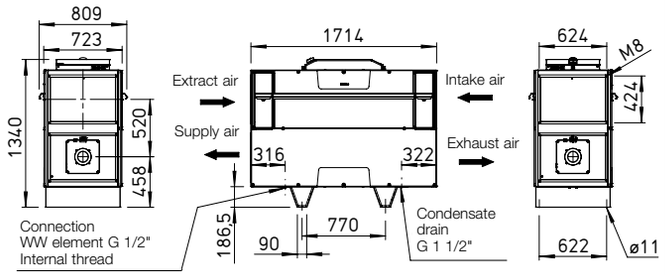
KWL EC 1800 S

KWL EC 1800 S with base cover (accessories)

Dimensions KWL EC 1800 S



Dimensions in mm

CERTIFIED COMPONENT Passive House Institute

Central units with heat recovery for compact and space-saving floor installation (floor standing). With a wide range of residential, commercial and industrial applications.
Independently certified hygiene properties and energy efficiency according to VDI 6022 and the passive house standard. Unit construction and unit components fulfil the general hygiene requirements according to VDI 6022. Optionally available with integrated warm water heating element.

Casing
Double-walled, made of galvanised steel sheet, with 30 mm heat and sound insulation on all sides.
Inspection openings for filter replacement fastened to both side panels with screws.
Both side walls can be completely dismantled for free access to all components.
The unit is suitable for floor installation (standing) indoors.
Vibration dampers can be underlaid (on-site) to prevent the direct transmission of vibrations and structure-borne noise to building parts.

Heat exchanger
Large cross counterflow heat exchanger made of aluminium with heat recovery efficiency of up to 90 %. Dismantling possible in just a few simple steps.

Fans
Two low-noise high-performance EC fans with backward-curved impellers guarantee maximum energy efficiency. The special control technology enables constant volume control or constant pressure control.

Ducts
Installation-friendly connection of intake, exhaust, extract and supply air through pipe or duct system NW 400 mm. The floor-standing unit can be rotated 180° for installation so that intake air and exhaust air as well as extract air and supply air connections can be on the left or right sides.

Condensate connection
The unit contains a stainless steel condensate tray with a condensate drain below. Ball siphon included in delivery. On-site connection to drain pipe.

Air filter
Standard equipment:
Clean intake air supply via ISO ePM_1 55% filter (F7).
The heat exchanger requires a ISO ePM_{10} 50% filter (M5) on the extract air side.
All filters are pressure-controlled and exchangeable in just a few simple steps.

Summer operation
Standard equipment with automatic bypass function for maximum comfort.

Heat exchanger anti-icing protection
An electric preheating element heats the intake air at very low outdoor temperatures. Thus, it prevents the heat exchanger from icing up and guarantees its safe functioning and optimal heat recovery during the entire heating period.

Power control
The comfort control element with graphic display and user-friendly menu navigation, which is included in the delivery, enables the following functions:
- ☐ Control directly via touchscreen.
- ☐ Freely definable operating points within the entire range of the performance curve.
- ☐ Selection between constant volume control or constant pressure control.
- ☐ Demand-oriented ventilation using CO_2, VOC (mixed gas) or humidity sensor.
- ☐ Building control system via ModBus (RS 485, TCP/IP).
- ☐ Initial commissioning (automatic determination of the system performance curve).
- ☐ Control of external shutters.
- ☐ Connection of a fire alarm contact.
- ☐ Weekly or daily programme.
- ☐ Pressure monitoring of filter contamination.
- ☐ Indication of necessary filter replacement, operating status, error messages.
- ☐ Different access levels.

Electrical connection
Easily accessible terminal box on top of the casing.
The isolator/main switch can be controlled from below the unit for maintenance work and it can be locked with a padlock to prevent unauthorised access.

Post-heating Type KWL EC Pro WW
The integrated warm water heating element guarantees the convenient and energy-efficient post-heating of supply air. The setpoint temperature is simply set in the control element.
The hydraulic unit (Type WHSH HE 24 V (0-10 V), accessories) is recommended for controlling the warm water heat exchanger.

Reference
The ventilation unit design according to VDI 6022 requires the use of VDI 6022-compliant air filters.
The use of original replacement air filters is therefore mandatory.

Replacement air filter
– 1 pc. ISO ePM_{10} 50 % (M5)
ELF-KWL 1800 S/5 VDI No.08258
– 1 pc. ISO ePM_1 55 % (F7)
ELF-KWL 1800 S/7 VDI No.08259

Control lines
ALB EC-SK 20 20m No. 06816
ALB EC-SK 40 40m No. 06817
8-pin AWG24 twisted pair cable for the control element.

