Always a little more flexible:

häwa Climate Control
Is there actually an efficient solution in the Climate Control program that complies with our requirements?

The best solutions for cabinet climate control systems are not created at the assembly line but while talking with you.

Joachim Pfeiffer, Head of the Rhine-Main branch

As your personal häwa consultant, I’m always there for you - and I’m looking forward to your individual requirements.
Our customers always place high demands on climate control systems. Sometimes bigger and sometimes smaller - but very often requirements are quite different from standard.

These individual requirements are always the focus when you call häwa. We are convinced if we combine your experience and particular specifications with our experience over numerous projects the optimum solution can be achieved.

All customized solutions are based on our climate controls which have been proven in thousands of applications. Our standard range of climate controls with its ergonomic design and impressive function, its stability and the use in harsh ambient conditions, as well as the various sizes and versions, the cURus-approval and its wide range of accessories, offer numerous application possibilities. On that basis, we firmly believe working together is the best method to being an asset to you, our customers. Everything from a simple adjustment for better usage of enclosure space or an optimized ventilation to complete customized design of your air conditioning system. From varying dimensions to individual material requests – we will do our very best to fulfill your and / or your customers’ wishes if possible. We are not here to just sell you our products, we are here to do all we can to make your final product even better if we can.
Heaters  Page 06
Filter Fans  Page 12
Heat Exchangers  Page 26
  Air-to-air heat exchangers  Page 28
  Air-to-water heat exchangers  Page 32
Air Conditioners  Page 36
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häwa Heaters

Our cabinet heater program will also meet your requirements.

**häwa Customer Standard**

Different materials, dimensions, colors or customized design? Not a problem, we do it every day, just contact us!

info@haewa.com

1 Flexible:
- The snap-on attachment, provided on many enclosures, enables an individual mounting of the heaters inside the cabinet onto the existing DIN rails.

2 Safe:
- The compact plastic housing ensures direct protection against accidental contact with the heating element.
- Some units include an integrated thermostat or hygrostat. This means, the future use of the device (heating or dehumidifying) can already be pre-selected.

3 Versatile:
- All heaters are equipped with an internal temperature limiter.
- The program includes various accessories such as small thermostats hygrostats and switch modules to allow a customized application.

4 Approvals:
- CE, cURus (these are listed with the respective items)
Application examples:

- Using cabinet heaters prevent possible functional impairment due to condensation or frost.
- Integrated cabinet heater fans optimize the heat distribution.
- For larger cabinets, an even heat distribution is achieved through several smaller cabinet heaters.
häwa Heaters

- Small dimensions
- Ensure a minimum operating temperature
- Prevent condensation

Advantages of heaters with PTC-resistor:
- Dynamic heating up, temperature limiting, wide voltage range

Advantages of heater fan:
- Small, compact design, quiet operation

Advice from one of our häwa consultants:

Heater fans are used for heating up the air inside the enclosure, for frost monitoring or to prevent condensation.

Use the HTB program or simply ask your häwa consultant for layout and dimensioning.
Product Description

Cabinet heaters are used for heating up the air inside a control cabinet. Häwa offers a wide range of cabinet heaters from 10 to 1200 W to optimize the functionality of electric and electronic components, to ensure a minimum operating temperature and for frost monitoring in case of low ambient temperatures and high humidity.

Convection Heaters
- The design of the heater supports the natural convection which results in a maximized warm air flow
- The surface temperatures on the accessible side surfaces of the housing are kept down as a result of the heater design
- Heating element: Resistor (PTC), temperature limiting
- The heaters are designed for permanent operation
- Quick mounting: snap-on attachment to 35 mm DIN rails

Fan Heaters
- Fan heaters provide an evenly distributed interior air temperature in cabinets and enclosures with electric/electronic components
- The heater is connected using the internal terminal connectors
- Partly adjustable maintenance-free integrated thermostat or hygrostat
- The small size makes the heater ideal for use in enclosures where space is at a premium
- Dynamic heating up through PTC-resistor (temperature limiting), type HG1200 with high performance heating cartridge
- Radial fan with ball bearing provides forced air circulation inside the cabinet
- Optical indicator for type HGH350 / 550: thermostat control lamp
- Easy snap-on attachment; type HG950 / 1200 screw fixing M5 / M6

Scope of Delivery
- 1 heater

Note
- Operating PTC heaters below AC/DC 140 V will reduce the heater output by approx. 10 %.
- The specified heating capacity refers to an ambient temperature of 20 °C (68 °F).
- A safety clearance of 50 to 100 mm (1.97 to 3.94") to the adjacent components shall be observed (according to the corresponding operation manual).

Technical Data
- Frequency: AC 50 / 60 Hz
- Protection class: IP20
- Protection type: II (double insulation)
- Operating / storage temperature: -45 °C to +70 °C (-49 °F to +158 °F)
- Operating / storage humidity: max. 90 % RH (non-condensing)
- Surface temperature at 20 °C (68 °F) ambient temperature (except upper protective grille)
  - CS < 85 °C; 185 ° F
  - CSK < 80 °C; 176 ° F
  - HG150 / 250 < 90 °C; 194 ° F
  - HG400 < 65 °C; 149 ° F
  - HGH350 / 550 < 90 °C; 194 ° F
  - HG950 / HGH350 < 90 °C; 194 ° F
  - HG1200 < 120 °C; 248 ° F
- Air outlet temperature: See applicable operation manual
- Unimpeded air flow for fan heaters:
  - HG150: 13.8 m³/h; HG250 / 400: 45 m³/h (AC230V), 54 m³/h (AC120V);
  - HGH350 / 550: 35 / 45 m³/h;
  - HG950 / 1200: 160 m³/h
- Connection: 2-pole 2.5 mm² terminal connector, max. torque 0.8 Nm (HG250 / 400 / 950 / 1200 with strain relief)
- Mounting position: Vertical air flow (air outlet at top)
- Attachment: Clip for snap-on attachment to 35 mm DIN rail EN 60715, for HG950 / 1200 screw fixing M5 / M6 at the bottom of the enclosure
- Approvals: See table
- Surface finish:
  - Housing: plastic, black UL94 V-0,
  - HG350 / 550: light grey

Accessories ▸ from page 44
- Small thermostats
- Temperature controllers
- Mechanical humidity controller
- Electronic Hygrotherm ETF012
- Tamperproof thermostats FTO, normally closed contact
- Switching Module SM010

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09
## Small Heaters Type CSK (Semi-Conductor) with PTC-Resistor

<table>
<thead>
<tr>
<th>Heating capacity</th>
<th>Nominal voltage</th>
<th>Type</th>
<th>Control system</th>
<th>Start-up current / preliminary fuse</th>
<th>Approvals</th>
<th>Dimensions (W x H x D)</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 W</td>
<td>120-240 V AC</td>
<td>CSK</td>
<td>-</td>
<td>1.0 A / 2 A (slow-blow)</td>
<td>cURus, CE</td>
<td>38 x 98 x 75</td>
<td>3185-0010-02-00</td>
</tr>
<tr>
<td>10 W</td>
<td>24 V DC</td>
<td>CSK</td>
<td>-</td>
<td>6 A / 6.3 A (slow-blow)</td>
<td>CE</td>
<td>38 x 98 x 75</td>
<td>3185-0010-02-24</td>
</tr>
<tr>
<td>20 W</td>
<td>120-240 V AC</td>
<td>CSK</td>
<td>-</td>
<td>2.5 A / 4 A (slow-blow)</td>
<td>cURus, CE</td>
<td>38 x 98 x 75</td>
<td>3185-0020-02-00</td>
</tr>
<tr>
<td>20 W</td>
<td>24 V DC</td>
<td>CSK</td>
<td>-</td>
<td>8 A / 6.3 A (slow-blow)</td>
<td>CE</td>
<td>38 x 98 x 75</td>
<td>3185-0020-02-24</td>
</tr>
</tbody>
</table>

* Tolerance ± 5 K

## Heaters Type CS / CSF (Semi-Conductor) with PTC-Resistor

<table>
<thead>
<tr>
<th>Heating capacity</th>
<th>Nominal voltage</th>
<th>Type</th>
<th>Control system</th>
<th>Start-up current / preliminary fuse</th>
<th>Approvals</th>
<th>Dimensions (W x H x D)</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 W</td>
<td>120-240 V AC</td>
<td>CS 50</td>
<td>-</td>
<td>2.5 A / 4 A (slow-blow)</td>
<td>cURus, CE</td>
<td>60 x 110 x 90</td>
<td>3186-0050-02-00</td>
</tr>
<tr>
<td>50 W</td>
<td>24 V DC</td>
<td>CS 50</td>
<td>-</td>
<td>11 A / 10 A (slow-blow)</td>
<td>CE</td>
<td>60 x 110 x 90</td>
<td>3186-0050-02-24</td>
</tr>
<tr>
<td>100 W</td>
<td>120-240 V AC</td>
<td>CS 100</td>
<td>-</td>
<td>4.5 A / 8 A (slow-blow)</td>
<td>cURus, CE</td>
<td>60 x 110 x 90</td>
<td>3186-0100-02-00</td>
</tr>
<tr>
<td>100 W</td>
<td>24 V DC</td>
<td>CS 100</td>
<td>-</td>
<td>13 A / 10 A (slow-blow)</td>
<td>CE</td>
<td>60 x 110 x 90</td>
<td>3186-0100-02-24</td>
</tr>
<tr>
<td>150 W</td>
<td>120-240 V AC</td>
<td>CS 150</td>
<td>-</td>
<td>8 A / 10 A (slow-blow)</td>
<td>cURus, CE</td>
<td>60 x 110 x 90</td>
<td>3186-0150-02-00</td>
</tr>
<tr>
<td>150 W</td>
<td>24 V DC</td>
<td>CS 150</td>
<td>-</td>
<td>16 A / 10 A (slow-blow)</td>
<td>CE</td>
<td>60 x 150 x 90</td>
<td>3186-0150-02-24</td>
</tr>
<tr>
<td>100 W</td>
<td>120-240 V AC</td>
<td>CSF 100</td>
<td>On + 5 °C Off + 15 °C</td>
<td>4.5 A / 8 A (slow-blow)</td>
<td>cURus, CE</td>
<td>60 x 133 x 90</td>
<td>3186-0100-03-00</td>
</tr>
</tbody>
</table>

