# Maximum performance – minimum space requirement: The new KWL EC 170 W.\*\*



The compact all-rounder for residential units up to 110 m².



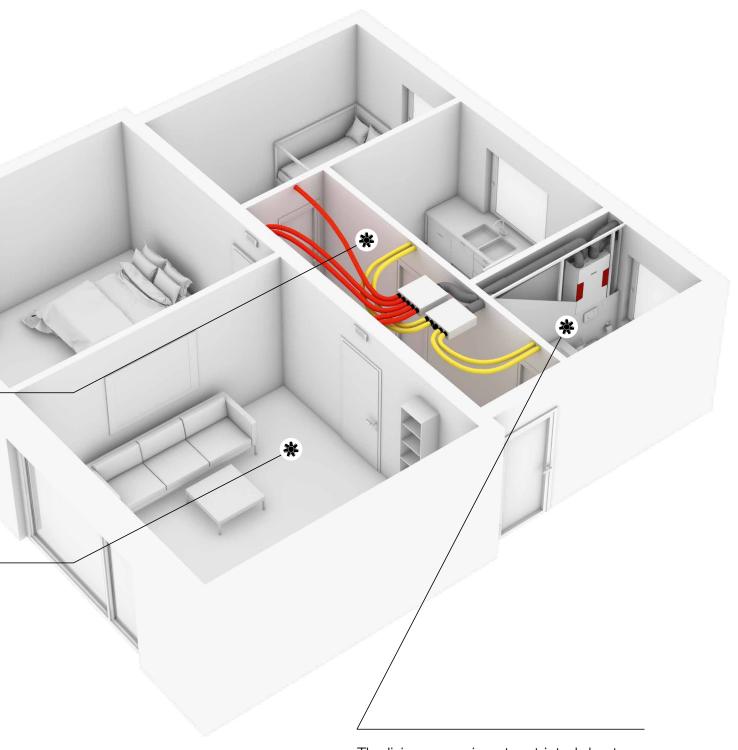
### Unbeatably flexible in apartment building construction.

The KWL EC 170 W is perfectly matched with the FlexPipe® plus air distribution system. The result is not only simple and time-saving installation, but also an installation with minimal space requirement.



Ideal for apartment sizes up to around **110 m<sup>2</sup> living space.** 

Das KWL EC 170 W is perfectly adapted to the demands of apartment building construction. Many different system solutions for new construction and renovation can be realised easily, quickly and inexpensively with minimal installation space.



The living space is not restricted due to the **compact dimensions (0.2 m**<sup>2</sup> **installation space)** – KWL EC 170 W is simply installed directly in wall niches, storage rooms or front walls.

Supply air
Extract air

### Small on the outside, but huge on the inside.

### Simple filter maintenance

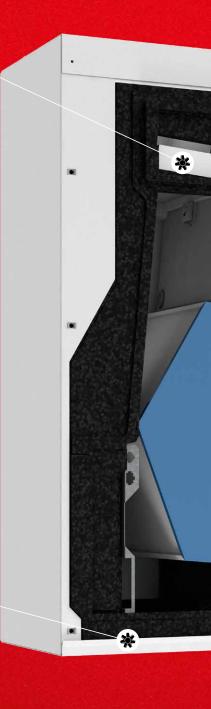
without opening the casing and without tools.

As small as the new KWL EC 170 W from Helios is, it undoubtedly has a lot to offer. Of course, that also applies to the modular equipment, which practically offers the right solution for all requirements – now or later.

You have the choice between various options:

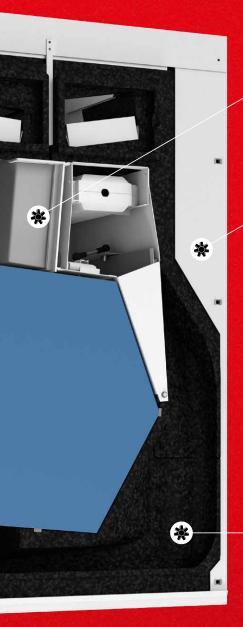
- Various operating options and air quality sensors.
- Electrical pre-heating for optimal year-round comfort.
- Coarse and fine filters in various filter qualities.
- 2 unit designs with highly efficient heat exchangers with or without moisture recovery.