Other accessories

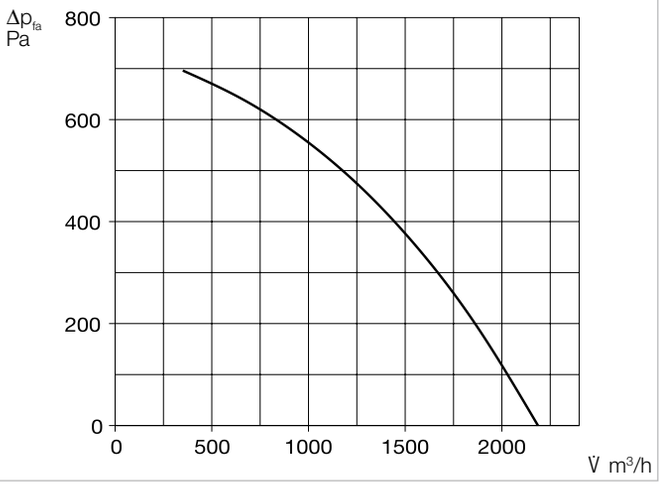
	Page
KWL peripherals	150 ff.
– Air distribution systems	166 ff.
– Further overview	170 f.

Accessory details

Ventilation grilles, ducts, fittings	
roof outlets	561 ff.
extract air elements	574 ff.

Performance curve KWL EC 1800 S

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Extract air	dB(A)	61	54	58	51	52	49	38	14
L_{WA}	Supply air	dB(A)	72	61	66	63	65	64	56	56
L_{PA} at 1 m	Radiation	dB(A)	52	35	47	43	47	47	37	28



Included in delivery:

Surface comfort control element
User-friendly control via self-explanatory graphic elements with clear text directly on the touchscreen. Control line (10 metres) included in delivery, other lengths available (ALB EC-SK, accessories).
Dim. mm (W x H x D) 115 x 80 x 25

Control element with connection cable (10 m) included in the scope of delivery.
Dim. mm (WxHxD) 115 x 80 x 25

Accessories for Type Pro WW

Hydraulic unit
WHSH HE 24 V (0-10 V) No. 08318
Controls the water temperature of the PWW heating element using a three-way valve actuator 24 V (0-10 V) and thus the heat output transferred to the air. Delivered as a complete unit, incl. VL-/RL temperature display, circulating pump and flexible connection hoses.

Accessories for all types

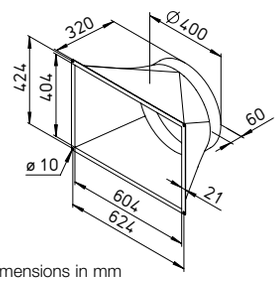
Room sensor – Air quality
AIR1/KWL-VOC 0-10V No. 20250
AIR1/KWL-CO2 0-10V No. 20251
AIR1/KWL-FTF 0-10V No. 20252
For measuring the CO_2, mixed gas (VOC) concentration or relative room air humidity. A maximum of one sensor can be connected.
Dim. mm (W x H x D) 85 x 85 x 27

Room sensor – Temperature
TFR-ALB/KWL No. 07277
For measuring the room temperature and controlling the ventilation unit according to the set value. Incl. 20 m control line. Maximum total of one sensor can be connected.
Dim. mm (W x H x D) 80 x 80 x 25

Transition piece – Symmetrical
KWL-ÜS 1800 S No. 08340
From unit flange to round duct systems.

Flexible connecting sleeve
FM 400 No. 01676
For acoustic decoupling, incl. 2 pcs. hose clamps.

Duct shutter, motorised
RVMD 400/230V No. 40255
Prevents cold draughts when the unit is at a standstill. Can be installed horizontally and vertically in any direction and with attached spring return motor (outside of air flow).



Dimensions in mm

Base cover
KWL-SB 1800 S No. 09317
Made of galvanised steel sheet.

Technical data	**KWL EC 1800 S**			**KWL EC 1800 S,** with warm water post-heater		
For floor-standing installation	**Type** **KWL EC 1800 S Pro**		Ref. no. 08329	**Type** **KWL EC 1800 S Pro WW**		Ref. no. 08330
Flow rate at level[1]	❸	❷	❶	❸	❷	❶
Supply air/extract V̇ m³/h approx.	1700	1200	800	1200	900	500
Noise dB(A) at 1400 m³/h and 245 Pa						
Supply air L_{WA} (sound power)	75	73	71	75	73	71
Extract air L_{WA} (sound power)	61	61	59	61	61	59
Radiation L_{PA} at 1 m	50	49	47	50	50	47
Power consumption fans 2xW	443	262	164	443	262	164
Standby power consumption	< 1 W			< 1 W		
Voltage/Frequency	3N~, 400 V, 50 Hz			3N~, 400 V, 50 Hz		
Rated current A – Ventilation	3.9 / – / –			3.9 / – / –		
– Preheating	6.6 / 6.6 / 6.6			6.6 / 6.6 / 6.6		
– max. total	10.5 / 6.6 / 6.6			10.5 / 6.6 / 6.6		
Electric preheater kW	4.5			4.5		
Heat output/post-heating element kW	–			5.2 (at 60/40 °C) / 4.9 (at 50/40 °C) / 3.0 (at 40/30 °C)		
Summer bypass	automatic (adjustable), with heat exchanger cover			automatic (adjustable), with heat exchanger cover		
Wiring diagram no.	1370			1370		
Temperature operating range	– 20 °C to + 40 °C			– 20 °C to + 40 °C		
Installation temperature	+5 °C to + 40 °C			+5 °C to + 40 °C		
Connection PWW heating element	–			IG 1/2"		
Weight approx. kg	290			295		

[1] Values based on operating ranges defined according to PHI (Passive House Institute).