

**KWL 170 W**



**Efficiency class**

- A+** KWL 170 W with additional room sensor
- A** KWL 170 W



**CERTIFIED COMPONENT**  
Passive House Institute

**Compact unit with heat recovery for the central supply and extract ventilation of residential units up to 110 m<sup>2</sup>. Perfectly prepared for modern communication and operation with the new Helios easyControls 3.0 control system incl. integrated network connection.**

**Equipped with EC fans for low energy consumption and highly efficient plastic or enthalpy heat exchangers for additional moisture recovery.**

**Casing**

**Universal casing concept: Intake air left/right, supply air top or bottom, suitable for plasterboard installation.**

Outside made of galvanised steel sheet in white, internal components made of highly thermal insulating EPP. The intake air connection can be installed on the left or right. Maintenance-friendly access to all unit components through removeable front panels. Delivery state: Intake air on the right.

- Suitable inspection solution for drywall construction upon request.

**Heat exchanger**

- Large cross counterflow heat exchanger made of plastic, heat recovery efficiency up to 90 %.
- Type "ET" is equipped with highly efficient enthalpy heat exchanger for additional moisture recovery.

**Fans**

Two low-noise high-performance centrifugal fans with energy-saving EC motors ensure the air supply and extraction.

**Ducts**

Installation-friendly connection of intake, exhaust, extract and supply air through ducts with NW 125 mm using duct connectors (RVBD 125 K, accessories).

**Condensate connection**

Condensate drain at the bottom; ball siphon included in delivery. On-site connection to drain pipe.

**Air filter**

Clean outdoor air supply via ISO Coarse 65 % (G4) filter and 2nd filter stage via optional ISO ePM<sub>1</sub> 50 % (F7) or activated carbon filter. Extract air side equipped with an ISO Coarse 65 % (G4) filter in front of the heat exchanger. Easy filter maintenance without opening the unit.

**Summer operation**

Equipped with automatic bypass function and heat exchanger cover as standard.

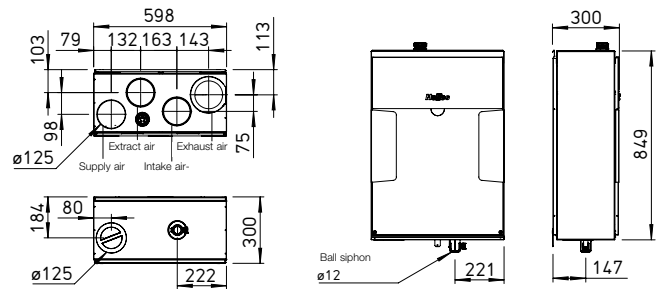
**Heat exchanger anti-icing protection**

The standard frost monitoring system automatically controls the supply air flow volume and the optionally installed electrical preheater (KWL-EVH 170 W, accessories).

**Control system**

EasyControls 3.0 is the new, modern control system for all KWL compact units from Helios. The standard LAN interface allows the simple integration of the KWL unit in a network and the integration in Helios Cloud. The unit is optionally controlled via an external control element, on PC/laptop, tablet and Smartphone via the integrated web browser or on the move via the Cloud. See page 104 for functionality. Helios easyControls

**Dimensions KWL 170 W**



Dimensions in mm

3.0 is prepared for:

- The control elements KWL-BE ECO and KWL-BE Touch (optional accessories).

- The humidity sensor integrated as standard and other optionally available external air quality sensors (KWL-CO2 eC, -FTF eC, -VOC eC, accessories) enable automatic, demand-controlled ventilation.

- Connection to building control system via integrated Modbus interface or optional KNX module (KWL-KNX Connect, accessories).

**Electrical connection**

Fixed connection via a mains connection cable 3 x 1.5 mm<sup>2</sup>, approx. 2 m with wire end ferrules.

**Accessories – Functional description (see right for details)**

KWL 170 W can be individually expanded with the following accessories:

- Control element ECO**
  - Three ventilation profiles selectable via slide switch.
  - Control voltage can be measured directly on the control element.
  - LED for visual indication of operating statuses, e.g. filter replacement and faults.

