<td>3322.607</td>
<td>■ ■</td>
<td>83</td>
</tr>
<tr>
<td></td>
<td>115, 50/60</td>
<td>3322.6171)</td>
<td>■ ■</td>
<td>83</td>
</tr>
<tr>
<td>105/120 m³/h (62/71 cfm)</td>
<td>230, 50/60</td>
<td>3323.607</td>
<td>■ ■</td>
<td>83</td>
</tr>
<tr>
<td></td>
<td>115, 50/60</td>
<td>3323.6171)</td>
<td>■ ■</td>
<td>83</td>
</tr>
<tr>
<td>160/180 m³/h (94/106 cfm)</td>
<td>230, 50/60</td>
<td>3324.607</td>
<td>■ ■</td>
<td>84</td>
</tr>
<tr>
<td></td>
<td>115, 50/60</td>
<td>3324.6171)</td>
<td>■ ■</td>
<td>84</td>
</tr>
<tr>
<td>230/265 m³/h (135/156 cfm)</td>
<td>230, 50/60</td>
<td>3325.607</td>
<td>■ ■</td>
<td>84</td>
</tr>
<tr>
<td></td>
<td>115, 50/60</td>
<td>3325.6171)</td>
<td>■ ■</td>
<td>84</td>
</tr>
<tr>
<td>550/600 m³/h (324/353 cfm)</td>
<td>230, 50/60</td>
<td>3326.607</td>
<td>■ ■</td>
<td>84</td>
</tr>
<tr>
<td></td>
<td>115, 50/60</td>
<td>3326.6171)</td>
<td>■ ■</td>
<td>84</td>
</tr>
<tr>
<td>700/720 m³/h (412/424 cfm)</td>
<td>230, 50/60</td>
<td>3327.607</td>
<td>■ ■</td>
<td>84</td>
</tr>
<tr>
<td></td>
<td>115, 50/60</td>
<td>3327.6171)</td>
<td>■ ■</td>
<td>84</td>
</tr>
</tbody>
</table>

1) Delivery times available on request.

4.5 Rack-Mounted Air Conditioners

<table>
<thead>
<tr>
<th>Useful cooling capacity W (BTU)</th>
<th>Dimensions H x W x D mm (inches)</th>
<th>Voltage V, Hz</th>
<th>Part No. SK</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000 (3415)</td>
<td>265.9 x 445 x 542 (10.5 x 17.5 x 21.3)</td>
<td>115, 50/60</td>
<td>3278.1341)</td>
<td>87</td>
</tr>
<tr>
<td></td>
<td></td>
<td>230, 50/60</td>
<td>3292.134</td>
<td>87</td>
</tr>
</tbody>
</table>

1) Delivery times available on request.

4.5 Rack-Mounted Fan

<table>
<thead>
<tr>
<th>Air displacement, unimpeded air flow</th>
<th>No. of fans</th>
<th>Distance between axes mm (inches)</th>
<th>Voltage V, Hz</th>
<th>Part No. SK</th>
<th>Certifications</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>250 m³/h (147 cfm)</td>
<td>3</td>
<td>85 (3.3) 36 (DC) – 72 (DC)</td>
<td>9769.0021)</td>
<td>■ ■</td>
<td>86</td>
<td></td>
</tr>
<tr>
<td>320 m³/h (188 cfm)</td>
<td>2</td>
<td>85 (3.3) 24 (DC)</td>
<td>3340.0241)</td>
<td>■ ■ ■ ■</td>
<td>88</td>
<td></td>
</tr>
<tr>
<td></td>
<td>85 (3.3) 230 (AC), 50/60</td>
<td>3340.1151)</td>
<td>■ ■</td>
<td>88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>480 m³/h (283 cfm)</td>
<td>3</td>
<td>85 (3.3) 24 (DC)</td>
<td>3341.0241)</td>
<td>■ ■</td>
<td>88</td>
<td></td>
</tr>
<tr>
<td></td>
<td>105 (4.1) 24 (DC)</td>
<td>3342.024</td>
<td>■ ■</td>
<td>88</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>85 (3.3) 115 (AC), 50/60</td>
<td>3341.115</td>
<td>■ ■</td>
<td>88</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>105 (4.1) 230 (AC), 50/60</td>
<td>3342.115</td>
<td>■ ■</td>
<td>88</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>85 (3.3) 20 (DC)</td>
<td>3341.230</td>
<td>■ ■</td>
<td>88</td>
<td></td>
</tr>
<tr>
<td></td>
<td>105 (4.1) 230 (AC), 50/60</td>
<td>3342.230</td>
<td>■ ■</td>
<td>88</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>105 (4.1) 24 (DC)</td>
<td>3342.500</td>
<td>■ ■ ■</td>
<td>88</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>105 (4.1) 115 – 230 (AC), 50/60</td>
<td>3342.500</td>
<td>■ ■ ■</td>
<td>88</td>
<td></td>
</tr>
</tbody>
</table>

1) Delivery times available on request.
### 4.5 Vario Rack-Mounted Fan

<table>
<thead>
<tr>
<th>Air displacement, unimpeded air flow</th>
<th>No. of fans</th>
<th>Distance between axes mm (inches)</th>
<th>Voltage V, Hz</th>
<th>Part No. SK</th>
<th>Certifications</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>320 m³/h (188 cfm)</td>
<td>2</td>
<td>85 (3.3) 24 (DC)</td>
<td>115 (AC), 50/60</td>
<td>3350.024</td>
<td>UL, CUL, DIN, GS, VDE</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>85 (3.3) 230 (AC), 50/60</td>
<td>115 (AC), 50/60</td>
<td>3350.230</td>
<td>UL, CUL, DIN, GS, VDE</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>85 (3.3) 24 (DC)</td>
<td>115 (AC), 50/60</td>
<td>3351.024</td>
<td>UL, CUL, DIN, GS, VDE</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>85 (3.3) 230 (AC), 50/60</td>
<td>115 (AC), 50/60</td>
<td>3352.115</td>
<td>UL, CUL, DIN, GS, VDE</td>
<td>88</td>
</tr>
<tr>
<td>480 m³/h (283 cfm)</td>
<td>3</td>
<td>105 (4.1) 24 (DC)</td>
<td>115 (AC), 50/60</td>
<td>3352.200</td>
<td>UL, CUL, DIN, GS, VDE</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>105 (4.1) 230 (AC), 50/60</td>
<td>115 (AC), 50/60</td>
<td>3351.230</td>
<td>UL, CUL, DIN, GS, VDE</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>105 (4.1) 24 (DC)</td>
<td>230 (AC), 50/60</td>
<td>3352.500</td>
<td>UL, CUL, DIN, GS, VDE</td>
<td>88</td>
</tr>
</tbody>
</table>

1) Delivery times available on request.

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### 4.5 Centrifugal Fan

<table>
<thead>
<tr>
<th>Air displacement, unimpeded air flow</th>
<th>Dimensions H x W x D mm (inches)</th>
<th>Voltage V, Hz</th>
<th>Part No. SK</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>320 m³/h (188 cfm)</td>
<td>87 x 482 x 158 (3.4 x 19.0 x 6.2)</td>
<td>115, 50/60</td>
<td>3145.000</td>
<td>89</td>
</tr>
<tr>
<td></td>
<td></td>
<td>230, 50/60</td>
<td>3144.000</td>
<td>89</td>
</tr>
<tr>
<td>400 m³/h (235 cfm)</td>
<td>87 x 482 x 158 (3.4 x 19.0 x 6.2)</td>
<td>115, 50/60</td>
<td>3149.007</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td></td>
<td>230, 50/60</td>
<td>3149.776</td>
<td>90</td>
</tr>
</tbody>
</table>

---

### 4.5 Roof-Mounted Fan and Vent Attachment

For TS8 modular enclosures

<table>
<thead>
<tr>
<th>Air displacement, unimpeded air flow</th>
<th>Voltage V, Hz</th>
<th>Required mounting cutout W x D mm (inches)</th>
<th>Part No. SK</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>400 m³/h (235 cfm)</td>
<td>115, 50/60</td>
<td>475 x 260 (18.7 x 10.2)</td>
<td>3149.410</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>230, 50/60</td>
<td>475 x 260 (18.7 x 10.2)</td>
<td>3149.420</td>
<td>90</td>
</tr>
<tr>
<td>800 m³/h (471 cfm)</td>
<td>115, 50/60</td>
<td>475 x 260 (18.7 x 10.2)</td>
<td>3149.810</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>230, 50/60</td>
<td>475 x 260 (18.7 x 10.2)</td>
<td>3149.820</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>345 x 265 (13.6 x 10.4)</td>
<td>3149.840</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>Without motor</td>
<td>490 x 390 (19.3 x 15.4)</td>
<td>8801.380</td>
<td>90</td>
<td></td>
</tr>
</tbody>
</table>

---

### 4.5 Roof-Mounted Fans

<table>
<thead>
<tr>
<th>Air displacement, unimpeded air flow</th>
<th>Voltage V, Hz</th>
<th>Required mounting cutout W x D mm (inches)</th>
<th>Part No. SK</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>360 m³/h (212 cfm)</td>
<td>230, 50/60</td>
<td>345 x 265 (13.6 x 10.4)</td>
<td>3149.007</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>115, 50/60</td>
<td>345 x 265 (13.6 x 10.4)</td>
<td>3169.007</td>
<td>90</td>
</tr>
<tr>
<td>Without fan motor</td>
<td>345 x 265 (13.6 x 10.4)</td>
<td>3148.007</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>625 m³/h (360 cfm)</td>
<td>230, 50/60</td>
<td>345 x 265 (13.6 x 10.4)</td>
<td>9966.815 + 9967.776</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>115, 50/60</td>
<td>345 x 265 (13.6 x 10.4)</td>
<td>9966.814 + 9967.775 EMC</td>
<td>90</td>
</tr>
</tbody>
</table>
## 4.5 Roof-Mounted Fans
### For TS/FR(i) for the office sector

<table>
<thead>
<tr>
<th>Air displacement, unimpeded air flow</th>
<th>Voltage V, Hz</th>
<th>Version</th>
<th>Dimensions H x W x D mm (inches)</th>
<th>Part No. SK</th>
<th>Certifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,500 m³/h (883 cfm)</td>
<td>115, 50/60</td>
<td>Without roof plate</td>
<td>240 x 800 x 800 (9.4 x 31.5 x 31.5)</td>
<td>3164.610</td>
<td>UL CUL DIN GS CSA</td>
</tr>
<tr>
<td>1,500 m³/h (883 cfm)</td>
<td>230, 50/60</td>
<td>Without roof plate</td>
<td>240 x 800 x 900 (9.4 x 31.5 x 35.4)</td>
<td>3164.610</td>
<td>UL CUL DIN GS CSA</td>
</tr>
<tr>
<td>1,500 m³/h (883 cfm)</td>
<td>115, 50/60</td>
<td>With roof plate</td>
<td>227 x 511 x 511 (8.9 x 20.1 x 20.1)</td>
<td>3164.115</td>
<td>UL CUL DIN GS CSA</td>
</tr>
<tr>
<td>1,500 m³/h (883 cfm)</td>
<td>230, 50/60</td>
<td>With roof plate</td>
<td>227 x 511 x 511 (8.9 x 20.1 x 20.1)</td>
<td>3164.230</td>
<td>UL CUL DIN GS CSA</td>
</tr>
</tbody>
</table>

## 4.6 Enclosure Heaters
### Continuous thermal output for $T_u = 20°C$ (68°F)

<table>
<thead>
<tr>
<th>Voltage V, Hz</th>
<th>Part No. SK</th>
<th>Certifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>3105.000</td>
<td>UL CUL DIN GS VDE</td>
</tr>
<tr>
<td>20</td>
<td>3106.000</td>
<td>UL CUL DIN GS VDE</td>
</tr>
<tr>
<td>30</td>
<td>3115.000</td>
<td>UL CUL DIN GS VDE</td>
</tr>
<tr>
<td>50</td>
<td>3116.000</td>
<td>UL CUL DIN GS VDE</td>
</tr>
<tr>
<td>130</td>
<td>3107.000 + 3108.000</td>
<td>UL CUL DIN GS VDE</td>
</tr>
<tr>
<td>300</td>
<td>3102.000 + 3102.110</td>
<td>UL CUL DIN GS VDE</td>
</tr>
</tbody>
</table>

### For CS outdoor enclosures

<table>
<thead>
<tr>
<th>Voltage V, Hz</th>
<th>Installation</th>
<th>Dimensions H x W x D mm (inches)</th>
<th>Part No. CS</th>
<th>Certifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
<td>230, 50/60</td>
<td>82 x 325 x 220 (3.2 x 12.8 x 8.7)</td>
<td>9769.015</td>
<td>UL CUL DIN GS VDE</td>
</tr>
<tr>
<td>600</td>
<td>230, 50/60</td>
<td>87.2 x 482.6 x 236 (3.4 x 19.0 x 9.3)</td>
<td>9769.023</td>
<td>UL CUL DIN GS VDE</td>
</tr>
</tbody>
</table>

## 4.8 Liquid Cooling Package

### Cooling capacity W (BTU)

<table>
<thead>
<tr>
<th>Dimensions H x W x D mm (inches)</th>
<th>Voltage V, Hz</th>
<th>Part No. SK</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enclosure + 3 modules</td>
<td>2000 x 300 x 1000 (78.7 x 11.8 x 39.4)</td>
<td>230, 50/60</td>
<td>3301.230</td>
</tr>
<tr>
<td>4000 (13,661)</td>
<td>2000 x 300 x 1000 (78.7 x 11.8 x 39.4)</td>
<td>115, 50/60</td>
<td>3301.210</td>
</tr>
<tr>
<td>Cooling module, single</td>
<td>250 x 550 x 950 (9.8 x 21.7 x 37.4)</td>
<td>230, 50/60</td>
<td>3301.250</td>
</tr>
</tbody>
</table>

## 4.8 Rack-Mounted Chiller

### Specific thermal capacity W (BTU)

<table>
<thead>
<tr>
<th>Dimensions H x W x D mm (inches)</th>
<th>Voltage V, Hz</th>
<th>Part No. SK</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>442 x 175 x 751 (17.4 x 6.9 x 29.6)</td>
<td>230, 50/60</td>
<td>3301.260</td>
<td>116</td>
</tr>
</tbody>
</table>

Delivery times available on request.
Rittal Climate Control offers comprehensive process protection for virtually any application. This includes the cooling of sensitive electronics in enclosures and cases for industrial process control, and server and network technology, regardless of ambient conditions. But Rittal’s climate control systems are not isolated solutions, with Rittal, everything is interconnected. Perfectly linked and controlled cooling technology combined with eco-friendly, energy-efficient equipment, create the perfect environment for your equipment.

### Selection criteria

#### Integrated cooling technology
The combination of enclosure and cooling components provides excellent cooling, cost savings and reduced assembly time.

#### Roof-mounted air conditioners
Requirement oriented routing of cooling air in the internal circuit is possible with up to four cold air outlet openings and the optional use of ducts. In the external circuit, the heated air is expelled to the rear, left, right, and optionally upwards. This allows enclosures to be bayed together or to be installed close to the wall.

#### Wall-mounted air conditioners
Depending on the space and design requirements, internal mounting, partial internal mounting and external mounting are all possible. Effective cold air dissipation throughout the enclosure is achieved by large distances between the air intake and outlet openings.

### Intelligent control
Rittal offers basic and comfort control versions for operational reliability. Both versions offer a comprehensive range of functions. Essential control electronics are well protected and cooled in the inner circuit.

Both versions have the following properties:

- Three voltage options: 115 V, 230 V, 400/460 V 3~
- Integrated start-up delay and door limit switch function
- Icing protection function
- Monitoring of all motors
- Phase monitoring for three-phase units

#### Basic controller:
- Visualization of the operating status by a LED display
- Switching hysteresis: 5 K
- Floating fault signal contact in case of over temperature
- Set-point adjustable from the outside by a potentiometer (setting range 20° – 55°C (68° – 131°F))

#### Comfort controller:
- Switching hysteresis: 2 – 10 K preset to 5 K
- System alarm, individually configurable for 2 floating fault signal contacts
- Visualization of the current enclosure internal temperature and all system messages on the display
- Storage of all system states in the log file
- Optional extension card for integration into superordinate remote monitoring systems (CMC)
Air Conditioners

Features

Integrated cooling technology

Infinite possibilities
The TS8 modular enclosure system platform offers full compatibility in terms of baying techniques, lock systems and interior installation.

Quick exchange of the door and sidewall
The symmetrical design allows the climate control door to be easily changed.

Exchangeable in a flash
With all integrated cooling technology models, the cooling module can be quickly exchanged in just a few steps.

Roof-mounted air conditioners

Flexible performance
Only 3 mounting cutouts for 6 different output categories in 28 design versions.

Targeted air routing in the enclosure
The internal air circulation is targeted and effective: The heated air is extracted centrally. Air exhaust occurs in the four corners, based on your specific requirements.

Flexible condensate management
All roof-mounted air conditioners with comfort controller are equipped with a condensate warning feature. A condensate pump and condensate evaporator may be integrated.

Wall-mounted air conditioners

Effective air routing inside the enclosure
The large distance between the air intake and outlet in the internal circuit makes wall-mounted air conditioners particularly effective. This ensures optimum air dissipation inside the enclosure, and air short-circuits are avoided.

Developed for easy servicing, inside and out
The assemblies, their arrangement and the divided internal case construction make all types of maintenance and servicing work much easier.

Benefits:
- Useful cooling capacity from 225 to 4000 W (768 to 13,661 BTU)
- Extensive control and monitoring features, even with the basic version
- Three-phase air conditioners support multiple voltages as standard
- Uniform, output-related, cross-system mounting cutouts, to match TopTherm air/air heat exchangers
- Targeted, individual air routing
- No assembly work and low investment costs, due to the complete solution consisting of an enclosure and integrated air conditioner
- May be integrated directly into TS8 bayed enclosure suites
- May be integrated directly into TS8 bayed enclosure suites

Important:
- Use a base/plinth of at least 100 mm (3.9") high to ensure unhindered air entry
- Avoid overloading the roof-plate by using stays (see TS8 system accessories)
- Air intake and outlet openings in the internal and external circuit must not be blocked.

1) Only for integrated cooling technology.
Climate Controlled Enclosures

Enclosures, single-door, useful cooling capacity 1250/1510 W (4270/5150 BTU)

Configuration:
Enclosure frame with rear-wall, roof and climate control door, including TS8 hinges, door opening angle approximately 110°, painted, including pre-assembled cooling module, right door hinge, may be changed to opposite side, 4 eyebolts, pre-fitted, mounting panel, three-part gland panels, depth stay as shipping brace.

Also required:
For correct functioning of the external circuit:
- Base/plinth, 100 or 200 mm (3.9 or 7.9”) high.
- Suitable for baying with TS8 modular enclosures in mm (inches)

Optionally available:
- Microcontroller control with:
  - Digital temperature indicator,
  - Floating contact for collective fault signal,
  - Connection for door operated switch for start-up delay,
  - Automatic condensate evaporation.

Certifications, see page 7.
Detailed drawing, see page 119.

Part No. SK1)

<table>
<thead>
<tr>
<th>Part No.</th>
<th>SK1</th>
<th>8687.100</th>
<th>8607.100</th>
<th>8687.840</th>
<th>8607.840</th>
<th>8887.100</th>
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<td>400, 2~, 50/60</td>
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<tr>
<td>Dimensions in mm (inches)</td>
<td>H 1800 (70.9)</td>
<td>600 (23.6) T1 600 (23.6) T2 100 (3.9)</td>
<td>2000 (78.7)</td>
<td>600 (23.6) T1 600 (23.6) T2 100 (3.9)</td>
<td>2000 (78.7)</td>
<td>600 (23.6) T1 600 (23.6) T2 100 (3.9)</td>
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<td>Maximum installation depth up to mounting panel in mm (inches)</td>
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<td>Suitable for baying with TS8 modular enclosures in mm (inches)</td>
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<td>600 (23.6)</td>
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<td>Useful cooling capacity QK to DIN 3168 in W (BTU)</td>
<td>L 35</td>
<td>1100/1250 (3756/4269)</td>
<td>920/1000 (3038/3412)</td>
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<tr>
<td></td>
<td>L 35 L 50</td>
<td>820/1000 (2800/3412)</td>
<td>750/850 (2575/3110)</td>
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<td>1.9 A/2.2 A</td>
<td>4.0 A/4.5 A</td>
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<td>6.3 A/8.9 A</td>
<td>9.0 A/10.0 A</td>
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<td>10.0 A/10.0 A</td>
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<td>Power consumption Puri to DIN 3168</td>
<td>L 35 L 35</td>
<td>525/725 W</td>
<td>540/750 W</td>
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<tr>
<td></td>
<td>L 35 L 50</td>
<td>605/725 W</td>
<td>625/750 W</td>
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</tr>
<tr>
<td>Refrigeration coefficient e = QK/Pel</td>
<td>L 35 L 35</td>
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<td>Refrigerant</td>
<td>R134a, 675 g (24 oz)</td>
<td>R134a, 700 g (25 oz)</td>
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<tr>
<td>Maximum allowable operating pressure</td>
<td>23 bar (334 psi)</td>
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<tr>
<td>Temperature and setting range</td>
<td>+20°C to +55°C (68°F to 131°F)</td>
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<td>Ratings to EN 60 529/10.91</td>
<td>External circuit IP 24 (NEMA 2)</td>
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<tr>
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<td>Terminal strip</td>
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<td>Weight in kg (lbs)</td>
<td>155 (341.7)</td>
<td>163 (359.3)</td>
<td>158 (348.3)</td>
<td>166 (366.0)</td>
<td>182 (401.2)</td>
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<td>Internal circuit</td>
<td>192 (423.3)</td>
<td>185 (407.9)</td>
<td>195 (429.9)</td>
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<td>Color</td>
<td>RAL 7035 (light gray)</td>
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<tr>
<td>Air displacement of fans</td>
<td>External circuit</td>
<td>580 m³/h (341.4 cfm)</td>
<td>600 m³/h (353.1 cfm)</td>
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<td></td>
<td>Internal circuit</td>
<td>420 m³/h (247.2 cfm)</td>
<td>480 m³/h (282.5 cfm)</td>
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<tr>
<td>Temperature control</td>
<td>Internal thermostat (factory setting +35°C (95°F))</td>
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</tbody>
</table>

Also required:
- Base/plinth components front/rear, 100 mm (3.9”) 1 set 8601.600 8601.800
- Base/plinth trim, side, 100 mm (3.9”) 1 set 8601.060 8601.080
- Sidewalls 2 8186.235 8106.235 8186.235 8106.235 8186.235 8106.235 8186.235 8106.235

1) Delivery times available on request.
2) RAL 7032 (pebble gray) on request.
Special voltages available on request. We reserve the right to make technical modifications.
Climate Controlled Enclosures

Enclosures, two-door, useful cooling capacity 2000/2550 W (6865/8708 BTU)

Configuration:
Enclosure frame with rear-wall, roof and climate control door, including TS8 hinges, door opening angle approximately 110°, lockable door with standard hinges, painted, including pre-assembled cooling module, 4 eyebolts, pre-fitted, mounting panel, three-part gland panels, depth stays as shipping braces.

Also required:
For correct functioning of the external circuit:
Base/plinth, 100 or 200 mm (3.9 or 7.9") high.

Optionally available:
Microcontroller control with:
● Digital temperature indicator,
● Floating contact for collective fault signal,
● Connection for door operated switch for start-up delay,
● Automatic condensate evaporation.

Certifications, see page 7.
Detailed drawing, see page 119.

Part No. SK
8287.170 8807.180 8207.170 8207.180 8807.260 8807.250
Device position right left right left right left
Voltage V, Hz 230, 50/60 240, 50/60 240, 50/60 240, 50/60 400, 3~, 50/60 400, 3~, 50/60
Dimensions in mm (inches)
H 1800 (70.9) 1200 (47.2) 1800 (70.9) 1200 (47.2) 2000 (78.7) 2000 (78.7)
B 1200 (47.2) 600 (23.6) 1200 (47.2) 600 (23.6) 1200 (47.2) 1200 (47.2)
T1 100 (3.9) 100 (3.9) 100 (3.9) 100 (3.9) 100 (3.9) 100 (3.9)
T2 100 (3.9) 100 (3.9) 100 (3.9) 100 (3.9) 100 (3.9) 100 (3.9)
Maximum installation depth to mounting panel in mm (inches)
T3 445 (17.5) 445 (17.5) 445 (17.5) 445 (17.5) 415 (16.3) 415 (16.3)
Suitable for baying with TS8 modular enclosures in mm (inches)
T 600 (23.6)
Useful cooling capacity \( Q_K \) to DIN 3168 in W (BTU)
L 35 L 35 L 35 L 35 L 35 L 35
8807/885 8807/885 8807/885 8807/885 8807/885 8807/885
Particulars

Maximum rated current 5.8 A/6.3 A 3.0 A/3.2 A
Starting current 26.0 A/29.0 A 14.0 A/16.0 A
Pre-fuse T 16.0 A/16.0 A 6.0 A/6.0 A
Power consumption \( P_{ul} \) to DIN 3168
L 35 L 35 L 35 L 35 L 35 L 35
960/1070 W 1030/1180 W 1330/1640 W 1580/2000 W
925 g (32.6 oz) 975 g (34.4 oz)
Refrigeration coefficient \( \varepsilon = \frac{Q_K}{P_{ul}} \)
L 35 L 35 L 35 L 35 L 35 L 35
2.1 1.9 1.9 1.9 1.9 1.9
Refrigerant R134a, 925 g (32.6 oz) R134a, 975 g (34.4 oz)
Maximum allowable operating pressure +20°C to +55°C (68°F to 131°F)
Temperature and setting range 28 bar (406 psi) 1330/1640 W
Ratings

to EN 60 529/10.91 External circuit Internal circuit
IP 24 (NEMA 2) IP 54 (NEMA 12)
Type of connection Terminal strip
Duty cycle 100 %
Weight in kg (lbs)
L 35 L 35 L 35 L 35 L 35 L 35
231 (509.2) 246 (542.3) 231 (509.2) 246 (542.3)
Color RAL 7035 (light gray)
Air displacement of fans External circuit Internal circuit
L 35 L 35 L 35 L 35 L 35 L 35
630 m³/h (371 cfm) 700 m³/h (412 cfm)
520 m³/h (306 cfm) 620 m³/h (365 cfm)
Temperature control Internal thermostat (factory setting +35°C (95°F))
Also required

Base/plinth components front/rear. 100 mm (3.9") 1 set 8601.200
Base/plinth trim, side. 100 mm (3.9") 1 set 8601.060
Sidewalls 1 set 8186.235 8106.235 8186.235 8106.235

Property rights:
German patent no. 196 09 794
European patent no. 0 886 994
with validity for ES, FR, GB, IT, NL, SE
Taiwanese patent no. N 11 05 287
US patent no. 6.134.109
South Korean patent no. 3 295 093

1) Delivery times available on request.
2) RAL 7032 (pewter gray) on request.
Special voltages available on request. We reserve the right to make technical modifications.
Climate Control Doors

For 600 mm (23.6") wide TS8 modular enclosures, useful cooling capacity 1250/1680 W (4269/5738 BTU)

Configuration:
Climate control door unit with pre-fitted cooling module, including TS8 hinges, door opening angle approximately 110°.

Note:
Climate control doors for two-door TS8 modular enclosures see pages 29/30.

Also required:
Base/plinth, 100 or 200 mm (3.9 or 7.9") high.

Optionally available:
Automatic condensate evaporation.

Part No. SK with thermostat

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Dimensions in mm (inches)</th>
<th>Voltage V, Hz</th>
<th>Dimensions to fit TS8 modular enclosures in mm (inches)</th>
<th>Useful cooling capacity QK to DIN 3168 in W (BTU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3306.880</td>
<td>H 1777 (70.0) 592 (23.3) 461 (18.1) 157 (6.2)</td>
<td>230, 50/60</td>
<td>H 1800 (70.9) 600 (23.6)</td>
<td>1.1</td>
</tr>
<tr>
<td>3306.880</td>
<td>1777 (70.0) 592 (23.3) 461 (18.1) 157 (6.2)</td>
<td>400, 2~; 50/60</td>
<td>B 2000 (78.7) 600 (23.6)</td>
<td>1.1</td>
</tr>
<tr>
<td>3306.840</td>
<td>T1 1777 (70.0) 592 (23.3) 461 (18.1) 157 (6.2)</td>
<td>400, 2~; 50/60</td>
<td>T2 2000 (78.7) 600 (23.6)</td>
<td>1.1</td>
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<tr>
<td>3307.890</td>
<td>T1 1777 (70.0) 592 (23.3) 461 (18.1) 157 (6.2)</td>
<td>400, 2~; 50/60</td>
<td>T2 2000 (78.7) 600 (23.6)</td>
<td>1.1</td>
</tr>
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</table>

Refrigeration coefficient ε = QK/Pel

\[ \varepsilon = QK/Pel \]

Property rights:
German patent no. 196 09 794
European patent no. 0 886 994 with validity for ES, FR, GB, IT, NL, SE
Taiwanese patent no. N 11 05 287
US patent no. 6,134,109
South Korean patent no. 0 299 406
Japanese patent no. 3 295 093

Specifications:
- Maximum rated current: 3.2 A/3.8 A
- Starting current: 11.0 A/12.0 A
- Pre-fuse T: 10.0 A/10.9 A
- Power consumption Pd to DIN 3168:
  - L 35 L 35: 525 W/630 W
  - L 35 L 50: 625 W/750 W
- Refrigerant: R134a, 675 g (23.8 oz)

Certifications:
- ratings to EN 60 529/10.91
- internal circuit IP 54 (NEMA 12)

Detailed drawing:
see page 120.

Performance diagrams:

Temperature control:
Internal thermostat or microcontroller control (factory setting +35°C (95°F))

Accessories:
- Metal filters 1 3284.200
- Door-operated switch 1 4127.000
- Temperature indicator 1 3114.100
- Air diverter 1 3213.300

<table>
<thead>
<tr>
<th>Accessories</th>
<th>Page</th>
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<tbody>
<tr>
<td>Metal filters</td>
<td>112</td>
</tr>
<tr>
<td>Door-operated switch</td>
<td>103</td>
</tr>
<tr>
<td>Temperature indicator</td>
<td>102</td>
</tr>
<tr>
<td>Air diverter</td>
<td>–</td>
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</table>

1) Delivery times available on request.
2) RAL 7032 (pepple gray) on request.

Special voltages available on request. We reserve the right to make technical modifications.
For 800 mm (31.5”) wide TS8 modular enclosures, useful cooling capacity 1510 W (5150 BTU)

**Configuration:**
Climate control door unit with pre-fitted cooling module, including TS8 hinges, door opening angle approximately 110°.

**Also required:**
Base/plinth, 100 or 200 mm (3.9 or 7.9”) high.

**Optionally available:**
Automatic condensate evaporation.

**Certifications,** see pages 7/8.

**Detailed drawing,** see page 120.


**Part No. SK with thermostat**

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<td>400, 2~, 50/60</td>
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**Dimensions in mm (inches)**

<table>
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<tr>
<th>H</th>
<th>B1</th>
<th>B2</th>
<th>T1</th>
<th>T2</th>
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<tr>
<td>177 (70.0)</td>
<td>792 (31.2)</td>
<td>661 (26.2)</td>
<td>157 (6.2)</td>
<td>57 (2.2)</td>
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<td>792 (31.2)</td>
<td>661 (26.2)</td>
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<td>57 (2.2)</td>
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**Dimensions to fit TS8 modular enclosures in mm (inches)**

<table>
<thead>
<tr>
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<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1800 (70.9)</td>
<td>800 (31.5)</td>
</tr>
<tr>
<td>2000 (78.7)</td>
<td>800 (31.5)</td>
</tr>
</tbody>
</table>

**Useful cooling capacity $Q_K$ to DIN 3168 in W (BTU)**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>230, 50/60</th>
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</thead>
<tbody>
<tr>
<td>$Q_K$</td>
<td>650 W/750 W</td>
<td>670 W/780 W</td>
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</tbody>
</table>

**Refrigeration coefficient $\varepsilon = Q_K/P_{el}$**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>230, 50/60</th>
<th>400, 2~, 50/60</th>
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</thead>
<tbody>
<tr>
<td>$\varepsilon$</td>
<td>2.3</td>
<td>2.3</td>
</tr>
</tbody>
</table>

**Refrigerant**

- R134a, 700 g (24.7 oz)

**Maximum allowable operating pressure**

23 bar (334 psi)

**Temperature and setting range**

+20°C to +55°C (68°F to 131°F)

**Ratings to EN 60 529/10.91**

- External circuit IP 24 (NEMA 2)
- Internal circuit IP 54 (NEMA 12)

**Duty cycle**

100 %

**Type of connection**

Terminal strip

**Weight in kg (lbs)**

- 65 (143.3)
- 67 (147.7)
- 68 (149.9)
- 70 (154.3)

**Color**

- RAL 7035 (light gray)

**Air displacement of fans**

- External circuit 600 m³/h (353 cfm)
- Internal circuit 480 m³/h (283 cfm)

**Temperature control**

- Internal thermostat or microcontroller control (factory setting +35°C (95°F))

**Accessories**

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Part No.</th>
<th>Page</th>
</tr>
</thead>
<tbody>
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<tr>
<td>Metal filters</td>
<td>3308.800</td>
<td>112</td>
</tr>
<tr>
<td>Door-operated switch</td>
<td>4127.000</td>
<td>–</td>
</tr>
<tr>
<td>Temperature indicator</td>
<td>3114.100</td>
<td>103</td>
</tr>
<tr>
<td>Air diverter</td>
<td>Available on request.</td>
<td>–</td>
</tr>
</tbody>
</table>

1) Delivery times available on request.
2) RAL 7032 (pebble gray) on request.

Special voltages available on request. We reserve the right to make technical modifications.
Climate Control Doors

For 600 mm (23.6”) wide TS8 modular enclosures, useful cooling capacity 2010/2550 W (6865/8709 BTU)

Configuration:
Climate control door unit with pre-fitted cooling module, including TS8 hinges, door opening angle approximately 110°.

Note:
Climate control doors for two-door TS8 enclosures, see pages 29/30.

Also required:
Base/plinth, 100 or 200 mm (3.9 or 7.9”) high.

Optionally available:
Automatic condensate evaporation.

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Part No. SK with thermostat

<table>
<thead>
<tr>
<th>Part No. SK with thermostat</th>
<th>3309.880</th>
<th>3309.800</th>
<th>3309.884</th>
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<tbody>
<tr>
<td>Voltage V, Hz</td>
<td>230, 50/60</td>
<td>400, 2–, 50/60</td>
<td>400, 3–, 50/60</td>
<td></td>
</tr>
<tr>
<td>Dimensions in mm (inches)</td>
<td>H: 1777 (70.0) B1: 592 (23.3) T1: 190 (7.5)</td>
<td>1977 (70.0) B1: 592 (23.3) T1: 190 (7.5)</td>
<td>1777 (70.0) B1: 592 (23.3) T1: 190 (7.5)</td>
<td>1977 (70.0) B1: 592 (23.3) T1: 190 (7.5)</td>
</tr>
<tr>
<td>Dimensions to fit TS8 modular enclosures in mm (inches)</td>
<td>H: 1800 (70.9) T: 600 (23.6)</td>
<td>2000 (78.7) 600 (23.6)</td>
<td>1800 (70.9) 600 (23.6)</td>
<td>2000 (78.7) 600 (23.6)</td>
</tr>
<tr>
<td>Useful cooling capacity QK to DIN 3168 in W (BTU)</td>
<td>L 35 L 35</td>
<td>L 35 L 50</td>
<td>L 35 L 50</td>
<td>L 35 L 50</td>
</tr>
<tr>
<td>L 2000/2010 (6830/6865)</td>
<td>2500/2550 (8538/8709)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L 1420/1650 (4850/5235)</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Maximum rated current: 5.8 A/6.3 A 3.4 A/3.6 A 3.0 A/3.2 A
Starting current: 26.0 A/29.0 A 15.0 A/16.5 A 14.0 A/16.0 A
Pre-fuse T: 16.0 A/16.0 A 10.0 A/10.0 A 6.0 A/6.0 A
Power consumption Pw to DIN 3168: L 35 L 35 | 960 W/1070 W | 985 W/1100 W | 1330 W/1640 W |
L 35 L 50 | 1030 W/1180 W | 1055 W/1210 W | 1580 W/2000 W |
Cooling coefficient ε = QK/Pw L 35 L 35 | 2.1 |
Refrigerant: R134a, 925 g (32.6 oz) R134a, 975 g (34.4 oz)
Maximum allowable operating pressure: 28 bar (406 psi)
Temperature and setting range: +20°C to +55°C (68°F to 131°F)

Ratings to EN 60 529/10.91
External circuit IP 24 (NEMA 2)
Internal circuit IP 54 (NEMA 12)
Duty cycle: 100 %
Type of connection: Terminal strip
Weight in kg (lbs): 72 (158.7) 74 (163.1) 75 (165.3) 77 (169.8) 74 kg (163.1) 76 (167.6)
Color: RAL 7035 (light gray) RAL 7032 (pebble gray)
Air displacement of fans: 630 m³/h (371 cfm) 700 m³/h (412 cfm) 620 m³/h (365 cfm)
Temperature control: Internal thermostat or microcontroller control (factory setting +35°C (95°F))

Accessories

<table>
<thead>
<tr>
<th>Accessories</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metal filters</td>
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</tr>
<tr>
<td>Door-operated switch</td>
<td>4127.000</td>
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<tr>
<td>Temperature indicator</td>
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1) Delivery times available on request.
2) RAL 7032 (pebble gray) on request.
Special voltages available on request. We reserve the right to make technical modifications.
Configuration:
Climate control door unit with pre-fitted cooling module, including TS8 hinges, door opening angle approximately 110°.

Note:
With the device positioned on the right, one pack consists of a climate control door for installing on the right side of the enclosure, and a lockable door for the left.

With the device positioned on the left, one pack consists of a climate control door for installing on the left side of the enclosure, and a lockable door for the right.

Also required:
Base/plinth, 100 or 200 mm (3.9 or 7.9”) high.

Optionally available:
Automatic condensate evaporation.

Certifications:
see page 8.

Detailed drawing:
see page 120.

Performance diagrams:

Part No. SK with thermostat:

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Left</th>
<th>Right</th>
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<tr>
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</tr>
<tr>
<td></td>
<td>3306.230</td>
<td>3306.210</td>
</tr>
<tr>
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<td>3306.470</td>
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Part No. SK with microcontroller:

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<tr>
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<td>3306.650</td>
</tr>
<tr>
<td></td>
<td>3306.630</td>
<td>3306.610</td>
</tr>
</tbody>
</table>

Also required:
Base/plinth, 100 or 200 mm (3.9 or 7.9”) high.

Optionally available:
Automatic condensate evaporation.

Certifications:
see page 8.

Detailed drawing:
see page 120.

Performance diagrams:

Part No. SK with thermostat:

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Left</th>
<th>Right</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part No. SK</td>
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Part No. SK with microcontroller:

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<tr>
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</tr>
<tr>
<td></td>
<td>3306.630</td>
<td>3306.610</td>
</tr>
</tbody>
</table>

Also required:
Base/plinth, 100 or 200 mm (3.9 or 7.9”) high.

Optionally available:
Automatic condensate evaporation.

Certifications:
see page 8.

Detailed drawing:
see page 120.