* Tolerance ± 5 K
## Small Fan Heaters Type HG150 / 250 / 400 with PTC-Resistor

<table>
<thead>
<tr>
<th>Heating capacity</th>
<th>Nominal voltage</th>
<th>Type</th>
<th>Control system</th>
<th>Start-up current / preliminary fuse</th>
<th>Approvals</th>
<th>Dimensions (W x H x D)</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>150 W</td>
<td>230 V AC</td>
<td>HG 150</td>
<td>-</td>
<td>12 A / 10 A (slow-blow)</td>
<td>cURus, CE</td>
<td>65 x 75 x 87</td>
<td>3184-0150-02-23</td>
</tr>
<tr>
<td>150 W</td>
<td>120 V AC</td>
<td>HG 150</td>
<td>-</td>
<td>6 A / 10 A (slow-blow)</td>
<td>cURus, CE</td>
<td>65 x 75 x 87</td>
<td>3184-0150-02-12</td>
</tr>
<tr>
<td>250 W</td>
<td>230 V AC</td>
<td>HG 250</td>
<td>-</td>
<td>9 A / 10 A (slow-blow)</td>
<td>cURus, CE</td>
<td>85 x 90 x 111</td>
<td>3184-0250-02-23</td>
</tr>
<tr>
<td>250 W</td>
<td>120 V AC</td>
<td>HG 250</td>
<td>-</td>
<td>6 A / 10 A (slow-blow)</td>
<td>cURus, CE</td>
<td>85 x 90 x 111</td>
<td>3184-0250-02-12</td>
</tr>
<tr>
<td>400 W</td>
<td>230 V AC</td>
<td>HG 400</td>
<td>-</td>
<td>15 A / 10 A (slow-blow)</td>
<td>cURus, CE</td>
<td>85 x 90 x 111</td>
<td>3184-0400-02-23</td>
</tr>
<tr>
<td>400 W</td>
<td>120 V AC</td>
<td>HG 400</td>
<td>-</td>
<td>9 A / 10 A (slow-blow)</td>
<td>cURus, CE</td>
<td>85 x 90 x 111</td>
<td>3184-0400-02-12</td>
</tr>
</tbody>
</table>

## Fan Heaters Type HGH350 / HGH550 with PTC-Resistor

<table>
<thead>
<tr>
<th>Heating capacity</th>
<th>Nominal voltage</th>
<th>Type</th>
<th>Control system</th>
<th>Start-up current / preliminary fuse</th>
<th>Approvals</th>
<th>Dimensions (W x H x D)</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>400 W</td>
<td>115 V AC / 50 Hz, 115 V AC / 60 Hz</td>
<td>HGH 350</td>
<td>Thermostat 0 to + 60 °C</td>
<td>14 A / 10 A (slow-blow)</td>
<td>cURus, CE</td>
<td>100 x 165 x 128</td>
<td>3184-0350-01-15</td>
</tr>
<tr>
<td>475 W</td>
<td>230 V AC / 50 Hz, 230 V AC / 60 Hz</td>
<td>HGH 350</td>
<td>Thermostat 0 to + 60 °C</td>
<td>11 A / 10 A (slow-blow)</td>
<td>cURus, CE</td>
<td>100 x 165 x 128</td>
<td>3184-0350-02-30</td>
</tr>
<tr>
<td>510 W</td>
<td>115 V AC / 50 Hz, 115 V AC / 60 Hz</td>
<td>HGH 550</td>
<td>Thermostat 0 to + 60 °C</td>
<td>15 A / 10 A (slow-blow)</td>
<td>cURus, CE</td>
<td>100 x 165 x 128</td>
<td>3184-0550-01-15</td>
</tr>
<tr>
<td>550 W</td>
<td>230 V AC / 50 Hz, 230 V AC / 60 Hz</td>
<td>HGH 550</td>
<td>Thermostat 0 to + 60 °C</td>
<td>13 A / 10 A (slow-blow)</td>
<td>cURus, CE</td>
<td>100 x 165 x 128</td>
<td>3184-0550-02-30</td>
</tr>
</tbody>
</table>

* at + 20 °C
** Switching temperature difference +7 K (± 4 K tolerance)

## Fan Heaters Type HG950 with High Performance Heating Cartridge / HG1200 with PTC-Resistor

<table>
<thead>
<tr>
<th>Heating capacity</th>
<th>Nominal voltage</th>
<th>Type</th>
<th>Control system</th>
<th>Start-up current / preliminary fuse</th>
<th>Approvals</th>
<th>Dimensions (W x H x D)</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>950 W</td>
<td>230 V AC</td>
<td>HG 950</td>
<td>Thermostat 0 to + 60 °C</td>
<td>- / 6.3 A (slow-blow)</td>
<td>cURus, CE</td>
<td>145 x 100 x 168</td>
<td>3184-0950-02-23</td>
</tr>
<tr>
<td>950 W</td>
<td>230 V AC</td>
<td>HG 950</td>
<td>Hygrostat 65% r.F.</td>
<td>- / 6.3 A (slow-blow)</td>
<td>cURus, CE</td>
<td>145 x 100 x 168</td>
<td>3184-0950-03-23</td>
</tr>
<tr>
<td>1200 W</td>
<td>230 V AC</td>
<td>HG 1200</td>
<td>Thermostat 0 to + 60 °C</td>
<td>13 A / 10 A (slow-blow)</td>
<td>cURus, CE</td>
<td>145 x 120 x 168</td>
<td>3184-1200-02-23</td>
</tr>
</tbody>
</table>
häwa Filter Fans

häwa filter fans are available in different designs and air flow capacities.

The well-designed program permits a tool-free mounting into enclosures.

1 Easy-to-install:
- Quick and tool-free mounting into enclosures/cabinets
- Sturdy plastic clips ensure a quick assembly and right fit

2 Functional:
- Easy filter pad exchange thanks to a sophisticated folding mechanism

3 Well-designed:
- Maximum air flow with very compact filter design due to slanted filter pad position

Different materials, dimensions, colors or customized design? Not a problem, we do it every day, just contact us!

info@haewa.com
Filter Fans

Stainless steel or sheet steel – the choice is yours.

- Stainless steel
  - Stainless steel, material no. 1.4301
  - Externally brushed

- Sheet steel
  - With improved pre-treatment through iron phosphating and chromium-free repassivation
  - Powder coating, texture finish

Plastic PC - ABS
- Available in various colors

For detailed information, see product.
häwa
FixCool Filter Fans

- Snap-in version for quick mounting without tools
- Secure fit through sturdy plastic clips
- Easy filter pad exchange due to practical folding mechanism
- Available in the standard colors RAL 7035 and RAL 9005
- Air flow rate from 35 m³/h up to 870 m³/h

Advice from one of our häwa consultants:
Filter fans are the easiest and most cost-efficient way of dissipating heat from enclosures and cabinets.

If you are in the need of any information, please contact us.
Product Description

FixCool filter fans with standard filter pad in an innovative design for economic cabinet climate control.

- The front grid is made of robust, self-extinguishing plastic with seamless foamed-in seal.
- Sturdy plastic clips allow quick assembly and ensure a secure fit.
- Power supply connection is made via spring-loaded terminals (except for type FC10: stranded wires).
- Two lateral auxiliary grooves ease the opening of the filter grid which is simply opened to the front to change the filter pad.

Scope of Delivery

- 1 FixCool filter fan
- Standard filter pad

Note

- If the wall thickness exceeds 3 mm (for type FC10) and 2 mm for type AC10), fix the filter grid with the supplied mounting hardware as specified in the operating instructions.
- The air flow rate can be increased by using several or larger exhaust filters.
- Other modifications are available upon request.

Technical Data

- Protection class: IP54
- Type rating: Type 12
- Temperature range: -10 °C up to +55 °C
- Motor connection: Spring-loaded terminals (except for type FC10: stranded wires)
- Approvals: CE, cURus, cULus
- Surface finish: RAL 7035 or RAL 9005
- Material: PC/ABS plastic housing

Accessories ▶ from page 44

- Small thermostats
- Temperature controllers
- Replacement filter pads
- Hose-proof hoods IP 56
## FixCool Filter Fans

