Ideen leben

häwa

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.

Contents

häwa Heaters

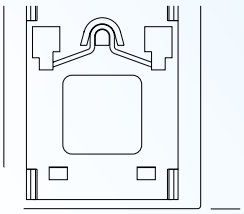
Our cabinet heater program will also meet your requirements.

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



2

3

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)

For detailed information, see product

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 < 65 °C; 149 ° F
  HG950 < 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 m^3 / h; HG250 / 400: 45 m^3 / h (AC230V), 54 m^3 / h (AC120V);
  HGH350 / 550: 35 / 45 m^3 / h;
  HG950 / 1200: 160 m^3 / h
- Connection: 2-pole 2.5 mm^2 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 42

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

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

Heating capacity	Nominal voltage	Type	Control system	Start-up current / preliminary fuse	Approvals	Dimensions (W x H x D)	Order number
						mm	
10 W	120-240 V AC (min. 110, max. 265 V)	CSK	-	1.0 A / 2 A (slow-blow)	cURus, CE	38 x 98 x 75	**3185-0010-02-00**
10 W	24 V DC	CSK	-	6 A / 6.3 A (slow-blow)	CE	38 x 98 x 75	**3185-0010-02-24**
20 W	120-240 V AC (min. 110, max. 265 V)	CSK	-	2.5 A / 4 A (slow-blow)	cURus, CE	38 x 98 x 75	**3185-0020-02-00**
20 W	24 V DC	CSK	-	8 A / 6.3 A (slow-blow)	CE	38 x 98 x 75	**3185-0020-02-24**

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

Heating capacity	Nominal voltage	Type	Control system	Start-up current / preliminary fuse	Approvals	Dimensions (W x H x D)	Order number
			°C*			mm	
50 W	120-240 V AC (min. 110, max. 265 V)	CS 50	-	2.5 A / 4 A (slow-blow)	cURus, CE	60 x 110 x 90	**3186-0050-02-00**
50 W	24 V DC	CS 50	-	11 A / 10 A (slow-blow)	CE	60 x 110 x 90	**3186-0050-02-24**
100 W	120-240 V AC (min. 110, max. 265 V)	CS 100	-	4.5 A / 8 A (slow-blow)	cURus, CE	60 x 110 x 90	**3186-0100-02-00**
100 W	24 V DC	CS 100	-	13 A / 10 A (slow-blow)	CE	60 x 110 x 90	**3186-0100-02-24**
150 W	120-240 V AC (min. 110, max. 265 V)	CS 150	-	8 A / 10 A (slow-blow)	cURus, CE	60 x 110 x 90	**3186-0150-02-00**
150 W	24 V DC	CS 150	-	16 A / 10 A (slow-blow)	CE	60 x 150 x 90	**3186-0150-02-24**
100 W	120-240 V AC (min. 110, max. 265 V)	CSF 100	On + 5 °C Off + 15 °C	4.5 A / 8 A (slow-blow)	cURus, CE	60 x 133 x 90	**3186-0100-03-00**

* Tolerance ± 5 K

Small Fan Heaters Type HG150 / 250 / 400 with PTC-Resistor

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

Fan Heaters Type HGH350 / HGH550 with PTC-Resistor

Heating capacity	Nominal voltage	Type	Control system	Start-up current / preliminary fuse	Approvals	Dimensions (W x H x D)	Order number
*			**			mm	
400 W 550 W	115 V AC / 50 Hz 115 V AC / 60 Hz	HGH 350	Thermostat +32 to +140 °F	14 A / 10 A (slow-blow)	cURus, CE	100 x 165 x 128	**3184-0350-01-15**
475 W 550 W	230 V AC / 50 Hz 230 V AC / 60 Hz	HGH 350	Thermostat 0 to +60 °C	11 A / 10 A (slow-blow)	cURus, CE	100 x 165 x 128	**3184-0350-02-30**
510 W 650 W	115 V AC / 50 Hz 115 V AC / 60 Hz	HGH 550	Thermostat +32 to +140 °F	15 A / 10 A (slow-blow)	cURus, CE	100 x 165 x 128	**3184-0550-01-15**
550 W 650 W	230 V AC / 50 Hz 230 V AC / 60 Hz	HGH 550	Thermostat 0 to +60 °C	13 A / 10 A (slow-blow)	cURus, CE	100 x 165 x 128	**3184-0550-02-30**

* at + 20 °C

** Switching temperature difference +7 K (± 4 K tolerance)

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

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

häwa Filter Fans

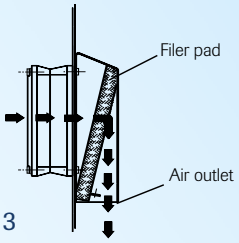
häwa filter fans are available in different designs and air flow capacities.