Performance diagrams:

Part No. SK with thermostat:

<table>
<thead>
<tr>
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<th>Left</th>
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<tbody>
<tr>
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<td>3306.430</td>
<td>3306.410</td>
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Part No. SK with microcontroller:

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<tbody>
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</tbody>
</table>

Also required:
Base/plinth, 100 or 200 mm (3.9 or 7.9”) high.

Optionally available:
Automatic condensate evaporation.

Certifications:
see page 8.

Detailed drawing:
see page 120.

Performance diagrams:

Part No. SK with thermostat:

<table>
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<tr>
<th>Configuration</th>
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<th>Right</th>
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<tr>
<td></td>
<td>3306.230</td>
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Part No. SK with microcontroller:

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Left</th>
<th>Right</th>
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<tbody>
<tr>
<td>Part No. SK</td>
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<td></td>
<td>3306.630</td>
<td>3306.610</td>
</tr>
</tbody>
</table>

Also required:
Base/plinth, 100 or 200 mm (3.9 or 7.9”) high.

Optionally available:
Automatic condensate evaporation.

Certifications:
see page 8.

Detailed drawing:
see page 120.

Performance diagrams:
Climate Control Doors

For 1200 mm (47.2”) wide TS8 modular enclosures, useful cooling capacity 2010/2550 W (6865/8708 BTU)

Configuration:
Climate control door unit with pre-fitted cooling module, including TS8 hinges, door opening angle approximately 110°.

Note:
With the device positioned on the right, one pack consists of a climate control door for installing on the left side of the enclosure. The existing lockable door on the right may be used.

Climate control doors for single-door TS8 modular enclosures, see pages 26 – 30.

With the device positioned on the left, one pack consists of a climate control door for installing on the left side of the enclosure. The existing lockable door on the right may be used.

Also required:
Baseplinth, 100 or 200 mm (3.9 or 7.9”) high.

Automatically available:
Automatic condensate evaporation.

Dimensions in mm (inches)

<table>
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<tr>
<th>Part No. SK with thermostat</th>
<th>left</th>
<th>3309.210</th>
<th>3309.140</th>
<th>3309.410</th>
<th>3309.440</th>
<th>3310.150</th>
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<tbody>
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<td>3309.670</td>
<td>3309.620</td>
<td>3310.650</td>
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</table>

Voltage V, Hz
230, 50/60
400, 2~, 50/60
400, 3~, 50/60

Dimensions to fit TS8 modular enclosures in mm (inches)

<table>
<thead>
<tr>
<th>Dimensions in mm (inches)</th>
<th>left</th>
<th>3309.210</th>
<th>3309.140</th>
<th>3309.410</th>
<th>3309.440</th>
<th>3310.150</th>
<th>3310.130</th>
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</thead>
<tbody>
<tr>
<td>Dimensions to fit TS8 modular enclosures in mm (inches)</td>
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<td>3309.210</td>
<td>3309.140</td>
<td>3309.410</td>
<td>3309.440</td>
<td>3310.150</td>
<td>3310.130</td>
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Useful cooling capacity $Q_K$ to DIN 3168 in W (BTU)

<table>
<thead>
<tr>
<th>Dimensions to fit TS8 modular enclosures in mm (inches)</th>
<th>left</th>
<th>3309.210</th>
<th>3309.140</th>
<th>3309.410</th>
<th>3309.440</th>
<th>3310.150</th>
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</thead>
<tbody>
<tr>
<td>Dimensions to fit TS8 modular enclosures in mm (inches)</td>
<td>left</td>
<td>3309.210</td>
<td>3309.140</td>
<td>3309.410</td>
<td>3309.440</td>
<td>3310.150</td>
<td>3310.130</td>
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</table>

Maximum rated current
5.8 A/5.3 A
3.4 A/3.6 A
3.0 A/3.2 A

Starting current
26.0 A/29.0 A
15.0 A/16.5 A
14.0 A/16.0 A

Pre-fuse T
16.0 A/16.0 A
10.0 A/10.0 A
6.0 A/6.0 A

Power consumption $P_W$ to DIN 3168
L 35 L 35 L 35 L 35 L 35 L 35 L 35
960 W/1070 W
1030 W/1180 W
985 W/1100 W
1055 W/1210 W
1330 W/1640 W
1580 W/2000 W

Cooling coefficient $\varepsilon = Q_K/P_W$
L 35 L 35 L 35
2.1
1.9

Refrigerant
R134a, 925 g (32.6 oz)
R134a, 975 g (34.4 oz)

Maximum allowable operating pressure
28 bar (406 psi)

Temperature and setting range
+20°C to +55°C (68°F to 131°F)

Ratings to EN 60 529/10.91
External circuit
IP 24 (NEMA 2)

Internal circuit
IP 54 (NEMA 12)

Duty cycle
100 %

Type of connection
Terminal strip

Weight in kg (lbs)
72 (158.7)
74 (163.1)
75 (165.3)
77 (169.8)
74 (163.1)
76 (167.6)

Color
RAL 7035 (light gray)\(^1\)

Air displacement of fans
External circuit
630 m³/h (371 cfm)

Internal circuit
520 m³/h (306 cfm)

Temperature control
Internal thermostat or microcontroller control (factory setting +35°C (95°F))

Accessories

<table>
<thead>
<tr>
<th>Property rights:</th>
</tr>
</thead>
<tbody>
<tr>
<td>German patent no. 196 09 794</td>
</tr>
<tr>
<td>European patent no. 0 886 994 with validity for ES, FR, GB, IT, NL, SE</td>
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<tr>
<td>Taiwanese patent no. N 11 05 287</td>
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<tr>
<td>US patent no. 6,134,109</td>
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<td>South Korean patent no. 0 299 406</td>
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<tr>
<td>Japanese patent no. 3 295 093</td>
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</tbody>
</table>

\(^1\) Delivery times on request.
\(^2\) RAL 7032 (pebble gray) on request.
Special voltages available on request. We reserve the right to make technical modifications.

<table>
<thead>
<tr>
<th>Property rights:</th>
</tr>
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<tbody>
<tr>
<td>German patent no. 196 09 794</td>
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<td>South Korean patent no. 0 299 406</td>
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<tr>
<td>Japanese patent no. 3 295 093</td>
</tr>
</tbody>
</table>

1) Delivery times on request.
2) RAL 7032 (pebble gray) on request.
Special voltages available on request. We reserve the right to make technical modifications.
Climate Control Sidewalls

For 600 mm (23.6") deep TS8 modular enclosures, useful cooling capacity 1200/1450 W (4098/4952 BTU)

Configuration:
Climate control sidewall with pre-fitted cooling module.

Also required:
Base/plinth, 100 or 200 mm (3.9 or 7.9") high.

Optionally available:
Microcontroller control with:
- Digital temperature indicator,
- Floating contact for collective fault signal,
- Connection for door operated switch for start-up delay,
- Automatic condensate evaporation.

Certifications, see page B.

<table>
<thead>
<tr>
<th>Part No. SK</th>
<th>3331.116</th>
<th>3331.136</th>
<th>3331.140</th>
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<tbody>
<tr>
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<td>400, 2- 50/60</td>
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<td>400, 2- 50/60</td>
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<tr>
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<td>Dimensions to fit TS8 modular enclosures in mm (inches)</td>
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<td>2000 (78.7)</td>
<td>1800 (70.9)</td>
<td>2000 (78.7)</td>
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<td>600 (23.6)</td>
<td>600 (23.6)</td>
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<td>600 (23.6)</td>
<td>600 (23.6)</td>
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<tr>
<td>Useful cooling capacity $Q_K$ to DIN 3168 in W (BTU)</td>
<td>L 35 L 35</td>
<td>1100/1200 (3756/4098)</td>
<td>1400/1450 (4781/4952)</td>
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<td>1010/1060 (3449/3620)</td>
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Maximum rated current
4.0 A/4.6 A
2.3 A/2.7 A
4.0 A/4.6 A
2.3 A/2.7 A

Starting current
11.0 A/12.0 A
6.4 A/6.9 A
11.0 A/12.0 A
6.4 A/6.9 A

Pre-fuse T
6.0 A/6.0 A
6.0 A/6.0 A

Power consumption $P_u$ to DIN 3168
L 35 L 35 | 670 W/850 W | 690 W/870 W | 710 W/910 W | 725 W/930 W |
| L 35 L 50 | 800 W/1000 W | 820 W/1020 W | 810 W/1030 W | 830 W/1050 W |

Cooling coefficient $\varepsilon = Q_K/P_u$
L 35 L 35 | 1.6 | 2.0 | 1.9 |
| L 35 L 50 |

Refrigerant
R134a, 825 g (29.1 oz)
R134a, 875 g (30.9 oz)

Maximum allowable operating pressure
25 bar (363 psi)
24 bar (348 psi)

Temperature and setting range
+20°C to +50°C (68°F to 122°F)

Ratings to EN 60 529/10.91
External circuit
IP 34 (NEMA 2)
Internal circuit
IP 54 (NEMA 12)

Duty cycle
100 %

Type of connection
Terminal strip

Weight in kg (lbs)
58 (127.9)
62 (136.7)
58 (127.9)
62 (136.7)

Color
RAL 7035 (light gray)

Air displacement of fans
External circuit
550 m³/h (324 cfm)
Internal circuit
275 m³/h (162 cfm)

Temperature control
Internal thermostat (factory setting +35°C (95°F))

Accessories
<table>
<thead>
<tr>
<th>PU</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metal filters</td>
<td>3289.200</td>
</tr>
<tr>
<td>Door-operated switch</td>
<td>4127.000</td>
</tr>
<tr>
<td>Temperature indicator</td>
<td>3114.100</td>
</tr>
<tr>
<td>Air diverter</td>
<td>3213.300</td>
</tr>
</tbody>
</table>

1) Delivery times available on request.
2) RAL 7032 (pebble gray) on request.
Special voltages available on request. We reserve the right to make technical modifications.
Roof-Mounted Air Conditioners

Useful cooling capacity 510/810 W (1742/2766 BTU)

**Configuration:**
Fully wired ready for connection, including drilling template and assembly parts.

**Note:**
Air conditioners with comfort controller may be integrated into a superordinate remote monitoring system with an optional interface board SK 3124.200 (RS 232, RS 485, RS 422 and PLC interface).

**Accessories:**
- Roof plate for TS8 modular enclosure with mounting cutout, see page 107.
- Optionally available: With automatic condensate evaporation.

**Certifications,** see pages 9/10.

**Detailed drawing,** see page 121.


**Part No. SK with basic controller, RAL 7035 (light gray)**
- 3382.100
- 3382.500
- 3382.200
- 3382.600

**Part No. SK with comfort controller, RAL 7035 (light gray)**
- 3382.110
- 3382.510
- 3382.210
- 3382.610

**Part No. SK with basic controller, stainless steel**
- 3382.140
- 3382.540
- 3382.240
- 3382.640

**Part No. SK with comfort controller, stainless steel**
- 3382.150
- 3382.550
- 3382.250
- 3382.650

**Voltage V, Hz**
- 230, 50/60
- 115, 50/60
- 230, 50/60
- 115, 50/60
- 400, 2~, 50/60

**Dimensions in mm (inches)**
- H x W x D
- 415 x 597 x 375 (16.3 x 23.5 x 14.8)

**Useful cooling capacity QK to DIN 3168 in W (BTU)**
- L 35
- L 35
- 350/410 (1264/1351)
- 370/420 (1356/1474)

**Rated current maximum**
- 2.7 A/2.9 A
- 10.0 A/10.0 A
- 3.0 A/3.9 A
- 10.0 A/10.0 A
- 6.0 A/7.8 A
- 10.0 A/10.0 A
- 1.7 A/2.2 A
- 10.0 A/10.0 A

**Starting current**
- 9.2 A/10.2 A
- 18.4 A/18.4 A
- 10.0 A/10.7 A
- 10.0 A/10.0 A
- 20.0 A/21.4 A
- 10.0 A/10.0 A
- 5.8 A/6.2 A
- 16.0 A/16.0 A

**Pre-fuse T**
- 10.0 A/10.0 A
- 10.0 A/10.0 A
- 10.0 A/10.0 A
- 10.0 A/10.0 A

**Power consumption Pd to DIN 3168**
- L 35 L 35 L 35 L 50
- 360 W/410 W 370 W/420 W 410 W/520 W 420 W/525 W
- 410 W/470 W 490 W/600 W 420 W/535 W 500 W/515 W

**Cooling coefficient ε = QK/Pel L 35 L 35**
- 1.4
- 1.8

**Refrigerant**
- R134a, 250 g (8.8 oz)
- R134a, 300 g (10.6 oz)

**Maximum allowable operating pressure**
- 25 bar (363 psi)

**Temperature and setting range**
- +20°C to +55°C (68°F to 131°F)

**Ratings to EN 60 529/10.91**
- IP 34 (NEMA 2)
- IP 54 (NEMA 12)

**Duty cycle**
- 100 %

**Type of connection**
- Plug-in terminal strip

**Weight in kg (lb)**
- 30 (66.1)
- 35 (77.1)
- 32 (70.5)
- 37 (81.5)

**Air displacement of fans**
- External circuit
  - 910 m³/h (536 cfm)
- Internal circuit
  - 440 m³/h (259 cfm)

**Temperature control**
- Basic or comfort controller (factory setting +35°C (95°F))

**Accessories**

<table>
<thead>
<tr>
<th>Accessories</th>
<th>PU</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter mats</td>
<td>3</td>
<td>3286.500</td>
</tr>
<tr>
<td>Metal filters</td>
<td>1</td>
<td>3286.510</td>
</tr>
<tr>
<td>Quick-change frame</td>
<td>1</td>
<td>3286.700</td>
</tr>
<tr>
<td>Door-operated switch</td>
<td>1</td>
<td>4127.000</td>
</tr>
<tr>
<td>SK bus system for comfort controller</td>
<td>1</td>
<td>3124.100</td>
</tr>
<tr>
<td>RiDiag II including cables for comfort controller</td>
<td>1</td>
<td>3159.100</td>
</tr>
<tr>
<td>Interface card for comfort controller</td>
<td>1</td>
<td>3124.200</td>
</tr>
<tr>
<td>Air ducting system</td>
<td>1</td>
<td>3286.870</td>
</tr>
<tr>
<td>Cover stoppers for interior air outlet</td>
<td>2</td>
<td>3286.780</td>
</tr>
<tr>
<td>Condensate hose</td>
<td>1</td>
<td>3301.612</td>
</tr>
</tbody>
</table>

1) Delivery times on request.
Special voltages available on request. Technical modifications reserved.
**Roof-Mounted Air Conditioners**

**Useful cooling capacity 1080 W (3688 BTU)**

**Configuration:**
Fully wired ready for connection, including drilling template and assembly parts.

**Note:**
Integration of the air conditioners with comfort controller, into a superordinate remote monitoring system, can be achieved with an optional interface board SK 3124.200 (RS 232, RS 485, RS 422 and PLC interface).

**Accessories:**
- Roof plate for TS8 modular enclosure with mounting cutout, see page 107.
- With automatic condensate evaporation.

**Certifications:**
- see pages 9/10.
- Detailed drawing, see page 121.

| Part No. SK with basic controller, RAL 7035 (light gray) | 3383.100 | 3383.110 | 3383.140 |
| Part No. SK with comfort controller, RAL 7035 (light gray) | 3383.500 | 3383.510 | 3383.540 |
| Part No. SK with basic controller, stainless steel(1) | 3383.200 | 3383.210 | 3383.240 |
| Part No. SK with comfort controller, stainless steel(1) | 3383.600 | 3383.610 | 3383.640 |

**Voltage V, Hz**
- 230, 50/60
- 115, 50/60
- 400, 2~, 50/60

**Dimensions in mm (inches)**
- H x W x D 415 x 597 x 475 (16.3 x 23.5 x 18.7)

**Useful cooling capacity Q_k**
- to DIN 3168 in W (BTU)
  - L 35: 1000/1080 (3415/3688)
  - L 35 L 50: 760/820 (2596/2800)

**To order air conditioners with integrated condensate evaporators, add .XX1 to the part number, ie. XXXX.XX1.**

**Rated current maximum**
- 4.3 A/4.5 A
- 8.3 A/8.7 A
- 2.4 A/2.4 A

**Starting current**
- 15.5 A/15.5 A
- 25.3 A/24.3 A
- 8.0 A/8.8 A

**Pre-fuse T**
- 10.0 A/10.0 A
- 16.0 A/16.0 A
- 10.0 A/10.0 A

**Power consumption P_x**
- L 35 L 35 L 35 L 50
  - 550 W/650 W
  - 660 W/750 W
  - 580 W/660 W
  - 670 W/755 W

**Cooling coefficient ε = Q_k/P_x**
- L 35 L 35 1.8

**Refrigerant**
- R134a, 500 g (17.6 oz)

**Maximum allowable operating pressure**
- 25 bar (363 psi)

**Temperature and setting range**
+20°C to +55°C (68°F to 131°F)

**Ratings**
- to EN 60 529/10.91
  - External circuit IP 34 (NEMA 2)
  - Internal circuit IP 54 (NEMA 12)

**Duty cycle**
- 100 %

**Type of connection**
- Plug-in terminal strip

**Weight in kg (lb)**
- 40 (88.2)
- 46 (101.4)
- 46 (101.4)

**Air displacement of fans**
- External circuit 1760 m³/h (1036 cfm)
- Internal circuit 440 m³/h (259 cfm)

**Temperature control**
- Basic or comfort controller (factory setting +35°C (95°F))

**Accessories**
- Filter mats
  - 3386.500
- Metal filters
  - 3386.510
- Quick-change frame
  - 3386.800
- Door-operated switch
  - 4127.000
- SK bus system for comfort controller
  - 3124.100
- RiDiag II including cables for comfort controller
  - 3159.100
- Interface card for comfort controller
  - 3124.200
- Air ducting system
  - 3286.870
- Cover stoppers for interior air outlet
  - 3286.880
- Condensate hose
  - 3301.612

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- 112
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- 106
- 105
- 101
- 101
- 108

(1) Delivery times on request.
Special voltages available on request. Technical modifications reserved.
Roof-Mounted Air Conditioners

Useful cooling capacity 1200 W (4098 BTU)

Designed for office applications. Low noise level (considerably quieter than air conditioners for industrial applications).

Configuration:
Fully wired ready for connection, including automatic condensate evaporation, drilling template and assembly parts.

Note: Integration of the air conditioners with comfort controller, into a superordinate remote monitoring system, can be achieved with an optional interface board SK 3124.200 (RS 232, RS 485, RS 422 and PLC interface).

Accessories:
Roof plate for TS8 modular enclosures with mounting cutout, see page 107.

Certifications,
see page 9.

Detailed drawing,
see page 121.

Performance diagrams,

Part No. SK with comfort controller

<table>
<thead>
<tr>
<th>Part No. SK with comfort controller</th>
<th>SK 3273.500</th>
<th>SK 3273.515</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage V, Hz</td>
<td>230, 50/60</td>
<td>115, 50/60</td>
</tr>
<tr>
<td>Dimensions in mm (inches)</td>
<td>415 x 597 x 475 (16.3 x 23.5 x 18.7)</td>
<td></td>
</tr>
<tr>
<td>Useful cooling capacity $Q_c$ to DIN 3168 in W (BTU)</td>
<td>L 35 L 35 1100/1200 (3756/4098)</td>
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</tr>
<tr>
<td>L 35 L 50 850/870 (2903/2971)</td>
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Rated current maximum

<table>
<thead>
<tr>
<th>Current (A)</th>
<th>SK 3273.500</th>
<th>SK 3273.515</th>
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</thead>
<tbody>
<tr>
<td>Pre-fuse T</td>
<td>5.2</td>
<td>11.0</td>
</tr>
<tr>
<td>Starting current</td>
<td>15.5</td>
<td>32.0</td>
</tr>
<tr>
<td>Power consumption $P_k$ to DIN 3168</td>
<td>L 35 L 35 890 W/910 W 920 W/940 W</td>
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<tr>
<td>L 35 L 50 960 W/1100 W 990 W/1140 W</td>
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Refrigerant

<table>
<thead>
<tr>
<th>Refrigerant</th>
<th>SK 3273.500</th>
<th>SK 3273.515</th>
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<tbody>
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<td>R134a, 700 g (24.7 oz)</td>
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Maximum allowable operating pressure

<table>
<thead>
<tr>
<th>Pressure (bar)</th>
<th>SK 3273.500</th>
<th>SK 3273.515</th>
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<tbody>
<tr>
<td>25 (363 psi)</td>
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Temperature and setting range

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<thead>
<tr>
<th>Temperature</th>
<th>SK 3273.500</th>
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<tbody>
<tr>
<td>+20°C to +55°C (68°F to 131°F)</td>
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Duty cycle

<table>
<thead>
<tr>
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<th>SK 3273.500</th>
<th>SK 3273.515</th>
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<tbody>
<tr>
<td>100 %</td>
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Type of connection

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<tbody>
<tr>
<td>Plug-in terminal strip</td>
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</table>

Weight in kg (lb)

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<thead>
<tr>
<th>Weight (kg)</th>
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<tbody>
<tr>
<td>42 (92.6)</td>
<td>47 (103.6)</td>
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Color

<table>
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<th>SK 3273.500</th>
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<tbody>
<tr>
<td>RAL 7035 (light gray)</td>
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Air displacement of fans

<table>
<thead>
<tr>
<th>Air displacement (m³/h)</th>
<th>SK 3273.500</th>
<th>SK 3273.515</th>
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<tbody>
<tr>
<td>External circuit 1760 m³/h (1036 cfm)</td>
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</tr>
<tr>
<td>Internal circuit 440 m³/h (259 cfm)</td>
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Temperature control

<table>
<thead>
<tr>
<th>Temperature</th>
<th>SK 3273.500</th>
<th>SK 3273.515</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic or comfort controller (factory setting +35°C (95°F))</td>
<td></td>
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Accessories

<table>
<thead>
<tr>
<th>Accessories</th>
<th>SK 3273.500</th>
<th>SK 3273.515</th>
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</thead>
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<tr>
<td>Metal filters</td>
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<td>Door-operated switch</td>
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<td>4127.000</td>
</tr>
<tr>
<td>SK bus system for comfort controller</td>
<td>1</td>
<td>3124.100</td>
</tr>
<tr>
<td>RiDiag II including cables for comfort controller</td>
<td>1</td>
<td>3159.100</td>
</tr>
<tr>
<td>Interface card for comfort controller</td>
<td>1</td>
<td>3124.200</td>
</tr>
<tr>
<td>Air-ducting system</td>
<td>1</td>
<td>3286.870</td>
</tr>
<tr>
<td>Cover stoppers for interior air outlet</td>
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<td>3286.980</td>
</tr>
<tr>
<td>Condensate hose</td>
<td>1</td>
<td>3301.612</td>
</tr>
</tbody>
</table>

1) Delivery times available on request.

2) In order to avoid increased condensation, we recommend enclosures with a ratings of at least IP 54 (NEMA 12). Special voltages available on request. We reserve the right to make technical modifications.
Useful cooling capacity 1520/2130 W (5191/7274 BTU)

**Configuration:**
Fully wired ready for connection, including drilling template and assembly parts.

**Note:**
Integration of the air conditioners with comfort controller, into a superordinate remote monitoring system, can be achieved with an optional interface board SK 3124.200 (RS 232, RS 485, RS 422 and PLC interface).

**Accessories:**
- Roof plate for TS8 modular enclosure with mounting cutout, see page 107.
- With automatic condensate evaporation.
- Roof-Mounted Air Conditioners

**Certifications:**
- German registered design no. 402 02 324
- German registered design no. 402 02 325

**To order air conditioners with integrated condensate evaporators, add .XX1 to the part number, i.e. XXXX.XX1.**

### Part No. SK with basic controller, RAL 7035 (light gray)

<table>
<thead>
<tr>
<th>Part No.</th>
<th>SK</th>
<th>3384.100</th>
<th>3384.110</th>
<th>3384.140</th>
<th>3385.100</th>
<th>3385.110</th>
<th>3385.140</th>
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<tbody>
<tr>
<td>Voltage V, Hz</td>
<td>230</td>
<td>50/60</td>
<td>115, 50/60</td>
<td>400, 2–50/60</td>
<td>230, 50/60</td>
<td>115, 50/60</td>
<td>400, 2–50/60</td>
</tr>
<tr>
<td>Dimensions in mm (inches)</td>
<td>H x W x D</td>
<td>415 x 597 x 475 (16.3 x 23.5 x 18.7)</td>
<td>415 x 597 x 475 (16.3 x 23.5 x 18.7)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Useful cooling capacity QK to DIN 3168 in W (BTU)</td>
<td>L 35</td>
<td>815 W/930 W</td>
<td>950 W/1100 W</td>
<td>1000 W/1150 W</td>
<td>1000 W/1175 W</td>
<td>1050 W/1250 W</td>
<td>1100 W/1310 W</td>
</tr>
<tr>
<td>Pre-fuse T</td>
<td>10.0 A/10.0 A</td>
<td>10.0 A/10.0 A</td>
<td>10.0 A/10.0 A</td>
<td>10.0 A/10.0 A</td>
<td>10.0 A/10.0 A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power consumption Pd to DIN 3168</td>
<td>L 35</td>
<td>5.2 A/6.6 A</td>
<td>6.3 A/7.9 A</td>
<td>7.3 A/8.9 A</td>
<td>7.3 A/8.9 A</td>
<td>7.1 A/8.5 A</td>
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<tr>
<td>Part No. SK with comfort controller, RAL 7035 (light gray)</td>
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<td>3384.540</td>
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<tr>
<td>Voltage V, Hz</td>
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<td>50/60</td>
<td>115, 50/60</td>
<td>400, 2–50/60</td>
<td>230, 50/60</td>
<td>115, 50/60</td>
<td>400, 2–50/60</td>
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<tr>
<td>Dimensions in mm (inches)</td>
<td>H x W x D</td>
<td>415 x 597 x 475 (16.3 x 23.5 x 18.7)</td>
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<tr>
<td>Useful cooling capacity QK to DIN 3168 in W (BTU)</td>
<td>L 35</td>
<td>815 W/930 W</td>
<td>950 W/1100 W</td>
<td>1000 W/1150 W</td>
<td>1000 W/1175 W</td>
<td>1050 W/1250 W</td>
<td>1100 W/1310 W</td>
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<td>Pre-fuse T</td>
<td>10.0 A/10.0 A</td>
<td>10.0 A/10.0 A</td>
<td>10.0 A/10.0 A</td>
<td>10.0 A/10.0 A</td>
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<tr>
<td>Power consumption Pd to DIN 3168</td>
<td>L 35</td>
<td>5.2 A/6.6 A</td>
<td>6.3 A/7.9 A</td>
<td>7.3 A/8.9 A</td>
<td>7.3 A/8.9 A</td>
<td>7.1 A/8.5 A</td>
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</tr>
</tbody>
</table>

**Property rights:**
- German registered design no. 402 02 324
- German registered design no. 402 02 325

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### Accessories Page 100

**Climate Control**

- Filter mats
  - 3 | 3286.500 | 111
- Metal filters
  - 1 | 3286.510 | 112
- Quick-change frame
  - 1 | 3286.800 | 108
- Door-operated switch
  - 1 | 4127.000 | –
- SK bus system for comfort controller
  - 1 | 3124.100 | 106
- RiDiag II including cables for comfort controller
  - 1 | 3159.100 | –
- Interface card for comfort controller
  - 1 | 3124.200 | 105
- Air ducting system
  - 1 | 3286.670 | 101
- Cover stoppers for interior air outlet
  - 2 | 3286.880 | 101
- Condensate hose
  - 1 | 3301.612 | 108

---

1) Delivery times available on request.
Special voltages available on request. We reserve the right to make technical modifications.
# Roof-Mounted Air Conditioners

## Useful cooling capacity 3300/4200 W (11,270/14,344 BTU)

### Configuration:
Fully wired ready for connection, including drilling template, eyebolt and assembly parts.

### Note:
Integration of the air conditioners with comfort controller, into a superordinate remote monitoring system, can be achieved with an optional interface board SK 3124.200 (RS 232, RS 485, RS 422 and PLC interface).

### Accessories:
- Roof plate for TS8 modular enclosures with mounting cutout, see page 107.
- With automatic condensate evaporation.

### Part Numbers:

| Part No. SK with basic controller, RAL 7035 (light gray) | 3386.140 | 3387.140 |
| Part No. SK with comfort controller, RAL 7035 (light gray) | 3386.540 | 3387.540 |
| Part No. SK with basic controller, stainless steel(1) | 3386.240 | 3387.240 |
| Part No. SK with comfort controller, stainless steel(1) | 3386.640 | 3387.640 |

### Specifications:
- **Rated current maximum:** 3.0 A/3.1 A, 3.5 A/3.6 A
- **Starting current:** 8.0 A/9.0 A, 17.0 A/19.0 A
- **Pre-fuse T Motor circuit breaker:** 10.0 A/10.0 A
- **Power consumption P_el to DIN 3168:**
  - L 35 L 35 L 35 L 35
  - 1180 W/1490 W
  - 1430 W/1770 W
- **Cooling coefficient \( \varepsilon = Q_k/P_{el} \):** 2.5
- **Refrigerant:** R134a, 1600 g (56.4 oz), R134a, 1800 g (63.5 oz)
- **Maximum allowable operating pressure:** 25 bar (353 psi)
- **Temperature and setting range:** +20°C to +55°C (68°F to 131°F)
- **Ratings to EN 60 529/10.91**
  - **External circuit:** IP 34 (NEMA 2)
  - **Internal circuit:** IP 54 (NEMA 12)
- **Duty cycle:** 100 %
- **Type of connection:** Plug-in terminal strip
- **Weight in kg:** 70 (154.3), 77 (169.8)
- **Air displacement of fans:**
  - **External circuit:** 3450 m³/h (2031 cfm), 3870 m³/h (2278 cfm)
  - **Internal circuit:** 1280 m³/h (753.4 cfm), 1420 m³/h (836 cfm)
- **Temperature control:** Basic or comfort controller (factory setting +35°C (95°F))

### Accessories

<table>
<thead>
<tr>
<th>Accessories</th>
<th>PU</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter mats</td>
<td>3</td>
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</tr>
<tr>
<td>Metal filters</td>
<td>1</td>
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</tr>
<tr>
<td>Quick-change frame</td>
<td>1</td>
<td>3286.900</td>
</tr>
<tr>
<td>Door-operated switch</td>
<td>1</td>
<td>4127.000</td>
</tr>
<tr>
<td>SK bus system for comfort controller</td>
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<td>3124.100</td>
</tr>
<tr>
<td>RiDiag II including cables for comfort controller</td>
<td>1</td>
<td>3159.100</td>
</tr>
<tr>
<td>Interface card for comfort controller</td>
<td>1</td>
<td>3124.200</td>
</tr>
<tr>
<td>Air ducting system</td>
<td>1</td>
<td>3286.970</td>
</tr>
<tr>
<td>Cover stops for interior air outlet</td>
<td>2</td>
<td>3286.980</td>
</tr>
<tr>
<td>Condensate hose</td>
<td>1</td>
<td>3301.612</td>
</tr>
</tbody>
</table>

(1) Delivery times on request. Special voltages available on request. Technical modifications reserved.

---

Property rights: German registered design no. 402 02 324
German registered design no. 402 02 325

Certifications, see pages 9/10.

Detailed drawing, see page 121.

The new VIP small air conditioners were developed especially for cooling the VIP 6000 command panel. In addition, VIP small air conditioners offer a space-saving, economical solution for the climate control of small enclosures where low heat loads are generated by the system.

**Configuration:** Fully wired, ready for connection and pre-mounted on an aluminum rear-wall to fit VIP 6000 operating housing 7 U.

**Property rights:** German patent no. 198 17 917

**Distance from installed equipment at least 60 mm (2.4”)**

**Certifications,** see page 10.


---

**Part No. SK**  
3201.100 | 3202.100
---|---
**Condenser version** | left | right
**Voltage V, Hz** | 230, 50/60 |
**Dimensions in mm (inches)** | H 353.5 (13.9) W 526 (20.7) D 105 (4.1) |
**Useful cooling capacity \( Q_k \) to DIN 3168 in W (BTU)** | L 35 L 35 L 35 L 45 225/270 (768/922) 160/200 (546/683) |

- **Rated current maximum** | 1.5 A/1.5 A |
- **Starting current** | 1.9 A/2.0 A |
- **Pre-fuse T** | 4.0 A/4.0 A |
- **Power consumption \( P_{al} \) to DIN 3168** | L 35 L 35 L 35 L 45 285 W/300 W 315 W/325 W |
- **Cooling coefficient \( \varepsilon = Q_k/P_{el} \)** | L 35 L 35 0.8/0.9 |
- **Refrigerant** | R134a, 170 g (6.0 oz) |
- **Maximum allowable operating pressure** | 27 bar (392 psi) |
- **Temperature and setting range** | +20°C to +45°C (68°F to 113°F) |
- **Ratings to EN 60 529/10.91** | External circuit IP 24 (NEMA 2) Internal circuit IP 54 (NEMA 12) |
- **Duty cycle** | 100 % |
- **Type of connection** | Terminal strip |
- **Weight in kg (lb)** | 10.5 (23.1) |
- **Color** | Rear wall aluminum, vent grille RAL 7035 (light gray) |
- **Air displacement of fans** | External circuit 235 m³/h / 270 m³/h (138/159 cfm) Internal circuit 160 m³/h / 180 m³/h (94/106 cfm) |
- **Temperature control** | Electronic control (factory setting +35°C (95°F)) |

**Accessories**  

<table>
<thead>
<tr>
<th>Accessories</th>
<th>PU</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature indicator</td>
<td>1</td>
<td>103</td>
</tr>
<tr>
<td>Condensate hose</td>
<td>1</td>
<td>108</td>
</tr>
</tbody>
</table>

Special voltages available on request. We reserve the right to make technical modifications.
Wall-Mounted Air Conditioners

Mini air conditioner in horizontal format, useful cooling capacity 320 W (1093 BTU)

Configuration:
Fully wired ready for connection, including drilling template and assembly parts.

Certifications, see page 10.
Detailed drawing, see page 122.

### Part No. SK 3302.300 3302.310

| Voltage V, Hz | 230, 50/60 | 115, 60 |
| Dimensions in mm (inches) | H 340 (13.4), W 525 (20.7), D 153 (6.0) |
| Useful cooling capacity $Q_K$ to DIN 3168 in W (BTU) | L 35 L 35 L 35 L 35 | 300/320 (1025/1093) 150/160 (512/546) |
| Rated current maximum | 1.6 A/1.7 A 3.3 A |
| Starting current | 4.3 A/5.3 A 8.0 A |
| Pre-fuse T | 10 A/10 A 10 A |
| Power consumption $P_{el}$ | L 35 L 35 L 35 L 35 | 285 W/300 W 320 W/340 W 290 W 340 W |
| Cooling coefficient $\varepsilon = Q_K/P_{el}$ | L 35 L 35 L 35 L 35 | 1.1 |
| Refrigerant | R134a, 100 g (3.5 oz) |
| Maximum allowable operating pressure | 25 bar (363 psi) |
| Temperature and setting range | +20°C to +55°C (68°F to 131°F) |
| Ratings to EN 60 529/10.91 | External circuit IP 34 (NEMA 2) Internal circuit IP 54 (NEMA 12) |
| Duty cycle | 100 % |
| Type of connection | Plug-in terminal strip |
| Weight in kg (lb) | 13 (28.7) |
| Color | RAL 7035 (light gray) |
| Air displacement of fans | External circuit 345 m³/h (203 cfm) Internal circuit 310 m³/h (182 cfm) |
| Temperature control | Basic controller |

### Accessories

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</thead>
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<td>Temperature indicator</td>
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<tr>
<td>Condensate hose</td>
<td>1 3301.608</td>
</tr>
<tr>
<td>Filter mats</td>
<td>3 3286.110</td>
</tr>
<tr>
<td>Metal filters</td>
<td>1 3286.120</td>
</tr>
</tbody>
</table>

Special voltages available on request. We reserve the right to make technical modifications.
Useful cooling capacity 320/610 W (1093/2080 BTU)

Wall-Mounted Air Conditioners

Configuration:
Fully wired ready for connection, including drilling template and assembly parts.

Note:
Integration of the air conditioners with comfort controller, into a superordinate remote monitoring system, can be achieved with an optional interface board SK 3124.200 (RS 232, RS 485, RS 422 and PLC interface).

Part No. SK with basic controller, RAL 7035 (light gray)
3302.100
3302.110
3303.100
3303.110

Part No. SK with comfort controller, RAL 7035 (light gray)
–
–
3303.500
3303.510

Part No. SK with basic controller, stainless steel
3302.200
3302.210
3303.200
3303.210

Part No. SK with comfort controller, stainless steel
–
–
3303.600
3303.610

Voltage V, Hz
230, 50/60
115, 60
230, 50/60
115, 60

Dimensions in mm (inches)
H
550 (21.7)
550 (21.7)

B
280 (11.0)
280 (11.0)

T
140 (5.5)
158 (6.2)

T2
98 (3.9)

Useful cooling capacity $Q_K$ to DIN 3168 in W (BTU)
L 35 L 35
L 35 L 50
300/320 (1025/1093)
150/170 (512/581)
320 (1093)
170 (581)
500/610 (1708/2083)
280/350 (957/1195)
610 (2083)
350 (1195)

Rated current maximum
1.6 A/1.7 A
3.3 A
2.6 A/2.6 A
5.7 A

Starting current
3.0 A/3.4 A
8.0 A
5.1 A/6.4 A
11.5 A

Pre-fuse T
10.0 A/10.0 A
10.0 A
10.0 A/10.0 A
10.0 A

Power consumption $P]\text{el}$ to DIN 3168
L 35 L 35
L 35 L 50
245 W/255 W
255 W/275 W
290 W
340 W
360 W/380 W
420 W/390 W
470 W
500 W

Cooling coefficient $\varepsilon = \frac{Q_K}{P}\text{el}$
L 35 L 35
1.2
1.4

Refrigerant
R134a, 100 g (3.5 oz)
R134a, 170 g (6.0 oz)

Maximum allowable operating pressure
25 bar (263 psi)
28 bar (406 psi)

Temperature and setting range
$+20^\circ\text{C}$ to $+55^\circ\text{C}$ ($68^\circ\text{F}$ to $131^\circ\text{F}$)

Ratings to EN 60 529/10.91
External circuit
IP 34 (NEMA 2)
Internal circuit
IP 54 (NEMA 12)

Duty cycle
100 %

Type of connection
Plug-in terminal strip

Weight in kg (lb)
13 (28.7)

Air displacement of fans
External circuit
310 m$^3$/h (182 cfm)
345 m$^3$/h (203 cfm)
310 m$^3$/h (182 cfm)

Temperature control
Basic or comfort controller (factory setting $+35^\circ\text{C}$ (95°F))

Accessories
Filter mats 3
Metal filters 1
Door-operated switch 1
SK bus system for comfort controller 1
RiDiag II including cables for comfort controller 1
Interface card for comfort controller 1
Condensate hose 1

Property rights:
German registered designs no. 402 02 324 and no. 402 02 325
Japanese registered design no. 1 187 896
Indian registered design no. 189 953
US design patent no. D 488,480
IR reg. design no. DM/061 967 with validity for FR, IT, ES

Part No.
3303.100
3303.110
3303.500
3303.510
3303.200
3303.210
3303.600
3303.610

Part No.
3302.100
3302.110
3302.200
3302.210
3303.200
3303.210
3303.500
3303.510

Part No.
3302.200
3302.210
3303.200
3303.210
3303.500
3303.510
3303.600
3303.610

Part No.
3302.100
3302.110
3303.100
3303.110
3303.500
3303.510
3303.200
3303.210
3303.500
3303.510
3303.600
3303.610

B = Width
T = Depth
Wall-Mounted Air Conditioners

Useful cooling capacity 780 W (2664 BTU)

Configuration:
Fully wired ready for connection, including drilling template and assembly parts.

