

KWL 220 D



Efficiency class

A+

KWL 220 D R/L
with additional room sensor

A

KWL 220 D R/L



Ultra-flat ceiling units with heat recovery for the central supply and extract ventilation of apartments and small single family houses. Certified according to the passive house standard. Equipped with Helios easyControls 3.0, the innovative control concept for simple network connection and web browser control. Units come with highly efficient plastic heat exchangers and energy-efficient EC motors.

■ Casing

Made of galvanised steel sheet, inner and front panels powder-coated in white, double-walled, with 20 mm heat and sound insulation on all sides. Installation-friendly and maintenance-friendly. All elements are easily accessible through removable side panels.

■ Heat exchanger

Large cross counterflow heat exchanger made of plastic, heat recovery efficiency of up to 90 %.

■ Fans

Two low-noise high-performance centrifugal fans with energy-saving EC motors ensure the air supply and extraction. Maintenance-free, easily removable for cleaning, if required.

■ 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 75 % (G4) filter and 2nd filter stage via optional ISO ePM₁ 50 % (F7) or activated carbon filter. Extract air side equipped with an ISO Coarse 75 % (G4) filter in front of the heat exchanger.

■ Summer operation

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

■ Heat exchanger anti-icing protection

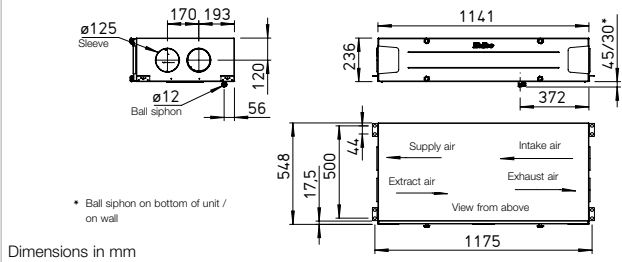
The standard frost monitoring system automatically controls the supply air flow volume and the optionally installed electrical preheater (KWL-EVH 220 D, accessories).

■ Control system

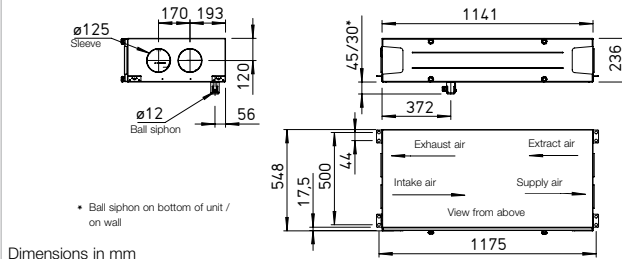
EasyControls 3.0 is the new, modern control system for all KWL compact units from Helios. The standard LAN interface allows the simple integration of the KWL unit in a network and the integration in Helios Cloud. The unit is optionally controlled via an external control element, on PC/laptop, tablet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

Dimensions KWL 220 D R



Dimensions KWL 220 D L



nally available external air quality sensors (KWL-CO₂, -FTF, -VOC, 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 EC 220 D 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.
- Weekly timer (WSUP / WSUP-S, no. 09990 / 09577, accessories) can also be added to implement a further operating level, e.g. night mode.
- 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 replace-

ment, 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

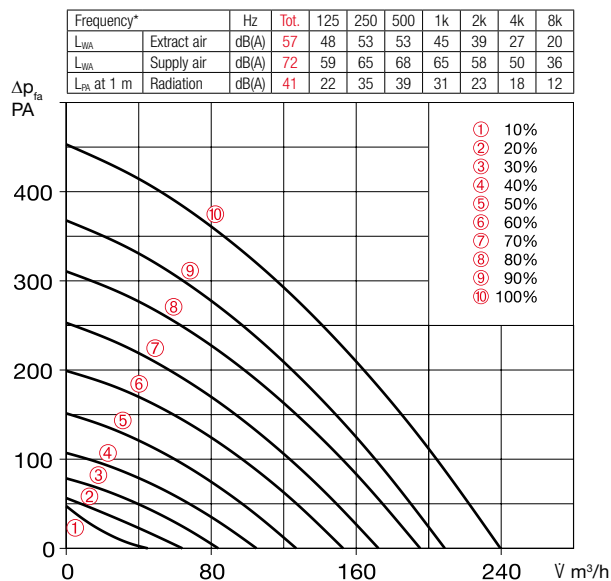
Room sensors, which measure the mixed gas, CO₂ concentration or relative room air humidity, are available for automatic operation and optimal air exchange.

□ 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
Helios easyControls 3.0	
The innovative KWL control concept	104 f.

Performance curves KWL 220 D



*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	KWL 220 D R/L					For ceiling installation
Right-hand version	KWL 220 D R					Ref. no. 40057
Left-hand version	KWL 220 D L					Ref. no. 40058
Flow rate at level ^{1) 2)}	⑩	⑨	⑧	⑦	⑥	
Supply air/extract air V m³/h	240	195	153	105	64	
Power consumption fans 2xW ¹⁾	47	30	18	10	6	
Voltage/Frequency	1~, 230 V, 50 Hz					
Rated current A – ventilation	0.8					
– preheating	4.4					
– max. total	0.8 (5.2 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-condensing)					
Weight approx. kg	47					

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

³⁾ AK = Activated carbon 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 CO₂, 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 220 D No. 09636

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 (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

WHSB HE 24 V (0-10V) No. 08318

Alternative:

Air temperature control

WHST 300 T38 Ref. no. 08817

Replacement air filters

– 2 pcs. **ISO Coarse 75 % (G4)**

ELF-KWL 220 D/4/4 No. 09638

– 1 pc. **ISO ePM₁ 50 % (F7)**

ELF-KWL 220 D/7 No. 09639

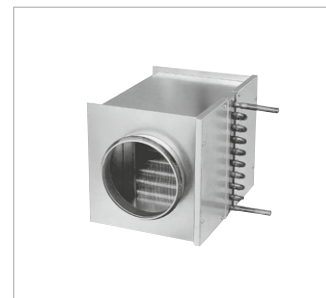
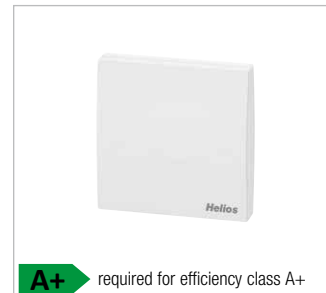
– 1 pc. **ISO ePM_{2.5} 60 % (AK)³⁾**

ELF-KWL 220 AK No. 03050

Circular duct connector

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

RVBD 125 K No. 03414



Other accessories	Page
KWL peripherals	150 ff.
– Ground heat exchanger	174 ff.
– Insulated duct system	164 f.
– Air distribution systems	166 ff.
– Control lines, etc.	170 f.
Heating element, control	486 ff.
ventilation grilles, ducts, roof outlets	561 ff.
extract air elements, design	
ventilation valves	574 ff.