<table>
<thead>
<tr>
<th>Air flow with exhaust filter</th>
<th>Cut-out</th>
<th>Type</th>
<th>Color</th>
<th>Nominal voltage</th>
<th>Power consumption</th>
<th>Motor connection</th>
<th>Dimensions (W x H x D)</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>m³/h</td>
<td>mm</td>
<td>RAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>mm</td>
<td></td>
</tr>
<tr>
<td>35/35 24/24</td>
<td>92 x 92</td>
<td>FC10</td>
<td>9005</td>
<td>230 V AC</td>
<td>4,6 W/4,5 W</td>
<td>Stranded wires</td>
<td>119 x 119 x 575</td>
<td>3156-0092-23-00-00</td>
</tr>
<tr>
<td>35/35 24/24</td>
<td>92 x 92</td>
<td>FC10</td>
<td>9005</td>
<td>230 V AC</td>
<td>4,6 W/4,5 W</td>
<td>Stranded wires</td>
<td>119 x 119 x 575</td>
<td>3156-0092-23-70-00</td>
</tr>
<tr>
<td>35/35 24/24</td>
<td>92 x 92</td>
<td>FC10</td>
<td>9005</td>
<td>115 V AC</td>
<td>3,6 W/2,86 W</td>
<td>Stranded wires</td>
<td>119 x 119 x 575</td>
<td>3156-0092-11-00-00</td>
</tr>
<tr>
<td>35/35 24/24</td>
<td>92 x 92</td>
<td>FC10</td>
<td>7035</td>
<td>115 V AC</td>
<td>3,6 W/2,86 W</td>
<td>Stranded wires</td>
<td>119 x 119 x 575</td>
<td>3156-0092-11-70-00</td>
</tr>
<tr>
<td>50 32</td>
<td>92 x 92</td>
<td>FC10</td>
<td>9005</td>
<td>24 V DC</td>
<td>6,3 W</td>
<td>Stranded wires</td>
<td>119 x 119 x 575</td>
<td>3156-0092-24-00-00</td>
</tr>
<tr>
<td>67/69 50/52</td>
<td>125 x 125</td>
<td>FC15</td>
<td>9005</td>
<td>230 V AC</td>
<td>22 W/22W</td>
<td>Spring-loaded terminal</td>
<td>152 x 152 x 75</td>
<td>3156-0125-23-00-00</td>
</tr>
<tr>
<td>67/69 50/52</td>
<td>125 x 125</td>
<td>FC15</td>
<td>9005</td>
<td>22 W/25W</td>
<td>Spring-loaded terminal</td>
<td>152 x 152 x 75</td>
<td>3156-0125-11-00-00</td>
<td></td>
</tr>
<tr>
<td>67/69 50/52</td>
<td>125 x 125</td>
<td>FC15</td>
<td>7035</td>
<td>22 W/25W</td>
<td>Spring-loaded terminal</td>
<td>152 x 152 x 75</td>
<td>3156-0125-11-70-00</td>
<td></td>
</tr>
<tr>
<td>67 50</td>
<td>125 x 125</td>
<td>FC15</td>
<td>9005</td>
<td>24 V DC</td>
<td>8,1 W</td>
<td>Spring-loaded terminal</td>
<td>152 x 152 x 75</td>
<td>3156-0125-24-00-00</td>
</tr>
<tr>
<td>67 50</td>
<td>125 x 125</td>
<td>FC15</td>
<td>9005</td>
<td>8,1 W</td>
<td>Spring-loaded terminal</td>
<td>152 x 152 x 75</td>
<td>3156-0125-24-70-00</td>
<td></td>
</tr>
<tr>
<td>108/114 75/82</td>
<td>177 x 177</td>
<td>FC20</td>
<td>9005</td>
<td>230 V AC</td>
<td>22 W/22 W</td>
<td>Spring-loaded terminal</td>
<td>204 x 204 x 98</td>
<td>3156-0177-23-00-00</td>
</tr>
<tr>
<td>108/114 75/82</td>
<td>177 x 177</td>
<td>FC20</td>
<td>9005</td>
<td>22 W/22 W</td>
<td>Spring-loaded terminal</td>
<td>204 x 204 x 98</td>
<td>3156-0177-23-70-00</td>
<td></td>
</tr>
<tr>
<td>108/114 75/82</td>
<td>177 x 177</td>
<td>FC20</td>
<td>9005</td>
<td>115 V AC</td>
<td>22 W/24,5 W</td>
<td>Spring-loaded terminal</td>
<td>204 x 204 x 98</td>
<td>3156-0177-11-00-00</td>
</tr>
<tr>
<td>108/114 75/82</td>
<td>177 x 177</td>
<td>FC20</td>
<td>7035</td>
<td>22 W/24,5 W</td>
<td>Spring-loaded terminal</td>
<td>204 x 204 x 98</td>
<td>3156-0177-11-70-00</td>
<td></td>
</tr>
<tr>
<td>108 75</td>
<td>177 x 177</td>
<td>FC20</td>
<td>9005</td>
<td>24 V DC</td>
<td>8,1 W</td>
<td>Spring-loaded terminal</td>
<td>204 x 204 x 98</td>
<td>3156-0177-24-00-00</td>
</tr>
<tr>
<td>190/198 130/138</td>
<td>223 x 223</td>
<td>FC25</td>
<td>9005</td>
<td>230 V AC</td>
<td>25 W/70 W</td>
<td>Spring-loaded terminal</td>
<td>250 x 250 x 118</td>
<td>3156-0223-23-00-00</td>
</tr>
<tr>
<td>190/198 130/138</td>
<td>223 x 223</td>
<td>FC25</td>
<td>9005</td>
<td>25 W/70 W</td>
<td>Spring-loaded terminal</td>
<td>250 x 250 x 118</td>
<td>3156-0223-23-70-00</td>
<td></td>
</tr>
<tr>
<td>190/198 130/138</td>
<td>223 x 223</td>
<td>FC25</td>
<td>9005</td>
<td>115 V AC</td>
<td>39 W/38 W</td>
<td>Spring-loaded terminal</td>
<td>250 x 250 x 118</td>
<td>3156-0223-11-00-00</td>
</tr>
<tr>
<td>270/280 200/210</td>
<td>223 x 223</td>
<td>FC25</td>
<td>9005</td>
<td>230 V AC</td>
<td>50 W/66 W</td>
<td>Spring-loaded terminal</td>
<td>250 x 250 x 99</td>
<td>3156-0223-23-01-00</td>
</tr>
<tr>
<td>270/280 200/210</td>
<td>223 x 223</td>
<td>FC25</td>
<td>9005</td>
<td>50 W/66 W</td>
<td>Spring-loaded terminal</td>
<td>250 x 250 x 99</td>
<td>3156-0223-23-71-00</td>
<td></td>
</tr>
<tr>
<td>270/280 200/210</td>
<td>223 x 223</td>
<td>FC25</td>
<td>9005</td>
<td>50 W/75 W</td>
<td>Spring-loaded terminal</td>
<td>250 x 250 x 99</td>
<td>3156-0223-11-01-00</td>
<td></td>
</tr>
<tr>
<td>230 190</td>
<td>223 x 223</td>
<td>FC25</td>
<td>9005</td>
<td>24 V DC</td>
<td>26,6 W</td>
<td>Spring-loaded terminal</td>
<td>250 x 250 x 118</td>
<td>3156-0223-24-01-00</td>
</tr>
<tr>
<td>500/525 380/410</td>
<td>291 x 291</td>
<td>FC30</td>
<td>9005</td>
<td>230 V AC</td>
<td>50 W/63 W</td>
<td>Spring-loaded terminal</td>
<td>318 x 318 x 139</td>
<td>3156-0291-23-00-00</td>
</tr>
<tr>
<td>500/525 380/410</td>
<td>291 x 291</td>
<td>FC30</td>
<td>9005</td>
<td>50 W/63 W</td>
<td>Spring-loaded terminal</td>
<td>318 x 318 x 139</td>
<td>3156-0291-23-70-00</td>
<td></td>
</tr>
<tr>
<td>500/525 380/410</td>
<td>291 x 291</td>
<td>FC30</td>
<td>9005</td>
<td>115 V AC</td>
<td>50 W/72 W</td>
<td>Spring-loaded terminal</td>
<td>318 x 318 x 139</td>
<td>3156-0291-11-00-00</td>
</tr>
<tr>
<td>700/630 600/530</td>
<td>291 x 291</td>
<td>FC30</td>
<td>9005</td>
<td>230 V AC</td>
<td>115 W/173 W</td>
<td>Spring-loaded terminal</td>
<td>318 x 318 x 135</td>
<td>3156-0291-23-01-00</td>
</tr>
<tr>
<td>Unimpeded air flow</td>
<td>Air flow with exhaust filter</td>
<td>Cut-out</td>
<td>Type</td>
<td>Color</td>
<td>Nominal voltage</td>
<td>Power consumption</td>
<td>Motor connection</td>
<td>Dimensions (W x H x D)</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------------</td>
<td>---------</td>
<td>------</td>
<td>-------</td>
<td>-----------------</td>
<td>------------------</td>
<td>------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>m³/h</td>
<td>m³/h</td>
<td>mm</td>
<td></td>
<td>RAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>700/630</td>
<td>600/530</td>
<td>291 x 291</td>
<td>FC30</td>
<td>7035</td>
<td>230 V AC</td>
<td>115 W/173 W</td>
<td>Spring-loaded terminal</td>
<td>318 x 318 x 135</td>
</tr>
<tr>
<td>700/630</td>
<td>600/530</td>
<td>291 x 291</td>
<td>FC30</td>
<td>9005</td>
<td>115 V AC</td>
<td>125 W/170 W</td>
<td>Spring-loaded terminal</td>
<td>318 x 318 x 135</td>
</tr>
<tr>
<td>700/630</td>
<td>600/530</td>
<td>291 x 291</td>
<td>FC30</td>
<td>7035</td>
<td>115 V AC</td>
<td>125 W/170 W</td>
<td>Spring-loaded terminal</td>
<td>318 x 318 x 135</td>
</tr>
<tr>
<td>850/870</td>
<td>620/640</td>
<td>291 x 291</td>
<td>FC30</td>
<td>9005</td>
<td>400/460 V AC</td>
<td>115 W/204 W</td>
<td>Spring-loaded terminal</td>
<td>318 x 318 x 160,5</td>
</tr>
<tr>
<td>850/870</td>
<td>620/640</td>
<td>291 x 291</td>
<td>FC30</td>
<td>7035</td>
<td>400/460 V AC</td>
<td>115 W/204 W</td>
<td>Spring-loaded terminal</td>
<td>318 x 318 x 160,5</td>
</tr>
</tbody>
</table>