Note:
Air conditioners with comfort controller may be integrated into a superordinate remote monitoring system with an optional interface board SK 3124.200 (RS 232, RS 485, RS 422 and PLC interface).

Certifications, see page 11.
Detailed drawing, see page 122.

Property rights:
German registered designs no. 402 02 324 and no. 402 02 325
Japanese registered design no. 1 187 896
Indian registered design no. 189 953
US design patent no. D 488,480
IR reg. design no. DM/061 967 with validity for FR, IT, ES

| Part No. SK with basic controller, RAL 7035 (light gray) | 3361.100 | 3361.110 | 3361.140 |
| Part No. SK with comfort controller, RAL 7035 (light gray) | 3361.500 | 3361.510 | 3361.540 |
| Part No. SK with basic controller, stainless steel1) | 3361.200 | 3361.210 | 3361.240 |
| Part No. SK with comfort controller, stainless steel1) | 3361.600 | 3361.610 | 3361.640 |

Voltage V, Hz
- 230, 50/603)
- 115, 603)
- 4002, 2~, 50/603)

Dimensions in mm (inches)
- H 550 (21.7)
- W 280 (11.0)
- D 280 (11.0)

Useful cooling capacity Qk to DIN 3168 in W (BTU)
- L 35 750/780 (2561/2664)
- L 35 510/540 (1742/1844)
- L 35 750/780 (2561/2664)
- L 35 510/540 (1742/1844)

Rated current maximum
- 2.3 A/2.4 A
- 6.5 A
- 1.3 A/1.4 A

Starting current
- 5.7 A/5.7 A
- 13.9 A
- 3.3 A/3.3 A

Pre-fuse T
- 10 A/10 A
- 10 A
- 10 A/10 A

Power consumption Pe to DIN 3168
- L 35 480 W/555 W
- L 35 545 W/610 W
- L 35 490 W/570 W
- L 35 560 W/630 W

Refrigerant R134a, 280 g (9.9 oz)

Maximum allowable operating pressure
- +20°C to +55°C (68°F to 131°F)

Temperature and setting range
- +20°C to +55°C (68°F to 131°F)

Type of connection Plug-in terminal strip

Weight in kg (lb)
- 22 (48.5)

Air displacement of fans (unimpeded air flow)
- External circuit 480 m³/h (283 cfm)
- Internal circuit 600 m³/h (353 cfm)

Temperature control
- Basic or comfort controller (factory setting +35°C (95°F))

Accessories
- PU Page 100

1) Delivery times on request.
2) External toroidal core transformer Ø 126 x 65 mm (5.0 x 2.6”) deep for mounting in the enclosure.
3) Tu maximum = 52°C (125°F)60 Hz.

Special voltages available on request. We reserve the right to make technical modifications.
**Useful cooling capacity 1060/1510 W (3620/5150 BTU)**

**Configuration:**
Fully wired ready for connection, including drilling template and assembly parts.

**Note:**
Integration of the air conditioner with comfort controller, into a superordinate remote monitoring system, can be achieved with an optional interface board SK 3124.200 (RS 222, RS 485, RS 422 and PLC interface).

**Optionally available:**
With automatic condensate evaporation.

**Certifications,**
see page 11.

**Detailed drawing,**
see page 123.

**Performance diagrams,**

**Property rights:**
German registered design no. 402 02 325
IR reg. design no. DM/062 557 with validity for FR, IT, ES
Indian registered design no. 190 269
Japanese registered design no. 1 187 905

---

**Part No. SK with basic controller, RAL 7035 (light gray)**
- 3304.100
- 3304.110
- 3304.140
- 3305.100
- 3305.110
- 3305.140

**Part No. SK with comfort controller, RAL 7035 (light gray)**
- 3304.500
- 3304.510
- 3304.540
- 3305.500
- 3305.510
- 3305.540

**Part No. SK with basic controller, stainless steel**
- 3304.200
- 3304.210
- 3304.240
- 3305.200
- 3305.210
- 3305.240

**Part No. SK with comfort controller, stainless steel**
- 3304.600
- 3304.610
- 3304.640
- 3305.600
- 3305.610
- 3305.640

---

**Dimensions in mm (inches)**

<table>
<thead>
<tr>
<th>Model</th>
<th>H</th>
<th>W</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>L 35</td>
<td>950 (37.4)</td>
<td>400 (15.7)</td>
<td>260 (10.2)</td>
</tr>
<tr>
<td>L 35</td>
<td>950 (37.4)</td>
<td>400 (15.7)</td>
<td>260 (10.2)</td>
</tr>
</tbody>
</table>

**Useful cooling capacity $Q_K$ to DIN 3168 in W (BTU)**

<table>
<thead>
<tr>
<th>Model</th>
<th>$L_{35}$</th>
<th>$L_{35}$</th>
<th>$L_{35}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>L 35</td>
<td>1000/1060</td>
<td>3415/3620</td>
<td>1500/1510</td>
</tr>
<tr>
<td>L 35</td>
<td>790/840</td>
<td>2698/2869</td>
<td>1230/1250</td>
</tr>
</tbody>
</table>

**To order air conditioners with integrated condensate evaporators, add .XX1 to the part number, ie. XXXX.XX1.**

---

**Useful cooling capacity $Q_K/E_{el}$ to DIN 3168 in W (BTU)**

<table>
<thead>
<tr>
<th>Model</th>
<th>$L_{35}$</th>
<th>$L_{35}$</th>
<th>$L_{35}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>L 35</td>
<td>700 W/650</td>
<td>725 W/680</td>
<td>580 W/550</td>
</tr>
<tr>
<td>L 35</td>
<td>750 W/710</td>
<td>780 W/750</td>
<td>660 W/680</td>
</tr>
</tbody>
</table>

---

**Refrigerant $R_{134a}$, 500 g (17.6 oz)**

**Refrigerant $R_{134a}$, 600 g (21.2 oz)**

---

**Maximum allowable operating pressure**

- 25 bar (363 psi)

---

**Temperature and setting range**

- +20°C to +55°C (68°F to 131°F)

---

**Duty cycle**

- 100 %

---

**Type of connection**

- Plug-in terminal strip

---

**Weight in kg (lb)**

- 39 (86.0)
- 44 (97.0)
- 40 (88.2)
- 41 (90.3)
- 46 (101.4)
- 42 (92.6)

---

**Air displacement of fans**

**External circuit**

- 900 m³/h (530 cfm)

**Internal circuit**

- 600 m³/h (353 cfm)

**Temperature control**

- Basic or comfort controller (factory setting +35°C (95°F))

---

**Accessories**

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<th>Item</th>
<th>Page</th>
</tr>
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<td>111</td>
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<tr>
<td>Metal filters</td>
<td>112</td>
</tr>
<tr>
<td>Door-operated switch</td>
<td>106</td>
</tr>
<tr>
<td>SK bus system for comfort controller</td>
<td>105</td>
</tr>
<tr>
<td>RiDiag II including cables for comfort controller</td>
<td>108</td>
</tr>
<tr>
<td>Interface card for comfort controller</td>
<td>105</td>
</tr>
<tr>
<td>Condensate hose</td>
<td>108</td>
</tr>
</tbody>
</table>

1 Delivery times available on request.
2 Motor circuit-breaker

Optionally available with automatic condensate evaporation. Special voltages available on request. We reserve the right to make technical modifications.
Wall-Mounted Air Conditioners

Useful cooling capacity 2350/2750 W (8026/9392 BTU)

Configuration:
Fully wired ready for connection, including drilling template, eyebolt and assembly parts.

Part No. SK with basic contr., RAL 7035 (light gray)
3328.100 3328.110 3328.140

Part No. SK with comfort contr., RAL 7035 (light gray)
3328.500 3328.510 3328.540

Part No. SK with basic controller, stainless steel
3328.200 3328.210 3328.240

Part No. SK with comfort controller, stainless steel
3328.600 3328.610 3328.640

Voltage V, Hz
230, 50/60
115, 50/60
400, 50/
460, 60, 3~
230, 50/60
115, 50/60
400, 50/
460, 60, 3~

Dimensions in mm (inches)
H
1580 (62.2)
400 (15.7)
290 (11.4)

W

D

Useful cooling capacity QK to DIN 3168 in W (BTU)
L 35
2000/2350 (6830/8026)

L 35 L 50
1450/1690 (4952/6771)

To order air conditioners with integrated condensate evaporators, add .XX1 to the part number, ie. XXXX.XX1.

Rated current maximum
6.9 A/8.5 A
13.6 A/16.2 A
2.5 A/3.0 A
8.0 A/10.0 A
16.0 A/21.0 A
3.4 A/3.5 A

Starting current
22.0 A/26.0 A
36.0 A/39.0 A
6.5 A/7.5 A
21.0 A/21.0 A
44.0 A/42.0 A
6.5 A/7.3 A

Pre-fuse T
16.0 A/16.0 A
25.0 A/25.0 A
10.0 A/10.0 A
16.0 A/16.0 A
25.0 A/25.0 A
10.0 A/10.0 A

Power consumption Pel to DIN 3168
900 W/1070 W
960 W/1130 W
930 W/1150 W
1320 W/1550 W
1380 W/1600 W
1500 W/1880 W
1300 W/1500 W
1550 W/1850 W

Cooling coefficient ε = QK/Pel
1.7
2.3
1.9
2.0

Refrigerant R134a, 950 g (33.5 oz)

Maximum allowable operating pressure
28 bar (406 psi)

Temperature and setting range
+20°C to +55°C (68°F to 131°F)

Ratings to EN 60 529/10.91
External circuit IP 34 (NEMA 2)
Internal circuit IP 54 (NEMA 12)

Duty cycle 100 %

Type of connection Plug-in terminal strip

Weight in kg (lb)
66 (145.5)
73 (160.9)
67 (147.7)
69 (152.1)
76 (167.6)
70 (154.3)

Air displacement of fans
External circuit
640 m³/h (377 cfm)
710 m³/h (418 cfm)

Internal circuit
550 m³/h (324 cfm)
640 m³/h (377 cfm)

Accessories
PU Filter mats 3 3286.400 111

Metal filters
1 3286.410 112

Door-operated switch
1 4127.000 –

SK bus system for comfort controller
1 3124.100 106

RDiag II incl. cables for comfort controller
1 3159.100 –

Interface card for comfort controller
1 3124.200 105

Condensate hose
1 3301.612 108

1) Delivery times available on request. 2) Motor circuit-breaker
Optionally available with automatic condensate evaporation. Special voltages available on request. We reserve the right to make technical modifications.

Certifications, see page 11.
Detailed drawing, see page 123.
Wall-Mounted Air Conditioners

Useful cooling capacity 4400 W (15,027 BTU)

Configuration:
Fully wired ready for connection, including drilling template, eyebolt and assembly parts.

Note:
Integration of the air conditioners with comfort controller, into a superordinate remote monitoring system, can be achieved with an optional interface board SK 3124.200 (RS 232, RS 485, RS 422 and PLC interface).

Optionally available:
With automatic condensate evaporation.

Also required:
For installation in the door, the use of a ride-up roller is recommended.

| Part No. SK with basic controller, RAL 7035 (light gray) | 3332.140 |
| Part No. SK with comfort controller, RAL 7035 (light gray) | 3332.540 |
| Part No. SK with basic controller, stainless steel(1) | 3332.240 |
| Part No. SK with comfort controller, stainless steel(1) | 3332.640 |

Voltage, Hz
400, 50/60, 60, 3~

Dimensions in mm (inches)
| H | 1580 (62.2) |
| W | 500 (19.7) |
| D | 340 (13.4) |

Useful cooling capacity \( Q_k \) to DIN 3168 in W (BTU)
L 35 L 35 L 35
4000/4400 (13,661/15,027)
3070/3570 (10,485/12,192)

To order air conditioners with integrated condensate evaporators, add .XX1 to the part number, ie. XXXX.XX1.

Rated current maximum 3.8 A/3.9 A
Starting current 9.2 A/11.0 A
Pre-fuse T Motor circuit breaker 10.0 A/10.0 A
Power consumption \( P_U \) to DIN 3168 L 35 L 35 L 35 L 50
1710 W/2110 W
1980 W/2450 W
Cooling coefficient \( \varepsilon = Q_k/P_U \) L 35 L 35 2.3
Refrigerant R134a, 3000 g (105.8 oz)

Maximum allowable operating pressure 28 bar (406 psi)
Temperature and setting range +20°C to +55°C (68°F to 131°F)

Ratings to EN 60 529/10.91
| External circuit | IP 34 (NEMA 2) |
| Internal circuit | IP 54 (NEMA 12) |

Duty cycle 100 %
Type of connection Plug-in terminal strip
Weight in kg (lb) 91 (200.6)

Air displacement of fans External circuit 2000 m³/h (1177 cfm)
Internal circuit 1500 m³/h (883 cfm)

Temperature control Basic or comfort controller (factory setting +35°C (95°F))

Accessories
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<thead>
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</thead>
<tbody>
<tr>
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<td>3</td>
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<td>1</td>
</tr>
<tr>
<td>Door-operated switch</td>
<td>1</td>
</tr>
<tr>
<td>SK bus system for comfort controller</td>
<td>1</td>
</tr>
<tr>
<td>RiDiag II including cables for comfort controller</td>
<td>1</td>
</tr>
<tr>
<td>Interface card for comfort controller</td>
<td>1</td>
</tr>
<tr>
<td>Condensate hose</td>
<td>1</td>
</tr>
</tbody>
</table>

(1) Delivery times available on request. Optionally available with automatic condensate evaporation. Special voltages available on request. We reserve the right to make technical modifications.

Accessories Page 100
Climate Control 43
Wall-Mounted Air Conditioners

Slimline, useful cooling capacity 1500 W (5123 BTU)

The super slimline design permits system adaptation for applications where high heat loads are accommodated in a confined space.

Configuration:
Fully wired ready for connection, including drilling template and assembly parts.

Note:
Air conditioner with comfort controller may be integrated into a superordinate remote monitoring system with an optional interface board SK 3124.200 (RS 232, RS 485, RS 422 and PLC interface).

Optionally available:
With automatic condensate evaporation.

Certifications, see page 12.
Detailed drawing, see page 124.

Part No. SK with basic controller, RAL 7035 (light gray)
3366.100 3377.100
3366.110 3377.110
3366.140 3377.140
Part No. SK with comfort controller, RAL 7035 (light gray)
3366.500 3377.500
3366.510 3377.510
3366.540 3377.540
Part No. SK with basic controller, stainless steel
3366.200 3377.200
3366.210 3377.210
3366.240 3377.240
Part No. SK with comfort controller, stainless steel
3366.600 3377.600
3366.610 3377.610
3366.640 3377.640

Rated current maximum
Starting current
Pre-fuse T
Power consumption $P_{el}$ to DIN 3168
Cooling coefficient $\varepsilon = \frac{Q_K}{P_{el}}$
Refrigerant
Maximum allowable operating pressure
Temperature and setting range
Ratings to EN 60 529/10.91
Type of connection
Weight in kg (lb)
Air displacement of fans (unimpeded air flow)
Temperature control

<table>
<thead>
<tr>
<th>Accessories</th>
<th>PU</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter mats</td>
<td>3</td>
<td>3296.400</td>
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<tr>
<td>Metal filters</td>
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<tr>
<td>Trim frame for external mounting</td>
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<tr>
<td>Door-operated switch</td>
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<td>4127.000</td>
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<td>1</td>
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<tr>
<td>RiDiag II including cables for comfort controller</td>
<td>1</td>
<td>3159.100</td>
</tr>
<tr>
<td>Interface card for comfort controller</td>
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<td>3124.200</td>
</tr>
<tr>
<td>Condensate hose</td>
<td>1</td>
<td>3301.612</td>
</tr>
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</table>

1 Delivery times available on request.
Special voltages available on request. We reserve the right to make technical modifications.

B 4.1

Wall-Mounted Air Conditioners

Part No. SK with basic controller, RAL 7035 (light gray)
3366.100 3377.100
3366.110 3377.110
3366.140 3377.140
Part No. SK with comfort controller, RAL 7035 (light gray)
3366.500 3377.500
3366.510 3377.510
3366.540 3377.540
Part No. SK with basic controller, stainless steel
3366.200 3377.200
3366.210 3377.210
3366.240 3377.240
Part No. SK with comfort controller, stainless steel
3366.600 3377.600
3366.610 3377.610
3366.640 3377.640

Rated current maximum
Starting current
Pre-fuse T
Power consumption $P_{el}$ to DIN 3168
Cooling coefficient $\varepsilon = \frac{Q_K}{P_{el}}$
Refrigerant
Maximum allowable operating pressure
Temperature and setting range
Ratings to EN 60 529/10.91
Type of connection
Weight in kg (lb)
Air displacement of fans (unimpeded air flow)
Temperature control

<table>
<thead>
<tr>
<th>Accessories</th>
<th>PU</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Filter mats</td>
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<tr>
<td>Metal filters</td>
<td>1</td>
<td>3296.410</td>
</tr>
<tr>
<td>Trim frame for external mounting</td>
<td>1</td>
<td>3377.000</td>
</tr>
<tr>
<td>Door-operated switch</td>
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<td>4127.000</td>
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<tr>
<td>SK bus system for comfort controller</td>
<td>1</td>
<td>3124.100</td>
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<tr>
<td>RiDiag II including cables for comfort controller</td>
<td>1</td>
<td>3159.100</td>
</tr>
<tr>
<td>Interface card for comfort controller</td>
<td>1</td>
<td>3124.200</td>
</tr>
<tr>
<td>Condensate hose</td>
<td>1</td>
<td>3301.612</td>
</tr>
</tbody>
</table>

1 Delivery times available on request.
Special voltages available on request. We reserve the right to make technical modifications.

B 4.1

Wall-Mounted Air Conditioners
### Wall-Mounted Air Conditioners

**Design NEMA 4X**, useful cooling capacity 610/1510 W (2083/5150 BTU)

#### Configuration:
Fully wired ready for connection, including drilling template and assembly parts.

#### Note:
Air conditioner with comfort controller may be integrated into a superordinate remote monitoring system with an optional interface board SK 3124.20 (RS 232, RS 485, RS 422 and PLC interface).

#### Certifications,
see page 12.

#### Detailed drawing,
see page 124.

#### Performance diagrams,

### Specifications

<table>
<thead>
<tr>
<th>Part No. SK with basic controller1)</th>
<th>3303.104</th>
<th>3303.114</th>
<th>3304.104</th>
<th>3304.114</th>
<th>3304.144</th>
<th>3305.104</th>
<th>3305.114</th>
<th>3305.144</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Voltage V, Hz</strong></td>
<td>230, 50/60</td>
<td>115, 60</td>
<td>230, 50/60</td>
<td>115, 50/60</td>
<td>200, 50/460, 60, 3–</td>
<td>230, 50/60</td>
<td>115, 50/60</td>
<td>200, 50/460, 60, 3–</td>
</tr>
<tr>
<td><strong>Dimensions in mm (inches)</strong></td>
<td>620 (24.4)</td>
<td>285 (11.2)</td>
<td>298 (11.7)</td>
<td>1020 (40.2)</td>
<td>405 (15.9)</td>
<td>358 (14.1)</td>
<td>1020 (40.2)</td>
<td>405 (15.9)</td>
</tr>
<tr>
<td>**Useful cooling capacity **</td>
<td>500 (1708)</td>
<td>280 (956)</td>
<td>790/840 (2698/2689)</td>
<td>1000/1060 (3415/3620)</td>
<td>1500/1510 (5123/5157)</td>
<td>1230/1250 (4201/4269)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part No. SK with comfort controller1)</th>
<th>3303.504</th>
<th>3303.514</th>
<th>3304.504</th>
<th>3304.514</th>
<th>3304.544</th>
<th>3305.504</th>
<th>3305.514</th>
<th>3305.544</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Voltage V, Hz</strong></td>
<td>230, 50/60</td>
<td>115, 50/60</td>
<td>400, 50/460, 60, 3–</td>
<td>230, 50/60</td>
<td>115, 50/60</td>
<td>400, 50/460, 60, 3–</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dimensions in mm (inches)</strong></td>
<td>620 (24.4)</td>
<td>285 (11.2)</td>
<td>298 (11.7)</td>
<td>1020 (40.2)</td>
<td>405 (15.9)</td>
<td>358 (14.1)</td>
<td>1020 (40.2)</td>
<td>405 (15.9)</td>
</tr>
<tr>
<td>**Useful cooling capacity **</td>
<td>500 (1708)</td>
<td>280 (956)</td>
<td>790/840 (2698/2689)</td>
<td>1000/1060 (3415/3620)</td>
<td>1500/1510 (5123/5157)</td>
<td>1230/1250 (4201/4269)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1) Delivery times available on request.

2) Motor circuit breaker.

### Accessories

<table>
<thead>
<tr>
<th>Accessories</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Door-operated switch</td>
<td>1 4127.000</td>
</tr>
<tr>
<td>SK bus system for comfort controller</td>
<td>1 3124.100</td>
</tr>
<tr>
<td>RiDiag II for comfort controller, incl. cables</td>
<td>1 3159.100</td>
</tr>
<tr>
<td>Interface card for comfort controller</td>
<td>1 3124.200</td>
</tr>
<tr>
<td>Condensate hose</td>
<td>1 3301.610</td>
</tr>
</tbody>
</table>

### Notes
- Special voltages and technical modifications available on request.
Wall-Mounted Air Conditioners

Design NEMA 4X, useful cooling capacity 2350/2750 W (8025/9392 BTU)

Configuration: Fully wired ready for connection, including drilling template and assembly parts.

Note: Integration of the air conditioner with comfort controller, into a superordinate remote monitoring system, can be achieved with an optional interface board SK 3124.200 (RS 232, RS 485, RS 422 and PLC interface).

Certifications, see page 12.
Detailed drawing, see page 125.

Part No. SK with basic controller1) 3328.104 3328.114 3328.144 3329.104 3329.114 3329.144
Part No. SK with comfort controller1) 3328.504 3328.514 3328.544 3329.504 3329.514 3329.544

Voltage V, Hz
230, 50/60
115, 50/60
400, 50/60
460, 60, 3~
230, 50/60
115, 50/60
400, 50/60
460, 60, 3~

Dimensions in mm (inches)
H 1650 (65.0)
W 405 (16.0)
D 368 (14.5)

Useful cooling capacity Qk to DIN 3168 in W (BTU)
L 35 L 35 L 35 L 50
2000/2350 (6860/8025) 1450/1690 (4952/5772) 2500/2750 (8538/9392) 1600/1750 (5464/5977)

Rated current maximum
8.9 A/5.0 A 13.6 A/16.2 A 2.5 A/3.0 A 8.0 A/10.0 A 16.0 A/21.0 A 3.4 A/3.5 A
Starting current
22.0 A/25.0 A 36.0 A/39.0 A 6.5 A/7.5 A 21.0 A/21.0 A 44.0 A/42.0 A 6.5 A/7.3 A
Pre-fuse T
16.0 A/16.0 A 25.0 A/25.0 A 10.0 A/10.0 A 16.0 A/16.0 A 25.0 A/25.0 A 10.0 A/10.0 A

Power consumption Pel to DIN 3168
L 35 L 35 L 35 L 50
900/1070 W 900/1070 W 1330/1220 W 1170/1290 W 930/1150 W 1320/1550 W 1500/1880 W 1380/1600 W 1300/1500 W 1550/1850 W

Cooling coefficient ε = Qk/Pe
L 35 L 35
1.7 2.3 1.9 2.0

Refrigerant
R134a, 900 g (31.7 oz)

Material
Type 304 stainless steel (V2A)

Air displacement of fans
External circuit 640 m³/h (377 cfm) 710 m³/h (418 cfm)
Internal circuit 550 m³/h (324 cfm) 640 m³/h (377 cfm)

Temperature control
Basic or comfort controller (factory setting +35°C (95°F))

Accessories
PU Page
Door-operated switch 1 4127.000
SK bus system for comfort controller 1 3124.100
RiDiag II including cables for comfort controller 1 3159.100
Interface card for comfort controller 1 3124.200
Condensate hose 1 3301.612

1) Delivery times available on request.
2) Motor circuit-breaker Special voltages and technical modifications available on request.
RiNano anti-fingerprint and anti-microbial – the refinement of stainless steel products

These two finishes may be used individually or together.

**Anti-fingerprint** will make finger prints less visible, they can easily be wiped off with a dry cloth. The ultra-fine nano composite material will not visibly change the appearance of the surface.

**Anti-microbial**, with a special silver finish, prevents the development of microbes (viruses, bacteria, fungi). Simple cleaning washes them off.

Ciba tested.

Please request additional information at rinano@rittal-corp.com.

TopTherm & RiNano an innovative finish for long lasting cooling performance

Layers of dust on the outer air circuit surfaces of air conditioners can diminish effectiveness by 30 to 50 % due to the insulating effect. A revolutionary RiNano-finish can prevent this because of its water, dirt and oil repelling properties; it will help provide long lasting, consistent cooling performance. Service and maintenance can be scheduled less frequently and cleaning will be much easier.

<table>
<thead>
<tr>
<th>Air conditioners in W (BTU)</th>
<th>Voltage</th>
<th>Controller</th>
<th>Part No. SK Standard</th>
<th>Part No. SK RiNano</th>
<th>Standard equipment see page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wall-mounted</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>500 (1708)</td>
<td>230 V</td>
<td>Comfort</td>
<td>3303.500</td>
<td>3303.400</td>
<td>39</td>
</tr>
<tr>
<td>1000 (3415)</td>
<td>230 V</td>
<td>Comfort</td>
<td>3304.500</td>
<td>3304.400</td>
<td>41</td>
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<tr>
<td>1000 (3415)</td>
<td>400 – 460 V, 3–</td>
<td>Comfort</td>
<td>3304.540</td>
<td>3304.440</td>
<td>41</td>
</tr>
<tr>
<td>1500 (5123)</td>
<td>230 V</td>
<td>Comfort</td>
<td>3305.500</td>
<td>3305.400</td>
<td>41</td>
</tr>
<tr>
<td>1500 (5123)</td>
<td>400 – 460 V, 3–</td>
<td>Comfort</td>
<td>3305.540</td>
<td>3305.440</td>
<td>41</td>
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<tr>
<td><strong>Roof-mounted</strong></td>
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<tr>
<td>1500 (5123)</td>
<td>230 V</td>
<td>Comfort</td>
<td>3384.500</td>
<td>3384.400</td>
<td>35</td>
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<tr>
<td>1500 (5123)</td>
<td>400 V, 2–</td>
<td>Comfort</td>
<td>3384.540</td>
<td>3384.440</td>
<td>35</td>
</tr>
</tbody>
</table>

Additional air conditioners with RiNano finish upon request.

Anti-graffiti – the cleaning of CS Outdoor enclosures will be easy with our RiNano finish.

Not all painted works can be considered art. A RiNano-finish enhancement will make the removal of graffiti effortless. Spray-paint can be removed with a power-washer as part of regular cleaning. The finish repels other stains and contaminants as well.

We are confident that you will find this finish option very useful.
Chiller Systems

Features

Chiller systems ensure centralized, efficient cooling and provision of the cooling medium (generally water). For example, all cooling tasks on a system or machine can be solved by a single pipeline system. Spatial separation between cooling production and process cooling can be achieved with chiller systems.

Application diversity of centralized cooling technology

Enclosure cooling
In conjunction with air/water heat exchangers, optimum dissipation of high heat loads is guaranteed, even under extreme ambient temperatures and air pollution.

Cooling of liquid media
Direct and indirect cooling of liquids are the prerequisite for ensuring essential machine precision and speed.

Process cooling
High-quality material processing, such as laser cutting, requires high levels of temperature precision with simultaneous cooling of the peripheral technology.

Installation conditions

Unity with enclosures
For example, chiller systems may be attached directly to a bayed enclosure suite to provide effective, centralized cooling of all cases and enclosures on a machine or plant floor.

Spatially separated
High heat loads can even be dissipated in confined and awkward spaces, due to the spatial separation of the chiller system from the enclosure and machine. In all cases, as well as enclosure cooling, cooling water may also be produced for process and machine cooling or for cooling liquid media.

Benefits:
- A single system for enclosure cooling, process and machine cooling, and the cooling of liquid media.
- Integration into bayed enclosure suites
- Individual project planning
- Commissioning and servicing

Important:
- Cooling capacity calculated at an ambient temperature of 32°C (90°F) and an inlet temperature of 10°C (50°F) and 18°C (64°F) (water)/20°C (68°F) (oil)
Project planning examples

Example 1
Production line
High-quality material processing requires a high degree of temperature precision with simultaneous cooling of the peripheral technology. The cost-effective cooling of various equipment in the production line is performed centrally by the chiller system in an industrial enclosure. It supplies the machine, process cooling and control enclosure with the required cooling water by an air/water heat exchanger.

Example 2
Test laboratory
Every single product is subjected to in-depth functional and quality testing at the in-house test laboratory. To ensure that the test process runs smoothly, the control enclosures are cooled by an air/water heat exchanger, and the three test benches are supplied with the required cooling water per the test requirements. These diverse cooling tasks are performed by the chiller system integrated into the TS8 modular enclosure system. Visually, they form a single unit with the TS8 control enclosure.

Example 3
Control room
In conjunction with air/water heat exchangers, the server and network enclosures installed in the production control room are cooled by a mini chiller system. The mini chiller system is installed outside of the production control room to avoid contaminating the room air, and to facilitate optimum dissipation of the heat loss generated by the chiller system.

Example 4
Tool production
The heat loss generated during tool machining, (for example by water-cooled motor spindles with high-frequency drives), must be dissipated efficiently. In this case, the task is performed by a wall-mounted Mini chiller system which at the same time ensures cooling of the control unit, also integrated into the machine.
Chiller Systems

Mini, cooling capacity 1070/1660 W (3654/5669 BTU)

Technical design:
- Compact and modular layout of the cooling components on a base plate which functions as a collecting tray
- Medium-conveying pumps
- Precise temperature control, based on microprocessor technology
- Collective fault signal with floating contact
- Application-specific equipment available on request.
- Pressure-sealed system (.600) or open system with tank (.610)

Configuration:
- Chiller system wired and plumbed ready for connection, with multilingual documentation including functional diagram and wiring plans.

Certifications:

Detailed drawing:

Layout diagram:
see page 128.

Characteristic curves of pump:
see page 128.

Options:
see page 126.

<table>
<thead>
<tr>
<th>Part No. SK</th>
<th>3318.600</th>
<th>3318.610</th>
<th>3319.600</th>
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<tbody>
<tr>
<td>Voltage V, Hz</td>
<td>230, 50/60</td>
<td>230, 50/60</td>
<td>230, 50/60</td>
<td>230, 50/60</td>
</tr>
<tr>
<td>Dimensions in mm (inches)</td>
<td>H 400 (15.7) W 600 (23.6) D 432 (16.9)</td>
<td>H 400 (15.7) W 600 (23.6) D 432 (16.9)</td>
<td>H 400 (15.7) W 600 (23.6) D 432 (16.9)</td>
<td>H 400 (15.7) W 600 (23.6) D 432 (16.9)</td>
</tr>
<tr>
<td>Cooling capacity at $T_w = 10°C (50°F)/T_u = 32°C (90°F)$</td>
<td>780/870 (2664/2971)</td>
<td>960/1070 (3279/3654)</td>
<td>1200/1330 (4098/4542)</td>
<td>1490/1660 (5089/5669)</td>
</tr>
<tr>
<td>Power consumption</td>
<td>630/780 W</td>
<td>630/780 W</td>
<td>630/780 W</td>
<td>630/780 W</td>
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<td>Rated current maximum</td>
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<td>4.2 A</td>
<td>5.4 A</td>
<td>5.4 A</td>
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<tr>
<td>Refrigerant</td>
<td>R134a</td>
<td>R134a</td>
<td>R134a</td>
<td>R134a</td>
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<tr>
<td>$P_{max}$ cooling circuit</td>
<td>25 bar (363 psi)</td>
<td>25 bar (363 psi)</td>
<td>25 bar (363 psi)</td>
<td>25 bar (363 psi)</td>
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<tr>
<td>Temperature range</td>
<td>Environment +5°C to +43°C (41°F to 109°F)</td>
<td>Liquid media +10°C to +30°C (14°F to 86°F)</td>
<td>Environment +5°C to +43°C (41°F to 109°F)</td>
<td>Liquid media +10°C to +30°C (14°F to 86°F)</td>
</tr>
<tr>
<td>Pump capacity</td>
<td>See characteristic curve</td>
<td>See characteristic curve</td>
<td>See characteristic curve</td>
<td>See characteristic curve</td>
</tr>
<tr>
<td>Tank</td>
<td>Pressure-sealed</td>
<td>Made from PP plastic</td>
<td>Pressure-sealed</td>
<td>Made from PP plastic</td>
</tr>
<tr>
<td>Tank capacity in l (gal)</td>
<td>–</td>
<td>2.5 (0.7)</td>
<td>–</td>
<td>2.5 (0.7)</td>
</tr>
<tr>
<td>Water connections</td>
<td>2 x 1/2˝ IG</td>
<td>2 x 1/2˝ IG</td>
<td>2 x 1/2˝ IG</td>
<td>2 x 1/2˝ IG</td>
</tr>
<tr>
<td>Weight in kg (lb)</td>
<td>48 (108)</td>
<td>51 (112.4)</td>
<td>48 (108)</td>
<td>51 (112.4)</td>
</tr>
<tr>
<td>Color</td>
<td>RAL 7035 (light gray)</td>
<td>RAL 7035 (light gray)</td>
<td>RAL 7035 (light gray)</td>
<td>RAL 7035 (light gray)</td>
</tr>
<tr>
<td>Ratings (electric)</td>
<td>IP 44</td>
<td>IP 44</td>
<td>IP 44</td>
<td>IP 44</td>
</tr>
<tr>
<td>Air displacement of fans</td>
<td>900 m³/h (530 cfm)</td>
<td>900 m³/h (530 cfm)</td>
<td>900 m³/h (530 cfm)</td>
<td>900 m³/h (530 cfm)</td>
</tr>
<tr>
<td>Temperature control</td>
<td>Microcontroller control, setting range +10°C to +30°C (50°F to 86°F) (factory setting +18°C (64°F))</td>
<td>Microcontroller control, setting range +10°C to +30°C (50°F to 86°F) (factory setting +18°C (64°F))</td>
<td>Microcontroller control, setting range +10°C to +30°C (50°F to 86°F) (factory setting +18°C (64°F))</td>
<td>Microcontroller control, setting range +10°C to +30°C (50°F to 86°F) (factory setting +18°C (64°F))</td>
</tr>
</tbody>
</table>


Layout diagram, see page 128.

Characteristic curves of pump, see page 128.

Options, see page 126.

Additives, see page 111.

Air/water heat exchangers, From page 68.

By-pass safety valve, Page 110.

PU Page

Metal filter mat 1 3286.510 112

Customized solutions and technical modifications available on request.
Chiller Systems

Mini, cooling capacity 3400/5400 W (11,612/18,442 BTU)

Technical design:
- Compact, modular configuration of the cooling components with integrated water tank. Operator display may be optionally mounted on the front or rear
- Integrated tank level display
- Medium-conveying pumps
- Precise temperature control, based on microprocessor technology
- Collective fault signal with floating contact
- Application-specific equipment available on request

Configuration:
- Chiller system wired and plumbed ready for connection, with multilingual documentation including functional diagram and wiring plans.

Note:
The illustration shows units with customer-specific options.

Part No. SK 3320.600 3334.600
Voltage V, Hz 400, 3~, 50/60/460, 3~, 60\(^1\))
Dimensions in mm (inches) H 676 (26.6) 635 (25.0) W 602 (23.7) D
Cooling capacity at \(T_w = 10°C (50°F)/T_u = 32°C (90°F)\)
\(T_w = 18°C (64°F)/T_u = 32°C (90°F)\) in W (BTU) 2650/3000 (9050/10,246) 3000/3400 (10,246/11,612) 3900/4700 (13,319/16,051) 4500/5400 (15,368/18,442)

Power consumption 1716/1953 W 2001/2505 W
Rated current maximum 3.8 A/3.9 A 4.9 A/5.0 A
Refrigerant R134a
\(P_{max.}\) cooling circuit 25 bar (363 psi)
Temperature range Environment +5°C to +43°C (41°F to 109°F)
Liquid media +10°C to +30°C (14°F to 86°F)
Pump capacity See characteristic curve
Tank Made from type 304 stainless steel
Tank capacity in l (gal) 30 (7.9)
Water connections 2 x 1/2˝ IG
Weight in kg (lb) 88 (194.0) 94 (207.2)
Color RAL 7035 (light gray)
Ratings (electric) IP 44
Air displacement of fans 1785 m³/h (1051 cfm)
Temperature control Microcontroller control, setting range +10°C to +30°C (50°F to 86°F) (factory setting +18°C (64°F))

Accessories

<table>
<thead>
<tr>
<th>Accessories</th>
<th>PU</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metal filter mat</td>
<td>1</td>
<td>3286.520</td>
</tr>
</tbody>
</table>

\(^1\) Supports multiple voltages without rewiring. Special voltages and technical modifications available on request.

Layout diagram, see page 128.
Characteristic curves of pump, see page 128.
Options, see page 126.

Climate Control
Chiller Systems

Mini, for wall-mounting, cooling capacity 1120/4500 W (3825/15,368 BTU)

Technical design:
- Compact, modular configuration of the cooling components with integrated water tank
- Application-specific equipment available on request
- Open system with tank

Configuration:
- Chiller system fully wired and plumbed ready for connection, with multilingual documentation including functional diagram and wiring plans.

Note:
The illustration shows units with customer-specific options


Layout diagram, see page 129.

Characteristic curves of pump, see page 129.

Options, see page 126.