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

häwa Customer Standard

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

info@haewa.com



3

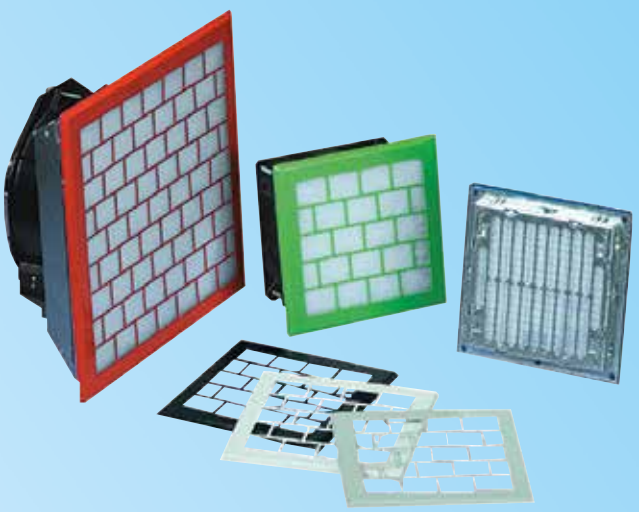
1 Easy-to-install:
- Quick and tool-free mounting into enclosures/cabinets
- Sturdy plastic clips ensure a quick assembly and right fit

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

For detailed information, see product

Stainless steel or sheet steel – the choice is yours.



Stainless steel

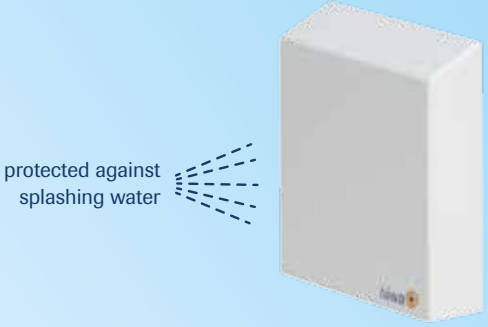
- Stainless steel, material no. 1.4301
- Externally brushed

Sheet steel

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

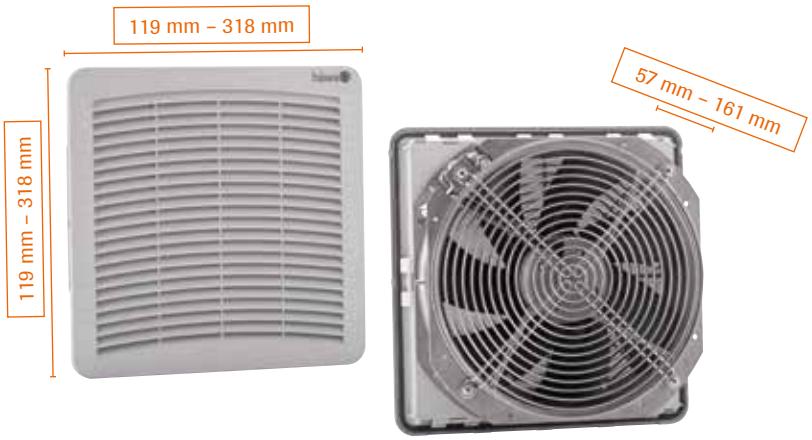
Plastic PC - ABS

- Available in various colors



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 42

- Small thermostats
- Temperature controllers
- Replacement filter pads
- Hose-proof hoods IP 56

