

Comfortable climate with pre-heated, filtered supply air.



**Ingeniously practical:**

Supply air, heating and filter in a single unit. For direct in-duct mounting.

The fresh air boxes ALB from Helios ensure a pleasant room climate due to the inflow of outside air, which is filtered and heated to the specified temperature.

ALB are ideally suited to all rooms in which clean, pre-heated fresh air is required. Whether in bistros, boutiques or other commercial areas.

Specially equipped attenuator casing and low-noise centrifugal fans ensure that the fresh air boxes are virtually silent.

Large surface pocket filters ensure that cleaning intervals are as long as possible.

Control options for great levels of comfort and efficient energy-saving are included in the delivery or available as accessories.

**EH MODEL WITH ELECTRIC HEATING**

**ALB EH**

With electric heating and air filter. Stepless control of heating output.

Ø 125 and 200 mm.

**286<sup>on</sup>**

**WW MODEL WITH WARM WATER HEATING**

**ALB WW**

With warm water heating and air filter. Delivered ready-for-connection, including control unit and room filter.

Ø 220 and 280 mm. 50 x 30 cm and 60 x 35 cm.

**290<sup>on</sup>**

■ The Helios fresh air boxes ALB are designed for direct in-duct mounting and ensure controlled supply of filtered and pre-heated outside air in restaurants, bistros, office rooms, etc.  $V = 350 \text{ m}^3/\text{h}$  to  $5000 \text{ m}^3/\text{h}$ . Available options:

- **ALB EH**  
with electric heating and air filter.
- **ALB WW**  
with warm water heating and air filter.

### ■ Delivery

Delivered ready for connection, i.e. the air-conditioning with filter and heater battery is integrated in the compact units in addition to the fan unit.

### ■ Planning

The complete set significantly simplifies the planning stage. Planning is reduced to simply five steps:

- ① Decide on the required amount of supply air for the rooms.
- ② Decide on the dimensions and position of the supply duct (resistance).
- ③ Decide on the heat required comparing the temperature of the outside air and the indoor temperature (using diagrams on the product pages).
- ④ Choose the suitable ALB size according to points 1, 2 and 3.
- ⑤ Select the control functions and the accessories.

### ■ Application

- Outside air and supply air boxes can be used everywhere where controlled and filtered supply air that is pre-heated to the specified temperature is required.
- Reduces draughts in living areas.
- For ensuring the necessary air exchange through an appropriate balance between supply air and extract air in rooms.
- For temperature conditioning and heating rooms.
- Fulfilment of hygienic requirements for room air in bistros, offices and meeting rooms as well as equivalent living rooms according to VDI 6022.
- For single-stage filtration, filter class F7 and filter monitoring (using differential pressure switch type DDS, accessories) must always be provided pursuant to VDI 6022.
- Targeted, controlled and low-noise inflow of outside air into the desired areas. If necessary, an attenuator (accessories) must be provided.

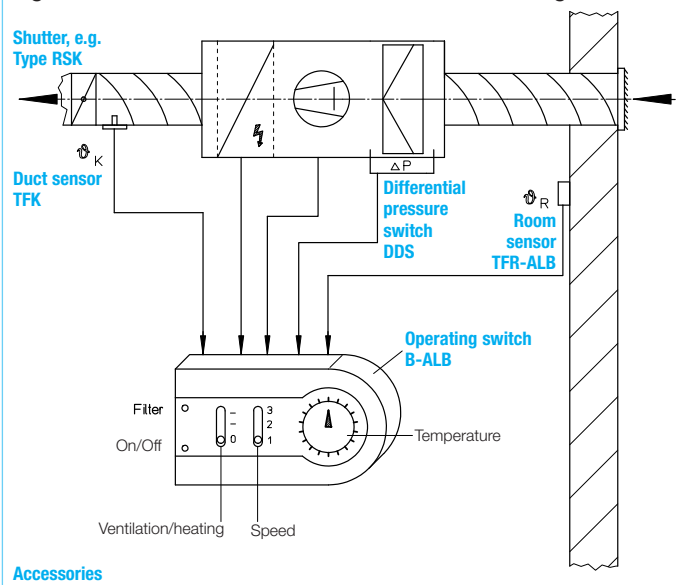
### ■ Installation

- Can be installed in almost any position (see installation and operating instructions).
- If necessary, an attenuator must be provided in the ducting system (accessories).
- Backdraught shutters or motorised shutters must be installed in the ducting to prevent undesired backflow of air.
- We recommend using anti-vibration mounts when securing the unit.
- The controller should be fitted within the ventilated space.
- Easy access to the unit should be provided for cleaning according to DIN EN 13779 and VDI 6022.

### ■ Control options

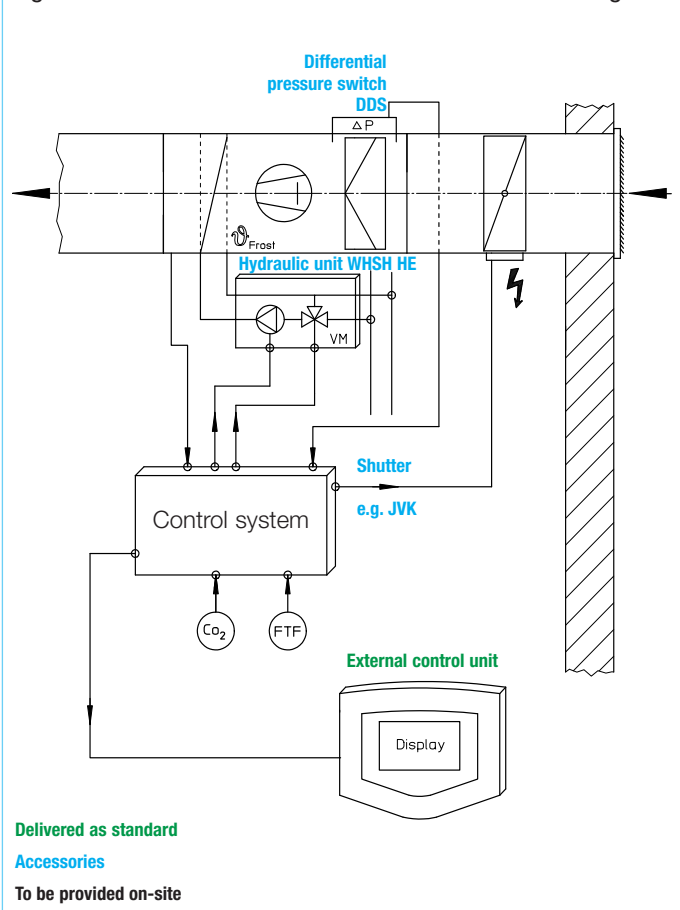
- Easy to control, the ALB offers the highest comfort and efficient energy-saving operation.
- Thus, the types ALB EH are delivered with a stepless electronic heater controller as standard, which is controlled via the operating switch B-ALB (accessories) (see Fig. 1). The electronic pulser steplessly controls the heat output by continuously adjusting between the specification and the temperature measured by the room or duct sensor (types TFR-ALB and TFK, accessories).
- Types ALB WW are delivered as standard with an external control unit (see Fig. 2). There is constant adjustment between the specification and the temperature measured by the room sensor (delivered as standard). Furthermore, the control unit also offers inputs for the connection of a humidity or air quality sensor, so that if the values fall below a given limit value, an optical or audible alarm signal occurs.
- The control unit ALB-AS (accessories) can be used to control one or more extract air fans in relation to the speed of fresh air boxes ALB. This allows the synchronised operation of the unit as required (supply and extract air) with five speed stages. The control unit also offers inputs for a duct sensor (delivered as standard), as well as a connection for a humidity or air quality sensor.

