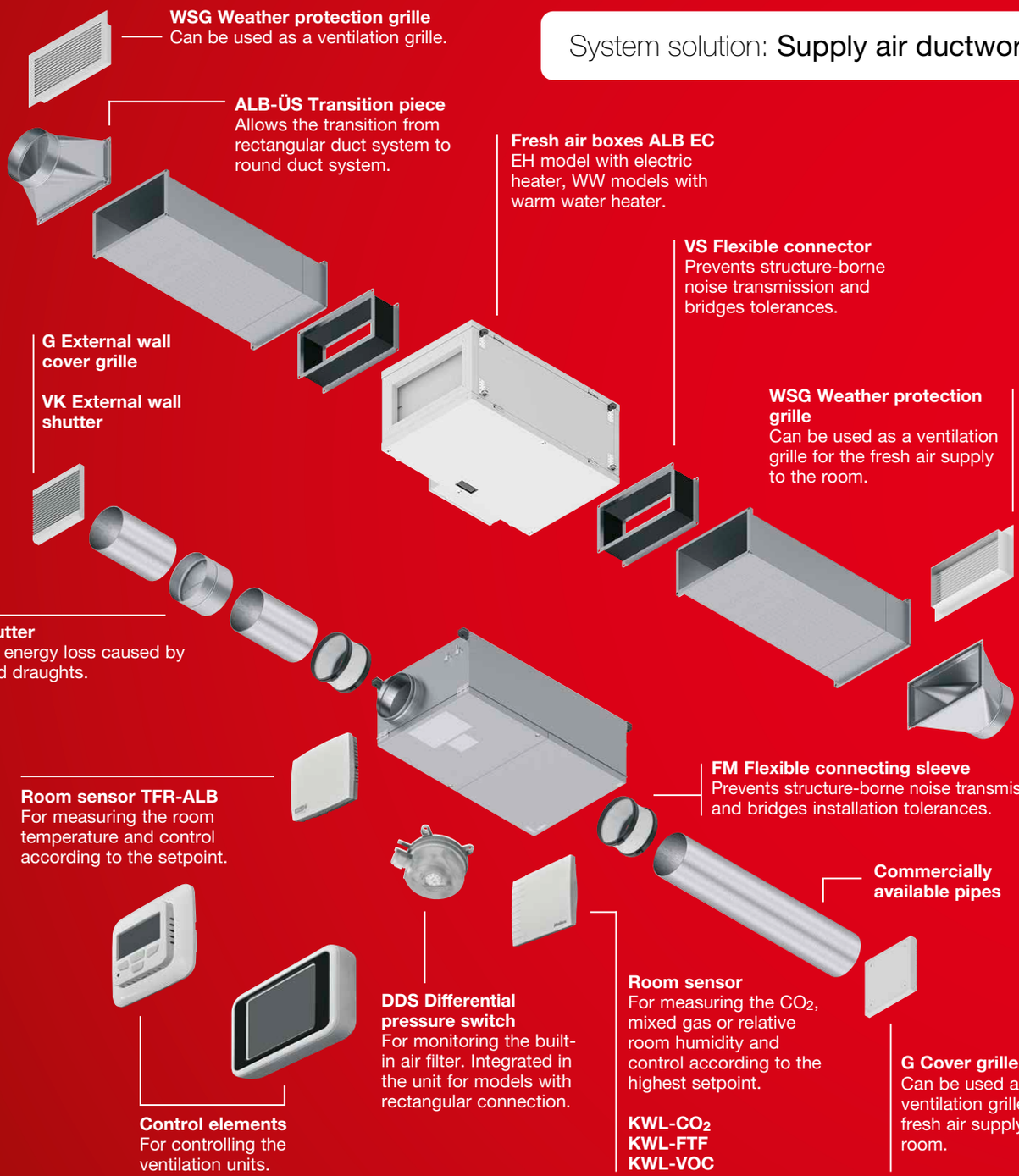
Feel-good climate **thanks to pre-heated and filtered supply air.**

System solution: **Supply air ductwork.**



WSG Weather protection grille
Can be used as a ventilation grille.

ALB-ÜS Transition piece
Allows the transition from rectangular duct system to round duct system.

Fresh air boxes ALB EC
EH model with electric heater, WW models with warm water heater.

VS Flexible connector
Prevents structure-borne noise transmission and bridges tolerances.

G External wall cover grille

VK External wall shutter

WSG Weather protection grille
Can be used as a ventilation grille for the fresh air supply to the room.

Duct shutter
Prevents energy loss caused by unwanted draughts.

RSK
RVS
RVM

Room sensor TFR-ALB
For measuring the room temperature and control according to the setpoint.

FM Flexible connecting sleeve
Prevents structure-borne noise transmission and bridges installation tolerances.

Commercially available pipes

DDS Differential pressure switch
For monitoring the built-in air filter. Integrated in the unit for models with rectangular connection.

Room sensor
For measuring the CO_2, mixed gas or relative room humidity and control according to the highest setpoint.

