**ALB** boxventilatoren

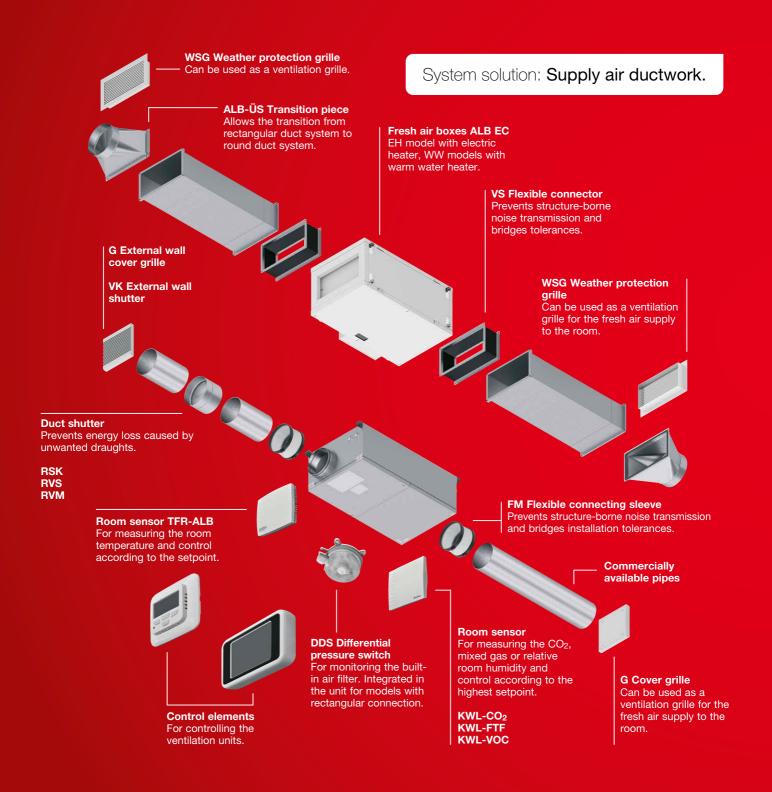








## Feel-good climate thanks to preheated and filtered supply air.

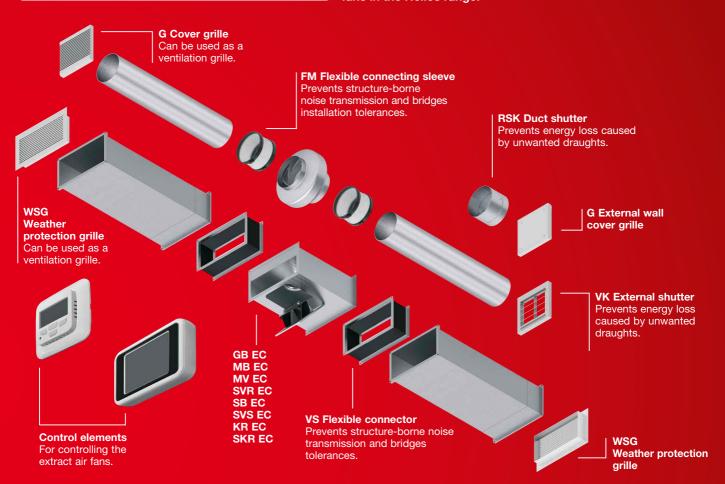






#### System solution: Extract air ductwork

The fresh air box control elements allow the control of extract air fans in the Helios range.



#### Incredibly practical:

Supply air, heating and filter in one single unit. For direct insertion in round duct and rectangular duct runs. The Helios fresh air boxes ALB provide for a pleasant indoor climate by supplying external intake air which is filtered and heated to the pre-set temperature. ALB are ideally suitable for all rooms where clean and preheated fresh air is required.

Whether in bistros, boutiques or other commercial areas. Specially equipped silencer casings and low-noise centrifugal fans ensure that the fresh air boxes are virtually silent.

Large cartridge filters result in the longest possible cleaning intervals

Control options for maximum comfort and efficient energy saving are included in the scope of delivery or available as accessories.

### ■ EH models with electric heater

#### **ALB EC EH**

With electric heater and air filter. Heat output control is continuously variable. Delivered ready-for-connection with control unit included.

Ø 125 – 250 mm



342ff

### ■ WW models with warm water heater

#### **ALB EC WW**

With warm water heater and air filter. Delivered ready-for-connection with control unit included.

40 x 20 cm, 50 x 30 cm, 60 x 35 cm, 80 x 50 cm



350ff





Operational unit for connection to round duct systems. Suitable for a wide range of applications.

Description / Scope of delivery The air filter, fan, heater with controller and electrical terminal box are integrated in a compact flat casing which is thermally and acoustically insulated. Equipped as standard with a continuously variable, electronic heating controller and an external control unit for controlling the unit, as well as a connection cable (10 metres). Air quality, humidity and temperature sensors (see Accessories) can be connected to the electronics in the terminal box to control the

#### Casing

specified setpoints.

Robust construction made of galvanised steel sheet, 50 mm thick mineral wool lining on all sides, which is also covered with dirt-repellent glass fabric. The cover is easy to open with screw caps and hinge for cleaning purposes. Round duct conectors on inlet side and outlet side with sealing lips, adapted to standard duct Ø. No thermal bridges, smooth surface for easy cleaning.

#### Filter

The large filter for long cleaning intervals is freely accessible by opening the casing cover. Standard version ISO ePM<sub>2.5</sub> 60% (M5). Alternatively, filters with higher classifications ISO ePM<sub>1</sub> 50% (F7) (see accessories) can be used. The volume output reduction must be taken into account. Periodic filter inspection / cleaning is required. Equipment with automatic monitoring DDS (see Accessories) is recommended.

#### ■ Fan

The volume flow rate switching is continuously variable with the control unit. Low-noise and high performance centrifugal fan made of galvanised steel sheet. Motor/impeller unit freely accessible for servicing. Drive through energy-saving, speed-controllable EC motor with the highest level of efficiency. Maintenance-free, with lifetime lubricated ball bearings.

#### Heating element

Enclosed sheathed heating elements made of stainless steel with low surface temperature heat the intake air to the specified setpoint temperature.

The electronic pulser continuously variably controls the heat output in constant comparison between the setpoint and the temperature measured by the room or duct sensor.

#### Turn-off delay

Dim. in mm

The unit has a fixed turn-off delay time of approx. 2 minutes if the heating element has been activated.

8

Dimensions ALB EC 125 EH

#### Electrical connection

Spacious terminal box inside the casing. Cable entry from the front of the unit through three cable glands and another four holes are provided.

#### Motor protection

Deactivation when overheating is imminent. Automatic reactivation after cool down.

#### Noise

The total level and range for the case-radiated sound power and outlet side sound power in dB(A) are specified above the performance diagram. In addition, the type table shows the radiated noise and outlet side air noise as sound pressure at 1 m (free field conditions). If necessary, a cross talk silencer (see Accessories) must be integrated in the duct system on site. The radiated noise as sound pressure level at 1 m (free field conditions) is additionally stated in the type table as well as in the table below the performance curve.

#### Control

776

The control element is included in the delivery and offers the following functions:

- Operation with different volume flows.
- ☐ Weekly and seasonal timer.
- Temperature control (using room sensor, accessories).
- Control of electronic heating controller. Specification of min./ max. temperature.
- Control of an EC extract air fan.
- Display of ambient temperature, outdoor temperature, supply air temperature, fan control and filter contamination (using differential pressure switch, accessories).

#### Other inputs and outputs:

- Emergency switch contact.
- □ Boost switch contact.
- Input for air quality or humidity sensor.
- Input for room temperature sensor.