Fig. 1: Functional overview ALB EH with electric heating



Accessories

Fig. 2: Functional overview ALB WW with warm water heating



Delivered as standard

Accessories

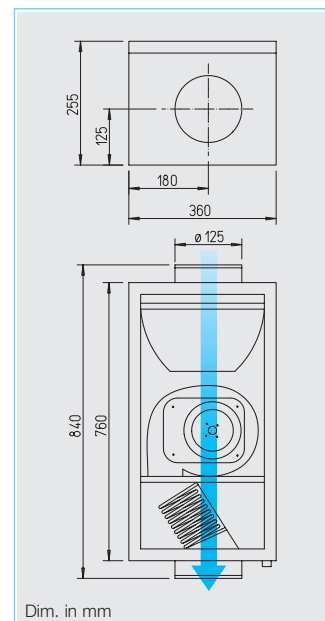
To be provided on-site

### ■ Figure 1 ALB-EH

- Accessories:
  - Operating switch B-ALB
  - Backdraught shutter RSK
  - Differential pressure switch DDS
  - Room sensor TFR-ALB
  - Duct sensor TFK
  - Attenuator, e.g. FSD

### ■ Figure 2 ALB-WW

- Delivery includes:
  - External control unit with integrated room sensor and week timer.
- Accessories:
  - Hydraulic unit WSH HE
  - Differential pressure switch DDS
  - Shutter, e.g. JVK
  - Attenuator, e.g. KSD
  - Adaptor ALB-ÜS
  - Air quality sensor KWL-CO<sub>2</sub>
  - Humidity sensor KWL-FTF



■ **Application / Function**  
Pleasant room climate through the inflow of outside air, which is filtered and automatically heated to the specified temperature. This is provided by the fresh air boxes from Helios.

Specially designed for direct in-duct mounting.  
For various applications in the commercial sector.

■ **Specification**  
Compact shallow casing, thermally and acoustically insulated, with an integral air filter, fan, heater with controller and terminal box. Delivered ready for installation.  
Delivered as standard with an electronic stepless heating controller. Operation switch B-ALB is required for remote control, which allows for three-step ventilation and connection to a room or duct temperature sensor to control the specified set-point temperature. These elements need to be ordered separately (see accessories).

□ **Casing**  
Made from galvanised sheet steel, with 50 mm mineral wool cladding on all sides, which is also clad with dirt-repellent fibre glass. The casing cover is easy to remove using the four spring fasteners.  
Intake and extract duct spigots with air tight rubber gaskets for standard duct Ø.

□ **Filter**  
The large surface pocket filter for long cleaning intervals is by removing the casing cover.  
Standard version in class G4. Higher classification filters in M5 and F7 (see accessories) are available as alternatives. The reduction of the volume flow (see performance curve) must be considered.  
Periodic filter control / cleaning is required.

Automatic monitoring with DDS (accessory) is recommended; the ALB casing has the corresponding fixing holes.

□ **Fan**  
The air flow volume can be switched in three stages with the operating switch.  
A silent and powerful centrifugal fan, installed within a spiral casing made from galvanised sheet steel. Motor/impeller unit swings out for access and freely accessible. Powered by a maintenance-free external rotor motor. Protection class IP 44.

□ **Heater battery**  
Enclosed heater elements made from stainless steel with low surface temperature heat the outside air to the specified setpoint temperature. The electronic pulser steplessly controls the heating output in steady balance between the specification and the temperature measured by the room or duct sensor.

□ **Safety switch**  
The heater battery can only be operated if the fan is on and there is a minimum air flow. If the air-flow falls below this limit, a thermostat disconnects the heater from the power supply as soon as the temperature rises to 80 °C.  
Additionally, two independent thermostats can be reset manually if the heater is stopped when the heater temperature rises to 120 °C.

□ **Overrun timer**  
The ALB comes with an overrun timer of approx. 1 minute, even if the heater is not in operation.

□ **Electrical connection**  
A large terminal box in the casing.  
Cable entry points at the front through four cable glands.

□ **Motor protection**  
Motor protection by thermal contacts wired in series with the motor windings. The main supply must be switched off and on again to reset the thermal contacts.

