KWL® Catalogue 7.2

KWL® Ventilation Systems
for your feel-good climate.

Helios

Enjoyment comes when **everything fits into place.**

Contents

Why Helios is your partner for ventilation with heat recovery:

- An overview of our ventilation systems
- Everything from a single source
- Our focus on design-oriented air inlets and outlets
- Advantages for end users, tradesmen, specialist planners and housing companies
- Online design with KWLeasyPlan

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Decentralised domestic ventilation with heat recovery

- Wall installation units KWL EC 60 and KWL EC 45-160

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Decentralised ventilation with heat recovery

- KWL YOGA / KWL YOGA Style with up to 400, 700 or 1000 m³/h

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Central ventilation units

- Wall installation “W”: Wall units with up to 170, 200, 300, 360 or 500 m³/h
- Ceiling installation “D”: Ceiling units with up to 220, 340, 700, 1400 or 2000 m³/h
- Standing installation “S”: Central units with up to 800, 1200, 1800 or 2600 m³/h

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The peripherals:

- FlexPipe*plus* for installation in, on or under the ceiling
- IsoPipe for intake and exhaust ducting
- RenoPipe for installation in existing housing
- Flat duct system for installation on unfinished floors
- Additional accessories for KWL units
- KWL MultiZoneBox for compact supply and extract ventilation
- KWL HygroBox for active humidification
- Ground-to-brine/air heat exchangers

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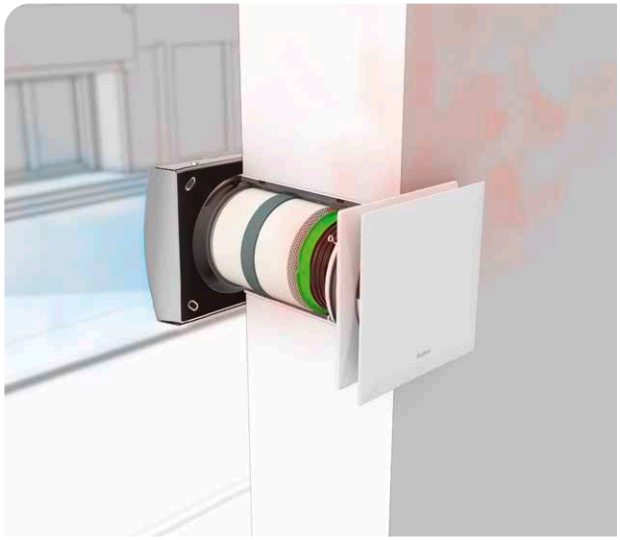
For individual rooms and residential units: **Decentralised ventilation systems.**



KWL EcoVent Verso

The KWL EcoVent Verso heat recovery is regenerative via a ceramic heat accumulator. In extract air mode, this absorbs the heat from the indoor air and stores it in the ceramic core in order to transfer it to the inflowing intake air in the following supply air phase.

- A functional unit consists of at least two units, which operate out of phase.
- Particularly space-saving thanks to a diameter of just 160 mm.
- KWL EcoVent Verso achieves the energy efficiency class A+ with additional room sensors.

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KWL EcoVent

Helios EcoVent is the compelling solution for a comfortable living environment and energy savings in individual rooms. A heat recovery efficiency of more than 70 % is achieved due to the large-scale aluminium plate heat exchanger.

- Compact wall installation unit for the energy-saving supply and extract ventilation of individual rooms without an air distribution system.
- Convenient, room-by-room control, with automatic humidity or CO_2 elements upon request.
- Ideal for bringing existing buildings up to the legally required EnEV standard in the course of a renovation.

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KWL Yoga

Whether in schools or public buildings, at work or in leisure time – the new ventilation units with heat recovery KWL Yoga provide the best indoor air quality. This is possible thanks to the decentralised functionality with minimal installation work and space requirements. It is also ideal for subsequently and substantially improving the air quality in individual rooms.

- Flexible: Three available unit sizes for flow rates up to 400, 700 and 1000 m^3/h.
- Customised: 2 casing variants with 6 different equipment options: KWL Yoga and KWL Yoga Style.

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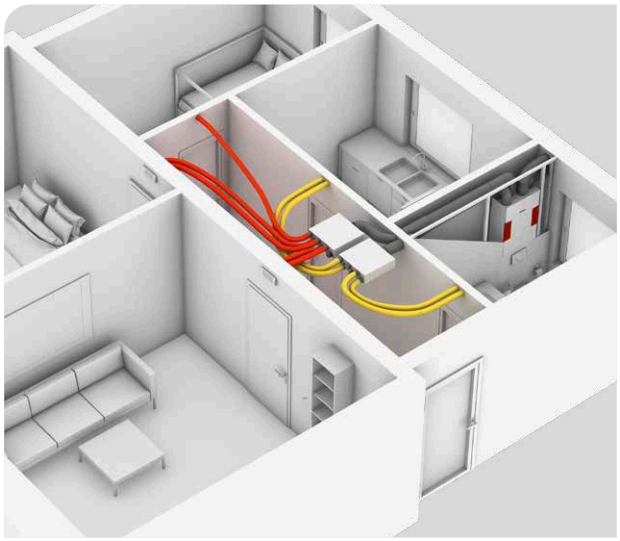
For residential and commercial buildings: **Central ventilation solutions.**



KWL compact units

Central KWL compact units are available in many sizes with air capacities up to 500 m³/h and they offer a variety of ventilation solutions for apartments and single family houses – individually adapted to the needs of residents.

- Wall and ceiling units in different gradations.
- Intuitive and modern control concept easyControls 3.0.
- Compact dimensions and high installation flexibility.
- Passive house certified units.

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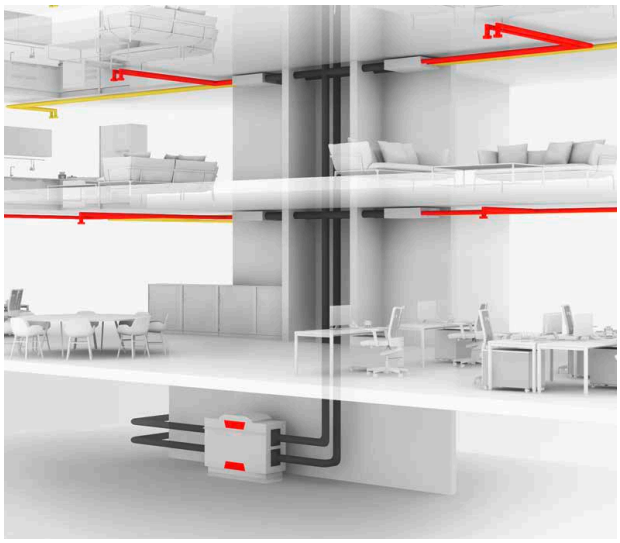

KWL large units

Reliable solutions for the supply and extract ventilation of all residential units are sought after in residential buildings and apartment buildings. Helios KWL large units are available in many equipment variants - for air capacities up to 2600 m³/h.

- Floor-standing and ceiling units with passive house certification for a variety of requirements.
- Certified according to VDI 6022.
- Various comfort and equipment variants.

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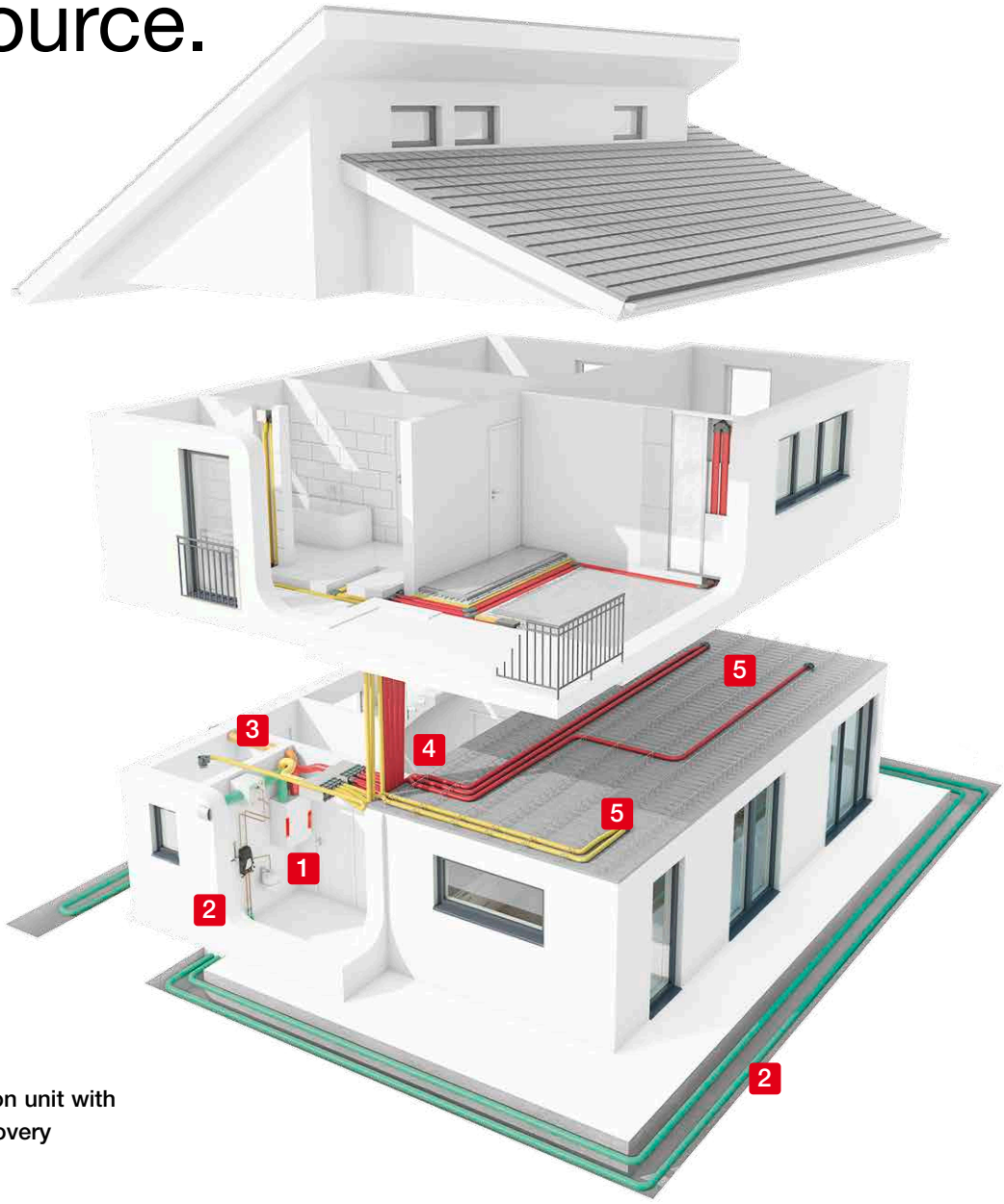
Do you already know about our energy-efficient compact ventilation units Helios AIR1? The large units with heat recovery offer a wide range of solutions with air capacities of up to 15,000 m³/h – for almost any application.

- 3 series, 22 types and more than 100 configuration options.
- Various heating and cooling options.
- Eurovent-certified components.

www.HeliosAIR1.com

Everything from a **single source.**



Ventilation unit with heat recovery

Ground-to-brine/air heat exchanger

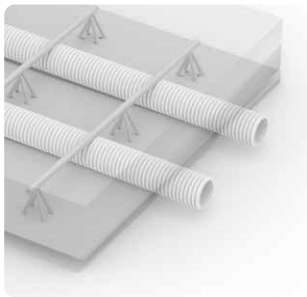
Insulated ducting system IsoPipe for intake and exhaust ducting

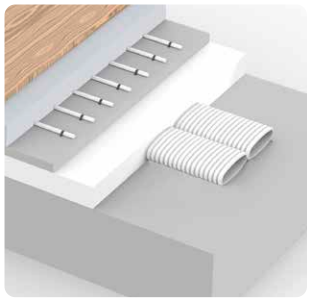
Air distribution system FlexPipe*plus* for extract and supply air

Accessories such as silencers, air inlets and outlets, etc.

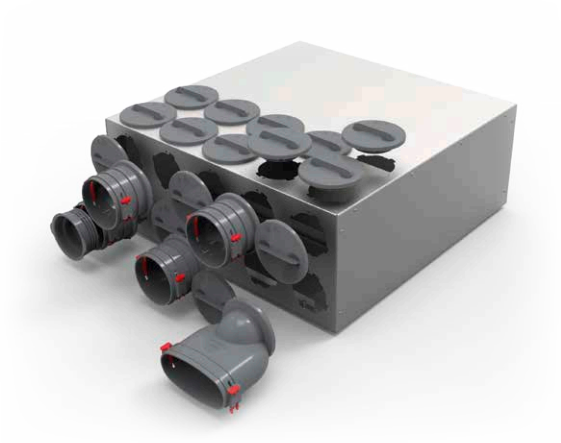
Always the perfect solution with *flexpipe*plus.

- Suitable for solid, timber or prefabricated house construction.
- Installation in concrete ceilings, on unfinished flooring, in walls or in suspended ceilings.
- Vertical and horizontal adapters allow any desired combination round/oval, oval/oval, round/round for maximum flexibility.





Universal, flexible and individual. The *flexpipe*plus distribution boxes.



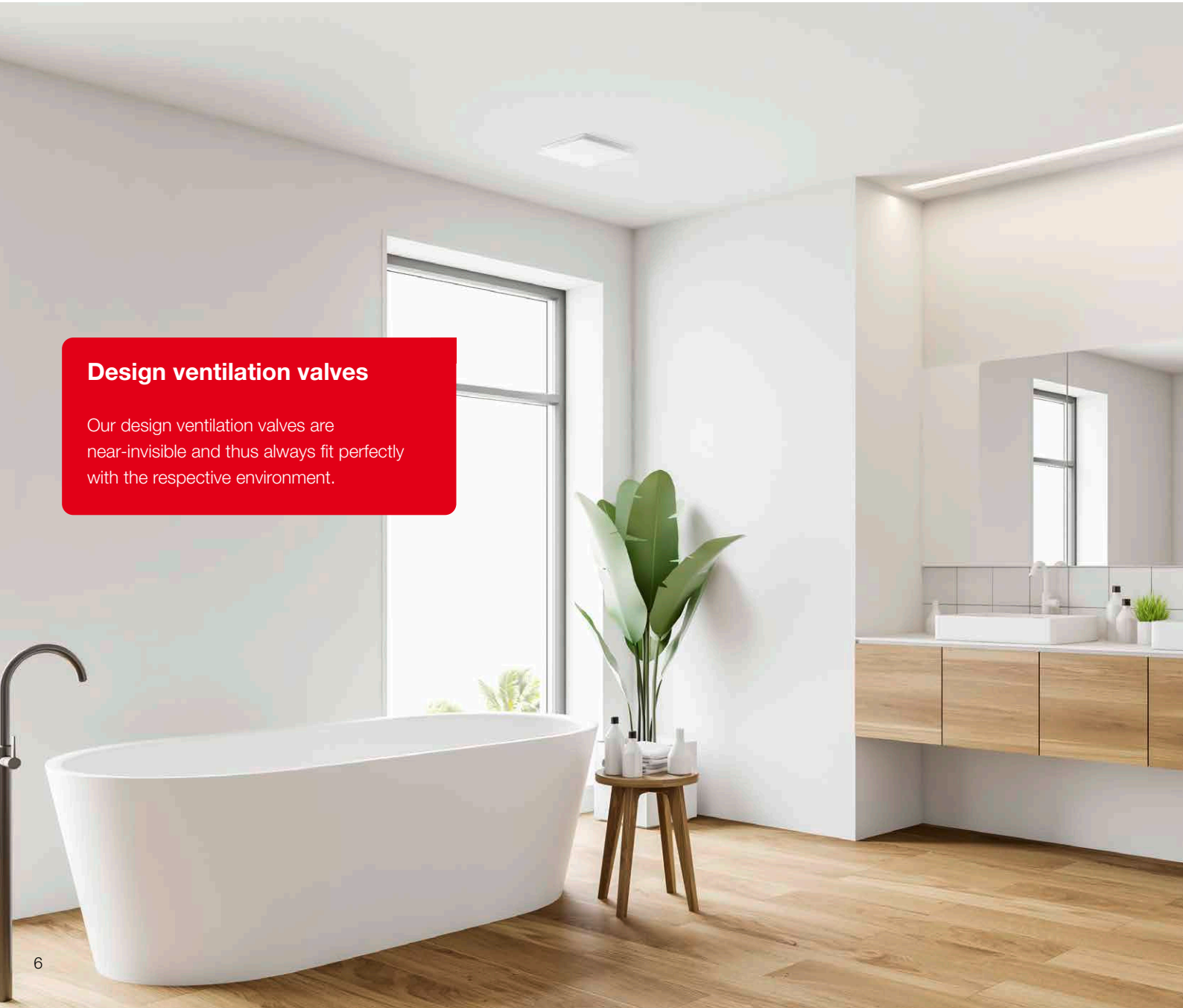
- The sophisticated distribution concept from Helios offers the ideal solution for all installation requirements.
- All connections to the distributors are freely selectable, whether they are on the front, offset by 90° or combined.
- Mixed installation with round and oval connectors is possible depending on the requirements.