Exhaust Filters for FixCool Filter Fans

<table>
<thead>
<tr>
<th>Suitable for type</th>
<th>Cut-out</th>
<th>Type</th>
<th>Color</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mm</td>
<td></td>
<td>RAL</td>
<td></td>
</tr>
<tr>
<td>FC10</td>
<td>92 x 92</td>
<td>AC10</td>
<td>9005</td>
<td>3156-0092-00-00-00</td>
</tr>
<tr>
<td>FC10</td>
<td>92 x 92</td>
<td>AC10</td>
<td>7035</td>
<td>3156-0092-00-70-00</td>
</tr>
<tr>
<td>FC15</td>
<td>125 x 125</td>
<td>AC15</td>
<td>9005</td>
<td>3156-0125-00-00-00</td>
</tr>
<tr>
<td>FC15</td>
<td>125 x 125</td>
<td>AC15</td>
<td>7035</td>
<td>3156-0125-00-70-00</td>
</tr>
<tr>
<td>FC20</td>
<td>177 x 177</td>
<td>AC20</td>
<td>9005</td>
<td>3156-0177-00-00-00</td>
</tr>
<tr>
<td>FC20</td>
<td>177 x 177</td>
<td>AC20</td>
<td>7035</td>
<td>3156-0177-00-70-00</td>
</tr>
<tr>
<td>FC25</td>
<td>223 x 223</td>
<td>AC25</td>
<td>9005</td>
<td>3156-0223-00-00-00</td>
</tr>
<tr>
<td>FC25</td>
<td>223 x 223</td>
<td>AC25</td>
<td>7035</td>
<td>3156-0223-00-70-00</td>
</tr>
<tr>
<td>FC30</td>
<td>291 x 291</td>
<td>AC30</td>
<td>9005</td>
<td>3156-0291-00-00-00</td>
</tr>
<tr>
<td>FC30</td>
<td>291 x 291</td>
<td>AC30</td>
<td>7035</td>
<td>3156-0291-00-70-00</td>
</tr>
</tbody>
</table>

The air flow rate can be increased by using several or larger exhaust filters.
hâwa
Super Flat
Filter Fans

- Super flat design, external thickness of front grid only 5 mm
- Front grid removable without tools
- Safe snap-in mounting
- Air flow 58 - 495 m³/h

Advice from one of our hâwa consultants:
The entire diversity of the world of hâwa - available for download. Simply comfortable: In our download-center you receive all brochures, catalogs and technical drawings with one click.

www.haewa.com
Product Description

The front grid can easily be over-painted to match your color.

- Large front grid cut-outs optimize maximum air flow, minimum noise level and filter status indication
- häwa’s super flat filter design makes size variations for specific applications economically feasible
- Environment-friendly, since all parts are made of galvanized sheet steel which can be easily recycled
- Snap-in mounting achieved with coding noses integrated in the filter frame
- Additional attachment is possible by using sheet metal screws
- All internal components are made of galvanized sheet steel with contact brackets and integrated wire grid which assures a high degree of EMI / RFI-shielding

Scope of Delivery

- 1 super flat filter fan or exhaust filter
- Filter pad G3

Note

- Specified air flow rates relate to filter fans and exhaust filters of the same size and used with the same filter pad G3
- Other motor connections available upon request
- Attention: Type 0324 with screw attachment, without contact brackets and without wire grid

Super Flat Filter Fans

<table>
<thead>
<tr>
<th>Air flow G3</th>
<th>Cut-out (mm)</th>
<th>Type</th>
<th>Nominal voltage</th>
<th>Power consumption</th>
<th>Motor connection</th>
<th>Dimensions (W x H x D)</th>
<th>Order number filter fan</th>
<th>Order number exhaust filter</th>
</tr>
</thead>
<tbody>
<tr>
<td>58 m³/h</td>
<td>122 x 122</td>
<td>0144</td>
<td>230 V AC</td>
<td>15 W / 50 Hz</td>
<td>Flat connector</td>
<td>144 x 144 x 75</td>
<td>3149-0144-23-07-01*</td>
<td>3149-0144-00-07</td>
</tr>
<tr>
<td>58 m³/h</td>
<td>122 x 122</td>
<td>0144</td>
<td>115 V AC</td>
<td>15 W / 50 Hz</td>
<td>Flat connector</td>
<td>144 x 144 x 75</td>
<td>3149-0144-11-07-01*</td>
<td>3149-0144-00-07</td>
</tr>
<tr>
<td>60 m³/h</td>
<td>138 x 138</td>
<td>0160</td>
<td>230 V AC</td>
<td>15 W / 50 Hz</td>
<td>Flat connector</td>
<td>160 x 160 x 75</td>
<td>3149-0160-23-07-01</td>
<td>3149-0160-00-07</td>
</tr>
<tr>
<td>60 m³/h</td>
<td>138 x 138</td>
<td>0160</td>
<td>115 V AC</td>
<td>15 W / 50 Hz</td>
<td>Flat connector</td>
<td>160 x 160 x 75</td>
<td>3149-0160-11-07-01</td>
<td>3149-0160-00-07</td>
</tr>
<tr>
<td>495 m³/h</td>
<td>292 x 292</td>
<td>0324</td>
<td>230 V AC</td>
<td>64 W / 50 Hz</td>
<td>Terminal strip</td>
<td>324 x 324 x 132</td>
<td>3149-0324-23-07</td>
<td>3149-0324-00-07</td>
</tr>
<tr>
<td>495 m³/h</td>
<td>292 x 292</td>
<td>0324</td>
<td>115 V AC</td>
<td>64 W / 50 Hz</td>
<td>Terminal strip</td>
<td>324 x 324 x 132</td>
<td>3149-0324-11-07</td>
<td>3149-0324-00-07</td>
</tr>
</tbody>
</table>

Technical Data

- Frequency: 50 / 60 Hz
- Protection class: IP42
- Temperature range: -10 °C to +55 °C (+14 °F to +131 °F)
- Motor connection: Terminal strip / flat connector 2.8 x 0.5 mm, see table
- Approvals: CE, cURus-file E93497
- Material of housing: 1 mm sheet steel
- Surface:
  - Housing: Galvanized;
  - Front grid: Powder coated RAL 7035, texture finish

Accessories > from page 44

- Small thermostats
- Temperature controllers
- Motor cables
- Replacement filter pads G3
häwa
Filter Fans IP55
Protected Against Water Jets

- Protection class IP55
- Maximum air flow with minimum size due to slanted filter pad position
- Air flow 41 – 155 m³/h

Advice from one of our häwa consultants:

You will find technical drawings of this and other filter fans on our website. If you are in the need of any further information, please do not hesitate to call us.
**Product Description**

Protection cover either of powder coated sheet steel or externally brushed stainless steel.

- For top mounting: Protection class IP52. Depending on the mounting type, the air outlet can be adjusted to the front, sides or back

**Scope of Delivery Filter Fan**

- 1 fan, 1 protection grill, protection cover with foamed sealing, filter pad G4 and mounting hardware

**Scope of Delivery Inlet Fan**

- Filter cover with foamed sealing, filter pad G4 and mounting hardware

**Note**

- The air flow rates specified relate to filter fans and inlet filters of the same size and used with the same filter pad G4
- Other motor connections or EMI/RFI-shielding available upon request

**Technical Data**

- Frequency: 50 / 60 Hz
- Protection class: IP55, protection cover type 12
- Temperature range: \(-10°C \text{ to } +55°C\) \((+14°F \text{ to } +131°F)\)
- Motor connection: Terminal strip/flat connector 2.8 x 0.5 mm/stranded wire 300 mm
- Approvals: CE, cURus-file E93497
- Material of housing: 1 mm sheet steel or stainless steel
- Surface Housing: Powder coated RAL 7035, texture finish or externally brushed

**Accessories** from page 44

- Small thermostats
- Temperature controllers
- Motor cables
- Replacement filter pads G4
## Filter Fan IP55 Protected Against Water Jets

<table>
<thead>
<tr>
<th>Air flow</th>
<th>Material</th>
<th>Type</th>
<th>Color</th>
<th>Nominal voltage</th>
<th>Power consumption</th>
<th>Motor connection</th>
<th>Dimensions (W x H x D)</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>G3: 50 m³/h&lt;br&gt;G4: 41 m³/h</td>
<td>Sheet steel</td>
<td>0148</td>
<td>7035</td>
<td>230 V AC</td>
<td>15 W / 50 Hz 15 W / 60 Hz</td>
<td>Flat connector</td>
<td>148 x 160 x 40 / 43</td>
<td>3142-0148-02-27-01&lt;br&gt;3142-0148-02-25-01</td>
</tr>
<tr>
<td>G3: 50 m³/h&lt;br&gt;G4: 41 m³/h</td>
<td>Stainless steel</td>
<td>0148</td>
<td>7035</td>
<td>115 V AC</td>
<td>15 W / 50 Hz 15 W / 60 Hz</td>
<td>Flat connector</td>
<td>148 x 160 x 40 / 43</td>
<td>3142-0148-01-17-01&lt;br&gt;3142-0148-01-15-01</td>
</tr>
<tr>
<td>G3: 90 m³/h&lt;br&gt;G4: 75 m³/h</td>
<td>Sheet steel</td>
<td>0276</td>
<td>7035</td>
<td>230 V AC</td>
<td>15 W / 50 Hz 15 W / 60 Hz</td>
<td>Flat connector</td>
<td>276 x 292 x 50 / 43</td>
<td>3142-0276-02-27-01&lt;br&gt;3142-0276-02-25-01</td>
</tr>
<tr>
<td>G3: 155 m³/h&lt;br&gt;G4: 142 m³/h</td>
<td>Sheet steel</td>
<td>1276</td>
<td>7035</td>
<td>230 V AC</td>
<td>45 W / 50 Hz 39 W / 60 Hz</td>
<td>Terminal strip</td>
<td>276 x 292 x 50 / 60</td>
<td>3142-1276-02-27-02&lt;br&gt;3142-1276-02-25-02</td>
</tr>
<tr>
<td>G3: 90 m³/h&lt;br&gt;G4: 75 m³/h</td>
<td>Sheet steel</td>
<td>0276</td>
<td>7035</td>
<td>115 V AC</td>
<td>15 W / 50 Hz 15 W / 60 Hz</td>
<td>Flat connector</td>
<td>276 x 292 x 50 / 43</td>
<td>3142-0276-01-17-01&lt;br&gt;3142-0276-01-15-01</td>
</tr>
<tr>
<td>G3: 155 m³/h&lt;br&gt;G4: 142 m³/h</td>
<td>Sheet steel</td>
<td>1276</td>
<td>7035</td>
<td>115 V AC</td>
<td>29 W / 50 Hz 29 W / 60 Hz</td>
<td>Stranded wires</td>
<td>276 x 292 x 50 / 43</td>
<td>3142-1276-01-17-01&lt;br&gt;3142-1276-01-15-01</td>
</tr>
<tr>
<td>G3: 90 m³/h&lt;br&gt;G4: 75 m³/h</td>
<td>Sheet steel</td>
<td>0276</td>
<td>7035</td>
<td>24 V DC</td>
<td>74 W</td>
<td>Stranded wires</td>
<td>276 x 292 x 50 / 43</td>
<td>3142-0276-00-24&lt;br&gt;3142-0276-00-25</td>
</tr>
<tr>
<td>G3: 155 m³/h&lt;br&gt;G4: 142 m³/h</td>
<td>Sheet steel</td>
<td>1276</td>
<td>7035</td>
<td>24 V DC</td>
<td>12 W</td>
<td>Stranded wires</td>
<td>276 x 292 x 50 / 43</td>
<td>3142-1276-00-24&lt;br&gt;3142-1276-00-25</td>
</tr>
</tbody>
</table>