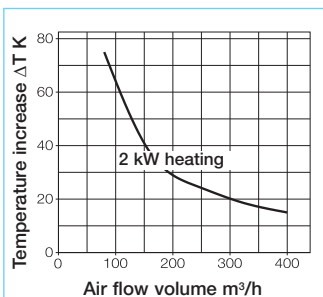
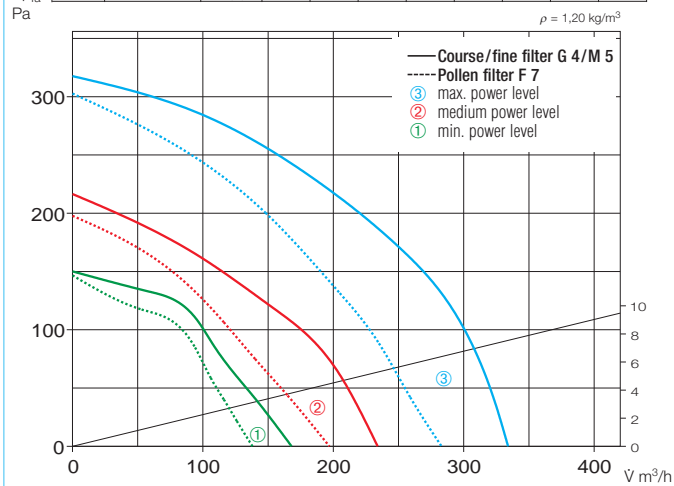
■ **Sound levels**  
Total sound power levels and the spectrum figures in db(A) are given for:  
– Sound level case breakout  
– Sound level intake / extract  
The table below also contains the sound pressure levels at 1 m (free field conditions).  
If necessary, cross talk attenuators are available (accessory) for further acoustic reduction.

Type	Ref. no.	Connection Ø	Air flow volume* free discharge	Max. R.P.M.	Sound pressure level		Voltage 50 Hz	Power consumption		Current max. total	Wiring diagram	Maximum supply air temp. for operation		Weight net approx.
					case breakout	supply air noise		Motor	Heating			with heating	w/o heating	
		mm	∇ m³/h (max.)	min <sup>-1</sup>	dB(A) at 1 m	dB(A) at 1 m	Volt	kW	kW	A	No.	+°C	+°C	kg
ALB 125 C EH 2	2701	125	340	1850	42	57	230, 1~	0.110	2	9.2	795.4	20	40	20

\* with standard filter, class G 4

### ALB 125 C EH 2

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L <sub>WA</sub>	Case breakout	dB(A)	48	38	44	45	39	36	32	32
L <sub>WA</sub>	Extract	dB(A)	65	60	56	56	58	57	49	45
L <sub>WA</sub>	Intake	dB(A)	54	43	51	43	42	43	42	32



#### Note

The integration of air filter ELF-ALB 125 F7 (see right) and differential pressure switch DDS (Ref. no. 0445) in fresh air systems fulfills the requirements of VDI 6022.

Information	Page	Other accessories	Page
Techn. description	285	Attenuators	434
Information for planning	10 on	Flexible ducting, grilles, moulded parts, electr. shutters,	
		Roof outlets	487 on
		Supply air valves	510

#### Accessories

##### Operating switch

**Type B-ALB** Ref. no. 2734

With functions:

- Ventilation operation 3-step and on/off.
- Heater battery with adjustable temperature when sensors are connected.
- Overrun operation of the fan.
- Filter monitoring (accessory DDS)
- Operating display (LED).

Protection class IP 30  
 Wiring diagram no. 795.3  
 Dim. mm W 145 x H 80 x D 30



##### Room sensor

**Type TFR-ALB** Ref. no. 2761

Room temperature sensor surface mounted for connection to operation switch B-ALB. Made of polymer.

Temperature range 0 – 30 °C  
 Protection class IP 20  
 Dim. mm W 86 x H 86 x D 30  
 Weight approx. 0.1 kg



##### Duct sensor

**Type TFK** Ref. no. 5005

Temperature sensor to be installed within the duct for connection to operation switch B-ALB.

Temperature range 0 – 30 °C  
 Protection class IP 20  
 Length inner/outer 130/50 mm,  $\varnothing$  10 mm  
 Weight approx. 0.1 kg



##### Spare and pollen filters

**ELF-ALB 125 G4** Ref. no. 2704

**ELF-ALB 125 M5** Ref. no. 2705

**ELF-ALB 125 F7** Ref. no. 2706

Large surface pocket filter for long cleaning intervals.  
 Contents = 3 pcs.



##### Differential pressure switch

**Type DDS** Ref. no. 0445

Adjustable opener/closer for monitoring pressure loss.



##### Extract air control

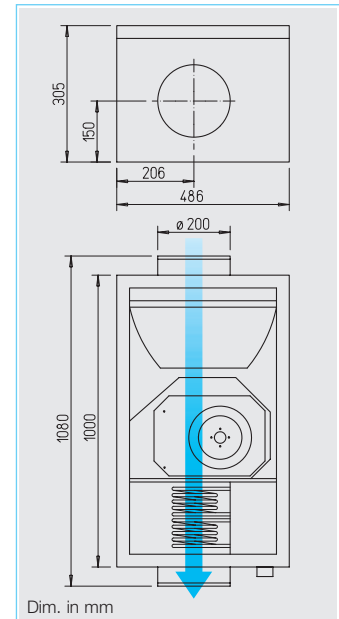
**Type ALB-AS 125** Ref. no. 2696

A control unit for the regulation of an extract air fan (max. 1.5 A) at the same rate as the speed of the supply air fan. Allows synchronised operation of the unit (supply and extract air) with three (from 5 selectable) speed steps (factory setting 80, 130, 230 V). The control unit is connected with the supply system through a cable, the setting takes place directly at the operating switch B-ALB (accessories, Ref. no. 2734). ALB-AS allows the connection of one or many speed controllable fans up to nominal load. An extract and supply air shutter can also be operated, which open when the fan is switched on.



#### Technical data

Voltage	230 V 1-, 50 Hz 400 V 2-, 50 Hz
Current max.	13.3 A
Protection class	IP 54
Dim. mm	W 236 x H 316 x D 128
Weight approx.	4.3 kg
Wiring diagram no.	900



■ **Application / Function**  
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Specially designed for direct in-duct mounting.  
For various applications in the commercial sector.

■ **Specification**  
Compact shallow casing, thermally and acoustically insulated, with an integral air filter, fan, heater with controller and terminal box. Delivered ready for installation.  
Delivered as standard with an electronic stepless heating controller. Operation switch B-ALB is required for remote control, which allows for three-step ventilation and connection to a room or duct temperature sensor to control the specified setpoint temperature. These elements need to be ordered separately (see accessories).