Eye-catching with added value: The KWL design wall grilles.

The elegant wall grilles are available in three classic designs (in stainless steel or signal white). They fit perfectly in any room atmosphere and provide for a pleasant and draught-free supply air flow.

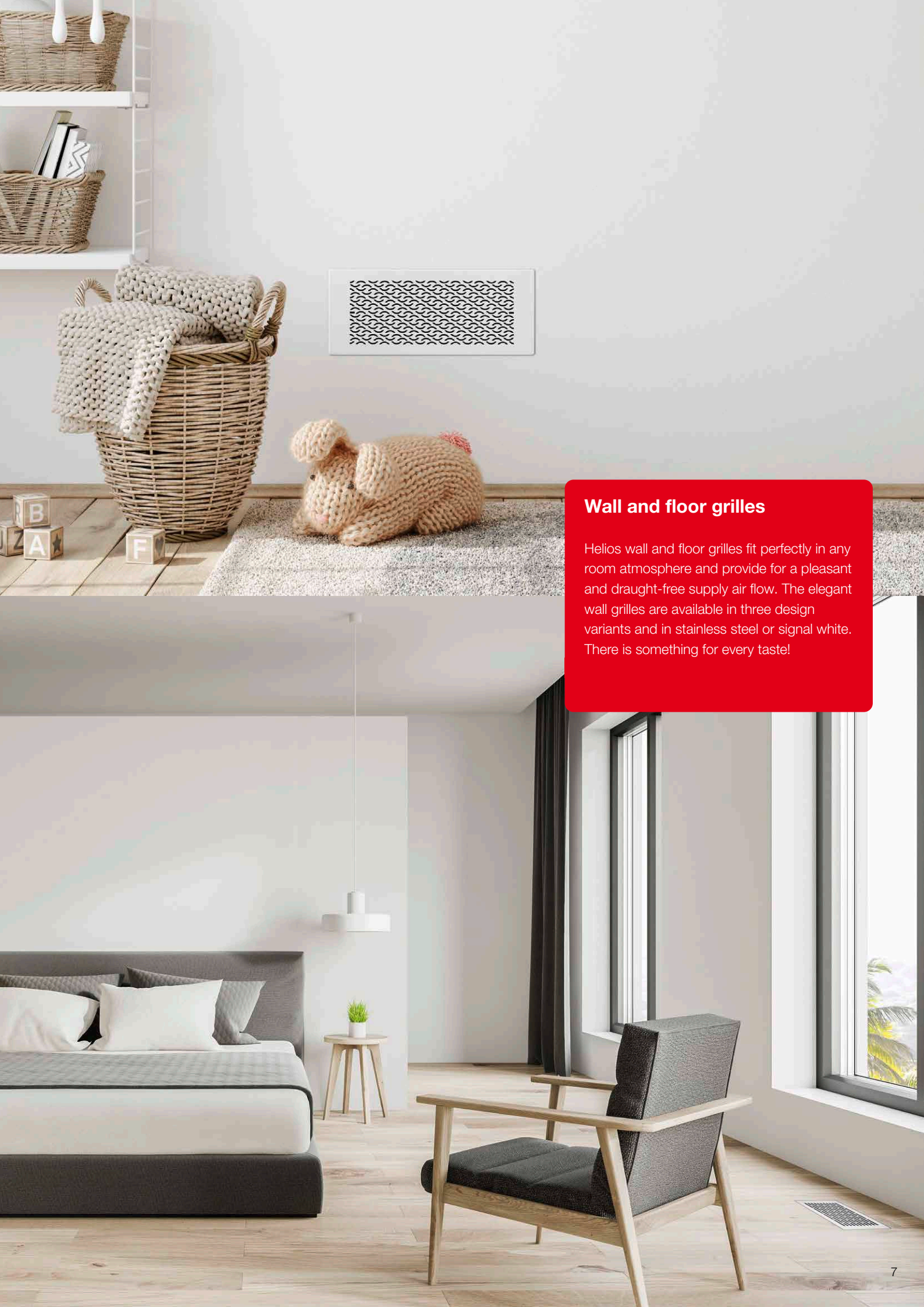
We are not only developing innovative ventilation systems – **comfort and aesthetics also play a major role.**

Harry Haas,
Sales Director KWL



Design ventilation valves

Our design ventilation valves are near-invisible and thus always fit perfectly with the respective environment.



Wall and floor grilles

Helios wall and floor grilles fit perfectly in any room atmosphere and provide for a pleasant and draught-free supply air flow. The elegant wall grilles are available in three design variants and in stainless steel or signal white. There is something for every taste!

Added safety.
Added value for you.

Helios is
award-winning:

Whether it is installers, specialist planners, architects or end users – the systems from Helios benefit everyone across the board. Discover your personal advantages now and be inspired by the many highlights of our KWL ventilation systems.

Advantages for end users

- **Take full advantage:**
  You will always have a healthy, sustainable feel-good atmosphere and save on energy costs at the same time.
- **Not just for allergy sufferers:**
  The first-class filters effectively remove pollen and dust from the room air.
- **Fully automatic ventilation system control:**
  With modern sensors, without any user intervention and according to your needs.
- **The right unit for every requirement:**
  Whether it is building quality A++ (passive house), A+ or A – the individual classes can only be reached with a ventilation system with heat recovery.
- **Award-winning design:**
  The multiple award-winning system components can be ideally integrated into any room atmosphere.
- **Flexible, intuitive and smart:**
  Convenient and intuitive controllers facilitate everyday use.

Advantages for tradesmen

- **Everything from a single source:**
  Our system components are ideally tuned to each other.
- **Decades of experience:**
  We always consider the needs of installers and we only develop systems which are quick and easy to install on site.
- **Simple commissioning:**
  Every system is ready for operation in no time thanks to the various commissioning assistants.

Advantages for specialist planners, architects and housing companies

- **Best support:**
  You will find us right around the corner from you thanks to our nationwide sales force.
- **It couldn't be simpler:**
  You can plan your individual solution for a variety of applications easily, quickly and in compliance with DIN standards with our online tool KWL easyPlan.
- **Fulfils every customer request:**
  You can meet all requirements thanks to our wide range of products.

Mein Helios
DE
Helios
KWLeasyPlan
Kontrollierte Wohnraumlüftung
KWL Systeme online planen – inklusive Lüftungskonzept.
Das ist Helios KWLeasyPlan
nächster Schritt
1. Gebäudedaten eingeben
Gebäude-Standort
windschwach, ≤ 15 m (≤ 4 Vollgeschosse)
Wärmeschutz
niedrig

Simple, fast and safe:
Online design with KWL®easyPlan.

Our online software www.KWLeasyPlan.de takes all the hassle out of creating a ventilation concept and the DIN-compliant design of a ventilation system. The obtained results can be transferred to a Material Assistant, which will suggest the suitable Helios system components for your project – simple, uncomplicated and in no time at all. All results can also be provided as a PDF document and in other data formats.

All programme functions are available free of charge, without obligation and without registration.
Registered “easyPlanners” have additional options, such as saving, re-editing or copying projects. A list of materials with list price information is also issued.

> Smart assistants quickly guide you to your goal
The online software is divided into three steps. The user guidance through each step is always intuitive and dialogue-oriented and maintains an overview at all times:

1.

Creation of a ventilation concept

- Check whether a ventilation measure is required for your project with just a few clicks and entering the living area.
- The results can be determined for both single family houses and apartment buildings.

2.

Select and design the ventilation measure

- If a ventilation measure is required, you can choose between different solutions for each residential unit.
- Once the rooms per residential unit are entered, KWLeasyPlan automatically creates a DIN-compliant ventilation design. Experienced users can also adjust this design manually.
- The air volumes per residential unit are clearly illustrated in tabular form for each room.
- The required number of air inlets/outlets per room is determined once the desired pipe diameter is selected.
- Finally, the location of the ventilation unit must be selected and the programme will automatically provide a schematic diagram of the ventilation unit including the air volume details.

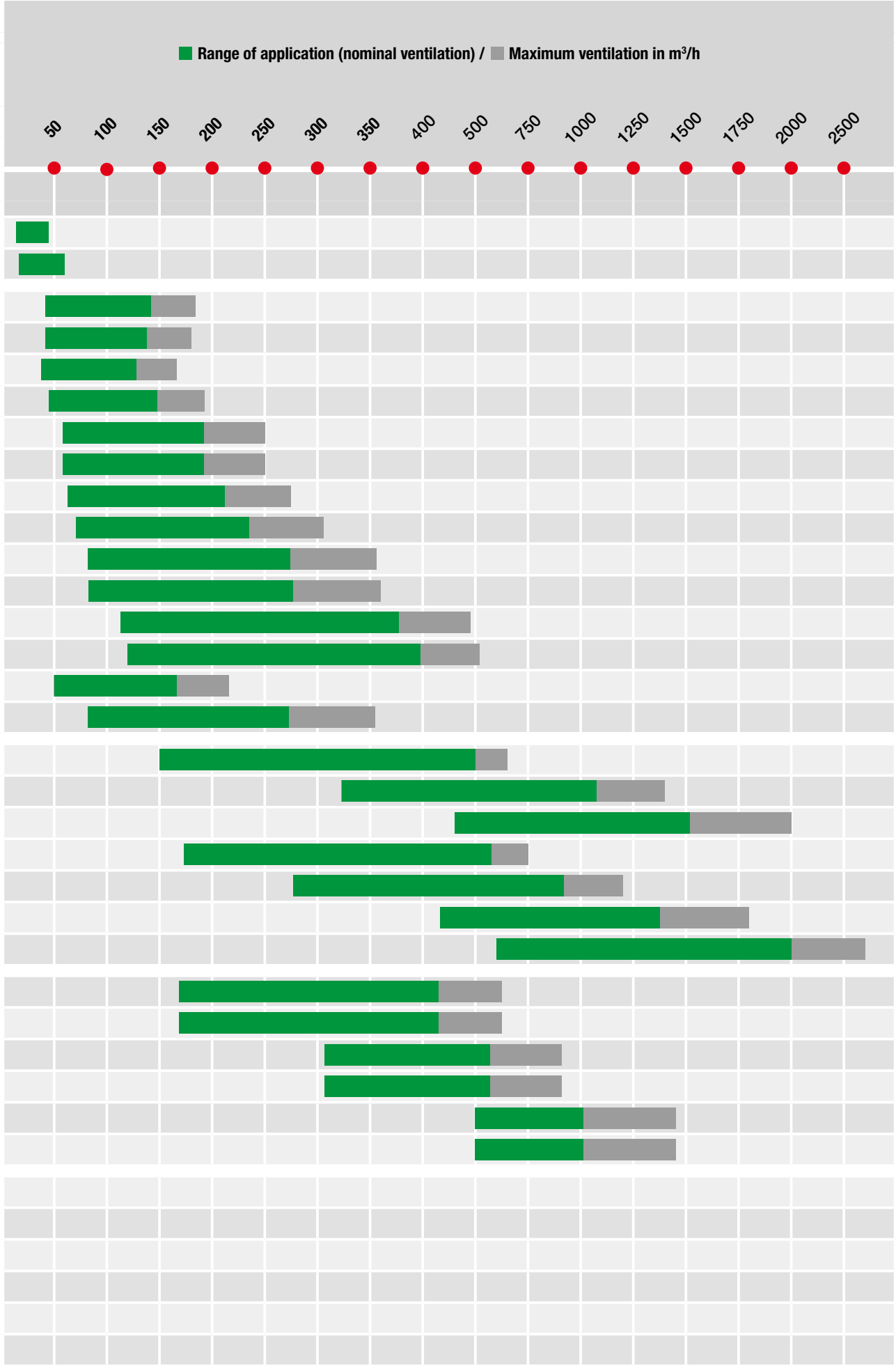
3.

The Material Assistant

- The ventilation design results can be transferred directly to the Material Assistant.
- The Material Assistant suggests suitable Helios products and system components – perfect for inexperienced or occasional users. Of course, professionals can adjust the selection if necessary.
- The generated material list generally includes all required system components for the domestic ventilation system and is perfectly suited for quotation requests or for an initial cost estimate.

KWL® ventilation units and peripherals at a glance

	Type	Installation			Decentralised / Central	Typical areas of application					Maximum energy efficiency class*	Moisture recovery	With passive house certificate
		Wall mounting / wall	Ceiling	Floor		Living room	Single family house	Apartment building – apartment central	Apartment building – building central	Commercial / municipal buildings			
	KWL EC 45-160	■			D	■	■	■			A+		
	KWL EC 60	■			D	■	■	■			A		
	KWL 170 W	■			Z		■	■			A+		■
	KWL 170 W ET	■			Z		■	■			A	■	■
	KWL 200 W	■			Z		■	■			A		
	KWL 200 W ET	■			Z		■	■			A	■	
	KWL 250 W	■			Z		■	■			A+		
	KWL 250 W ET	■			Z		■	■			A	■	
	KWL 300 W	■			Z		■	■			A		
	KWL 300 W ET	■			Z		■	■			A	■	
	KWL 360 W	■			Z		■	■			A+		■
	KWL 360 W ET	■			Z		■	■			A	■	■
	KWL 500 W	■			Z		■	■		■	A		
	KWL 500 W ET	■			Z		■	■		■	A	■	
	KWL 220 D		■		Z		■	■			A+		■
	KWL 340 D		■		Z		■	■			A+		
	KWL EC 700 D		■		Z				■	■			■
	KWL EC 1400 D		■		Z				■	■			■
	KWL EC 2000 D		■		Z				■	■			■
	KWL EC 800 S			■	Z				■	■			■
	KWL EC 1200 S			■	Z				■	■			■
	KWL EC 1800 S			■	Z				■	■			■
	KWL EC 2600 S			■	Z				■	■			■
	KWL YOGA 400		■		D					■			
	KWL YOGA Style 400		■		D					■			
	KWL YOGA 700		■		D					■			
	KWL YOGA Style 700		■		D					■			
	KWL YOGA 1000		■		D					■			
	KWL YOGA Style 1000		■		D					■			
	FlexPipe*plus*						■	■	■				
	IsoPipe						■	■					
	RenoPipe							■					
	Flat duct						■						
	KWL HygroBox						■	■					
	Ground heat exchanger						■	■					


Range of application (nominal ventilation) / Maximum ventilation in m³/h
50
100
150
200
250
300
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400
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750
1000
1250
1500
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2000
2500
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Decentralised domestic ventilation **with heat recovery.**

Controlled domestic ventilation with heat recovery (KWL) fully ensures ventilation pursuant to DIN 1946-6 and thus guarantees that not only the indoor environment, but also the energy balance sheet benefit from the ventilation technology measures.

In this respect, a decentralised ventilation system with heat recovery offers major advantages, especially in renovation, as it is an economical and simple solution for single rooms.

The focus is on two main points:
On the one hand, high efficiency is a prerequisite for the economical operation of the units and, on the other hand, the individual ventilation units must form a complete system in perfect coordination with each other.