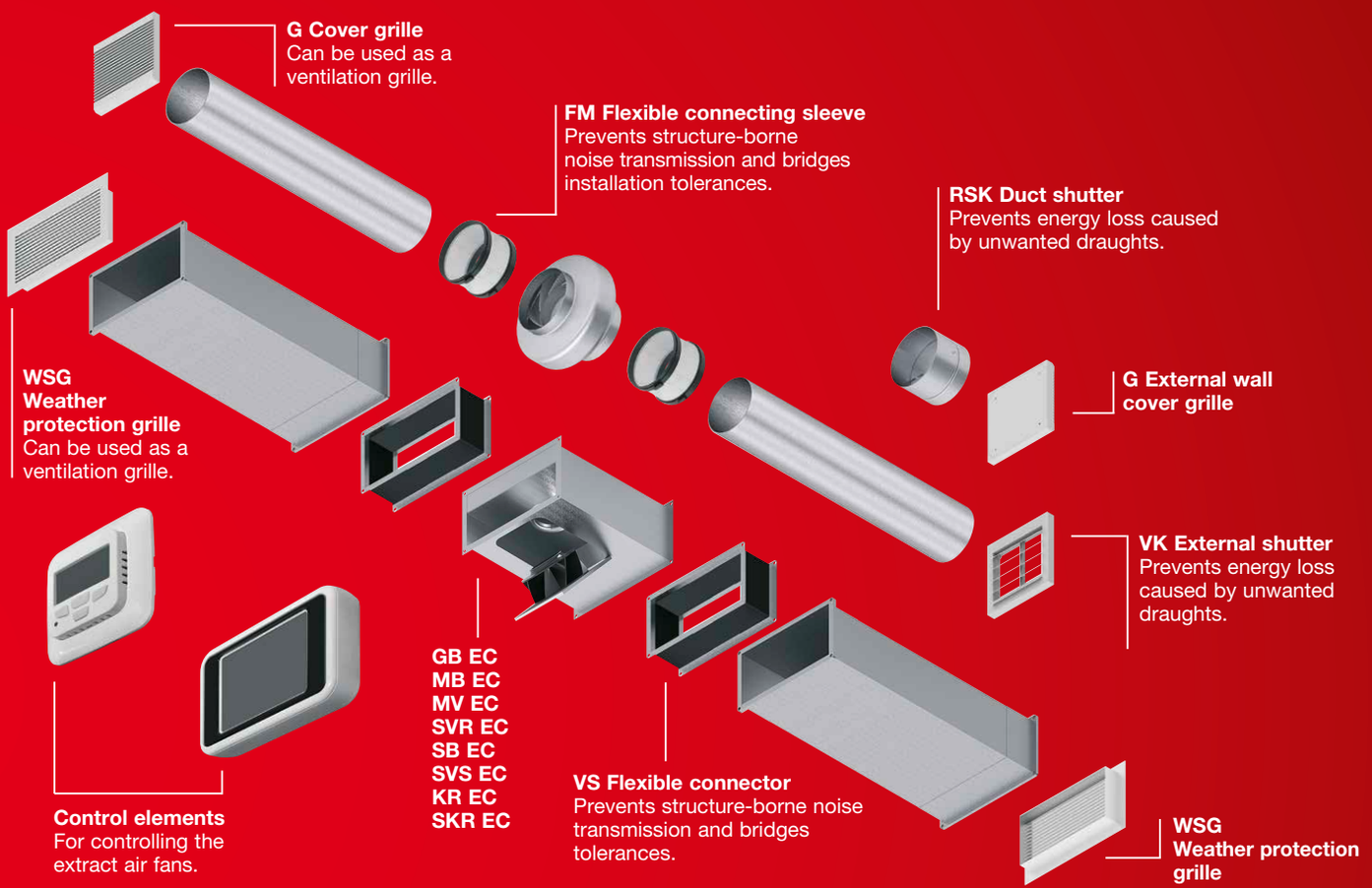
KWL-CO_2
KWL-FTF
KWL-VOC

G Cover grille
Can be used as a ventilation grille for the fresh air supply to the room.

Control elements
For controlling the ventilation units.

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
▭ 30 x 20 cm

EC 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

EC 350ff

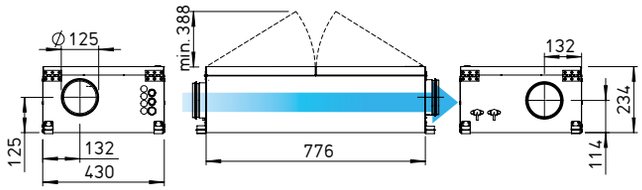
Fresh air box ALB EC EH with electric heating element and air filter Ø 125 mm

ALB EC 125 EH

Efficiency class

B ALB EC 125 EH

Dimensions ALB EC 125 EH



Dim. in mm

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 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 $ePM_{2.5}$ 60% (M5). Alternatively, filters with higher classifications 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. 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
The unit has a fixed turn-off delay time of approx. 2 minutes if the heating element has been activated.

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
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.

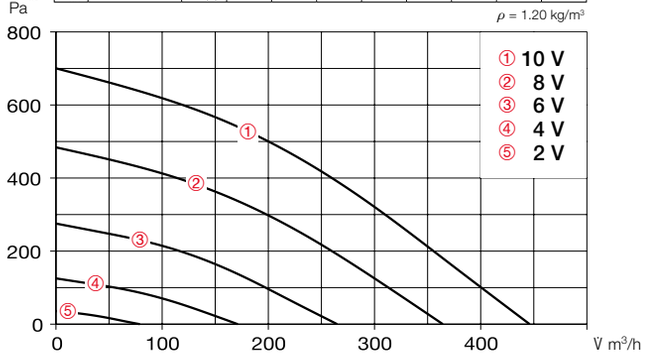
Control element with connection cable (10 m) included in delivery. For flush-mounted installation. Dimensions mm (W x H) 82 x 82

Type	Ref. no.	Flow rate* free blowing	Max. speed	Freq.	Sound pressure level		Prot. category	Voltage	Power consumption	Current consump. max. tot.	Wiring diagram	Max. intake temp.	Weight net aprx.
					Case-radiation	Air noise outlet side							
		V̇ m³/h (max.)	min-1	Hz	dB(A) at 1m	dB(A) at 1m		Volt	kW	A	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

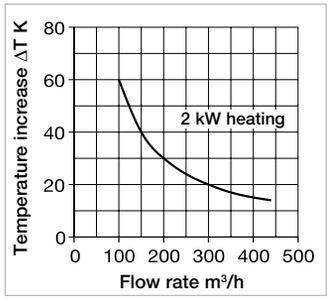
* Volume reduction by approx. 15% when using the filter ISO ePM_1 50% (F7).