**Flexible:** Supply air connection at the bottom of the casing for high installation flexibility. Thus, the air can also be distributed from the floor.



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easyControls: Convenient operation via classic control element, mobile devices or fully automated.



**Universal casing concept** for left and right-sided outside air connection.

**Extremely quiet:** Latest EC fans and sound-absorbing casing construction.



## The new KWL EC 170 W has no need to hide – **but it** can remain hidden.

The KWL EC 170 W impresses with its compact dimensions and clever arrangement of the connection pieces. This provides various installation options such as, for example, in cabinets or storage rooms, since each centimetre of living space often counts when it comes to apartment buildings. With an installation space **of just 0.2 m**<sup>2</sup>, the KWL EC 170 W not only saves space, but also a lot of money. Whether it is a new building or renovation, the new system from Helios offers a solution with minimal space requirement and maximum performance.



The **alternative supply air connection on the bottom** of the unit is an interesting solution for new buildings. The supply air lines can be easily integrated in the floor construction using design supply air grilles in combination with the Helios multi-distribution box FRS-MVK 4+1-51/125.



The **duct system for the extract air** is realised using the FRS flexible ducts set into the concrete floor. Thus, all ventilation lines are invisible in the building structure. Only the ventilation unit and the distribution boxes have inspection openings for simple maintenance.

# The innovation that becomes invisible. If that's what you want.

The KWL EC 170 W with heat recovery is full of innovations and reliable technology. These include the simplest network connection, fully-automated operation using different air quality sensors or the modular casing concept. Nevertheless, the unit is so compact that it can be integrated seamlessly and **practically invisibly** in any residential unit. The optimal installation location is the front-wall system in the bathroom or guest WC. The KWL EC 170 W makes perfect use of the otherwise unused area above the WC here, without using expensive living space.



The unit is **classically mounted to the wall above the WC.** In this respect, the customer decides whether the die front of the unit remains visible or whether the unit disappears behind an inspection opening in the front-wall.

The space requirement for this installation variant is also extremely low and it makes perfect use of the otherwise free space on the front-wall.



The FlexPipe® plus or RenoPipe system components, which are tailored for the front-wall installation, ideally complete the principle of space-saving installation with simple planning and quick installation.

It saves you time and money.





### **KWL EC 170 W** Summer operation

Compact unit with heat recovery for the central supply and extract ventilation of residential units up to 110 m<sup>2</sup>. Equipped with Helios easyControls, the innovative control concept for the simplest network connection and web browser operation. Optionally available with highly-efficient plastic or enthalpy heat exchanger for additional moisture recovery. With energy-efficient EC motors.

### Casing

Made from galvanised sheet steel with sound and heat insulation, powder-coated in white. Outside air connection can be installed on the left or right as required. Maintenance-friendly access to all unit components through removable front doors.

### Heat exchanger

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

### Fans

Two low-noise high-performance centrifugal fans with energy-saving EC- motors ensure the inlet and outlet of air.

Maintenance-free, easily removable for cleaning.

### Ducting

Installation-friendly connection of outside, exhaust, extract and supply air through ducts with NW 125 mm by means of duct connector spigots (RVBD 125 K, accessories).

### Condensation connection

Condensation drain below; delivery incl. ball siphon. On-site connection to discharge pipe.

### Air filter

Clean outside air inlet through G4 filter; an F7 pollen filter is also optionally available. A G4 filter is prefixed to the heat exchanger on the extract air side. Simple filter maintenance possible without opening the unit.

