

# Certificate

## Passive House suitable component

For cool, temperate climates, valid until 31 December 2012

Category: **Heat recovery unit**  
Manufacturer: **Helios Ventilatoren GmbH+Co KG**  
**78056 Villingen Schwenningen,**  
**GERMANY**  
Product name: **KWL EC 1400 D**

### This certificate was awarded based on the following criteria:

Thermal comfort	$\Theta_{\text{supply air}} \geq 16.5 \text{ }^\circ\text{C}$ at $\theta_{\text{outdoor air}} = -10 \text{ }^\circ\text{C}$
Effective heat recovery rate	$\eta_{\text{HR,eff}} \geq 75\%$
Electric power consumption	$P_{\text{el}} \leq 0.45 \text{ Wh/m}^3$
Performance number	$\geq 10$
Airtightness	Interior and exterior air leakage rates less than 3% of nominal air flow rate
Balancing and adjustability	Air flow balancing possible: yes Automated air flow balancing: yes
Sound insulation	It is assumed that large ventilation units are installed in a separate building services room.  Sound levels documented in the appendix of this certificate
Indoor air quality	Outdoor air filter F7 Extract air filter G4
Frostprotection	Frost protection required Different strategies mentioned in the appendix of this certificate

- 1) Available pressure difference with installed filter: **175 Pa**.  
Additional components (e.g. heater coil) decrease the available pressure difference accordingly.

Further information can be found in the appendix of this certificate.

Passive House Institute  
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64283 Darmstadt  
GERMANY



**Certified for air flow rates of 450 – 900 m<sup>3</sup>/h**

At an external pressure of **215 Pa<sup>1)</sup>**

Requirements non residential buildings (Therewith device also applicable for residential building)

$\eta_{\text{HR,eff}}$  **82%**

**Electric power consumption 0.45 Wh/m<sup>3</sup>**

**Performance number 10**



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