* A = External depth / I = Internal depth

## Inlet Filter for IP55 Protected Against Water Jets

<table>
<thead>
<tr>
<th>Suitable for type</th>
<th>Material</th>
<th>Dimensions</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>0148</td>
<td>Sheet steel</td>
<td>148 x 160 x 40</td>
<td>3142-0148-00-07&lt;br&gt;3142-0148-00-05</td>
</tr>
<tr>
<td></td>
<td>Stainless steel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0276 / 1276</td>
<td>Sheet steel</td>
<td>276 x 292 x 50</td>
<td>3142-0276-00-07&lt;br&gt;3142-0276-00-05</td>
</tr>
<tr>
<td></td>
<td>Stainless steel</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
FixCool Filter Fans 3156
häwa
Roof-Mounted Ventilators

- Air exhaust to all four sides
- Space-saving design
- Air flow 290 m³/h

Advice from one of our häwa consultants:

The entire diversity of the world of häwa – available for download.

Simply comfortable: In our download-center you receive all brochures, catalogs and technical drawings with one click.
Product Description

For heat removal through top of cabinet. Radial fan ensures very high air flow.

Scope of Delivery

- Roof-mounted ventilator complete with fan and mounting hardware or roof-mounted cover without fan, with mounting hardware.

Note

- For an air inlet, we would recommend to mount an exhaust filter, type 3159-9292-00-73 with filter pad type G3 at the bottom of the cabinet.
- The specified air flow rates relate to the use of a size 3 inlet filter in combination with a filter pad type G3.
- Versions with special voltages are available upon request.

Technical Data

- Frequency: 50 / 60 Hz
- Protection class: IP43
- Temperature range: -25 °C to +40 °C (-13 °F to +104 °F)
- Motor connection: Plug-in terminal
- Approval fan motor: CE
- Material of housing: 1 mm sheet steel
- Surface of housing: Powder coated, RAL 7035, texture finish

Accessories ➔ from page 44

- Small thermostats
- Temperature controllers

Roof-Mounted Ventilators

<table>
<thead>
<tr>
<th>Air flow</th>
<th>Cut-out (mm)</th>
<th>Dimensions (W x H x D) mm</th>
<th>Nominal voltage</th>
<th>Power consumption</th>
<th>Ventilator</th>
<th>Motor connection</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>290 m³/h</td>
<td>249 x 249</td>
<td>330 x 330 x 77</td>
<td>230 V AC</td>
<td>53 W / 50 Hz</td>
<td>With fan</td>
<td>Plug-in terminal</td>
<td>3148-0300-02-27</td>
</tr>
<tr>
<td>290 m³/h</td>
<td>249 x 249</td>
<td>330 x 330 x 77</td>
<td>115 V AC</td>
<td>70 W / 60 Hz</td>
<td>With fan</td>
<td>Plug-in terminal</td>
<td>3148-0300-01-17</td>
</tr>
<tr>
<td>-</td>
<td>249 x 249</td>
<td>330 x 330 x 77</td>
<td>-</td>
<td>-</td>
<td>Without fan</td>
<td>-</td>
<td>3148-0300-00-07</td>
</tr>
</tbody>
</table>
häwa Heat Exchangers

häwa heat exchangers are available with various output ratings.

The wide range of our heat exchangers offers an unlimited array of standard or customized possibilities to meet your specific requirements.

1 Comfortable:
- Our well thought-out devices are almost maintenance-free
- All parts are easily accessible

2 Easy assembly:
- Can be adapted to any connection requirements by means of hose nozzles or threaded sleeves
- Easy and quick mounting via the existing fixing points

3 Functional:
- Option: Stainless steel version for extreme requirements
- Can be used also in case of extreme ambient conditions such as extremely polluted, oily or contaminated air

4 Sturdy:
- The metal body and cover make the enclosure torsion-resistant
Stainless steel or sheet steel – it’s your choice.

- **Stainless steel**
  - Stainless steel material no. 1.4301
  - Externally brushed

- **Sheet steel**
  - Improved pre-treatment through iron phosphating and chromium-free repassivation
  - Powder coated, texture finish
häwa Air-to-Air Heat Exchangers

- Filterless, low maintenance
- User friendly
- Compact design

Advice from one of our häwa consultants:

Up to an ambient temperature of approx. 40 °C (104 °F), air-to-air heat exchangers are the most economic solution for dust-free cabinet cooling. If you are in the need of any information, please do not hesitate to call us.

www.haewa.com
Product Description

häwa air-to-air heat exchangers with a highly conductive aluminum core grid system have two separate IP54-sealed air circuits. This assures that outside air does not penetrate into the interior of the cabinet. The fan of the internal circuit draws hot air from the cabinet and blows it down along the heat exchanger, where it is cooled via the cooling fins and forced back into the interior of the cabinet. Using devices up to 1150 W, the heat is transmitted through continuous aluminum fins to the external circuit – using devices up to 2000 W, the heat it is transmitted through the duct wall to the external circuit. The external circuit fan draws in cool ambient air, blows it through the fins, where the heat is absorbed by the air, which is then forced back outside.

- For external or internal cabinet mounting, roof-mounting or any other mounting position
- Installation inside cabinets requires a clean, dry environment (same drill pattern, however turned upside down, from the inside)
- Separate connection/control of internal and external fans
- Simple cleaning of the exchanger core of heat exchangers from 220 W to 1150 W while mounted
- Simple removal of exchanger core for wet cleaning, applicable to all devices

Scope of Delivery

- Heat exchanger with 2 power cords
- Seals
- Mounting hardware

Note

- Versions with special voltages or with stainless steel enclosures are available upon request

Technical Data

- Frequency: 50 / 60 Hz
- Protection class: IP54, external fan IP22 / 44
- Ambient temperature: max. +75°C (+167°F)
- Dissipated heat at 25 K temperature difference: 150 – 3250 W
- Approval: CE
- Material of exchanger core: Aluminum
- Material of housing/cover: 1 mm sheet steel
- Surface: Powder coated RAL 7035, texture finish

Accessories ➔ from page 44

- Small thermostats
- Temperature controllers
- HTB thermo-calculation program
## Air-to-Air Heat Exchangers, Internal or External Mounting

<table>
<thead>
<tr>
<th>Spec. heating</th>
<th>Type</th>
<th>Nominal voltage</th>
<th>Power consumption</th>
<th>Mounting type</th>
<th>Dimensions (W x H x D)</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 W/K</td>
<td>Mini heat ex.</td>
<td>230 V AC</td>
<td>2 x 14 W</td>
<td>Partial mounting</td>
<td>150 x 130 x 110</td>
<td>3114-0150-15-07</td>
</tr>
<tr>
<td>8.8 W/K</td>
<td>Mini-Mini 220</td>
<td>230 V AC</td>
<td>2 x 14 W</td>
<td>External/internal</td>
<td>160 x 325 x 120</td>
<td>3114-0220-16-07</td>
</tr>
<tr>
<td>14 W/K</td>
<td>Super flat 350</td>
<td>230 V AC</td>
<td>2 x 14 W</td>
<td>External/internal</td>
<td>250 x 510 x 65</td>
<td>3114-0350-25-07</td>
</tr>
<tr>
<td>20 W/K</td>
<td>Compact 500</td>
<td>230 V AC</td>
<td>2 x 28 W</td>
<td>External/internal</td>
<td>250 x 510 x 90</td>
<td>3114-0500-25-07</td>
</tr>
<tr>
<td>30 W/K</td>
<td>Compact 750</td>
<td>230 V AC</td>
<td>2 x 80 W</td>
<td>External/internal</td>
<td>316 x 780 x 90</td>
<td>3114-0750-31-07</td>
</tr>
<tr>
<td>46 W/K</td>
<td>Standard 1150</td>
<td>230 V AC</td>
<td>2 x 80 W</td>
<td>External/internal</td>
<td>250 x 1330 x 90</td>
<td>3114-1150-25-07</td>
</tr>
<tr>
<td>80 W/K</td>
<td>SH2000</td>
<td>230 V AC</td>
<td>2 x 85 W</td>
<td>External/internal</td>
<td>445 x 1330 x 100</td>
<td>3114-2000-23-07</td>
</tr>
<tr>
<td>130 W/K</td>
<td>SH3250</td>
<td>230 V AC</td>
<td>2 x 155/210 W</td>
<td>External/internal</td>
<td>390 x 1800 x 145</td>
<td>3114-3250-23-07</td>
</tr>
</tbody>
</table>

