## KWL 170 W CF






**Efficiency class**

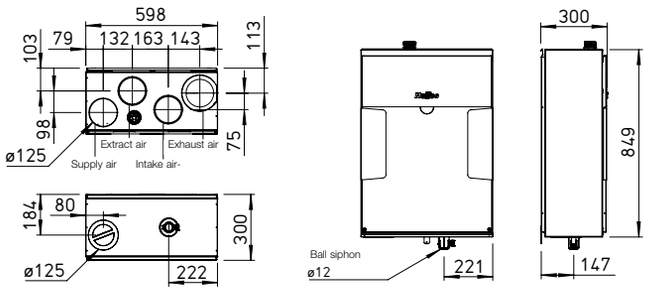
A+ KWL 170 W CF with additional room sensor

A KWL 170 W CF

easy Controls 3.0

EC

## Dimensions KWL 170 W CF




Dimensions in mm

CERTIFIED COMPONENT Passive House Institute

**Compact unit with heat recovery for the central supply and extract ventilation of residential units up to 110 m². Perfectly prepared for modern communication and operation with the new Helios easyControls 3.0 control system incl. integrated network connection. Equipped with energy-efficient EC fans featuring constant airflow or constant speed control, as well as a highly efficient plastic heat exchanger or, optionally, an enthalpy heat exchanger 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 removable 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 EC motors and constant airflow or constant speed control ensure supply and extract air ventilation.

### 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$_1$ 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 112 for functionality. Helios easyControls 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 mm², approx. 2 m with wire end ferrules.

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

KWL 170 W CF 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, $CO_2$ concentration or relative room air humidity, are available for automatic operation and demand-oriented air exchange.

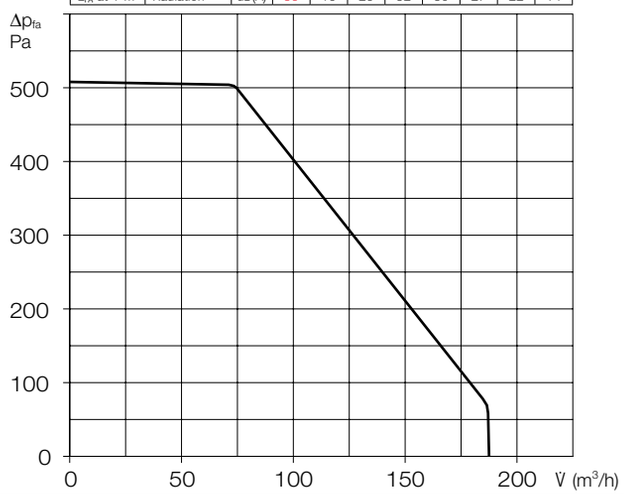
### ☐ Post-heating

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 |
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| **Helios easyControls 3.0 The innovative KWL control concept** | 112 f. |
| **Moisture recovery through enthalpy heat exchangers** | 111 |

## Performance curves KWL 170 W CF

| Frequency* | | Hz | Tot. | 125 | 250 | 500 | 1k | 2k | 4k | 8k |
|---|---|---|---|---|---|---|---|---|---|---|
| $L_{WA}$ | Extract air | dB(A) | 49 | 40 | 44 | 44 | 42 | 34 | 24 | 21 |
| $L_{WA}$ | Supply air | dB(A) | 59 | 48 | 52 | 53 | 54 | 51 | 47 | 36 |
| $L_{PA}$ at 1 m | Radiation | dB(A) | 36 | 19 | 26 | 32 | 30 | 27 | 22 | 14 |




*Sound information relates 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.

### KNX/EIB module

**KNX Connect** Ref. no. 40969

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 $CO_2$, 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.

### Extension module

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

For controlling external post-heating elements.
Dim. mm (W x H x D) 210 x 210 x 100

### 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 (0-10 V)** No. 08318

Alternative:

### Air temperature control

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

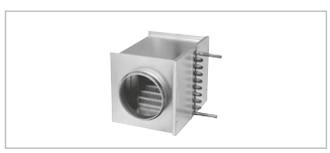




A+ required for efficiency class A+







| Technical data | With plastic heat exchanger Type | | | Ref. no. | With enthalpy heat exchanger Type | | | Ref. no. |
|---|---|---|---|---|---|---|---|---|
| | KWL 170 W CF | | | 40043 | KWL 170 W ET CF | | | 40044 |
| **Flow rate at level** [1) 2)] Supply air/extract air V̇ m³/h | 162 | 126 | 90 | 54 | 162 | 126 | 90 | 54 |
| Power consumption fans 2xW [1)] | 27 | 18 | 13 | 9 | 25 | 18 | 12 | 9 |
| 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 50 Pa, performance levels adjustable. [2)] Volume reduction by approx. 10 % when using pollen filter.

### Replacement air filters

**– 2 pcs. ISO Coarse 65 % (G4)**
ELF-KWL 170/4/4 No. 00951
**– 1 pc. ISO ePM$_1$ 50 % (F7)**
ELF-KWL 170/7 No. 00965

### Reference

**Enthalpy heat exchanger (accessories) for retrofitting:**
KWL-ET 170 No. 00976

### Circular duct connector

**Connector with seal for unit connection to circular duct system with Ø 125 mm.**
RVBD 125 K No. 03414

### Other accessories


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| – Insulated duct system | 174 f. |
| – Air distribution systems | 176 ff. |
| Heating element, control | 488 ff. |
| ventilation grilles, ducts, roof outlets | 132 ff. |
| extract air elements, design ventilation valves | 132 ff. |