□ **Casing**  
Made from galvanised sheet steel, with 50 mm mineral wool cladding on all sides, which is also clad with dirt-repellent fibre glass. The casing cover is easy to remove using the four spring fasteners.  
Intake and extract duct spigots with air tight rubber gaskets for standard duct Ø.

□ **Filter**  
The large surface pocket filter for long cleaning intervals is freely accessible by removing the casing cover. Standard version in class G4. Higher classification filters in M5 and F7 (see accessories) are available as alternatives. The reduction of the volume flow (see performance curve) must be considered.

Periodic filter control / cleaning is required.  
Automatic monitoring with DDS (accessory) is recommended; the ALB casing has the corresponding fixing holes.

□ **Fan**  
The air flow volume can be switched in three stages with the operating switch.  
A silent and powerful centrifugal fan, installed within a spiral casing made from galvanised sheet steel. Motor/impeller unit swings out for access and freely accessible. Powered by a maintenance-free external rotor motor. Protection class IP 44.

□ **Heater battery**  
Enclosed heater elements made from stainless steel with low surface temperature heat the outside air to the specified setpoint temperature. The electronic pulser steplessly controls the heating output in steady balance between the specification and the temperature measured by the room or duct sensor.

□ **Safety switch**  
The heater battery can only be operated if the fan is on and there is a minimum air flow. If the air-flow falls below this limit, a thermostat disconnects the heater from the power supply as soon as the temperature rises to 80 °C. Additionally, two independent thermostats can be

reset manually if the heater is stopped when the heater temperature rises to 120 °C.

□ **Overrun timer**  
The ALB comes with an overrun timer of approx. 1 minute after the disconnection of the unit, even if the heater is not in operation.

□ **Electrical connection**  
A large terminal box in the casing.  
Cable entry points at the front through four cable glands.

□ **Motor protection**  
Motor protection by thermal contacts wired in series with the motor windings. The main supply must be switched off and on again to reset the thermal contacts.

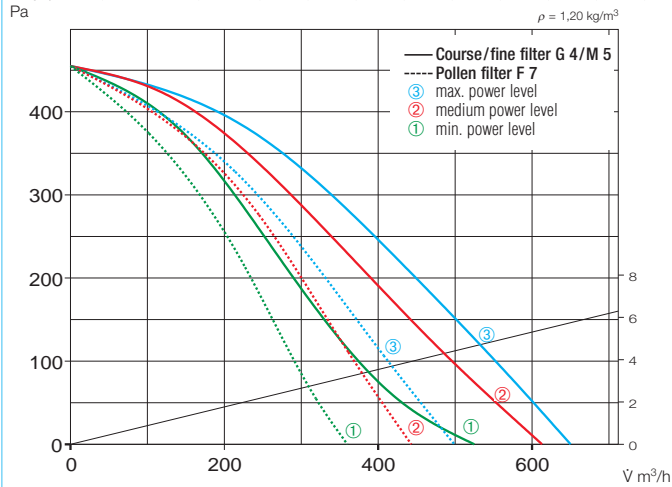
■ **Sound levels**  
Total sound power levels and the spectrum figures in db(A) are given for:  
– Sound level case breakout  
– Sound level intake / extract  
The table below also contains the sound pressure levels at 1 m (free field conditions). If necessary, cross talk attenuators are available (accessory) for further acoustic reduction.

Type	Ref. no.	Connection Ø	Air flow volume* free discharge	Max. R.P.M.	Sound pressure level		Voltage 50 Hz	Power consumption		Current max. total	Wiring diagram	Maximum supply air temp. for operation		Weight net approx.
					case breakout	supply air noise		Motor	Heating			with heating	w/o heating	
		mm	ṽ m³/h (max.)	min <sup>-1</sup>	dB(A) at 1 m	dB(A) at 1 m	Volt	kW	kW	A	No.	+°C	+°C	kg
ALB 200 B EH 5	2702	200	650	2500	45	59	400, 2 N-	0.105	4,4	11.6	795.4	20	40	33
ALB 200 C EH 5	2703	200	770	2740	46	63	400, 2 N-	0.150	4,4	11.7	795.4	20	40	32

\* with standard filter, class G 4

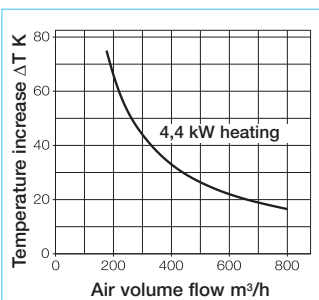
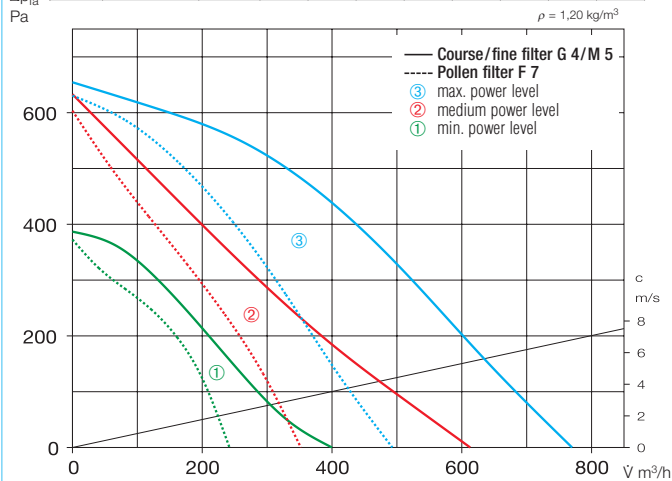
### ALB 200 B EH 5

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L <sub>WA</sub>	Case breakout	dB(A)	51	38	43	49	42	39	34	31
L <sub>WA</sub>	Extract	dB(A)	67	47	57	65	60	57	54	44
L <sub>WA</sub>	Intake	dB(A)	53	44	48	50	42	39	35	28



### ALB 200 C EH 5

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L <sub>WA</sub>	Case breakout	dB(A)	52	40	51	45	38	34	31	28
L <sub>WA</sub>	Extract	dB(A)	71	59	65	66	62	61	61	52
L <sub>WA</sub>	Intake	dB(A)	62	58	57	52	42	40	43	31



#### Note

The integration of air filter ELF-ALB 200 F7 (see right) and differential pressure switch DDS (Ref. no. 0445) in fresh air systems fulfills the requirements of VDI 6022.