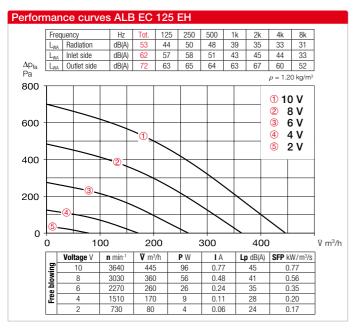


m) included in delivery. For flush-mounted installation. Dimensions mm (W x H) 82 x 82

| Туре          | Ref. no. | Flow                  | Max.  | Freq. | Sound pre          | ssure level           | Prot.    | Voltage | Power consumption | - Current consump. max. tot. | Wiring<br>diagram | Max.            | Weight       |
|---------------|----------|-----------------------|-------|-------|--------------------|-----------------------|----------|---------|-------------------|------------------------------|-------------------|-----------------|--------------|
|               |          | rate*<br>free blowing | speed |       | Case-<br>radiation | Air noise outlet side | category |         |                   |                              |                   | intake<br>temp. | net<br>aprx. |
|               |          | Ÿ m³/h (max.)         | min-1 | Hz    | dB(A) at 1m        | dB(A) at 1m           |          | Volt    | kW                | А                            | No.               | +°C             | kg           |
| ALB EC 125 EH | 06808    | 445                   | 3640  | 50/60 | 45                 | 64                    | IP44     | 230, 1~ | 2.10              | 9.52                         | SS-1308           | 40              | 20           |

<sup>\*</sup> Volume reduction by approx. 15% when using the filter ISO ePM<sub>1</sub> 50% (F7)





#### Temperature increase ∆T K 80 60 2 kW heating 40 20 0+ 0 100 200 300 400 500 Flow rate m3/h

#### Reference The integration of air filters ELF-ALB 125 F7 (ISO ePM<sub>1</sub> 50%) and differential pressure switches DDS (accessories) in outdoor installation fulfils the requirements of VDI 6022.

| ■ Reference          | Page   |
|----------------------|--------|
| Planning information | 14 ff. |

| Other accessories              | Page    |
|--------------------------------|---------|
| Silencers                      | 494 ff. |
| Flexible ventilation ducts,    |         |
| ventilation grilles, fittings, |         |
| shutters,                      |         |
| Supply air disc valves         | 584 f.  |

#### Accessories

#### Replacement and pollen filter

Large cassette filter for long cleaning intervals.

Unit = 3 pcs.

- Filter class ISO ePM<sub>2,5</sub> 60% (M5) **ELF-ALB 125 M5** No. 07231 - Filter class ISO ePM<sub>1</sub> 50% (F7) ELF-ALB 125 F7 No. 07337







#### Ref. no. 00445 Adjustable normally closed / normally open contact for monitoring drops in pressure.

#### Room sensor - Temperature Ref. no. 40000 TFR-ALB Room temperature sensor for surface installation.

Temperature range 0-30 °C Protection category IP20 Dim. mm W 86 x H 86 x D 30 Weight approx. 0.1 kg





#### Flexible cross talk silencer FSD 125 Ref. no. 00677 Made of aluminium pipe with double-sided plug-in connectors. Sound insulation lining 50 mm thick, installation length 1 m.

#### Pipe clamp connectors BM 125 Ref. no. 05076 For structure-borne noise-free connection of fan and piping and for suspension (1 set = 2 pcs).

#### Surface-mounted casing incl. frame

ALB-APG Ref. no. 00134 Casing for surface-mounting of control element. Protection category IP20 W 85 x H 85 x D 48 Dim. mm





#### External wall cover grille G 160 Ref. no. 00893 Made of plastic, white. For covering and insertion in round ventilation openings.

#### **Duct shutter**

**RSKK 125** Ref. no. 05107 Automatic, made of plastic.

Plastic supply air disc valve **KTVZ 125** Ref. no. 02737 Made of plastic, for low and high flow velocities or resistances.





Metal supply air disc valve **MTVZ 125** Ref. no. 09605 Made of metal, for low and high flow velocities.





Operational unit for connection to round duct systems. Suitable for a wide range of applications.

Description / Scope of delivery The air filter, fan, heater with controller and electrical terminal box are integrated in a compact flat casing which is thermally and acoustically insulated. Equipped as standard with a continuously variable, electronic heating controller and an external control unit for controlling the unit, as well as a connection cable (10 metres). Air quality, humidity and temperature sensors (see Accessories) can be connected to the electronics in the terminal box to control the specified setpoints.

#### Casing

Robust construction made of galvanised steel sheet, 50 mm thick mineral wool lining on all sides, which is also covered with dirt-repellent glass fabric. The cover is easy to open with screw caps and hinge for cleaning purposes. Round duct connectors on inlet side and outlet side with sealing lips, adapted to standard duct Ø. No thermal bridges, smooth surface for easy cleaning.

#### Filter

The large filter for long cleaning intervals is freely accessible by opening the casing cover. Standard version ISO ePM<sub>2.5</sub> 60% (M5). Alternatively, filters with higher classifications ISO ePM<sub>1</sub> 50% (F7) (see accessories) can be used. The volume output reduction must be taken into account. Periodic filter inspection / cleaning is required. Equipment with automatic monitoring DDS (see Accessories) is recommended.

#### ■ Fan

The volume flow rate switching is continuously variable with the control unit. Low-noise and high performance centrifugal fan made of galvanised steel sheet. Motor/impeller unit freely accessible for servicing. Drive through energy-saving, speed-controllable EC motor with the highest level of efficiency. Maintenance-free, with lifetime lubricated ball bearings

#### Heating element

Enclosed sheathed heating elements made of stainless steel with low surface temperature heat the intake air to the specified setpoint temperature.

The electronic pulser continuously variably controls the heat output in constant comparison between the setpoint and the temperature measured by the room or duct sensor.

#### ■ Turn-off delay

Dim. in mm

The unit has a fixed turn-off delay time of approx. 2 minutes if the heating element has been activated.

Dimensions ALB EC 200 EH

510

#### Electrical connection

Spacious terminal box inside the casing. Cable entry from the front of the unit through three cable glands and another four holes are provided.

#### Motor protection

Deactivation when overheating is imminent. Automatic reactivation after cool down.

#### Noise

The total level and range for the case-radiated sound power and outlet side sound power in dB(A) are specified above the performance diagram. In addition, the type table shows the radiated noise and outlet side air noise as sound pressure at 1 m (free field conditions). If necessary, a cross talk silencer (see Accessories) must be integrated in the duct system on site. The radiated noise as sound pressure level at 1 m (free field conditions) is additionally stated in the type table as well as in the table below the performance curve.

#### Control

862

The control element is included in the delivery and offers the following functions:

- Operation with different volume flows.
- ☐ Weekly and seasonal timer.
- Temperature control (using room sensor, accessories).
- Control of electronic heating controller. Specification of min./ max. temperature.
- Control of an EC extract air fan.
- Display of ambient temperature, outdoor temperature, supply air temperature, fan control and filter contamination (using differential pressure switch, accessories).

#### Other inputs and outputs:

- Emergency switch contact.
- □ Boost switch contact.
- Input for air quality or humidity sensor.
- Input for room temperature sensor.

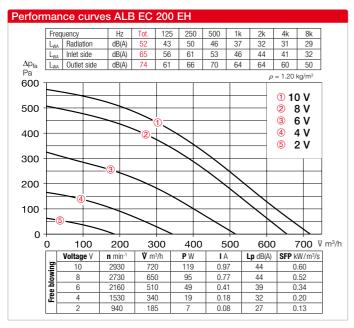


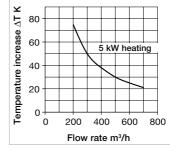
m) included in delivery. For flush-mounted installation. Dimensions mm (W x H) 82 x 82

| Туре          | Ref. no. | Flow                  |       |       | Voltage            | Power con-            | Current  | Wiring   | Max.     | Weight                |         |                 |              |
|---------------|----------|-----------------------|-------|-------|--------------------|-----------------------|----------|----------|----------|-----------------------|---------|-----------------|--------------|
|               |          | rate*<br>free blowing | speed |       | Case-<br>radiation | Air noise outlet side | category |          | sumption | consump.<br>max. tot. | diagram | intake<br>temp. | net<br>aprx. |
|               |          | Ÿ m³/h (max.)         | min-1 | Hz    | dB(A) at 1m        | dB(A) at 1m           |          | Volt     | kW       | А                     | No.     | +°C             | kg           |
| ALB EC 200 EH | 06809    | 720                   | 2910  | 50/60 | 44                 | 66                    | IP44     | 400, 3N~ | 5.12     | 13.52                 | SS-1309 | 40              | 26           |

<sup>\*</sup> Volume reduction by approx. 15% when using the filter ISO ePM<sub>1</sub> 50% (F7)







Reference The integration of air filters ELF-ALB 125 F7 (ISO ePM<sub>1</sub> 50%) and differential pressure switches DDS (accessories) in outdoor installation fulfils the requirements of VDI 6022.

| ■ Reference          | Page   |
|----------------------|--------|
| Planning information | 14 ff. |

| Other accessories              | Page    |
|--------------------------------|---------|
| Silencers                      | 494 ff. |
| Flexible ventilation ducts,    |         |
| ventilation grilles, fittings, |         |
| shutters,                      |         |
| Supply air disc valves         | 584 f.  |

#### Accessories

#### Replacement and pollen filter

Large cassette filter for long cleaning intervals.