<table>
<thead>
<tr>
<th>Part No. SK</th>
<th>3360.100</th>
<th>3360.250</th>
<th>3360.400</th>
</tr>
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<tbody>
<tr>
<td>Voltage V, Hz</td>
<td>400, 3~, 50/60/60, 3~, 601</td>
<td>400, 3~, 50/60/60, 3~, 601</td>
<td>400, 3~, 50/60/60, 3~, 601</td>
</tr>
<tr>
<td>Dimensions in mm (inches)</td>
<td>H 950 (37.4) 400 (15.7) 310 (12.2)</td>
<td>1580 (62.2) 400 (15.7) 290 (11.4)</td>
<td>1580 (62.2) 500 (19.7) 340 (13.4)</td>
</tr>
<tr>
<td>Cooling capacity at Tw = 10°C (50°F)/Tu = 32°C (90°F)</td>
<td>830/930 (2835/3176)</td>
<td>2100/2350 (7172/8026)</td>
<td>3300/3700 (11,270/12,636)</td>
</tr>
<tr>
<td>Tw = 18°C (64°F)/Tu = 32°C (90°F) in W (BTU)</td>
<td>1000/1120 (3415/3825)</td>
<td>2500/2800 (8538/9563)</td>
<td>4000/4500 (13,661/15,368)</td>
</tr>
<tr>
<td>Power consumption</td>
<td>700/760 W</td>
<td>1550/2000 W</td>
<td>1960/2450 W</td>
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<tr>
<td>Rated current maximum</td>
<td>2.7 A/3.0 A</td>
<td>3.7 A/3.8 A</td>
<td>3.9 A/4.2 A</td>
</tr>
<tr>
<td>Refrigerant</td>
<td>R134a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pmax, cooling circuit</td>
<td>23 bar (334 psi)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature range</td>
<td>Environment +5°C to +43°C (41°F to 109°F)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liquid media</td>
<td>+10°C to +30°C (14°F to 86°F)</td>
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<tr>
<td>Pump capacity</td>
<td>See characteristic curve</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tank</td>
<td>Made from PP plastic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tank capacity in l (gal)</td>
<td>5 (1.3)</td>
<td>10 (2.6)</td>
<td>15 (4.0)</td>
</tr>
<tr>
<td>Water connections</td>
<td>Quick-release coupling (counterpart included in accessory bag)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight in kg (lb)</td>
<td>47 (103.6)</td>
<td>78 (172.6)</td>
<td>99 (218.3)</td>
</tr>
<tr>
<td>Color</td>
<td>RAL 7035 (light gray)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ratings (electric)</td>
<td>IP 44</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air displacement of fans</td>
<td>500 m³/h (294 cfm)</td>
<td>710 m³/h (418 cfm)</td>
<td>2000 m³/h (1177 cfm)</td>
</tr>
<tr>
<td>Temperature control</td>
<td>Microcontroller control, setting range +10°C to +30°C (50°F to 86°F) (factory setting +18°C (64°F))</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Accessories

<table>
<thead>
<tr>
<th>Accessories</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter mat</td>
<td>3286.400</td>
</tr>
<tr>
<td>Metal filter mat</td>
<td>3286.410</td>
</tr>
</tbody>
</table>

1) Supports multiple voltages without rewiring. Special voltages and technical modifications available on request.
Freestanding enclosure, cooling capacity 2100 to 7700 W (7172/26,297 BTU)

Technical design:
- Robust industrial standard in 3 enclosure sizes
- Identical basic enclosure for oil and water chiller systems
- Extra space for the integration of special equipment
- Variable air routing is possible via the left or right sidewall
- Floating contact for collective fault signal
- Level monitor
- Multi-coil vaporizer in the tank

Configuration:
Chiller system wired and plumbed ready for connection, with multilingual documentation including functional diagram and wiring plans.

Note:
The illustration shows units with customer-specific options.

Configuration:
Chiller system wired and plumbed ready for connection, with multilingual documentation including functional diagram and wiring plans.

Note:
The illustration shows units with customer-specific options.

Part No. SK 3336.100 3336.200 3336.300 3336.500 3336.600 3336.650
Voltage V, Hz 400, 3~, 50
Dimensions in mm (inches) H 725 (28.5) 470 (18.5) 965 (37.8) 650 (25.6) 1180 (46.5) 880 (34.6)
B 470 (18.5) 470 (18.5) 470 (18.5) 470 (18.5) 470 (18.5) 470 (18.5)
T 540 (21.3) 540 (21.3) 540 (21.3) 540 (21.3) 540 (21.3) 540 (21.3)
Cooling capacity at
Tw = 10°C (50°F)/Tu = 32°C (90°F) in W (BTU) 1700 (5806) 2100 (7172) 2100 (7172) 2300 (7855) 3550 (12,124) 4800 (16,933)
Tw = 18°C (64°F)/Tu = 32°C (90°F) 2100 (7172) 2580 (8811) 2300 (7855) 3360 (11,475) 5040 (17,213) 6160 (21,038)
Tw = 20°C (68°F)/Tu = 32°C (90°F) 2580 (8811) 3600 (12,124) 3360 (11,475) 5550 (18,198) 7200 (24,495) 8800 (29,638)
Power consumption 1.5 kW 1.8 kW 2.3 kW 2.9 kW 3.6 kW
Rated current maximum 2.6 A 3.5 A 4.2 A 4.9 A 5.7 A
Refrigerant R134a
Pmax. cooling circuit 24 bar (348 psi)
Temperature range
Environment +15°C to +45°C (59°F to 113°F)
Liquid media +10°C to +25°C (50°F to 77°F)
Pump capacity See characteristic curve
Tank Made from type 304 stainless steel
Tank capacity in l (gal) 17 (4.5) 33 (8.7) 57 (15.1)
Water connections 3/4˝ IG 1˝ IG
Weight in kg (lb) 75 (165.3) 97 (213.8) 99 (218.3) 141 (310.9) 143 (315.3) 147 (324.1)
Color RAL 7035 (light gray)
Ratings (electric) IP 54 (NEMA 12)
Air displacement of fans 700 m³/h (412 cfm) 1250 m³/h (736 cfm) 1785 m³/h (1050 cfm) 3140 m³/h (1848 cfm)
Temperature control Electronic control with digital display, setting range +10°C to +25°C (50°F to +77°F) (factory setting +18°C (64°F))

Layout diagram, see page 129.
Characteristic curves of pump, see page 129.
Options, see page 126.
## Technical design:
- Robust industrial enclosures in 2 sizes
- Identical basic enclosure for oil and water chiller systems
- Integration of application-specific equipment on request
- Variable air routing is possible via the left or right sidewall
- Removable sidewalls provide easy and convenient access to components for service and maintenance
- Floating contact for collective fault signal
- Bi-frequency version (50/60 Hz)
- Flow monitor

## Configuration:
Chiller system wired and plumbed ready for connection, with multilingual documentation including functional diagram and wiring plans.

### Note:
The illustration shows units with customer-specific options.

## Accessories:
Metal filter mats, castors, lifting eyes and safety modules available on request.

- Layout diagram, see page 130.
- Characteristic curves of pump, see page 130.
- Options, see page 126.

### Part No. SK

<table>
<thead>
<tr>
<th>Voltage V, Hz</th>
<th>3336.700</th>
<th>3336.710</th>
<th>3336.720</th>
<th>3336.730</th>
<th>3336.740</th>
<th>3336.750</th>
</tr>
</thead>
<tbody>
<tr>
<td>400, 3~, 50/60</td>
<td>3800 W/5300 W</td>
<td>4800 W/6500 W</td>
<td>5300 W/7100 W</td>
<td>6400 W/9000 W</td>
<td>7100 W/9900 W</td>
<td>8100 W/11500 W</td>
</tr>
<tr>
<td>480, 3~, 50/60</td>
<td>10.6 A/10.8 A</td>
<td>13.1 A/13.3 A</td>
<td>14.1 A/14.3 A</td>
<td>16.2 A/18.4 A</td>
<td>18.2 A/20.4 A</td>
<td>19.7 A/22.4 A</td>
</tr>
</tbody>
</table>

### Dimensions in mm (inches)

| H | 1178 (46.4) | 1178 (46.4) | 1178 (46.4) | 1178 (46.4) | 1178 (46.4) | 1178 (46.4) |
| W | 615 (24.2) | 715 (28.1) | 715 (28.1) | 715 (28.1) | 715 (28.1) | 715 (28.1) |
| T | 1160 (45.7) | 1360 (53.5) | 1360 (53.5) | 1360 (53.5) | 1360 (53.5) | 1360 (53.5) |

### Cooling capacity at

\( T_w = 10^\circ C (50^\circ F) / T_u = 32^\circ C (90^\circ F) \)

| 6250/10400 | 11900/15500 | 13450/16550 | 15000/18100 | 17000/20650 | 20600/26350 |
| (28,175/35,518) | (40,641/52,935) | (45,934/56,521) | (51,228/61,814) | (58,059/70,523) | (70,353/89,990) |

| 10000/12600 | 14350/18700 | 18500/22350 | 20900/25400 | 23200/32250 | 25200/32250 |
| (34,152/43,031) | (49,008/63,864) | (63,181/76,329) | (71,377/86,746) | (86,063/110,140) | (86,063/110,140) |

### Accessories:
- Metal filter mats, castors, lifting eyes and safety modules available on request.
- Layout diagram, see page 130.
- Characteristic curves of pump, see page 130.
- Options, see page 126.

### Special voltages and technical modifications available on request.

### Part No. SK

<table>
<thead>
<tr>
<th>3336.720</th>
<th>3336.730</th>
<th>3336.740</th>
<th>3336.750</th>
</tr>
</thead>
<tbody>
<tr>
<td>15000/18100</td>
<td>17000/20650</td>
<td>20600/26350</td>
<td>25200/32250</td>
</tr>
<tr>
<td>(51,228/61,814)</td>
<td>(58,059/70,523)</td>
<td>(70,353/89,990)</td>
<td>(86,063/110,140)</td>
</tr>
</tbody>
</table>

### Specifications:
- Refrigerant: R407C
- \( P_{max.} \) cooling circuit: 27 bar (392 psi)
- Temperature range: Environment +15°C to +45°C (59°F to 113°F)
- Liquid media +10°C to +25°C (50°F to 77°F)
- Pump capacity: See characteristic curve
- Tank: Made from type 304 stainless steel
- Tank capacity in l (gal): 60 (15.9) 100 (26.4)
- Water connections: 1” IG
- Weight in kg (lb): 215 (474.0) 225 (496.0) 235 (518.1) 240 (529.1) 250 (551.2) 260 (573.2)
- Color: RAL 7035 (light gray)
- Ratings (electric): IP 54 (NEMA 12)
- Air displacement of fans: 6280 m³/h (3696 cfm) 10880 m³/h (6404 cfm)
- Temperature control: Electronic control with digital display, setting range +10°C to +25°C (50°F to 77°F) (factory setting +18°C (64°F))

### Additives
- Air/water heat exchangers, see page 68.
- By-pass safety valve, see page 110.
- Additives, see page 111.

### Air/water heat exchangers
- From page 68.
- By-pass safety valve, see page 110.
- Additives, see page 111.

### Climate Control
- B = Width
- T = Depth

### General:
- Delivery times available on request.
Freestanding enclosure for oil, cooling capacity 2550 to 7900 W (8709/26,980 BTU)
Chiller Systems

Freestanding enclosure for oil, cooling capacity 10600 to 26100 W (20,201/89,136 BTU)

Technical design:
- Robust industrial housing in 2 enclosure sizes
- Identical basic enclosure for oil and water chiller systems
- Variable air routing is possible via the left or right sidewall
- Removable sidewalls provide easy and convenient access to components for service and maintenance
- High-capacity gear pump
- Floating contact for collective fault signal
- Integration of application-specific equipment on request

Configuration:
Chiller system wired and plumbed ready for connection, with multilingual documentation including functional diagram and wiring plans.

Configuration:
- B = Width
- T = Depth

Accessories:
- Metal filter mats, castors, lifting eyes available on request.
- Layout diagram, see page 131.
- Options, see page 126.

Part No. SK 3337.700 3337.710 3337.720 3337.730 3337.740 3337.750
Voltage V, Hz 400, 3~, 50/460, 3~, 60
Dimensions in mm (inches) H 1178 (46.4) 615 (24.2) B 1160 (45.7) T 1178 (46.4) 715 (28.1) 1360 (53.5)
Cooling capacity with oil ISO VG 32 Toil = 20°C (68°F) Tu = 32°C (90°F) in W (BTU) 10600 (36,201) 12000 (40,982) 15150 (51,738) 17500 (59,766) 19250 (65,742) 21600 (76,842) 22500 (76,842) 24300 (82,986) 25000 (85,379) 26100 (89,136)
Power consumption 5300/6300 W 6400/7700 W 7100/8200 W 8700/10300 W 9600/11300 W 10500/13300 W
Rated current maximum 12 A/12 A 15 A/15 A 16 A/16 A 19 A/20 A 21 A/22 A 22 A/24 A
Refrigerant R407C
Pmax. cooling circuit 28 bar (406 psi)
Temperature range Environment +15°C to +45°C (59°F to +113°F)¹
Liquid media +15°C to +40°C (59°F to +104°F)
Pump capacity at 10 bar 45 l/min (11.9 gal/min) 68 l/min (18.0 gal/min)
Optional Tank Made from type 304 stainless steel
Optional Tank capacity in l (gal) 60 (15.9) 100 (26.4)
Connections 1˝ IG
Weight in kg (lb) 222 (489.4) 232 (511.4) 242 (533.5) 248 (546.7) 258 (568.8) 268 (590.8)
Color RAL 7035 (light gray)
Ratings (electric) IP 54 (NEMA 12)
Air displacement of fans 6280 m³/h (3696 cfm) 10880 m³/h (6404 cfm)
Temperature control Electronic control with digital display, setting range +15°C to +35°C (59°F to +95°F) (factory setting +20°C (68°F))

¹ SK 3337.720 and SK 3337.750 +15°C to +40°C (59°F to +104°F). Special voltages, other refrigerants, and technical modifications available on request.
In TS8 modular enclosure system, cooling capacity 6000/7500 W (20,491/25,614 BTU)

### Technical design:
- Compact structure with control components in the front and air intake via the rear
- Suitable for bayed siting
- Special fittings and options available on request
- Float-actuated switch as protection against running dry
- Floating collective fault signal
- Equipped with Grundfos pumps and Siemens components
- Service accessibility from all sides

### Configuration:
- Chiller system wired and plumbed ready for connection, with multilingual documentation including functional diagram and wiring plans.
- The illustration shows units with customer-specific options.

### Accessories:
- Metal filter mat and safety module available on request.

### Certifications:

### Detailed drawing:

### Layout diagram:
See page 131.

### Characteristic curves of pump:
See page 131.

### Options:
See page 126.

---

### Specifications Table

<table>
<thead>
<tr>
<th>Part No. SK</th>
<th>3335.060</th>
<th>3335.075</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage V, Hz</td>
<td>400, 3~, 50</td>
<td>400, 3~, 50</td>
</tr>
<tr>
<td>Dimensions in mm (inches)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>2000 (78.7)</td>
<td>2000 (78.7)</td>
</tr>
<tr>
<td>B</td>
<td>600 (23.6)</td>
<td>600 (23.6)</td>
</tr>
<tr>
<td>T</td>
<td>600 (23.6)</td>
<td>600 (23.6)</td>
</tr>
<tr>
<td>Base/plinth height in mm (inches)</td>
<td>100 (3.9)</td>
<td></td>
</tr>
<tr>
<td>Cooling capacity at</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$T_w = 10^\circ C (50^\circ F)$, $T_u = 32^\circ C (90^\circ F)$</td>
<td>4800 (16,393)</td>
<td>6000 (20,491)</td>
</tr>
<tr>
<td>$T_w = 18^\circ C (64^\circ F)$, $T_u = 32^\circ C (90^\circ F)$</td>
<td>6000 (20,491)</td>
<td>7500 (25,614)</td>
</tr>
</tbody>
</table>

| Power consumption | 2.4 kW | 3.0 kW |
| Rated current maximum | 7.6 A | 8.1 A |
| Refrigerant | R407C |
| $P_{max}$, cooling circuit | 24 bar (348 psi) |
| Temperature range |
| Environment | +10°C to +43°C (50°F to 109°F) |
| Liquid media | +10°C to +30°C (50°F to 86°F) |
| Pump capacity | See characteristic curve |
| Tank | Made from PP plastic |
| Tank capacity in l (gal) | 80 (21.1) |
| Water connections | |
| Weight in kg (lb) | 180 (396.8) | 190 (418.9) |
| Color | RAL 7035 (light gray) |
| Ratings (electric) | IP 54 (NEMA 12) |
| Air displacement of fans | 4000 m³/h (2354 cfm) |
| Temperature control | Electronic control with digital display, setting range +10°C to +30°C (50°F to 86°F) (factory setting +18°C (64°F)) |

Delivery times available on request. Special voltages, other frequencies and refrigerants, and technical modifications available on request.

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**Chiller Systems**

In TS8 modular enclosure system, cooling capacity 10000 to 25000 W (34,152/85,379 BTU)

---

**Technical design:**
- Compact structure with control components in the front and air intake via the rear
- Suitable for bayed siting
- Special fittings and options available on request
- Float-actuated switch as protection against running dry
- Floating collective fault signal
- Magnetic valve in the cooling circuit
- Equipped with Grundfos pumps and Siemens components
- Service accessibility from all sides

**Configuration:**
- Chiller system wired and plumbed ready for connection, with multilingual documentation including functional diagram and wiring plans.
- The illustration shows units with customer-specific options.

**Accessories:**
- Metal filter mat and safety module available on request.

**Certifications,**

**Detailed drawing,**

**Layout diagram,**
- see page 131.

**Characteristic curves of pump,**
- see page 131.

**Options,**
- see page 126.

---

### Part No. SK

<table>
<thead>
<tr>
<th>Part No. SK</th>
<th>3335.100</th>
<th>3335.120</th>
<th>3335.150</th>
<th>3335.200</th>
<th>3335.250</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage V, Hz</td>
<td>400, 3~, 50</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions in mm (inches)</td>
<td>H 2000 (78.7) 800 (31.5) 600 (23.6)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>2000 (78.7) 1200 (47.2) 600 (23.6)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Base/plinth height in mm (inches)</td>
<td>100 (3.9)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooling capacity at $T_w = 10°C (50°F)/T_u = 32°C (90°F)$</td>
<td>8000 (27,321)</td>
<td>10000 (34,152)</td>
<td>15000 (51,228)</td>
<td>17000 (59,058)</td>
<td>22000 (75,134)</td>
</tr>
<tr>
<td>$T_w = 18°C (64°F)/T_u = 32°C (90°F)$</td>
<td>10000 (34,152)</td>
<td>12000 (40,982)</td>
<td>15000 (51,228)</td>
<td>20000 (68,304)</td>
<td>25000 (85,379)</td>
</tr>
<tr>
<td>Power consumption</td>
<td>4.0 kW</td>
<td>4.8 kW</td>
<td>6.0 kW</td>
<td>8.0 kW</td>
<td>10.0 kW</td>
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<tr>
<td>Rated current maximum</td>
<td>12.5 A</td>
<td>17.3 A</td>
<td>18.5 A</td>
<td>23.5 A</td>
<td>27.5 A</td>
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<tr>
<td>Refrigerant</td>
<td>R407C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$P_{max}$, cooling circuit</td>
<td>24 bar (348 psi)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature range</td>
<td>Environment +10°C to +43°C (50°F to 109°F)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liquid media +10°C to +30°C (50°F to 86°F)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pump capacity</td>
<td>See characteristic curve</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tank</td>
<td>Made from PP plastic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tank capacity in l (gal)</td>
<td>120 (31.7)</td>
<td>240 (63.4)</td>
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<td></td>
</tr>
<tr>
<td>Water connections</td>
<td>$Ye_IG$</td>
<td>$1_IG$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight in kg (lb)</td>
<td>250 (551.2)</td>
<td>270 (595.2)</td>
<td>380 (837.8)</td>
<td>530 (1168.5)</td>
<td>560 (1234.6)</td>
</tr>
<tr>
<td>Color</td>
<td>RAL 7035 (light gray)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ratings (electric)</td>
<td>IP 54 (NEMA 12)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air displacement of fans</td>
<td>6000 m³/h (3531 cfm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature control</td>
<td>Electronic control with digital display, setting range +10°C to +30°C (50°F to 86°F) (factory setting +18°C (64°F))</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Delivery times available on request.
Special voltages, other frequencies, and technical modifications available on request.

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**Air/water heat exchangers** From page 68. **By-pass safety valve** Page 110. **Additives** Page 111.
Technical design:
- Robust industrial enclosure
- Optimum service accessibility by removing the panels
- Floating contact for collective fault signal
- With shell-and-tube evaporator, without tank (SK 3339.300 – 500)
- Integration of application-specific equipment on request

Configuration:
- Chiller system wired and plumbed ready for connection, with multilingual documentation including functional diagram and wiring plans.

Note:
The illustration shows units with customer-specific options.

Layout diagram, see page 132.
Characteristic curves of pump, see page 132.
Options, see page 126.

<table>
<thead>
<tr>
<th>Part No. SK</th>
<th>3339.100</th>
<th>3339.200</th>
<th>3339.250</th>
<th>3339.280</th>
<th>3339.300</th>
<th>3339.400</th>
<th>3339.450</th>
<th>3339.500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage V, Hz</td>
<td>400, 3, 50/460, 3, 60</td>
<td>400, 3, 50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dimensions in mm (inches)</th>
<th>H</th>
<th>B</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>1400 (55.1)</td>
<td>815 (32.1)</td>
<td>1560 (61.4)</td>
<td></td>
</tr>
<tr>
<td>1800 (70.9)</td>
<td>1000 (39.3)</td>
<td>2000 (78.7)</td>
<td></td>
</tr>
<tr>
<td>2000 (78.7)</td>
<td>1550 (61.0)</td>
<td>2500 (98.4)</td>
<td></td>
</tr>
<tr>
<td>2000 (78.7)</td>
<td>1530 (60.1)</td>
<td>3400 (133.9)</td>
<td></td>
</tr>
<tr>
<td>2200 (86.6)</td>
<td>1630 (64.2)</td>
<td>3400 (133.9)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cooling capacity at Tw = 10°C (50°F)/Tu = 32°C (90°F) in W (BTU)</th>
<th>26150/31350</th>
<th>29550/35450</th>
<th>40000</th>
<th>52000</th>
<th>54700</th>
<th>62200</th>
<th>75900</th>
<th>100000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tw = 18°C (64°F)/Tu = 32°C (90°F) in W (BTU)</td>
<td>28000</td>
<td>32000</td>
<td>48000</td>
<td>59000</td>
<td>66700</td>
<td>78900</td>
<td>110000</td>
<td>141000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power consumption</th>
<th>15900 W</th>
<th>17600 W</th>
<th>20600 W</th>
<th>36800 W</th>
<th>27000 W</th>
<th>28300 W</th>
<th>50000 W</th>
<th>61000 W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated current maximum</td>
<td>24.4 A</td>
<td>26.9 A</td>
<td>36.8 A</td>
<td>46.1 A</td>
<td>67 A</td>
<td>74 A</td>
<td>108 A</td>
<td>108 A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Refrigerant</th>
<th>R407C</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Pmax. cooling circuit</th>
<th>28 bar (406 psi)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Temperature range</th>
<th>Environment</th>
<th>Liquid media</th>
</tr>
</thead>
<tbody>
<tr>
<td>+15°C to +45°C (59°F to +113°F)</td>
<td>+15°C to +25°C (59°F to +77°F)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pump capacity</th>
<th>See characteristic curve</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Tank capacity in l (gal)</th>
<th>150 (39.6)</th>
<th>220 (58.1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure-sealed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water connections</th>
<th>11/2” IG</th>
<th>11/2” IG</th>
</tr>
</thead>
<tbody>
<tr>
<td>2” IG</td>
<td>3” IG</td>
<td></td>
</tr>
<tr>
<td>Weight in kg (lb)</td>
<td>280 (617.3)</td>
<td>300 (661.3)</td>
</tr>
<tr>
<td>Color</td>
<td>RAL 7035 (light gray)</td>
<td></td>
</tr>
<tr>
<td>Ratings (electric)</td>
<td>IP 44</td>
<td></td>
</tr>
<tr>
<td>Air displacement of fans</td>
<td>18000 m³/h (10,924 cfm)</td>
<td>32000 m³/h (20,634 cfm)</td>
</tr>
<tr>
<td>Temperature control</td>
<td>Electronic control with digital display, setting range +10°C to +25°C (50°F to 77°F) (factory setting +18°C (64°F))</td>
<td></td>
</tr>
</tbody>
</table>

Delivery times available on request.
Special voltages, other frequencies and refrigerants, and technical modifications available on request.
Immersible Chiller Systems

For oil, cooling capacity 2700 to 6300 W (9121/21,516 BTU)

Technical design:
- For the cooling of oil
- Robust industrial standard in 3 enclosure sizes
- Flat evaporator coil resistant to dirt
- Bi-frequency components (50/60 Hz)

Configuration:
- Immersible chiller system wired and plumbed ready for connection, metal filter, eyebolts, with multilingual documentation, including functional diagram and wiring plans.


Layout diagram, see page 132.

Options, see page 126.

Part No. SK for oil 3338.020 3338.040 3338.060 3338.080

<table>
<thead>
<tr>
<th>Voltage V, Hz</th>
<th>400, 3~, 50/60, 3~, 60</th>
</tr>
</thead>
</table>

Cooling capacity at T<sub>0</sub> = 20°C (68°F) / T<sub>0</sub> = 32°C (90°F) in W (BTU)

<table>
<thead>
<tr>
<th>Capacity</th>
<th>2400/2700 (8196/9121)</th>
<th>3200/3600 (10,929/12,295)</th>
<th>4600/5200 (15,710/17,759)</th>
<th>5600/6300 (19,125/21,516)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions in mm (inches)</td>
<td>H1 1650 (65.0)</td>
<td>B1 785 (31.0)</td>
<td>T1 785 (31.0)</td>
<td>T2 719 (28.3)</td>
</tr>
<tr>
<td>Minimum medium level with flat evaporator coil, in mm (inches)</td>
<td>205 (8.1)</td>
<td>280 (11.0)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Power consumption 2.2 kW/2.7 kW 2.5 kW/3.1 kW 3.5 kW/4.3 kW 3.9 kW/4.7 kW

Rated current maximum 3.5 A/3.7 A 3.8 A/4.0 A 5.5 A/5.9 A 5.6 A/5.8 A

Refrigerant R134a

P<sub>max</sub> cooling circuit 24 bar (348 psi)

Temperature range Environment +15°C to +42°C (59°F to 108°F)

Liquid media +10°C to +25°C (50°F to 77°F)

Weight in kg (lb) 133 (293.2) 143 (315.3) 158 (348.3) 173 (381.4)

Color RAL 7035 (light gray)

Ratings (electric) IP 44

Air displacement of fans 1500/1560 m<sup>3</sup>/h (883/918 cfm) 2200/2350 m<sup>3</sup>/h (1295/1383 cfm)

Delivery times available on request.

Special voltages available on request. We reserve the right to make technical modifications.
Immersible Chiller Systems

For oil, cooling capacity 9500 to 19400 W (32,444/66,254 BTU)

Technical design:
- For the cooling of oil
- Robust industrial standard in 3 enclosure sizes
- Flat evaporator coil resistant to dirt
- Bi-frequency components (50/60 Hz)

Configuration:
Immersible chiller system wired and plumbed ready for connection, metal filter, eyebolts, with multilingual documentation, including functional diagram and wiring plans.

Layout diagram, see page 132.
Options, see page 126.

### Technical Design

<table>
<thead>
<tr>
<th>Part No. SK for oil</th>
<th>3338.100</th>
<th>3338.120</th>
<th>3338.140</th>
<th>3338.160</th>
<th>3338.180</th>
<th>3338.200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage V, Hz</td>
<td>400, 3~, 50/460, 3~, 60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooling capacity at ( T_{\text{oil}} = 20°C ) (68°F), ( T_{\text{u}} = 32°C ) (90°F) in W (BTU)</td>
<td>8500/9500 (29,029/32,444)</td>
<td>10500/11800 (35,859/40,299)</td>
<td>12000/13400 (40,982/45,763)</td>
<td>13600/15200 (46,446/51,911)</td>
<td>15300/17100 (52,252/58,400)</td>
<td>17300/19400 (59,083/66,254)</td>
</tr>
<tr>
<td>Dimensions in mm (inches)</td>
<td>H1 1650 (65.0)</td>
<td>B1 785 (30.9)</td>
<td>T1 785 (30.9)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions of immersible part in mm (inches)</td>
<td>B2 719 (28.3)</td>
<td>T2 719 (28.3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immersion depth in mm (inches)</td>
<td>H2 550 (21.7)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum medium level with flat evaporator coil, in mm (inches)</td>
<td>330 (13.0)</td>
<td>380 (15.0)</td>
<td>430 (16.9)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power consumption</td>
<td>6.2 kW/7.4 kW</td>
<td>6.8 kW/8.1 kW</td>
<td>7.6 kW/9.0 kW</td>
<td>8.4 kW/10.0 kW</td>
<td>9.3 kW/11.0 kW</td>
<td>10.4 kW/12.3 kW</td>
</tr>
<tr>
<td>Rated current maximum</td>
<td>8.4 A/8.6 A</td>
<td>9.2 A/9.3 A</td>
<td>10.1 A/10.5 A</td>
<td>11.1 A/11.5 A</td>
<td>12.1 A/12.4 A</td>
<td>13.3 A/13.7 A</td>
</tr>
<tr>
<td>( P_{\text{max}} ) cooling circuit</td>
<td>27 bar (392 psi)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature range</td>
<td>Environment: +15°C to +42°C (59°F to 108°F)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Liquid media: +10°C to +25°C (50°F to +77°F)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight in kg (lb)</td>
<td>183 (403.4)</td>
<td>203 (447.5)</td>
<td>228 (502.7)</td>
<td>248 (546.7)</td>
<td>253 (557.8)</td>
<td>263 (579.8)</td>
</tr>
<tr>
<td>Color</td>
<td>RAL 7035 (light gray)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ratings (electric)</td>
<td>IP 54 (NEMA 12)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air displacement of fans</td>
<td>7200/9480 m³/h (4238/4403 cfm)</td>
<td>7900/9480 m³/h (4650/4991 cfm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature control</td>
<td>Electronic control with digital display, setting range +10°C to +25°C (50°F to +77°F) (factory setting +20°C (68°F))</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Delivery times available on request. Special voltages available on request. We reserve the right to make technical modifications.
Immersible Chiller Systems

For oil, cooling capacity 23200 to 87200 W (79,232/297,804 BTU)

Technical design:
- For the cooling of oil
- Robust industrial standard in 3 enclosure sizes
- Flat evaporator coil resistant to dirt
- Bi-frequency components (50/60 Hz)

Configuration:
- Immersible chiller system wired and plumbed ready for connection, \textit{metal filter, eyebolts}, with multilingual documentation, including functional diagram and wiring plans.


Layout diagram, see page 132.

Options, see page 126.

<table>
<thead>
<tr>
<th>Part No. SK for oil</th>
<th>3338.220</th>
<th>3338.240</th>
<th>3338.260</th>
<th>3338.280</th>
<th>3338.300</th>
<th>3338.320</th>
<th>3338.340</th>
<th>3338.360</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage V, Hz</td>
<td>400, 3~, 50/600, 3~, 60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooling capacity at T_in = 20°C (68°F) T_out = 32°C (90°F) in W (BTU)</td>
<td>20700/23200 (70.694/79.232)</td>
<td>30800/34500 (119.190/133.415)</td>
<td>44500/49800 (151.976/170.076)</td>
<td>48600/54400 (165.978/185.786)</td>
<td>60600/67900 (206.960/231.891)</td>
<td>72600/81300 (247.942/277.654)</td>
<td>77900/87200 (266.042/297.804)</td>
<td></td>
</tr>
<tr>
<td>Dimensions in mm (inches)</td>
<td>H1 = 1650 (65.0) B1 = 785 (30.9) T1 = 1830 (72.0)</td>
<td>H1 = 1650 (65.0) B1 = 1830 (72.0)</td>
<td>T1 = 1830 (72.0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions of immersible part in mm (inches)</td>
<td>B2 = 719 (28.3) T2 = 1764 (69.4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immersion depth in mm (inches)</td>
<td>H2 = 550 (21.7)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum medium level with flat evaporator coil, in mm (inches)</td>
<td>380 (15.0)</td>
<td>430 (16.9)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Power consumption | 12.9/16.1 kW | 18.0/22.0 kW | 20.1/24.8 kW | 26.4/31.4 kW | 28.9/34.4 kW | 34.4/41.1 kW | 39.9/47.8 kW | 42.5/50.9 kW |
| Rated current maximum | 17.3 A/17.8 A | 21.6 A/23.0 A | 24.3 A/25.5 A | 35.5 A/35.2 A | 35.4 A/35.8 A | 42.7 A/42.9 A | 50.0 A/50.0 A | 53.0 A/53.0 A |
| Refrigerant | R407C |
| P_{\text{max}, \text{cooling circuit}} | 27 bar (392 psi) |
| Temperature range | Environment: +15°C to +45°C (59°F to 113°F) |
| Liquid media: +10°C to +25°C (50°F to 77°F) |
| Weight in kg (lb) | 305 (672.4) | 380 (837.6) | 425 (937.0) | 435 (959.0) | 455 (1003.1) |
| Color | RAL 7035 (light gray) |
| Ratings (electric) | IP 54 (NEMA 12) |
| Air displacement of fans | 15000/15600 m³/h (8829/9182 cfm) | 30000/31200 m³/h (17,657/18,364 cfm) |
| Temperature control | Electronic control with digital display, setting range: +10°C to +25°C (50°F to 77°F) (factory setting: +20°C (68°F)) |

Delivery times available on request.
Special voltages available on request. We reserve the right to make technical modifications.
Immersion Chiller Systems

For emulsion, cooling capacity 2700 to 6300 W (9221/21,515 BTU)

Technical design:
- For the cooling of emulsion
- Robust industrial standard in 3 enclosure sizes
- Flat evaporator coil resistant to dirt
- Bi-frequency components (50/60 Hz)

Configuration:
- Immersible chiller system wired and plumbed ready for connection, metal filter, eyebolts, with multilingual documentation, including functional diagram and wiring plans.

Layout diagram, see page 132.
Options, see page 126.

Part No. SK for emulsion 3338.500 3338.520 3338.540 3338.560
Voltage V, Hz 400, 3~, 50/460, 3~, 60
Cooling capacity at T_{Air} = 20°C (68°F)/T_{Liquid} = 32°C (90°F) in W (BTU)

<table>
<thead>
<tr>
<th></th>
<th>2400/2700</th>
<th>3200/3600</th>
<th>4600/5200</th>
<th>5600/6300</th>
</tr>
</thead>
<tbody>
<tr>
<td>(8196/9221)</td>
<td>(10,929/12,295)</td>
<td>(15,710/17,759)</td>
<td>(19,125/21,515)</td>
<td></td>
</tr>
</tbody>
</table>

Dimensions in mm (inches)
- H1 1650 (65.0)
- B1 785 (30.9)
- T1 785 (30.9)

Dimensions of immersible part in mm (inches)
- H2 719 (28.3)
- B2 719 (28.3)

Immersion depth in mm (inches) 550 (21.7)

Minimum medium level with flat evaporator coil, in mm (inches) 180 (7.1) 205 (8.1)

Power consumption 2.4 kW/3.0 kW 2.7 kW/3.4 kW 3.7 kW/4.6 kW 4.1 kW/5.0 kW
Rated current maximum 3.8 A/4.0 A 4.1 A/4.3 A 5.9 A/6.3 A 6.0 A/6.3 A
P_{max} cooling circuit 24 bar (348 psi)
Temperature range
- Environment +15°C to +42°C (59°F to 108°F)
- Liquid media +10°C to +25°C (50°F to 77°F)
Weight in kg (lb) 130 (286.6) 140 (308.6) 155 (341.7) 170 (374.8)
Color RAL 7035 (light gray)

Delivery times available on request.
Special voltages available on request. We reserve the right to make technical modifications.
Immersible Chiller Systems
For emulsion, cooling capacity 9500 to 19400 W (32,445/66,254 BTU)

Technical design:
- For the cooling of emulsion
- Robust industrial standard in 3 enclosure sizes
- Flat evaporator coil resistant to dirt
- Bi-frequency components (50/60 Hz)

Configuration:
- Immersible chiller system wired and plumbed ready for connection, metal filter, eyebolts, with multilingual documentation, including functional diagram and wiring plans.

Layout diagram, see page 132.
Options, see page 126.

Part No. SK for emulsion | 3338.580 | 3338.600 | 3338.620 | 3338.640 | 3338.660 | 3338.680
---|---|---|---|---|---|---
Voltage V, Hz | 400, 3~, 50/460, 3~, 60

Cooling capacity at
\( T_{\text{Em}} = 20°C (68°F) \), \( T_{u} = 32°C (90°F) \)
in W (BTU)
| H1 | 1650 (65.0) |
| B1 | 1580 (62.2) |
| T1 | 785 (30.9) |
| B2 | 719 (28.3) |
| T2 | 719 (28.3) |

Immersion depth in mm (inches) | H2 | 550 (21.7) | 330 (13.0)

Minimum medium level with flat evaporator coil, in mm (inches)
| B2 | 719 (28.3) |
| T2 | 719 (28.3) |

Power consumption
| 6.4/7.6 kW | 7.0/8.3 kW | 7.8/9.5 kW | 8.6/10.2 kW | 9.5/11.3 kW | 10.6/12.6 kW

Rated current maximum
| 8.9 A/9.0 A | 9.6 A/9.9 A | 10.6 A/11.2 A | 11.5 A/12.0 A | 12.5 A/13.2 A | 13.7 A/14.1 A

Refrigerant
| R407C |

\( P_{\text{max. cooling circuit}} \)
| 27 bar (392 psi) |

Temperature range
| Environment | +15°C to +42°C (59°F to 108°F) |
| Liquid media | +10°C to +25°C (50°F to 77°F) |

Weight in kg (lb)
| 180 (396.8) | 200 (440.9) | 225 (496.0) | 245 (540.1) | 250 (551.2) | 260 (573.2) |

Color
| RAL 7035 (light gray) |

Ratings (electric)
| IP 54 (NEMA 12) |

Air displacement of fans
| 7200/7480 m³/h (4238/4403 cfm) |
| 7900/8480 m³/h (4650/4944 cfm) |

Temperature control
| Electronic control with digital display, setting range +10°C to +25°C (50°F to 77°F) (factory setting +20°C (68°F)) |

Delivery times available on request.
Special voltages available on request. We reserve the right to make technical modifications.
Technical design:
- For the cooling of emulsion
- Robust industrial standard in 3 enclosure sizes
- Flat evaporator coil resistant to dirt
- Bi-frequency components (50/60 Hz)

For emulsion, cooling capacity 23200 to 87200 W (79,232/297,804 BTU)

Configuration:
- Immersible chiller system wired and plumbed ready for connection, metal filter, eyebolts, with multilingual documentation, including functional diagram and wiring plans.


Layout diagram, see page 132.

Options, see page 126.

Technical design:
- For the cooling of emulsion
- Robust industrial standard in 3 enclosure sizes
- Flat evaporator coil resistant to dirt
- Bi-frequency components (50/60 Hz)

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Layout diagram, see page 132.

Options, see page 126.

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- For the cooling of emulsion
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Layout diagram, see page 132.

Options, see page 126.

Technical design:
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Layout diagram, see page 132.

Options, see page 126.

Technical design:
- For the cooling of emulsion
- Robust industrial standard in 3 enclosure sizes
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- Bi-frequency components (50/60 Hz)

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Configuration:
- Immersible chiller system wired and plumbed ready for connection, metal filter, eyebolts, with multilingual documentation, including functional diagram and wiring plans.


Layout diagram, see page 132.

Options, see page 126.

Technical design:
- For the cooling of emulsion
- Robust industrial standard in 3 enclosure sizes
- Flat evaporator coil resistant to dirt
- Bi-frequency components (50/60 Hz)

For emulsion, cooling capacity 23200 to 87200 W (79,232/297,804 BTU)

Configuration:
- Immersible chiller system wired and plumbed ready for connection, metal filter, eyebolts, with multilingual documentation, including functional diagram and wiring plans.


Layout diagram, see page 132.

Options, see page 126.
Heat Exchangers

Features of air/air heat exchangers

Rittal's air/air heat exchangers are perfect for environments where the ambient air temperature is at or below the desired interior temperature of the enclosure. Two separate air circuits prevent dust and pollutants present in the ambient air to ingress the enclosure interior.

The air of the enclosure interior may be cooled to below the level of the external temperature by using air/water heat exchangers with a central chiller system. Dust is unable to penetrate the enclosure. The waste heat from the enclosure does not raise the temperature of the ambient air, provided the cold water supply system is spatially separated.