FixCool Filter Fans

Unimpeded air flow	Air flow with exhaust filter	Cut-out	Type	Color	Nominal voltage	Power consumption	Motor connection	Dimensions (W x H x D)	Order number
m^3/h	m^3/h	mm		RAL				mm	
35/35	24/24	92 x 92	FC10	9005	230 V AC	4,6 W / 4,5 W	Stranded wires	119 x 119 x 57,5	**3156-0092-23-00-00**
35/35	24/24	92 x 92	FC10	7035	230 V AC	4,6 W / 4,5 W	Stranded wires	119 x 119 x 57,5	**3156-0092-23-70-00**
35/35	24/24	92 x 92	FC10	9005	115 V AC	3,6 W / 2,86 W	Stranded wires	119 x 119 x 57,5	**3156-0092-11-00-00**
35/35	24/24	92 x 92	FC10	7035	115 V AC	3,6 W / 2,86 W	Stranded wires	119 x 119 x 57,5	**3156-0092-11-70-00**
50	32	92 x 92	FC10	9005	24 V DC	6,3 W	Stranded wires	119 x 119 x 57,5	**3156-0092-24-00-00**
50	32	92 x 92	FC10	7035	24 V DC	6,3 W	Stranded wires	119 x 119 x 57,5	**3156-0092-24-70-00**
67/69	50/52	125 x 125	FC15	9005	230 V AC	22 W/22W	Spring-loaded terminal	152 x 152 x 75	**3156-0125-23-00-00**
67/69	50/52	125 x 125	FC15	7035	230 V AC	22 W/22W	Spring-loaded terminal	152 x 152 x 75	**3156-0125-23-70-00**
67/69	50/52	125 x 125	FC15	9005	115 V AC	22 W/25W	Spring-loaded terminal	152 x 152 x 75	**3156-0125-11-00-00**
67/69	50/52	125 x 125	FC15	7035	115 V AC	22 W/25W	Spring-loaded terminal	152 x 152 x 75	**3156-0125-11-70-00**
67	50	125 x 125	FC15	9005	24 V DC	8,1 W	Spring-loaded terminal	152 x 152 x 75	**3156-0125-24-00-00**
67	50	125 x 125	FC15	7035	24 V DC	8,1 W	Spring-loaded terminal	152 x 152 x 75	**3156-0125-24-70-00**
108/114	75/82	177 x 177	FC20	9005	230 V AC	22 W/22 W	Spring-loaded terminal	204 x 204 x 98	**3156-0177-23-00-00**
108/114	75/82	177 x 177	FC20	7035	230 V AC	22 W/22 W	Spring-loaded terminal	204 x 204 x 98	**3156-0177-23-70-00**
108/114	75/82	177 x 177	FC20	9005	115 V AC	22 W/24,5 W	Spring-loaded terminal	204 x 204 x 98	**3156-0177-11-00-00**
108/114	75/82	177 x 177	FC20	7035	115 V AC	22 W/24,5 W	Spring-loaded terminal	204 x 204 x 98	**3156-0177-11-70-00**
108	75	177 x 177	FC20	9005	24 V DC	8,1 W	Spring-loaded terminal	204 x 204 x 98	**3156-0177-24-00-00**
108	75	177 x 177	FC20	7035	24 V DC	8,1 W	Spring-loaded terminal	204 x 204 x 98	**3156-0177-24-70-00**
190/198	130/138	223 x 223	FC25	9005	230 V AC	25 W/70 W	Spring-loaded terminal	250 x 250 x 118	**3156-0223-23-00-00**
190/198	130/138	223 x 223	FC25	7035	230 V AC	25 W/70 W	Spring-loaded terminal	250 x 250 x 118	**3156-0223-23-70-00**
190/198	130/138	223 x 223	FC25	9005	115 V AC	39 W/38 W	Spring-loaded terminal	250 x 250 x 118	**3156-0223-11-00-00**
190/198	130/138	223 x 223	FC25	7035	115 V AC	39 W/38 W	Spring-loaded terminal	250 x 250 x 118	**3156-0223-11-70-00**
270/280	200/210	223 x 223	FC25	9005	230 V AC	50 W/66 W	Spring-loaded terminal	250 x 250 x 99	**3156-0223-23-01-00**
270/280	200/210	223 x 223	FC25	7035	230 V AC	50 W/66 W	Spring-loaded terminal	250 x 250 x 99	**3156-0223-23-71-00**
270/280	200/210	223 x 223	FC25	9005	115 V AC	50 W/75 W	Spring-loaded terminal	250 x 250 x 99	**3156-0223-11-01-00**
270/280	200/210	223 x 223	FC25	7035	115 V AC	50 W/75 W	Spring-loaded terminal	250 x 250 x 99	**3156-0223-11-71-00**
230	190	223 x 223	FC25	9005	24 V DC	26,6 W	Spring-loaded terminal	250 x 250 x 118	**3156-0223-24-01-00**
230	190	223 x 223	FC25	7035	24 V DC	26,6 W	Spring-loaded terminal	250 x 250 x 118	**3156-0223-24-71-00**
500/525	380/410	291 x 291	FC30	9005	230 V AC	50 W/63 W	Spring-loaded terminal	318 x 318 x139	**3156-0291-23-00-00**
500/525	380/410	291 x 291	FC30	7035	230 V AC	50 W/63 W	Spring-loaded terminal	318 x 318 x139	**3156-0291-23-70-00**
500/525	380/410	291 x 291	FC30	9005	115 V AC	50 W/72 W	Spring-loaded terminal	318 x 318 x139	**3156-0291-11-00-00**
500/525	380/410	291 x 291	FC30	7035	115 V AC	50 W/72 W	Spring-loaded terminal	318 x 318 x139	**3156-0291-11-70-00**
700/630	600/530	291 x 291	FC30	9005	230 V AC	115 W/173 W	Spring-loaded terminal	318 x 318 x135	**3156-0291-23-01-00**