Unit = 3 pcs.

- Filter class ISO ePM<sub>2,5</sub> 60 % (M5) ELF-ALB 200 M5 No. 07238 - Filter class ISO ePM<sub>1</sub> 50% (F7) **ELF-ALB 200 F7** No. 07266





Differential pressure switch Ref. no. 00445 Adjustable normally closed / normally open contact for monitoring drops in pressure.

#### Room sensor - Temperature Ref. no. 40000 TFR-ALB

Room temperature sensor for surface installation.

Temperature range 0-30 °C Protection category IP20 Dim. mm W 86 x H 86 x D 30 Weight approx. 0.1 kg





#### Flexible cross talk silencer FSD 200 Ref. no. 00679 Made of aluminium pipe with double-sided plug-in connectors. Sound insulation lining 50 mm thick, installation length 1 m.

#### Pipe clamp connectors

BM 200 Ref. no. 05078 For structure-borne noise-free connection of fan and piping and for suspension (1 set = 2 pcs).

#### Surface-mounted casing incl. frame

ALB-APG Ref. no. 00134 Casing for surface-mounting of control element.

Protection category IP20 W 85 x H 85 x D 48 Dim. mm





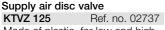
#### **Duct shutter**

**RSK 200** Ref. no. 05074 Automatic, casing made from galvanized steel.

#### External wall cover grille Ref. no. 00255 Made of plastic, white. For covering

and insertion in round ventilation

openings.



Made of plastic, for low and high flow velocities or resistances.





Supply air disc valve MTVZ 200 Ref. no. 09607 Made of metal, for low and high flow velocities.





Operational unit for connection to round duct systems. Suitable for a wide range of applications.

Description / Scope of delivery The air filter, fan, heater with controller and electrical terminal box are integrated in a compact flat casing which is thermally and acoustically insulated. Equipped as standard with a continuously variable, electronic heating controller and an external control unit for controlling the unit, as well as a connection cable (10 metres). Air quality, humidity and temperature sensors (see Accessories) can be connected to the electronics in the terminal box to control the

#### Casing

specified setpoints.

Robust construction made of galvanised steel sheet, 50 mm thick mineral wool lining on all sides, which is also covered with dirt-repellent glass fabric. The cover is easy to open with screw caps and hinge for cleaning purposes. Round duct connectors on inlet side and outlet side with sealing lips, adapted to standard duct Ø. No thermal bridges, smooth surface for easy cleaning.

#### Filter

The large filter for long cleaning intervals is freely accessible by opening the casing cover. Standard version ISO ePM<sub>2.5</sub> 60% (M5). Alternatively, filters with higher classifications ISO ePM<sub>1</sub> 50% (F7) (see accessories) can be used. The volume output reduction must be taken into account. Periodic filter inspection / cleaning is required. Equipment with automatic monitoring DDS (see Accessories) is recommended.

#### ■ Fan

The volume flow rate switching is continuously variable with the control unit. Low-noise and high performance centrifugal fan made of galvanised steel sheet. Motor/impeller unit freely accessible for servicing. Drive through energy-saving, speed-controllable EC motor with the highest level of efficiency. Maintenancefree, with lifetime lubricated ball bearings.

#### Heating element

Enclosed sheathed heating elements made of stainless steel with low surface temperature heat the intake air to the specified setpoint temperature. The electronic pulser continuously variably controls the heat output in constant comparison between the setpoint and the temperature measured by the room or duct sensor.

### ■ Turn-off delay

Dim. in mm

The unit has a fixed turn-off delay time of approx. 2 minutes if the heating element has been activated.

Dimensions ALB EC 250 EH

171

629

518

#### Electrical connection

Spacious terminal box inside the casing. Cable entry from the front of the unit through three cable glands and another four holes are provided.

#### Motor protection

Deactivation when overheating is imminent. Automatic reactivation after cool down.

#### Noise

The total level and range for the case-radiated sound power and outlet side sound power in dB(A) are specified above the performance diagram. In addition, the type table shows the radiated noise and outlet side air noise as sound pressure at 1 m (free field conditions). If necessary, a cross talk silencer (see Accessories) must be integrated in the duct system on site. The radiated noise as sound pressure level at 1 m (free field conditions) is additionally stated in the type table as well as in the table below the performance curve.

#### Control

1036

The control element is included in the delivery and offers the following functions:

- Operation with different volume flows.
- ☐ Weekly and seasonal timer.
- Temperature control (using room sensor, accessories).
- Control of electronic heating controller. Specification of min./ max. temperature.
- Control of an EC extract air fan.
- Display of ambient temperature, outdoor temperature, supply air temperature, fan control and filter contamination (using differential pressure switch, accessories).

#### Other inputs and outputs:

- Emergency switch contact.
- □ Boost switch contact.
- Input for air quality or humidity sensor.
- Input for room temperature sensor.

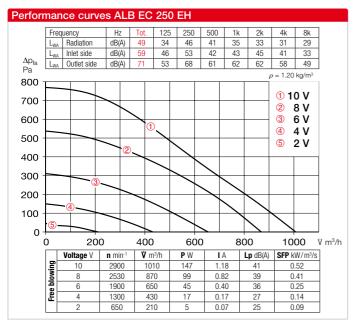


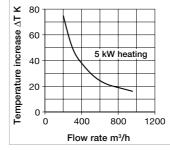
m) included in delivery. For flush-mounted installation. Dimensions mm (W  $\times$  H) 82  $\times$  82

| Туре          | Ref. no. | Flow                  | Max.  | Freq. | Sound pre          | ssure level           | Prot.    | Voltage  | Power consumption |       | Wiring  | Max.            | Weight       |
|---------------|----------|-----------------------|-------|-------|--------------------|-----------------------|----------|----------|-------------------|-------|---------|-----------------|--------------|
|               |          | rate*<br>free blowing | speed |       | Case-<br>radiation | Air noise outlet side | category |          |                   |       | diagram | intake<br>temp. | net<br>aprx. |
|               |          | Ÿ m³/h (max.)         | min-1 | Hz    | dB(A) at 1m        | dB(A) at 1m           |          | Volt     | kW                | А     | No.     | +°C             | kg           |
| ALB EC 250 EH | 06818    | 1010                  | 2810  | 50/60 | 41                 | 63                    | IP44     | 400, 3N~ | 5.15              | 13.73 | SS-1309 | 40              | 36           |

<sup>\*</sup> Volume reduction by approx. 15% when using the filter ISO ePM1 50% (F7)







# ■ Reference The integration of air filters ELF-ALB 125 F7 (ISO ePM₁ 50%) and differential pressure switches DDS (accessories) in outdoor installation fulfils the requirements of VDI 6022.

| ■ Reference          | Page   |
|----------------------|--------|
| Planning information | 14 ff. |
|                      |        |

| Other accessories              | Page    |
|--------------------------------|---------|
| Silencers                      | 494 ff. |
| Flexible ventilation ducts,    |         |
| ventilation grilles, fittings, |         |
| shutters,                      |         |
| Supply air disc valves         | 584 f.  |

#### Accessories

#### Replacement and pollen filter

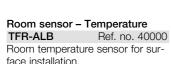
Large cassette filter for long cleaning intervals.

Unit = 3 pcs.

Filter class ISO ePM<sub>2,5</sub> 60 % (M5)
 ELF-ALB 250 M5 No. 07294
 Filter class ISO ePM<sub>1</sub> 50 % (F7)
 ELF-ALB 250 F7 No. 07305



Differential pressure switch
DDS Ref. no. 00445
Adjustable normally closed / normally open contact for monitoring drops in pressure.







## Flexible cross talk silencer FSD 250 Ref. no. 00680 For structure-borne noise-free connection of fan and piping and for suspension (1 set = 2 pcs).

## Pipe clamp connectors BM 250 Ref. no. 05079 For structure-borne noise-free connection of fan and piping and for suspension (1 set = 2 pcs).

### Surface-mounted casing incl. frame

**ALB-APG** Ref. no. 00134 Casing for surface-mounting of control element.

Protection category IP20 Dim. mm W 85 x H 85 x D 48





## Duct shutter RSK 250 Ref. no. 05673 Automatic, casing made from galvanized steel.

## External wall cover grille G 250 Ref. no. 00256 Made of plastic, white. For covering and insertion in round ventilation openings.