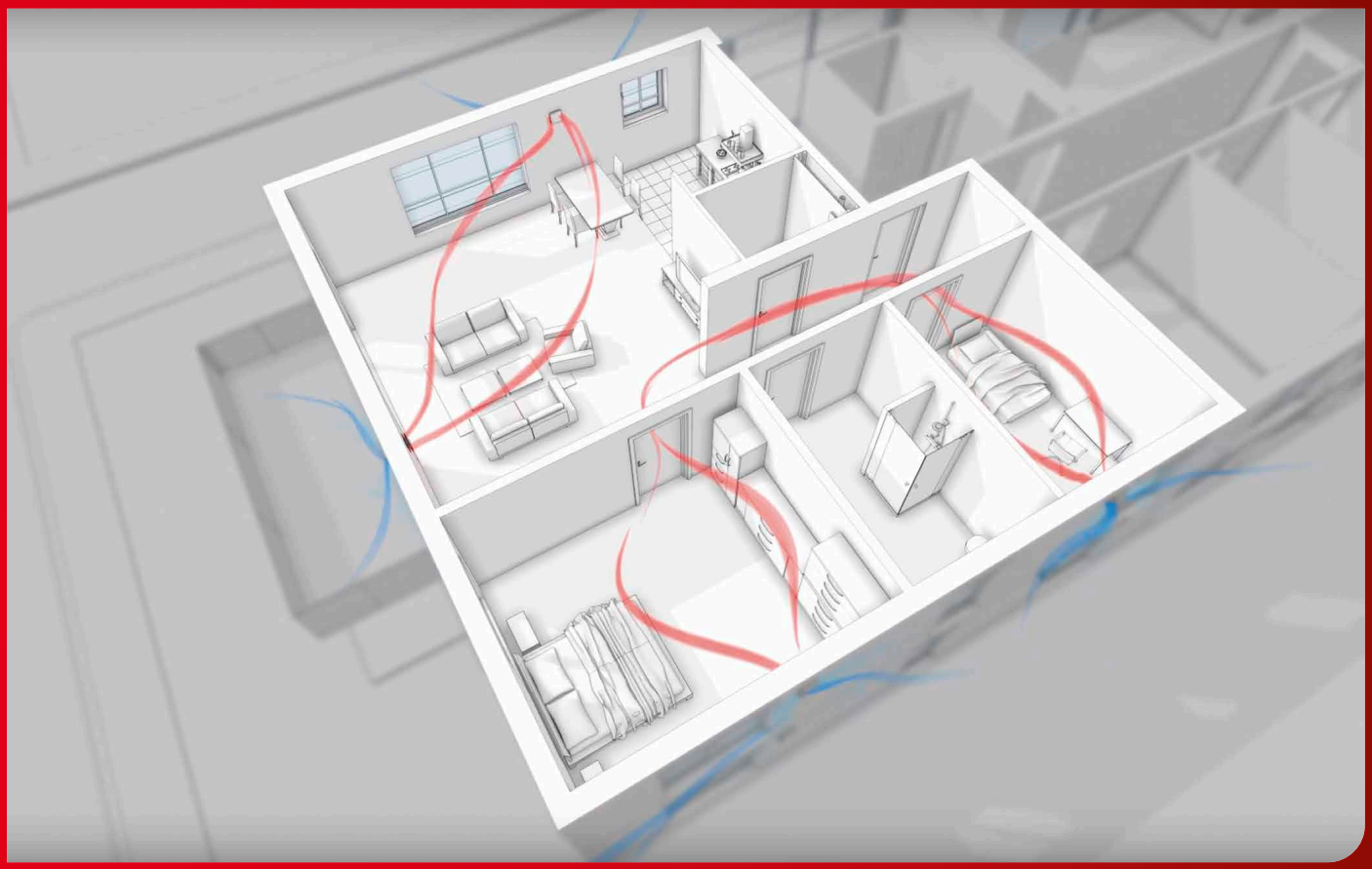
The decentralised ventilation units with heat recovery from Helios are among the best in their class in both categories.
Thanks to the quick and simple installation, they provide an economical solution for the supply and extract ventilation of single rooms. Residents can sit back, relax and take a deep breath of fresh air!

BEST OF SHK AWARD · INDUSTRIE PREIS 2016 BEST OF · PLUS X AWARD · iF DESIGN AWARD 2016 · GERMAN DESIGN AWARD SPECIAL 2016

KWLeasy**Plan**.de

▶ PLAY

Learn about the many possibilities offered by EcoVent Verso KWL EC 45-160 now on our YouTube channel.



EcoVent Verso KWL EC 45-160

With a ceramic heat exchanger, flow straightener and EC fan.
For flush wall mounting in single rooms, ideal if space is limited.

EC

16f

EcoVent KWL EC 60

With a large-scale aluminium plate heat exchanger and two EC fans.
For flush wall mounting in single rooms - the optimal renovation solution.

EC

18f

Selection matrix

12f

YouTube

Wall installation unit with heat recovery for single rooms, with air flow rates up to approx. 45 m³/h

KWL EC 45-160

Efficiency class

A+ KWL EC 45-160 with additional room sensor

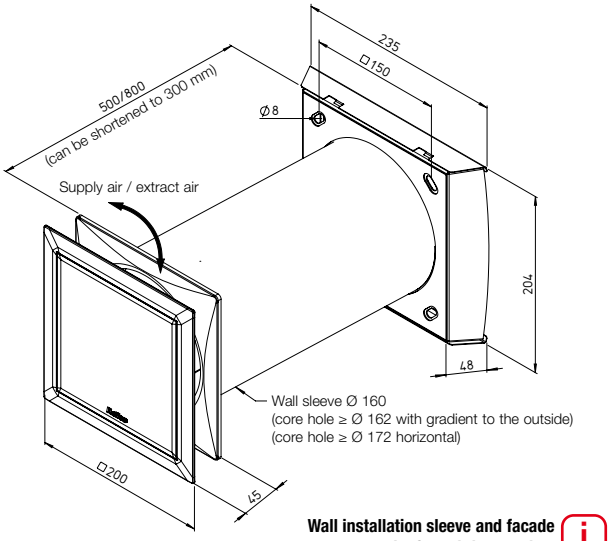
A KWL EC 45-160

BEST OF SHK AWARD

PLUS X AWARD 2018 achieved for: High Quality, Functionality, Ecology

EC

Dimensions KWL EC 45-160



Dimensions in mm

Wall installation sleeve and facade panel essential for unit installation.

KWL EC 45-160 belongs to the category of switching ventilation units with heat recovery.
DIBt-approved (general technical approval), Z-51.3-417.
It is intended for installation in the external building wall.
The passage of air is from the outside of the wall through a stainless steel panel. A closable plastic panel on the inner side of the wall, which has integrated sound insulation and a fibre fleece air filter (class ISO Coarse 50% (G3)), is used for this purpose.
The KWL EC 45-160 has an EC axial fan which operates in reversing cycles. In this respect, the supply air phases, where the intake air flows into the building, continuously alternate with the extract air phases, which are characterised by the extraction of indoor air from the building.

The heat recovery is regenerative using a ceramic heat exchanger. During extract air operation, this absorbs heat from the indoor air (storage charge) to transfer it to the incoming intake air (storage discharge) in the subsequent supply air cycle. Heat recovery efficiency up to 88 % (according to current DIBt test procedure).
There is an insect screen on the outside of the ceramic heat exchanger in order to protect against course dirt.
In order to maintain balanced ventilation operation, at least 2 units are required for a residential unit, which operate out of phase in terms of operating phases (supply air/extract air). Depending on the total air requirement of the residential unit, more than 2 units are normally installed, whose individual volume flows are automatically coordinated using the central control unit.

Highlights KWL EC 45-160

- ☐ Economical, quiet EC axial fan.
- ☐ Elegant and timeless design.
- ☐ Tool-free, simple installation and dismantling of components.
- ☐ Integrated sound insulation.
- ☐ Integrated ISO Coarse 50% (G3) air filter, easily accessible and changeable without tools.
- ☐ Simple, intuitive operation via two keys.
- ☐ LED display for operating mode and current ventilation level.
- ☐ Up to 8 controllable units.
- ☐ 5 ventilation levels: 14, 24, 32, 37, 45 m³/h.
- ☐ 4 operating modes: Heat recovery (= reversing operation), cross ventilation and supply air/extract air mode.
- ☐ Possibility of external activation from standby, cross ventilation, supply air mode or party mode (maximum ventilation level) by evaluating an external, potential-free contact.
- ☐ Intelligent integration of e.g. demand-controlled extract air fans via an extension module (accessories).
- ☐ Filter change indicator.
- ☐ Programming via PC.

Control

The central control unit with control element enables the controlling of up to 8 units.
5 ventilation levels and 4 operating modes can be set on the control element:
Heat recovery (= reversing operation), cross ventilation and supply air/extract air mode.
The user is reminded to replace the filter by flashing LEDs on the control element after a preset time period.

GUI user interface

It is possible to connect the control element to a PC or laptop via the USB interface with Helios software.
This makes it easy and convenient to access the control settings.

- ☐ Thus, the commissioning and entry of required values (e.g. filter replacement interval or minimum ventilation level) within a very short time.
All specified setting options can be changed quickly via the programme interface with the user-friendly assistance of appropriate help texts.

- ☐ The configuration settings can be stored directly on the PC or laptop and reloaded into the control system, if required.
The installation costs in a larger building can be reduced to a minimum.
If several identical ventilation systems are installed, the required configuration is carried out once for a ventilation system and it can then be transferred to any number of control elements.
Controller and software can be secured with a PIN.

Replacement air filter

– 2 pcs. ISO Coarse 50% (G3)
ELF-KWL 45-160/3/3 No. 09366

Sound insulation element

Sound insulation element for use in the soffit channel, fire protection class B1.
KWL 45 SEL No. 04170

Sound insulation element for use in the wall sleeve, fire protection class B1.
KWL 45-160 SE No. 09362

Technical data

Unit[1]	KWL EC 45-160[1]				Ref. no. 09361
Flow rate at level supply air/extract air V̇ m³/h	❺ 45	❹ 37	❸ 32	❷ 24	❶ 14
Sound pressure L_{PA} dB(A) at 3 m	34	29	27	21	14
Sound power L_{WA}	52	47	45	39	32
Standard sound level diff. $D_{n,e,w}$ dB[2]	Facade panel 44 / Soffit				
Power consumption W	4,5	3,4	2.8	2,1	1,6
Heat recovery efficiency[3]	up to 88 %				
Operating voltage mains adapter	Input 230 V~, 50/60 Hz / Output 12 V⎓				
Rated current mA	42	32	27	21	17
El. supply line mains adapter[4]	NYM-O 2 x 1.5 mm²				
El. supply line power supply control[4]	NYM-O 2 x 1.5 mm²				
El. supply line to fan[5]	J-Y (ST) Y 3 x 0.8 mm				
Protection class III, protection cat.	IP 20				
Wiring diagram no.	1091 / 1093				
Temperature operating range	– 12 °C to + 40 °C				
Weight (unit+inner panel) approx. kg	2.8				

[1] The required wall installation sleeve and facade panel must be ordered separately.
[2] Test value. [3] According to latest DIBt test procedure. [4] Use of NYM-J 3 x 1.5 mm² is permitted.
[5] Use of J-Y (ST) Y 2 x 2 x 0.8 mm is permitted.

Unit with inner panel
KWL 45-160 No. 09361
Consists of design inner panel with filter, ceramic heat exchanger, flow straightener, insect screen, EC axial fan with protection grille, removal tool (cord) and EPP half shell base.

Installation package soffit*
KWL 45-160 LE-RP No. 08160
With wall sleeve and plaster protective cover.
Made of EPP, fire protection class B1.

Wall installation sleeve
Length 500 mm
KWL 45-160 WH No. 09319

Length 800 mm
KWL 45-160 WH-L No. 09320
Ø 160 mm, plastic, incl. condensate wedge and 2 covers.

Soffit grille

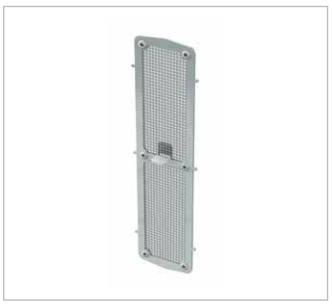
Made of stainless steel
KWL 45 LG No. 04167
External grille with integrated condensate drain and seal.
Dim. mm (H x W) 324 x 74

With additional coating
KWL 45 LG-B No. 04168
For use in environments with severe air pollution or high salt concentration in the air (near the coast).

With white coating
KWL 45 LG-W No. 04169

Facade panel
Made of stainless steel
KWL 45-160 FB-E No. 09321

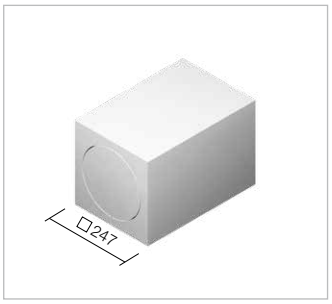
With additional coating
KWL 45-160 FB-B No. 09322
For use in environments with severe air pollution or high salt concentration in the air (near the coast).
With white coating
KWL 45-160 FB-W No. 09323



Insect screen
KWL 45 ISL No. 03004
Made of stainless steel.
For installation package soffit (KWL 45-160 LE-RP).
Suitable for retrofitting.
Dim. mm (H x W) 203 x 48

Facade panel DEEP
Made of stainless steel
KWL 45-160 FBT-E No. 09324
For installation in external wall thicknesses from 250 – 300 mm.

With additional coating
KWL 45-160 FBT-B No. 09326
For use in environments with severe air pollution or high salt concentration in the air (near the coast).
With white coating
KWL 45-160 FBT-W No. 09340



Wall stone
Length 365 mm
KWL 45-160 WS No. 09302

Length 490 mm
KWL 45-160 WS-L No. 09306
Installation aid for brickwork.
Made of EPS, fire protection class B1.
Replaces the otherwise necessary core hole drilling.

Control set UP
KWL 45 STS-UP No. 03006
Consists of control element KWL 45 BEU and switching power supply KWL 45 SNU for installation in flush-mounted box. Allows the connection of up to 6 units. In case of more than 6 units, an additional KWL 45 SNU is required. Max. 8 units per control element.

Switching power supply UP
KWL 45 SNU No. 03008
For extending the control set KWL 45 STS-UP from 6 to 8 units.
Input 230 V AC, 50/60 Hz. output 12 V DC / 1.9 A for flush-mounted installation in insulated wall.
Output voltage according to SELV protection class 3.

Casing for surface installation
KWL-APG No. 04270

Extension module
KWL 45 EM No. 03012
For the combined operation of an extract air system, e.g. according to DIN 18017, pt. 3 with KWL EC 45-160 (combined ventilation).

Reference
A flush-mounted box (depth 61 mm) is required for the control element KWL 45 BEU and for each installed switching power supply KWL 45 SNU.
Control element (w/o adapter)
KWL 45 BEU No. 03041

Control set HS
KWL 45 STS-HS No. 03007
Consists of control element KWL 45 BEU and switching power supply KWL 45 SNH for top-hat rail (2 pcs). Allows the connection of up to 4 units. In case of more than 4 units, an additional KWL 45 SNH is required. Max. 8 units per control element.

Switching power supply HS
KWL 45 SNH No. 03001
For extending the control set KWL 45 STS-HS from 4 to 8 units.
Input 230 V AC, 50/60 Hz.
Output 12 V DC / 1.5 A for installation in distribution box (2 pcs). Output voltage according to SELV protection class 3.

Room sensor
HY 3 No. 01359
With internal scale
HY 3 SI No. 01360
Electromechanical humidity controller for connection to the external contact of the control element. For surface installation. Function type can be adjusted using Helios software or control element.
Attention: Parallel use with KWL-EM is not possible.

* The element must always be overinsulated. It is not suitable for insulation thicknesses ≤ 10 cm and must not be installed in this case.

Wall installation unit with heat recovery for single rooms, with air flow rates up to approx. 60 m³/h

KWL EC 60

Efficiency class

A KWL EC 60 Pro with additional room sensor

KWL EC 60 Pro FF

B KWL EC 60 Eco / Pro

EC

Installation example KWL EC 60

Compact wall installation unit with heat recovery for the supply and extract ventilation of individual rooms. KWL EC 60 is a convincing solution for a comfortable indoor climate and energy savings in individual rooms. Ideal for bringing existing building structures up to the legally required EnEV standard during renovation. KWL EC 60 ventilates small and large individual rooms. The installation of multiple units is recommended for a medium-sized residential unit.