Unimpeded air flow	Air flow with exhaust filter	Cut-out	Type	Color	Nominal voltage	Power consumption	Motor connection	Dimensions (W x H x D)	Order number
m^3/h	m^3/h	mm		RAL				mm	
700/630	600/530	291 x 291	FC30	7035	230 V AC	115 W/173 W	Spring-loaded terminal	318 x 318 x135	**3156-0291-23-71-00**
700/630	600/530	291 x 291	FC30	9005	115 V AC	125 W/170 W	Spring-loaded terminal	318 x 318 x135	**3156-0291-11-01-00**
700/630	600/530	291 x 291	FC30	7035	115 V AC	125 W/170 W	Spring-loaded terminal	318 x 318 x135	**3156-0291-11-71-00**
850/870	620/640	291 x 291	FC30	9005	400/460 V AC	115 W/204 W	Spring-loaded terminal	318 x 318 x 160,5	**3156-0291-40-01-00**
850/870	620/640	291 x 291	FC30	7035	400/460 V AC	115 W/204 W	Spring-loaded terminal	318 x 318 x 160,5	**3156-0291-40-71-00**

Exhaust Filters for FixCool Filter Fans

Suitable for type	Cut-out	Type	Color	Order number
	mm		RAL	
FC10	92 x 92	AC10	9005	**3156-0092-00-00-00**
FC10	92 x 92	AC10	7035	**3156-0092-00-70-00**
FC15	125 x 125	AC15	9005	**3156-0125-00-00-00**
FC15	125 x 125	AC15	7035	**3156-0125-00-70-00**
FC20	177 x 177	AC20	9005	**3156-0177-00-00-00**
FC20	177 x 177	AC20	7035	**3156-0177-00-70-00**
FC25	223 x 223	AC25	9005	**3156-0223-00-00-00**
FC25	223 x 223	AC25	7035	**3156-0223-00-70-00**
FC30	291 x 291	AC30	9005	**3156-0291-00-00-00**
FC30	291 x 291	AC30	7035	**3156-0291-00-70-00**

The air flow rate can be increased by using several or larger exhaust filters.

häwa 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 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

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

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 42

- Small thermostats
- Temperature controllers
- Motor cables
- Replacement filter pads G3