Automatic duct shutter
RVS 250 Ref. no. 02592
With spring return, can be installed horizontally in any direction, vertically with throughflow from bottom to top. Shutter opening in flow direction; automatic function through fan operation.





Operational unit for connection to rectangular duct systems. Suitable for a wide range of commercial applications.

Description/Scope of delivery

The air filter, fan and electric heating element are integrated in a compact flat casing which is thermally and acoustically insulated. The unit is delivered ready for connection and includes an external control unit for controlling the unit, as well as a connection cable (10 metres). Air quality, humidity and temperature sensors (see Accessories) can be connected to the electronics in the terminal box to control the specified setpoints.

#### Casing

Robust construction made of coated steel sheet, double-walled with 30 mm thick mineral wool lining. The cover is easy to open with screw caps and hinge for cleaning purposes.

Rectangular duct connectors on inlet side and outlet side, adapted to standard rectangular duct dimensions.

No thermal bridges, smooth surface for easy cleaning.

#### Filter

The large filter for long cleaning intervals is freely accessible by opening the casing cover. Standard version ISO Coarse 90% (G4).

Alternatively, filters with higher classifications ISO ePM $_{10}$  70% (M5) or ISO ePM $_{1}$  50% (F7) (see accessories) can be used. The volume output reduction must be taken into account.

Periodic filter inspection /cleaning is required.

A filter monitoring system is integrated.

The requirements of VDI 6022 are fulfilled through the integration of a ISO ePM<sub>1</sub> 50% filter.

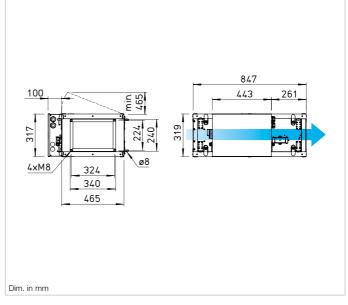
#### Far

The volume flow rate switching is continuously variable with the control unit. Low-noise and high performance centrifugal fan made of galvanised steel sheet. Motor/impeller unit freely accessible for servicing. Drive through energy-saving, speed-controllable EC motor with the highest level of efficiency. Maintenancefree, with lifetime lubricated ball bearings.

#### Heating element

The electric heating element made of stainless steel with low surface temperature heats the intake air to the specified setpoint temperature.

Control via the integrated control board.



The setpoint and the temperature measured by the room sensor (accessories) are constantly compared.

Dimensions ALB EC 30/20 EH

The electric heating element is equipped with an automatic safety temperature limiter (+50 °C) and a manually resettable safety temperature limiter (+115 °C).

#### Electrical connection

Spacious terminal box in IP20 on outside of casing

#### Motor protection

Deactivation when overheating is imminent. Automatic reactivation after cool down.

#### Noise

The type table shows the radiated noise and outlet side air noise as sound pressure at 1 m (free field conditions). If necessary, a cross talk silencer (see Accessories) must be integrated in the duct system on site. The radiated noise as sound pressure level at 1 m (free field conditions) is additionally stated in the type table as well as in the table below the performance curve.

#### Control

The control element is included in the delivery and offers the following functions:

- Operation with different volume flows.
- ☐ Weekly and seasonal timer.
- ☐ Temperature control (using room sensor, accessories).
- Control of an EC extract air fan.
- Display of ambient temperature, fan control and filter contamination

#### Other inputs and outputs:

- □ Emergency switch contact.
- Boost switch contact.
- External switch.
- Input for air quality or humidity sensor.
- Input for room temperature sensor.
- Output for shutter control.

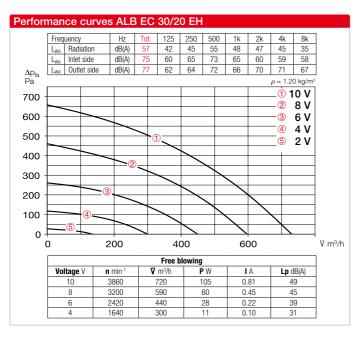


m) included in delivery. Dimensions mm (W  $\times$  H  $\times$  D) 115  $\times$  80  $\times$  25

| Туре            | Ref. no. | Flow Max.             |       |                    |                       | Voltage  |       |         | Current               | Wiring  | Maximum      | Weight       |
|-----------------|----------|-----------------------|-------|--------------------|-----------------------|----------|-------|---------|-----------------------|---------|--------------|--------------|
|                 |          | rate*<br>free blowing | speed | Case-<br>radiation | Air noise outlet side | 50/60 Hz | Motor | Heating | consump.<br>max. tot. | diagram | intake temp. | net<br>aprx. |
|                 |          | Ÿ m³/h (max.)         | min-1 | dB(A) at 1m        | dB(A) at 1m           | Volt     | kW    | kW      | Α                     | No.     | +°C          | kg           |
| ALB EC 30/20 EH | 06538    | 720                   | 3900  | 49                 | 69                    | 230, 1~  | 0.12  | 6.60    | 10.4                  | 1371    | 40           | 36           |

<sup>\*</sup> Volume reduction by approx. 5 % when using the filter ISO ePM<sub>10</sub> 50 % (M5), by approx. 15 % when using the filter ISO ePM<sub>1</sub> 50 % (F7).





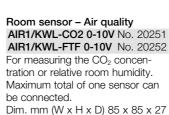


#### Reference

The integration of air filters ELF-ALB 30/20 F7 (ISO ePM<sub>1</sub> 50% (F7)) in intake air systems fulfils the requirements of VDI 6022.

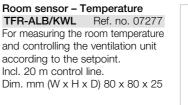


Replacement and pollen filter - ISO Coarse 90% (G4) **ELF-ALB 30/20 G4** No. 07284 - Filter class ISO ePM<sub>10</sub> 70% (M5) ELF-ALB 30/20 M5 No. 07285 - Filter class ISO ePM<sub>1</sub> 50% (F7) **ELF-ALB 30/20 F7** No. 07319 Large cassette filter for long cleaning intervals. Unit = 3 pcs.











| Reference            | Page   |
|----------------------|--------|
| Planning information | 14 ff. |
|                      |        |
|                      |        |
|                      |        |
|                      |        |

200 400 600 Flow rate m3/h

6.6 kW heating

800

 $^{\Delta}$ 80

60

40

20 0 ò

**Femperature** increase

| Other accessories              | Page    |
|--------------------------------|---------|
| Silencers                      | 494 ff. |
| Flexible ventilation ducts,    |         |
| ventilation grilles, fittings, |         |
| shutters,                      |         |
| Supply air disc valves         | 584 f.  |

Connection cable - 20 metres long

ALB EC-SK 20 Ref. no. 06816

- 40 metres long ALB EC-SK 40 Ref. no. 06817 Attach between ALB and control element as well as between ALB and TFR-ALB/KWL.

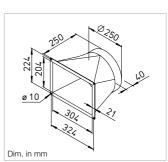


Transition piece - Symmetrical **KWL-ÜS 700 D** Ref. no. 04206 From unit flange to round duct systems.

Flexible connecting sleeve Ref. no. 01672 For acoustic decoupling, incl. 2 pcs. hose clamps.

Angle flange ring Ref. no. 01203 FR 250 Made of galvanised steel sheet, for duct connection.

Duct shutter, motorised RVM 250 Ref. no. 02576 Prevents cold draughts when the unit is at a standstill. Automatic function through fan operation, with mounted spring return motor. Installation in any position, closing force adjustable corresponding to fan power and installation position.







125



Application /Function Pleasant indoor climate through the addition of external fresh air which is filtered and automatically heated to the specified temperature.

Operational unit for connection to rectangular duct systems. Suitable for a wide range of commercial applications.

Description/Scope of delivery

The air filter, fan and warm water heater are integrated in a compact flat casing which is thermally and acoustically insulated. The unit is delivered ready for connection and includes an external control unit for controlling the unit, as well as a connection cable (10 metres). Air quality, humidity and temperature sensors (see Accessories) can be connected to the electronics in the terminal box to control the specified setpoints. In order to prevent frost damage to the unit, a shutter (see Accessories) is essential.

#### Casing

Robust construction made of coated steel sheet, double-walled with 30 mm thick mineral wool lining. The cover is easy to open with screw caps and hinge for cleaning purposes.

Rectangular duct connectors on inlet side and outlet side, adapted to standard rectangular duct dimensions.