Performance curves ALB EC 125 EH

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Radiation	dB(A)	53	44	50	48	39	35	33	31
L_{WA}	Inlet side	dB(A)	62	57	58	51	43	45	44	33
L_{WA}	Outlet side	dB(A)	72	63	65	64	63	67	60	52



	Voltage V	n min⁻¹	V̇ m³/h	P W	I A	Lp dB(A)	SFP kW/m³/s
Free blowing	10	3640	445	96	0.77	45	0.77
	8	3030	360	56	0.48	41	0.56
	6	2270	260	26	0.24	35	0.35
	4	1510	170	9	0.11	28	0.20
	2	730	80	4	0.06	24	0.17



Reference

The integration of air filters ELF-ALB 125 F7 (ISO ePM$_1$ 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$_{2,5}$ 60% (M5)
ELF-ALB 125 M5 No. 07231
– Filter class ISO ePM$_1$ 50 % (F7)
ELF-ALB 125 F7 No. 07337

Differential pressure switch

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

Room sensor – Temperature

TFR-ALB Ref. no. 40000
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
Dim. mm	W 85 x H 85 x D 48

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.

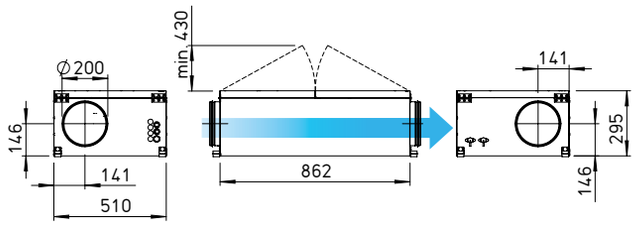
Fresh air box ALB EC EH with electric heating element and air filter Ø 200 mm

ALB EC 200 EH

Efficiency class

B ALB EC 200 EH

Dimensions ALB EC 200 EH



Dim. in mm

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 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 $ePM_{2.5}$ 60% (M5). Alternatively, filters with higher classifications 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. 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
The unit has a fixed turn-off delay time of approx. 2 minutes if the heating element has been activated.

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
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.

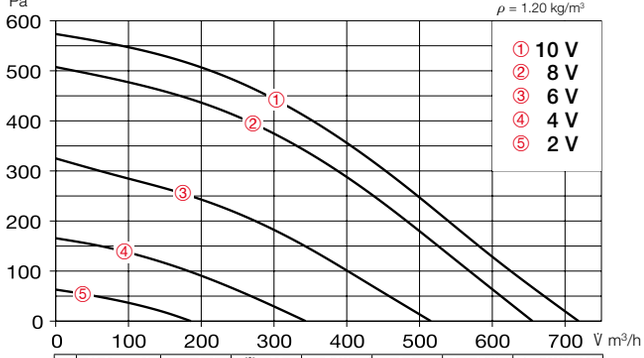
Control element with connection cable (10 m) included in delivery. For flush-mounted installation. Dimensions mm (W x H) 82 x 82

Type	Ref. no.	Flow rate* free blowing	Max. speed	Freq.	Sound pressure level		Prot. category	Voltage	Power consumption	Current consump. max. tot.	Wiring diagram	Max. intake temp.	Weight net aprx.
					Case-radiation	Air noise outlet side							
		V̇ m³/h (max.)	min-1	Hz	dB(A) at 1m	dB(A) at 1m		Volt	kW	A	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

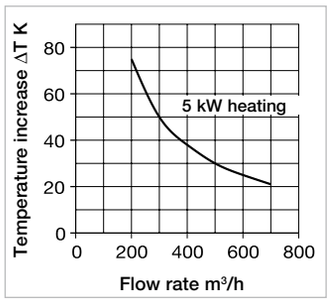
* Volume reduction by approx. 15% when using the filter ISO ePM_1 50% (F7).

Performance curves ALB EC 200 EH

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Radiation	dB(A)	52	43	50	46	37	32	31	29
L_{WA}	Inlet side	dB(A)	65	56	61	53	46	44	41	32
L_{WA}	Outlet side	dB(A)	74	61	66	70	64	64	60	50



Free blowing	Voltage V	n min⁻¹	V̇ m³/h	P W	I A	Lp dB(A)	SFP kW/m³/s
	10	2930	720	119	0.97	44	0.60
	8	2730	650	95	0.77	44	0.52
	6	2160	510	49	0.41	39	0.34
	4	1530	340	19	0.18	32	0.20
	2	940	185	7	0.08	27	0.13



Reference

The integration of air filters ELF-ALB 125 F7 (ISO ePM$_1$ 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$_{2,5}$ 60 % (M5)
ELF-ALB 200 M5 No. 07238
– Filter class ISO ePM$_1$ 50 % (F7)
ELF-ALB 200 F7 No. 07266

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

Room sensor – Temperature
TFR-ALB Ref. no. 40000
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
Dim. mm	W 85 x H 85 x D 48

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

External wall cover grille
G 200 Ref. no. 00255
Made of plastic, white. For covering and insertion in round ventilation openings.

Supply air disc valve
KTVZ 125 Ref. no. 02737
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.

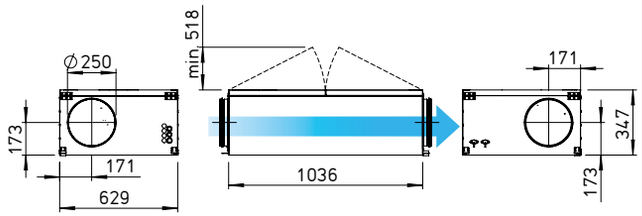
Fresh air box ALB EC EH with electric heating element and air filter Ø 250 mm

ALB EC 250 EH

Efficiency class

B ALB EC 250 EH

Dimensions ALB EC 250 EH



Dim. in mm

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 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 $ePM_{2.5}$ 60% (M5). Alternatively, filters with higher classifications 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. 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
The unit has a fixed turn-off delay time of approx. 2 minutes if the heating element has been activated.

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
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.