Super Flat Filter Fans

Air flow G3	Cut-out	Type	Nominal voltage	Power consumption	Motor connection	Dimensions (W x H x D)	Order number	Order number
with filter	mm					mm	filter fan	exhaust filter
58 m³/h	122 x 122	0144	230 V AC	15 W/50 Hz 14 W/60 Hz	Flat connector	144 x 144 x 75	**3149-0144-23-07-01***	**3149-0144-00-07**
58 m³/h	122 x 122	0144	115 V AC	15 W/50 Hz 14 W/60 Hz	Flat connector	144 x 144 x 75	**3149-0144-11-07-01***	**3149-0144-00-07**
60 m³/h	138 x 138	0160	230 V AC	15 W/50 Hz 14 W/60 Hz	Flat connector	160 x 160 x 75	**3149-0160-23-07-01**	**3149-0160-00-07**
60 m³/h	138 x 138	0160	115 V AC	15 W/50 Hz 14 W/60 Hz	Flat connector	160 x 160 x 75	**3149-0160-11-07-01**	**3149-0160-00-07**
495 m³/h	292 x 292	0324	230 V AC	64 W/50 Hz 80 W/60 Hz	Terminal strip	324 x 324 x 132	**3149-0324-23-07**	**3149-0324-00-07**
495 m³/h	292 x 292	0324	115 V AC	64 W/50 Hz 80 W/60 Hz	Terminal strip	324 x 324 x 132	**3149-0324-11-07**	**3149-0324-00-07**

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 to +55 °C (+14 °F 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 42

- Small thermostats
- Temperature controllers
- Motor cables
- Replacement filter pads G4

Filter Fan IP55 Protected Against Water Jets

Air flow	Material	Type	Color	Nominal voltage	Power consumption	Motor connection	Dimensions (W x H x D)	Order number
with filter			RAL				mm A/I*	
G3: 50 m³/h G4: 41 m³/h	Sheet steel	0148	7035	230 V AC	15 W/50 Hz 15 W/60 Hz	Flat connector	148 x 160 x 40/43	**3142-0148-02-27-01**
	Stainless steel	0148						**3142-0148-02-25-01**
G3: 50 m³/h G4: 41 m³/h	Sheet steel	0148	7035	115 V AC	15 W/50 Hz 15 W/60 Hz	Flat connector	148 x 160 x 40/43	**3142-0148-01-17-01**
	Stainless steel	0148						**3142-0148-01-15-01**
G3: 50 m³/h G4: 41 m³/h	Sheet steel	0148	7035	24 V DC	7.44 W	Stranded wires	148 x 160 x 40/43	**3142-0148-00-24**
	Stainless steel	0148						**3142-0148-00-25**
G3: 90 m³/h G4: 75 m³/h	Sheet steel	0276	7035	230 V AC	15 W/50 Hz 15 W/60 Hz	Flat connector	276 x 292 x 50/43	**3142-0276-02-27-01**
	Stainless steel	0276						**3142-0276-02-25-01**
G3: 155 m³/h G4: 142 m³/h	Sheet steel	1276	7035	230 V AC	45 W/50 Hz 39 W/60 Hz	Terminal strip	276 x 292 x 50/60	**3142-1276-02-27-02**
	Stainless steel	1276						**3142-1276-02-25-02**
G3: 90 m³/h G4: 75 m³/h	Sheet steel	0276	7035	115 V AC	15 W/50 Hz 15 W/60 Hz	Flat connector	276 x 292 x 50/43	**3142-0276-01-17-01**
	Stainless steel	0276						**3142-0276-01-15-01**
G3: 155 m³/h G4: 142 m³/h	Sheet steel	1276	7035	115 V AC	29 W/50 Hz 29 W/60 Hz	Stranded wires	276 x 292 x 50/43	**3142-1276-01-17-01**
	Stainless steel	1276						**3142-1276-01-15-01**
G3: 90 m³/h G4: 75 m³/h	Sheet steel	0276	7035	24 V DC	7.44 W	Stranded wires	276 x 292 x 50/43	**3142-0276-00-24**
	Stainless steel	0276						**3142-0276-00-25**
G3: 155 m³/h G4: 142 m³/h	Sheet steel	1276	7035	24 V DC	12 W	Stranded wires	276 x 292 x 50/43	**3142-1276-00-24**
	Stainless steel	1276						**3142-1276-00-25**