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

### Anti-icing protection of heat exchanger

The standard frost monitoring system automatically regulates the supply air flow volumes and optionally integrated electric pre-heater (KWL-EVH 170 W accessories)

### Helios easyControls

The standard Helios easyControls equipment enables the simple LAN integration of the KWI® unit into a PC network. The ventilation unit is conveniently operated via the Helios easy-Controls menu in the web browser, by PC/Laptop in LAN or by tablet/ smartphone in WLAN - whether it is in a home network or while travelling using the internet. Helios easyControls is prepared for:

- Manual control elements (KWL-BE, -BEC, accessories).
- Air quality sensors for expanded, demand-controlled ventilation (KWL-CO2, -FTF, -VOC, accesso-
- Connection to building control system via integrated Modbus interface or optional KNX module (KWL-KNX, accessories).

### **Electrical connection**

Fixed connection via a power supply cable 3 x 1.5 mm<sup>2</sup>, approx. 2 m long with wire-end ferrule. Control line for control elements, sensors, ModBus and LAN connection can be connected to the unit from the outside.

### **Accessories - Functional** description

(Details see right.)

KWL EC 170 W is individually expandable with the following accessories:

### Slide switch controller

- Three-stage operation via slide switch.
- Three freely definable operating stages within the entire characteristic curve field.
- The extract air fan can be operated with ± 20 % difference via the offset function.

### 80 ø125

KWL EC 170 W

Control voltage can be measured directly on the control element.

All dimensions in mm

- Can be optionally complemented by a weekly timer (WSUP/WS-UP-S, no. 9990/9577, accessories) to realise another operating stage, e.g. night operation.
- LED for visual display of operating statuses, e.g. filter change, supply air temperature < +5 °C, faults and operating status.

### Comfort controller

Comfort controller with graphic display and user-friendly menu navigation:

- Commissioning assistant.
- Selection of operating stage (auto/manual, stage 1-4).
- Four freely definable operating stages within the entire characteristic curve field.
- Weekly programme adjustment ventilation/heating.
- Adjustment of CO2-, VOC and humidity parameters.
- Display of e.g. filter change, operating statuses, operating hours and error reports.
- Locking function.

### KNX/EIB module

For the connection of the ventilation unit to the building control system via KNX/EIB.

### Room sensor

221

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

849

147

### Extension module

For the connection of accessories, such as backdraught shutters, geothermal heat exchangers for outside air pre-heating or an auxiliary heater (hot water or electric heater battery with max. 2.6 kW, 230 V, 50 Hz optionally available).

### Auxiliary heater battery

Helios easyControls can control an electric (EHR with KWL-LTK, accessories) or hot water auxiliary heater battery (WHR with WHSH and KWL-LTK, accessories) via an extension module (KWL-EM, accessories) based on performance. Temperature profiles can be adjusted in the weekly programme.

Independent of Helios easyControls, the autonomous operation of the hot water heater battery is also possible via air temperature control (WHST 300 T38, accessories).

<ul><li>Technical data</li></ul>	with plastic heat exchanger				with enthalpy heat exchanger				
<b>Type</b> Ref. no.	<b>KWL EC 170 W</b> 0912				<b>KWL EC 170 W ET</b> 0917				
Output at stage 1)	0	6	0	0	0	0	0	0	
Supply/extract air V m³/h	197	146	95	29	197	146	95	29	
Power consumption fans 2 x W <sup>1)</sup>	29	16	9	5	29	16	9	5	
Standby power consumption	< 1 W								
Voltage / frequency	1~ 230 V, 50 Hz								
Nominal current A  - Ventilation operation  - Pre-heating  - max. total	0.4 4.4 0.4 (4.8 incl. pre-heating, accessories)								
Electrical pre-heater kW	1.0 (accessories)								
Summer bypass	automatic (adjustable)								
Wiring diagram connection	1042								
Temperature working range	-20 °C to +40 °C								
Installation temperature	+5 °C to +40 °C								
Weight approximate kg	33						36		
<sup>1)</sup> At 0 Pa, performance levels adjustable as required.									