Information	Page
Techn. description	285
Information for planning	10 on

Other accessories	Page
Attenuators	434
Flexible ducting, grilles, moulded parts, electr. shutters, Roof outlets	487 on
Supply air valves	510

#### Accessories

##### Operating switch

**Type B-ALB** Ref. no. 2734

With functions:

- Ventilation operation 3-step and on/off.
- Heater battery with adjustable temperature when sensors are connected.
- Overrun operation of the fan.
- Filter monitoring (accessory DDS)
- Operating display (LED).

Protection class IP 30  
Wiring diagram no. 795.3  
Dim. mm W 145 x H 80 x D 30



##### Room sensor

**Type TFR-ALB** Ref. no. 2761

Room temperature sensor surface mounted for connection to operation switch B-ALB. Made of polymer.

Temperature range 0 – 30 °C  
Protection class IP 20  
Dim. mm W 86 x H 86 x D 30  
Weight approx. 0.1 kg



##### Duct sensor

**Type TFK** Ref. no. 5005

Temperature sensor to be installed within the duct for connection to operation switch B-ALB.

Temperature range 0 – 30 °C  
Protection class IP 20  
Length inner/outer 130/50 mm, Ø 10 mm  
Weight approx. 0.1 kg



##### Spare and pollen filters

**ELF-ALB 200 G4** Ref. no. 2707

**ELF-ALB 200 M5** Ref. no. 2708

**ELF-ALB 200 F7** Ref. no. 2709

Large surface pocket filter for long cleaning intervals.  
Contents = 3 pcs.



##### Differential pressure switch

**Type DDS** Ref. no. 0445

Adjustable opener/closer for monitoring pressure loss.



##### Extract air control

**Type ALB-AS 200** Ref. no. 2696

A control unit for the regulation of an extract air fan (max. 1.5 A) at the same rate as the speed of the supply air fan. Allows synchronised operation of the unit (supply and extract air) with three (from 5 selectable) speed steps (factory setting 80, 130, 230 V). The control unit is connected with the supply system through a cable, the setting takes place directly at the operating switch B-ALB (accessories, Ref. no. 2734). ALB-AS allows the connection of one or many speed controllable fans up to nominal load. An extract and supply air shutter can also be operated, which open when the fan is switched on.



##### Technical data

Voltage	230 V 1-, 50 Hz 400 V 2-, 50 Hz
Current max.	13.3 A
Protection class	IP 54
Dim. mm	W 236 x H 316 x D 128
Weight approx.	4.3 kg
Wiring diagram no.	900

**ALB WW**



**Application / Function**  
Pleasant room climate through the inflow of outside air, which is filtered and automatically heated to the specified temperature. This is provided by the fresh air boxes from Helios.

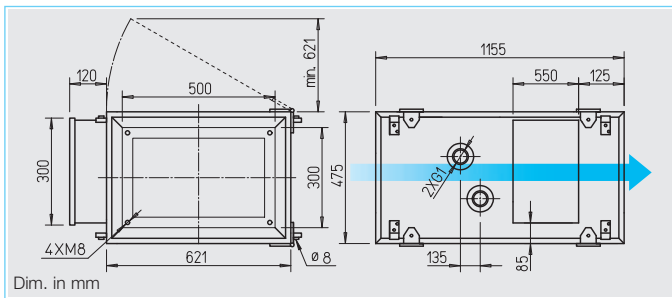
Operational unit for connection to ducting systems.  
For various commercial applications.

**Specification / Delivery**  
Compact shallow casing, thermally and acoustically insulated, with an integral air filter, fan and warm water heater. Delivered ready for connection with an external control box for operation of the unit, including a 10 metre long connection cable and integrated room sensor or week timer.

The air quality sensor or humidity sensor (see accessories) can be connected to the electronic system in the terminal box to control the specified setpoint temperature.

**Casing**  
Robust construction made from coated sheet steel, double-walled and filled with 30 mm thick mineral wool cladding on all sides. The hinged casing cover is easy to open for cleaning purposes using the screw connections.  
Intake and extract duct spigots with air tight rubber gaskets for standard duct diameters.  
No thermal bridge, smooth surface for easy cleaning.  
Integrated mounting panel with anti-vibration dampers.

**Filter**  
The large surface pocket filter for long cleaning intervals is freely accessible by removing the casing cover. Standard version in class G4. Higher classification filters in M5 and F7 (see accessories) are available as alternatives. The reduction of air



volume flow (see performance curve) must be considered. Periodic filter control / cleaning is required.  
Automatic monitoring with DDS (accessory) is recommended; the ALB casing has the corresponding fixing holes. The filters correspond to VDI 6022, DIN EN 779.

**Fan**  
The air flow volume can be switched in five stages with the operating switch.  
A silent and powerful centrifugal fan, installed within a spiral casing made from galvanised sheet steel. Motor/impeller unit swings out for access and freely accessible. Powered by a maintenance-free ball bearing motor which is lubricated for life.

**Heater battery**  
Air heater with AL fins and staggered copper ducting heats the outside air to the specified setpoint temperature. Controlled by connecting a hydraulic unit (accessories) via the integrated

control board.  
There is a continuous adjustment between the specification and the temperature measured by the room or duct sensor (ALB-ASW included in delivery).  
A frost protection control is integrated as standard. Max. operating pressure 1.6 MPa.  
Water connection pipe with male thread.

**Electrical connection**  
Large terminal box protected to IP 20 on outside of casing.

**Motor protection**  
Through thermal contact wired in series with the motor windings. Once the unit has cooled down, automatic reconnection takes place.

**Sound levels**  
The table below also contains the sound pressure levels at 1 m (free field conditions).  
If necessary, cross talk attenuators are available (accessory) for further acoustic reduction.

Information	Page
Techn. description	285
Information for planning	10 on

- Control**  
The remote control is included in delivery and offers:
- 5-step operation.
  - Temperature control with connection from room and/or duct temperature sensor (included in delivery).
  - Anti-freeze protection.
  - Control of the hydraulic unit (accessory) for regulation of the WW-heater battery. Specification of min./max. temperature.
  - Operation of the extract air control ALB-ASW (accessories) for speed control of the extract fans.
  - Indication of surrounding temperature, fan speed and filter contamination (via differential pressure switch, accessory).
- Further inputs and outputs:**
- Automatic control of operation by means of week timer.
  - Fault cause reporting, alarm.
  - Input for air quality or humidity sensor.
  - Output for e.g. damper control.