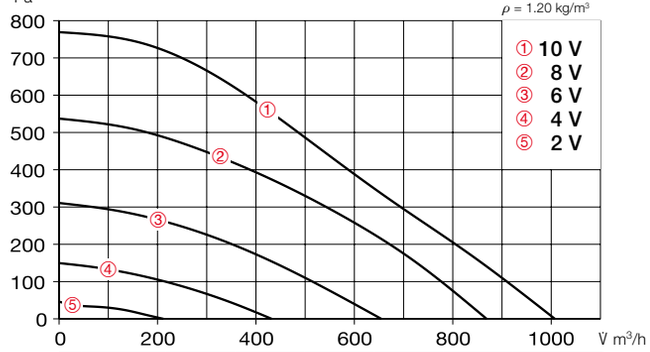
Control element with connection cable (10 m) included in delivery. For flush-mounted installation. Dimensions mm (W x H) 82 x 82

Type	Ref. no.	Flow rate* free blowing	Max. speed	Freq.	Sound pressure level		Prot. category	Voltage	Power consumption	Current consump. max. tot.	Wiring diagram	Max. intake temp.	Weight net aprx.
					Case-radiation	Air noise outlet side							
		V̇ m³/h (max.)	min-1	Hz	dB(A) at 1m	dB(A) at 1m		Volt	kW	A	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

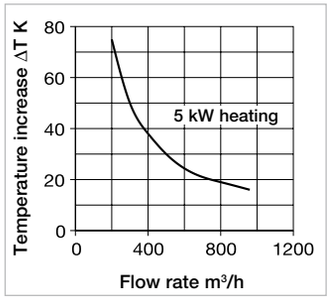
* Volume reduction by approx. 15% when using the filter ISO ePM_1 50% (F7).

Performance curves ALB EC 250 EH

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Radiation	dB(A)	49	34	46	41	35	33	31	29
L_{WA}	Inlet side	dB(A)	59	46	53	42	43	45	41	33
L_{WA}	Outlet side	dB(A)	71	53	68	61	62	62	58	49



Free blowing	Voltage V	n min⁻¹	V̇ m³/h	P W	I A	Lp dB(A)	SFP kW/m³/s
	10	2900	1010	147	1.18	41	0.52
	8	2530	870	99	0.82	39	0.41
	6	1900	650	45	0.40	36	0.25
	4	1300	430	17	0.17	27	0.14
	2	650	210	5	0.07	25	0.09



Reference

The integration of air filters ELF-ALB 125 F7 (ISO ePM$_1$ 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$_{2,5}$ 60 % (M5)
ELF-ALB 250 M5 No. 07294
– Filter class ISO ePM$_1$ 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.

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

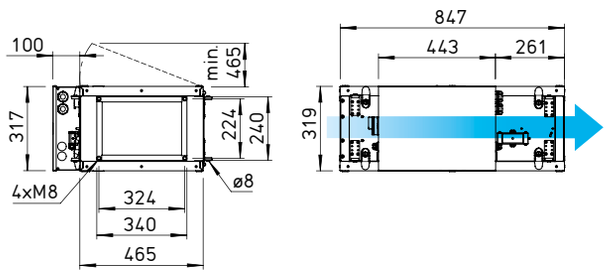
External wall cover grille
G 250 Ref. no. 00256
Made of plastic, white. For covering and insertion in round ventilation openings.

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.

Fresh air box ALB EC EH
backward curved, for rectangular ducts 30 x 20 cm

ALB EC 30/20 EH

Dimensions ALB EC 30/20 EH



Dim. in mm

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 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_1 50% filter.

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
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.
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.

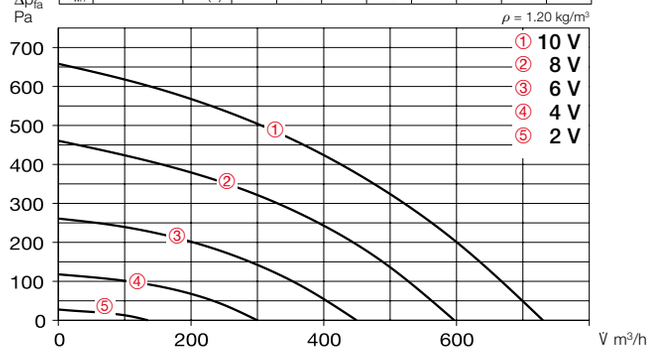
Control element with connection cable (10 m) included in delivery.
Dimensions mm (W x H x D) 115 x 80 x 25

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

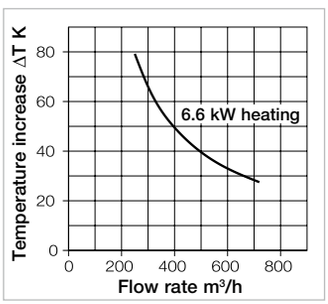
* Volume reduction by approx. 5 % when using the filter ISO ePM_{10} 50 % (M5), by approx. 15 % when using the filter ISO ePM_1 50 % (F7).

Performance curves ALB EC 30/20 EH

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Radiation	dB(A)	57	42	45	55	48	47	45	35
L_{WA}	Inlet side	dB(A)	75	60	65	73	65	60	59	58
L_{WA}	Outlet side	dB(A)	77	62	64	72	66	70	71	67



Free blowing					
Voltage V	**n** min⁻¹	**V̇** m³/h	**P** W	**I** A	**Lp** dB(A)
10	3860	720	105	0.81	49
8	3200	590	60	0.45	45
6	2420	440	28	0.22	39
4	1640	300	11	0.10	31



Reference

The integration of air filters ELF-ALB 30/20 F7 (ISO ePM_1 50 % (F7)) in intake air systems 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
– ISO Coarse 90 % (G4)
ELF-ALB 30/20 G4 No. 07284
– Filter class ISO ePM_{10} 70 % (M5)
ELF-ALB 30/20 M5 No. 07285
– Filter class ISO ePM_1 50 % (F7)
ELF-ALB 30/20 F7 No. 07319
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

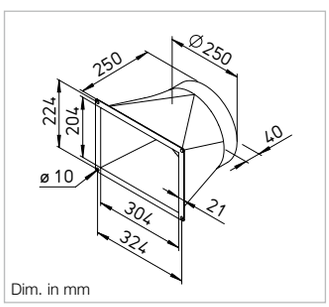
Connection cable
– 20 metres long
ALB EC-SK 20 Ref. no. 06816

– 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
KWL-ÜS 700 D Ref. no. 04206
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.