Ideal for renovation due to simple installation
KWL EC 60 is the optimal renovation solution, even for retrofitted installations. The intake air connection is simply through a core hole in the external wall, in which the wall sleeve is inserted.
This simply takes place during the facade renovation. The openings are closed by two building protection covers. The elegant stainless steel outer facade is installed upon completion of plastering. The desired unit is inserted into the wall sleeve and electrically connected in the course of the interior work. Only the elegant facade can be seen on the room side, the front of which is completely closed. Thus, the KWL EC 60 blends discreetly into any room environment and bothersome dirt deposits on ventilation grilles are a thing of the past.

Aluminium plate heat exchanger with a heat recovery efficiency of over 70 %
The KWL EC 60 saves expensive heating energy due to the efficient and large-dimensioned aluminium plate heat exchanger with a heat recovery efficiency of over 70 %.

ECgreenVent by Helios
Particularly energy-saving ventilation units with EC technology, such as Helios KWL EC 60, are marked with the ECgreenVent label. KWL EC 60 allows the demand-dependent supply and extract ventilation of individual rooms with heat recovery; multiple units can be independently controlled. Adjustment is not necessary.

Functionality of the KWL EC 60 ventilation with heat recovery
Two highly efficient direct current EC fans ensure a uniform air exchange. Contaminants, odours and the stale room air is moved outside, and fresh, preheated air is supplied to the room.
The heat is transferred from the stale extract air to the fresh supply air in the large aluminium plate heat exchanger, whereby both airflows remain separate.

Delivery / scope of order
Designed for the installation steps, the following elements can be ordered separately:

- **Installation kit**

KWL 60 RS	No. 00708
KWL 60 RS-B	No. 01961

Consists of wall sleeve (349 mm long), two building protection covers, outer facade and deflector plate made of stainless steel (type RS-B with additional coating*).

- **Unit optionally available in Eco or Pro version.**

** The external components, such as facade panel, spacer frames and protection grille, are made of high-quality stainless steel.*
Alternatively available in coated version (types -B) for use in environments with severe air pollution or high salt concentration in the air (near the coast).

Common features Eco and Pro

Heat exchanger
Large aluminium plate heat exchanger with a heat recovery efficiency of over 70 %.

Air delivery
Two highly efficient direct current EC fans ensure a uniform air exchange.

Condensate drain
Condensate is drained outside directly via the deflector plate on the external cover.

Air filters
Two efficient air filters (class G4[3]) in the supply air and extract airflow guarantee the best air purity. An F7 pollen filter[4] on the supply air side is optional.

ECO

KWL EC 60 Eco
The economical solution with a favourable price / performance ratio for all applications.

Unit Eco

KWL EC 60 Eco	No. 09950

Consists of inner facade made of high-quality plastic with an integrated, three-step control element.

Power control
Three-step operation via the control element integrated in the inner facade (can be placed at the top or bottom by rotating the facade 180°).
0 position via on-site off-switch.

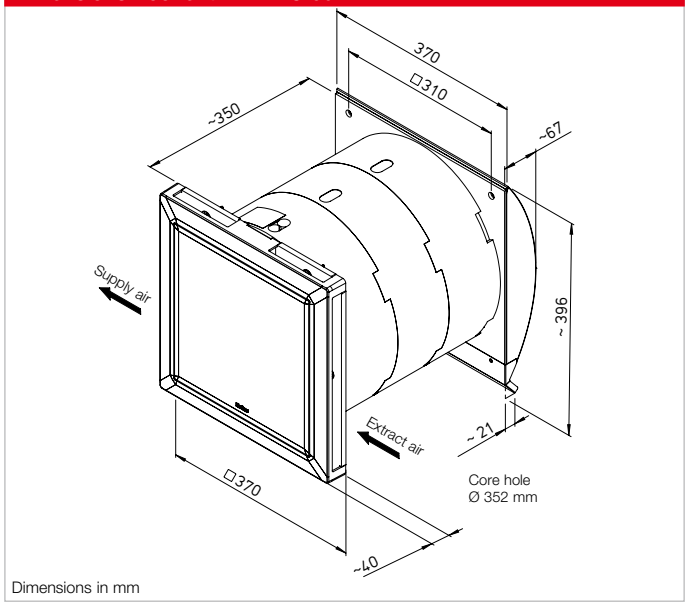
Electrical connection
Via screwless terminals.

Technical Data

Unit [1]	**KWL EC 60 Eco** [1]		Ref. no. 09950
Flow rate at level [2]	❸	❷	❶
supply air/extract air $\dot{V}$ m³/h	60	30	17
Noise dB(A) radiation L_{PA} at 3 m	30	22	18
Power consumption Fans 2xW	4	2	1
Standard sound level diff. $D_{n,e,w}$ dB	39 – 41		
Voltage/Frequency	230 V~, 50 Hz		
Rated current A	0.05		
Protection category IP	X4		
Electrical supply line	NYM-J 3 x 1.5 mm²		
Wiring diagram no.	949		
Temperature operating range	– 20 °C to + 40 °C		
Weight approx. kg	6.5		

[1] The required installation kit (types KWL 60 RS) must be ordered separately (see above for details).
[2] Volume reduction of approx. 10 % when using pollen filters.
[3] G4 = ISO coarse 60%. [4] F7 = ISO ePM2.5 65%.

Dimensions EcoVent KWL EC 60



Dimensions in mm

PRO

KWL EC 60 Pro / Pro FF
Meets even the highest comfort requirements with many useful functions.

Unit Pro

KWL EC 60 Pro No. 09951

Consists of inner facade made of high-quality plastic and comfort control element (KWL-BCU, 1 pc. included in delivery). See right for details.

Unit Pro FF

KWL EC 60 Pro FF No. 09957

Like KWL EC 60 Pro, but with additional integrated humidity sensor for demand-dependent ventilation. The humidity values can be adjusted.

Leistungsregelung

The comfort control element with graphic display and user-friendly menu navigation, which is included in the delivery, enables the following functions:

- ☐ Four-step manual operation or with digital weekly timer.
- ☐ Control via intelligent CO_2 sensors (accessories, connection of up to 4 pcs. possible.)
- ☐ Supply air/extract air operation individually switchable.
- ☐ Party mode, intensive ventilation.
- ☐ Indication of necessary filter replacement, operating status, operating hours, error messages.
- ☐ Multiple units can be controlled via one control element.
- ☐ Multiple control elements can be connected to one unit.

Shutters

In case of absence (holiday) or standstill periods, two airtight shutters will close outwards or one airtight shutter will close in case of supply air or extract air operation.

Electrical connection

Via plug-in coupling (included in delivery.)

Technical data				
Unit [1] – incl. humidity sensor	**KWL EC 60 Pro** [1] Ref. no. 09951 **KWL EC 60 Pro FF** [1] Ref. no. 09957			
Flow rate at level [2] Supply/extract air V̇ m³/h	❹ 60	❸ 45	❷ 30	❶ 17
Noise dB(A) Radiation L_{PA} at 3 m	30	29	22	18
Power consumption Fans 2xW	4	3	2	1
Standard sound level diff. $D_{n,e,w}$ dB	39 – 41			
Voltage/Frequency	230 V~, 50 Hz			
Rated current A	0.06			
Protection category IP	X4			
Electrical supply line	NYM-J 3 x 1.5 mm²			
Wiring diagram no.	950			
Temperature operating range	– 20 °C to + 40 °C			
Weight approx. kg	6.5			

[1] The required installation kit (types KWL 60 RS) must be ordered separately (see above for details).
[2] Volume reduction of approx. 10 % when using pollen filters.

Delivery / scope of order

Designed for the installation steps, the following elements can be ordered separately:

☐ **Installation kit**

KWL 60 RS	No. 00708
KWL 60 RS-B	No. 01961

As described on the left.

☐ **Unit optionally available in Eco or Pro version.**

Common accessories

Wall sleeve extension

KWL 60 WV No. 00884

For wall thicknesses from 349 to 571 mm. Can be optionally shortened or connected, 111 mm long, with separator.

Sound insulation set

KWL 60 SDS No. 03059

Consists of sound insulation frame and matting, white, 100 mm deep. Noise reduction up to 6 dB.

Spacer frame

KWL 60 DR	No. 00888
KWL 60 DR-B	No. 01962

External stainless steel frame, 100 mm deep, with separator. For wall thicknesses from 249 to 349 mm.

Protection grille

KWL 60 SG	No. 09978
KWL 60 SG-B	No. 09976

Made of stainless steel (2 pcs.), for side attachment to outer facade.

PRO

Accessories for KWL EC 60 Pro

Control element (additional)

KWL-BCU (unterputz) No. 09955

Dim. mm (WxHxD) 80x80x37

Display and function as described on the left. 1 KWL-BCU included in delivery. Connection of up to 4 pcs. possible. Delivery incl. 3 m connection cable.

KWL-BCA (surface) No. 09956

Dim. mm (WxHxD) 83x83x51

Casing for surface installation

KWL-APG No. 04270

Dim. mm (WxHxD) 83x83x41

Room sensor

KWL EC-CO2 No. 09988

For detecting the CO_2 concentration in the room air. Controls the ventilation unit in all 4 levels so that the CO_2 content remains below the respective setpoint. Delivery incl. 3 m connection cable. Up to 4 pcs. can be connected. When using multiple sensors, control according to the highest measured value.

Dim. mm (WxHxD) 95 x 97 x 30

Connection cable

KWL-SL 6/5 (5 m)	No. 09980
KWL-SL 6/10 (10 m)	No. 09444
KWL-SL 6/20 (20 m)	No. 09959

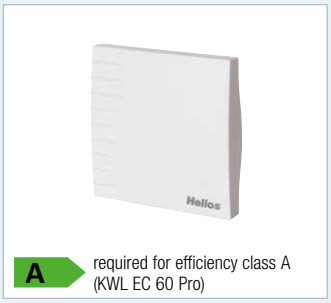
For distances > 3 m, with 2 RJ 12 plugs. For connection between control element and KWL EC 60 Pro or between multiple units.

Installation kit essential for unit installation.

Replacement air filter

– 2 pcs. G4 filter [3]
ELF-KWL 60/4/4 No. 09445

– 2 pcs. F7 filter [4]
ELF-KWL 60/7/7 No. 09446



required for efficiency class A (KWL EC 60 Pro)

Connection cable branch

KWL-ALA No. 09960

For the connection of additional units or control elements and accessory components (1 pc. always required) which are not included in the delivery.

Central domestic ventilation **with heat recovery.**

A central KWL system with heat recovery from Helios fully ensures continuous ventilation for humidity protection pursuant to DIN 1946-6, regardless of user behaviour.

The required minimum air exchange is also automatically ensured around the clock.

How it works:
The KWL system heat exchanger continuously absorbs the heat from the stale room air and transfers it to the fresh intake air, which creates a healthy comfortable atmosphere in all rooms as preheated and filtered supply air. The heat recovery and particularly energy-saving EC fan technology reduces heating costs by up to a third.

Pollutants stay outside and contaminated room air is efficiently exchanged in a controlled manner.

Helios KWL added value.
The universal, perfectly matched Helios KWL system solutions guarantee simple planning, secure installation and maximum efficiency.

CERTIFIED COMPONENT Passive House Institute

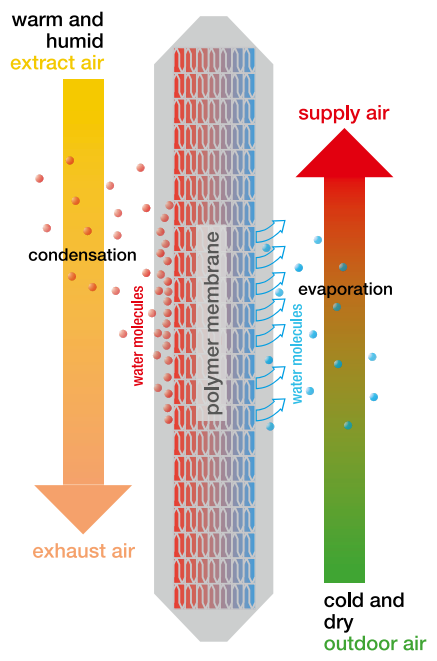
easy Controls 3.0

GERMAN DESIGN AWARD SPECIAL 2016

Enthalpy heat exchanger – ideal room air humidity, optimal climate.

KWL units with combined heat and humidity recovery by enthalpy exchanger provide for a comfortable, healthy room climate.

The relative room humidity in living areas should lie between 35 – 60 %. If the humidity is too low, mucous membranes will dry out, and electrostatic charges and dust levels in the air will build up. If the used air with a high absolute moisture content is replaced by fresh but dry air with a smaller absolute moisture content, the humidity in the room will decrease noticeably.



Ventilation units with enthalpy heat exchangers offer convincing advantages:

- Twofold benefit through energy-saving heat recovery and hygienic humidity recovery in the cold season.
- Humidity recovery from the extract air up to 70 %, depending on the indoor air humidity.

How the enthalpy heat exchanger works:

The water molecules in the extracted room air condense on contact with the surfaces of the enthalpy heat exchanger. They move through the membrane in a similar way to water movement in plants (osmosis).

The water molecules are absorbed by the dry outside air on the membrane surface on the supply air side.
The coated polymer-membrane on the enthalpy heat exchanger guarantees hygiene and efficiency in the humidity transmission process.

It ensures that the water retains its molecular configuration and does not enter the supply air flow as droplets. The extract and supply air flows are hermetically separated from each other, so that the transfer of organic particles or odours is excluded.

Wall installation "W"

Series "W"
Compact wall units up to 500 m³/h.

All models equipped with easyControls as standard and optional enthalpy exchanger.

easyControls 3.0

EC

26ff

Ceiling installation "D"

Series "D"
Ultra-flat units up to 2000 m³/h for space-saving ceiling installation.

With ultra-efficient heat exchanger, EC technology and passive house certificate:
KWL EC 220 D and 340 D with easyControls as standard.

easyControls 3.0

EC

38ff

Standing installation "S"

Series "S"
With air outputs up to 2600 m³/h, for floor-standing installation.

Ideal as central systems in residential, commercial and industrial applications. With ultra-efficient heat exchanger, EC technology and passive house certificate.

EC

48ff

Selection matrix

12f

Peripherals

66ff

Smart, intuitive and individual.

Helios KWL® with easyControls 3.0

Your needs – our solution:
With Helios easyControls 3.0, you can not only expect a new control generation, but also a new range with optimal flow rate capacity for unlimited applications and maximum energy efficiency.

The **new, intuitive control concept easyControls 3.0** can be easily adapted to the individual needs of residents and it can be manually controlled via the control element, internal web server or from any location via the Cloud as required. It‘s that simple!

Highlights:

- Smart touch control element in black and white, compatible with almost every switch range.
- Customised ventilation: adjustable weekly programme or fully automatically via room air quality sensors.
- Unit access via PC or Smartphone – also on the move via the new easyControls 3.0 Cloud.

This sets a new standard for a smart, modern control system. Or simply put: Helios easyControls 3.0.

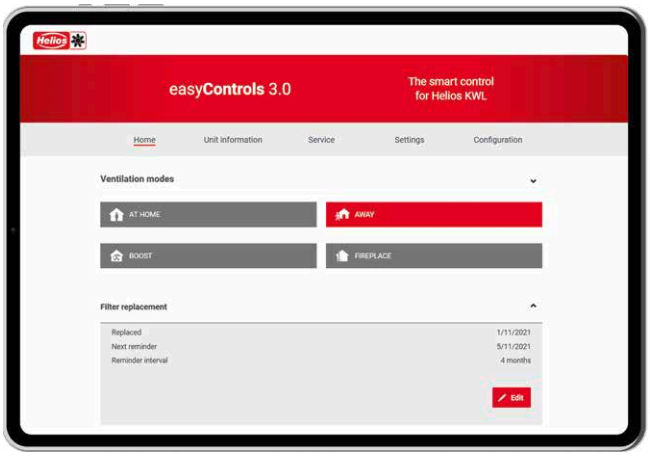
Modern and intuitive: The new touch control element:

The ventilation unit can be adapted to individual paces of life by creating a weekly programme and by selecting from four different ventilation profiles.

