KWL 500 W



KWL 500 W R with accessories (pollen filter, KWL-EVH 500 W)

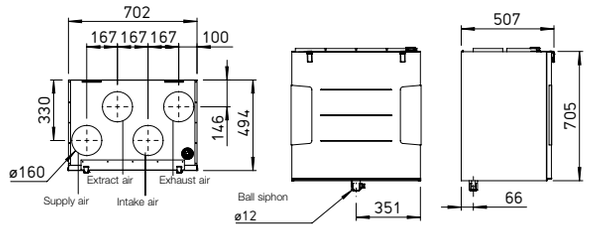
Efficiency class

A KWL 500 W R/L and 500 W ET R/L

easy Controls 3.0

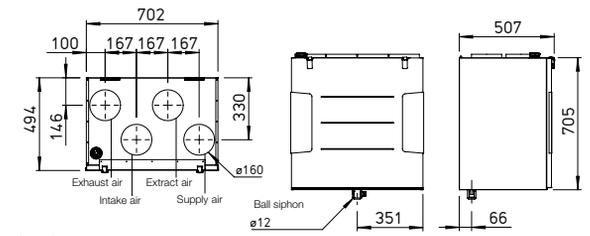
EC

Dimensions KWL 500 W R



Dimensions in mm

Dimensions KWL 500 W L



Dimensions in mm

Compact unit with heat recovery for the central supply and extract ventilation of residential buildings and apartments. 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**
Made of galvanised steel sheet, powder-coated in white, double-walled, with 12 mm heat and sound insulation on all sides. Installation-friendly and maintenance-friendly. All elements are easily accessible through removeable front panels.

■ **Heat exchanger**
□ Large cross counterflow heat exchanger made of plastic, heat recovery efficiency up to 90 %.
□ Types “ET” are 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 160 mm using duct connectors (RVBD 160 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 ePM$_1$ 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 500 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 EC 500 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.

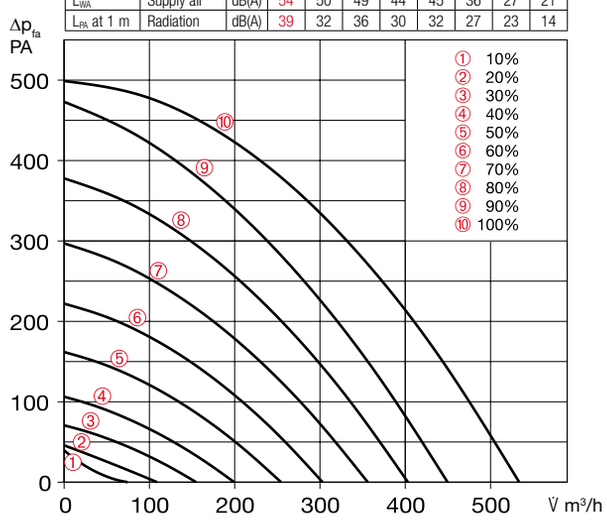
□ **Room sensors**
Room sensors, which measure the mixed gas, CO_2 concentration or relative room air humidity, are available for automatic operation and optimal air exchange.

□ **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
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Moisture recovery through enthalpy heat exchangers	111

Performance curves KWL 500 W

Frequency*		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Extract air	dB(A)	53	49	50	41	43	34	26	21
L_{WA}	Supply air	dB(A)	54	50	49	44	45	36	27	21
L_{PA} at 1 m	Radiation	dB(A)	39	32	36	30	32	27	23	14



*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.

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_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 200/300/500 W No. 04224

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 2.4/160 Ref. no. 09435

Rectangular duct temp. sensor

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

Warm water post-heating element

For additional supply air heating.

WHR 160 Ref. no. 09481

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

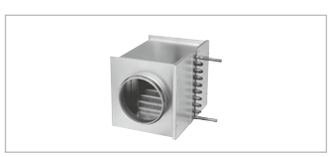
WHST 300 T38 Ref. no. 08817











Technical data	With plastic heat exchanger Type	Ref. no.	With enthalpy heat exchanger Type	Ref. no.
Right-hand version	**KWL 500 W R**	40053	**KWL 500 W ET R**	40055
Left-hand version	**KWL 500 W L**	40054	**KWL 500 W ET L**	40056

Flow rate at level [1) 2)]	⑩	⑧	⑥	④	②	⑩	⑧	⑥	④	②
Supply air/extract air V̇ m³/h	490	403	303	200	109	506	387	295	190	103
Power consumption fans 2xW [1)]	150	82	41	16	7	152	83	41	17	7
Voltage/Frequency	1~, 230 V, 50 Hz									
Rated current A – ventilation	2.5									
– preheating	4.4									
– max. total	2.5 (6.9 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	58					66				

Replacement air filters

– 2 pcs. ISO Coarse 75% (G4)
ELF-KWL 500/4/4 No. 00039
– 1 pc. ISO ePM$_1$ 50% (F7)
ELF-KWL 500/7 No. 00042
– 1 pc. ISO ePM$_{2.5}$ 60% (AK)[3)]
ELF-KWL 500 AK No. 04199

Reference

Enthalpy heat exchanger (accessories) for retrofitting:
KWL-ET 500 No. 00897

Circular duct connector

Connector with seal for unit connection to circular duct system.
RVBD 160 K[4)] No. 03415
RVBD 180/160[5)] No. 09589

Other accessories

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– Ground heat exchanger	184 ff.
– Insulated duct system	174 f.
– Air distribution systems	176 ff.
Heating element, control	490 ff.
ventilation grilles, ducts, roof outlets	565 ff.
extract air elements, design ventilation valves	578 ff.

[1)] At 0 Pa, performance levels adjustable. [2)] Volume reduction by approx. 10% when using pollen filter.
[3)] AK = Activated carbon filter [4)] For a duct diameter of 160 mm. [5)] For a duct diameter of 180 mm.