Platform concept/installation

Identical installation cutouts for various output categories.

Easily retro-fitted
Due to the low weight, simple assembly cutouts and problem-free attachment of the heat exchangers, a cabinet or enclosure is easily retro-fitted.

Servicing/security

Simple maintenance
The heat exchanger module removes easily for cleaning.

The cleverly designed structure enables fast, economical maintenance.

Benefits:
- Specific thermal output from 17.5 W/C to 90 W/C
- External and internal circuit may be controlled separately
- Mounting cutouts and enclosure dimensions identical to TopTherm wall-mounted air conditioners

Important:
- Suitable for external and internal mounting
- Top design identical to TopTherm wall-mounted air conditioners

For calculation bases, refer to our website: www.rittal-corp.com
Features of air/water heat exchangers

Even suitable for use in extreme conditions

Example: Parallel connection of air/water heat exchangers with cold water supplied by a chiller system.

Overflow valves and bypass controls should be integrated into the chiller system and the customer's own pipeline system respectively.

- Chiller system
- Air/water heat exchanger, roof-mounted
- Air/water heat exchanger, wall-mounted
- Additional cooling water circuit for machine cooling

Ideal for any location

If direct dissipation of heat loss to the ambient air is not desired or ineffective due to confined spaces, the air/water heat exchangers will provide the ideal solution. By spatially separating the exchanger from the chiller system, highly individual and effective solutions for cooling individual enclosures or bayed enclosure suites can be achieved.

Versions

- **Roof-mount**
  - Especially for bayed enclosures, where wall-mounted devices would obstruct the door.

- **Wall-mount**
  - For mounting on the wall or any sufficiently large vertical surface.

- **Sidewall**
  - Economical use: Air/water heat exchanger as a sidewall in the TS8 modular enclosure system.

Controller

- **Basic controller**
  - Visualisation of the operating status by a LED display
  - Switching hysteresis: 5 K
  - Floating fault signal contact in case of over temperature
  - Setpoint adjustable from the outside by a potentiometer (setting range 20° – 55°C (68° – 131°F))

- **Comfort controller**
  - Switching hysteresis: 2 – 10 K preset to 5 K
  - System alarm, individually configurable for 2 floating fault signal contacts
  - Visualisation of the current enclosure internal temperature and all system messages on the display
  - Storage of all system states in the log file
  - Optional extension card for integration into superordinate remote monitoring systems such as CMC

Flexible water logistics and condensate management

Any condensate is discharged by one of the two tube connectors (1/2") and a discharge hose, which should be laid with a gradient to ensure that there are no kinks. In order to avoid increased condensation, the cooling water temperature should be adapted to match the required cooling capacity.

- Condensate discharge (flexible)
- Cooling water connection (flexible)

Benefits:

- Useful cooling capacity from 600 to 5000 W (2049 to 17,076 BTU)
- Suitable for use even in extreme conditions and ambient temperatures up to +70°C (158°F)
- Also available with all water-carrying parts made from type 316 stainless steel (V4A)
- System for TS8 modular enclosure system integrated into the sidewall

Important:

- Air/water heat exchangers should always be used in conjunction with chiller systems or a cooling water circuit

For calculation formulas and requirements regarding water quality, refer to our website: www.rittal-corp.com
Air/Water Heat Exchanger

Micro, wall-mounted, useful cooling capacity 300 W (1025 BTU)

Especially for selective cooling of heat pockets in small enclosures.

Configuration: Fully wired ready for connection, including drilling template and assembly parts.

1) Condensate discharge
2) Cooling water connection (quick-release fastener)

Certifications, see page 16.
Detailed drawing, see page 133.

<table>
<thead>
<tr>
<th>Part No. SK</th>
<th>3212.230</th>
<th>3212.1151</th>
<th>3212.024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage V, Hz</td>
<td>230, 50/60</td>
<td>115, 50/60</td>
<td>24 V (DC)</td>
</tr>
<tr>
<td>Dimensions in mm (inches)</td>
<td>H 300 (11.8)</td>
<td>W 150 (5.9)</td>
<td>D 85 (3.3)</td>
</tr>
<tr>
<td>Useful cooling capacity in W (BTU)</td>
<td>L 35 W 10</td>
<td>200 l/h (52.8 gal/h)</td>
<td>300 (1025)</td>
</tr>
</tbody>
</table>

| Rated current maximum | 0.11 A/0.13 A | 0.23 A/0.24 A | 1.20 A |
| Pre-fuse T | 4.0 A |
| Cooling medium | Water (refer to specifications on the Internet; assembly instructions chapter 12) |
| Water inlet temperature | > +1°C to +30°C (34°F to 86°F) |
| Permissible operating pressure p. max. | 1 to 10 bar (15 to 145 psi) |
| Temperature range | +1°C to +70°C (34°F to 158°F) |
| Ratings to EN 60 529/10.91 | IP 55 (NEMA 3R)2) |
| Duty cycle | 100 % |
| Type of connection | Connection clamp |
| Weight in kg (lb) | 3 (6.6) |
| Color | RAL 7035 (light gray) |
| Air displacement of fans (unimpeded air flow) | 280 m³/h (165 cfm) | 250 m³/h (147 cfm) |

Accessories

| 
| PU |
| Temperature indicator | 1 | 3114.100 |
| Door-operated switch | 1 | 4127.000 |
| Condensate hose | 1 | 3301.612 |
| Flow regulator valve | 1 | see accessories |

1) Delivery times available on request.
2) IP 65 (NEMA 4X) available on request. Special voltages available on request. We reserve the right to make technical modifications.
Air/Water Heat Exchanger

Wall-mounting, useful cooling capacity 600/1000 W (2049/3415 BTU)

Configuration:
Fully wired ready for connection with terminal strip, including drilling template, sealing mat and assembly parts.

Also required:
Cooling water system such as Rittal chiller systems, from page 50.

Condensate discharge ½" (12.7 mm)
Cooling water connection ½" (12.7 mm)

Certifications, see page 17.
Detailed drawing, see page 133.

Part No. SK | 3214.100 | 3217.100
---|---|---
Voltage V, Hz | 230, 50/60 | 230, 50/60
Dimensions in mm (inches) | 500 (19.7) | 500 (19.7)
| 200 (7.9) | 200 (7.9)
| 100 (3.9) | 100 (3.9)
Useful cooling capacity in W (BTU) | L 35 W 10, 200 l/h (52.8 gal/h) | L 35 W 10, 400 l/h (105 gal/h)
| 600 (2049) | 1000 (3415)
| 650 (2220) | 1100 (3757)
Rated current maximum | 0.17 A/0.18 A | 0.6 A/0.55 A
Pre-fuse T | 2.0 A | 4.0 A
Cooling medium | Water (refer to specifications on the Internet; assembly instructions chapter 12) | Water (refer to specifications on the Internet; assembly instructions chapter 12)
Water inlet temperature | +1°C to +30°C (34°F to 86°F) | +1°C to +30°C (34°F to 86°F)
Permissible operating pressure p. max. | 1 to 10 bar (14.5 to 145 psi) | 1 to 10 bar (14.5 to 145 psi)
Temperature range | +1°C to +70°C (34°F to 158°F) | +1°C to +70°C (34°F to 158°F)
Ratings to EN 60 529/10.91 | IP 55 (NEMA 3R) | IP 55 (NEMA 3R)
Duty cycle | 100 % | 100 %
Type of connection | Terminal strip | Terminal strip
Weight in kg (lb) | 7 (15.4) | 9.5 (20.9)
Color | RAL 7032 (pepple gray) | RAL 7032 (pepple gray)
Air displacement of fans | 120 m³/h (71 cfm) | 240 m³/h (141 cfm)
Temperature control | Thermostat-controlled magnetic valve | Thermostat-controlled magnetic valve
Temperature monitoring | Internal thermostat, with change-over contact, switching load 16 A, setting range +20°C to +60°C (68°F to 140°F) (factory setting +35°C (95°F)) | Internal thermostat, with change-over contact, switching load 16 A, setting range +20°C to +60°C (68°F to 140°F) (factory setting +35°C (95°F))

Accessories
| PU | Page |
---|---|---
Temperature indicator | 1 | 3114.100 | 103
Door-operated switch | 1 | 4127.000 | –
Condensate hose | 1 | 3301.612 | 108
Flow regulator valve | 1 | see accessories | 110

1) IP 65 (NEMA 4X) available on request.
Special voltages available on request. We reserve the right to make technical modifications.
Air/Water Heat Exchanger

Wall-mounting, useful cooling capacity 1250/1540 W (4869/5259 BTU)

Configuration:
Fully wired ready for connection with terminal strip or connection cable (3 m (118˝)), including drilling template, sealing mat and assembly parts.

Also required:
Cooling water system such as Rittal chiller systems, from page 50.

1) Also required:
Condensate discharge ½˝

Certifications,
see page 17.

Details drawing,
see page 134.

Performance diagrams,

<table>
<thead>
<tr>
<th>Part No. SK</th>
<th>3215.100</th>
<th>3247.000</th>
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</thead>
<tbody>
<tr>
<td>Voltage V, Hz</td>
<td>230, 50/60</td>
<td></td>
</tr>
<tr>
<td>Dimensions in mm (inches)</td>
<td>H 950 (37.4)</td>
<td>W 200 (7.9)</td>
</tr>
<tr>
<td>Useful cooling capacity in W (BTU) L 35 W 10, 200 l/h (52.8 gal/h)</td>
<td>1250 (4269)</td>
<td>1540 (5259)</td>
</tr>
<tr>
<td>L 35 W 10, 400 l/h (105 gal/h)</td>
<td>1300 (4440)</td>
<td>1700 (5806)</td>
</tr>
</tbody>
</table>

Rated current maximum
0.38 A/0.4 A | 0.43 A/0.5 A

Pre-fuse T 4.0 A

Cooling medium Water (refer to specifications on the Internet; assembly instructions chapter 12)

Water inlet temperature > +1°C to +30°C (34°F to 86°F)

Permissible operating pressure p. max. 1 to 10 bar (14.5 to 145 psi)

Temperature range +1°C to +70°C (34°F to 158°F)

Ratings to EN 60 529/10.91 IP 55 (NEMA 3R)1)

Duty cycle 100 %

Type of connection Terminal strip Connection cable 3 m (118˝)

Weight in kg (lb) 13 (28.7) 17 (37.5)

Color RAL 7032 (pepple gray)

Air displacement of fans 200 m³/h (118 cfm) 240 m³/h (141 cfm)

Temperature control Thermostat-controlled magnetic valve

Temperature monitoring Internal thermostat, with change-over contact, switching load 16 A, setting range +20°C to +60°C (68°F to 140°F) (factory setting +35°C (95°F))

Accessories PU Page
Temperature indicator 1 3114.100 103
Door-operated switch 1 4127.000 –
Condensate hose 1 3301.612 108
Flow regulator valve 1 see accessories 110

1) IP 65 (NEMA 4X) available on request.
Special voltages available on request. We reserve the right to make technical modifications.

Accessories Page 100 Chiller systems From page 44

Climate Control
Air/Water Heat Exchanger

Wall-mounted, useful cooling capacity 2250/3000/4500/7000 W (7684/10,246/15,368/23,885 BTU)

Configuration:
- Fully wired ready for connection with terminal strip, including drilling template, sealing mat and assembly parts.

Also required:
- Cooling water system such as Rittal chiller systems, from page 50.
- Condensate discharge 1/2”
- Cooling water connection 1/2”

Certifications, see page 17.
Detailed drawing, see page 134.

<table>
<thead>
<tr>
<th>Part No. SK</th>
<th>3218.1041</th>
<th>3218.100</th>
<th>3216.100</th>
<th>3216.480</th>
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</thead>
<tbody>
<tr>
<td>Voltage V, Hz</td>
<td>230, 50/60</td>
<td>400, 3~, 50/60</td>
<td>480, 3~, 60</td>
<td></td>
</tr>
<tr>
<td>Dimensions in mm (inches)</td>
<td>H 950 (37.4)</td>
<td>W 400 (15.7)</td>
<td>D 200 (7.9)</td>
<td></td>
</tr>
<tr>
<td>Useful cooling capacity in W (BTU)</td>
<td>L 35 W 10, 200 l/h (52.8 gal/h)</td>
<td>L 35 W 10, 400 l/h (105 gal/h)</td>
<td>2250 (7684)</td>
<td>2600 (9050)</td>
</tr>
<tr>
<td></td>
<td>3000 (10,246)</td>
<td>3500 (11,953)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4500 (15,368)</td>
<td>5000 (17,076)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7000 (23,885)</td>
<td>4500 (15,368)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Rated current maximum: 0.42 A/0.48 A 1.0 A/1.1 A 1.4 A/1.6 A

Pre-fuse T 4.0 A

Cooling medium: Water (refer to specifications on the Internet; assembly instructions chapter 12)

Water inlet temperature: > +1°C to +30°C (34°F to 86°F)

Permissible operating pressure p. max.: 1 to 10 bar (14.5 to 145 psi)

Temperature range: +1°C to +70°C (34°F to 158°F)

Ratings to EN 60 529/10.91 IP 55 (NEMA 3R)

Duty cycle: 100 %

Type of connection: Terminal strip

Weight in kg (lb): 19 (41.9) 21 (46.3) 56 (123.5) 79 (174.2)

Color: RAL 7032 (pepple gray)

Air displacement of fans: 240 m³/h (141 cfm) 450 m³/h (265 cfm) 1000 m³/h (589 cfm) 2400 m³/h (4078 cfm)

Temperature control: Thermostat-controlled magnetic valve

<table>
<thead>
<tr>
<th>Accessories</th>
<th>PU</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature indicator</td>
<td>1</td>
<td>3114.100</td>
</tr>
<tr>
<td>Door-operated switch</td>
<td>1</td>
<td>4127.000</td>
</tr>
<tr>
<td>Condensate hose</td>
<td>1</td>
<td>3301.612</td>
</tr>
<tr>
<td>Flow regulator valve</td>
<td>1</td>
<td>see accessories</td>
</tr>
</tbody>
</table>

1) Delivery times available on request, all water-carrying parts V4A 1.4571 (type 316 stainless steel).
2) IP 65 (NEMA 4X) available on request. Special voltages available on request. We reserve the right to make technical modifications.

Accessories Page 100 Chiller systems From page 44
Climate Control 71
Air/Water Heat Exchanger

Roof-mounted, useful cooling capacity 2500 W (8538 BTU)

Configuration:
Fully wired ready for connection with connector, including drilling template, sealing mat and assembly parts.

Also required:
Cooling water system such as Rittal chiller systems, from page 50.

Certifications, see page 17.
Detailed drawing, see page 135.

Property rights:
German registered designs no. 402 02 324 and no. 402 02 325
US design patent no. US D 492,319S
Indian registered design no. 189 956
Chinese registered design no. ZL 0330 6415.6

<table>
<thead>
<tr>
<th>Water-carrying parts</th>
<th>Part No. SK basic controller</th>
<th>Part No. SK comfort controller</th>
</tr>
</thead>
<tbody>
<tr>
<td>CuAL</td>
<td>3209.100</td>
<td>3209.110</td>
</tr>
<tr>
<td>CuAL</td>
<td>3209.500</td>
<td>3209.510</td>
</tr>
<tr>
<td>L 35 W 10, 400 l/h (105 gal/h)</td>
<td>2500 (8538)</td>
<td></td>
</tr>
<tr>
<td>V4A (type 316 stainless steel)</td>
<td>3209.104(1)</td>
<td>3209.114(1)</td>
</tr>
<tr>
<td>V4A (type 316 stainless steel)</td>
<td>3209.504(1)</td>
<td>3209.514(1)</td>
</tr>
<tr>
<td>L 35 W 10, 400 l/h (105 gal/h)</td>
<td>1875 (6403)</td>
<td></td>
</tr>
</tbody>
</table>

Voltage, Hz
230, 50/60 115, 50/60 400, 2~, 50/60

Dimensions in mm (inches)
H 415 (16.3)
W 597 (23.5)
D 475 (18.7)

Rated current maximum
0.40 A 0.85 A 0.25 A

Pre-fuse T
4.0 A

Cooling medium
Water (refer to specifications on the Internet; assembly instructions chapter 13)

Permissible operating pressure p. max.
1 to 10 bar (14.5 to 145 psi)

Temperature range
+1°C to +70°C (34°F to 158°F)

Ratings to EN 60 529/10.91
IP 55 (NEMA 3R)

Duty cycle
100%

Type of connection
Plug-in terminal strip

Weight in kg (lb)
23.5 (51.8) 27.5 (60.6) 27.5 (60.6)

Color
RAL 7035 (light gray)

Air displacement of fans (unimpeded air flow)
1030 m³/h (606 cfm)

Temperature control
Basic or comfort controller (factory setting +35°C (95°F))

<table>
<thead>
<tr>
<th>Accessories</th>
<th>PU</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Door-operated switch</td>
<td>1</td>
<td>4127.000</td>
</tr>
<tr>
<td>SK bus system for comfort controller</td>
<td>1</td>
<td>3124.100</td>
</tr>
<tr>
<td>Interface card for comfort controller</td>
<td>1</td>
<td>3124.200</td>
</tr>
<tr>
<td>Air ducting system</td>
<td>1</td>
<td>3286.870</td>
</tr>
<tr>
<td>Cover stoppers for interior air outlet</td>
<td>1</td>
<td>3296.880</td>
</tr>
<tr>
<td>Condensate hose</td>
<td>1</td>
<td>3301.612</td>
</tr>
<tr>
<td>Flow regulator valve</td>
<td>1</td>
<td>see accessories</td>
</tr>
</tbody>
</table>

1) Delivery times available on request.
2) IP 65 (NEMA 4X) available on request.
Special voltages available on request. We reserve the right to make technical modifications.
## Air/Water Heat Exchanger

**Roof-mounted, useful cooling capacity 4000 W (13,661 BTU)**

### Configuration:
- Fully wired ready for connection with connector, including drilling template, sealing mat and assembly parts.

### Also required:
- Cooling water system such as Rittal chiller systems, from page 50.

### Property rights:
- German registered designs no. 402 02 324 and no. 402 02 325
- US design patent no. US D 492,319S
- Indian registered design no. 189 956
- Chinese registered design no. ZL 0330 6415.6

### Water-carrying parts

<table>
<thead>
<tr>
<th>Part No. SK basic controller</th>
<th>CuAL</th>
<th>3210.100</th>
<th>3210.110</th>
<th>3210.140(1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part No. SK comfort controller</td>
<td>CuAL</td>
<td>3210.500</td>
<td>3210.510</td>
<td>3210.540(1)</td>
</tr>
<tr>
<td>Useful cooling capacity CuAL in W (BTU)</td>
<td>L 35 W 10, 400 l/h (105 gal/h)</td>
<td>4000 (13,661)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part No. SK basic controller</td>
<td>V4A (type 316 stainless steel)</td>
<td>3210.104(1)</td>
<td>3210.114(1)</td>
<td>3210.144(1)</td>
</tr>
<tr>
<td>Part No. SK comfort controller</td>
<td>V4A</td>
<td>3210.504(1)</td>
<td>3210.514(1)</td>
<td>3210.544(1)</td>
</tr>
<tr>
<td>Useful cooling capacity V4A in W (BTU)</td>
<td>L 35 W 10, 400 l/h (105 gal/h)</td>
<td>3000 (10,246)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Voltage V, Hz | 230, 50/60 | 115, 50/60 | 400, 2~, 50/60 |
| Dimensions in mm (inches) | H 415 (16.3) | 597 (23.5) | 475 (18.7) |

- Rated current maximum: 0.44 A, 0.9 A, 0.25 A
- Pre-fuse T: 4.0 A
- Cooling medium: Water (refer to specifications on the Internet; assembly instructions chapter 13)
- Water inlet temperature: >+1°C to +30°C (34°F to 86°F)
- Permissible operating pressure p. max.: 1 to 10 bar (14.5 to 145 psi)
- Temperature range: +1°C to +70°C (34°F to 158°F)
- Ratings to EN 60 529/10.91: IP 55 (NEMA 3R)(2)
- Duty cycle: 100 %
- Type of connection: Plug-in terminal strip
- Weight in kg (lb): 25.5 (56.2), 29.5 (65.0), 29.5 (65.0)
- Color: RAL 7035 (light gray)
- Air displacement of fans (unimpeded air flow): 925 m³/h (544 cfm)
- Temperature control: Basic or comfort controller (factory setting +35°C (95°F))

### Accessories

<table>
<thead>
<tr>
<th>Accessories</th>
<th>PU</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Door-operated switch</td>
<td>1</td>
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<tr>
<td>SK bus system for comfort controller</td>
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<td>3124.100</td>
</tr>
<tr>
<td>Interface card for comfort controller</td>
<td>1</td>
<td>3124.200</td>
</tr>
<tr>
<td>Air ducting system</td>
<td>1</td>
<td>3286.870</td>
</tr>
<tr>
<td>Cover stoppers for interior air outlet</td>
<td>1</td>
<td>3286.880</td>
</tr>
<tr>
<td>Condensate hose</td>
<td>1</td>
<td>3301.612</td>
</tr>
<tr>
<td>Flow regulator valve</td>
<td>1</td>
<td>see accessories</td>
</tr>
</tbody>
</table>

---

1 Delivery times available on request.
2 IP 65 (NEMA 4X) available on request. Special voltages available on request. We reserve the right to make technical modifications.
Air/Water Heat Exchanger

Sidewall for 600 mm (23.6”) deep TS8 modular enclosure, useful cooling capacity 700 W (2391 BTU)

Configuration:
Wired ready for connection, with terminal strip, sealing material and assembly parts.

Also required:
Cooling water system such as Rittal chiller systems, from page 50.

Certifications, see page 17.
Detailed drawing, see page 135.

Part No. SK 3316.180 3316.200

| Voltage V, Hz | 230, 50/60 |
| Dimensions to fit TS modular enclosures in mm (inches) | H 1800 (70.9) 600 (23.6) 2000 (78.7) 600 (23.6) |
| Useful cooling capacity in W (BTU) | L 35 W 10, 100 l/h (26.4 gal/h) 700 (2391) |

Rated current maximum 0.45 A/0.51 A
Pre-fuse T 4.0 A
Cooling medium Water (refer to specifications on the Internet; assembly instructions chapter 12)
Water inlet temperature > +1°C to +35°C (34°F to 95°F)
Permissible operating pressure p. max. 1 bar (1.5 psi)
Temperature range +1°C to +70°C (34°F to 158°F)
Ratings to EN 60 529/10.91 IP 54 (NEMA 12)
Duty cycle 100 %
Type of connection Terminal strip
Weight in kg (lb) 26 (57.3)
Color RAL 7035 (light gray) 1
Air displacement of fans 170 m³/h (100 cfm)
Temperature control Thermostat-controlled magnetic valve
Temperature monitoring Internal thermostat, with change-over contact, switching load 16 A, setting range +20°C to +60°C (68°F to 140°F) (factory setting +35°C (95°F))

<table>
<thead>
<tr>
<th>Accessories</th>
<th>PU</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature indicator</td>
<td>1</td>
<td>3114.100</td>
</tr>
<tr>
<td>Door-operated switch</td>
<td>1</td>
<td>4127.000</td>
</tr>
<tr>
<td>Condensate hose</td>
<td>1</td>
<td>3301.610</td>
</tr>
<tr>
<td>Flow regulator valve</td>
<td>1</td>
<td>see accessories</td>
</tr>
</tbody>
</table>

1) RAL 7032 (pepple gray) on request. Special voltages available on request. We reserve the right to make technical modifications.
Air/Air Heat Exchangers

Wall-mounted, specific thermal output 17.5 – 60 W/C

**Configuration:**
Fully wired unit ready for connection.

**Certifications,**
see page 18.

**Detailed drawing,**
see page 136.

**Performance diagrams,**

**Part No. SK** | 3126.100 | 3127.100 | 3128.100 | 3129.100
---|---|---|---|---
Voltage V, Hz | 230, 50/60 | 280, 50/60 | 315, 50/60 | 390, 50/60
Dimensions in mm (inches) | | | |
H | 550 (21.7) | 950 (37.4) | 950 (37.4) | |
B | 280 (11.0) | 400 (15.7) | 400 (15.7) | |
T1 | 150 (5.9) | 205 (8.1) | 225 (8.9) | |
T2 | – | 155 (6.1) | 175 (6.9) | |
**Specific thermal output** | 17.5 W/C | 30 W/C | 45 W/C | 60 W/C

**Fans**
2 per heat exchanger

**Maximum rated current per fan**
0.11 A/0.13 A, 0.28 A/0.34 A, 0.3 A/0.4 A, 0.38 A/0.4 A

**Power per fan**
23 W/27 W, 60 W/75 W, 70 W/90 W, 85 W/90 W

**Air displacement of fans**

<table>
<thead>
<tr>
<th></th>
<th>External circuit</th>
<th>Internal circuit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>265/315 m³/h (156/185 cfm)</td>
<td>480/525 m³/h (283/309 cfm)</td>
</tr>
<tr>
<td></td>
<td>600/625 m³/h (353/368 cfm)</td>
<td>860/900 m³/h (506/530 cfm)</td>
</tr>
</tbody>
</table>

**Temperature range**
-5°C to +55°C (23°F to 131°F)

**Type of connection**
Plug-in terminal strip

**Weight in kg (lb)**
10 (22.0), 18 (40.0), 19 (41.9), 21 (46.3)

**Color**
RAL 7035 (light gray)

**Ratings to EN 60 529/10.91**
IP 54 (NEMA 12)

**Accessories**

<table>
<thead>
<tr>
<th>Accessory</th>
<th>PU</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter mats</td>
<td>3</td>
<td>3286.300, 3286.400</td>
</tr>
<tr>
<td>Metal filters</td>
<td>1</td>
<td>3286.310, 3286.410</td>
</tr>
<tr>
<td>Thermostat</td>
<td>1</td>
<td>3110.000</td>
</tr>
<tr>
<td>Temperature indicator</td>
<td>1</td>
<td>3114.100</td>
</tr>
<tr>
<td>Speed control</td>
<td>1</td>
<td>3120.000</td>
</tr>
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</table>

**Property rights:**
German registered designs no. 402 02 324 and no. 402 02 325
IR reg. design no. DM/061 966
Chinese registered design no. ZL 0330 8461.1
Indian registered design no. 190 269 and no. 189 953
Japanese registered design no. 1 187 905 and no. 1 187 896
US design patent no. US D 488,480S

**Voltage V, Hz**
230, 50/60

**Dimensions in mm (inches)**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>550 (21.7)</td>
<td>950 (37.4)</td>
</tr>
<tr>
<td>B</td>
<td>280 (11.0)</td>
<td>400 (15.7)</td>
</tr>
<tr>
<td>T1</td>
<td>150 (5.9)</td>
<td>205 (8.1)</td>
</tr>
<tr>
<td>T2</td>
<td>–</td>
<td>155 (6.1)</td>
</tr>
</tbody>
</table>

**Specific thermal output**
17.5 W/C, 30 W/C, 45 W/C, 60 W/C

**Fans**
2 per heat exchanger

**Maximum rated current per fan**
0.11 A/0.13 A, 0.28 A/0.34 A, 0.3 A/0.4 A, 0.38 A/0.4 A

**Power per fan**
23 W/27 W, 60 W/75 W, 70 W/90 W, 85 W/90 W

**Air displacement of fans**

<table>
<thead>
<tr>
<th></th>
<th>External circuit</th>
<th>Internal circuit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>265/315 m³/h (156/185 cfm)</td>
<td>480/525 m³/h (283/309 cfm)</td>
</tr>
<tr>
<td></td>
<td>600/625 m³/h (353/368 cfm)</td>
<td>860/900 m³/h (506/530 cfm)</td>
</tr>
</tbody>
</table>

**Temperature range**
-5°C to +55°C (23°F to 131°F)

**Type of connection**
Plug-in terminal strip

**Weight in kg (lb)**
10 (22.0), 18 (40.0), 19 (41.9), 21 (46.3)

**Color**
RAL 7035 (light gray)

**Ratings to EN 60 529/10.91**
IP 54 (NEMA 12)

**Accessories**

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter mats</td>
<td>111</td>
</tr>
<tr>
<td>Metal filters</td>
<td>112</td>
</tr>
<tr>
<td>Thermostat</td>
<td>104</td>
</tr>
<tr>
<td>Temperature indicator</td>
<td>103</td>
</tr>
<tr>
<td>Speed control</td>
<td>105</td>
</tr>
</tbody>
</table>

Special voltages available on request. We reserve the right to make technical modifications.
**Air/Air Heat Exchangers**

**Wall-mounted, specific thermal output 90 W/C**

**Configuration:**
Fully wired unit ready for connection.

**Certifications,**
see page 18.

**Detailed drawing,**
see page 136.

**Performance diagrams,**

**Property rights:**
- German registered designs no. 402 02 324 and no. 402 02 325
- IR reg. design no. DM/061 967 and no. DM/062 557
- Brazilian registered design no. DI 6203240-2
- Chinese registered design no. ZL 0330 4386.8
- Indian registered designs nos. 190 270, 189 954, 189 955, 189 956
- Japanese registered design no. 1 187 897
- US design patent no. US D 492,319S and US D 492,320S

**Part No. SK 3130.100**

| Voltage V, Hz | 230, 50/60 |
| Dimensions in mm (inches) | H1580 (62.2) | W400 (15.7) | D215 (8.5) |
| Specific thermal output | 90 W/C |

**Fans:**
- 2 per heat exchanger

**Maximum rated current per fan:**
- 0.67 A/0.88 A

**Power per fan:**
- 150 W/200 W

**Air displacement of fans:**
- External circuit 850/945 m³/h (500/556 cfm)
- Internal circuit 850/945 m³/h (500/556 cfm)

**Temperature range:**
- -5°C to +55°C (23°F to 131°F)

**Type of connection:**
- Plug-in terminal strip

**Weight in kg (lb):**
- 34 (75.0)

**Color:**
- RAL 7035 (light gray)

**Ratings to EN 60 529/10.91:**
- Internal circuit IP 54 (NEMA 12)

**Accessories:**

<table>
<thead>
<tr>
<th>Accessories</th>
<th>PU</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter mats</td>
<td>3</td>
<td>3286.400</td>
</tr>
<tr>
<td>Metal filters</td>
<td>1</td>
<td>3286.410</td>
</tr>
<tr>
<td>Thermostat</td>
<td>1</td>
<td>3110.000</td>
</tr>
<tr>
<td>Temperature indicator</td>
<td>1</td>
<td>3114.100</td>
</tr>
<tr>
<td>Speed control</td>
<td>1</td>
<td>3120.000</td>
</tr>
</tbody>
</table>

Special voltages available on request. We reserve the right to make technical modifications.
### Air/Air Heat Exchangers

**Wall-mounted**

**Configuration:**
Fully wired unit, ready for connection.

**Certifications,**
see page 18.

**Performance diagrams,**

---

**SK 3125.800**
Compact, wall-mounted air/air heat exchanger. Ideal for small and operator housings. May be wall-mounted, recessed or partially recessed.

**SK 3129.800**
Ultra slim air/air heat exchanger. Ideal for mounting on or in the door of an enclosure.

---

<table>
<thead>
<tr>
<th>Part No. SK</th>
<th>3125.800</th>
<th>3129.800</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage Volt, Hz</td>
<td>230, 50/60</td>
<td>230, 50/60</td>
</tr>
<tr>
<td>Dimensions in mm (inches)</td>
<td>H 400 (15.7) B 200 (7.9) T 146 (5.7)</td>
<td>H 1360 (53.5) B 400 (15.7) T 110 (4.3)</td>
</tr>
<tr>
<td>Specific thermal output</td>
<td>12 W/C</td>
<td>62 W/C</td>
</tr>
</tbody>
</table>

**Fans**
2 each per heat exchanger

**Maximum rated current per fan**
0.11 A/0.13 A
0.45 A/0.55 A

**Power per fan**
25 W/30 W
100 W/130 W

**Air displacement per fan**
External circuit
265 m³/h/315 m³/h (156/185 cfm)
360 m³/h/900 m³/h (212/530 cfm)

Internal circuit
265 m³/h/315 m³/h (156/185 cfm)
360 m³/h/900 m³/h (212/530 cfm)

**Temperature range**
-5°C up to +55°C (23°F to 131°F)

**Type of connection**
Plug-in terminal strip

**Weight in kg (lb)**
8 (17.6)
30 (66.1)

**Color**
RAL 7035 (light gray)

**Ratings to EN 60 529/10.91**
Internal circuit IP 54 (NEMA 12)

**Accessories**

<table>
<thead>
<tr>
<th>Accessories</th>
<th>PU</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermostat</td>
<td>1 ea 3110.000</td>
<td>104</td>
</tr>
<tr>
<td>Temperature indicator</td>
<td>1 ea 3114.100</td>
<td>103</td>
</tr>
<tr>
<td>Speed control</td>
<td>1 ea 3120.000</td>
<td>105</td>
</tr>
</tbody>
</table>

Special voltages upon request. We reserve the right to technical modifications.
Filter Fan Units

Features

Filter fan units are ideal for cost effectively dissipating high heat loads. The prerequisite is that the ambient air must be relatively clean with a temperature below the desired enclosure internal temperature.

The entire range of filter fan units is now available with EMC shielding and all required rated voltages.

Fast assembly

Quick clip-on mounting
This guarantees quick, completely secure attachment of the filter fan unit. The prerequisites for ratings IP 54 (NEMA 12) are met as standard.

Changing the filter mat is quick and easy. The louvered grille is attached without screws providing quick access to the filter mat.

Inlet or outlet
The air direction may be quickly reversed from blowing (standard setting) to extracting. Simply rotate the fan by 180°.

Application diversity and functions

Not always full power
Air displacement may be reduced at lower ambient temperatures. Noise generation is reduced by adapting the filter fan speed to match the temperature using a controller.

Also available with EMC shielding
All filter fan units and outlet filters are available with EMC shielding. The required conductive connection is achieved by a metallic coating on the filter fan unit housing and a special sealing frame.

Hosed water protection
Particularly for applications in the food industry, the hose-proof hood prevents the ingress of moisture. The ratings of IP 56 (NEMA 3R) is achieved in conjunction with the filter mats.

Benefits:
- Air displacement of 20 m³/h to 700 m³/h (12 to 412 cfm)
- Quick assembly
- IP 54 (NEMA 12) as standard
- Air flow direction may be reversed from blowing (standard setting) to extracting
- All fans are also available with EMC shielding

Important:
- The prescribed heat loss and the maximum anticipated ambient temperature define the required volumetric flow
- Always use the filter fan units and outlet filters together

For calculation formulas refer to our website: www.rittal-corp.com
Air displacement 12/39 cfm

**Configuration:**
Filter fan unit ready for installation, including filter mats.

**German registered design no.** M 93 04 846

**Certifications,** see page 18. 

### Part No. filter fan unit SK

<table>
<thead>
<tr>
<th>Part No.</th>
<th>3321.107</th>
<th>3321.117</th>
<th>3321.027</th>
<th>3321.047</th>
<th>3322.107</th>
<th>3322.117</th>
<th>3322.027</th>
<th>3322.047</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage V, Hz</td>
<td>230, 50/60</td>
<td>115, 50/60</td>
<td>24 (DC)</td>
<td>48 (DC)</td>
<td>230, 50/60</td>
<td>115, 50/60</td>
<td>24 (DC)</td>
<td>48 (DC)</td>
</tr>
<tr>
<td>Dimensions in mm (inches)</td>
<td>116 (4.6)</td>
<td>148 (5.8)</td>
<td>92 + 0.8 (3.6 + 0.03)</td>
<td>124 (4.9)</td>
<td>10 (0.4)</td>
<td>10 (0.5)</td>
<td>42 (1.7)</td>
<td>57 (2.2)</td>
</tr>
<tr>
<td>Max. installation depth in mm (inches)</td>
<td>T1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air displacement, unimpeded air flow</td>
<td>20/25 m³/h (12/15 cfm)</td>
<td>20 m³/h (12 cfm)</td>
<td>55/66 m³/h (32/39 cfm)</td>
<td>55 m³/h (32 cfm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air displacement with outlet filter including standard filter mat</td>
<td>1 x SK 3321.207: 15/18 m³/h (9/11 cfm)</td>
<td>1 x SK 3322.207: 43/50 m³/h (25/29 cfm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Axial fan**
- self-starting shaded pole motor
- DC motor
- self-starting shaded pole motor
- DC motor

**Rated current maximum**
- 69 mA
- 58 mA
- 138 mA
- 115 mA
- 125 mA
- 90 mA
- 0.12 A
- 0.11 A
- 0.24 A
- 0.23 A
- 0.35 A
- 90 mA

**Power**
- 12.5/10.3 W
- 3.0 W
- 4.1 W
- 19.0/18.0 W
- 7.7 W
- 4.4 W

**Noise level**
- 41/46 dB (A)
- 41 dB (A)
- 46/49 dB (A)
- 46 dB (A)

**Temperature range**
- –10°C to +55°C (13°F to 131°F)

**Color**
- RAL 7035 (light gray)

**Ratings to EN 60 529/10.91**
- IP 54 (NEMA 12) standard
- IP 56 (NEMA 3R) when using a hose-proof hood

**Part No. outlet filter SK**

<table>
<thead>
<tr>
<th>Part No. outlet filter SK</th>
<th>3321.207</th>
<th>3322.207</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessories</td>
<td>PU</td>
<td>Page</td>
</tr>
<tr>
<td>Spare filter mats</td>
<td>5</td>
<td>3321.700</td>
</tr>
<tr>
<td>Thermostat</td>
<td>1</td>
<td>3110.000</td>
</tr>
<tr>
<td>Temperature indicator</td>
<td>1</td>
<td>3114.100</td>
</tr>
<tr>
<td>Speed control</td>
<td>1</td>
<td>3120.000</td>
</tr>
<tr>
<td>Hose-proof hood</td>
<td>1</td>
<td>3321.800</td>
</tr>
</tbody>
</table>

1) Delivery times available on request.
2) For metal thickness > 2.5 mm (0.1˝), the cutout H2/B2 (W) must be 1 mm (0.04˝) larger.
3) RAL 7032 (pepple gray) on request.
Special voltages available on request. We reserve the right to make technical modifications.
# Filter Fan Units

## Air displacement 62/106 cfm

**Configuration:**
Filter fan unit ready for installation, including filter mats.

**German registered design no. M 93 04 846**

**Certifications,** see page 18.


**Part No. filter fan unit SK**

<table>
<thead>
<tr>
<th>Part No. filter fan unit SK</th>
<th>3323.107</th>
<th>3323.117</th>
<th>3323.027</th>
<th>3323.047</th>
<th>3324.107</th>
<th>3324.117</th>
<th>3324.027</th>
<th>3324.047</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage V, Hz</td>
<td>230, 50/60</td>
<td>115, 50/60</td>
<td>24 (DC)</td>
<td>48 (DC)</td>
<td>230, 50/60</td>
<td>115, 50/60</td>
<td>24 (DC)</td>
<td>48 (DC)</td>
</tr>
<tr>
<td>Dimensions in mm (inches)</td>
<td>H1/B1: 204 (8.0)</td>
<td>255 (10.0)</td>
<td>H2/B2: 177 (7.0)</td>
<td>224 (8.8)</td>
<td>T1: 12 (0.5)</td>
<td>12 (0.5)</td>
<td>T2: B = Width</td>
<td>T = Depth</td>
</tr>
<tr>
<td>Maximum installation depth in mm (inches)</td>
<td>82 (3.2)</td>
<td>105 (4.2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air displacement, unimpeded air flow</td>
<td>105/120 m³/h (62/71 cfm)</td>
<td>105 m³/h (62 cfm)</td>
<td>180/160 m³/h (106/94 cfm)</td>
<td>180 m³/h (106 cfm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air displacement with outlet filter including standard filter mat</td>
<td>1 x SK 3323.207: 71/82 m³/h (42/48 cfm)</td>
<td>2 x SK 3323.207: 85/98 m³/h (50/58 cfm)</td>
<td>1 x SK 3325.207: 78/90 m³/h (46/53 cfm)</td>
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<tr>
<td>Axial fan</td>
<td>self-starting shaded pole motor</td>
<td>DC motor</td>
<td>self-starting shaded pole motor</td>
<td>DC motor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated current maximum</td>
<td>0.12 A / 0.11 A / 0.23 A</td>
<td>0.24 A / 0.35 A</td>
<td>0.38 A / 0.40 A</td>
<td>0.3 A / 0.34 A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td>19.0 W / 18.0 W</td>
<td>8.0 W / 4.3 W</td>
<td>30.0 W / 35.0 W</td>
<td>7.2 W / 14.0 W</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noise level</td>
<td>46/49 dB (A)</td>
<td>46 dB (A)</td>
<td>52/48 dB (A)</td>
<td>52 dB (A)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Temperature range</td>
<td>–10°C to +55°C (13°F to 131°F)</td>
<td></td>
<td></td>
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<tr>
<td>Color</td>
<td>RAL 7035 (light gray)</td>
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<tr>
<td>Ratings to EN 60 529/10.91</td>
<td>IP 54 (NEMA 12) standard</td>
<td>IP 55</td>
<td>IP 56 (NEMA 3R)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Part No. outlet filter SK**

<table>
<thead>
<tr>
<th>Part No. outlet filter SK</th>
<th>3323.207</th>
<th>3325.207</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessories</td>
<td>PU</td>
<td>Page</td>
</tr>
<tr>
<td>Spare filter mats</td>
<td>5</td>
<td>3171.100</td>
</tr>
<tr>
<td>Fine filter mats</td>
<td>5</td>
<td>3181.100</td>
</tr>
<tr>
<td>Thermostat</td>
<td>1</td>
<td>3110.000</td>
</tr>
<tr>
<td>Temperature indicator</td>
<td>1</td>
<td>3114.100</td>
</tr>
<tr>
<td>Speed control</td>
<td>1</td>
<td>3120.000</td>
</tr>
<tr>
<td>Hose-proof hood</td>
<td>1</td>
<td>3323.800</td>
</tr>
</tbody>
</table>

1) Delivery times available on request.
2) For metal thickness > 2.5 mm (0.1˝), the cutout H2/B2 (W) must be 1 mm (0.04˝) larger.
3) RAL 7032 (pepple gray) on request.
Special voltages available on request. We reserve the right to make technical modifications.
Filter Fan Units

Air displacement 135/156 cfm

Configuration:
Filter fan unit ready for installation, including filter mats.