The dark mode always ensures the best readability – even at night thanks to its illuminated screen.

The control element can be integrated in common switch ranges and fits perfectly in any living environment.

The status of the selected ventilation profile, temperature and sensor values as well as filter replacement notifications can be viewed at any time.



Smart ventilation, simple control system

- Location-independent control of the KWL system via the integrated web server or with the easy-Controls Cloud, as required.
- Individual access rights through selectable profiles.
- Assistant-supported, fast commissioning.
- Practical and cost-effective remote maintenance when servicing.
- Smart integration in the existing building control system (KNX).

Customised ventilation for individual comfort

- The establishment of a personal weekly programme is possible.
- Individual configuration of up to four ventilation programmes.
- Compact overview of current status.

Functional principle

The control system with unlimited possibilities: Helios easyControls 3.0.

Controllable anywhere and at any time, whether at home or on the move.

Building control system

- ModBus interface (integrated)
- KNX-EIB module (optional)

Demand-controlled ventilation with sensors

- FTF rel. humidity (1x integrated)
- CO_2
- VOC mixed gas

Manual control elements

- Modern touch control element
- Discreet 3-level slide switch

Maximum flexibility in selecting the control elements

If no PC networks are available, or if manual access is preferred, easyControls can be controlled via a modern touch control element or a discreet slide switch.

- Touch control element in white or black
- 3-level switch in white

Fully automated ventilation with comfort room sensors in 3 versions

- Relative humidity sensor
- VOC sensor
- CO_2 sensor

Easy integration in the building control system

The KWL units can be easily integrated in a building control system network via the standard Modbus interface (RTU) or an optional KNX module.

Extension module for further comfort options

To control post-heating (either hot water or electric heating register) for additional supply air heating, e.g. in a passive house.

KWL 170 W

Efficiency class

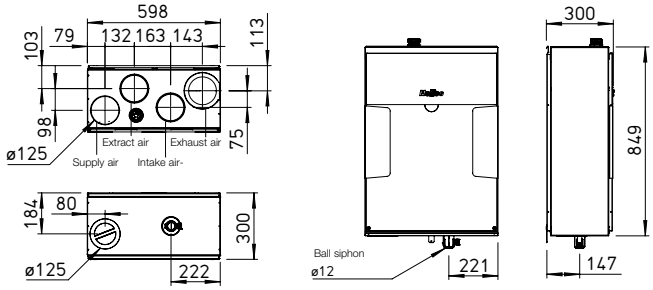
A+ KWL 170 W with additional room sensor

A KWL 170 W

easy Controls 3.0

EC

Dimensions KWL 170 W



All 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 EC fans for low energy consumption and highly efficient plastic or enthalpy heat exchangers 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 removeable 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 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 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 intake air supply via ISO Coarse 65 % (G4) filter and optional ISO ePM_1 50 % (F7) intake air filter (2nd filter stage). Equipped with an ISO Coarse 65 % (G4) filter before the heat exchanger on the extract air side. Simple filter maintenance possible 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 22 for functionality. Helios easyControls 3.0 is prepared for:
- ☐ The control elements KWL-BE ECO and KWL-BE Touch (optinal accessories)
- ☐ The humidity sensor integrated as standard and other optionally 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 170 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.
- 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 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.

References	Page
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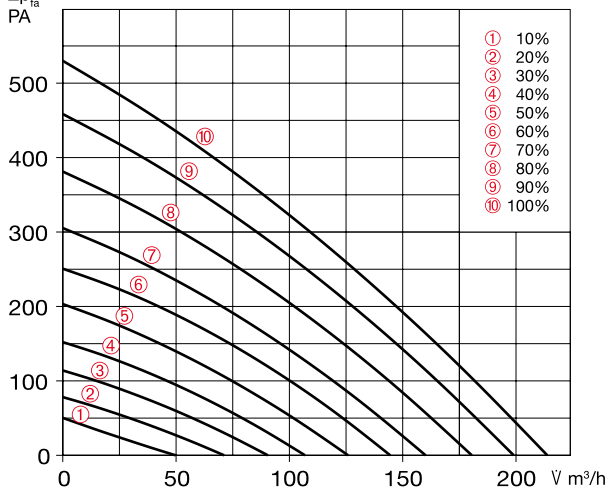
Moisture recovery through enthalpy heat exchangers	21

Characteristic curves KWL 170 W

Frequency*		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Extract air	dB(A)	48	39	42	43	42	34	25	20
L_{WA}	Supply air	dB(A)	58	46	50	52	53	50	46	34
L_{PA} at 1 m	Radiation	dB(A)	36	17	29	30	30	27	22	12



*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	With plastic heat exchanger Type				Ref. no.	With enthalpy heat exchanger Type				Ref. no.
	KWL 170 W				40043	KWL 170 W ET				40044
Flow rate at level [1) 2)]	❿	❽	❻	❹	❷	❿	❽	❻	❹	❷
Supply air/extract air V̇ m³/h	214	180	145	107	71	211	179	142	107	69
Power consumption fans 2xW [1)]	37	25	15	9	6	37	24	15	9	6
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 bis +40 °C (90% rel. humidity, non-condensin)									
Weight approx. kg	36					39				

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

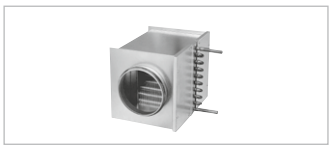
Electric preheater
KWL-EVH 170 W No. 00936
Electrical preheater for simple, plug-in unit installation. For preheating the intake air at very low outdoor temperatures (heat exchanger anti-icing protection). Mandatory for passive houses. Output: 1000 W.

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 (2 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



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

Replacement air filters
– 2 pcs. ISO Coarse 65% (G4)
ELF-KWL 170/4/4 No. 00951
– 1 pc. ISO ePM1 50% (F7)
ELF-KWL 170/7 No. 00965

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

Other accessories
	Page
KWL peripherals	66 ff.
– Ground heat exchanger	88 ff.
– Insulated duct system	78 f.
– Air distribution systems	80 ff.
– Control lines, etc.	84 f.
Heating element, control, ventilation grilles, ducts, roof outlets, extract air elements, design ventilation valves
Helios standard range

KWL 200 W

KWL 200 W R with accessories (pollen filter, KWL-EVH 200 W)

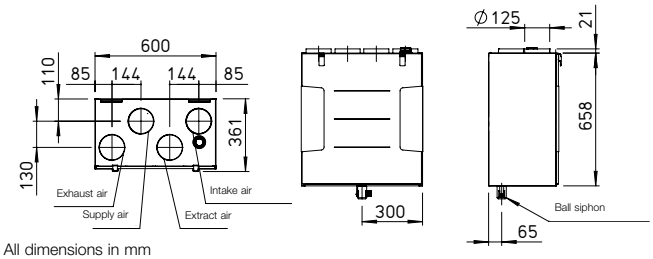
Efficiency class

A KWL 200 W R/L and 200 W ET R/L

easy Controls 3.0

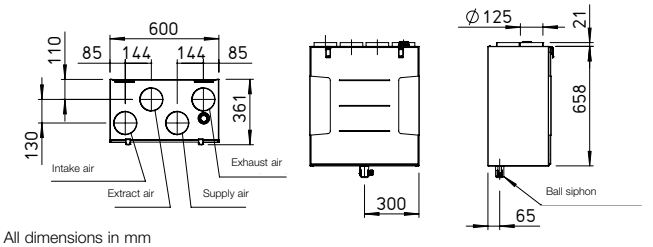
EC

Dimensions KWL 200 W R



All dimensions in mm

Dimensions KWL 200 W L



All 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 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 intake air supply via ISO Coarse 75 % (G4) filter and optional ISO ePM_1 50 % (F7) intake air filter (2nd filter stage). Equipped with an ISO Coarse 75 % (G4) filter before the heat exchanger on the extract air side.

■ **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 200 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 22 for functionality. Helios easyControls 3.0 is prepared for:
□ The control elements KWL-BE ECO and KWL-BE Touch (optinal accessories)
□ The humidity sensor integrated as standard and other optionally 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 200 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.
– 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 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.

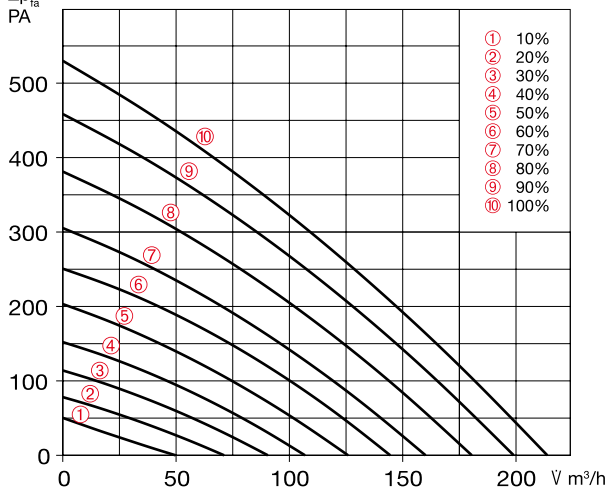
□ **Room sensors**
Room sensors, which measure the mixed gas, CO_2 concentration or relative room air humidity, are available for automatic operation and optimal air exchange.

□ **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.

■ References	Page
Helios easyControls The innovative KWL control concept	22 f.
Moisture recovery through enthalpy heat exchangers	21

Characteristic curves KWL 200 W

Frequency*		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Extract air	dB(A)	48	39	42	43	42	34	25	20
L_{WA}	Supply air	dB(A)	58	46	50	52	53	50	46	34
L_{PA} at 1 m	Radiation	dB(A)	36	17	29	30	30	27	22	12



*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 dim. 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	With plastic heat exchanger Type	Ref. no.	With enthalpy heat exchanger Type	Ref. no.
Right-hand version	KWL 200 W R	40045	KWL 200 W ET R	40047
Left-hand version	KWL 200 W L	40046	KWL 200 W ET L	40048

Flow rate at level [1) 2)]	❿	❽	❻	❹	❷	❿	❽	❻	❹	❷
Supply air/extract air V̇ m³/h	215	175	129	71	46	190	151	111	73	39
Power consumption fans 2xW [1)]	40	26	16	8	5	40	26	16	8	5

Voltage/Frequency	1~, 230 V, 50 Hz
Rated current A – ventilation	1.2
– preheating	4.4
– max. total	1.2 (5.6 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	37 / 41

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 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 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 1.2/125 Ref. no. 09433

Rectangular duct temp. sensor

KWL-LTK eC (2 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

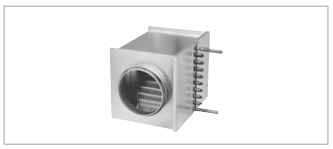
Hydraulic unit

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

Alternative:

Air temperature control

WHST 300 T38 Ref. no. 08817



Replacement air filters

– 2 pcs. ISO Coarse 75% (G4)
ELF-KWL 200/4/4 No. 00021
– 1 pc. ISO ePM1 50% (F7)
ELF-KWL 200/7 No. 00038
– 1 pc. ISO ePM2.5 60% (AK)[3)]
ELF-KWL 200 AK No. 04198

Reference

Enthalpy heat exchanger (accessories) for retrofitting:
KWL-ET 200 No. 00896

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	66 ff.
– Ground heat exchanger	88 ff.
– Insulated duct system	78 f.
– Air distribution systems	80 ff.
– Control lines, etc.	84 f.

Heating element, control, ventilation grilles, ducts, roof outlets, extract air elements, design ventilation valves

Helios standard range

KWL 250 W

Efficiency class

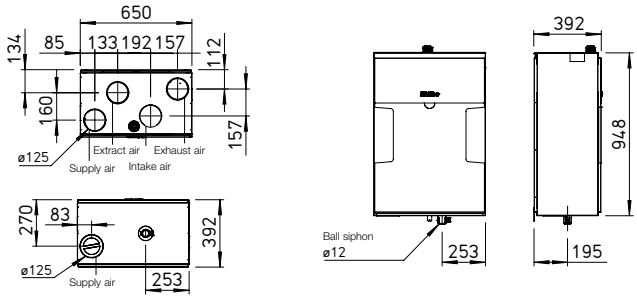
A+ KWL 250 W with additional room sensor

A KWL 250 W

easy Controls 3.0

EC

Dimensions KWL 250 W



All dimensions in mm

Compact unit with heat recovery for the central supply and extract ventilation of residential units up to 190 m². 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
Universal casing concept: Intake air left/right, supply air top or bottom.
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 removeable front panels. Delivery state: Intake air on the right.

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 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 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 intake air supply via ISO Coarse 65 % (G4) filter and optional ISO ePM_1 50 % (F7) intake air filter (2nd filter stage). Equipped with an ISO Coarse 65 % (G4) filter before the heat exchanger on the extract air side. Simple filter maintenance possible 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 250 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 22 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, -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 250 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.
- 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 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.

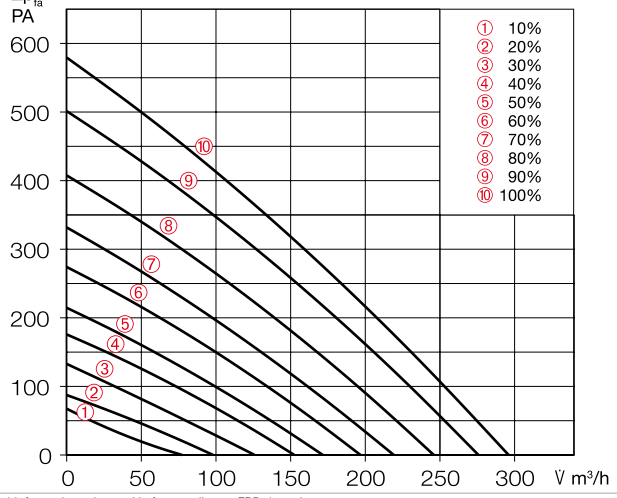
Room sensors
Room sensors, which measure the mixed gas, CO_2 concentration or relative room air humidity, are available for automatic operation and optimal air exchange.

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.

References	Page
Helios easyControls The innovative KWL control concept	22 f.
Moisture recovery through enthalpy heat exchangers	21

Characteristic curves KWL 250 W

Frequency*		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Extract air	dB(A)	45	35	42	40	33	27	19	20
L_{WA}	Supply air	dB(A)	59	45	58	52	50	46	35	28
L_{PA} at 1 m	Radiation	dB(A)	32	19	25	27	26	23	14	12



*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	With plastic heat exchanger Type				Ref. no.	With enthalpy heat exchanger Type				Ref. no.
	KWL 250 W				40149	KWL 250 W ET				40150
Flow rate at level [1) 2)]	❿	❽	❻	❹	❷	❿	❽	❻	❹	❷
Supply air/extract air V̇ m³/h	296	246	197	153	98	302	246	197	154	103
Power consumption fans 2xW [1)]	51	33	20	13	7	52	32	22	13	8
Voltage/Frequency	1~, 230 V, 50 Hz									
Rated current A – ventilation	1,5									
– preheating	4,4									
– max. total	1.5 (5.9 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	43					47				

[1)] At 0 Pa, performance levels adjustable. [2)] Volume reduction by approx. 10 % when using pollen 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 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 250 W No. 40157

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 (2 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

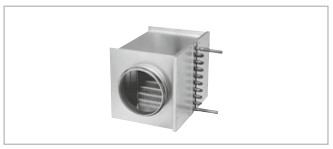
Hydraulic unit

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

Alternative:

Air temperature control

WHST 300 T38 Ref. no. 08817



Replacement air filters

– 2 pcs. ISO Coarse 65% (G4)
ELF-KWL 250/2xCoarse65%
Ref. no. 40151

– 1 pc. ISO ePM1 50% (F7)
ELF-KWL 250/ePM1 50%
Ref. no. 40152

– 1 pc. Activated carbon filter
ELF-KWL 250 AK No. 40153

Reference

Enthalpy heat exchanger (accessories) for retrofitting:
KWL-ET 250 Nr. 40159

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	66 ff.
– Ground heat exchanger	88 ff.
– Insulated duct system	78 f.
– Air distribution systems	80 ff.
– Control lines, etc.	84 f.