### Slide switch controller

KWL-BE Ref. no. 4265

Three speed slide switch incl. operation display, for flush installation. Function see on the left. Control line SL 6/3 (length = 3 m) included in delivery, other lengths (SL 6/.., accessories) available for order. Dim. mm (W x H x D) 80 x 80 x 37

Casing for surface installation

KWL-APG Ref. no. 4270

Dim. mm (W x H x D) 83 x 83 x 41



### Comfort controller

KWI -BFC Ref. no. 4263

With graphic display, for flush installation. Function see on the left. Up to 8 pcs. can be installed. Control line SL 4/3 (length = 3 m) included in delivery, other lengths (SL 4/.., accessories) available for order. Dim. mm (W x H x D) 80 x 80 x 37

### Casing for surface installation

KWL-APG Ref. no. 4270

Dim. mm (W x H x D) 83 x 83 x 41



### KNX/EIB module

KWL-KNX Ref. no. 4275

Allows the connection of the ventilation unit to a KNX/EIB central building control system. For switchboard installation (1 space unit required).

### Adapter board

KWL-RJ10 KL Ref. no. 4277

Adapter from ribbon cable to wires or cables. For connection of KNX module and RJ10 control line.



### Room sensor

KWL-CO<sub>2</sub> Ref. no. 4272 KWL-FTF Ref. no. 4273 **KWL-VOC** Ref. no. 4274

Measures CO<sub>2</sub>, mixed gas (VOC) concentration or relative humidity. Max. of 8 sensors each can be connected, control according to respective highest measured value. Incl. control line SL 4/3 (length = 3 m), other lengths (SL 4/.., accessories) available for order. Dim. mm (W x H x D) 95 x 97 x 30



### Electric pre-heater battery

KWL-EVH 170 W Ref. no. 0936

Electric pre-heating for simple, plugin device installation. Allows the pre-heating of the intake air at very low outside temperatures (heat exchanger frost protection). Mandatory for passive houses. Power: 1.0 kW.



### Extension module

KWL-EM Ref. no. 4269

For controlling external shutters, undersoil heat exchangers and/or heater batteries. Incl. temperature sensor KWL-LTK and control line KWI -SI 4/3

Dim. mm (WxHxD) 210 x 210 x 100



### Electric heater battery

EHR-R 1,2/125 Ref. no. 9433

For additional supply air heating.

Duct temperature sensor

KWL-LTK Ref. no. 9644

Duct temperature sensor for measuring the air temp. Measurement range 0-40 °C (1 unit required).



### Water heater battery

WHR 125 Ref. no. 9480

For additional supply air heating.

### Duct temperature sensor

KWL-LTK Ref. no. 9644

Duct temperature sensor for measuring the air temp. Measurement range 0-40 °C (1 unit required).

### Hydraulic unit

WHSH HE 24 V Ref. no. 8318

Hydraulic unit for supply air temperature regulation by controlling the flow temperature to the heater battery. Consists of a hydraulic unit with pump, flex. connecting hoses and 3-point valve actuator, Control voltage 24 V (0-10 V).

### Air temperature control

WHST 300 T38 Ref. no. 8817

Valve with thermostat and remote sensor for regulating the hot water heater batteries in ventilation systems. For stepless control of a constant supply air or room temperature, setting range 8-38 °C. Flow rate up to 300 l/h.



### Spare filter

ELF-KWL 170/4/4 Ref. no. 0951 ELF-KWL 170/7 Ref. no. 0965 ELF-KWL 170/4/4/7 Ref. no. 0972

ELF-KWL 170/4/4 consisting of 2 pcs. G4, ELF-KWL 170/7 consisting of 1 pc. F7, ELF-KWL 170/4/4/7 consisting of 2 pcs. G4 and 1 pc. F7.

### Duct connector

RVBD 125 K

Ref. no. 3414

Connector with sealing to connect unit to ducting with Ø 125 mm.

### Enthalpy heat exchanger

KWL-ET 170

Ref. no. 0976

Ensures a pleasant feel-good climate during all seasons through hygienic moisture and heat recovery.

### **KWL EC 170 W**

### **Efficiency rating**



KWL EC 170 W with additional room sensor



KWL EC 170 W