German registered design no. M 93 04 846

Certifications, see page 18.

<table>
<thead>
<tr>
<th>Part No. filter fan unit SK</th>
<th>3325.107</th>
<th>3325.117</th>
<th>3325.027</th>
<th>3325.047</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage V, Hz</td>
<td>230, 50/60</td>
<td>115, 50/60</td>
<td>24 (DC)</td>
<td>48 (DC)</td>
</tr>
<tr>
<td>Dimensions in mm (inches)</td>
<td>H1/B1 265 (10.0)</td>
<td>H2/B2 224 (8.8)</td>
<td>T1 12 (0.5)</td>
<td></td>
</tr>
<tr>
<td>Max. installation depth in mm (inches)</td>
<td>T2 105 (4.2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air displacement, unimpeded air flow</td>
<td>230/265 m³/h (135/156 cfm)</td>
<td>230 m³/h (135 cfm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air displacement with outlet filter including standard filter mat</td>
<td>1 x SK 3325.207: 170/205 m³/h (100/121 cfm)</td>
<td>2 x SK 3325.207: 200/230 m³/h (118/135 cfm)</td>
<td>1 x SK 3326.207: 190/215 m³/h (112/127 cfm)</td>
<td></td>
</tr>
</tbody>
</table>

Axial fan
- self-starting shaded pole motor
- DC motor
- Rated current maximum: 0.28 A, 0.24 A, 0.53 A, 0.49 A, 0.59 A, 0.31 A
- Power: 41.0/38.0 W, 14.0 W, 15.0 W
- Noise level: 54/56 dB (A), 54 dB (A)
- Temperature range: –10°C to +55°C (13°F to 131°F)
- Color: RAL 7035 (light gray)
- Ratings to EN 60 529/10.91
- IP 54 (NEMA 12) standard
- IP 55
- IP 56 (NEMA 3R) when using an additional fine filter mat and hose-proof hood

<table>
<thead>
<tr>
<th>Part No. outlet filter SK</th>
<th>3325.207</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessories</td>
<td>PU 5</td>
</tr>
<tr>
<td>Fine filter mats</td>
<td>3172.100</td>
</tr>
<tr>
<td>Thermostat</td>
<td>3182.100</td>
</tr>
<tr>
<td>Temperature indicator</td>
<td>3110.000</td>
</tr>
<tr>
<td>Speed control</td>
<td>3114.100</td>
</tr>
<tr>
<td>Hose-proof hood</td>
<td>3114.115</td>
</tr>
<tr>
<td></td>
<td>3114.024</td>
</tr>
<tr>
<td></td>
<td>3120.000</td>
</tr>
<tr>
<td></td>
<td>3120.115</td>
</tr>
<tr>
<td></td>
<td>3324.800</td>
</tr>
</tbody>
</table>

1 Delivery times available on request.
2 For metal thickness > 2.5 mm (0.1”), the cutout H2/B2 (W) must be 1 mm (0.04”) larger.
3 RAL 7032 (pepple gray) on request.
Special voltages available on request. We reserve the right to make technical modifications.

Accessories Page 100
Climate Control
Filter Fan Units

Air displacement 353/424 cfm

Configuration:
Filter fan unit ready for installation, including filter mats.

German registered design no. M 93 04 846

Certifications,
see page 18.
Performance diagrams,
available on the Internet,

<table>
<thead>
<tr>
<th>Part No. filter fan unit SK</th>
<th>3326.107</th>
<th>3326.117</th>
<th>3327.107</th>
<th>3327.117</th>
<th>3327.147</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage V, Hz</td>
<td>230, 50/60</td>
<td>115, 50/60</td>
<td>230, 50/60</td>
<td>115, 50/60</td>
<td>400/460, 3~/60/60</td>
</tr>
<tr>
<td></td>
<td>T1 2 (0.5)</td>
<td>T1 2 (0.5)</td>
<td>T1 2 (0.5)</td>
<td>T1 2 (0.5)</td>
<td>T1 2 (0.5)</td>
</tr>
<tr>
<td>Maximum installation depth</td>
<td>T2 125 (4.9)</td>
<td>T2 125 (4.9)</td>
<td>145 (5.7)</td>
<td>T2 145 (5.7)</td>
<td>T2 145 (5.7)</td>
</tr>
<tr>
<td>in mm (inches)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air displacement, unimpeded air flow</td>
<td>550/600 m³/h (323/353 cfm)</td>
<td>700/720 m³/h (412/424 cfm)</td>
<td>700/720 m³/h (412/424 cfm)</td>
<td>700/720 m³/h (412/424 cfm)</td>
<td>700/720 m³/h (412/424 cfm)</td>
</tr>
<tr>
<td>Air displacement with outlet filter including standard filter mat</td>
<td>1 x SK 3326.207: 360/390 m³/h (212/230 cfm)</td>
<td>2 x SK 3326.207: 440/495 m³/h (259/291 cfm)</td>
<td>1 x SK 3326.207: 525/575 m³/h (309/338 cfm)</td>
<td>1 x SK 3326.207: 525/575 m³/h (309/338 cfm)</td>
<td>1 x SK 3326.207: 525/575 m³/h (309/338 cfm)</td>
</tr>
</tbody>
</table>

Axial fan
Capacitor motor
Rated current maximum
0.29 A
0.35 A
0.58 A
0.70 A
0.65 A
0.95 A
1.5 A
2.0 A

Rotary current motor
0.27 A
0.37 A

Power
64.0/98.0 W
115.0/212.0 W
167.0/230.0 W
146.0/220.0 W

Noise level
59/61 dB (A)
75/76 dB (A)

Temperature range
–10°C to +55°C (13°F to 131°F)

Color
RAL 7035 (light gray)

Ratings to EN 60 529/10.91
IP 54 (NEMA 12) standard
IP 55
IP 56 (NEMA 3R) when using an additional fine filter mat and hose-proof hood

Part No. outlet filter SK
3326.207

Accessories
Part
PU
Spare filter mats
5
3173.100
3327.700

Fine filter mats
5
3183.100

Thermostat
1
3110.000

Temperature indicator
1
3114.100
3114.115
3114.100
3114.115

Speed control
1
3120.000
3120.105
3120.000

Hose-proof hood
1
3326.800

Note 1: For metal thickness > 2.5 mm (0.1˝), the cutout H2/B2 (W) must be 1 mm (0.04˝) larger.
Note 2: RAL 7032 (pepple gray) on request.
Special voltages available on request. We reserve the right to make technical modifications.
Air displacement 12/71 cfm

Configuration:
Filter fan unit ready for installation, including drilling template, filter mat and assembly parts.

Certifications,
see page 19.
Performance diagrams,
available on the Internet,

Part No. filter fan unit SK

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Voltage V, Hz</th>
<th>Dimensions in mm (inches)</th>
<th>Maximum installation depth in mm (inches)</th>
<th>Air displacement, unimpeded air flow</th>
<th>Air displacement with outlet filter including standard filter mat</th>
</tr>
</thead>
<tbody>
<tr>
<td>3321.607</td>
<td>230, 50/60</td>
<td>H1/B1 116 (4.6)</td>
<td>T2 42 (1.7)</td>
<td>20/25 m³/h (12/15 cfm)</td>
<td>1 x 3322.267: 43/50 m³/h (25/29 cfm) 2 x 3322.267: 48/55 m³/h (28/32 cfm)</td>
</tr>
<tr>
<td>3321.617</td>
<td>115, 50/60</td>
<td>H2/B2 92 + 0.8 (3.6 + 0.03)</td>
<td></td>
<td>55/66 m³/h (32/39 cfm)</td>
<td>1 x 3323.267: 71/82 m³/h (42/48 cfm) 2 x 3323.267: 85/98 m³/h (50/58 cfm)</td>
</tr>
<tr>
<td>3322.607</td>
<td>230, 50/60</td>
<td>T1 10 (0.4)</td>
<td></td>
<td></td>
<td>1 x 3323.267: 78/90 m³/h (46/53 cfm)</td>
</tr>
<tr>
<td>3322.617</td>
<td>115, 50/60</td>
<td>T1 10.5 (0.4)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Axial fan: self-starting shaded pole motor

Rated current maximum | 69 mA/58 mA | 138 mA/115 mA | 0.12 A/0.11 A | 0.24 A/0.23 A | 0.12 A/0.11 A | 0.24 A/0.23 A |

Power | 12.5/10.3 W | 19.0/18.0 W |

Noise level | 41/46 dB (A) | 46/49 dB (A) |

Temperature range | –10°C to +55°C (13°F to 131°F) |

Color | RAL 7035 (light gray) |

Ratings to EN 60 529/10.91 IP 54 (NEMA 12) standard

Part No. outlet filter – EMC SK

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>3321.267</td>
<td>PU Page 100</td>
</tr>
</tbody>
</table>

Accessories Page 100

Climate Control

83

1) Delivery times available on request.

2) For metal thickness > 2.5 mm (0.1˝), the cutout H2/B2 (W) must be 1 mm (0.04˝) larger.

3) RAL 7032 (pepple gray) on request.

Special voltages available on request. We reserve the right to make technical modifications.
**Filter Fan Unit – EMC**

**Air displacement 106/433 cfm**

Configuration:
Filter fan unit ready for installation, including drilling template, filter mat and assembly parts.

Certifications:
see page 19.

Performance diagrams:
available on the Internet.

<table>
<thead>
<tr>
<th>Part No. filter fan unit SK</th>
<th>3324.607</th>
<th>3324.617</th>
<th>3325.607</th>
<th>3325.617</th>
<th>3326.607</th>
<th>3326.617</th>
<th>3327.607</th>
<th>3327.617</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage V, Hz</td>
<td>230, 50/60</td>
<td>115, 50/60</td>
<td>230, 50/60</td>
<td>115, 50/60</td>
<td>230, 50/60</td>
<td>115, 50/60</td>
<td>230, 50/60</td>
<td>115, 50/60</td>
</tr>
<tr>
<td>Dimensions in mm (inches)</td>
<td>H1/B1: 255 (10.0)</td>
<td>323 (12.7)</td>
<td>H2/B2: 224 (8.8)</td>
<td>292 (11.5)</td>
<td>T1: 12 (0.5)</td>
<td>12 (0.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum installation depth</td>
<td>T2: 105 (4.1)</td>
<td>129 (5.1)</td>
<td>145 (5.7)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air displacement, unimpeded air flow</td>
<td>160/180 m³/h (94/106 cfm)</td>
<td>230/265 (135/156 cfm)</td>
<td>550/600 m³/h (324/353 cfm)</td>
<td>700/720 m³/h (412/423 cfm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air displacement with outlet filter including standard filter mat</td>
<td>1 x 3325.267: 115/95 (68/56 cfm)</td>
<td>1 x 3325.267: 170/205 m³/h (100/120 cfm)</td>
<td>1 x 3325.267: 200/230 m³/h (118/135 cfm)</td>
<td>1 x 3325.267: 155/130 m³/h (91/77 cfm)</td>
<td>1 x 3326.267: 150/130 m³/h (91/77 cfm)</td>
<td>1 x 3326.267: 190/215 m³/h (111/127 cfm)</td>
<td>1 x 3326.267: 360/390 m³/h (212/230 cfm)</td>
<td></td>
</tr>
</tbody>
</table>

Axial fan self-starting shaded pole motor

| Capacitor motor |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Rated current maximum | 0.19 A/0.20 A | 0.38 A/0.40 A | 0.28 A/0.24 A | 0.53 A/0.49 A | 0.29 A/0.35 A | 0.58 A/0.70 A | 0.65 A/0.95 A | 1.50 A/2.00 A |
| Power            | 30.0/35.0 W    | 41.0/38.0 W    | 64.0/80.0 W    | 155.0/212.0 W  | 167.0/230.0 W  |
| Noise level      | 52/48 dB (A)   | 54/56 dB (A)   | 59/61 dB (A)   | 75/76 dB (A)   |
| Temperature range | -10°C to +55°C (13°F to 131°F) | -10°C to +55°C (13°F to 131°F) | -10°C to +55°C (13°F to 131°F) | -10°C to +55°C (13°F to 131°F) |
| Color            | RAL 7035 (light gray) | RAL 7035 (light gray) | RAL 7035 (light gray) | RAL 7035 (light gray) |
| Ratings to EN 60 529/10.91 | IP 54 (NEMA 12) standard |

<table>
<thead>
<tr>
<th>Part No. outlet filter – EMC SK</th>
<th>3325.267</th>
<th>3326.267</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessories PU Page</td>
<td>3325.267</td>
<td>3326.267</td>
</tr>
<tr>
<td>Spare filter mats 5</td>
<td>3172.100</td>
<td>3173.100</td>
</tr>
<tr>
<td>Fine filter mats 5</td>
<td>3182.100</td>
<td>3183.100</td>
</tr>
<tr>
<td>Thermostat 1</td>
<td>3110.000</td>
<td>3110.000</td>
</tr>
<tr>
<td>Temperature indicator 1</td>
<td>3114.100</td>
<td>3114.115</td>
</tr>
<tr>
<td>Speed control 1</td>
<td>3120.000</td>
<td>3120.115</td>
</tr>
<tr>
<td>Hose-proof hood 1</td>
<td>3324.800</td>
<td>3326.800</td>
</tr>
</tbody>
</table>

1) Delivery times available on request.
2) For metal thickness > 2.5 mm (0.1˝), the cutout H2/B2 (W) must be 1 mm (0.04˝) larger.
3) RAL 7032 (pepple gray) on request.

Special voltages available on request. We reserve the right to make technical modifications.
Climate Control Tailored to Enclosures

Features

All rack-mounted climate control components are mounted directly on the 482.6 mm (19”) rails. Positioning directly beneath the electronic components ensures effective cooling, and prevents the formation of hot spots.

Rack-mounted air conditioners

Simple attachment to the 482.6 mm (19”) rails
Sealed enclosures require a door cutout for the external air circuit.

Useful cooling capacity
1000 W, 6U (3415 BTU, 6U)
The heated air is drawn in, cooled, and blown out underneath the electronic equipment that is being cooled.

A fully equipped front is essential in open enclosures. The set-point of the temperature controller is set by a service door.

Rack-mounted fan

Vario rack-mounted fan
The rack-mounted fan slides into the guide frame like a drawer. Connectors on the rear ensure immediate contact.

Installation options for the guide frame: Directly in the subrack, or by two mounting brackets on the 482.6 mm (19”) rails.

Ideal for avoiding hot spots in fully populated enclosures.

Centrifugal fan

320 m³/h (188 cfm) air displacement, 2U
High air displacement means that Rittal centrifugal fans are capable of dissipating large heat losses from the enclosure. Noise generation of only 52 dB maintains a pleasant environment.

Front outlet grille 2U for hot air outlet to the outside in the upper section of the enclosure.
Climate Control Tailored to Enclosures

Features

Ready-to-use, wired modules equipped with fans for numerous Rittal enclosure system platforms. Rittal Climate Control offers effective air displacement and minimal assembly work. Fan roofs, fan cross members for server enclosures (door installation), internal fan mounting panels and enclosure internal fans are all available.

Fan for integration into the door

For TS8 server enclosures: Door-mounted fans for server enclosures
Specifically for installation in the tubular door frame of perforated doors.

For the office sector: Roof-mounted fan
Low noise generation and high performance for sensitive office areas. Unit consisting of TS roof plate and fan.

Fans for integration into the roof

For all enclosures: Roof-mounted fans, passive or active
May be integrated into any enclosure roof area with suitable dimensions for the mounting cut-out.

For TS8 server enclosures: Fan roof, modular
In exchange for the existing roof plate. Fan and cable entry are pre-integrated.

Air baffle systems

For TS8 server enclosures: Internal fan mounting panel
Twin-walled sidewall for targeted air routing.

Enclosure internal fan
Supports active climate control components and thereby selectively avoids hot spots.

For TS8: Air baffle system
Cold air from the hollow base is routed to the twin-walled door and distributed in a targeted manner.
## Rack-Mounted Air Conditioners

For 482.6 mm (19”), useful cooling capacity 1000 W (3586 BTU)

### Configuration:
Wired ready for connection with connection cable (3 m (118”)), including drilling template.

### Also required:
- For installation in a closed enclosure: Adaptor for front air supply and air duct for waste air, see accessories.

### Certifications, see page 19.
- Detailed drawing, see page 137.

### Table:

<table>
<thead>
<tr>
<th>Part No. SK</th>
<th>Voltage V, Hz</th>
<th>Dimensions in mm (inches)</th>
<th>Useful cooling output QK to DIN 3168 in W (BTU)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>H 265.9 (10.5) 6 U</td>
<td>L 35 L 35 1000/1050 (3415/3586)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>W 445 (17.5)</td>
<td>L 35 660/770 (2254/2630)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>D 542 (21.3)</td>
<td>L 35 L 35 L 35 1000/1050 (3415/3586)</td>
</tr>
</tbody>
</table>

### Technical Specifications:
- Rated current maximum: 8.4 A/10.8 A, 3.8 A/4.5 A
- Starting current: 21.0 A/22.0 A, 10.0 A/11.8 A
- Pre-fuse T: 10.0 A/16.0 A, 6.0 A/6.0 A
- Power consumption P_l to DIN 3168: L 35 L 35 615/710 W, 680/800 W
- L 35 L 50 585/650 W, 650/720 W
- Cooling coefficient ε = QK/Pel: L 35 1.6, 1.7
- Refrigerant: R134a, 700 g
- Maximum allowable operating pressure: 25 bar (363 psi)
- Temperature and setting range: +20°C to +55°C (68°F to 131°F)
- Protection category to EN 60 529/10.91: External circuit IP 34 (NEMA 2), Internal circuit IP 54 (NEMA 12)
- Duty cycle: 100 %
- Type of connection: Connection cable 3 m (118”)
- Weight in kg (lb): 38 (88.8), 35 (77.2)
- Color: RAL 7032 (pebble gray)
- Air displacement of fans: External circuit 620 m³/h (365 cfm), Internal circuit 460 m³/h (272 cfm)
- Temperature control: Internal thermostat (factory setting +35°C (95°F))

### Accessories

<table>
<thead>
<tr>
<th>Accessories</th>
<th>Quantity</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter mats</td>
<td>3</td>
<td>111</td>
</tr>
<tr>
<td>Adaptor for front air supply</td>
<td>1</td>
<td>102</td>
</tr>
<tr>
<td>Air duct</td>
<td>10</td>
<td>102</td>
</tr>
<tr>
<td>Temperature indicator</td>
<td>1</td>
<td>3114.100</td>
</tr>
<tr>
<td>Door-operated switch</td>
<td>1</td>
<td>–</td>
</tr>
</tbody>
</table>

1) Delivery times available on request. Special voltages available on request. We reserve the right to make technical modifications.
**Rack-Mounted Fans**

For 482.6 mm (19˝), air displacement 188/283 cfm

Rack-mounted fan/Vario rack-mounted fan configuration:
Wired unit ready for connection, including terminal strip and assembly parts.

Guide frame supply includes:
Guide frame including connector and fitted connection cable (3 m (118˝)), bracket for optional attachment to the 19˝ system, assembly parts.

Also required:
Remember to order the appropriate guide frame for your chosen application.

Certifications, see page 19.
Detailed drawing, see page 137.

<table>
<thead>
<tr>
<th>Rack-mounted fans</th>
<th>Vario rack-mounted fans</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Part No. SK</strong></td>
<td><strong>Part No. SK</strong></td>
</tr>
<tr>
<td>2 fans</td>
<td></td>
</tr>
<tr>
<td>Distance between axes</td>
<td>85 mm (3.3˝)</td>
</tr>
<tr>
<td>3340.024</td>
<td>3340.115</td>
</tr>
<tr>
<td>3340.230</td>
<td>–</td>
</tr>
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<td>3350.024</td>
<td>3350.115</td>
</tr>
<tr>
<td>3350.230</td>
<td>–</td>
</tr>
<tr>
<td>3 fans</td>
<td></td>
</tr>
<tr>
<td>Distance between axes</td>
<td>85 mm (3.3˝)</td>
</tr>
<tr>
<td>3341.024</td>
<td>3341.115</td>
</tr>
<tr>
<td>3341.230</td>
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<td>3351.230</td>
</tr>
<tr>
<td>3 fans</td>
<td></td>
</tr>
<tr>
<td>Distance between axes</td>
<td>105 mm (4.1˝)</td>
</tr>
<tr>
<td>3342.024</td>
<td>3342.115</td>
</tr>
<tr>
<td>3342.230</td>
<td>3342.500</td>
</tr>
<tr>
<td>3352.024</td>
<td>3352.115</td>
</tr>
<tr>
<td>3352.230</td>
<td>3352.500</td>
</tr>
<tr>
<td>Voltage V</td>
<td></td>
</tr>
<tr>
<td>24 V (DC)</td>
<td>115 V (AC)</td>
</tr>
<tr>
<td>230 V (AC)</td>
<td>24 V (DC)</td>
</tr>
<tr>
<td>24 V (DC)</td>
<td>115 – 230 V (AC)</td>
</tr>
<tr>
<td>24 V (DC)</td>
<td>115 – 230 V (AC)</td>
</tr>
<tr>
<td>Part No. SK</td>
<td></td>
</tr>
<tr>
<td>Matching guide frame</td>
<td>–</td>
</tr>
<tr>
<td>336.100</td>
<td>3355.100</td>
</tr>
<tr>
<td>3357.100</td>
<td>–</td>
</tr>
</tbody>
</table>

**Technical specifications**

| Part No. SK/CS  | 3340.230 | 3350.230 | 3340.115 | 3350.115 | 3340.024 | 3350.024 | 3341.230 | 3351.230 | 3342.230 | 3352.230 | 3341.115 | 3351.115 | 3342.115 | 3352.115 | 3342.500 | 3352.500 |
|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Rated current maximum | 0.24 A | 0.46 A | 0.46 A | 0.49 A | 0.36 A | 0.33 A | 0.69 A | 0.69 A | 0.74 A | 0.85 A | 0.28 A | 0.36 A | 0.33 A | 0.69 A | 0.69 A | 0.74 A | 0.85 A |
| Pre-fuse T       | 6 A      | 6 A      | 6 A      | 6 A      | 6 A      | 6 A      | 6 A      | 6 A      | 6 A      | 6 A      | 6 A      | 6 A      | 6 A      | 6 A      | 6 A      | 6 A      | 6 A      |
| Number of fans   | 2        | 3        | 3        | 3        | 3        | 3        | 3        | 3        | 3        | 3        | 3        | 3        | 3        | 3        | 3        | 3        | 3        |
| Air displacement, unimpeded air flow | 320 m³/h (188 cfm) | 480 m³/h (283 cfm) | 250 m³/h (147 cfm) | 250 m³/h (147 cfm) |
| Temperature range | -10°C to +55°C (-14°F to 131°F) | -33°C to +55°C (-27.4°F to 131°F) | -33°C to +55°C (-27.4°F to 131°F) | -33°C to +55°C (-27.4°F to 131°F) |
| Noise level      | 51 dB (A) | 52 dB (A) | 51 dB (A) | 52 dB (A) | 51 dB (A) | 52 dB (A) | 51 dB (A) | 52 dB (A) | 51 dB (A) | 52 dB (A) | 51 dB (A) | 52 dB (A) | 51 dB (A) | 52 dB (A) | 51 dB (A) | 52 dB (A) | 51 dB (A) | 52 dB (A) |

1 Delivery times available on request.
2 Rack-mounted fan for metric mounting angles available on request.
3 Version with monitoring.
Air displacement 188 cfm

**Configuration:**
Fully assembled and wired unit, ready for connection, including filter mat.

**Approvals,**
see page 20.

**Detailed drawing,**
see page 137.

**Performance diagrams,**
available on the Internet,

<table>
<thead>
<tr>
<th>Part No. SK</th>
<th>3145.000</th>
<th>3144.000</th>
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</thead>
<tbody>
<tr>
<td>Voltage V, Hz</td>
<td>115, 50/60</td>
<td>230, 50/60</td>
</tr>
<tr>
<td>Dimensions in mm (inches)</td>
<td>H 88 (3.5) 2U 482.6 (19)</td>
<td>W 158 (6.2)</td>
</tr>
</tbody>
</table>

**Air displacement, unimpeded air flow**
320 m³/h (188 cfm)

- Rated current maximum: 0.32 A
- Power: 37 W
- Noise level: 52 dB (A)
- Speed: 2245 rpm⁻¹
- Temperature range: -10°C to +55°C (14°F to 131°F)
- Maximum static pressure difference: 65 – 70 Pa

**Accessories**

<table>
<thead>
<tr>
<th>Accessories</th>
<th>PU</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature indicator</td>
<td>1 3114.115</td>
<td>3114.100</td>
</tr>
<tr>
<td>Thermostat</td>
<td>1 3110.000</td>
<td>104</td>
</tr>
<tr>
<td>Filter mats</td>
<td>5 3177.000</td>
<td>111</td>
</tr>
<tr>
<td>Front outlet grille 2U</td>
<td>1 3176.000</td>
<td>110</td>
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<tr>
<td>Roof vent</td>
<td>1 3148.007</td>
<td>90</td>
</tr>
<tr>
<td>Speed control</td>
<td>1 3120.115</td>
<td>3120.000</td>
</tr>
</tbody>
</table>

Special voltages available on request. We reserve the right to make technical modifications.
**Fan Systems**

**For TS8 server enclosures**

---

**Roof-mounted fan and vent attachment**

**For TS8 server enclosures**

The active roof-mounted fan and the passive vent attachment (TS8801.380) integrate perfectly into the system wide mounting concept of Rittal Climate Control. They fit onto the cutouts of the small and medium performance category of TopTherm roof-mounted air conditioners. They may also be mounted on any sufficiently large roof surface.

---

**Roof-mounted fan configuration:**

- Unit ready to connect with built-in radial fan, sealing material and assembly parts.
- Optional: Filter holder with filter mat SK 3175.000, with roof vent SK 3148.000 for a rating of IP 44 is available.

**Vent attachment:**

- See page 107.

**Rating:**

- IP 43 to EN 60 529/10.91
- IP 44 to EN 60 529/10.91
- IP 45 to EN 60 529/10.91

**Detailed drawing:**

- See page 138.
**Fan Systems**

**For TS/FR(i)**

---

**Roof-mounted fan**

For TS/FR(i) for the office sector

This new roof ventilation concept offers a wealth of performance, assembly and cost benefits associated with the use of integrated ventilation systems. This roof-mounted fan may be ordered with or without a roof plate. The enormous volumetric flow in proportion to exceptionally low noise levels make the roof-mounted fan ideal for use in sensitive office areas.

**Technical specifications:**
- Fitted onto a roof plate based on a TS8 server enclosure
- Easy assembly; the work of creating mounting cutouts has been eliminated
- Radial fan

**Configuration:**
Fully wired ready for connection, including assembly parts.

---

### Technical Specifications

<table>
<thead>
<tr>
<th>Part No. SK</th>
<th>3164.610</th>
<th>3164.620</th>
<th>3164.810</th>
<th>3164.820</th>
<th>3164.115</th>
<th>3164.230</th>
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<td>230, 50/60</td>
<td>115, 50/60</td>
<td>230, 50/60</td>
<td>115, 50/60</td>
<td>230, 50/60</td>
</tr>
<tr>
<td>Air displacement (unimpeded air flow)</td>
<td>1500 m³/h (883 cfm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Version</td>
<td>with roof plate</td>
<td>without roof plate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions in mm (inches)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>B</td>
<td>T</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>240 (9.5)</td>
<td>800 (31.5)</td>
<td>900 (35.4)</td>
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<td>Power consumption</td>
<td>6.8/8.1 W</td>
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</tr>
<tr>
<td>Rated current</td>
<td>0.6 A/0.7 A</td>
<td>0.3 A/0.35 A</td>
<td>0.6 A/0.7 A</td>
<td>0.3 A/0.35 A</td>
<td>0.6 A/0.7 A</td>
<td>0.3 A/0.35 A</td>
</tr>
<tr>
<td>Radial fan</td>
<td>–</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noise level</td>
<td>40 dB (A)</td>
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<td></td>
</tr>
<tr>
<td>Temperature range</td>
<td>+20°C to +55°C (68°F to 131°F)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>RAL 7035 (light gray)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Accessories</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature indicator in 1U patch panel</td>
<td>7109.035</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature indicator</td>
<td>3114.115</td>
<td>3114.100</td>
<td>3114.115</td>
<td>3114.100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thermostat</td>
<td>3110.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TS8 air baffle system**

The system has an air inlet nozzle in the base frame. Cold air is drawn in from below and routed into the twin-walled door. The cold air is then distributed inside the rack with special covers. 15 covers are supplied with every door.

**Color:**
RAL 7035 (light gray)
Fan mounting panel
For TS8 network enclosures
The fan mounting panel may be retroactively installed in all TS8 network enclosures from above. The plate is mounted at the front of the enclosure and the rear section is left free for cable entry. To ensure targeted air routing a rubber cable clamp strip is supplied loose for optimum sealing at the rear and sides.
Not suitable for crane transportation.
Not suitable for combination with 482.6 mm (19") mounting frame.
The following combinations are possible:
● Solid roof plate raised with 20 or 50 mm (0.8 or 2.0") roof spacers
● Roof plate for cable entry raised with 20 or 50 mm (0.8 or 2.0") roof spacers
● Vented roof plate for cable entry
In conjunction with the large swing frame, usage is only possible from an enclosure depth of 800 mm (31.5"), in conjunction with a roof plate for cable entry from 900 mm (35.4").

Fan expansion kit
For retrofitting various fan units or to supplement the fan mounting panel and fan roof, modular.

Technical specifications DK 7980.000:
Voltage: 230 V~
Power consumption: 15/14 W at 50/60 Hz
Air displacement (unimpeded air flow): 160/180 m³/h (94/106 cfm), 50/60 Hz
Noise level (unimpeded air flow): 37 dB (A)
Temperature range: −10°C to +55°C (14°F to 131°F)

Technical specifications DK 7980.100:
Voltage: 230 V~
Power consumption: 14/12 W at 50/60 Hz
Air displacement (unimpeded air flow): 108/120 m³/h (64/71 cfm), 50/60 Hz
Noise level (unimpeded air flow): 34 dB (A)
Temperature range: −20°C to +70°C (−4°F to 158°F)

Technical specifications DK 7980.148:
Voltage: 48 V (DC)
Power consumption: 7.7 W
Air displacement (unimpeded air flow): 184 m³/h
Noise level (unimpeded air flow): 42 dB (A)
Temperature range: −20°C to +70°C (−4°F to 158°F)

The air displacement can be increased with the fan expansion kit DK 7980.000.

Technical specifications for one fan:
Voltage: 230 V
Power consumption: 15/14 W at 50/60 Hz
Air displacement (unimpeded air flow): 160/180 m³/h, 50/60 Hz (94/106 cfm)
Temperature range: −10°C to +55°C (14°F to 131°F)

Technical specifications of thermostat:
Voltage: 250 V
Temperature range: +5°C to +55°C (41°F to 131°F)
Color: RAL 7035 (light gray)
Configuration: 2 fans, 2/4 cutouts to extend to 4/6 fans, thermostat optional for attachment to the fan mounting panel or to the 25 mm (1") DIN pitch pattern of the enclosure, Rubber cable clamp strip. Thermostat and fan fully wired to connection cable (2.5 m (98.4")).

For modular enclosures mm (inches) No. Max. Part No. of fans of fans DK

<table>
<thead>
<tr>
<th>Width</th>
<th>Depth</th>
<th>600 (23.6)</th>
<th>800 (31.5)</th>
<th>900 (35.4)</th>
<th>1000 (39.4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>600 (23.6)</td>
<td>600 (23.6)</td>
<td>2</td>
<td>4</td>
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</tr>
<tr>
<td>800 (31.5)</td>
<td>600 (23.6)</td>
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<td>6</td>
<td>7968.035</td>
<td></td>
</tr>
<tr>
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<td>800 (31.5)</td>
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<td>6</td>
<td>7986.035</td>
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<tr>
<td>800 (31.5)</td>
<td>900 (35.4)</td>
<td>2</td>
<td>6</td>
<td>7988.035</td>
<td></td>
</tr>
</tbody>
</table>

The air displacement can be increased with the fan expansion kit DK 7980.000.

Technical specifications for one fan:
Voltage: 230 V
Power consumption: 15/14 W at 50/60 Hz
Air displacement (unimpeded air flow): 160/180 m³/h, 50/60 Hz (94/106 cfm)
Temperature range: −10°C to +55°C (14°F to 131°F)

Technical specifications of thermostat:
Voltage: 250 V
Temperature range: +5°C to +55°C (41°F to 131°F)
Color: RAL 7035 (light gray)
Configuration: 2 fans, 2/4 cutouts to extend to 4/6 fans, thermostat optional for attachment to the fan mounting panel or to the 25 mm (1") DIN pitch pattern of the enclosure, Rubber cable clamp strip. Thermostat and fan fully wired to connection cable (2.5 m (98.4")).

Accessories:
Fan expansion kit, see below.
Fan Systems

DC fan mounting panel

For TS8 server enclosure

Low-noise due to FCS speed control, fully fitted
Suitable for TS8 modular enclosures with a raised roof (> 20 mm (0.8") or TS8 roof plate, vented.
The fan mounting panel may be used as an alternative to fan mounting panel 7988.035. It is installed from above. A cable entry is prepared in the rear section of the plate.

Not suitable for combination with 482.6 mm (19") mounting frame.

Advantages of the DC fan mounting panel with FCS technology:

● Low-noise due to speed control
● All fans are individually monitored for failure
● High air displacement due to DC technology (unimpeded air flow 6 x 165 m³/h (97 cfm) = 990 m³/h (583 cfm))
● EMC-compatible due to DC fan
● Temperature monitoring and control
● High level of safety due to low safety voltage with 24 V DC power pack
● Visual and acoustic alarm messages, and relay alarm output
● Freely selectable installation location for the FCS control unit (included with the supply of the fan mounting panel, in 482.6 mm (19") with 7320.440 or on the frame with 7320.450)
● Suitable for international use, due to wide-range power pack 100 – 240 V AC and socket to IEC 320
● Fully pre-configured
● Network compatible by CMC-TC processing unit 7320.100 (all relevant data such as temperature is displayed in the web browser, or alarms are sent in the form of an SNMP trap)

Technical specifications:

Power pack voltage: 100 – 240 V AC, 50/60 Hz
Power pack rated current: Max. 1.5 A
Power pack secondary range: 24 V DC, 3 A
Temperature range: +5°C to +40°C (41°F to 104°F)
Total air displacement (unimpeded air flow): 6 x 165 m³/h (97 cfm) = 990 m³/h (583 cfm)

Technical specifications for one fan:

Voltage: 24 V DC
Rated current: max. 0.28 A
Rated output: max. 6.72 W
Air displacement (unimpeded air flow): 165 m³/h (97 cfm)
Speed: 2650 rpm
Noise level: up to 41.0 dB (A) at maximum speed activation

Also required:

Connection cable 230/115 V.

Accessories:

1U mounting unit, Part no. 7320.440.
Mounting module, Part no. 7320.450.
Fan Systems
For TS/FR(i)/TE

Fan roof, modular, two-piece
For TS/FR(i)
The modular roof plate consists of individual components and can be configured for the ventilation of TS8 modular enclosures in line with customer requirements.

The modules:
Roof plate, two-piece with cutout
For fan mounting and cable entry at the rear by a sliding angular bracket with rubber cable clamp strip. In exchange for the existing roof plate. The two-piece design allows convenient retrofitting of cables at any time.

Cover plate
To cover the cutout, available solid or vented. The top-mounted cover plate may be raised for extra air displacement using the supplied spacers.

Fan insert
For active ventilation: A fully pre-wired fan tray including 2.5 m (98.4") connection cable, with two fan motors and additional cutouts. The air displacement may be increased with a fan expansion kit.

Material:
Sheet steel, painted

Color:
RAL 7035 (light gray)

Technical specifications for one fan:
Voltage: 230 V
Power consumption: 15/14 W at 50/60 Hz
Air displacement (unimpeded air flow): 160/180 m³/h (94 to 106 cfm) at 50/60 Hz
Temperature range: −10°C to +55°C (14°F to 131°F)

Detailed drawing, see page 138.

Accessories:
Fan expansion kit DK 7980.000.
Thermostat SK 3110.000, see page 104.
Speed control SK 3120.000, see page 105.