## Air-to-Air Heat Exchanger, Roof-Mounting

<table>
<thead>
<tr>
<th>Spec. heating</th>
<th>Type</th>
<th>Nominal voltage</th>
<th>Power consumption</th>
<th>Mounting type</th>
<th>Dimensions (W x H x D)</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>64 W/K</td>
<td>DW1600</td>
<td>230 V AC</td>
<td>2 x 85 W</td>
<td>Roof-mounting</td>
<td>600 x 300 x 380</td>
<td>3115-1600-60-07</td>
</tr>
</tbody>
</table>
Key Features:
- Air outlet towards the top
- Design and drill pattern for optional mounting of a heat exchanger or cooling unit

Key Features:
- Can be used in dusty environments (heat exchangers are preferred to filter fans)
hāwa
Air-to-Water Heat Exchangers

- For connection to cold water
- Low maintenance
- User friendly
- High cooling capacity

Advice from one of our hāwa consultants:

hāwa water cooled heat exchangers are a cost-efficient and environment-friendly alternative to refrigerant using air conditioners. They are particularly useful in applications where a reliable source of sufficient cool water is available.
Product Description

These devices are used to cool down the air inside the cabinet. The air-to-water heat exchangers can also be in case of very high ambient temperatures. The air-to-water heat exchangers are consisting of a housing, exchanger core (tube bundle with fins), fans and power cords. The fan draws hot air from the cabinet and blows it into the heat exchanger housing, where it is cooled down via the heat exchanger core (with cold water) and forced back into the interior of the cabinet.

- Very flat design, min. 84 mm
- For external mounting or used as 19” slide-in module
- Available with or without valve
- Air-to-water heat exchangers can be used under the most unfavorable environmental conditions such as excessive temperatures, extremely polluted or aggressive air or other hostile environments, if cooling water is available
- Air-to-water heat exchangers can also be used in very high ambient temperatures up to 75 °C (167 °F), since the internal cabinet temperature to be achieved is primarily dependent on the water entry temperature. Therefore, it is possible to reduce the internal cabinet temperature to below the ambient temperature
- Air-to-water heat exchangers can also be installed in areas, where the use of filter fans, air-to-air heat exchangers and air conditioners is not possible
- Wearing parts, such as ventilators and valves can be easily exchanged by the user
- Air-to-water heat exchangers with valve are equipped with a thermostatically controlled valve with suppressor, assuring water savings and preventing extreme under-cooling
- 19”-heat exchanger type WE2800 with lateral air flow, type WE2800 V with front air outlet
- The thermostat of both 19”-types is set free through a separate cable. The interior cabinet temperature can be controlled and adjusted at any point inside the cabinet
- Type WW4000S is equipped with a thermostat which switches the fans ON/OFF
- We recommend the use of our mechanical humidity controller type 3150-0030-02-30, to avoid condensation inside the cabinet which may occur when cooling below the cabinet’s dew point

Scope of Delivery
- Heat exchanger with power cord
- Seals
- Mounting hardware
- Thermostat with DIN rail (only for 19” slide-in devices)

Technical Data

- Frequency: 50 / 60 Hz
- Protection type: IP55; WE 2800 in connection with cabinet
- Ambient temperature: Max. +75 °C (+167 °F)
- Suitable coolant: Clean water
- Effective cooling capacity specified relates to an amount of water of 400 l/h
- Operating pressure: Max. 10 bar
- For units with valve: Thermostat is factory-set to +35 °C (+95 °F)
- Fitting for water connection: Ø 10 mm or 3/8” internal thread at the bottom of the device, for WW4000S on the left-hand side wall
- Condensation discharge nozzle: Ø 10 mm at the bottom of the device, for WW4000S on the left-hand side wall
- Approvals: CE, cURus file no. E163420 for 60Hz
- Material: Exchanger element: copper / aluminum housing / cover: 1 mm sheet steel
- Surface: Powder coated RAL 7035, texture finish

Accessories from page 44

- Small thermostats
- Temperature controllers
- Humidity controllers
- HTB thermo-calculation program

Note

- Available upon request:
  - Special voltages
  - Different fittings for water connection
  - Compact controller / display
  - Continuously controlling valve
  - Stainless steel pipe work
  - Stainless steel enclosures
- Type WW3500 includes water connection fittings with 3/8” internal thread in top and bottom. The unused fitting must be closed.
## Air-to-Water Heat Exchangers for External Mounting

<table>
<thead>
<tr>
<th>Useful cooling capacity</th>
<th>Type</th>
<th>Nominal voltage</th>
<th>Control system</th>
<th>Water connection</th>
<th>Approvals</th>
<th>Dimensions (W x H x D)</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>L35 - W10 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>800 W</td>
<td>WW700</td>
<td>230 V AC</td>
<td>Fitting Ø 10 mm</td>
<td>CE/cURus</td>
<td>207 x 460 x 84</td>
<td>3116-0700-23-00</td>
<td></td>
</tr>
<tr>
<td>800 W</td>
<td>WW700</td>
<td>115 V AC</td>
<td>Fitting Ø 10 mm</td>
<td>CE/cURus</td>
<td>207 x 460 x 84</td>
<td>3116-0700-11-00</td>
<td></td>
</tr>
<tr>
<td>800 W</td>
<td>WW700</td>
<td>230 V AC</td>
<td>Valve</td>
<td>Fitting Ø 10 mm</td>
<td>CE/cURus</td>
<td>207 x 510 x 84</td>
<td>3116-0700-23-02</td>
</tr>
<tr>
<td>1,500 W</td>
<td>WW1500</td>
<td>230 V AC</td>
<td>Valve</td>
<td>Fitting Ø 10 mm</td>
<td>CE</td>
<td>316 x 780 x 84</td>
<td>3116-1500-22-07</td>
</tr>
<tr>
<td>2,000 W</td>
<td>WW2000</td>
<td>230 V AC</td>
<td>Valve</td>
<td>Fitting Ø 10 mm</td>
<td>CE</td>
<td>380 x 1,200 x 84</td>
<td>3116-2000-22-07</td>
</tr>
<tr>
<td>3,500 W</td>
<td>WW3500S</td>
<td>230 V AC</td>
<td>3/8&quot; internal thread</td>
<td>CE/cURus</td>
<td>380 x 1,200 x 205</td>
<td>3116-3500-23-00</td>
<td></td>
</tr>
<tr>
<td>3,500 W</td>
<td>WW3500S</td>
<td>115 V AC</td>
<td>3/8&quot; internal thread</td>
<td>CE/cURus</td>
<td>380 x 1,200 x 205</td>
<td>3116-3500-11-00</td>
<td></td>
</tr>
<tr>
<td>4,300 W</td>
<td>WW4000S</td>
<td>230 V AC</td>
<td>Thermostat</td>
<td>Fitting Ø 10 mm</td>
<td>CE/cURus</td>
<td>500 x 800 x 180</td>
<td>3116-4000-23-02</td>
</tr>
<tr>
<td>4,300 W</td>
<td>WW4000S</td>
<td>115 V AC</td>
<td>Thermostat</td>
<td>Fitting Ø 10 mm</td>
<td>CE/cURus</td>
<td>500 x 800 x 180</td>
<td>3116-4000-11-02</td>
</tr>
</tbody>
</table>

## 19” Slide-In Air-to-Water Heat Exchangers

<table>
<thead>
<tr>
<th>Useful cooling capacity</th>
<th>Type</th>
<th>Nominal voltage</th>
<th>Outlet</th>
<th>Control system</th>
<th>Water connection</th>
<th>Approvals</th>
<th>Dimensions (W x H x D)</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>L35 - W10 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,800 W</td>
<td>WE2800V</td>
<td>230 V AC</td>
<td>Front</td>
<td>Valve</td>
<td>3/8&quot; internal thread</td>
<td>CE</td>
<td>446 x 170 x 462</td>
<td>3117-2800-23-07</td>
</tr>
<tr>
<td>2,800 W</td>
<td>WE2800</td>
<td>230 V AC</td>
<td>Left</td>
<td>Valve</td>
<td>Fitting Ø 10 mm</td>
<td>CE</td>
<td>435 x 170 x 460</td>
<td>3117-2800-22-07</td>
</tr>
</tbody>
</table>

www.haewa.com
Customized Solutions

Key Features:
- Viewing window for fan monitoring

Key Features:
- Optimum external dimensions for efficient air circulation
- Size and position of the heat exchanger core are adapted to the cabinet
häwa Air Conditioners

häwa air conditioners are available in various designs.

The wide range of our air conditioners offers an unlimited array of standard or customized possibilities to meet your specific requirements.

1 Comfortable:
- All non-filter units are easy to install or remove, no additional components required
- Low space requirements due to the typical well-conceived design

2 User friendly:
- Easy filter exchange
- Any maintenance works on häwa devices that might be required are easy and fast to perform
- Easy selection of adequate control system

3 Sturdy:
- Core and cover are made of sheet steel to make the housing very torsion-resistant and weather-proof

4 Innovativ:
- Larger surface area despite more compact design

5 Energy-saving:
- Many units include condensed water evaporation without needing additional electric energy

häwa Customer Standard

Different materials, dimensions, colors or customized design? Not a problem, we do it every day, just contact us!

info@haewa.com
Stainless steel or sheet steel – it’s your choice.