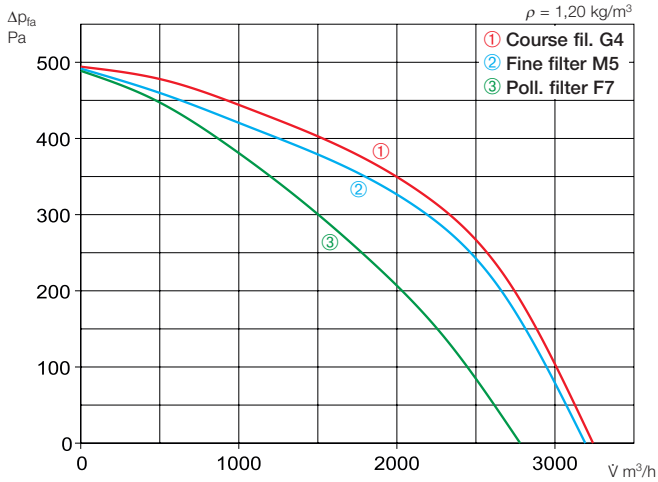


Type	Ref. no.	Air flow volume* free discharge	Max. R.P.M.	Sound pressure level case breakout supply air noise		Voltage 50 Hz	Power consumption		Current max. total	Wiring diagram	Maximum supply air temp. for operation		Weight net approx.
		∇ m³/h (max.)		min <sup>-1</sup>	dB(A) at 1 m		dB(A) at 1 m	Motor			Heating	with heating	
<b>ALB 220/4/50/30 WW</b>	6500	3200	1460	53	71	230, 1~	1.3	—	6.10	1121	20	40	80

\* with standard filter, class G 4

### ALB 220/4/50/30 WW

Frequency	Hz	Total	125	250	500	1k	2k	4k	8k
L <sub>WA</sub> Case breakout	dB(A)	61	56	53	52	53	50	50	38
L <sub>WA</sub> Extract	dB(A)	79	67	63	63	71	71	75	74
L <sub>WA</sub> Intake	dB(A)	76	64	66	62	65	68	69	66



Other accessories	Page	Room sensors	Page
Attenuator	434	Co <sub>2</sub> and humidity sensor	87 on
Details Hydraulic unit	432		
Flexible ducting, grilles, moulded parts shutters	487 on	Duct sensor for measuring the Co <sub>2</sub> concentration or room air humidity in air ducts	upon request
Supply air valves	510		

#### Heat output WW heater ①-③

Diagrams ①-③ show the heat output in relation to the flow/return and outdoor temperature over air flow volume.

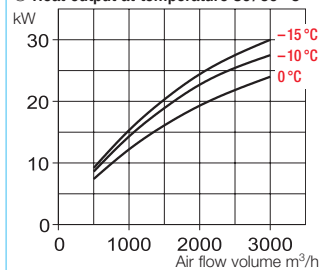
#### Water quantity WW heater ④

④ shows the water flow in relation to the flow/return and outdoor temperature over air flow volume.

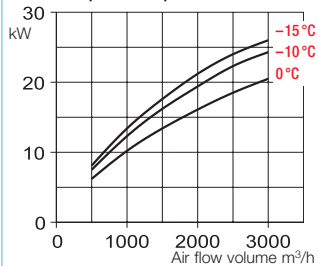
#### Pressure loss WW heater ⑤

⑤ shows the water pressure loss over the water flow.

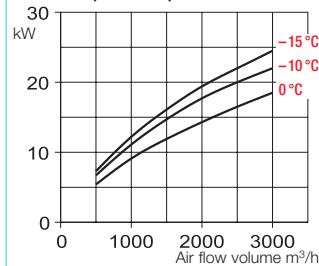
① Heat output at temperature 80/60 °C



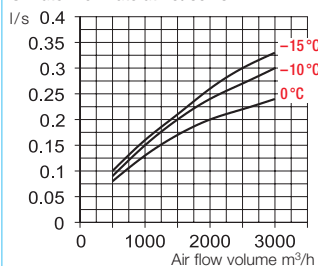
② Heat output at temperature 70/50 °C



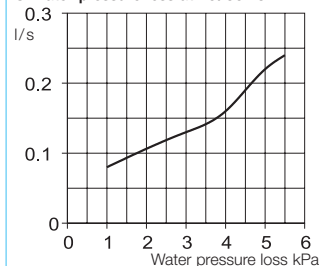
③ Heat output at temperature 55/45 °C



④ Water flow rate at 70/50 °C<sup>1)</sup>



⑤ Water pressure loss at 70/50 °C<sup>1)</sup>



<sup>1)</sup> Correction factor for 80/50 °C: 1.16; for 55/45 °C: 1.81

#### Accessories

##### Hydraulic unit

##### WHSH HE 24 V (0-10 V) No. 8318

For regulation of the heat output of the water heater battery in connection with room/ duct sensor. Including flow/ return temperature display, pump, servo motor, mixing valve, ball valve with integrated non-return valve, thermal casing and flexible connection hose.

##### Spare and pollen filters

Large surface pocket or cassette filters for long cleaning intervals, VDI 6022, DIN EN 779 compliant. Contents = 3 pcs.

- Filter class G4

##### ELF-ALB 220/4/50/30 G4 No. 3646

- Filter class M5

##### ELF-ALB 220/4/50/30 M5 No. 3647

- Filter class F7

##### ELF-ALB 220/4/50/30 F7 No. 3648

##### Differential pressure switch

##### Type DDS

Ref. no. 0445

Adjustable opener/closer for monitoring pressure loss.

##### Connection cable (extra long)

- 30 metres long

##### Type ALB-SK 30 Ref. no. 2517

- 50 metres long

##### Type ALB-SK 50 Ref. no. 2518

Connection between ALB and remote control and between ALB and ALB-ASW.

##### Adaptor - symmetrical

From device flange to circular ducting.