Heating element, control, ventilation grilles, ducts, roof outlets, extract air elements, design ventilation valves

Helios standard range

KWL 300 W

KWL 300 W R with accessories (pollen filter, KWL-EVH 300 W)

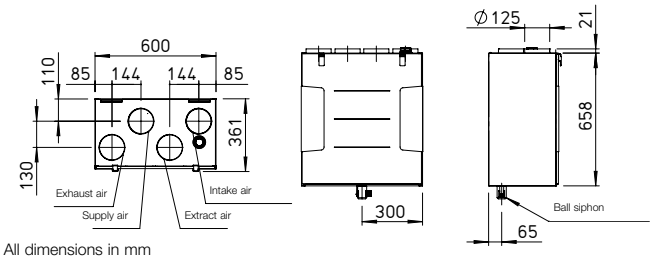
Efficiency class

A KWL 300 W R/L and 300 W ET R/L

easy Controls 3.0

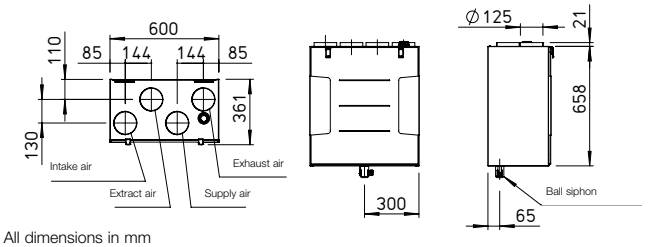
EC

Dimensions KWL 300 W R



All dimensions in mm

Dimensions KWL 300 W L



All dimensions in mm

Compact units 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 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 intake air supply via ISO Coarse 75 % (G4) filter and optional ISO ePM_1 50 % (F7) intake air filter (2nd filter stage). Equipped with an ISO Coarse 75 % (G4) filter before the heat exchanger on the extract air side.

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 300 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 22 for functionality. Helios easyControls 3.0 is prepared for:
- The control elements KWL-BE ECO and KWL-BE Touch (optinal accessories)
- The humidity sensor integrated as standard and other optionally 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 300 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.
- 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 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.

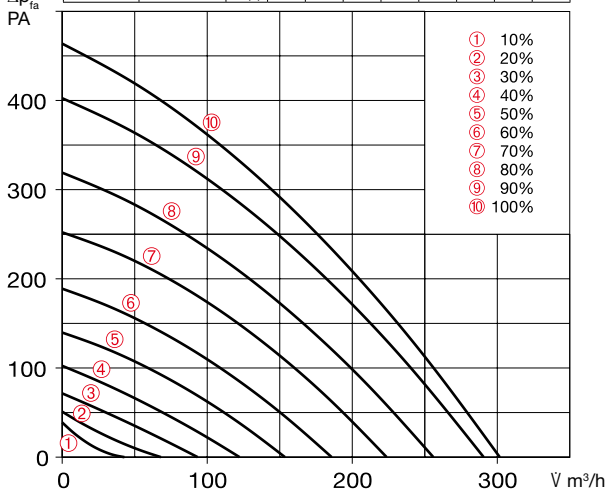
Room sensors
Room sensors, which measure the mixed gas, CO_2 concentration or relative room air humidity, are available for automatic operation and optimal air exchange.

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.

References	Page
Helios easyControls The innovative KWL control concept	22 f.
Moisture recovery through enthalpy heat exchangers	21

Characteristic curves KWL 300 W

Frequency*		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Extract air	dB(A)	53	51	48	41	41	37	27	21
L_{WA}	Supply air	dB(A)	52	49	47	43	44	36	28	22
L_{PA} at 1 m	Radiation	dB(A)	38	31	30	29	34	31	19	13



*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	With plastic heat exchanger Type	Ref. no.	With enthalpy heat exchanger Type	Ref. no.
Right-hand version	**KWL 300 W R**	40049	**KWL 300 W ET R**	40051
Left-hand version	**KWL 300 W L**	40050	**KWL 300 W ET L**	40052

Flow rate at level [1) 2)]	❿	❽	❻	❹	❷	❿	❽	❻	❹	❷
Supply air/extract air V̇ m³/h	302	255	186	122	68	271	216	161	107	56
Power consumption fans 2xW [1)]	84	54	27	13	6	86	54	27	13	7
Voltage/Frequency	1~, 230 V, 50 Hz									
Rated current A – ventilation	2.0									
– preheating	4.4									
– max. total	2.0 (6.4 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	37					41				

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 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 300 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 1.2/125 Ref. no. 09433

Rectangular duct temp. sensor

KWL-LTK eC (2 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

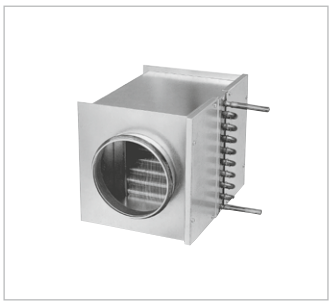
Hydraulic unit

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

Alternative:

Air temperature control

WHST 300 T38 Ref. no. 08817



Replacement air filters

– 2 pcs. ISO Coarse 75% (G4)
ELF-KWL 300/4/4 No. 00021
– 1 pc. ISO ePM1 50% (F7)
ELF-KWL 300/7 No. 00038
– 1 pc. ISO ePM2.5 60% (AK)[3)]
ELF-KWL 300 AK No. 04198

Circular duct connector

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

Reference

Enthalpy heat exchanger (accessories) for retrofitting:
KWL-ET 300 No. 00896

KWL 360 W

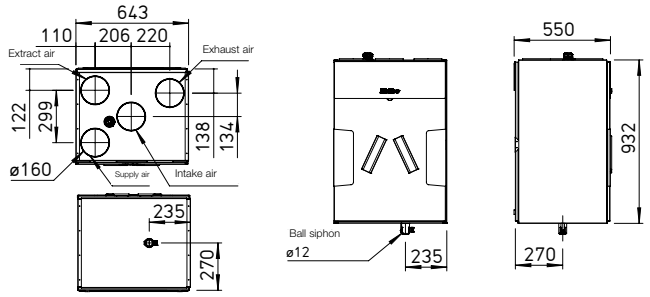
Efficiency class

A+ KWL 360 W

easy Controls 3.0

EC

Dimensions KWL 360 W



All dimensions in mm

CERTIFIED COMPONENT Passive House Institute

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
Universal casing concept: Intake air and exhaust air side left/right, with integrated sound insulation. Made of galvanised sheet steel with sound and heat insulation, powder-coated in white. The intake air and exhaust air connection can be on the left or right side. Maintenance-friendly access to all unit components through removable front panel. Delivery condition: Intake air and exhaust air side on the right.

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 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 intake air supply via ISO Coarse 65 % (G4) filter and optional ISO ePM_1 50 % (F7) intake air filter (2nd filter stage). Equipped with an ISO Coarse 65 % (G4) filter before the heat exchanger on the extract air side. Simple filter maintenance possible 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 360 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 22 for functionality. Helios easyControls 3.0 is prepared for:
- The control elements KWL-BE ECO and KWL-BE Touch (optinal accessories)
- The humidity sensor integrated as standard and other optionally 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 360 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.
- 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 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..

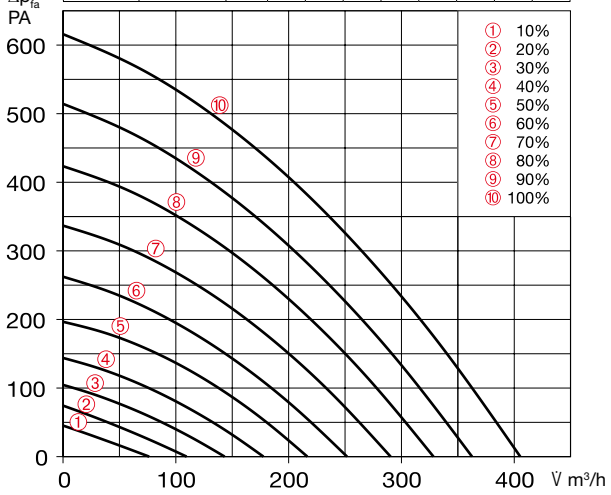
Room sensors
Room sensors, which measure the mixed gas, CO_2 concentration or relative room air humidity, are available for automatic operation and optimal air exchange.

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.

References	Page
Helios easyControls The innovative KWL control concept	22 f.
Moisture recovery through enthalpy heat exchangers	21

Characteristic curves KWL 360 W

Frequency*		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Extract air	dB(A)	49	39	48	35	28	20	18	20
L_{WA}	Supply air	dB(A)	58	40	56	50	47	42	27	21
L_{PA} at 1 m	Radiation	dB(A)	31	16	30	18	13	14	12	12



*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	With plastic heat exchanger Type				Ref. no.	With enthalpy heat exchanger Type				Ref. no.
	KWL 360 W				40061	KWL 360 W ET				40062
Flow rate at level [1) 2)]	❶❶	❶❸	❶❻	❶❹	❷❷	❶❶	❶❸	❶❻	❶❹	❷❷
Supply air/extract air V̇ m³/h	405	328	252	178	110	403	332	264	192	121
Power consumption fans 2xW [1)]	51	30	17	10	6	45	28	16	9	5
Voltage/Frequency	1~, 230 V, 50 Hz									
Rated current A – ventilation	0.5									
– preheating	6.3									
– max. total	0.5 (6.8 incl. preheater, accessories)									
Electric preheater kW	1.5 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	72					70				

[1)] At 0 Pa, performance levels adjustable. [2)] Volume reduction by approx. 10% when using pollen 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 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 360 W No. 07360

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: 1500 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 (2 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

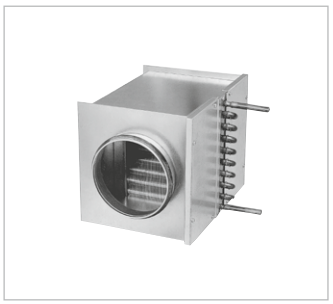
Hydraulic unit

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

Alternative:

Air temperature control

WHST 300 T38 Ref. no. 08817



Replacement air filters

– 2 pcs. ISO Coarse 65% (G4)
ELF-KWL 360/4/4 No. 07371
– 1 pc. ISO ePM1 50% (F7)
ELF-KWL 360/7 No. 07375
– 1 pc. Activated carbon filter
ELF-KWL 360 AK No. 08129

Circular duct connector

Connector with seal for unit connection to circular duct system with Ø 160 mm.
RVBD 160 K No. 03415

Reference

Enthalpy heat exchanger (accessories) for retrofitting:
KWL-ET 360 No. 07354

KWL 500 W

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

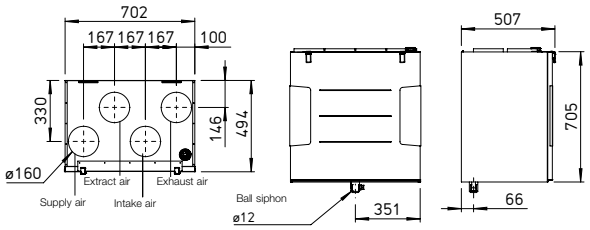
Efficiency class

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

easy Controls 3.0

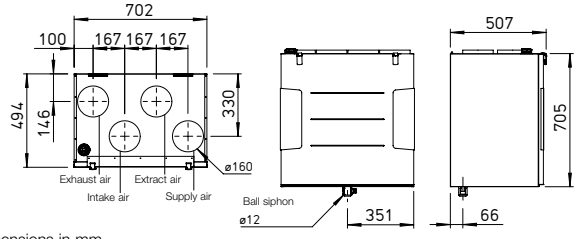
EC

Dimensions KWL 500 W R



All dimensions in mm

Dimensions KWL 500 W L



All 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 intake air supply via ISO Coarse 75 % (G4) filter and optional ISO ePM_1 50 % (F7) intake air filter (2nd filter stage). Equipped with an ISO Coarse 75 % (G4) filter before the heat exchanger on the extract air side.

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 22 for functionality. Helios easyControls 3.0 is prepared for:
- The control elements KWL-BE ECO and KWL-BE Touch (optinal accessories)
- The humidity sensor integrated as standard and other optionally 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 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.
- 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 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.

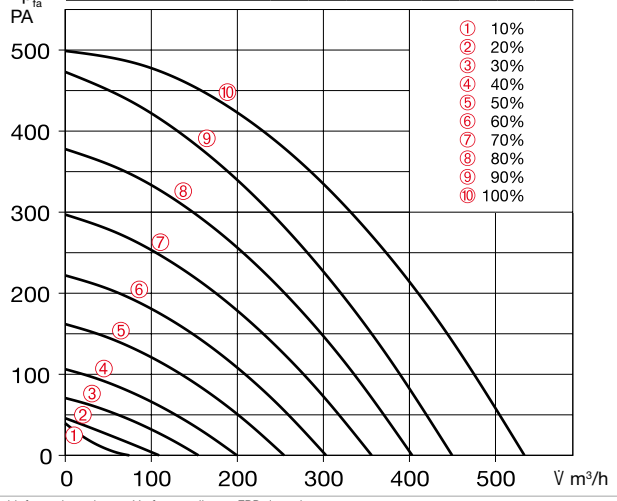
Room sensors
Room sensors, which measure the mixed gas, CO_2 concentration or relative room air humidity, are available for automatic operation and optimal air exchange.

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.

References	Page
Helios easyControls The innovative KWL control concept	22 f.
Moisture recovery through enthalpy heat exchangers	21

Characteristic 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.

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)]	❿	❽	❻	❹	❷	❿	❽	❻	❹	❷
Supply air/extract air V̇ m³/h	534	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				

[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.

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 500 W No. 04262

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 (2 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

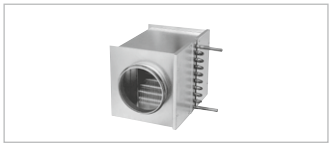
Hydraulic unit

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

Alternative:

Air temperature control

WHST 300 T38 Ref. no. 08817



Replacement air filters

– 2 pcs. ISO Coarse 75% (G4)
ELF-KWL 500/4/4 No. 00039
– 1 pc. ISO ePM1 50% (F7)
ELF-KWL 500/7 No. 00042
– 1 pc. ISO ePM2.5 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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KWL peripherals	66 ff.
– Ground heat exchanger	88 ff.
– Insulated duct system	78 f.
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– Control lines, etc.	84 f.

Heating element, control, ventilation grilles, ducts, roof outlets, extract air elements, design ventilation valves

Helios standard range

KWL 220 D

Efficiency class

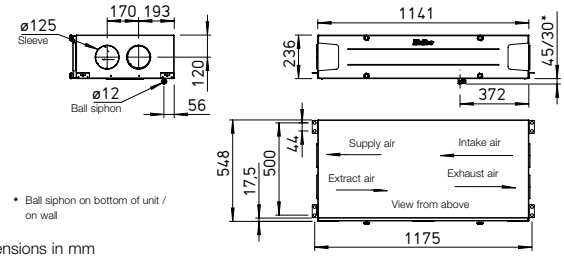
A+ KWL 220 D R/L with additional room sensor

A KWL 220 D R/L

easy Controls 3.0

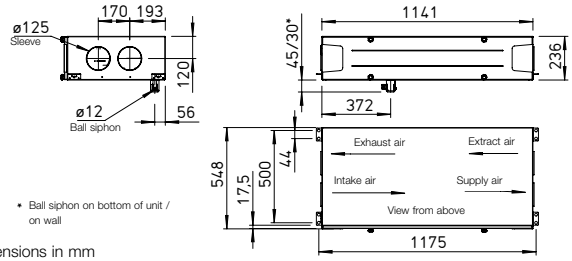
EC

Dimensions KWL 220 D R



All dimensions in mm

Dimensions KWL 220 D L



All dimensions in mm

CERTIFIED COMPONENT
Passive House Institute

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, 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 removeable 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 removeable 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 intake air supply via ISO Coarse 75 % (G4) filter and optional ISO ePM_1 50 % (F7) intake air filter (2nd filter stage). Equipped with an ISO Coarse 75 % (G4) filter before the heat exchanger on the extract air side.