---

<table>
<thead>
<tr>
<th>For modular enclosures mm (inches)</th>
<th>Part No. DK</th>
<th>Fan insert</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>Depth</td>
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<td></td>
<td></td>
<td>With cutout</td>
</tr>
<tr>
<td>600 (23.6)</td>
<td>7826.366</td>
<td>2102.180</td>
</tr>
<tr>
<td>800 (31.5)</td>
<td>7826.368</td>
<td>2102.190</td>
</tr>
<tr>
<td>900 (35.4)</td>
<td>7826.369</td>
<td>2102.190</td>
</tr>
<tr>
<td>1000 (39.4)</td>
<td>7826.360</td>
<td>2102.190</td>
</tr>
</tbody>
</table>

| 800 (31.5) | 7826.486 | 7885.100 | 7885.200 | 7885.000 | 7885.000 | 2 | 3 |
| 800 (31.5) | 7826.488 | 7886.100 | 7886.200 | 7886.000 | 7886.000 | 2 | 8 |
| 900 (35.4) | 7826.489 | 7886.100 | 7886.200 | 7886.000 | 7886.000 | 2 | 8 |
| 1000 (39.4) | 7826.480 | 7886.100 | 7886.200 | 7886.000 | 7886.000 | 2 | 8 |

Fan unit, active
For TE 7000
For active ventilation of the TE 7000, a ventilation opening may be cut out of the front area in the standard roof plate and fitted with the fan module. The fan module is pre-wired ready for connection and has 2 fans, 1 thermostat and a connection cable including IEC 320 connector. An additional fan may be integrated.

Configuration:
Fan unit including assembly parts, 2 fans, thermostat and connection cable.

Technical specifications for one fan:
Fan extension kit.

Technical specifications of thermostat:
Voltage: 250 V
Temperature range: +5°C to +55°C (41°F to 131°F)

Also required:
Connection cable.

Accessories:
Fan expansion kit.

---

For enclosures W x D mm (inches) | Number of pre-wired fans | Possible number of fans | Part No. TE
|---|---|---|---|
| All dimensions | 2 | 3 | 7000.670
Door mounted fan
For TS8 modular server enclosures, especially for installing in perforated doors.

The growing packaging density in data communications and network enclosures make active, direct ventilation of the enclosure necessary. The door mounted fan, which is attached to the rear or front door, supports horizontal air routing for the servers and therefore facilitates faster heat dissipation from active components.

Technical specifications:
- Standard cross member with two fans.
- Air displacement, unimpeded air flow 600 m³/h (353 cfm).
- By adding two fan expansion kits, the air displacement may be increased to 1200 m³/h (706 cfm).
- The direction of air flow is easily reversed by rotating the fan.
- Several units may be positioned in a cascade arrangement.
- Simple mounting on the tubular door frame.

Configuration:
Wired ready for connection with 2.5 m (98") connection cable, including assembly parts.

Accessories:
Fan expansion kit, see below.

Note:
Only for mounting on the tubular door frame.
Door configuration for installation in 2- and 4-door ISP racks available on request.

<table>
<thead>
<tr>
<th>Part No. SK</th>
<th>3165.624⁽¹⁾</th>
<th>3165.648⁽¹⁾</th>
<th>3165.615⁽¹⁾</th>
<th>3165.630⁽¹⁾</th>
<th>3165.824⁽¹⁾</th>
<th>3165.848⁽¹⁾</th>
<th>3165.815⁽¹⁾</th>
<th>3165.830⁽¹⁾</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage V, Hz</td>
<td>24 (DC)</td>
<td>48 (DC)</td>
<td>115, 50/60</td>
<td>230, 50/60</td>
<td>24 (DC)</td>
<td>48 (DC)</td>
<td>115, 50/60</td>
<td>230, 50/60</td>
<td></td>
</tr>
<tr>
<td>Air displacement (unimpeded air flow)</td>
<td>600 m³/h (353 cfm)</td>
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<td></td>
<td></td>
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</tr>
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<tr>
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<td>606 (23.9)</td>
<td>693 (27.3)</td>
<td>693 (27.3)</td>
<td>B 493 (19.4)</td>
<td>493 (19.4)</td>
<td>T 64.5 (2.5)</td>
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</tr>
<tr>
<td>For doors with width in mm (inches)</td>
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<td>800 (31.5)</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature range</td>
<td>+20°C to +55°C (68°F to 131°F)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>RAL 7035 (light gray)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Accessories:
- Temperature indicator
- Thermostat

<table>
<thead>
<tr>
<th></th>
<th>3114.024</th>
<th>3114.100</th>
<th>3114.105</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermostat</td>
<td>–</td>
<td>3114.105</td>
<td>3114.105</td>
</tr>
</tbody>
</table>

⁽¹⁾ Delivery times available on request.
Special voltages available on request. Technical modifications reserved.

Fan expansion kit
For door mounted fan
To increase the air displacement of the door mounted fan.

<table>
<thead>
<tr>
<th>To fit door mounted fan</th>
<th>Part No. SK</th>
</tr>
</thead>
<tbody>
<tr>
<td>3165.624, 3165.624</td>
<td>3165.024</td>
</tr>
<tr>
<td>3165.648, 3165.848</td>
<td>3165.048</td>
</tr>
<tr>
<td>3165.615, 3165.615</td>
<td>3165.115</td>
</tr>
<tr>
<td>3165.630, 3165.630</td>
<td>3165.230</td>
</tr>
</tbody>
</table>

Climate Control
Internal fan mounting panel
For TS8 modular server enclosures
A fan unit integrated into the TS8 twin wall for targeted air routing in the lower part of the enclosure. A second fan unit may optionally be mounted to reinforce air circulation. Optional air routing design may be achieved retroactively by inserting or exchanging cover plates.

Technical specifications:
- Voltage: 230 V, 50/60 Hz
- Air displacement (3 fans): (unimpeded air flow) 200/230 m³/h (118/135 cfm)
- Power consumption (3 fans): 57/54 W
- Rated current (3 fans): 0.36/0.33 A

Configuration:
1 pack = 1 internal fan mounting panel, 3 fan cross members, 3 cover plates.

Property rights:
- German patent no. 198 04 219
- European patent no. 1 053 581 with validity for ES, FR, GB, IT
- Australian patent no. 737 950
- US patent no. 6,494,779

Fan cross member
For internal fan mounting panel
May be added to increase the air circulation.

Technical specifications:
- Voltage: 230 V, 50/60 Hz
- Air displacement (3 fans): (unimpeded air flow) 200/230 m³/h (118/135 cfm)

Property rights:
- German patent no. 198 04 906
- European patent no. 1 053 662 with validity for ES, FR, GB, IT
- Australian patent no. 737 485
- US patent no. 6,315,656
- Chinese patent no. ZL 988 13378.4

Cover plates
For internal fan mounting panel
For optional design of the air routing.

Enclosure internal fan
For TS8 modular server enclosures
To prevent hot spots and support the air routing of active enclosure climate control components. Adjustable in two axes. Attached to the TS8 frame section. Several fans may be cascaded using the quick-release clamping strip.

Configuration:
Fully wired unit ready for connection with radial fan and lockable swivel bracket, and assembly parts.
Heaters

Features

Condensation poses a high risk for control electronics, in outdoor and indoor locations. Various output ratings ensure that the correct thermal output is always available. Therefore the total required thermal output can be distributed with complete accuracy inside an enclosure.

Simple assembly and perfect control

Fast assembly
This is achieved with a screw or snap fastening on the mounting panel or 35 mm (1.4˝) EN 50 022 support rails.

No condensation, and always the right temperature
The heater is controlled as required by a hygrostat or enclosure internal thermostat.

Maximum performance in the outdoor sector

Fully wired unit ready for connection
Compact power with 1000 W (3415 BTU) thermal output.

19˝ rack mount
For seamless integration into the 482 mm (19˝) structure, with 3 thermal components and 3 fan units. This creates circulation, so that condensation is reliably avoided.

Benefits:
- Continuous thermal output of 10 to 1000 W (34 to 3415 BTU)
- Self-regulating PTC technology
- Quick-assembly system

Important:
- For the correct temperature and to avoid condensation, use a thermostat or hygrostat, see page 104
- The thermal output is increased with fans
- Heaters should always be installed in an upright position. Leave a distance of 50 mm (2.0˝) at the top and bottom to allow circulation
- Heat is distributed evenly in large enclosures by using several low-output heaters

General remarks and calculation formulas can be found on our website: www.rittal-corp.com
Enclosure Heaters

Continuous thermal output 10 – 300 W (34 – 1025 BTU)

Configuration:
Unit is ready to install with permanently attached connection cable (0.3 m (11.8")).
SK 3102.000 with fitted fan including terminal strip.

Note:
- Thermostat SK 3110.000 (see accessories) is recommended for precise temperature control in the enclosure.
- In order to prevent condensation on assemblies, hygrostat SK 3118.000 (see accessories) is recommended to regulate heating.
- In larger enclosures, even heat distribution is best achieved by installing several low-output heaters.
- Installation in the enclosure is generally advisable, even when using heat exchangers and air conditioners, in order to prevent condensation.

Certifications, see page 21.
Detailed drawing, see page 138.

<table>
<thead>
<tr>
<th>Part No. SK</th>
<th>3105.000</th>
<th>3106.000</th>
<th>3115.000</th>
<th>3116.000</th>
<th>3107.000</th>
<th>3107.000 + (incl. fan)</th>
<th>3102.110 (incl. fan)</th>
<th>3102.000 (incl. fan)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions in mm (inches)</td>
<td>H 75 (2.9) 45 (1.8) 125 (4.9) 45 (1.8) 45 (1.8)</td>
<td>B 35 (1.4)</td>
<td>T 35 (1.4)</td>
<td>110 (4.3) 64 (2.5) 64 (2.5) 45 (1.8)</td>
<td>185 (7.3) 80 (3.1) 118 (4.6)</td>
<td>140 (5.5) 80 (3.1) 118 (4.6)</td>
<td>178 (7.0) 80 (3.1) 118 (4.6)</td>
<td>168 (6.6) 120 (4.7) 120 (4.7)</td>
</tr>
<tr>
<td>Voltage V, Hz</td>
<td>110 – 240 (AC/DC)</td>
<td>230, 50/60</td>
<td>115, 50/60</td>
<td>230, 50/60</td>
<td>230, 50/60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuous thermal output at T0 = 20°C in W (BTU)</td>
<td>10 (34)</td>
<td>20 (68)</td>
<td>30 (102)</td>
<td>50 (171)</td>
<td>130 (444)</td>
<td>200 (683)</td>
<td>300 (1025)</td>
<td>300 (1025)</td>
</tr>
<tr>
<td>Pre-fuse T</td>
<td>2 A</td>
<td>4 A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Accessories
- PU Page
- Thermostat 1 3110.000 104
- Hygrostat 1 3118.000 104
- Temperature indicator 1 3114.000 103

Axial fan
For heater SK 3107.000
Ball bearing
Temperature range: −40°C to +85°C (−40°F to 185°F)
Voltage: 230 V, 50/60 Hz
Power consumption: 18 watts
Noise level: 33 dB (A)
Speed: 2900/3300 rpm
Air displacement: 50 m³/h (29 cfm)

B = Width
T = Depth

1) Output with fan
Special voltages available on request. We reserve the right to make technical modifications.
For CS outdoor enclosures, continuous thermal output 600/1000 W (2049/3415 BTU)

Enclosure Heaters

Material:
Enclosure: Aluminum

Finish:
Natural, 9763.023 with painted front panel

Suppliers includes:
1. Fully wired unit ready for connection with permanently attached connection cable.
2. Fully wired unit ready for connection, designed as a 482.6 mm (19") rack mount with 3 thermal components and 3 fan units.

Certification, see page 21.


<table>
<thead>
<tr>
<th>Part No. CS</th>
<th>9769.015</th>
<th>9769.023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installation</td>
<td>in the enclosure</td>
<td>19˝ mounting rails</td>
</tr>
<tr>
<td>Dimensions in mm (inches)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>82 (3.2)</td>
<td>87.2 (3.4) 2U</td>
</tr>
<tr>
<td>B</td>
<td>325 (12.8)</td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>220 (8.7)</td>
<td>482.6 (19)</td>
</tr>
<tr>
<td>Voltage V, Hz</td>
<td>230 (AC), 50/60</td>
<td>230 (AC), 50/60</td>
</tr>
<tr>
<td>Continuous thermal output in W (BTU)</td>
<td>1000 (3415)</td>
<td>600 (2049)</td>
</tr>
<tr>
<td>Rated current maximum</td>
<td>5.0 A</td>
<td>2.6 A</td>
</tr>
<tr>
<td>Temperature range</td>
<td>-33°C to +65°C (~27°F to 149°F)</td>
<td>-33°C to +65°C (~27°F to 149°F)</td>
</tr>
<tr>
<td>Air displacement, unimpeded air flow</td>
<td>120 m³/h (70.6 cfm)</td>
<td>480 m³/h (283 cfm)</td>
</tr>
<tr>
<td>Type of connection</td>
<td>Connection cable with wire end ferrules</td>
<td>Via front IEC connector (3-pole)</td>
</tr>
<tr>
<td>Weight in kg (lb)</td>
<td>3.0 (6.6)</td>
<td>3.1 (6.8)</td>
</tr>
</tbody>
</table>

Accessories

<table>
<thead>
<tr>
<th>Accessories</th>
<th>PU</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermostat</td>
<td>1</td>
<td>3110.000</td>
</tr>
<tr>
<td>Hygrostat</td>
<td>1</td>
<td>3118.000</td>
</tr>
</tbody>
</table>
Accessories For Climate Control

Features

Finding the perfect climate control solution is easier than ever with matching system accessories. Perfectly coordinated components adapt the climate control components to your specific requirements. Be it targeted air routing or precise control of the equipment, Rittal has the ideal solution for any application.

Air routing

- **Air duct system for TopTherm roof-mounted air conditioner and air/water heat exchanger**
  - With the air duct system, cold air may be routed directly to specific areas of the enclosure.

- **Air diverter**
  - For targeted, downward cold air routing in climate controlled enclosures, climate control doors and TopTherm wall-mounted air conditioners.

- **Adaptor**
  - For unhindered front air intake when using rack-mounted air conditioners in enclosures with front doors.

Controller

- **Enclosure internal thermostat and hygrostat**
  - Constant temperature and humidity control to protect sensitive electronics.

- **Speed control**
  - Temperature-dependent speed control to minimize noise and save energy in part-load operation.

- **SK bus system**
  - SK bus system with master/slave function to enable several air conditioners to communicate with one another.

Installation/maintenance

- **Fast assembly**
  - Easy installation with prepared TS6 modular enclosure roof plates.

- **Hose-proof hoods**
  - For ratings IP 55 (NEMA 12) to EN 60 529/10.91 with filter fan units and outlet filters.

- **Filter mats**
  - For use in air conditioners under extreme conditions.
**Air duct system**

*For TopTherm roof-mounted air conditioners*

The air duct system for Rittal TopTherm roof-mounted air conditioners makes it possible to route the cold air directly to specific areas of the enclosure. The risk of short circuits in the air circulation due to self-ventilated installed devices is eliminated. The length of the flat duct is 1500 mm (59”), and it may be cut to the desired length.

**Material:**
Flame-resistant plastic to DIN 4102/B1.

**Configuration:**
Flat duct, compensating hose.

<table>
<thead>
<tr>
<th>For air conditioner</th>
<th>PU</th>
<th>Part No.</th>
<th>Air duct system SK</th>
</tr>
</thead>
<tbody>
<tr>
<td>SK 3382. . . /SK 3383. . . /SK 3384. . . /SK 3385. . . /SK 3273. . . /SK 3359. . . . . . . . . . . .</td>
<td>1</td>
<td>3286.670</td>
<td></td>
</tr>
<tr>
<td>SK 3386. . . /SK 3387. . .</td>
<td>1</td>
<td>3286.970</td>
<td></td>
</tr>
</tbody>
</table>

**Note:**
Do not direct cold air straight at active components. When using the ducting system, the performance of the air conditioner may be reduced, depending on the application in question.

---

**90° deflector**

*For air duct system*

For targeted air deflection at the end of the flat channel.

**Material:**
Flame-resistant plastic to DIN 4102/B1.

<table>
<thead>
<tr>
<th>PU</th>
<th>Part No. SK</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3286.990</td>
</tr>
</tbody>
</table>

---

**Plugs**

*For TopTherm roof-mounted air conditioners*

To cover unneeded cold air outlets in TopTherm roof-mounted air conditioners.

**Material:**
Polyurethane foam

<table>
<thead>
<tr>
<th>For air conditioner</th>
<th>PU</th>
<th>Part No. SK</th>
</tr>
</thead>
<tbody>
<tr>
<td>SK 3382. . . /SK 3359. . .</td>
<td>2</td>
<td>3286.780</td>
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<tr>
<td>SK 3383. . . /SK 3384. . . /SK 3385. . . /SK 3273. . .</td>
<td>2</td>
<td>3286.880</td>
</tr>
<tr>
<td>SK 3386. . . /SK 3387. . .</td>
<td>2</td>
<td>3286.980</td>
</tr>
</tbody>
</table>
Accessories For Climate Control

Air routing

Air diverter
For use in climate controlled enclosures, climate control doors, climate control sidewalls and Top-Therm wall-mounted air conditioners.
For targeted routing of the cold air in a downward direction.
Particularly well-suited for densely-packed electrical components in the lower section of the enclosure.

Material:
Sheet steel

<table>
<thead>
<tr>
<th>For devices</th>
<th>Part No. SK</th>
</tr>
</thead>
<tbody>
<tr>
<td>SK 8607 . . . /SK 8687 . . .</td>
<td>3213.300</td>
</tr>
<tr>
<td>SK 3306 . . . /SK 3331 . . .</td>
<td>3213.310</td>
</tr>
<tr>
<td>SK 3304 . . . /SK 3305 . . .</td>
<td>3213.310</td>
</tr>
<tr>
<td>SK 3328 . . . /SK 3329 . . .</td>
<td>3213.320</td>
</tr>
<tr>
<td>SK 3332 . . .</td>
<td>3213.330(1)</td>
</tr>
</tbody>
</table>

(1) 115 mm (4.5”) for SK 3213.330

Adaptor
For front air infeed
When using rack-mounted air conditioners SK 3278.134/SK 3292.134 in enclosures with front doors (sheet steel or acrylic), this adaptor must be used. It allows ambient air to be extracted unhindered from outside, which is essential for correct functioning of the air conditioner.

Material:
Sheet steel

Configuration:
Adaptor, sealing gasket, foamed plastic gasket, assembly parts.

<table>
<thead>
<tr>
<th>PU</th>
<th>Part No. SK</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3259.000</td>
</tr>
</tbody>
</table>

Air duct
For discharge of waste air
For use of rack-mounted air conditioners SK 3292.134/SK 3278.134 in enclosures with a depth > 600 mm (23.6”). The heated ambient air is blown backwards out of the enclosure through the air duct. The air duct may be extended as required.

Material:
ABS plastic

Configuration:
Air duct including attachment clamps.

<table>
<thead>
<tr>
<th>PU</th>
<th>Part No. SK</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>3220.000</td>
</tr>
</tbody>
</table>

Air duct, may be extended to any length
Digital enclosure internal temperature display and thermostat

For installing on the enclosure door or wall and in an air conditioner or heat exchanger.

Technical specifications:
- Small dimensions
- Depth: 100 mm (3.9’’)
- The 3-digit 7-segment display is 13 mm (0.5’’) high and clearly legible
- Can be switched from °C/°F
- The display can be used in a temperature range from +5°C to +70°C (41°F to 158°F)
- With 1500 mm (59’’) long NTC sensor
- Two relay outputs as change-over contact and normally open contact (maximum contact load 230 V, 6 A)
- Freely selectable switching difference
- The freely adjustable setpoint values can be adjusted by the membrane keyboard at the front. Setting range: +5°C to +55°C (41°F to 131°F)
- Display and switching accuracy +/– 2 K
- Mounting cutout 68 x 33 mm (2.7 x 1.3’’)
- Storage of the minimum and maximum recorded temperature until the system is reset

Voltage
<table>
<thead>
<tr>
<th>Part No.</th>
<th>SK 3114.100</th>
</tr>
</thead>
<tbody>
<tr>
<td>230 V (AC)</td>
<td>3114.1151)</td>
</tr>
<tr>
<td>115 V (AC)</td>
<td>3114.1241)</td>
</tr>
<tr>
<td>24 V (DC)</td>
<td>3110.0241)</td>
</tr>
</tbody>
</table>

1) Delivery times available on request.
Special requirements available on request.

Digital enclosure internal temperature display and thermostat

Integrated into a patch panel 1 U.
Including cable attachment for connection cable and label holder.
Voltage: 230 V (AC)
Special voltages available on request.

Technical specifications:
- Small dimensions
- Depth: 100 mm (3.9’’)
- The 3-digit 7-segment display is 13 mm (0.5’’) high and clearly legible
- Can be switched from °C/°F
- The display can be used in a temperature range from +5°C to +70°C (41°F to 158°F)
- With 1500 mm (59’’) long NTC sensor
- Two relay outputs as change-over contact and normally open contact (maximum contact load 230 V, 6 A)
- Freely selectable switching difference
- The freely adjustable setpoint values can be adjusted by the membrane keyboard at the front.
  Setting range: +5°C to +55°C (41°F to 131°F)
- Display and switching accuracy +/– 2 K
- Mounting cutout 68 x 33 mm (2.7 x 1.3’’)
- Storage of the minimum and maximum recorded temperature until the system is reset

Configuration:
Panel, temperature indicator and thermostat, identification strip.

Color
<table>
<thead>
<tr>
<th>Part No.</th>
<th>DK 7109.035</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAL 7035 (light gray)</td>
<td>7109.035</td>
</tr>
</tbody>
</table>
Accessories For Climate Control

Regulation/control

Enclosure internal thermostat

Ideal for controlling filter fan units, heaters and heat exchangers, this thermostat can also be used as a signal generator for monitoring the enclosure internal temperature.

Technical specifications:
- Bi-metal sensor as a temperature-sensitive element with thermal feedback
- Contact population: Single-pole change-over contact as a quick-break contact
- Permissible contact load:
  - Category 5 – 3 (heating)
    - AC 10 (4)\(^1\) A,
    - DC = 30 W
  - Category 5 – 4 (cooling)
    - AC 5 (4)\(^1\) A,
    - DC = 30 W
- (\(^1\)) = Inductive load at \(\cos \phi = 0.6\)
- Setting range +5°C to +60°C (41°F to 140°F)
- Weight approximately 105 grams (3.7 oz)
- Dimensions 71 x 71 x 33 mm (2.8 x 2.8 x 1.3˝)
- Switching difference approximately 1 K ± 0.8 K

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Part No. SK</th>
</tr>
</thead>
<tbody>
<tr>
<td>230/115/60/48/24 V (AC)</td>
<td>3110.000</td>
</tr>
<tr>
<td>60/48/24 V (DC)</td>
<td></td>
</tr>
</tbody>
</table>

- A broad voltage spectrum, just one model covers 24 to 230 V.
- Time-saving connection technique using a terminal strip with a screw connection from the outside.
- Flexible mounting on a vertical or horizontal 35 mm (1.4˝) support rail to EN 50 022, and snap fastening in the TS/ES enclosure section using the supplied adaptor.

Hygrostat

The hygrostat switches on the heater and/or fan when a preset relative humidity level in the enclosure is exceeded. The relative humidity is raised above the dew point, and condensation on assemblies or electronic components is avoided.

Technical specifications:
- Contact population: Single-pole change-over contact as a quick-break contact
- Permissible contact load:
  - AC ~ 5 (0.2)\(^1\) A
  - DC = maximum 20 W
- (\(^1\)) = Inductive load at \(\cos \phi = 0.6\)
- Setting range 50 – 100 % relative humidity
- Weight approximately 100 g (3.5 oz)
- Dimensions 71 x 71 x 33.5 mm (2.8 x 2.8 x 1.3˝)
- Switching difference approximately 4 %

<table>
<thead>
<tr>
<th>Voltage</th>
<th>Part No. SK</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 – 230 V (AC/DC)</td>
<td>3118.000</td>
</tr>
</tbody>
</table>

- A broad voltage spectrum, just one model covers 24 to 230 V.
- Time-saving connection technique using a terminal strip with a screw connection from the outside.
- Flexible mounting on a vertical or horizontal 35 mm (1.4˝) support rail to EN 50 022, and snap fastening in the TS/ES enclosure section using the supplied adaptor.

Bottom-mounted adaptor

For enclosure internal thermostat SK 3110.000 and hygrostat SK 3118.000

Bottom-mounted adaptor with mounting option for screwed cable glands, for targeted cable infeed from appropriate equipment such as SK filter fan units and enclosure heaters. In conjunction with screwed cable glands, it is also suitable for use as strain relief.

<table>
<thead>
<tr>
<th>PU</th>
<th>Part No. SK</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3110.200</td>
</tr>
</tbody>
</table>
## Accessories For Climate Control

### Speed control

Temperature dependent speed control for Rittal filter fan units and air/air heat exchangers with a voltage of 230 V AC, for noise reduction and to save energy in part-load operation.

**Technical specifications:**
- For mounting on a 35 mm (1.4˝) support rail EN 50 022
- Dimensions (H x W x D): 57 x 94 x 180 mm (2.4 x 3.7 x 7.1˝)
- Voltage: 230 V (AC)/115 V (AC)
- Setting range: +20°C to +55°C (68°F to 131°F)
- Phase cross-over with microcontroller
- Maximum fan output 250 W or 1.2 A at 230 V (AC)
- Maximum fan output 100 W or 1.2 A at 115 V (AC)

**Configuration:**
Speed control, built into a PK enclosure 9512.100, NTC sensor, length 1.80 m (71˝).

### Mounting adaptor

For speed control

The mounting adaptor enables direct attachment of the speed control SK 3120.000/115 to the vertical frame sections of network enclosures.

**Material:**
Sheet steel, zinc-plated, passivated.

**Configuration:**
Mounting adaptor including assembly parts.

<table>
<thead>
<tr>
<th>PU</th>
<th>Part No. DK</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 set</td>
<td>7526.964</td>
</tr>
</tbody>
</table>

### Interface card

For TopTherm air conditioners with comfort controller

The interface card is an extension for TopTherm air conditioners with comfort controller. In this way it is possible, to monitor a master/slave combination of up to 10 air conditioners. Control is achieved by standardized interfaces: RS232 (DB9) or RS 485, one PLC interface (DB9). RS 422 (RJ 45 jack) is the connection to the Rittal CMC-TC. Remote monitoring by TCP-IP, graphical interfaces for operation, evaluation and control, documentation, connection to additional sensors for access control, monitoring is therefore possible. The extension card is built into a 1 U plastic housing. A voltage supply of 24 V DC is needed. This may be supplied from the CMC-TC by a wide-range power pack DK 7320.425 (100 to 240 V AC, 50/60 Hz) or externally by a Kycon connector.

**Configuration:**
Interface card integrated into a plastic box H x W x D mm (inches): 44 or 1 U x 136 x 129 (1.7 or 1 U x 5.4 x 5.1). Serial SUB-D cable, 1.5 m (59˝).

<table>
<thead>
<tr>
<th>PU</th>
<th>Part No. SK</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3124.200</td>
</tr>
</tbody>
</table>

---

**Voltage** | **Part No. SK**
---|---
230 V (AC) | 3120.000
115 V (AC) | 3120.115

1) Delivery times available on request.
**SK bus system**

The SK bus system facilitates communications between several enclosure air conditioners, Top-Therm 500/510/540, production date 05/02 or later, by a master/slave construction such as that required in complex bayed enclosure systems for optimum operating results.

**Technical specifications:**

The master/slave construction facilitates common activation and deactivation by door limit switches, parallel activation and deactivation by a temperature setpoint, and common collective fault signals and temperature logging, thereby eliminating the need for intricate wiring.

**Configuration:**

3 m (118") shielded interface cable, including operating manual on programming the air conditioners.

**Note:**

\[ n_B = n_K - 1 \]

- \( n_B \): Number of order units (SK bus system)
- \( n_K \): Number of air conditioners to be linked

**Property rights:**

German patent no. 196 15 469

---

**Cable connection kit**

- **For CS outdoor air conditioners**
  - For simple connection of CS air conditioners.
  - All cables preassembled with the corresponding connectors.
  - Length of cables approximately 2500 mm (98").

**Configuration:**

1 set = 3 cables for AC, door operated switch and alarm connection.

**Option**

- 3 cables for AC/DC and alarm connection
- 2 cables for AC/DC and alarm connection

**Test adaptor**

- **For CS outdoor climate control equipment**
  - The 9-pole sub-D interface allows testing of all CS climate control equipment. Alternatively supports automatic or manual test procedures.

**Configuration:**

1 set = test adaptor including 2 m (78.7") connection cable.
### Roof plates TS

**For mounting on:**
- TopTherm roof-mounted air conditioners
- TopTherm roof-mounted fan
- Vent attachment TS

The cutouts in the roof plate are arranged in such a way that the TopTherm roof-mounted air conditioners are positioned centrally on the enclosure.

**Material:**
Sheet steel

**Configuration:**
Assembly parts.

**Color:**
RAL 7035 (light gray)

<table>
<thead>
<tr>
<th>Part No. TS</th>
<th>Dimensions in mm (inches)</th>
<th>For modular enclosures W x D mm (inches)</th>
<th>To fit the mounting of TopTherm</th>
</tr>
</thead>
<tbody>
<tr>
<td>SK 3382 . . .</td>
<td>SK 3383 . . .</td>
<td>SK 3384 . . .</td>
<td>SK 3385 . . .</td>
</tr>
<tr>
<td>567.5 (22.3)</td>
<td>475 (18.7)</td>
<td>260 (10.2)</td>
<td>129.3 (5.1)</td>
</tr>
<tr>
<td>767.5 (30.2)</td>
<td>475 (18.7)</td>
<td>260 (10.2)</td>
<td>129.3 (5.1)</td>
</tr>
<tr>
<td>567.5 (22.3)</td>
<td>490 (19.3)</td>
<td>390 (15.4)</td>
<td>61.3 (2.4)</td>
</tr>
<tr>
<td>767.5 (30.2)</td>
<td>490 (19.3)</td>
<td>390 (15.4)</td>
<td>61.3 (2.4)</td>
</tr>
<tr>
<td>1167.5 (46.0)</td>
<td>490 (19.3)</td>
<td>390 (15.4)</td>
<td>61.3 (2.4)</td>
</tr>
<tr>
<td>767.5 (30.2)</td>
<td>692 (27.2)</td>
<td>392 (15.4)</td>
<td>57.8 (2.8)</td>
</tr>
<tr>
<td>1167.5 (46.0)</td>
<td>692 (27.2)</td>
<td>392 (15.4)</td>
<td>57.8 (2.8)</td>
</tr>
</tbody>
</table>

**T1 for all models is 567.5 mm (22.3”)**

---

### Vent attachment TS

**For passive ventilation with labyrinthine air flow routing, to match the roofs for TopTherm roof-mounted air conditioners.**

**Color:**
RAL 7035 (light gray)

**Rating:**
IP 43

**Configuration:**
Assembly parts.

<table>
<thead>
<tr>
<th>Part No. TS</th>
<th>Dimensions in mm (inches)</th>
<th>For roof plates with cutout mm (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SK 3366 . . .</td>
<td>SK 3377 . . .</td>
<td>490 x 390 (19.3 x 15.4)</td>
</tr>
</tbody>
</table>

---

### Trim frame

**For slimline air conditioners**

Slimline air conditioners can be internally or externally mounted on an enclosure door or wall. The trim frame presents a closed front for the air conditioner.

**Material:**
Sheet steel

**Color:**
RAL 7035

<table>
<thead>
<tr>
<th>Part No. SK</th>
<th>Dimensions in mm (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SK 3366 . . .</td>
<td>3377.000</td>
</tr>
</tbody>
</table>

---
**Accessories For Climate Control**

### General

#### Quick-change frame

**For TopTherm roof-mounted air conditioners**  
The quick-change frame is more than just an alternative to the standard air conditioner frame. Combined with the seal, the lower part of the frame is screw-fastened to the enclosure. This allows the plug-in air conditioner to be attached or removed from the top part of the quick-change frame that was previously mounted on the air conditioner using quick-release fasteners. In case of servicing, this means minimal assembly time and minimal downtime. The quick-change frame offers effective protection against the ingress of oil into the enclosure in oily atmospheres, due to its integrated drainage trough.

**Material:**  
Sheet steel

**Color:**  
RAL 7035 (light gray)

**Configuration:**  
Quick-change frame, seal, quick-release fasteners.

#### Electronic condensate evaporator

For external mounting on enclosures. For use with all enclosure air conditioners and air/water heat exchangers.  
Evaporation performance:
1) 2.4 l/d (0.6 gal/d)  
2) 4.2 l/d (1.1 gal/d)

**Color:**  
RAL 7035 (light gray)

**Configuration:**  
Electronic condensate evaporator, ready for connection.

#### Condensate collecting bottle

For mounting on the enclosure. For use with all enclosure air conditioners and air/water heat exchangers. Safety overflow at the side. Capacity approximately 0.75 l (0.2 gal).

**Configuration:**  
Condensate discharge tube, Membrane grommet, Maximum 70 mm (2.8")

#### Condensate hose

For removing and forwarding condensate. For connecting to enclosure air conditioners.  
**Material:**  
PVC, transparent

**Configuration:**  
10 m (394") hose.
### Integrated louvers
For ventilation by convection; easily retrofitted using 4 screws.

**Material:** Sheet steel  
**Color:** RAL 7035 (light gray)

**Dimensions (in mm)**

<table>
<thead>
<tr>
<th>H mm</th>
<th>W mm</th>
<th>D mm</th>
<th>Part No. SK</th>
<th>PU</th>
</tr>
</thead>
<tbody>
<tr>
<td>110 (4.3)</td>
<td>160 (6.3)</td>
<td>8 (0.3)</td>
<td>2541.235</td>
<td>4</td>
</tr>
<tr>
<td>100 (3.9)</td>
<td>210 (8.3)</td>
<td>8 (0.3)</td>
<td>2542.235</td>
<td>4</td>
</tr>
<tr>
<td>110 (4.3)</td>
<td>330 (13.0)</td>
<td>8 (0.3)</td>
<td>2543.235</td>
<td>4</td>
</tr>
</tbody>
</table>

For RAL 7032 (pebble gray), use order extension .200; to order primed version, use extension .300. Delivery times available on request.

**Detailed drawing,** see page 139.

### Outlet filter
For ventilation by convection, an outlet filter can be installed in the upper and lower sections of the modular enclosure.

**Material:** ABS, material resistance to UL 94-V0.  
**Color:** RAL 7035 (light gray)  
**Configuration:** Outlet filter including filter mat.

**Dimensions (in mm)**

<table>
<thead>
<tr>
<th>Part No. SK</th>
<th>Dimensions in mm (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3321.207</td>
<td>116 x 22 (4.6 x 0.9)</td>
</tr>
<tr>
<td>3322.207</td>
<td>148 x 24.5 (5.9 x 1.0)</td>
</tr>
<tr>
<td>3323.207</td>
<td>204 x 30 (8.0 x 1.2)</td>
</tr>
<tr>
<td>3325.207</td>
<td>255 x 30 (10.0 x 1.2)</td>
</tr>
<tr>
<td>3326.207</td>
<td>323 x 30 (12.7 x 1.2)</td>
</tr>
</tbody>
</table>

For RAL 7032 (pebble gray), use order extension .200.

### Hose-proof hoods
For filter fan units/outlet filters
When the hose-proof hood is mounted above the filter fan unit and outlet filter in conjunction with a fine filter mat, a rating of IP 56 (NEMA 3R) to EN 60 529/10.91 is achieved. Particularly suitable for use in the food industry.

**Material:** Stainless steel  
**Rating:** In conjunction with the filter fan units/outlet filters, NEMA 3R + 12 is met.

**Dimensions (in mm)**

<table>
<thead>
<tr>
<th>For</th>
<th>Dimensions in mm (inches)</th>
<th>Part No. SK</th>
</tr>
</thead>
<tbody>
<tr>
<td>SK 3321 ...</td>
<td>260 x 150 x 40 (10.2 x 5.9 x 1.6)</td>
<td>3321.800(1)</td>
</tr>
<tr>
<td>SK 3322 ...</td>
<td>270 x 176 x 55 (10.6 x 6.9 x 2.2)</td>
<td>3322.800</td>
</tr>
<tr>
<td>SK 3323 ...</td>
<td>410 x 233 x 55 (16.1 x 9.2 x 2.2)</td>
<td>3323.800</td>
</tr>
<tr>
<td>SK 3324 ...</td>
<td>500 x 282 x 85 (19.7 x 11.1 x 3.3)</td>
<td>3324.800</td>
</tr>
<tr>
<td>SK 3326 ...</td>
<td>580 x 350 x 110 (22.0 x 13.8 x 4.3)</td>
<td>3326.800</td>
</tr>
</tbody>
</table>

(1) Delivery times available on request.
Accessories For Climate Control

General

Front outlet grille 2U
For centrifugal fans
This front outlet grille is required if a 482.6 mm (19") cross-flow blower (SK 3144.000/SK 3145.000) is used in the lower section of the electronic enclosure and the hot air is to be expelled to the outside from the upper section of the enclosure. The design of the grille matches that of the intake grille in the cross-flow blower. These grilles can also be used as simple inflow and outflow grilles with natural convection.

<table>
<thead>
<tr>
<th></th>
<th>PU</th>
<th>Part No. SK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter mat</td>
<td>1</td>
<td>3176.000</td>
</tr>
</tbody>
</table>

Accessories:
Filter mat.

Filter holder
For roof ventilation
The use of a filter mat is required in order to increase the ratings of the roof vent (SK 3148.000). Ratings IP 43 to EN 60 529/10.91 is achieved.

<table>
<thead>
<tr>
<th></th>
<th>H x W x D mm (inches)</th>
<th>Part No. SK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter holder</td>
<td>244 x 340 x 15 (9.6 x 13.4 x 0.6)</td>
<td>3175.000</td>
</tr>
</tbody>
</table>

Accessories:
Spare filter mat.

Bypass safety valve
For use with chiller systems and air/water heat exchangers.

<table>
<thead>
<tr>
<th></th>
<th>Option</th>
<th>PU</th>
<th>Part No. SK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>½˝_619_E bypass valve</td>
<td>1</td>
<td>3301.900</td>
</tr>
<tr>
<td></td>
<td>¾˝_619_E bypass valve</td>
<td>1</td>
<td>3301.910</td>
</tr>
<tr>
<td></td>
<td>1˝_619_E bypass valve</td>
<td>1</td>
<td>3301.920</td>
</tr>
</tbody>
</table>

Flow regulator valve
For use with air/water heat exchangers. Especially if more than one heat exchanger (n > 1) is used in the water cooling circuit.

<table>
<thead>
<tr>
<th></th>
<th>Option</th>
<th>PU</th>
<th>Part No. SK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>½˝ x ½˝ flow regulator</td>
<td>1</td>
<td>3301.930</td>
</tr>
<tr>
<td></td>
<td>¾˝ x ¾˝ flow regulator</td>
<td>1</td>
<td>3301.940</td>
</tr>
</tbody>
</table>

Material:
Sheet steel
Configuration:
Filter holder including filter mat.

Material:
Brass
Additives for chiller systems

Configuration:
10 l (2.2 gal) canister.

<table>
<thead>
<tr>
<th>Rifrost</th>
<th>Anti freeze water mixture</th>
<th>Part No. SK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outdoor</td>
<td>1 : 2</td>
<td>3301.950</td>
</tr>
<tr>
<td>Standard</td>
<td>1 : 4</td>
<td>3301.960</td>
</tr>
</tbody>
</table>

Filter mats

Rittal air conditioners are low-maintenance and are supplied without filter mats. Filter mats may be used for extreme conditions.