No thermal bridges, smooth surface for easy cleaning.

#### Filter

The large filter for long cleaning intervals is freely accessible by opening the casing cover. Standard version ISO Coarse 90% (G4).

Alternatively, filters with higher classifications ISO ePM<sub>10</sub> 70% (M5) or ISO  $ePM_1$  50% (F7) (see accessories) can be used. The volume output reduction must be taken into account. Periodic filter inspection /cleaning

is required. A filter monitoring system is in-

tegrated. The filters comply with VDI 6022.

#### Fan

The volume flow rate switching is continuously variable with the control unit. Low-noise and high performance centrifugal fan made of galvanised steel sheet. Motor/impeller unit freely accessible for servicing. Drive through energy-saving, speed-controllable EC motor with the highest level of efficiency. Maintenance-free, with lifetime lubricated ball bearings.

#### Heating element

Air heater with AL blades and staggered copper pipes heat the intake air to the specified setpoint temperature. Control through connection of a hydraulic unit (accessories) via the integrated control board.

The setpoint and the temperature measured by the room sensor (accessories) are constantly compared.

A frost protection circuit is integrated as standard. Max. operating pressure 1.6 MPa.

422 440 519

min. 519

Water connection pipes with external thread.

#### Electrical connection

Spacious terminal box in IP20 on outside of casing.

#### Motor protection

Deactivation when overheating is imminent. Automatic reactivation after cool down.

#### Noise

100

Dim. in mm

The type table shows the radiated noise and outlet side air noise as sound pressure at 1 m (free field conditions). If necessary, a cross talk silencer (see Accessories) must be integrated in the duct system on site. The radiated noise as sound pressure level at 1 m (free field conditions) is additionally stated in the type table as well as in the table below the performance curve.

#### Control

The control element is included in the delivery and offers the following functions:

- Operation with different volume flows
- Weekly and seasonal timer.
- Temperature control (using room sensor, accessories).
- Frost protection.
- Control of hydraulic unit (accessories) to control the WW heating element. Specification of min./max. temperature.
- Control of an EC extract air fan.

Display of ambient temperature, fan control and filter contamina-

#### Other inputs and outputs:

850

- ☐ Emergency switch contact.
- Boost switch contact.
- External switch.
- Input for air quality or humidity sensor.
- ☐ Input for room temperature sen-
- Output for shutter control.

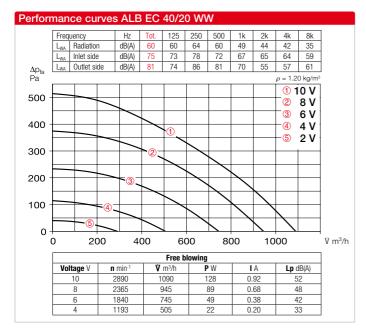


Control element with connection cable (10 m) included in delivery. Dimensions mm (W x H x D) 115 x 80 x 25

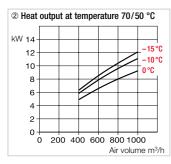
| Туре            | Ref. no. | Flow                  | Max.  | Sound pressure level |                       | Voltage Power consump. |       | Current | Wiring                | Maximum | Weight       |              |
|-----------------|----------|-----------------------|-------|----------------------|-----------------------|------------------------|-------|---------|-----------------------|---------|--------------|--------------|
|                 |          | rate*<br>free blowing | speed | Case-<br>radiation   | Air noise outlet side | 50/60 Hz               | Motor | Heating | consump.<br>max. tot. | diagram | intake temp. | net<br>aprx. |
|                 |          | V m³/h (max.)         | min-1 | dB(A) at 1m          | dB(A) at 1m           | Volt                   | kW    | kW      | А                     | No.     | +°C          | kg           |
| ALB EC 40/20 WW | 06533    | 1100                  | 2900  | 52                   | 73                    | 230, 1~                | 0.15  | _       | 1.09                  | 1371    | 40           | 37           |

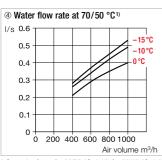
<sup>\*</sup> Volume reduction by approx. 5 % when using the filter ISO ePM, 50% (M5), by approx. 15 % when using the filter ISO ePM, 50% (F7).

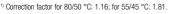




- Heat output WW element ①-③ These diagrams show the heat output depending on the flow/ return/outside temp. over the air volume.
- Water volume WW element ④ shows the water flow rate depending on the flow/return/outside temp. over the air volume.
- Pressure loss WW element ⑤ shows the water throughflow over water pressure loss kPa.



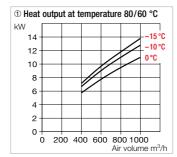


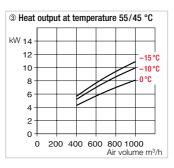


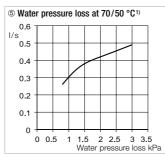
### ■ Reference The integration of air filters

ELF-ALB 40/20 F7 (ISO ePM<sub>1</sub> 50% (F7)) in intake air systems fulfils the requirements of VDI 6022.

| ■ Reference          | Page   |
|----------------------|--------|
| Planning information | 14 ff. |







| Other accessories              | Page    |
|--------------------------------|---------|
| Silencers                      | 494 ff. |
| Hydraulic unit details         | 492 ff. |
| Flexible ventilation ducts,    |         |
| ventilation grilles, fittings, |         |
| shutters                       | 561 ff. |
| Supply air disc valves         | 584 f.  |

#### Accessories

#### Hydraulic unit WHSH HE 24V (0-10V)No. 08318

For controlling the heat output of the warm water heating element in combination with room/duct sensors. Includes flow/return temperature display, pump, actuator, mixer valve, gravity brake, thermal cladding and flexible connection hoses.

#### Replacement and pollen filter

- ISO Coarse 90% (G4)

ELF-ALB 40/20 G4 No. 07619 - Filter class ISO ePM<sub>10</sub> 70 % (M5) ELF-ALB 40/20 M5 No. 06766

Filter class ISO ePM<sub>1</sub> 50% (F7)
 ELF-ALB 40/20 F7 No. 06767
 Large cassette filter for long cleaning intervals.

Unit = 3 pcs.

#### Room sensor – Air quality AIR1/KWL-CO2 0-10V No. 20251 AIR1/KWL-FTF 0-10V No. 20252

For measuring the  $CO_2$  concentration or relative room humidity. Maximum total of one sensor can be connected.

Dim. mm (W x H x D) 85 x 85 x 27

#### Room sensor – Temperature TFR-ALB/KWL Ref. no. 07277

For measuring the room temperature and controlling the ventilation unit according to the setpoint. Incl. 20 m control line.

Dim. mm (W x H x D) 80 x 80 x 25

#### Connection cable

- 20 metres long

**ALB EC-SK 20** Ref. no. 06816

- 40 metres long

ALB EC-SK 40 Ref. no. 06817 Attach between ALB and control element as well as between ALB and TFR-ALB/KWL.

## **Transition piece – Symmetrical ALB-ÜS 40/20** Ref. no. 07617 From unit flange to round duct systems.

Flexible connecting sleeve FM 250 Ref. no. 01672 For acoustic decoupling, incl. 2

pcs. hose clamps.

Angle flange ring

FR 250 Ref. no. 01203 Made of galvanised steel sheet, for duct connection.

#### Duct shutter, motorised

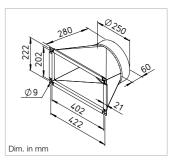
RVM 250 Ref. no. 02576
Prevents cold draughts when the unit is at a standstill. Automatic function through fan operation, with mounted spring return motor. Installation in any position, closing force adjustable corresponding to fan power and installation position.







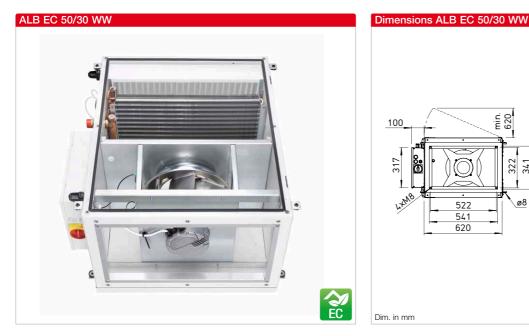








125



Application /Function Pleasant indoor climate through the addition of external fresh air which is filtered and automatically heated to the specified temperature.

Operational unit for connection to rectangular duct systems. Suitable for a wide range of commercial applications.