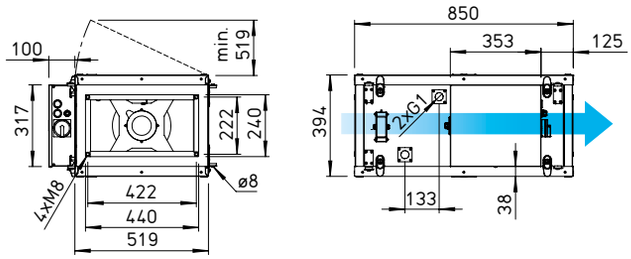
Dim. in mm

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.

Fresh air box ALB EC WW
backward curved, for rectangular ducts 40 x 20 cm

ALB EC 40/20 WW

Dimensions ALB EC 40/20 WW



Dim. in mm

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

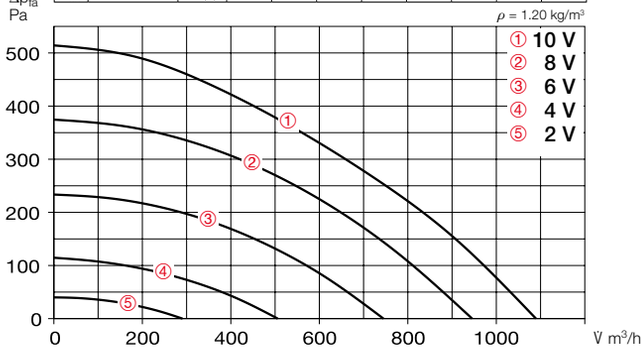
Control element with connection cable (10 m) included in delivery.
Dimensions mm (W x H x D) 115 x 80 x 25

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

* Volume reduction by approx. 5 % when using the filter ISO ePM_{10} 50 % (M5), by approx. 15 % when using the filter ISO ePM_1 50 % (F7).

Performance curves ALB EC 40/20 WW

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Radiation	dB(A)	60	60	64	60	49	44	42	35
L_{WA}	Inlet side	dB(A)	75	73	78	72	67	65	64	59
L_{WA}	Outlet side	dB(A)	81	74	86	81	70	55	57	61



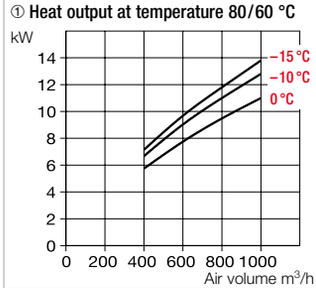
Free blowing					
Voltage V	**n** min⁻¹	**V̇** m³/h	**P** W	**I** A	**Lp** dB(A)
10	2890	1090	128	0.92	52
8	2365	945	89	0.68	48
6	1840	745	49	0.38	42
4	1193	505	22	0.20	33

Heat output WW element ①-③
These diagrams show the heat output depending on the flow/return/outside temp. over the air volume.

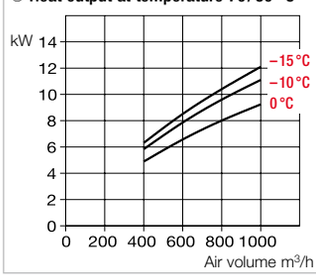
Water volume WW element ④
shows the water flow rate depending on the flow/return/outside temp. over the air volume.

Pressure loss WW element ⑤
shows the water throughflow over water pressure loss kPa.

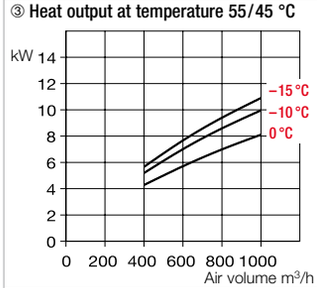
① Heat output at temperature 80/60 °C



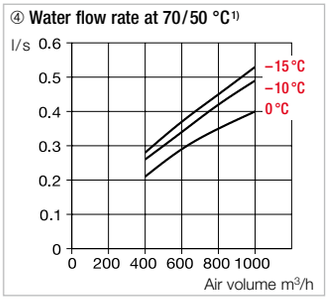
② Heat output at temperature 70/50 °C



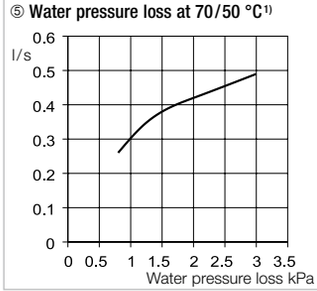
③ Heat output at temperature 55/45 °C



④ Water flow rate at 70/50 °C[1)]



⑤ Water pressure loss at 70/50 °C[1)]



[1)] Correction factor for 80/50 °C: 1.16; for 55/45 °C: 1.81.

Reference

The integration of air filters ELF-ALB 40/20 F7 (ISO ePM_1 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

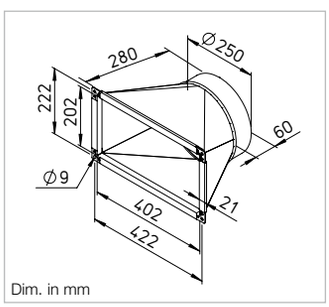
Hydraulic unit
WHSH HE 24 V (0-10 V) No. 08318
For controlling the heat output of the warm water heating element in combination with room/duct sensors. Includes flow/return temperature display, pump, actuator, mixer valve, gravity brake, thermal cladding and flexible connection hoses.

Replacement and pollen filter
– ISO Coarse 90 % (G4)
ELF-ALB 40/20 G4 No. 07619
– Filter class ISO ePM_{10} 70 % (M5)
ELF-ALB 40/20 M5 No. 06766
– Filter class ISO ePM_1 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.