- Control element Touch**
  - Touch control element with graphic display and user-friendly menu navigation:

- Commissioning assistant.
- Selection of four ventilation profiles.
- Adjustment of an individual weekly programme.
- Adjustment of parameters for room sensors.
- Indication of e.g. filter replacement, operating statuses and error messages.

- Different access authorisations and child lock.
- Other functions (see operating instructions).

**KNX/EIB module**

For connecting the ventilation unit to the building control system via the KNX Connect module.

**Room sensors**

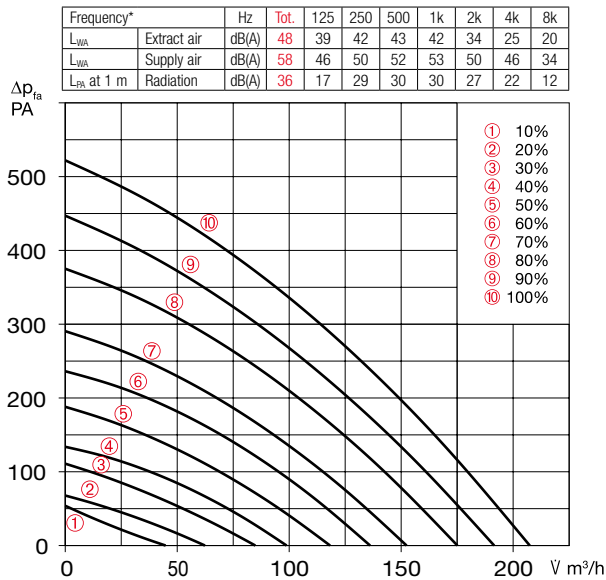
Room sensors, which measure the mixed gas, CO<sub>2</sub> concentration or relative room air humidity, are available for automatic operation and optimal air exchange.

**Post-heating**

Helios easyControls 3.0 can be used with an electric post-heating element (EHR with KWL-LTK, accessories). The autonomous operation of the warm water heating element can be controlled via an air temperature control (WHS HE, accessories) independently from Helios easyControls 3.0.

References	Page
<b>Helios easyControls 3.0 The innovative KWL control concept</b>	104 f.
<b>Moisture recovery through enthalpy heat exchangers</b>	103

Performance curves KWL 170 W



\*Sound information relate to Vref. according to ERP data sheet.

Slide switch control element

**KWL BE ECO** Ref. no. 20246

Three-step slide switch including operation indicator, for flush-mounted installation. Function see left. Dim. mm (W x H x D) 80 x 80 x 37

Casing for surface installation

**KWL APG** Ref. no. 04270  
Dim. mm (W x H x D) 83 x 83 x 41



Touch control element

**KWL BE Touch bl**

(black) Ref. no. 20244

**KWL BE Touch wh**

(white) Ref. no. 20245

With graphic display, for flush-mounted installation. Function see left. Connection of up to 6 pcs. possible (additional power supply unit may be required). Can be integrated in common switch ranges with the dimensions mm (W x H x D) 55 x 55 x 35, Dim. with frame mm (W x H x D) 88 x 88 x 35

Casing for surface installation

**KWL APG Touch bl** No. 40178

**KWL APG Touch wh** No. 40177

Dim mm (W x H x D) 85 x 85 x 25



Control line cable

**KWL-SL eC 5m** Ref. no. 40179

**KWL-SL eC 10m** Ref. no. 40180

Control line cables in 5 or 10 meters, suitable for KWL-BE ECO / Touch as well as room sensor.