- Stainless steel
  - Stainless steel material no. 1.4301
  - Externally brushed

- Sheet steel
  - Improved pre-treatment through iron phosphating and chromium-free repassivation
  - Powder coated, texture finish

For detailed information, see product [www.haewa.com](http://www.haewa.com)
**häwa Air Conditioners**

- Compact design
- High cooling capacity
- Protection class: IP54
- Resistant
- Stainless steel / sheet steel design
- Clever details
- Approvals: CE, cURus, cULus

**Advice from one of our häwa consultants:**

Our häwa thermo-calculation program HTB will help to find very easily the right air conditioner for your cabinets. If you are in the need of any information, please do not hesitate to call us.

www.haewa.com
Product Description

häwa air conditioners for control cabinets can be used as independent devices up to an ambient temperature of max. 50/55 °C (122/131 °F). They have two separate IP54-sealed air circuits, equipped with 1 fan each. Cooling or heat transfer from the inside of the cabinet to the outside takes place through active cooling (refrigerating unit). This allows to cool down the temperature in the cabinet below ambient temperature. häwa air conditioners operate with the CFC-free, ozone-friendly refrigerant R134a.

■ With or without filter
■ For external or external/internal mounting or roof-mounting
■ The external fan operates only when cooling, which avoids unnecessary noise and pollution
■ The factory-set temperature inside of cabinet of +35 °C (95 °F) can be field-adjusted after removal of the cover panel or, for devices equipped with a display, from outside
■ A control line for the door switch, separately connected for units with a cooling capacity of 800 W or more, permits remote ON/OFF switching of the unit without power disconnect. General fault signal as potential-free changeover contact fed out in the control line
■ Free from silicone compounds, PCB, PCT, formaldehyde and cadmium
■ Thermostat-control: A capillary thermostat controls the compressor and the external fan (for small air conditioners directly, for larger ones via a contactor). The switching hysteresis is approx. 6 Kelvin
■ Control electronics for standard controller KR-HS: Circuit board with 1 temperature gauge integrated in the device
■ Control electronics for display controller KR-HD: Control board with 4 temperature gauges integrated in the device and KR-B control unit built into the front panel of the device
■ Compact controller: A compact controller with display built in at the front of the device controls the compressor and the external fan. The internal fan is controlled via the door switch

Non-filter devices
■ Low maintenance
■ Any condensed water is evaporated in the outside circuit. In case of excessive condensation, e.g. due to open doors or an extremely high humidity, excess condensation is drained off via a drain pipe through the slots provided in the bottom of the enclosure cover (for KF800 to KF2400), or directly by connecting a drain hose.
■ For KF800 to KF2400, power connection is effected via a plug-in terminal at the rear of the device. The mating connector is included in the scope of delivery. For KF400, the power cord is fed through the rear of the device.

Units with filter
■ For devices of 1,000 W or more, the condensation is drained off directly via a discharge nozzle in the bottom panel.
■ Power connection by means of a power cord fed through the rear panel of the device.

Units with microchannel heat exchanger
■ Devices with 1,400 W or more with integrated condensation evaporator
■ Power connection by means of a power cord (not included in the scope of delivery) fed through the entry plate at the rear of the device.
■ Ready to be installed. For external mounting, a mounting frame is required
■ With lint pad

Technical Data
■ Frequency: 50 / 60 Hz
■ Protection type: IP54, external fan IP44
■ Ambient temperature: See table
■ Refrigerant: R134a
■ Units with product code ..U.. are cURus File no. SA12365 approved
■ Microchannel units are cULus File no. SA12365 approved
■ Material: Sheet steel or stainless steel
■ Surface: Powder coated RAL 7035, texture finish or brushed stainless steel

Scope of Delivery
■ Air conditioner, power cord, plug-in terminal or screw-type terminal, rubber seals, mounting hardware

Note
■ Power consumption and useful cooling capacity specifications relate to L35-L35 according to DIN 3168, AC devices can also be operated with 460 V / 60 Hz

Accessories from page 44
■ Replacement filter pads etc.
### Non-Filter Air Conditioners

<table>
<thead>
<tr>
<th>Useful cooling capacity</th>
<th>Material</th>
<th>Type</th>
<th>Nominal voltage</th>
<th>Control system</th>
<th>Lower/upper temperature limit</th>
<th>Mounting type</th>
<th>Dimensions (W x H x D)</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>L35 - L35</td>
<td>Sheet steel</td>
<td>KF400</td>
<td>230 V AC</td>
<td>Thermostat</td>
<td>20 °C / 50 °C</td>
<td>External / internal</td>
<td>275 x 525 x 144</td>
<td>3120-0400-23-07</td>
</tr>
<tr>
<td></td>
<td>Stainless steel</td>
<td>KF400</td>
<td>230 V AC</td>
<td>Thermostat</td>
<td>20 °C / 50 °C</td>
<td>External / internal</td>
<td>275 x 525 x 144</td>
<td>3120-0400-23-02</td>
</tr>
<tr>
<td>400 W</td>
<td>Sheet steel</td>
<td>KF400U</td>
<td>230 V AC</td>
<td>Thermostat</td>
<td>20 °C / 45 °C</td>
<td>External / internal</td>
<td>275 x 525 x 144</td>
<td>3120-0400-23U07</td>
</tr>
<tr>
<td></td>
<td>Stainless steel</td>
<td>KF400U</td>
<td>230 V AC</td>
<td>Thermostat</td>
<td>20 °C / 45 °C</td>
<td>External / internal</td>
<td>275 x 525 x 144</td>
<td>3120-0400-23U02</td>
</tr>
<tr>
<td>780 W</td>
<td>Sheet steel</td>
<td>KF800RD</td>
<td>230 V AC</td>
<td>Kompakt</td>
<td>20 °C / 50 °C</td>
<td>External / internal</td>
<td>395 x 980 x 190</td>
<td>3120-0800-23-37</td>
</tr>
<tr>
<td>780 W</td>
<td>Sheet steel</td>
<td>KF800U</td>
<td>230 V AC</td>
<td>Thermostat</td>
<td>20 °C / 45 °C</td>
<td>External / internal</td>
<td>395 x 980 x 190</td>
<td>3120-0800-23U07</td>
</tr>
<tr>
<td>1,000 W</td>
<td>Sheet steel</td>
<td>KF1000RD</td>
<td>115 V AC</td>
<td>Kompakt</td>
<td>20 °C / 50 °C</td>
<td>External / internal</td>
<td>395 x 850 x 190</td>
<td>3120-1000-11-47</td>
</tr>
<tr>
<td>1,000 W</td>
<td>Sheet steel</td>
<td>KF1000RD</td>
<td>230 V AC</td>
<td>Kompakt</td>
<td>20 °C / 50 °C</td>
<td>External / internal</td>
<td>395 x 850 x 190</td>
<td>3120-1000-23-47</td>
</tr>
<tr>
<td>1,000 W</td>
<td>Sheet steel</td>
<td>KF1000RD</td>
<td>400 V AC**</td>
<td>Kompakt</td>
<td>20 °C / 50 °C</td>
<td>External / internal</td>
<td>395 x 850 x 190</td>
<td>3120-1000-46-47</td>
</tr>
<tr>
<td>1,200 W</td>
<td>Sheet steel</td>
<td>KF1200RD</td>
<td>230 V AC</td>
<td>Kompakt</td>
<td>20 °C / 55 °C</td>
<td>External / internal</td>
<td>400 x 1,450 x 140</td>
<td>3120-1200-23-37</td>
</tr>
<tr>
<td>2,400 W</td>
<td>Sheet steel</td>
<td>KF2400RD</td>
<td>400 V AC**</td>
<td>Kompakt</td>
<td>20 °C / 55 °C</td>
<td>External / internal</td>
<td>460 x 1,500 x 233</td>
<td>3120-2400-40-07</td>
</tr>
</tbody>
</table>

* with control unit
** connection to 460 V / 60 Hz by reconnecting to rear plug-in terminal

### Air Conditioners with Filter

<table>
<thead>
<tr>
<th>Useful cooling capacity</th>
<th>Material</th>
<th>Type</th>
<th>Nominal voltage</th>
<th>Control system</th>
<th>Lower/upper temperature limit</th>
<th>Mounting type</th>
<th>Dimensions (W x H x D)</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>L35 - L35</td>
<td>Sheet steel</td>
<td>K400F</td>
<td>230 V AC</td>
<td>Thermostat</td>
<td>20 °C / 50 °C</td>
<td>External / internal</td>
<td>270 x 520 x 122</td>
<td>3129-0400-23-07</td>
</tr>
<tr>
<td>370 W</td>
<td>Sheet steel</td>
<td>K400FQ</td>
<td>230 V AC</td>
<td>Thermostat</td>
<td>20 °C / 50 °C</td>
<td>External / internal</td>
<td>520 x 320 x 122</td>
<td>3129-0401-23-07</td>
</tr>
<tr>
<td>650 W</td>
<td>Sheet steel</td>
<td>K1000F-RD</td>
<td>230 V AC</td>
<td>Kompakt</td>
<td>20 °C / 55 °C</td>
<td>External</td>
<td>400 x 900 x 210</td>
<td>3127-1000-23-37</td>
</tr>
<tr>
<td>980 W</td>
<td>Sheet steel</td>
<td>K1000FD-RD</td>
<td>230 V AC</td>
<td>Kompakt</td>
<td>20 °C / 55 °C</td>
<td>External</td>
<td>400 x 950 x 205</td>
<td>3129-1000-23-37</td>
</tr>
<tr>
<td>1,550 W</td>
<td>Sheet steel</td>
<td>K1500FD-RD</td>
<td>230 V AC</td>
<td>Kompakt</td>
<td>20 °C / 55 °C</td>
<td>External</td>
<td>400 x 1,120 x 260</td>
<td>3129-1500-23-37</td>
</tr>
<tr>
<td></td>
<td>Stainless steel</td>
<td>K1500FD-RD</td>
<td>230 V AC</td>
<td>Kompakt</td>
<td>20 °C / 55 °C</td>
<td>External</td>
<td>3129-1500-23-32</td>
<td></td>
</tr>
<tr>
<td>2,600 W</td>
<td>Sheet steel</td>
<td>K2600FD-RD</td>
<td>400 V AC*</td>
<td>Kompakt</td>
<td>20 °C / 55 °C</td>
<td>External</td>
<td>460 x 1,500 x 260</td>
<td>3129-2600-40-37</td>
</tr>
</tbody>
</table>