##### ALB-US 220/4/50/30 No. 7515

##### Flexible sleeve

For acoustic decoupling, incl. 2 hose clamps.

##### Type FM 315 Ref. no. 1674

**Coupling flange ring** made from galvanised sheet steel for connection to ducting.

##### Type FR 315 Ref. no. 1204

##### Extract air control

##### ALB-ASW 220/4/50/30 No. 3655

Control unit incl. duct temperature sensor for regulating an extract air fan in relation to the speed of the supply air fan.

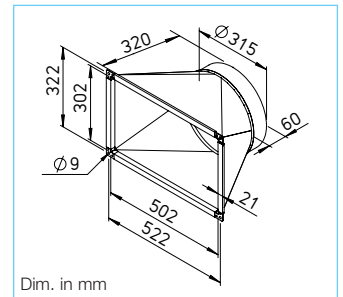
Allows synchronised operation of the unit (supply and extract air) at five speed steps.

The control unit is connected with the supply systems by a control cable. The programming takes place in a few steps directly to the ALB-remote control

ALB-ASW is mountable in any position and allows the connection of one or many speed controllable 1 ph. fans up to nominal load.

##### Technical data

Voltage	230 V 1~, 50 Hz
Current max.	4 A
Protection class	IP 55
Dim. mm	B 390 x H 470 x T 135
Weight approx.	8.0 kg
Wiring diagram no.	1125





**ALB WW**



**Application / Function**  
Pleasant room climate through the inflow of outside air, which is filtered and automatically heated to the specified temperature. This is provided by the fresh air boxes from Helios.

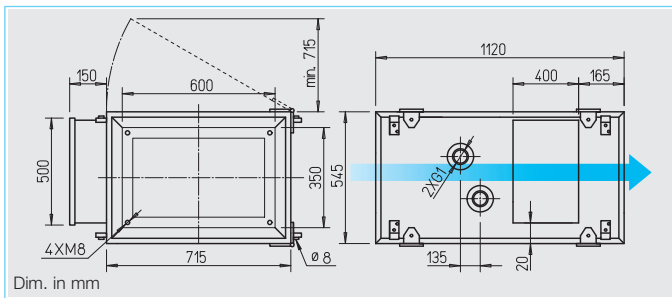
Operational unit for connection to ducting systems.  
For various commercial applications.

**Specification / Delivery**  
Compact shallow casing, thermally and acoustically insulated, with an integral air filter, fan and warm water heater. Delivered ready for connection with an external control box for operation of the unit, including a 10 metre long connection cable and integrated room sensor or week timer.

The air quality sensor or humidity sensor (see accessories) can be connected to the electronic system in the terminal box to control the specified setpoint temperature.

**Casing**  
Robust construction made from coated sheet steel, double-walled and filled with 30 mm thick mineral wool cladding on all sides. The hinged casing cover is easy to open for cleaning purposes using the screw connections.  
Intake and extract duct spigots with air tight rubber gaskets for standard duct diameters.  
No thermal bridge, smooth surface for easy cleaning.  
Integrated mounting panel with anti-vibration dampers.

**Filter**  
The large surface pocket filter for long cleaning intervals is freely accessible by removing the casing cover. Standard version in class G4. Higher classification filters in M5 and F7 (see accessories) are available as alternatives. The reduction of air



volume flow (see performance curve) must be considered. Periodic filter control / cleaning is required.  
Automatic monitoring with DDS (accessory) is recommended; the ALB casing has the corresponding fixing holes. The filters correspond to VDI 6022, DIN EN 779.

**Fan**  
The air flow volume can be switched in five stages with the operating switch.  
A silent and powerful centrifugal fan, installed within a spiral casing made from galvanised sheet steel. Motor/impeller unit swings out for access and freely accessible. Powered by a maintenance-free ball bearing motor which is lubricated for life.

**Heater battery**  
Air heater with AL fins and staggered copper ducting heats the outside air to the specified setpoint temperature. Controlled by connecting a hydraulic unit (accessories) via the integrated

control board.  
There is a continuous adjustment between the specification and the temperature measured by the room or duct sensor (ALB-ASD included in delivery).  
A frost protection control is integrated as standard. Max. operating pressure 1.6 MPa.  
Water connection pipe with male thread.

**Electrical connection**  
Large terminal box protected to IP 20 on outside of casing.

**Motor protection**  
Through thermal contact wired in series with the motor windings. Once the unit has cooled down, automatic reconnection takes place.

**Sound levels**  
The table below also contains the sound pressure levels at 1 m (free field conditions).  
If necessary, cross talk attenuators are available (accessory) for further acoustic reduction.

Information	Page
Techn. description	285
Information for planning	10 on

- Control**  
The remote control is included in delivery and offers:
- 5-step operation.
  - Temperature control with connection from room and/or duct temperature sensor (included in delivery).
  - Anti-freeze protection.
  - Control of the hydraulic unit (accessory) for regulation of the WW-heater battery. Specification of min./max. temperature.
  - Operation of the extract air control ALB-ASD (accessories) for speed control of the extract fans.
  - Indication of surrounding temperature, fan speed and filter contamination (via differential pressure switch, accessory).
- Further inputs and outputs:**
- Automatic control of operation by means of week timer.
  - Fault cause reporting, alarm.
  - Input for air quality or humidity sensor.
  - Output for e.g. damper control.



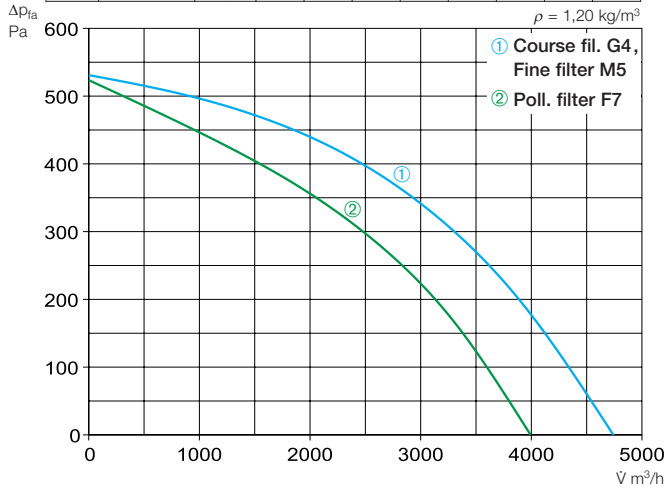
Remote control with connection cable (10 m) included in delivery.