Description/Scope of delivery

The air filter, fan and warm water heater are integrated in a compact flat casing which is thermally and acoustically insulated. The unit is delivered ready for connection and includes an external control unit for controlling the unit, as well as a connection cable (10 metres). Air quality, humidity and temperature sensors (see Accessories) can be connected to the electronics in the terminal box to control the specified setpoints. In order to prevent frost damage to the unit, a shutter (see Accessories) is essential.

#### Casing

Robust construction made of coated steel sheet, double-walled with 30 mm thick mineral wool lining. The cover is easy to open with screw caps and hinge for cleaning purposes.

Rectangular duct connectors on inlet side and outlet side, adapted to standard rectangular duct dimensions.

No thermal bridges, smooth surface for easy cleaning.

#### Filter

The large filter for long cleaning intervals is freely accessible by opening the casing cover. Standard version ISO Coarse 90% (G4).

Alternatively, filters with higher classifications ISO ePM<sub>10</sub> 70% (M5) or ISO  $ePM_1$  50% (F7) (see accessories) can be used. The volume output reduction must be taken into account. Periodic filter inspection /cleaning

is required. A filter monitoring system is integrated.

The filters comply with VDI 6022.

#### Fan

The volume flow rate switching is continuously variable with the control unit. Low-noise and high performance centrifugal fan made of galvanised steel sheet. Motor/impeller unit freely accessible for servicing. Drive through energy-saving, speed-controllable EC motor with the highest level of efficiency. Maintenancefree, with lifetime lubricated ball bearings.

#### Heating element

Air heater with AL blades and staggered copper pipes heat the intake air to the specified setpoint temperature. Control through connection of a hydraulic unit (accessories) via the integrated control board.

The setpoint and the temperature measured by the room sensor (accessories) are constantly compared.

A frost protection circuit is integrated as standard.

522 541 620

Max. operating pressure 1.6 MPa. Water connection pipes with external thread.

#### Electrical connection

Spacious terminal box in IP20 on outside of casing.

#### Motor protection

Deactivation when overheating is imminent. Automatic reactivation after cool down.

#### Noise

100

Dim. in mm

The type table shows the radiated noise and outlet side air noise as sound pressure at 1 m (free field conditions). If necessary, a cross talk silencer (see Accessories) must be integrated in the duct system on site. The radiated noise as sound pressure level at 1 m (free field conditions) is additionally stated in the type table as well as in the table below the performance curve.

#### Control

The control element is included in the delivery and offers the following functions:

- Operation with different volume flows
- Weekly and seasonal timer.
- Temperature control (using room sensor, accessories).
- Frost protection.
- Control of hydraulic unit (accessories) to control the WW heating element. Specification of min./max. temperature.
- Control of an EC extract air fan.

Display of ambient temperature, fan control and filter contamination.

#### Other inputs and outputs:

850 353

- ☐ Emergency switch contact.
- Boost switch contact.
- External switch.
- Input for air quality or humidity sensor.
- ☐ Input for room temperature sensor.
- Output for shutter control.

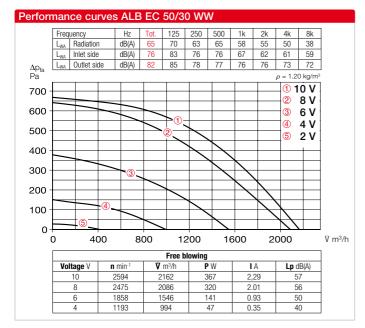


Control element with connection cable (10 m) included in delivery. Dimensions mm (W x H x D) 115 x 80 x 25

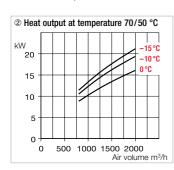
| Туре            | Ref. no. | Flow Max.             |       |                    |                       | Voltage  |       |         | Current               | Wiring  | Maximum      | Weight       |
|-----------------|----------|-----------------------|-------|--------------------|-----------------------|----------|-------|---------|-----------------------|---------|--------------|--------------|
|                 |          | rate*<br>free blowing | speed | Case-<br>radiation | Air noise outlet side | 50/60 Hz | Motor | Heating | consump.<br>max. tot. | diagram | intake temp. | net<br>aprx. |
|                 |          | V m³/h (max.)         | min-1 | dB(A) at 1m        | dB(A) at 1m           | Volt     | kW    | kW      | А                     | No.     | +°C          | kg           |
| ALB EC 40/20 WW | 06534    | 2100                  | 2600  | 57                 | 74                    | 230, 1~  | 0.47  | _       | 2.90                  | 1371    | 40           | 55           |

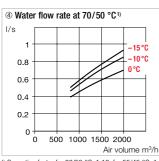
<sup>\*</sup> Volume reduction by approx. 5 % when using the filter ISO ePM, 50% (M5), by approx. 15 % when using the filter ISO ePM, 50% (F7).





- Heat output WW element ①-③ These diagrams show the heat output depending on the flow/ return/outside temp. over the air volume.
- Water volume WW element ④ shows the water flow rate depending on the flow/return/outside temp. over the air volume.
- Pressure loss WW element ⑤ shows the water throughflow over water pressure loss kPa.



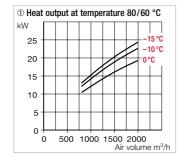


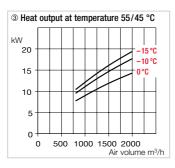
 $^{\mbox{\tiny 1)}}$  Correction factor for 80/50 °C: 1.16; for 55/45 °C: 1.81.

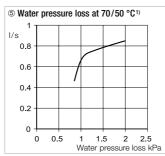
### ReferenceThe integration of air filters

ELF-ALB 50/30 F7 (ISO ePM<sub>1</sub> 50% (F7)) in intake air systems fulfils the requirements of VDI 6022.

| ■ Reference          | Page   |
|----------------------|--------|
| Planning information | 14 ff. |





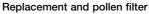


| Other accessories              | Page    |
|--------------------------------|---------|
| Silencers                      | 494 ff. |
| Hydraulic unit details         | 492 ff. |
| Flexible ventilation ducts,    |         |
| ventilation grilles, fittings, |         |
| shutters                       | 561 ff. |
| Supply air disc valves         | 584 f.  |

#### Accessories

#### Hydraulic unit WHSH HE 24 V (0-10 V)No. 08318

For controlling the heat output of the warm water heating element in combination with room/duct sensors. Includes flow/return temperature display, pump, actuator, mixer valve, gravity brake, thermal cladding and flexible connection hoses.



- ISO Coarse 90% (G4)

**ELF-ALB 220/4/50/30 G4** No. 03646 – Filter class ISO ePM<sub>10</sub> 70% (M5)

ELF-ALB 220/4/50/30 M5 No. 03647 – Filter class ISO ePM<sub>1</sub> 50% (F7) ELF-ALB 220/4/50/30 F7 No. 03648 Large cassette filter for long cleaning intervals.

Unit = 3 pcs.

#### Room sensor – Air quality AIR1/KWL-FTF 0-10V No. 20252

For measuring the relative room humidity. Maximum total of one sensor can be connected.

Dim. mm (W x H x D) 85 x 85 x 27

Room sensor – Temperature TFR-ALB/KWL Ref. no. 07277 For measuring the room temperature and controlling the ventilation unit according to the setpoint. Incl. 20 m control line.

Dim. mm (W x H x D) 80 x 80 x 25



**ALB EC-SK 20** Ref. no. 06816

- 40 metres long

ALB EC-SK 40 Ref. no. 06817 Attach between ALB and control element as well as between ALB and TFR-ALB/KWL.

### Transition piece – Symmetrical ALB-ÜS 220/4/50/30 No. 07515

From unit flange to round duct systems.

### FI 315 Ref. no. 01674 For acoustic decoupling, incl. 2

For acoustic decoupling, incl. 2 pcs. hose clamps.

#### Angle flange ring

FR 315 Ref. no. 01204 Made of galvanised steel sheet, for duct connection.

#### Duct shutter, motorised

**RVM 315** Ref. no. 02578

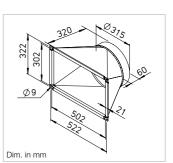
Prevents cold draughts when the unit is at a standstill. Automatic function through fan operation, with mounted spring return motor. Installation in any position, closing force adjustable corresponding to fan power and installation position.















125



Application /Function Pleasant indoor climate through the addition of external fresh air which is filtered and automatically heated to the specified temperature.