* can be reconnected at the transformer to 460 V
### Air Conditioners with Filter, Roof-Mounting

<table>
<thead>
<tr>
<th>Useful cooling capacity</th>
<th>Material</th>
<th>Type</th>
<th>Nominal voltage</th>
<th>Control system</th>
<th>Lower / upper temperature range</th>
<th>Mounting type</th>
<th>Dimensions (W x H x D)</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>L35 - L35</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>mm</td>
<td></td>
</tr>
<tr>
<td>1,440 W</td>
<td>Sheet steel</td>
<td>KA1500F-RD</td>
<td>230 V AC</td>
<td>KR-HD</td>
<td>20 °C / 55 °C</td>
<td>Roof-mounting</td>
<td>600 x 420 x 375</td>
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<tr>
<td></td>
<td>Stainless steel</td>
<td>KA1500F-RD</td>
<td>230 V AC</td>
<td>Kompakt</td>
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<td>3128-1500-22-32</td>
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### Air Conditioners UL-Listed with Microchannel

<table>
<thead>
<tr>
<th>Useful cooling capacity</th>
<th>Material</th>
<th>Type</th>
<th>Nominal voltage</th>
<th>Control system</th>
<th>Lower / upper temperature range</th>
<th>Mounting type</th>
<th>Dimensions (W x H x D)</th>
<th>Order number</th>
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</thead>
<tbody>
<tr>
<td>L35 - L35</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>mm</td>
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<tr>
<td>500 W</td>
<td>Sheet steel</td>
<td>K500FE</td>
<td>115 V AC</td>
<td>Kompakt</td>
<td>20 °C / 55 °C</td>
<td>Internal / external*</td>
<td>375 x 957 x 212</td>
<td>3122-0500-11-17</td>
</tr>
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<tr>
<td>500 W</td>
<td>Sheet steel</td>
<td>K500FE</td>
<td>230 V AC</td>
<td>Kompakt</td>
<td>20 °C / 55 °C</td>
<td>Internal / external*</td>
<td>375 x 957 x 212</td>
<td>3122-0500-23-17</td>
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</tr>
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<td>1,000 W</td>
<td>Sheet steel</td>
<td>K1000FE</td>
<td>115 V AC</td>
<td>Kompakt</td>
<td>20 °C / 55 °C</td>
<td>Internal / external*</td>
<td>375 x 957 x 212</td>
<td>3122-1000-11-17</td>
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<td>1,000 W</td>
<td>Sheet steel</td>
<td>K1000FE</td>
<td>230 V AC</td>
<td>Kompakt</td>
<td>20 °C / 55 °C</td>
<td>Internal / external*</td>
<td>375 x 957 x 212</td>
<td>3122-1000-23-17</td>
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</tr>
<tr>
<td>1,400 W</td>
<td>Sheet steel</td>
<td>K1400FE</td>
<td>115 V AC</td>
<td>Kompakt</td>
<td>20 °C / 55 °C</td>
<td>Internal / external*</td>
<td>454 x 1,665 x 197</td>
<td>3122-1400-11-17</td>
</tr>
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</tr>
<tr>
<td>1,400 W</td>
<td>Sheet steel</td>
<td>K1400FE</td>
<td>230 V AC</td>
<td>Kompakt</td>
<td>20 °C / 55 °C</td>
<td>Internal / external*</td>
<td>454 x 1,665 x 197</td>
<td>3122-1400-23-17</td>
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</tr>
<tr>
<td>2,000 W</td>
<td>Sheet steel</td>
<td>K2000FE</td>
<td>115 V AC</td>
<td>Kompakt</td>
<td>20 °C / 55 °C</td>
<td>Internal / external*</td>
<td>454 x 1,665 x 197</td>
<td>3122-2000-11-17</td>
</tr>
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</tr>
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<td>2,000 W</td>
<td>Sheet steel</td>
<td>K2000FE</td>
<td>230 V AC</td>
<td>Kompakt</td>
<td>20 °C / 55 °C</td>
<td>Internal / external*</td>
<td>454 x 1,665 x 197</td>
<td>3122-2000-23-17</td>
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</tr>
<tr>
<td>2,000 W</td>
<td>Sheet steel</td>
<td>K2000FE</td>
<td>460 V AC**</td>
<td>Kompakt</td>
<td>20 °C / 55 °C</td>
<td>Internal / external*</td>
<td>454 x 1,665 x 197</td>
<td>3122-2000-46-17</td>
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</tr>
<tr>
<td>3,000 W</td>
<td>Sheet steel</td>
<td>K3000FE</td>
<td>460 V AC**</td>
<td>Kompakt</td>
<td>20 °C / 55 °C</td>
<td>Internal / external*</td>
<td>496 x 1,665 x 237</td>
<td>3122-3000-46-17</td>
</tr>
</tbody>
</table>

* Accessories required for external mounting
** Can be reconnected to 400 V on transformer

### Mounting Frame for Air Conditioners with Microchannel

<table>
<thead>
<tr>
<th>Material</th>
<th>Type</th>
<th>Mounting type</th>
<th>Dimensions ** (W x H x D)</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheet steel</td>
<td>K500FE</td>
<td>External</td>
<td>375 x 957 x 196</td>
<td>3122-0957-37-19</td>
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<tr>
<td>Sheet steel</td>
<td>K1000FE</td>
<td>External</td>
<td>375 x 957 x 196</td>
<td>3122-0957-37-19</td>
</tr>
<tr>
<td>Sheet steel</td>
<td>K1400FE</td>
<td>External</td>
<td>454 x 1,665 x 180</td>
<td>3122-1665-49-19</td>
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<tr>
<td>Sheet steel</td>
<td>K2000FE</td>
<td>External</td>
<td>454 x 1,665 x 180</td>
<td>3122-1665-49-19</td>
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<tr>
<td>Sheet steel</td>
<td>K3000FE</td>
<td>External</td>
<td>496 x 1,665 x 221</td>
<td>3122-1665-49-23</td>
</tr>
</tbody>
</table>

** Mounting depth incl. cover plate of air conditioner
Accessories
Climate Controls

Below, you will find a list of the most important accessories for our häwa climate controls. Please visit our homepage for more detailed information and order numbers.

Temperature Controller
- Used to control the temperature of heaters, filter fans, heat exchangers or for fault indication

Humidity Controller System
- Used to control the humidity of heaters or for fault indication

Switch Module SM010
- Electronic relay to switch DC devices, in particular high-performance DC heaters. Thermostat and hygrometer can be connected via the separate input to actuate the electronic relay
- Operating voltage: DC24V (DC 20 – 28 V)
- Max. switching capacity: DC28V 16 A
**Mounting Accessories**

- Mounting frame for external mounting of microchannel air conditioners

**Maintenance Accessories**

- Replacement filter pads to be exchanged against used-up/dirty filter pads of filter fans and air conditioners

**Power Connection Accessories**

- Motor connection cable for filter fan with flat connector (fast-on) connection
  - 2-pin version: With molded PVC plug, black, length = 1 m
  - 3-pin version: Cord set with fully insulated 2.8 x 0.5 mm fast-on plugs and grounding line with ring cable lug, length = 3 m

**NEMA 3R Protective Cover**

- For Fix filter fans of the 3159 series
- Mounting without additional attachment holes with Fix filter fan or exhaust filter

**HTB Thermo Calculation Program**

- The häwa calculation program is used to determine heat dissipation and to select the häwa climate controls for cabinet climate control
In every area as individual as your requirements: The häwa range of products

häwa – definitely the best solution

We are your reliable partner for well-conceived cabinet and enclosure systems, smart IT-solutions, effective climate controls, modular machine racks, functional cable ducts and practical tools. In particular when individual and flexible solutions are needed.

From the conceptual and structural design to manufacture and logistics including a fast delivery and maintenance service, we at häwa are your one-stop shop – your personal häwa consultant will always be there to assist you.

More than 400 committed staff members are available to find the best solution for your challenges and your budget. The result: High-quality products which will meet or even exceed your expectations – today and tomorrow.

www.haewa.com
Our way to develop unique solutions for you:

**Customer-oriented**
We listen to you, we make your issues part of our planning, we consult and support you: As your partner, we work closely together with you – this is how we find solutions tailored to your needs.

**Personal**
We at häwa, rely on personal contact – your personal häwa consultant is always there for you, brings your ideas to life and is dedicated to accompanying you on your way to your optimal solution.

**Reliable**
Go for a trustworthy partner, on which you can rely in any situation – especially when the safety of components is at stake, i.e. when functional reliability is key. Our motto at häwa is: We keep our promises. This is what it’s all about.

**High-quality**
We at häwa, have very high standards to provide excellent quality as proven by the DIN EN ISO 9001:2008 certification. The same applies to our consultancy and the service we provide. We do not rely on what we have already achieved – we are always striving for more for your benefit.

**Thinking ahead**
We come up with surprising ideas tailored to your individual requirements and smart solutions that always meet or even exceed your expectations – today and tomorrow. There is only one goal to pursue for us: Finding the best possible solution for your challenges.