Technical data	With plastic heat exchanger				With enthalpy heat exchanger					
	Type	Ref. no.	Type	Ref. no.	Type	Ref. no.	Type	Ref. no.		
	<b>KWL 170 W</b>	40043	<b>KWL 170 W ET</b>	40044						
<b>Flow rate at level 1) 2)</b>	10	9	8	7	6	5	4	3		
Supply air/extract air V m³/h	207	175	136	99	62	210	179	142	107	69
Power consumption fans 2xW 1)	37	25	15	9	6	37	24	15	9	6
Voltage/Frequency	1~, 230 V, 50 Hz									
Rated current A – ventilation	0.7									
– preheating	4.4									
– max. total	0.7 (5.1 incl. preheater, accessories)									
Electric preheater kW	1.0 kW (accessories)									
Summer bypass	automatic (adjustable), with heat exchanger cover									
Wiring diagram no.	1433									
Temperature operating range	–20 °C to +40 °C									
Installation temperature	+5 °C to +40 °C (90% rel. humidity, non-condensin)									
Weight approx. kg	36				39					

1) At 0 Pa, performance levels adjustable. 2) Volume reduction by approx. 10% when using pollen filter.

KNX/EIB module

**KWL-KNX Connect** No. 20253

For integrating the ventilation unit in a KNX system. For switch cabinet installation (1 space unit required).



Room sensors

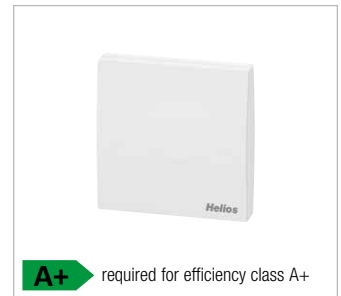
**KWL-CO2 eC** Ref. no. 20248

**KWL-FTF eC** Ref. no. 20249

**KWL-VOC eC** Ref. no. 20247

For measuring the CO<sub>2</sub>, mixed gas (VOC) concentration or relative room air humidity. Please note the maximum number of sensors, additional power supply unit may be required.

Dim. mm (W x H x D) 98 x 98 x 33



Electric preheater

**KWL-EVH 170 W** No. 00936

Electrical preheater for simple, plug-in unit installation. For preheating the intake air at very low outdoor temperatures (heat exchanger anti-icing protection). Mandatory for passive houses. Output: 1000 W.



**A+** required for efficiency class A+

Extension module

**KWL-EM eC** Ref. no. 40155

For controlling external post-heating elements.

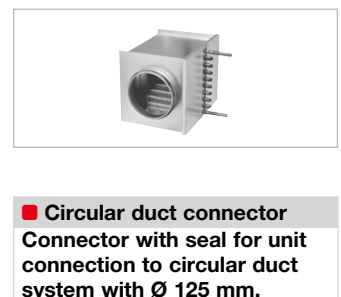
Dim. mm (WxHxD) 210x210x100



Motion detector

**BWM** Ref. no. 08323

Motion detector for detecting the presence of persons in the room. Surface-mounted wall installation (cable entry at top or bottom) or installation in flush-mounted box Ø 55 mm (cable entry at back).



Electric post-heating element

For additional supply air heating.

**EHR-R 1.2/125** Ref. no. 09433

**Rectangular duct temp. sensor**

**KWL-LTK eC** (1 pc. req.) No. 40156

**Warm water post-heating element**

For additional supply air heating.

**WHR 125** Ref. no. 09480

**Rectangular duct temp. sensor**

**KWL-LTK eC** (2 pc. req.) No. 40156

**Hydraulic unit**

**WHSH HE 24 V (0-10V)** No. 08318

Alternative:

**Air temperature control**

**WHST 300 T38** Ref. no. 08817

**■ Circular duct connector**

Connector with seal for unit connection to circular duct system with Ø 125 mm.

RVBD 125 K No. 03414

**■ Replacement air filters**

– 2 pcs. **ISO Coarse 65% (G4)**

ELF-KWL 170/4/4 No. 00951

– 1 pc. **ISO ePM<sub>1</sub>, 50% (F7)**

ELF-KWL 170/7 No. 00965

**■ Reference**

**Enthalpy heat exchanger**

**(accessories) for retrofitting:**

KWL-ET 170 No. 00976

**■ Other accessories**

Other accessories	Page
KWL peripherals	150 ff.
– Ground heat exchanger	174 ff.
– Insulated duct system	164 f.
– Air distribution systems	166 ff.
Heating element, control	486 ff.
ventilation grilles, ducts,	
roof outlets	561 ff.
extract air elements, design	
ventilation valves	574 ff.

KWL® with heat recovery