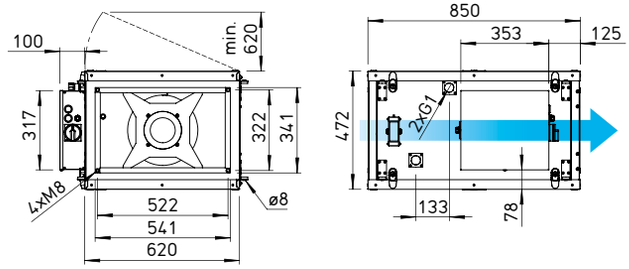
Angle flange ring
FR 250 Ref. no. 01203
Made of galvanised steel sheet, for duct connection.

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.

Fresh air box ALB EC WW
backward curved, for rectangular ducts 50 x 30 cm

ALB EC 50/30 WW

Dimensions ALB EC 50/30 WW



Dim. in mm

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

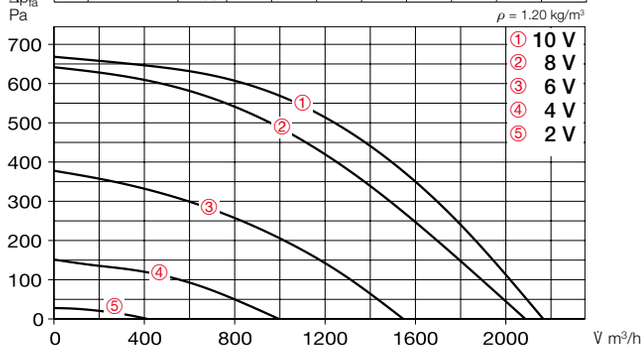
Control element with connection cable (10 m) included in delivery.
Dimensions mm (W x H x D) 115 x 80 x 25

Type	Ref. no.	Flow rate* free blowing	Max. speed	Sound pressure level		Voltage 50/60 Hz	Power consump.		Current consump. max. tot.	Wiring diagram	Maximum intake temp.	Weight net aprx.
				Case-radiation	Air noise outlet side		Motor	Heating				
		$\dot{V}$ m³/h (max.)	min-1	dB(A) at 1m	dB(A) at 1m	Volt	kW	kW	A	No.	+°C	kg
ALB EC 40/20 WW	06534	2100	2600	57	74	230, 1~	0.47	–	2.90	1371	40	55

* Volume reduction by approx. 5 % when using the filter ISO ePM_{10} 50 % (M5), by approx. 15 % when using the filter ISO ePM_1 50 % (F7).

Performance curves ALB EC 50/30 WW

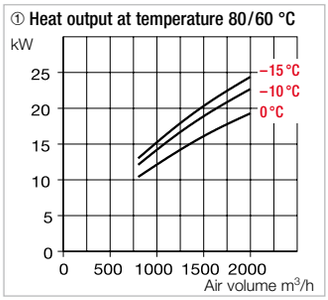
Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Radiation	dB(A)	65	70	63	65	58	55	50	38
L_{WA}	Inlet side	dB(A)	76	83	76	76	67	62	61	59
L_{WA}	Outlet side	dB(A)	82	85	78	77	76	76	73	72



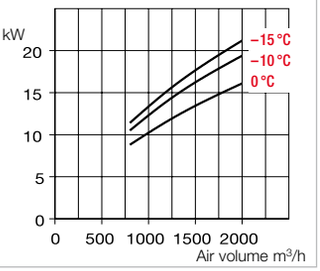
Free blowing					
Voltage V	**n** min⁻¹	**V̇** m³/h	**P** W	**I** A	**Lp** dB(A)
10	2594	2162	367	2,29	57
8	2475	2086	320	2.01	56
6	1858	1546	141	0.93	50
4	1193	994	47	0.35	40

- **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.

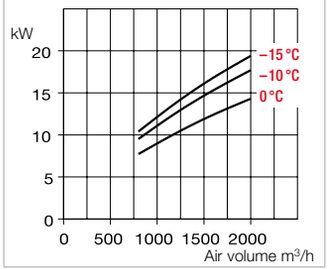
① Heat output at temperature 80/60 °C



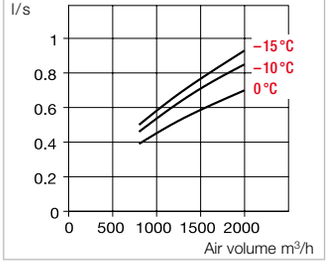
② Heat output at temperature 70/50 °C



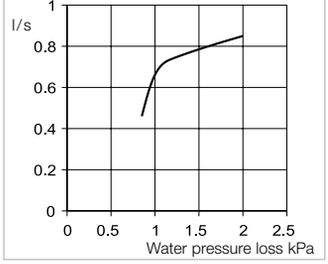
③ Heat output at temperature 55/45 °C



④ Water flow rate at 70/50 °C[1)]



⑤ Water pressure loss at 70/50 °C[1)]



[1)] Correction factor for 80/50 °C: 1.16; for 55/45 °C: 1.81.

Reference

The integration of air filters ELF-ALB 50/30 F7 (ISO ePM_1 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.

Replacement and pollen filter
– ISO Coarse 90 % (G4)
ELF-ALB 220/4/50/30 G4 No. 03646
– Filter class ISO ePM_{10} 70 % (M5)
ELF-ALB 220/4/50/30 M5 No. 03647
– Filter class ISO ePM_1 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

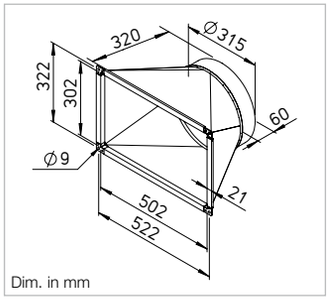
Room sensor – Temperature
TFR-ALB/KWL Ref. no. 07277
For measuring the room temperature and controlling the ventilation unit according to the setpoint.
Incl. 20 m control line.
Dim. mm (W x H x D) 80 x 80 x 25

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 220/4/50/30 No. 07515
From unit flange to round duct systems.

Flexible connecting sleeve
FM 315 Ref. no. 01674
For acoustic decoupling, incl. 2 pcs. hose clamps.

