

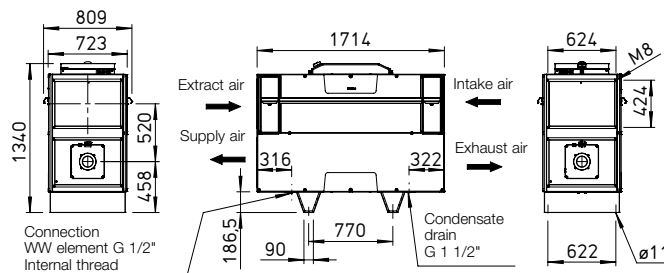
## KWL EC 1800 S



KWL EC 1800 S with base cover (accessories)



## Dimensions KWL EC 1800 S



Dimensions in mm



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<sub>1</sub> 55% filter (F7).  
The heat exchanger requires a ISO ePM<sub>10</sub> 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<sub>2</sub>, 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 WSH 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<sub>10</sub> 50% (M5)  
ELF-KWL 1800 S/5 VDI No.08258
- 1 pc. ISO ePM<sub>1</sub> 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

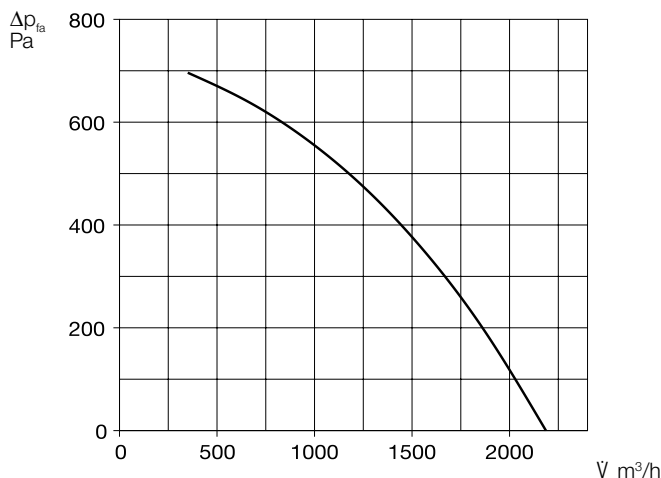
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### Accessory details

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 <sub>WA</sub>	Extract air	dB(A)	61	54	58	51	52	49	38
L <sub>WA</sub>	Supply air	dB(A)	72	61	66	63	65	64	56
L <sub>PA</sub> at 1 m	Radiation	dB(A)	52	35	47	43	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 (WxHxD) 115x80x25



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<sub>2</sub>, 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. 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.

**Flexible connector**

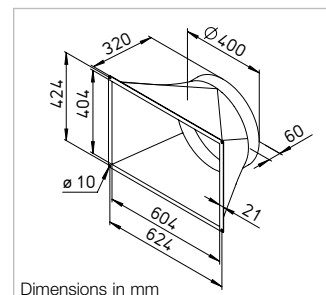
**FVR 400** No. 40834

Flexible connector round (uninsulated), with lip seals on both sides, for connection to pipe systems.

Accessories for FVR:

**Potential equalisation cable**

**PAK M8** No. 40812



Dimensions in mm

**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).


**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		
	Type	Ref. no.		Type	Ref. no.	
<b>For floor-standing installation</b>	<b>KWL EC 1800 S Pro</b>	08329		<b>KWL EC 1800 S Pro WW</b>	08330	
<b>Flow rate at level<sup>1)</sup></b>	③	②	①	③	②	①
Supply air/extract V m³/h approx.	1700	1200	800	1700	1200	800
<b>Noise dB(A) at 1400 m³/h and 245 Pa</b>						
Supply air L <sub>WA</sub> (sound power)	75	73	71	75	73	71
Extract air L <sub>WA</sub> (sound power)	61	61	59	61	61	59
Radiation L <sub>PA</sub> 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		

<sup>1)</sup> Values based on operating ranges defined according to PHI (Passive House Institute).