Operational unit for connection to rectangular duct systems. Suitable for a wide range of commercial applications.

Description/Scope of delivery

The air filter, fan and warm water heater are integrated in a compact flat casing which is thermally and acoustically insulated. The unit is delivered ready for connection and includes an external control unit for controlling the unit, as well as a connection cable (10 metres). Air quality, humidity and temperature sensors (see Accessories) can be connected to the electronics in the terminal box to control the specified setpoints. In order to prevent frost damage to the unit, a shutter (see Accessories) is essential.

#### Casing

Robust construction made of coated steel sheet, double-walled with 30 mm thick mineral wool lining. The cover is easy to open with screw caps and hinge for cleaning purposes.

Rectangular duct connectors on inlet side and outlet side, adapted to standard rectangular duct dimensions.

No thermal bridges, smooth surface for easy cleaning.

#### Filter

The large filter for long cleaning intervals is freely accessible by opening the casing cover. Standard version ISO Coarse 90% (G4).

Alternatively, filters with higher classifications ISO ePM<sub>10</sub> 70% (M5) or ISO  $ePM_1$  50% (F7) (see accessories) can be used. The volume output reduction must be taken into account. Periodic filter inspection /cleaning

is required.

A filter monitoring system is integrated.

The filters comply with VDI 6022.

#### Fan

The volume flow rate switching is continuously variable with the control unit. Low-noise and high performance centrifugal fan made of galvanised steel sheet. Motor/impeller unit freely accessible for servicing. Drive through energy-saving, speed-controllable EC motor with the highest level of efficiency. Maintenancefree, with lifetime lubricated ball bearings.

#### Heating element

Air heater with AL blades and staggered copper pipes heat the intake air to the specified setpoint temperature. Control through connection of a hydraulic unit (accessories) via the integrated control board.

The setpoint and the temperature measured by the room sensor (accessories) are constantly compared.

A frost protection circuit is integrated as standard. Max. operating pressure 1.6 MPa.

622 640 718 390

ø8

Water connection pipes with external thread.

#### Electrical connection

Spacious terminal box in IP20 on outside of casing.

#### Motor protection

Deactivation when overheating is imminent. Automatic reactivation after cool down.

#### Noise

100

The type table shows the radiated noise and outlet side air noise as sound pressure at 1 m (free field conditions). If necessary, a cross talk silencer (see Accessories) must be integrated in the duct system on site. The radiated noise as sound pressure level at 1 m (free field conditions) is additionally stated in the type table as well as in the table below the performance curve.

#### Control

The control element is included in the delivery and offers the following functions:

- Operation with different volume flows
- Weekly and seasonal timer.
- Temperature control (using room sensor, accessories).
- Frost protection.
- Control of hydraulic unit (accessories) to control the WW heating element. Specification of min./max. temperature.
- Control of an EC extract air fan.

Display of ambient temperature, fan control and filter contamination.

850 353

#### Other inputs and outputs:

- ☐ Emergency switch contact.
- Boost switch contact.
- External switch.
- Input for air quality or humidity sensor.
- ☐ Input for room temperature sen-
- Output for shutter control.

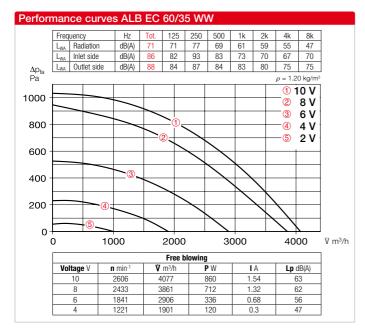


Control element with connection cable (10 m) included in delivery. Dimensions mm (W x H x D) 115 x 80 x 25

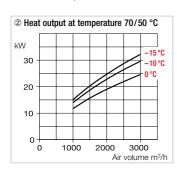
| Type Ref. no    |       | . Flow                | Max.  | Sound pressure level |                       | Voltage  | Power consump. |         | Current               | Wiring  | Maximum      | Weight       |
|-----------------|-------|-----------------------|-------|----------------------|-----------------------|----------|----------------|---------|-----------------------|---------|--------------|--------------|
|                 |       | rate*<br>free blowing | speed | Case-<br>radiation   | Air noise outlet side | 50/60 Hz | Motor          | Heating | consump.<br>max. tot. | diagram | intake temp. | net<br>aprx. |
|                 |       | Ÿ m³/h (max.)         | min-1 | dB(A) at 1m          | dB(A) at 1m           | Volt     | kW             | kW      | Α                     | No.     | +°C          | kg           |
| ALB EC 60/35 WW | 06536 | 4070                  | 2650  | 63                   | 80                    | 400, 3N~ | 1.03           | -       | 1.90                  | 1371    | 40           | 70           |

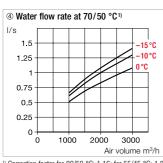
<sup>\*</sup> Volume reduction by approx. 5 % when using the filter ISO ePM<sub>10</sub> 50% (M5), by approx. 15 % when using the filter ISO ePM<sub>1</sub> 50% (F7).





- Heat output WW element ①-③ These diagrams show the heat output depending on the flow/ return/outside temp. over the air volume.
- Water volume WW element ④ shows the water flow rate depending on the flow/return/outside temp. over the air volume.
- Pressure loss WW element ⑤ shows the water throughflow over water pressure loss kPa.





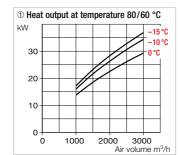
<sup>1)</sup> Correction factor for 80/50 °C: 1.16; for 55/45 °C: 1.81.

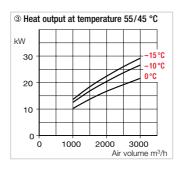
## ■ Reference The integration of air filters ELF-ALB 60/35 F7 (ISO ePM₁ 50% (F7)) in

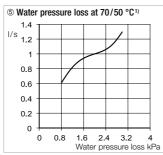
intake air systems fulfils the re-

quirements of VDI 6022.

| ■ Reference          | Page   |
|----------------------|--------|
| Planning information | 14 ff. |







| Other accessories              | Page    |
|--------------------------------|---------|
| Silencers                      | 494 ff. |
| Hydraulic unit details         | 492 ff. |
| Flexible ventilation ducts,    |         |
| ventilation grilles, fittings, |         |
| shutters                       | 561 ff. |
| Supply air disc valves         | 584 f.  |

#### Accessories

## Hydraulic unit WHSH HE 24 V (0-10 V)No. 08318 For controlling the heat output of the warm water heating element in combination with room/duct

in combination with room/duct sensors. Includes flow/return temperature display, pump, actuator, mixer valve, gravity brake, thermal cladding and flexible connection hoses.

#### Replacement and pollen filter

- ISO Coarse 90% (G4)

**ELF-ALB 280/4/60/35 G4** No. 03649 – Filter class ISO ePM<sub>10</sub> 70% (M5)

ELF-ALB 280/4/60/35 M5 No. 03650

– Filter class ISO ePM<sub>1</sub> 50 % (F7)

ELF-ALB 280/4/60/35 F7 No. 03654

Large cassette filter for long cleaning intervals.

Unit = 3 pcs.

#### Room sensor – Air quality AIR1/KWL-CO2 0-10V No. 20251 AIR1/KWL-FTF 0-10V No. 20252 For measuring the CO<sub>2</sub> concentration or relative room humidity. Maximum total of one sensor can be connected.

Dim. mm (W x H x D) 85 x 85 x 27

## Room sensor – Temperature TFR-ALB/KWL Ref. no. 07277 For measuring the room temperature and controlling the ventilation unit according to the setpoint.

Incl. 20 m control line. Dim. mm (W x H x D) 80 x 80 x 25

#### Connection cable

20 metres long

**ALB EC-SK 20** Ref. no. 06816

- 40 metres long

ALB EC-SK 40 Ref. no. 06817 Attach between ALB and control element as well as between ALB and TFR-ALB/KWL.

### Transition piece – Symmetrical ALB-ÜS 280/4/60/35 No. 07516

From unit flange to round duct systems.

#### Flexible connecting sleeve FM 355 Ref. no. 01675

For acoustic decoupling, incl. 2 pcs. hose clamps.

#### Angle flange ring

FR 355 Ref. no. 01205
Made of galvanised steel sheet, for duct connection.

#### Duct shutter, motorised

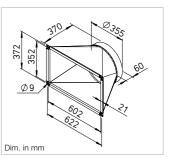
RVM 355 Ref. no. 02579
Prevents cold draughts when the unit is at a standstill. Automatic function through fan operation, with mounted spring return motor. Installation in any position, closing force adjustable corresponding to fan power and installation position.

