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 22 f. Helios easyControls 3.0 is prepared for:

- ☐ The control elements KWL-BE ECO and KWL-BE Touch (optinal accessories)
- ☐ The humidity sensor integrated as standard and other optionally 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 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.

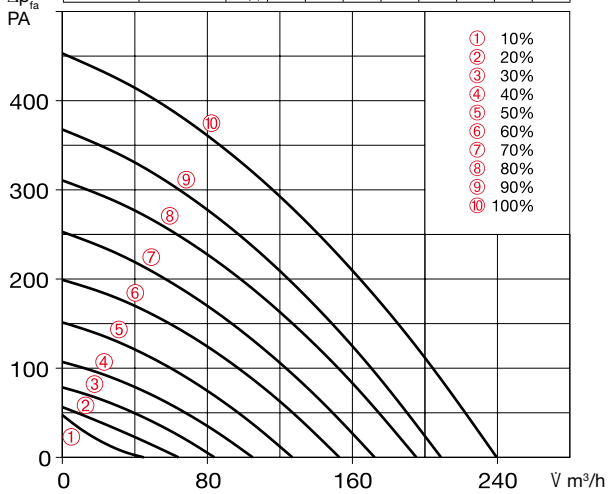
☐ **Room sensors**
Room sensors, which measure the mixed gas, CO_2 concentration or relative room air humidity, are available for automatic operation and optimal air exchange.

☐ **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.

References	Page
Helios easyControls The innovative KWL control concept	22 f.

Characteristic curves KWL 220 D

Frequency*		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Extract air	dB(A)	57	48	53	53	45	39	27	20
L_{WA}	Supply air	dB(A)	72	59	65	68	65	58	50	36
L_{PA} at 1 m	Radiation	dB(A)	41	22	35	39	31	23	18	12



*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 **Left-hand version**	**KWL 220 D R** **KWL 220 D L**		Ref. no. 40057 Ref. no. 40058		
Flow rate at level [1) 2)] Supply air/extract air V̇ m³/h	❿ 240	❽ 195	❻ 153	❹ 105	❷ 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 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

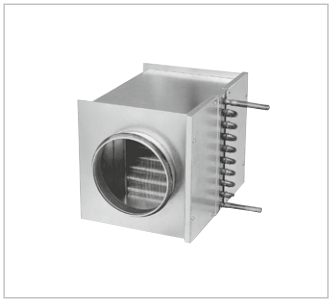
Electric preheater
KWL-EVH 220 D No. 09636
Electrical preheater for simple, plug-in unit installation. For preheating the intake air at very low outdoor temperatures (heat exchanger anti-icing protection). Mandatory for passive houses. Output: 1000 W.

Extension module
KWL-EM eC Ref. no. 40155
For controlling external post-heating elements.
Dim. mm (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 (2 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



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 ePM2,5 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
Other accessories	Page
KWL peripherals	66 ff.
– Ground heat exchanger	88 ff.
– Insulated duct system	78 f.
– Air distribution systems	80 ff.
– Control lines, etc.	84 f.
Heating element, control, ventilation grilles, ducts, roof outlets, extract air elements, design ventilation valves
Helios standard range

KWL 340 D

Efficiency class

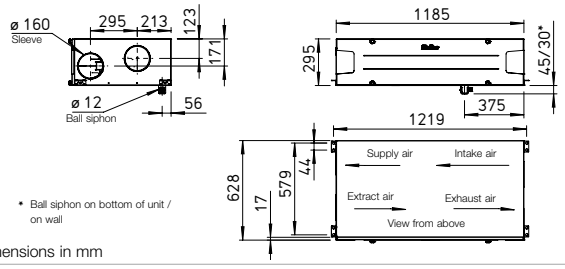
A+ KWL 340 D R/L with additional room sensor

A KWL 340 D R/L

easy Controls 3.0

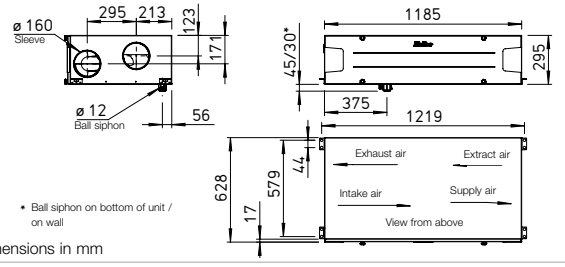
EC

Dimensions KWL 340 D R



All dimensions in mm

Dimensions KWL 340 D L



All dimensions in mm

Ultra-flat ceiling units with heat recovery for the central supply and extract ventilation of apartments and small single family houses. Equipped with Helios easyControls, 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 removeable 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 removeable for cleaning, if required.

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 intake air supply via ISO Coarse 75 % (G4) filter and optional ISO ePM_1 50 % (F7) intake air filter (2nd filter stage). Equipped with an ISO Coarse 75 % (G4) filter before the heat exchanger on the extract air side.

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 340 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 22 f. Helios easyControls 3.0 is prepared for:

- ☐ The control elements KWL-BE ECO and KWL-BE Touch (optinal accessories)
- ☐ The humidity sensor integrated as standard and other optionally 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 340 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 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.

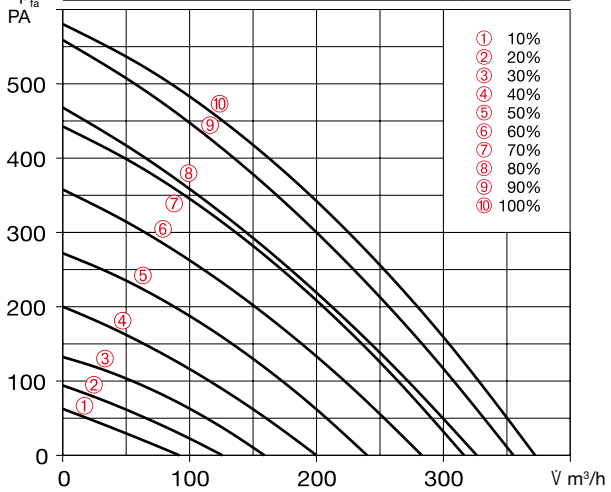
☐ **Room sensors**
Room sensors, which measure the mixed gas, CO_2 concentration or relative room air humidity, are available for automatic operation and optimal air exchange.

☐ **Post-heating**
Helios easyControls3 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.

References	Page
Helios easyControls The innovative KWL control concept	22 f.

Characteristic curves KWL 340 D

Frequency*		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Extract air	dB(A)	58	50	55	52	47	43	29	22
L_{WA}	Supply air	dB(A)	75	64	72	70	67	61	50	44
L_{PA} at 1 m	Radiation	dB(A)	48	26	43	45	38	30	25	17



*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 340 D R/L		For ceiling installation		
Right-hand version **Left-hand version**	**KWL 340 D R** **KWL 340 D L**		Ref. no. 40059 Ref. no. 40060		
Flow rate at level [1) 2)] Supply air/extract air V̇ m³/h	❿ 372	❽ 326	❻ 283	❹ 200	❷ 126
Power consumption fans 2xW [1)]	79	56	40	20	10
Voltage/Frequency	1~, 230 V, 50 Hz				
Rated current A – ventilation	1.2				
– preheating	5.6				
– max. total	1.2 (6.8 incl. preheater, accessories)				
Electric preheater kW	1.3 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	77				

[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 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 340 D No. 04241

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: 1280 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 (2 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

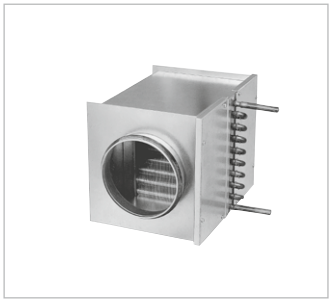
Hydraulic unit

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

Alternative:

Air temperature control

WHST 300 T38 Ref. no. 08817



Replacement air filters

– 2 pcs. ISO Coarse 75% (G4)
ELF-KWL 340 D/4/4 No. 04239
– 1 pc. ISO ePM1 50% (F7)
ELF-KWL 340 D/7 No. 04240
– 1 pc. ISO ePM2,5 60% (AK)[3)]
ELF-KWL 340 AK No. 03051

Circular duct connector

Connector with seal for unit connection to circular duct system with Ø 160 mm.
RVBD 160 K No. 03415

Other accessories

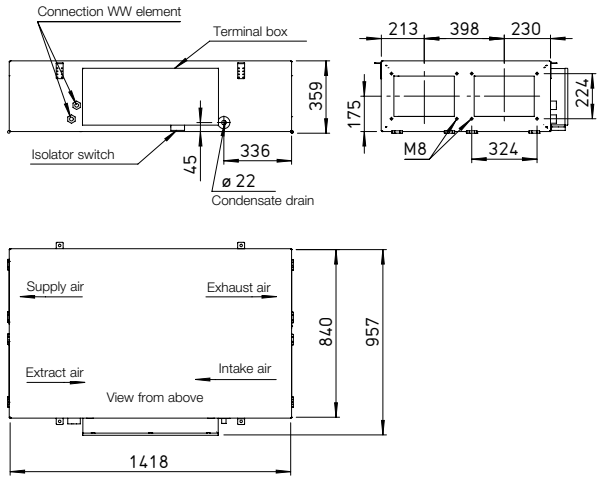
	Page
KWL peripherals	66 ff.
– Ground heat exchanger	88 ff.
– Insulated duct system	78 f.
– Air distribution systems	80 ff.
– Control lines, etc.	84 f.

Heating element, control, ventilation grilles, ducts, roof outlets, extract air elements, design ventilation valves

Helios standard range

KWL EC 700 D

Dimensions KWL EC 700 D



Dimensions in mm

Ultra-flat ventilation units with heat recovery for compact and space-saving ceiling installation. With a wide range of residential, commercial and industrial applications. Independently certified hygiene properties and energy efficiency according to VDI 6022 and the passive house standard. Unit construction and unit components fulfil the general hygiene requirements according to VDI 6022.
Available in various comfort and equipment variants.

Casing
Double-walled, made of galvanised steel sheet, with 30 mm heat and sound insulation on all sides. The inspection openings for filter replacement are accessible at the bottom of the unit without tools.
Ceiling installation via vibration-damping fastening elements included in the delivery.

Heat exchanger
Large cross counterflow heat exchanger made of aluminium with heat recovery efficiency of up to 90 %. Dismantling possible in just a few simple steps.

Fans
Two low-noise high-performance EC fans with backward-curved impellers guarantee maximum energy efficiency. The special control technology enables constant volume control or constant pressure control.

Ducts
Installation-friendly connection of intake, exhaust, extract and supply air through pipe or duct system NW 250 mm.

Condensate connection
A separate condensate tray below the heat exchanger facilitates maintenance work on the unit. Drain connectors on the side next to the terminal box. Ball siphon included in delivery. On-site connection to drain pipe.

Air filter
Standard equipment:
Clean intake air supply via F7 filter [4]. The heat exchanger requires a M5 filter [3] on the extract air side.
All filters are pressure-controlled and exchangeable in just a few simple steps.

Summer operation
Standard equipment with automatic bypass function for maximum comfort.

Heat exchanger anti-icing protection
An electric preheating element heats the intake air at very low outdoor temperatures. Thus, it prevents the heat exchanger from icing up and guarantees its safe functioning and optimal heat recovery during the entire heating period.

Power control
The comfort control element with graphic display and user-friendly menu navigation, which is included in the delivery, enables the following functions:
- ☐ Control directly via touchscreen.
- ☐ Freely definable operating points within the entire range of the characteristic curve.
- ☐ Selection between constant volume control or constant pressure control.
- ☐ Demand-oriented ventilation using CO_2, VOC (mixed gas) or humidity sensor.
- ☐ Initial commissioning (automatic determination of the system characteristic curve).
- ☐ Control of external shutters.
- ☐ Connection of a fire alarm contact.
- ☐ Weekly or daily programme.
- ☐ Pressure monitoring of filter contamination.
- ☐ Indication of necessary filter replacement, operating status, error messages.
- ☐ Different access levels. The ventilation unit is alternatively controllable via ModBus (RS 485, TCP / IP).

Electrical connection
Easily accessible terminal box on the side of the casing.
The isolator/main switch can be controlled from below the unit for maintenance work and it can be locked with a padlock to prevent unauthorised access.

Post-heating
Type KWL EC Pro WW
The integrated warm water heating element guarantees the convenient and energy-efficient post-heating of supply air. The setpoint temperature is simply set in the control element.
The hydraulic unit (Type WHSH HE 24 V (0-10 V), accessories) is recommended for controlling the warm water heat exchanger.

Reference
The ventilation unit design according to VDI 6022 requires the use of VDI 6022-compliant air filters.
The use of original replacement air filters is therefore mandatory.

Replacement air filter
– 1 pc. ISO ePM$_{10}$ 50% (M5)
ELF-KWL 700 D/5 VDI No.04189
– 1 pc. ISO ePM$_1$ 55% (F7)
ELF-KWL 700 D/7 VDI No.04191

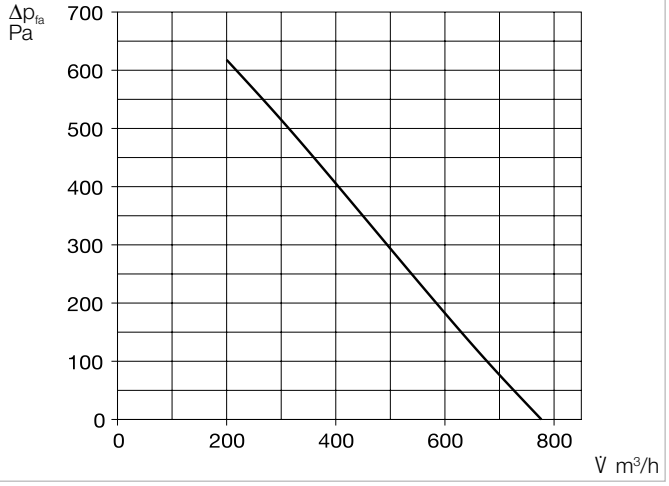
Other accessories

	Page
KWL peripherals	66 ff.
– Air distribution systems	80 ff.
– Further overview, control lines	84 f.

Accessory details
Ventilation grilles, ducts, fittings, roof outlets, extract air elements
Standard range catalogue

Performance curve KWL EC 700 D

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Extract air	dB(A)	53	46	49	47	41	40	34	23
L_{WA}	Supply air	dB(A)	68	54	65	63	59	53	48	39
L_{PA} at 1 m	Radiation	dB(A)	47	33	41	43	41	35	29	14



Included in delivery

Surface comfort control element
User-friendly control via self-explanatory graphic elements with clear text directly on the touchscreen. Control line (10 metres) included in delivery, other lengths available (ALB EC-SK, accessories).
Dim. mm (W x H x D) 115 x 80 x 25

Control element with connection cable (10 m) included in the scope of delivery.
Dim. mm (WxHxD) 115 x 80 x 25

Accessories for Type Pro WW

Hydraulic unit
WHSH HE 24 V (0-10 V) No. 08318
Controls the flow of the PWW heating element using a three-way valve actuator 24 V (0-10 V) and thus the heat output transferred to the air. Delivered as a complete unit, incl. VL- / RL temperature display, circulating pump and flexible connection hoses.

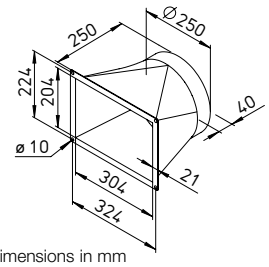
Accessories for all types

Room sensor – Air quality
AIR1/KWL-VOC 0-10V No. 20250
AIR1/KWL-CO2 0-10V No. 20251
AIR1/KWL-FTF 0-10V No. 20252
For measuring the CO_2, mixed gas (VOC) concentration or relative room air humidity. A maximum of one sensor can be connected.
Dim. mm (W x H x D) 85 x 85 x 27

Room sensor – Temperature
TFR-ALB/KWL No. 07277
For measuring the room temperature and controlling the ventilation unit according to the set value. Incl. 20 m control line. Maximum total of one sensor can be connected.
Dim. mm (W x H x D) 80 x 80 x 25

Transition piece – Symmetrical
KWL-ÜS 700 D No. 04206
From unit flange to round duct systems.