Type	Ref. no.	Air flow volume* free discharge	Max. R.P.M.	Sound pressure level case breakout supply air noise		Voltage 50 Hz	Power consumption		Current max. total	Wiring diagram	Maximum supply air temp. for operation		Weight net approx.
		∇ m³/h (max.)	min <sup>-1</sup>	dB(A) at 1 m	dB(A) at 1 m		Motor	Heating			with heating	w/o heating	
<b>ALB 280/4/60/35 WW</b>	6501	4700	1450	57	74	400, 3N~	1.56	—	2.75	1122	20	40	110

\* with standard filter, class G 4

## ALB 280/4/60/35 WW

Frequency	Hz	Total	125	250	500	1k	2k	4k	8k
L <sub>WA</sub> Case breakout	dB(A)	65	59	59	56	57	53	49	38
L <sub>WA</sub> Extract	dB(A)	82	70	72	74	77	76	72	19
L <sub>WA</sub> Intake	dB(A)	77	72	71	68	70	67	61	15



Other accessories	Page	Room sensors	Page
Attenuator	434	CO <sub>2</sub> and humidity sensor	87 on
Details Hydraulic unit	432		
Flexible ducting, grilles, moulded parts shutters	487 on	Duct sensor for measuring the CO <sub>2</sub> concentration or room air humidity in air ducts	upon request
Supply air valves	510		

### Heat output WW heater ①-③

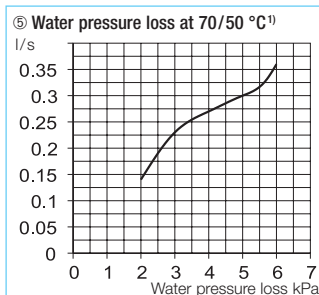
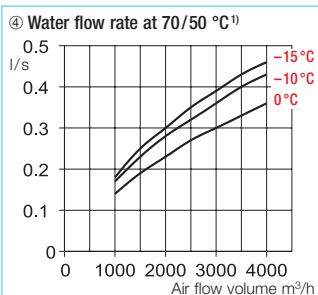
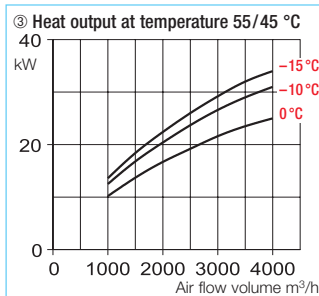
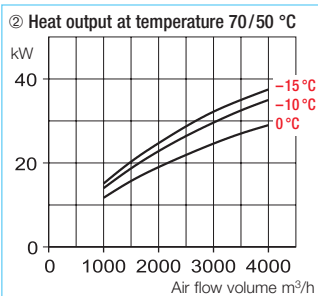
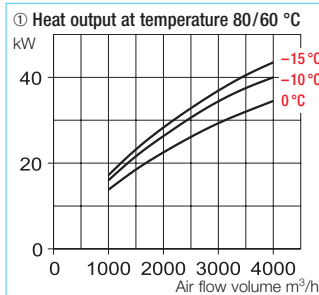
Diagrams ①-③ show the heat output in relation to the flow/return and outdoor temperature over air flow volume.

### Water quantity WW heater ④

④ shows the water flow in relation to the flow/return and outdoor temperature over air flow volume.

### Pressure loss WW heater ⑤

⑤ shows the water pressure loss over the water flow.



<sup>1)</sup> Correction factor for 80/50 °C: 1.16; for 55/45 °C: 1.81

### Accessories

#### Hydraulic unit

#### WHSH HE 24 V (0-10 V) No. 8318

For regulation of the heat output of the water heater battery in connection with room/ duct sensor. Including flow/return temperature display, pump, servo motor, mixing valve, ball valve with integrated non-return valve, thermal casing and flexible connection hose.



#### Spare and pollen filters

Large surface pocket or cassette filters for long cleaning intervals, VDI 6022, DIN EN 779 compliant. Contents = 3 pcs.

- Filter class G4

#### ELF-ALB 280/4/60/35 G4 No. 3649

- Filter class M5

#### ELF-ALB 280/4/60/35 M5 No. 3650

- Filter class F7

#### ELF-ALB 280/4/60/35 F7 No. 3654



#### Differential pressure switch

#### Type DDS

Ref. no. 0445

Adjustable opener/closer for monitoring pressure loss.



#### Connection cable (extra long)

- 30 metres long

#### Type ALB-SK 30 Ref. no. 2517

- 50 metres long

#### Type ALB-SK 50 Ref. no. 2518

Connection between ALB and remote control and between ALB and ALB-ASD.

#### Adaptor - symmetrical

From device flange to circular ducting.

#### ALB-US 280/4/60/35 No. 7516

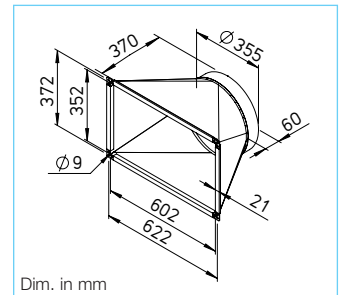
#### Flexible sleeve

For acoustic decoupling, incl. 2 hose clamps.

#### Type FM 355 Ref. no. 1675

**Coupling flange ring** made from galvanised sheet steel for connection to ducting.

#### Type FR 355 Ref. no. 1205



#### Extract air control

#### ALB-ASD 280/4/60/35 No. 3656

Control unit incl. duct temperature sensor for regulating an extract air fan in relation to the speed of the supply air fan.

Allows synchronised operation of the unit (supply and extract air) at five speed steps.

The control unit is connected with the supply systems by a control cable. The programming takes place in a few steps directly to the ALB-remote control

ALB-ASD is mountable in any position and allows the connection of one or many speed controllable 3 ph. fans up to nominal load.

#### Technical data

Voltage	400 V 3~, 50 Hz
Current max.	5 A
Protection class	IP 55
Dim. mm	W 390 x H 470 x D 135
Weight approx.	19.0 kg
Wiring diagram no.	1126