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

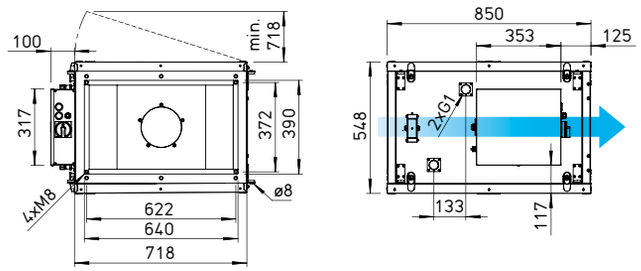


Duct shutter, motorised
RVM 315 Ref. no. 02578
Prevents cold draughts when the unit is at a standstill. Automatic function through fan operation, with mounted spring return motor. Installation in any position, closing force adjustable corresponding to fan power and installation position.

Fresh air box ALB EC WW
backward curved, for rectangular ducts 60 x 35 cm

ALB EC 60/35 WW

Dimensions ALB EC 60/35 WW



Dim. in mm

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

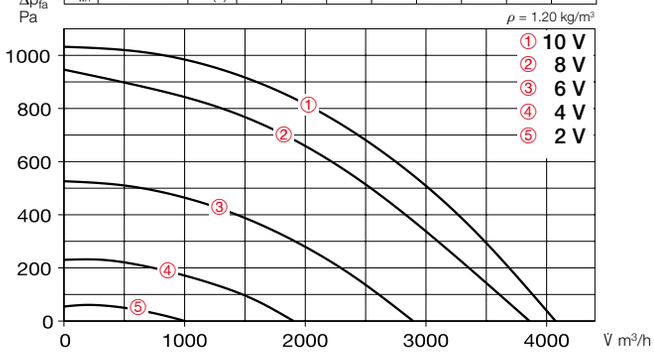
Control element with connection cable (10 m) included in delivery.
Dimensions mm (W x H x D) 115 x 80 x 25

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

* Volume reduction by approx. 5 % when using the filter ISO ePM_{10} 50 % (M5), by approx. 15 % when using the filter ISO ePM_1 50 % (F7).

Performance curves ALB EC 60/35 WW

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Radiation	dB(A)	71	71	77	69	61	59	55	47
L_{WA}	Inlet side	dB(A)	86	82	93	83	73	70	67	70
L_{WA}	Outlet side	dB(A)	88	84	87	84	83	80	75	75



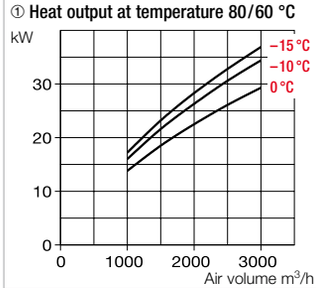
Free blowing					
Voltage V	**n** min⁻¹	**V̇** m³/h	**P** W	**I** A	**Lp** dB(A)
10	2606	4077	860	1.54	63
8	2433	3861	712	1.32	62
6	1841	2906	336	0.68	56
4	1221	1901	120	0.3	47

Heat output WW element ①-③
These diagrams show the heat output depending on the flow/return/outside temp. over the air volume.

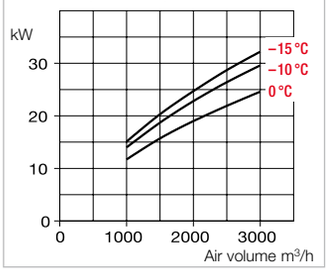
Water volume WW element ④
shows the water flow rate depending on the flow/return/outside temp. over the air volume.

Pressure loss WW element ⑤
shows the water throughflow over water pressure loss kPa.

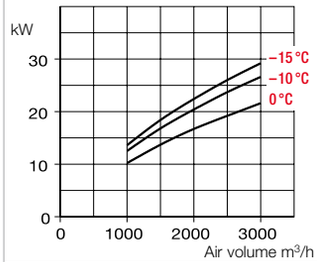
① Heat output at temperature 80/60 °C



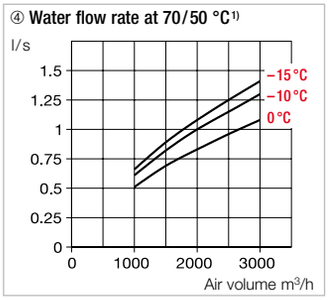
② Heat output at temperature 70/50 °C



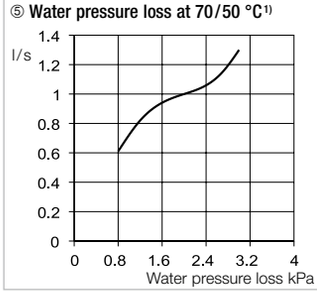
③ Heat output at temperature 55/45 °C



④ Water flow rate at 70/50 °C[1)]



⑤ Water pressure loss at 70/50 °C[1)]



[1)] 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 ePM_1 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.

Replacement and pollen filter
– ISO Coarse 90 % (G4)
ELF-ALB 280/4/60/35 G4 No. 03649
– Filter class ISO ePM_{10} 70 % (M5)
ELF-ALB 280/4/60/35 M5 No. 03650
– Filter class ISO ePM_1 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_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

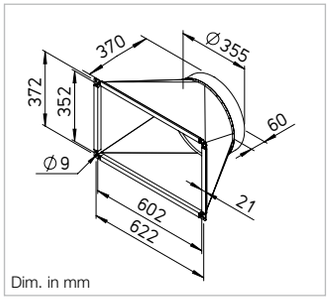
Room sensor – Temperature
TFR-ALB/KWL Ref. no. 07277
For measuring the room temperature and controlling the ventilation unit according to the setpoint.
Incl. 20 m control line.
Dim. mm (W x H x D) 80 x 80 x 25

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 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.



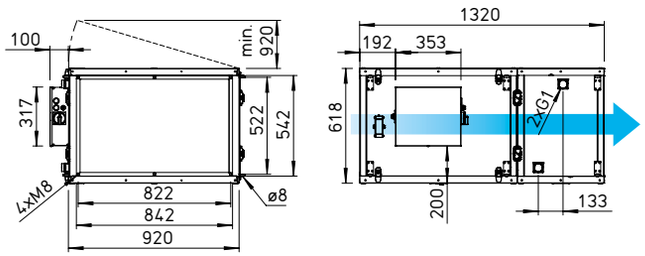
Duct shutter, motorised
RVM 355 Ref. no. 02579
Prevents cold draughts when the unit is at a standstill. Automatic function through fan operation, with mounted spring return motor. Installation in any position, closing force adjustable corresponding to fan power and installation position.