* A = External depth / I = Internal depth

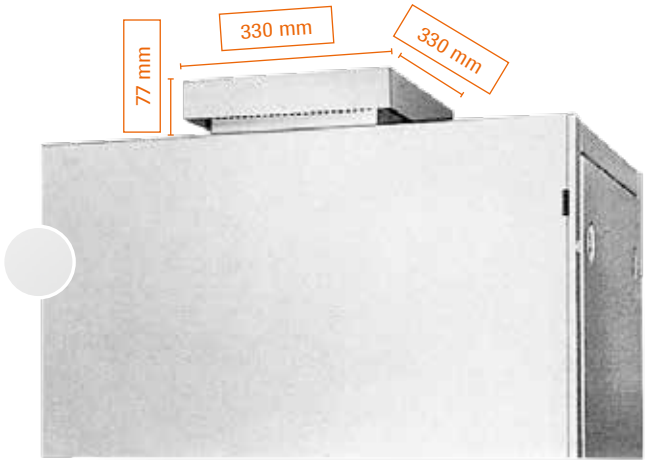
Inlet Filter for IP55 Protected Against Water Jets

Suitable for type	Material	Dimensions	Order number
		mm	
0148	Sheet steel	148 x 160 x 40	**3142-0148-00-07**
	Stainless steel		**3142-0148-00-05**
0276 / 1276	Sheet steel	276 x 292 x 50	**3142-0276-00-07**
	Stainless steel		**3142-0276-00-05**

FixCool Filter Fans 3156

häwa Roof-Mounted Ventilators

- Air exhaust to all four sides
- Space-saving design
- Air flow 290 m^3/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 42

- Small thermostats
- Temperature controllers

Roof-Mounted Ventilators

Air flow	Cut-out	Dimensions (W x H x D)	Nominal voltage	Power consumption	Ventilator	Motor connection	Order number
	mm	mm					
290 m³ / h	249 x 249	330 x 330 x 77	230 V AC	53 W / 50 Hz 51 W / 60 Hz	With fan	Plug-in terminal	**3148-0300-02-27**
290 m³ / h	249 x 249	330 x 330 x 77	115 V AC	70 W / 60 Hz	With fan	Plug-in terminal	**3148-0300-01-17**
-	249 x 249	330 x 330 x 77	-	-	Without fan	-	**3148-0300-00-07**

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.

häwa Customer Standard

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

info@haewa.com

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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

For details, see product description

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.

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 42

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

Air-to-Air Heat Exchangers, Internal or External Mounting

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

Air-to-Air Heat Exchanger, Roof-Mounting

Spec. heating capacity	Type	Nominal voltage	Power consumption	Mounting type	Dimensions (W x H x D)	Order number
					mm	
64 W/K	DW1600	230 V AC	2 x 85 W	Roof-mounting	600 x 300 x 380	**3115-1600-60-07**

Customized Solutions

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)

häwa Air-to-Water Heat Exchangers

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

Advice from one of our häwa consultants:

häwa 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)

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.

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 42

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

Air-to-Water Heat Exchangers for External Mounting

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

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

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

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.

häwa Customer Standard

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

info@haewa.com

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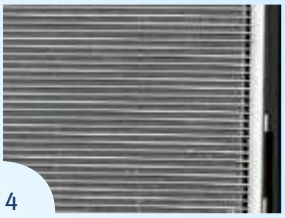


4

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 sytem

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

For detailed information, see product

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 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.

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 the 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 42

- Replacement filter pads etc.

Non-Filter Air Conditioners

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

* with control unit

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

Air Conditioners with Filter

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

* can be reconnected at the transformer to 460 V

Air Conditioners with Filter, Roof-Mounting

Useful cooling capacity	Material	Type	Nominal voltage	Control system	Lower / uppper temperature range	Mounting type	Dimensions (W x H x D)	Order number
L35 - L35							mm	
1,440 W	Sheet steel	KA1500F-RD	230 V AC	KR-HD	20 °C / 55 °C	Roof-mounting	600 x 420 x 375	**3128-1500-22-37**
	Stainless steel	KA1500F-RD	230 V AC	Kompakt				**3128-1500-22-32**

Air Conditioners UL-Listed with Microchannel

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

* Accessories required for external mounting

** Can be reconnected to 400 V on transformer

Mounting Frame for Air Conditioners with Microchannel

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

** 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 hygrostat 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

NEMA 3R Protective Cover

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

Maintenance Accessories

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

Mounting Accessories

- Mounting frame for external mounting of microchannel 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