Material:
Open celled polyurethane foamed plastic with excellent physical and mechanical properties. Temperature resistant from −40°C to +80°C (−40°F to 176°F). Thickness: 10 mm (3.9”).

Filter mats

Made of chopped-fiber mat with a progressive structure. Temperature resistant to 100°C (212 °F), self-extinguishing category F1 to DIN 53 438.

Dust-laden air side: Open structure.
Clean air end: Closed structure.
Reliable filtering of virtually all types of dust from a particle size of 10 µm.

Material:
Chemical fiber

Filter mats

For centrifugal fans/front outlet grilles 2U

<table>
<thead>
<tr>
<th>H x W x D (mm (inches))</th>
<th>PU</th>
<th>Part No. SK</th>
</tr>
</thead>
<tbody>
<tr>
<td>SK 3144.000/SK 3145.000/SK 3176.000</td>
<td>85 x 425 x 8 (3.3 x 16.7 x 0.3)</td>
<td>5 3177.000</td>
</tr>
</tbody>
</table>

Material:
Chemical fiber
# Accessories For Climate Control

## Filter mats

### Metal filter

When air conditioners are used in dusty and damp environments, it is advisable to use washable metal filters. If air or steam condenses on the metal surfaces, any particles that may be present will adhere to the metal and are easily washed out with water or grease-dissolving detergents.

**Material:** Aluminum  
**Thickness:** 10 mm (0.4"")

**For TopTherm air conditioners**

<table>
<thead>
<tr>
<th>Part No. SK</th>
<th>H x W x D mm (inches)</th>
<th>PU</th>
</tr>
</thead>
<tbody>
<tr>
<td>3286.120</td>
<td>95 x 190 x 10 (3.7 x 7.5 x 0.4)</td>
<td>1</td>
</tr>
<tr>
<td>3286.310</td>
<td>200 x 265 x 10 (7.9 x 10.4 x 0.4)</td>
<td>1</td>
</tr>
<tr>
<td>3286.410</td>
<td>288 x 344 x 10 (11.3 x 13.5 x 0.4)</td>
<td>1</td>
</tr>
<tr>
<td>3286.510</td>
<td>255 x 530 x 10 (10.0 x 20.9 x 0.4)</td>
<td>1</td>
</tr>
<tr>
<td>3286.610</td>
<td>300 x 720 x 10 (11.8 x 28.3 x 0.4)</td>
<td>1</td>
</tr>
<tr>
<td>3253.220</td>
<td>210 x 205 x 10 (8.3 x 8.1 x 0.4)</td>
<td>1</td>
</tr>
</tbody>
</table>

**For discontinued air conditioners**

<table>
<thead>
<tr>
<th>Part No. SK</th>
<th>H x W x D mm (inches)</th>
<th>PU</th>
</tr>
</thead>
<tbody>
<tr>
<td>3286.210</td>
<td>290 x 520 x 10 (11.4 x 21.3 x 0.4)</td>
<td>1</td>
</tr>
<tr>
<td>3286.200</td>
<td>315 x 520 x 10 (12.4 x 21.3 x 0.4)</td>
<td>1</td>
</tr>
<tr>
<td>3267.200</td>
<td>320 x 265 x 10 (12.6 x 10.4 x 0.4)</td>
<td>1</td>
</tr>
<tr>
<td>3254.200</td>
<td>365 x 315 x 10 (14.3 x 12.4 x 0.4)</td>
<td>1</td>
</tr>
<tr>
<td>3294.200</td>
<td>300 x 328 x 10 (11.8 x 12.9 x 0.4)</td>
<td>1</td>
</tr>
<tr>
<td>3253.200</td>
<td>210 x 348 x 10 (8.7 x 13.7 x 0.4)</td>
<td>1</td>
</tr>
<tr>
<td>3285.200</td>
<td>415 x 375 x 10 (16.3 x 14.8 x 0.4)</td>
<td>1</td>
</tr>
</tbody>
</table>

**For climate control doors**

<table>
<thead>
<tr>
<th>Part No. SK</th>
<th>H x W x D mm (inches)</th>
<th>PU</th>
</tr>
</thead>
<tbody>
<tr>
<td>3284.200</td>
<td>100 x 424 x 10 (3.9 x 16.7 x 0.4)</td>
<td>1</td>
</tr>
<tr>
<td>3286.200</td>
<td>100 x 624 x 10 (3.9 x 24.6 x 0.4)</td>
<td>1</td>
</tr>
<tr>
<td>3289.200</td>
<td>150 x 380 x 10 (5.9 x 15.0 x 0.4)</td>
<td>1</td>
</tr>
</tbody>
</table>

**For Mini chiller systems**

<table>
<thead>
<tr>
<th>Part No. SK</th>
<th>H x W x D mm (inches)</th>
<th>PU</th>
</tr>
</thead>
<tbody>
<tr>
<td>3286.510</td>
<td>255 x 530 x 10 (10.0 x 20.9 x 0.4)</td>
<td>1</td>
</tr>
<tr>
<td>3286.520</td>
<td>558 x 500 x 8 (22.0 x 19.7 x 0.3)</td>
<td>1</td>
</tr>
<tr>
<td>3286.410</td>
<td>268 x 344 x 10 (10.6 x 13.5 x 0.4)</td>
<td>1</td>
</tr>
</tbody>
</table>
Filter mats

Spare filter mats
Made of chopped-fiber mat with a progressive structure.
Temperature resistant to 100°C (212°F), self-extinguishing category F1 to DIN 53 438.
Dust-laden air side: Open structure.
Clean air end: Closed structure.
Reliable filtering of virtually all types of dust from a particle size of 10 µm.

Material: Chemical fiber

<table>
<thead>
<tr>
<th>For filter fan units</th>
<th>H x W x D mm (inches)</th>
<th>PU</th>
<th>Part No. SK</th>
</tr>
</thead>
<tbody>
<tr>
<td>SK 3321. . . .</td>
<td>89 x 89 x 10 (3.5 x 3.5 x 0.4)</td>
<td>5</td>
<td>3321.700</td>
</tr>
<tr>
<td>SK 3322. . . .</td>
<td>120 x 120 x 12 (4.7 x 4.7 x 0.5)</td>
<td>5</td>
<td>3322.700</td>
</tr>
<tr>
<td>SK 3323 . . .</td>
<td>173 x 173 x 17 (6.8 x 6.8 x 0.7)</td>
<td>5</td>
<td>3171.100</td>
</tr>
<tr>
<td>SK 3324 . . ./SK 3325. . .</td>
<td>221 x 221 x 17 (8.7 x 8.7 x 0.7)</td>
<td>5</td>
<td>3172.100</td>
</tr>
<tr>
<td>SK 3326 . . .</td>
<td>289 x 289 x 17 (11.4 x 11.4 x 0.7)</td>
<td>5</td>
<td>3173.100</td>
</tr>
<tr>
<td>SK 3327 . . .</td>
<td>289 x 289 x 10 (11.4 x 11.4 x 0.4)</td>
<td>5</td>
<td>3327.700</td>
</tr>
</tbody>
</table>

For filter holders

<table>
<thead>
<tr>
<th>For filter holders</th>
<th>H x W x D mm (inches)</th>
<th>PU</th>
<th>Part No. SK</th>
</tr>
</thead>
<tbody>
<tr>
<td>SK 3175.000</td>
<td>242 x 338 x 20 (9.5 x 13.3 x 0.8)</td>
<td>3</td>
<td>3174.000</td>
</tr>
</tbody>
</table>

Fine filter mats
Made of chopped-fiber mat with a progressive structure.
Temperature-resistant to 100°C (212°F), self-extinguishing category F1 to DIN 53 438.
Dust-laden air side: Open structure.
Clean air end: Closed structure.
Reliable filtering of virtually all types of dust from a particle size of 10 µm.

Material: Chemical fiber

<table>
<thead>
<tr>
<th>For filter fan units/outlet filters</th>
<th>H x W x D mm (inches)</th>
<th>PU</th>
<th>Part No. SK</th>
</tr>
</thead>
<tbody>
<tr>
<td>SK 3323 . . .</td>
<td>173 x 173 x 12 (6.8 x 6.8 x 0.5)</td>
<td>5</td>
<td>3181.100</td>
</tr>
<tr>
<td>SK 3324 . . ./SK 3325. . .</td>
<td>221 x 221 x 12 (8.7 x 8.7 x 0.4)</td>
<td>5</td>
<td>3182.100</td>
</tr>
<tr>
<td>SK 3326 . . ./SK 3327. . .</td>
<td>289 x 289 x 12 (11.4 x 11.4 x 0.5)</td>
<td>5</td>
<td>3183.100</td>
</tr>
</tbody>
</table>
From passive air climate control to active liquid cooling of high-performance CPUs, Rittal provides all the required components and systems, designed to your requirements. Software-assisted planning and calculation of requirements, together with modular, rack-compatible technology, help to minimize investment costs, thereby offering a future safe solution with a high degree of flexibility.

**Liquid cooling package**

Modular, upgradeable and temperature neutral cooling concept. 12 kW (40,982 BTU) cooling capacity, with three cooling modules supported per cooling rack.

**Optimized air routing**

Cold air is blown in at the sides, so that the cold air is evenly distributed in front of the 482.6 mm (19”) level.

**Rack-mounted chiller system**

Microcontroller control Liquid-cooled computers

In a 482.6 mm (19”) server rack are supplied by the shortest route by six cooling circuits, without the need for an additional rising main.

**Vibration-free installation**

Cooling circuit distributor for processor climate control

The distribution pipes for inlet and return lines for targeted, reliable liquid cooling may be integrated into all standard rack systems.

Cooling circuit distributor kit

Blade server

The 482.6 mm (19”) distributors are connected to the rising main.

Cooling circuit distributor

482.6 mm (19”)

Connections for 10 servers and a main connection to the vertical rising main.
Rittal liquid cooling package

Modular, upgradable and temperature neutral cooling concept.
- Maximum cooling capacity 12 kW (40,982 BTU), with three cooling modules possible per cooling rack
- Approximate cooling capacity 4 kW (13,661 BTU) per cooling module at 800 m³/h (471 cfm) air displacement
- Optimized air routing: Cold air is blown in at the sides, so that the cold air is evenly distributed in front of the 482.6 mm (19") level

- Optionally 1 or 2 server racks may be cooled – stand-alone and bayed siting possible
- Bayable to TS and PS server racks, even retroactively
- Active condensate handling
- Optional control and monitoring1) of the cooling rack via Rittal CMC-TC
- Two-piece modules; for easy installation in narrow passageways
- Controlled by a separate module which may be connected to the CMC-TC for incorporation into the network (monitoring).
- Condensation management: The pump in the condensate tray pumps any condensation into the return section of the cooling circuit.

Technical specifications:
- Mounted as a cooling rack on a server rack based on TS8 modular enclosure, with H = 2000 mm (78.7’’), D = 1000 mm (39.4’’).
- Each cooling rack can accommodate a maximum of three air/water heat exchanger cooling modules.
- Standard supply: Cooling rack equipped with one cooling module.
- Individual modules upgradable to full installation by quick-release couplings.

For professional installation of the heat exchanger, where possible, the enclosures being cooled should be sealed against the ingress of ambient air:

<table>
<thead>
<tr>
<th>Description</th>
<th>Dimensions in mm (inches)</th>
<th>PU</th>
<th>Part No.</th>
<th>Description</th>
<th>Dimensions in mm (inches)</th>
<th>PU</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>sidewall, screw-fastened</td>
<td>H x D 2000 x 1000 (78.7 x 39.4)</td>
<td>2</td>
<td>8100.235</td>
<td>Divided partitioning plate for retrofit sealing in the base area</td>
<td>W x D 600 x 1000 (23.6 x 39.4)</td>
<td>1</td>
<td>7825.200</td>
</tr>
<tr>
<td>viewing door</td>
<td>H x W 2000 x 600 (78.7 x 23.6)</td>
<td>1</td>
<td>8610.600</td>
<td>Divided roof plate for cable entry</td>
<td>W x D 800 x 1000 (31.5 x 39.4)</td>
<td>1</td>
<td>7826.605</td>
</tr>
<tr>
<td>sheet steel door, solid</td>
<td>H x W 2000 x 800 (78.7 x 31.5)</td>
<td>1</td>
<td>8610.800</td>
<td>Sealing kit for two-sided cooling when bayed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>H x W 2000 x 600 (78.7 x 23.6)</td>
<td>1</td>
<td>7824.205</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>H x W 2000 x 800 (78.7 x 31.5)</td>
<td>1</td>
<td>7824.207</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>H x W 2000 x 600 (78.7 x 23.6)</td>
<td>1</td>
<td>7824.185</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>H x W 2000 x 800 (78.7 x 31.5)</td>
<td>1</td>
<td>7824.187</td>
<td></td>
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<th>Dimensions in mm (inches)</th>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

1) Flow, leakage, inlet/return, intake/exhaust temperature.
The general remarks on air/water heat exchangers apply, (available on the Internet, log onto www.rittal-corp.com).

For professional installation of the heat exchanger, where possible, the enclosures being cooled should be sealed against the ingress of ambient air:

<table>
<thead>
<tr>
<th>Description</th>
<th>Dimensions in mm (inches)</th>
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<th>Part No.</th>
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<td></td>
</tr>
<tr>
<td></td>
<td>H x W 2000 x 600 (78.7 x 23.6)</td>
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<td>7824.205</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>H x W 2000 x 800 (78.7 x 31.5)</td>
<td>1</td>
<td>7824.207</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

1) Flow, leakage, inlet/return, intake/exhaust temperature.
The general remarks on air/water heat exchangers apply, (available on the Internet, log onto www.rittal-corp.com).

For professional installation of the heat exchanger, where possible, the enclosures being cooled should be sealed against the ingress of ambient air:.
Liquid-cooled computers in a 482.6 mm (19”) server rack are supplied by the shortest route by six cooling circuits, without an additional rising main.

- Partial liquid cooling in diverse environments
- Combination of air and liquid cooling possible

**Technical specifications:**
- Installation in the 482.6 mm (19”) level of the enclosure
- 6 cooling circuit connections for server/CPU cooling on the back of the chiller via drip-free quick-release couplings
- Vibration-free installation
- 2 freely programmable alarm outputs
- Operating pressure display
- Optional automatic bypass

<table>
<thead>
<tr>
<th>Part No. SK</th>
<th>3301.260</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage V, Hz</td>
<td>230, 50/60</td>
</tr>
<tr>
<td>Dimensions in mm (inches)</td>
<td>H 175 (6.9) B 442 (17.4) T 751 (29.6) + 100 mm (3.9”) for water connections</td>
</tr>
</tbody>
</table>

**Cooling capacity at**
- $T_w = 25°C (77°F)$
- $T_u = 32°C (89.6°F)$,
- 2 l/h (0.5 gal/h) in W (BTU)
- 1000/1070 (3415/3654)

- Power consumption 640/790 W
- Rated current maximum 4.5 A
- Refrigerant R134a, 550 g
- $P_{max}$ cooling circuit 25 bar (363 psi)
- Temperature range Environment +10°C to +40°C (50°F to 104°F)
- Liquid media +10°C to +35°C (50°F to 95°F)
- Pump capacity 4 l/min (1.1 gal/min) 2 bar (29 psi)
- Tank Pressure-sealed
- Water connections Quick-release coupling, drip-free
- Weight in kg (lb) 45 (99.2)
- Color Textured RAL 7035 (light gray)
- Ratings (electric) IP 20
- Air displacement of fans 450 m³/h (265 cfm)
- Temperature control Microcontroller, setting range +10°C to +30°C (50°F to 86°F) (factory setting +18°C (64°F))

Delivery times available on request.
Cooling manifold for racks

Water cooling
High performance for CPUs, power packs and disk drives by cooling directly at the area where heat is generated. The manifold pipes for inlet and return lines for targeted, reliable liquid cooling may be integrated into all standard rack systems. They are linked to an external, central air conditioner which also controls the inlet temperature. The drip-free quick-release coupling ensures an extremely high level of operational reliability. Monitoring of the systems function is performed by the Rittal CMC-TC module.

There are 2 complete basic packages available for retrofitting for different enclosure heights.

**Configuration:**

**Package 1**
Water intake: Connection system, non-return valve and 10 m (394”) hose, 1/2”, fittings, filter, vent valve.
Water distribution: Cooling circuit distributor for 20 CPU cooling circuits, vent valve, 40 bulkhead couplings, 50 m (164 ft or 16.7 yards) distributor hose, 6 mm (0.2”).

**Package 2**
Water intake: Connection system, non-return valve and 10 m (394”) hose, 1/2”, fittings, filter, vent valve.
Water distribution: Cooling circuit distributor for 40 CPU cooling circuits, vent valve, 80 bulkhead couplings, 100 m (328 ft or 33 yards) distributor hose, 6 mm (0.2”).

<table>
<thead>
<tr>
<th>Part No. SK</th>
<th>Package 1</th>
<th>Package 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>3301.810</td>
<td>24</td>
<td>–</td>
</tr>
<tr>
<td>3301.820</td>
<td>–</td>
<td>42</td>
</tr>
</tbody>
</table>

Also required:
Chiller system, see page 50 onwards.

Accessories:
Manifold accessories.

Cooling circuit manifold kit

For blade server
Our liquid cooling for server racks serves as a basis for this solution. The large number of drip free taps to the individual computer is now replaced by the connection of horizontal liquid subdistributors, where the drip-free connectors for connection of the Powerblade are found. 5 units are possible with 7U per server and 1 per 482.6 mm (19”) distributor. The individual 482.6 mm (19”) distributors are connected to the rising main with drip-free connectors, so that the system is modular and scaleable.

**Configuration:**
1 vertical rising main with 5 taps, 1 482.6 mm (19”) cooling circuit distributor with 10 inlet and return connections, 1 connection hose (inlet and return) from the 482.6 mm (19”) cooling circuit distributor to the vertical rising main, 1 connection hose (inlet and return) from the vertical rising main to the chiller.

Also required:
Chiller system, see page 50 onwards.

Accessories:
482.6 mm (19”) distributor, distributor accessories.
**Cooling circuit manifold 19”**

For installation in the 482.6 mm (19”) level with drip-free connections for 10 servers and a main connection to the vertical rising main; 0.5 m (19.7”) hose in each case for the inlet and return.

<table>
<thead>
<tr>
<th>Description</th>
<th>PU</th>
<th>Part No. SK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessories:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manifold accessories.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Manifold accessories

<table>
<thead>
<tr>
<th>Description</th>
<th>PU</th>
<th>Part No. SK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat sink</td>
<td>1</td>
<td>3301.000</td>
</tr>
<tr>
<td>Connector for heat sink</td>
<td>6 mm (0.23”)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>4 mm (0.15”)</td>
<td>2</td>
</tr>
<tr>
<td>Retaining clamps</td>
<td>Athlon</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Opteron</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Xeon</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>P 4</td>
<td>1</td>
</tr>
<tr>
<td>Connection system for hose</td>
<td>4 mm (0.15”)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>6 mm (0.23”)</td>
<td>1</td>
</tr>
<tr>
<td>Screw-in coupling G 1/8” with seal</td>
<td>10</td>
<td>3301.090</td>
</tr>
<tr>
<td>Screw-in connector G 1/8” with seal</td>
<td>10</td>
<td>3301.130</td>
</tr>
<tr>
<td>Connector sleeve, 6 mm (0.23”)</td>
<td>10</td>
<td>3301.160</td>
</tr>
<tr>
<td>Connector grommet, 6 mm (0.23”)</td>
<td>10</td>
<td>3301.170</td>
</tr>
<tr>
<td>Straight screw-in connector G 1/8”, 6 mm (0.23”)</td>
<td>10</td>
<td>3301.180</td>
</tr>
<tr>
<td>Sealing plug, 6 mm (0.23”)</td>
<td>10</td>
<td>3301.190</td>
</tr>
<tr>
<td>Y-adaptor, 6 to 2 x 4 mm (0.15”)</td>
<td>10</td>
<td>3301.700</td>
</tr>
<tr>
<td>Water distribution:</td>
<td>2 x rising main 24U for TS8, vent valve, screw-in connector 1/2”, screw-in coupling 1/2”</td>
<td>1</td>
</tr>
<tr>
<td>Water distribution:</td>
<td>2 x rising main 42U for TS8, vent valve, screw-in connector 1/2”, screw-in coupling 1/2”</td>
<td>1</td>
</tr>
<tr>
<td>Water infeed:</td>
<td>2 x connector grommet 1/2”, 2 x connector sleeve 1/2”, hose 1/2” (10 m (394)), non-return valve 1/2”, dust trap (with 2 x 1/2” connector sleeve), screw-in connector 1/2” (on the air conditioner), screw-in coupling 1/2” (on the air conditioner), 6 x hose clamps 1/2”</td>
<td>1</td>
</tr>
<tr>
<td>Monitoring at the connection to the CMC:</td>
<td>1</td>
<td>3301.740</td>
</tr>
<tr>
<td>Temperature sensor + clamping screw fastening</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Accessories/work materials

<table>
<thead>
<tr>
<th>Description</th>
<th>PU</th>
<th>Part No. SK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hose cutter</td>
<td>1</td>
<td>3301.750</td>
</tr>
<tr>
<td>Thermally conductive paste</td>
<td>1</td>
<td>3301.760</td>
</tr>
<tr>
<td>Teflon sealing tape</td>
<td>1</td>
<td>3301.770</td>
</tr>
<tr>
<td>Sealing plug 1/4”</td>
<td>1</td>
<td>3301.780</td>
</tr>
</tbody>
</table>
4.1 Climate controlled enclosures
Single-door, useful cooling capacity 1100/1500 W (3756/5123 BTU)

Two-door, useful cooling capacity 2000/2500 W (6830/8538 BTU)

<table>
<thead>
<tr>
<th>Device position</th>
<th>2000 W (6830 BTU)</th>
<th>2500 W (8538 BTU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>left</td>
<td></td>
<td></td>
</tr>
<tr>
<td>right</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| D (T1) max.     | 445 (17.5)       | 415 (16.3)       |
| D (T2)          | 190 (7.5)        | 220 (8.7)        |
4.1 Climate control doors

For installing in 600 mm (23.6”) wide TS8 modular enclosures, useful cooling capacity 1100/1500 W (3756/5123 BTU)

For installing in 600 mm (23.6”) wide TS8 modular enclosures, useful cooling capacity 2000/2500 W (6830/8538 BTU)

For installing in 800 mm (31.5”) wide TS8 modular enclosures, useful cooling capacity 1500 W (5123 BTU)

For installing in 1200 mm (47.2”) wide TS8 modular enclosures, useful cooling capacity 1100/1500 W (3756/5123 BTU)

For installing in 1200 mm (47.2”) wide TS8 modular enclosures, useful cooling capacity 2000/2500 W (6830/8538 BTU)
4.1 Roof-mounted air conditioners

Useful cooling capacity 500/750 W (1708/2561 BTU)

Useful cooling capacity 1000 W (3415 BTU)
Useful cooling capacity 1100 W (3756 BTU)
Useful cooling capacity 1500/2000 W (5123/6830 BTU)

Useful cooling capacity 3000/4000 W (10,246/13,661 BTU)

Condensate discharge \(\frac{1}{2}''\) flexible
4.1 Wall-mounted air conditioners

Mini in horizontal format, useful cooling capacity 300 W (1025 BTU)

Useful cooling capacity 300 W (1025 BTU)

Useful cooling capacity 500 W (1708 BTU)

Useful cooling capacity 750 W (2561 BTU)

<table>
<thead>
<tr>
<th>Model</th>
<th>D (T1)</th>
<th>D (T2)</th>
<th>D (T3)</th>
<th>D (T4)</th>
<th>D (T5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>500 W</td>
<td>200</td>
<td>100</td>
<td>100</td>
<td>158</td>
<td>42</td>
</tr>
<tr>
<td>(1708 BTU)</td>
<td>(7.9)</td>
<td>(3.9)</td>
<td>(3.9)</td>
<td>(6.2)</td>
<td>(1.7)</td>
</tr>
<tr>
<td>750 W</td>
<td>280</td>
<td>125</td>
<td>155</td>
<td>235</td>
<td>45</td>
</tr>
<tr>
<td>(2561 BTU)</td>
<td>(11.0)</td>
<td>(4.9)</td>
<td>(6.1)</td>
<td>(9.3)</td>
<td>(1.8)</td>
</tr>
</tbody>
</table>
4.1 Wall-mounted air conditioners
Useful cooling capacity 1500/2000 W (5123/6830 BTU)

<table>
<thead>
<tr>
<th>External mounting</th>
<th>Partial internal mounting</th>
<th>Internal mounting</th>
<th>Mounting cutout external mounting</th>
<th>Mounting cutout partial internal mounting</th>
<th>Mounting cutout internal mounting</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Diagram" /></td>
<td><img src="image2" alt="Diagram" /></td>
<td><img src="image3" alt="Diagram" /></td>
<td><img src="image4" alt="Diagram" /></td>
<td><img src="image5" alt="Diagram" /></td>
<td><img src="image6" alt="Diagram" /></td>
</tr>
</tbody>
</table>

Useful cooling capacity 1500/2000 W (5123/6830 BTU)

<table>
<thead>
<tr>
<th>External mounting</th>
<th>Partial internal mounting</th>
<th>Internal mounting</th>
<th>Mounting cutout external mounting</th>
<th>Mounting cutout partial internal mounting</th>
<th>Mounting cutout internal mounting</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image7" alt="Diagram" /></td>
<td><img src="image8" alt="Diagram" /></td>
<td><img src="image9" alt="Diagram" /></td>
<td><img src="image10" alt="Diagram" /></td>
<td><img src="image11" alt="Diagram" /></td>
<td><img src="image12" alt="Diagram" /></td>
</tr>
</tbody>
</table>

1) For installation in 600 mm (23.6") wide doors, move the mounting cutout from the center of the door to the hinged side by at least 10 mm (0.4").

Useful cooling capacity 4000 W (13,661 BTU)

<table>
<thead>
<tr>
<th>External mounting</th>
<th>Partial internal mounting</th>
<th>Mounting cutout external mounting</th>
<th>Mounting cutout partial internal mounting</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image13" alt="Diagram" /></td>
<td><img src="image14" alt="Diagram" /></td>
<td><img src="image15" alt="Diagram" /></td>
<td><img src="image16" alt="Diagram" /></td>
</tr>
</tbody>
</table>

1) For installation in 600 mm (23.6") wide doors, move the mounting cutout from the center of the door to the hinged side by at least 10 mm (0.4").
4.1 Wall-mounted air conditioners

Useful cooling capacity 1500 W (5123 BTU)

(SK 3366.XXX and SK 3377.XXX)

Design NEMA 4X, useful cooling capacity 500 W (1708 BTU)

Design NEMA 4X, useful cooling capacity 1000/1500 W (3415/5123 BTU)
4.1 Wall-mounted air conditioners
Design NEMA 4X, useful cooling capacity 2000/2500 W (6830/8538 BTU)
4.2 Options for chillers

<table>
<thead>
<tr>
<th>Chillers mini and mini for wall-mounting</th>
<th>Standard</th>
<th>Optional</th>
</tr>
</thead>
<tbody>
<tr>
<td>SK 3318.600</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SK 3318.610</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SK 3319.600</td>
<td>-</td>
<td>-</td>
</tr>
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### 4.2 Options for chillers

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<th>Water-cooled condenser</th>
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<th>Hot gas bypass control in the cooling circuit</th>
<th>Farthing connector</th>
<th>Special spray finish</th>
<th>Special voltage</th>
<th>Ambient temperature control</th>
<th>Control voltage 24 V DC</th>
<th>Liquid injection valve</th>
<th>Fault signal “Filter dirty”</th>
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- ■ Standard
- □ Optional
4.2 Chillers
Mini, cooling capacity 960/1490 W (3279/5089 BTU)

Key to the adjacent drawing:
1. Compressor
2. Condenser
3. Condenser fan
4. Evaporator coil
5. Expansion valve
6. Filter dryer
7. Filling
8. Vent valve
9. Temperature sensor
10. Pump
11. Flow monitor
12. Overpressure valve
13. Pressure relief valve
14. High-pressure switch

Note:
With a lockable external cooling cycle, a bypass (overpressure valve) should be provided in the external water pipes.

Characteristic curves of pump
Part No. SK
3318.600/3318.610/3319.600/3319.610

Mini, cooling capacity 3000/4500 W (10,246/13,661 BTU)

Key to the adjacent drawing:
1. Compressor
2. Condenser
3. Condenser fan
4. Evaporator coil
5. Expansion valve
6. Filter dryer
7. Tank
8. Filling
9. Tank drain
10. Water level switch, optional
11. Temperature sensor
12. Pump
13. Flow monitor
14. High-pressure switch

Note:
With a lockable external cooling cycle, a bypass (overpressure valve) should be provided in the external water pipes.

Characteristic curves of pump
Part No. SK
3320.600/3334.600
4.2 Chillers

Mini, for wall-mounting, cooling capacity 1000/2500/4000 W
(3415/8538/13,661 BTU)

Key to the adjacent drawing:

1. Compressor
2. Condenser
3. Condenser fan
4. Evaporator coil
5. Expansion valve
6. Filter dryer
7. Tank
8. Filling
9. Tank drain
10. Water level switch, optional
11. Temperature sensor
12. Pump
13. Flow monitor
14. High-pressure switch

Note:
With a lockable external cooling cycle, a bypass (overpressure valve) should be provided in the external water pipes.

Freestanding enclosure, cooling capacity 2100 to 7700 W
(7172 to 26,267 BTU)

Key to the adjacent drawing:

1. Compressor
2. Condenser
3. Condenser fan
4. Multi-coil vaporizer
5. Capillary tube/expansion valve1)
6. Filter dryer
7. Tank
8. Pressure gauge
9. Filling
10. Tank drain
11. Level indicator
12. Pump
13. High-pressure switch
14. Thermostat

1) from SK 3336.500

Note:
With a lockable external cooling cycle, a bypass (overpressure valve) should be provided in the external water pipes.

Characteristic curves of pump
Part No. SK 3336.100/3336.250/3336.400

Characteristic curves of pump
Part No. SK 3336.100/3336.200/3336.300/3336.500/3336.600/3336.650
4.2 Chillers

Freestanding enclosure, cooling capacity 10000 to 25200 W (34,152 to 86,063 BTU)

Key to the adjacent drawing:
1. Compressor
2. Condenser
3. Condenser fan
4. Evaporator coil
5. Expansion valve
6. Inspection glass
7. Magnetic valve
8. Liquid collector
9. Filter dryer
10. Tank
11. Pressure gauge
12. Filling
13. Tank drain
14. Level indicator
15. Pump
16. Flow monitor
17. High-pressure switch
18. Low-pressure switch
19. Shut-off valve
20. Thermostat

Note:
With a lockable external cooling cycle, a bypass (overpressure valve) should be provided in the external water pipes.

Part No. SK 3336.730/3336.740/3336.750

Freestanding enclosure for oil, cooling capacity 2550 to 7900 W (8709 to 26,980 BTU)

Key to the adjacent drawing:
1. Compressor
2. Condenser
3. Condenser fan
4. Evaporator coil
5. Capillary tube/expansion valve
6. Filter dryer
7. Pressure gauge
8. Automatic bypass valve
9. Oil pump
10. Motor for oil pump
11. High-pressure switch
12. Thermostat
13. Anti-frost thermostat

1) from SK 3337.500
4.2 Chillers

Freestanding enclosure for oil, cooling capacity 10600 to 26100 W (36,201 to 89,136 BTU)

Key to the adjacent drawing:

- 1. Compressor
- 2. Condenser
- 3. Condenser fan
- 4. Evaporator coil
- 5. Expansion valve
- 6. Inspection glass
- 7. Magnetic valve
- 8. Liquid collector
- 9. Filter dryer
- 10. Pressure gauge
- 11. Automatic bypass valve
- 12. Oil pump
- 13. Motor for oil pump
- 14. High-pressure switch
- 15. Low-pressure switch
- 16. Shut-off valve
- 17. Thermostat
- 18. Anti-frost thermostat

Layout diagram

In TS8 modular enclosure system, cooling capacity 6000/7500 W (20,491/25,614 BTU)

Key to the adjacent drawing:

- 1. Compressor
- 2. Condenser
- 3. Condenser fan
- 4. Multi-coil vaporizer
- 5. Expansion valve
- 6. Inspection glass
- 7. Liquid collector
- 8. Filter dryer
- 9. Tank
- 10. Pressure gauge
- 11. Fixed pump bypass
- 12. Filling
- 13. Tank drain
- 14. Level switch
- 15. Pump
- 16. High-pressure switch
- 17. Thermostat

Characteristic curves of pump
Part No. SK 3335.060/3335.075

50 Hz

H = Delivery head H [m]
Q = Delivery flow Q [l/min]

In TS8 modular enclosure system, cooling capacity 10000 to 25000 W (34,152 to 85,379 BTU)

Key to the adjacent drawing:

- 1. Compressor
- 2. Condenser
- 3. Condenser fan
- 4. Multi-coil vaporizer
- 5. Expansion valve
- 6. Inspection glass
- 7. Liquid collector
- 8. Filter dryer
- 9. Tank
- 10. Pressure gauge
- 11. Fixed pump bypass
- 12. Filling
- 13. Tank drain
- 14. Level switch
- 15. Pump
- 16. High-pressure switch
- 17. Thermostat

Characteristic curves of pump
Part No. SK 3335.100/3335.120/3335.150

50 Hz 3335.200/3335.250

H = Delivery head H [m]
Q = Delivery flow Q [l/min]
4.2 Chillers
In industrial enclosure, cooling capacity 32 kW to 172 kW (109,286 to 587,411 BTU)

Key to the adjacent drawing:
1. Compressor
2. Condenser
3. Condenser fan
4. Evaporator coil
5. Expansion valve
6. Inspection glass
7. Magnetic valve
8. Liquid collector
9. Filter dryer
10. Tank
11. Tank drain
12. Pressure gauge
13. Filling
14. Level indicator
15. Pump
16. Flow monitor
17. High-pressure switch
18. Low-pressure switch
19. Shut-off valve
20. Thermostat
21. Stirrer

Layout diagram SK 3339.100/2001

Characteristic curves of pump Part No. Sk

50 Hz 3339.100/3339.200

50 Hz 3339.250, 3339.280

4.2 Immersible chillers
Useful cooling capacity 2400 to 77900 W (8196 to 266,042 BTU)

Key to the adjacent drawing:
1. Compressor
2. Condenser
3. Condenser fan
4. Evaporator coil
5. Expansion valve
6. Inspection glass
7. Magnetic valve
8. Liquid collector
9. Filter dryer
10. Tank, to be supplied by the customer
11. Temperature sensor
12. High-pressure switch
13. Low-pressure switch
14. Thermostat
15. Stirrer

Layout diagram
### 4.3 Air/water heat exchanger

**Micro, wall-mounted, useful cooling capacity 300 W (1025 BTU)**

- **Mounting cutout for external mounting**
- **Cooling water connection**
- **Condensate discharge**

**Wall-mounting, useful cooling capacity 600 W (2049 BTU)**

- **Mounting cutout for external mounting**
- **Condensate discharge 1/2˝**
- **Cooling water connection 1/2˝**

**Wall-mounting, useful cooling capacity 1000 W (3415 BTU)**

- **Mounting cutout for external mounting**
- **Condensate discharge 1/2˝**
- **Cooling water connection 1/2˝**
4.3 Air/water heat exchanger
Wall-mounting, useful cooling capacity 1250 W (4269 BTU)

Mounting holes for internal mounting

Mounting cutout for external mounting

1. Condensate discharge \( \frac{1}{2}'' \)
2. Cooling water connection \( \frac{1}{2}'' \)

Wall-mounting, useful cooling capacity 1540 W (5259 BTU)

Mounting holes for internal mounting

Mounting cutout for external mounting

1. Condensate discharge \( \frac{1}{2}'' \)
2. Cooling water connection \( \frac{1}{2}'' \)

Wall-mounting, useful cooling capacity 2250/3000 W (7684/10,246 BTU)

Mounting cutout for external/internal mounting

Only the 4 mounting holes, 7 mm (0.3”) diameter, are required for internal mounting.

1. Condensate discharge \( \frac{1}{2}'' \)
2. Cooling water connection \( \frac{1}{2}'' \)
4.3 Air/water heat exchangers

Wall-mounting, useful cooling capacity 4500 W (15,368 BTU) and 7000 W (23,906 BTU)

Mounting cutout for external mounting

(*) Dimensions for SK 3216.480

Condensate discharge 1/2”

Cooling water connection 1/2”

---

Roof-mounted, useful cooling capacity 2500 W (8538 BTU)

Roof-mounted, useful cooling capacity 4000 W (13,661 BTU)

Condensate discharge 1/2”

Cooling water connection 1/2”

---

As a sidewall for 600 mm (23.6”) deep TS8 modular enclosures, useful cooling capacity 700 W (2391 BTU)

Water connections

Hose 10 mm (0.4”) diameter

Condensate discharge
4.3 TopTherm air/air heat exchanger
Wall-mounted, specific thermal capacity 17.5 W/C

Wall-mounting, specific thermal capacity 30 – 60 W/C

Wall-mounted, specific thermal capacity 90 W/C

Dimensions in brackets for 45 W/C and 60 W/C
Air/air heat exchanger

Wall-mounted

Back side
Side view
Mounting cutout for external and internal mounting

Optional cable pass-through

4.5 Rack-mounted air conditioner

For 482.6 mm (19”), useful cooling capacity 1000 W (3415 BTU)

View of the rear of the unit
Air duct, extendible to any length

HE = U

4.5 Rack-mounted fan

For 482.6 mm (19”), air displacement 320/480 m³/h (188/283 cfm)

Rack-mounted fan mounted between a pair of 482.6 mm (19”) rails
Vario rack-mounted fan mounted in subracks 84 HP
Vario rack-mounted fan mounted between a pair of 482.6 mm (19”) rails

4.5 Centrifugal fan

Air displacement 320 m³/h (188 cfm)
Climate Control

Climate control tailored to enclosures/heaters

4.5 Roof-mounted fan
Air displacement 360 m³/h (212 cfm)

Without fan
With fan

Mounting cutout

4.5 Roof-mounted fan and vent attachment
Air displacement (unimpeded air flow) 400/800 m³/h (235/471 cfm)

Mounting cutout

4.5 Fan roof, modular, two-piece for TS/FR(i)
Air displacement per fan (unimpeded air flow) 160/180 mm³/h (94/106 cfm) at 50/60 Hz

For enclosures
Cover plate
Roof dimensions

<table>
<thead>
<tr>
<th>W (B) (mm)</th>
<th>D (T) (mm)</th>
<th>Solid</th>
<th>Vented</th>
<th>W (B1)</th>
<th>W (B2)</th>
<th>D (T1)</th>
<th>C (mm)</th>
<th>D (mm)</th>
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</table>

4.6 Enclosure heaters
Continuous thermal output 10 – 300 W (40 – 1030 BTU)

SK 3102.000 including fan
SK 3105.000
SK 3106.000
SK 3107.000
SK 3115.000
SK 3116.000

Climate Control
4.6 Axial fan
For heater SK 3107.000

4.7 Electronic condensate evaporator

4.7 Integrated louvers
Comprehensive – Solutions By Rittal

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Busbar Power Distribution

19" Electronic Components

Enclosure Climate Control & Process Cooling

IT Solutions

Communication Systems

Rittal offers one of the largest off-the-shelf delivery programs for industrial enclosures. Rittal’s integrated solution concept includes mechanical development and installation, power supplies, electrical components, climate control and centralized surveillance (CMC) solutions, fully equipped and functioning at delivery.

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