EC box fans

Fresh air box ALB EC WW
backward curved, for rectangular ducts 80 x 50 cm

ALB EC 80/50 WW

Dimensions ALB EC 80/50 WW



Dim. in mm

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

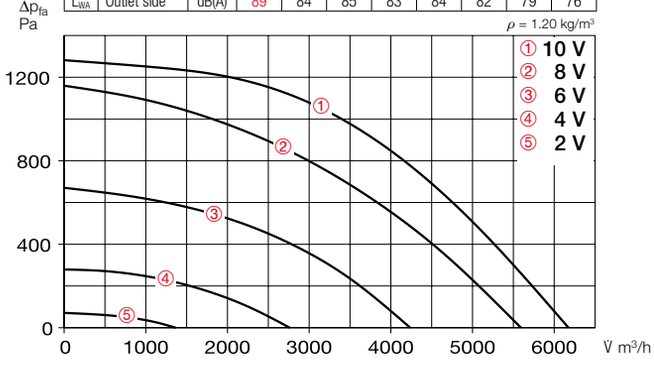
Control element with connection cable (10 m) included in delivery.
Dimensions mm (W x H x D) 115 x 80 x 25

Type	Ref. no.	Flow rate* free blowing	Max. speed	Sound pressure level		Voltage 50/60 Hz	Power consump.		Current consump. max. tot.	Wiring diagram	Maximum intake temp.	Weight net aprx.
				Case-radiation	Air noise outlet side		Motor	Heating				
		$\dot{V}$ m³/h (max.)	min-1	dB(A) at 1m	dB(A) at 1m	Volt	kW	kW	A	No.	+°C	kg
ALB EC 80/50 WW	06537	6200	2600	69	81	400, 3N~	1.91	–	2.90	1371	40	104

* Volume reduction by approx. 5 % when using the filter ISO ePM_{10} 50 % (M5), by approx. 15 % when using the filter ISO ePM_1 50 % (F7).

Performance curves ALB EC 80/50 WW

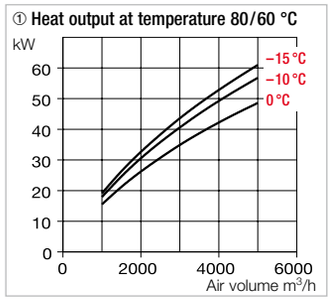
Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Radiation	dB(A)	77	72	83	74	66	64	61	48
L_{WA}	Inlet side	dB(A)	86	81	92	83	76	73	71	70
L_{WA}	Outlet side	dB(A)	89	84	85	83	84	82	79	76



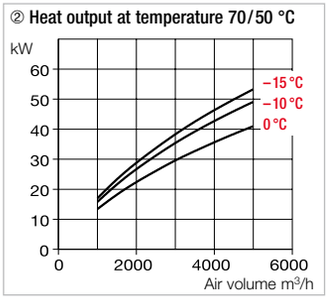
Free blowing					
Voltage V	**n** min⁻¹	**V̇** m³/h	**P** W	**I** A	**Lp** dB(A)
10	2641	6188	1438	2,22	69
8	2394	5602	1084	1.65	67
6	1827	4236	510	0.86	61
4	1193	2769	172	0.39	52

- **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.

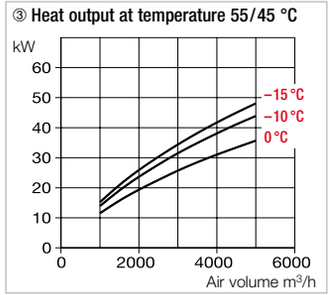
① Heat output at temperature 80/60 °C



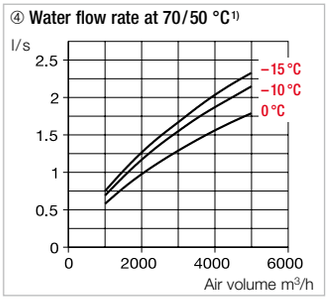
② Heat output at temperature 70/50 °C



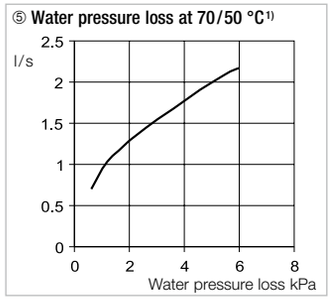
③ Heat output at temperature 55/45 °C



④ Water flow rate at 70/50 °C[1)]



⑤ Water pressure loss at 70/50 °C[1)]



[1)] Correction factor for 80/50 °C: 1.16; for 55/45 °C: 1.81.

Reference

The integration of air filters ELF-ALB 80/50 F7 (ISO ePM_1 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.

Replacement and pollen filter
– ISO Coarse 90 % (G4)
ELF-ALB 80/50 G4 No. 06768
– Filter class ISO ePM_{10} 70 % (M5)
ELF-ALB 80/50 M5 No. 06769
– Filter class ISO ePM_1 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_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

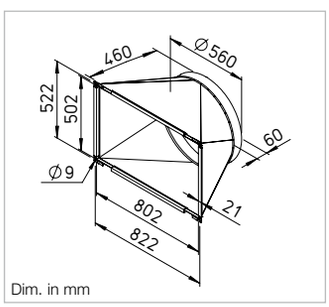
Room sensor – Temperature
TFR-ALB/KWL Ref. no. 07277
For measuring the room temperature and controlling the ventilation unit according to the setpoint.
Incl. 20 m control line.
Dim. mm (W x H x D) 80 x 80 x 25

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 80/50 Ref. no. 07618
From unit flange to round duct systems.

Flexible connecting sleeve
FM 560 Ref. no. 01679
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.