HTB Thermo Calculation Program

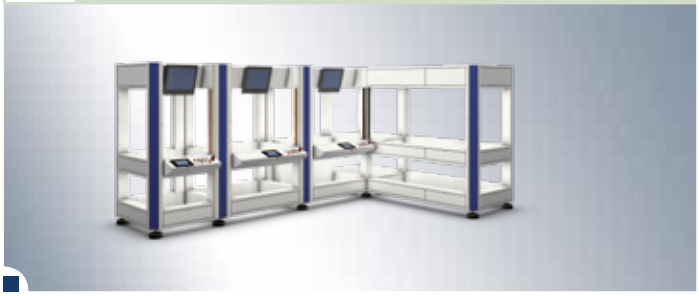
- The häwa calculation program is used to determine heat dissipation and to select the häwa climate controls for cabinet climate control

For Your Notes

CABINET SYSTEMS

ENCLOSURES

X-FRAME



ACCESSORIES

In every area as individual as your requirements: The häwa range of products

häwa – definitely the best solution

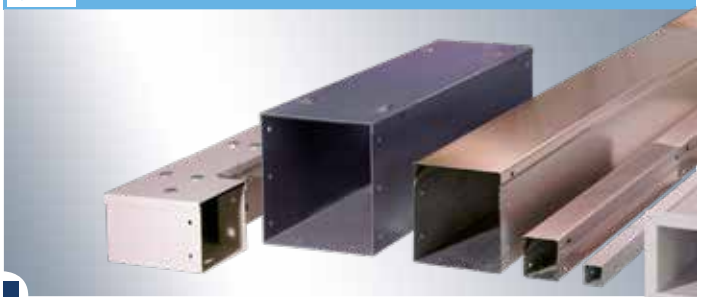
We are your reliable partner for well-conceived cabinet and enclosure systems, smart IT-solutions, effective climate controls, modular machine racks, functional cable ducts and practical tools. In particular when individual and flexible solutions are needed.

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.

CLIMATE CONTROLS

CUSTOMIZED SOLUTIONS

CABLE DUCTS



TOOLS

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.

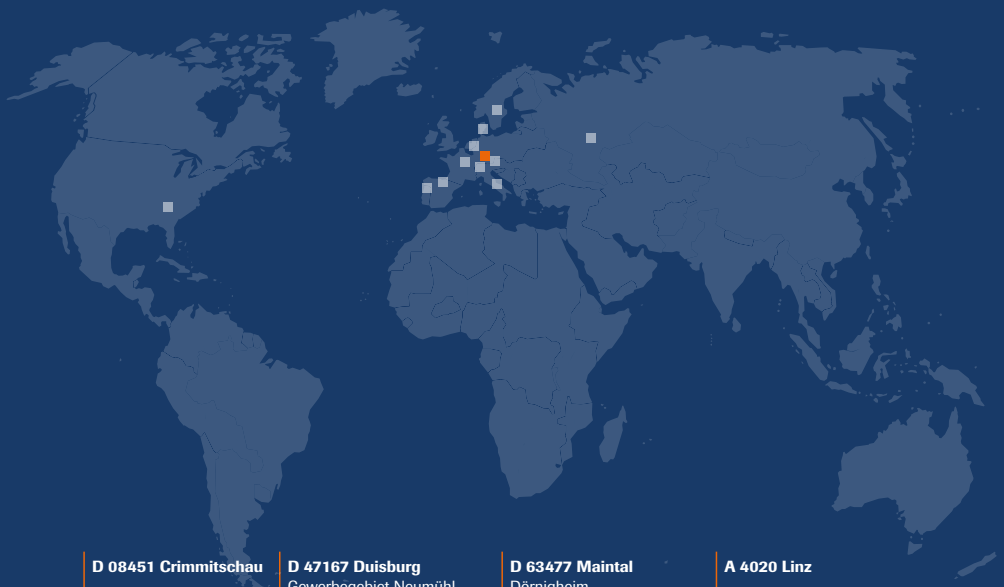
High-quality

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.

häwa



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CABINET SYSTEMS
X-FRAME
ENCLOSURES
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