Operational unit for connection to rectangular duct systems. Suitable for a wide range of commercial applications.

Description/Scope of delivery

The air filter, fan and warm water heater are integrated in a compact flat casing which is thermally and acoustically insulated. The unit is delivered ready for connection and includes an external control unit for controlling the unit, as well as a connection cable (10 metres). Air quality, humidity and temperature sensors (see Accessories) can be connected to the electronics in the terminal box to control the specified setpoints. In order to prevent frost damage to the unit, a shutter (see Accessories) is essential.

#### Casing

Robust construction made of coated steel sheet, double-walled with 30 mm thick mineral wool lining. The cover is easy to open with screw caps and hinge for cleaning purposes.

Rectangular duct connectors on inlet side and outlet side, adapted to standard rectangular duct dimensions.

No thermal bridges, smooth surface for easy cleaning.

#### Filter

The large filter for long cleaning intervals is freely accessible by opening the casing cover. Standard version ISO Coarse 90% (G4).

Alternatively, filters with higher classifications ISO ePM<sub>10</sub> 70% (M5) or ISO  $ePM_1$  50% (F7) (see accessories) can be used. The volume output reduction must be taken into account. Periodic filter inspection /cleaning

is required. A filter monitoring system is integrated.

The filters comply with VDI 6022.

#### Fan

The volume flow rate switching is continuously variable with the control unit. Low-noise and high performance centrifugal fan made of galvanised steel sheet. Motor/impeller unit freely accessible for servicing. Drive through energy-saving, speed-controllable EC motor with the highest level of efficiency. Maintenancefree, with lifetime lubricated ball bearings.

#### Heating element

Air heater with AL blades and staggered copper pipes heat the intake air to the specified setpoint temperature. Control through connection of a hydraulic unit (accessories) via the integrated control board.

The setpoint and the temperature measured by the room sensor (accessories) are constantly compared.

A frost protection circuit is integrated as standard. Max. operating pressure 1.6 MPa.

822

842 920 522 542

ø8

Water connection pipes with external thread.

#### Electrical connection

Spacious terminal box in IP20 on outside of casing.

#### Motor protection

Deactivation when overheating is imminent. Automatic reactivation after cool down.

#### Noise

100

Dim. in mm

The type table shows the radiated noise and outlet side air noise as sound pressure at 1 m (free field conditions). If necessary, a cross talk silencer (see Accessories) must be integrated in the duct system on site. The radiated noise as sound pressure level at 1 m (free field conditions) is additionally stated in the type table as well as in the table below the performance curve.

#### Control

The control element is included in the delivery and offers the following functions:

- Operation with different volume flows
- Weekly and seasonal timer.
- Temperature control (using room sensor, accessories).
- Frost protection.
- Control of hydraulic unit (accessories) to control the WW heating element. Specification of min./max. temperature.

Control of an EC extract air fan.

1320

353 192

☐ Display of ambient temperature, fan control and filter contamina-

#### Other inputs and outputs:

- Emergency switch contact.
- Boost switch contact.
- External switch.
- Input for air quality or humidity sensor.
- ☐ Input for room temperature sensor.
- Output for shutter control.

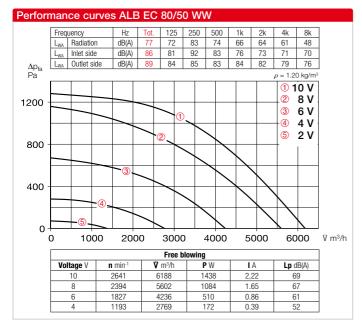


Control element with connection cable (10 m) included in delivery. Dimensions mm (W x H x D) 115 x 80 x 25

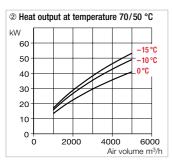
| Туре            | Ref. no. |                       |       | Sound pressure level |                       | Voltage Power con |       | onsump. | Current               | Wiring  | Maximum      | Weight       |
|-----------------|----------|-----------------------|-------|----------------------|-----------------------|-------------------|-------|---------|-----------------------|---------|--------------|--------------|
|                 |          | rate*<br>free blowing | speed | Case-<br>radiation   | Air noise outlet side | 50/60 Hz          | Motor | Heating | consump.<br>max. tot. | diagram | intake temp. | net<br>aprx. |
|                 |          | Ÿ m³/h (max.)         | min-1 | dB(A) at 1m          | dB(A) at 1m           | Volt              | kW    | kW      | А                     | No.     | +°C          | kg           |
| ALB EC 80/50 WW | 06537    | 6200                  | 2600  | 69                   | 81                    | 400, 3N~          | 1.91  | _       | 2.90                  | 1371    | 40           | 104          |

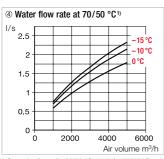
<sup>\*</sup> Volume reduction by approx. 5 % when using the filter ISO ePM, 50% (M5), by approx. 15 % when using the filter ISO ePM, 50% (F7).





- Heat output WW element ①-③ These diagrams show the heat output depending on the flow/ return/outside temp. over the air volume.
- Water volume WW element ④ shows the water flow rate depending on the flow/return/outside temp. over the air volume.
- Pressure loss WW element ⑤ shows the water throughflow over water pressure loss kPa.

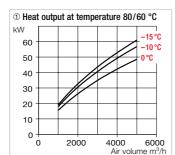


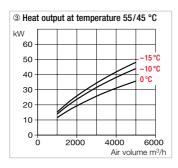


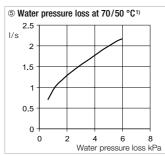
- 1) Correction factor for 80/50 °C: 1.16; for 55/45 °C: 1.81.
- The integration of air filters ELF-ALB 80/50 F7 (ISO ePM<sub>1</sub> 50% (F7)) in intake air systems fulfils the requirements of VDI 6022.

Reference

| ■ Reference          | Page   |
|----------------------|--------|
| Planning information | 14 ff. |





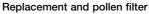


| Other accessories              | Page    |
|--------------------------------|---------|
| Silencers                      | 494 ff. |
| Hydraulic unit details         | 492 ff. |
| Flexible ventilation ducts,    |         |
| ventilation grilles, fittings, |         |
| shutters                       | 561 ff. |
| Supply air disc valves         | 584 f.  |

#### Accessories

#### Hydraulic unit WHSH HE 24V (0-10 V)No. 08318 For controlling the heat output of

the warm water heating element in combination with room/duct sensors. Includes flow/return temperature display, pump, actuator, mixer valve, gravity brake, thermal cladding and flexible connection



- ISO Coarse 90% (G4)

ELF-ALB 80/50 G4 No. 06768 - Filter class ISO ePM<sub>10</sub> 70% (M5) **ELF-ALB 80/50 M5** No. 06769 Filter class ISO ePM₁ 50% (F7) ELF-ALB 80/50 F7 No. 06815 Large cassette filter for long cleaning intervals.

Unit = 3 pcs.

Room sensor - Air quality AIR1/KWL-CO2 0-10V No. 20251 **AIR1/KWL-FTF 0-10V** No. 20252 For measuring the CO<sub>2</sub> concentration or relative room humidity. Maximum total of one sensor can be connected.

Dim. mm (W x H x D) 85 x 85 x 27

Room sensor - Temperature TFR-ALB/KWL Ref. no. 07277 For measuring the room temperature and controlling the ventilation unit according to the setpoint. Incl. 20 m control line.

Dim. mm (W x H x D) 80 x 80 x 25

#### Connection cable - 20 metres long

ALB EC-SK 20 Ref. no. 06816

- 40 metres long

ALB EC-SK 40 Ref. no. 06817 Attach between ALB and control element as well as between ALB and TFR-ALB/KWL.

Transition piece - Symmetrical **ALB-ÜS 80/50** Ref. no. 07618 From unit flange to round duct systems.

Flexible connecting sleeve Ref. no. 01679 FM 560 For acoustic decoupling, incl. 2 pcs. hose clamps.

Angle flange ring

FR 560 Ref. no. 01209 Made of galvanised steel sheet, for duct connection.

Duct shutter, motorised **RVM 560** Ref. no. 02583 Prevents cold draughts when the unit is at a standstill. Automatic function through fan operation, with mounted spring return motor. Installation in any position, closing force adjustable corresponding to fan power and installation position.