Flexible connecting sleeve
FM 250 No. 01672
For acoustic decoupling, incl. 2 pcs. hose clamps.



Dimensions in mm

Duct shutter, motorised
RVM 250 No. 02576
Prevents cold draughts when the unit is at a standstill. Automatic function through fan operation, with mounted spring return motor (outside of air flow). Installation in any position, closing force adjustable corresponding to fan power and installation position.

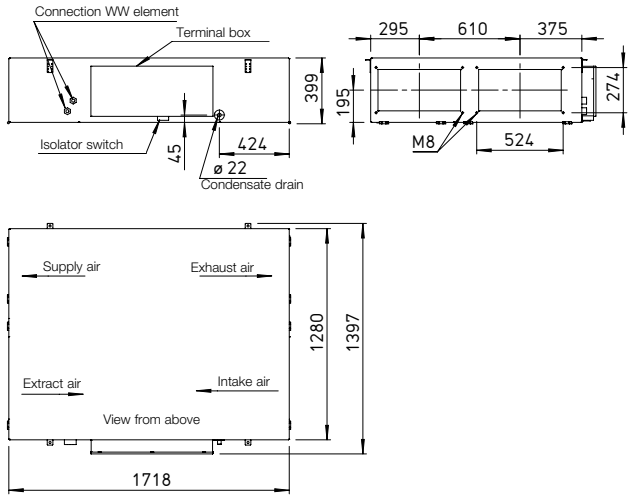
Angle flange ring
FR 250 No. 01203
Made of galvanised steel sheet, for duct connection.

Technical data						
	KWL EC 700 D **Type**		Ref. no.	**KWL EC 700 D,** With warm water post-heater **Type**		Ref. no.
For ceiling installation	**KWL EC 700 D Pro**		04171	**KWL EC 700 D Pro WW**		04172
Flow rate at level[1] Supply air/extract air V̇ m³/h approx.	❸ 510	❷ 330	❶ 210	❸ 510	❷ 330	❶ 210
Noise dB(A)[2] Supply air L_{WA} (sound power)	68	64	55	68	64	55
Extract air L_{WA} (sound power)	53	47	37	53	47	37
Radiation L_{PA} at 1 m	47	n/a	n/a	47	n/a	n/a
Power consumption fans 2 x W	110	60	38	110	60	38
Voltage/Frequency	230 V~, 50 Hz			230 V~, 50 Hz		
Rated current A – Ventilation	2.3			2.3		
– Preheating	12.0			12.0		
– max. total	14.3			14.3		
Heat output/Postheater kW	–			2.3 (at 60/40 °C) / 2.1 (at 50/40 °C) / 1.3 (at 40/30 °C)		
Electric preheater kW	2.6			2,6		
Summer bypass	automatic			automatic		
Wiring diagram no.	1370			1370		
Temperature operating range	– 20 °C to + 40 °C			– 20 °C to + 40 °C		
Connection PWW heating element	–			IG 1/2"		
Weight approx. kg	110			115		

[1] Values based on operating ranges defined according to PHI (Passive House Institute). [2] At 100 Pa.

KWL EC 1400 D

Dimensions KWL EC 1400 D



Dimensions in mm

CERTIFIED COMPONENT
Passive House Institute

Ultra-flat ventilation units with heat recovery for compact and space-saving ceiling installation.
With a wide range of residential, commercial and industrial applications. Independently certified hygiene properties and energy efficiency according to VDI 6022 and the passive house standard. Unit construction and unit components fulfil the general hygiene requirements according to VDI 6022.
Available in various comfort and equipment variants.

Casing
Double-walled, made of galvanised steel sheet, with 30 mm heat and sound insulation on all sides. The inspection openings for filter replacement are accessible at the bottom of the unit without tools.
Ceiling installation via vibration-damping fastening elements included in the delivery.

Heat exchanger
Large cross counterflow heat exchanger made of aluminium with heat recovery efficiency of up to 90 %. Dismantling possible in just a few simple steps.

Fans
Two low-noise high-performance EC fans with backward-curved impellers guarantee maximum energy efficiency. The special control technology enables constant volume control or constant pressure control.

Ducts
Installation-friendly connection of intake, exhaust, extract and supply air through pipe or duct system NW 315 mm.

Condensate connection
A separate condensate tray below the heat exchanger facilitates maintenance work on the unit. Drain connectors on the side next to the terminal box. Ball siphon included in delivery. On-site connection to drain pipe.

Air filter
Standard equipment:
Clean intake air supply via F7 filter [4]. The heat exchanger requires a M5 filter [3] on the extract air side.
All filters are pressure-controlled and exchangeable in just a few simple steps.

Summer operation
Standard equipment with automatic bypass function for maximum comfort.

Heat exchanger anti-icing protection
An electric preheating element heats the intake air at very low outdoor temperatures. Thus, it prevents the heat exchanger from icing up and guarantees its safe functioning and optimal heat recovery during the entire heating period.

Power control
The comfort control element with graphic display and user-friendly menu navigation, which is included in the delivery, enables the following functions:
- ☐ Control directly via touchscreen.
- ☐ Freely definable operating points within the entire range of the characteristic curve.
- ☐ Selection between constant volume control or constant pressure control.
- ☐ Demand-oriented ventilation using CO_2, VOC (mixed gas) or humidity sensor.
- ☐ Initial commissioning (automatic determination of the system characteristic curve).
- ☐ Control of external shutters.
- ☐ Connection of a fire alarm contact.
- ☐ Weekly or daily programme.
- ☐ Pressure monitoring of filter contamination.
- ☐ Indication of necessary filter replacement, operating status, error messages.
- ☐ Different access levels. The ventilation unit is alternatively controllable via ModBus (RS 485, TCP / IP).

Electrical connection
Easily accessible terminal box on the side of the casing.
The isolator/main switch can be controlled from below the unit for maintenance work and it can be locked with a padlock to prevent unauthorised access.

Post-heating
Type KWL EC Pro WW
The integrated warm water heating element guarantees the convenient and energy-efficient post-heating of supply air. The setpoint temperature is simply set in the control element.
The hydraulic unit (Type WHSH HE 24 V (0-10 V), accessories) is recommended for controlling the warm water heat exchanger.

Reference
The ventilation unit design according to VDI 6022 requires the use of VDI 6022-compliant air filters.
The use of original replacement air filters is therefore mandatory.

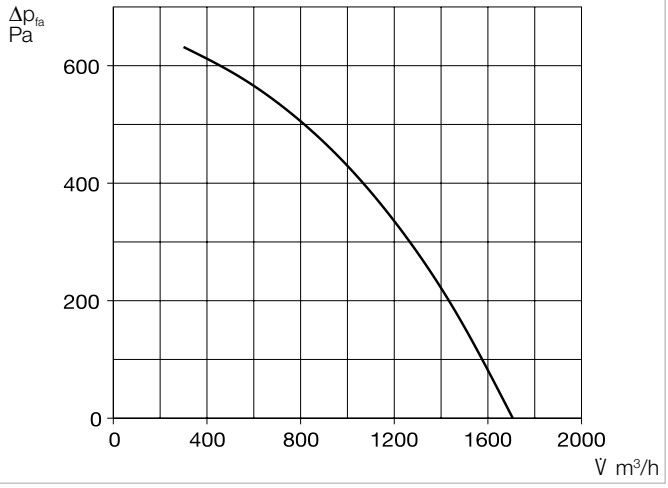
Replacement air filter
– 1 pc. ISO ePM_{10} 50% (M5)
ELF-KWL 1400 D/5 VDI No.04193
– 1 pc. ISO ePM_1 55% (F7)
ELF-KWL 1400 D/7 VDI No.04195

Other accessories	Page
KWL peripherals	66 ff.
– Air distribution systems	80 ff.
– Further overview, control lines	84 f.

Accessory details
Ventilation grilles, ducts, fittings, roof outlets, extract air elements
Standard range catalogue

Performance curve KWL EC 1400 D

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Extract air	dB(A)	60	51	53	53	50	51	49	45
L_{WA}	Supply air	dB(A)	80	63	68	71	71	75	71	70
L_{PA} at 1 m	Radiation	dB(A)	53	42	48	48	47	43	33	21



Included in delivery

Surface comfort control element
User-friendly control via self-explanatory graphic elements with clear text directly on the touchscreen. Control line (10 metres) included in delivery, other lengths available (ALB EC-SK, accessories).
Dim. mm (W x H x D) 115 x 80 x 25

Control element with connection cable (10 m) included in the scope of delivery.
Dim. mm (WxHxD) 115 x 80 x 25

Accessories for Type Pro WW

Hydraulic unit
WHSH HE 24 V (0-10 V) No. 08318
Controls the flow of the PWW heating element using a three-way valve actuator 24 V (0-10 V) and thus the heat output transferred to the air. Delivered as a complete unit, incl. VL- / RL temperature display, circulating pump and flexible connection hoses.

Accessories for all types

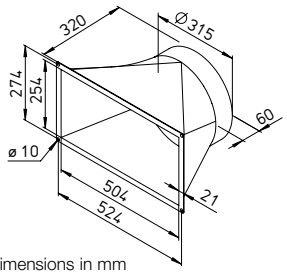
Room sensor – Air quality
AIR1/KWL-VOC 0-10V No. 20250
AIR1/KWL-CO2 0-10V No. 20251
AIR1/KWL-FTF 0-10V No. 20252
For measuring the CO_2, mixed gas (VOC) concentration or relative room air humidity. A maximum of one sensor can be connected.
Dim. mm (W x H x D) 85 x 85 x 27

Room sensor – Temperature
TFR-ALB/KWL No. 07277
For measuring the room temperature and controlling the ventilation unit according to the set value. Incl. 20 m control line. Maximum total of one sensor can be connected.
Dim. mm (W x H x D) 80 x 80 x 25

Transition piece – Symmetrical
KWL-ÜS 1400 D No. 04207
For acoustic decoupling, incl. 2 pcs. hose clamps.

Flexible connecting sleeve
FM 315 No. 01674
For acoustic decoupling, incl. 2 pcs. hose clamps.

Duct shutter, motorised
RVM 315 No. 02578
Prevents cold draughts when the unit is at a standstill. Automatic function through fan operation, with mounted spring return motor (outside of air flow). Installation in any position, closing force adjustable corresponding to fan power and installation position.



Dimensions in mm

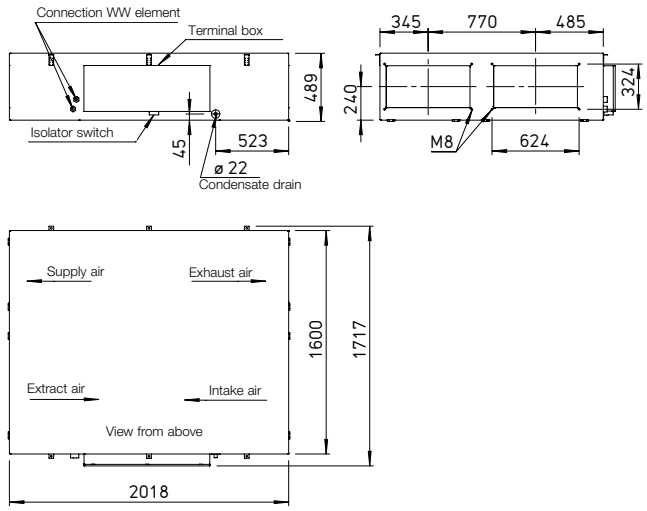
Angle flange ring
FR 315 No. 01204
Made of galvanised steel sheet, for duct connection.

Technical data						
	KWL EC 1400 D **Type**		Ref. no.	**KWL EC 1400 D,** With warm water post-heater **Type**		Ref. no.
For ceiling installation	**KWL EC 1400 D Pro**		04173	**KWL EC 1400 D Pro WW**		04174
Flow rate at level[1] Supply air/extract air V̇ m³/h approx.	❸ 1000	❷ 650	❶ 400	❸ 1000	❷ 650	❶ 400
Noise dB(A)[2]						
Supply air L_{WA} (sound power)	80	71	60	80	71	60
Extract air L_{WA} (sound power)	60	51	39	60	51	39
Radiation L_{PA} at 1 m	53	n/a	n/a	53	n/a	n/a
Power consumption fans 2 x W	225	140	80	225	140	80
Voltage/Frequency	3N~, 400 V, 50 Hz			3N~, 400 V, 50 Hz		
Rated current A – Ventilation	6.0 / – / –			6.0 / – / –		
– Preheating	– / 11.4 / 11.4			– / 11.4 / 11.4		
– max. total	6.0 / 11.4 / 11.4			6.0 / 11.4 / 11.4		
Heat output/Postheater kW	–			4.7 (at 60/40 °C) / 4.2 (at 50/40 °C) / 2.7 (at 40/30 °C)		
Electric preheater kW	4,1			4,1		
Summer bypass	automatic			automatic		
Wiring diagram no.	1370			1370		
Temperature operating range	– 20 °C to + 40 °C			– 20 °C to + 40 °C		
Connection PWW heating element	–			IG 1/2"		
Weight approx. kg	185			190		

[1] Values based on operating ranges defined according to PHI (Passive House Institute). [2] At 215 Pa.

KWL EC 2000 D

Dimensions KWL EC 2000 D



Dimensions in mm

CERTIFIED COMPONENT
Passive House Institute

Ultra-flat ventilation units with heat recovery for compact and space-saving ceiling installation. With a wide range of residential, commercial and industrial applications. Independently certified hygiene properties and energy efficiency according to VDI 6022 and the passive house standard. Unit construction and unit components fulfil the general hygiene requirements according to VDI 6022.
Available in various comfort and equipment variants.

Casing
Double-walled, made of galvanised steel sheet, with 30 mm heat and sound insulation on all sides. The inspection openings for filter replacement are accessible at the bottom of the unit without tools.
Ceiling installation via vibration-damping fastening elements included in the delivery.

Heat exchanger
Large cross counterflow heat exchanger made of aluminium with heat recovery efficiency of up to 90 %. Dismantling possible in just a few simple steps.

Fans
Two low-noise high-performance EC fans with backward-curved impellers guarantee maximum energy efficiency. The special control technology enables constant volume control or constant pressure control.

Ducts
Installation-friendly connection of intake, exhaust, extract and supply air through pipe or duct system NW 400 mm.

Condensate connection
A separate condensate tray below the heat exchanger facilitates maintenance work on the unit. Drain connectors on the side next to the terminal box. Ball siphon included in delivery. On-site connection to drain pipe.

Air filter
Standard equipment:
Clean intake air supply via F7 filter [4]. The heat exchanger requires a M5 filter [3] on the extract air side.
All filters are pressure-controlled and exchangeable in just a few simple steps.

Summer operation
Standard equipment with automatic bypass function for maximum comfort.

Heat exchanger anti-icing protection
An electric preheating element heats the intake air at very low outdoor temperatures. Thus, it prevents the heat exchanger from icing up and guarantees its safe functioning and optimal heat recovery during the entire heating period.

Power control
The comfort control element with graphic display and user-friendly menu navigation, which is included in the delivery, enables the following functions:
- ☐ Control directly via touchscreen.
- ☐ Freely definable operating points within the entire range of the characteristic curve.
- ☐ Selection between constant volume control or constant pressure control.
- ☐ Demand-oriented ventilation using CO_2, VOC (mixed gas) or humidity sensor.
- ☐ Initial commissioning (automatic determination of the system characteristic curve).
- ☐ Control of external shutters.
- ☐ Connection of a fire alarm contact.
- ☐ Weekly or daily programme.
- ☐ Pressure monitoring of filter contamination.
- ☐ Indication of necessary filter replacement, operating status, error messages.
- ☐ Different access levels. The ventilation unit is alternatively controllable via ModBus (RS 485, TCP / IP).

Electrical connection
Easily accessible terminal box on the side of the casing.
The isolator/main switch can be controlled from below the unit for maintenance work and it can be locked with a padlock to prevent unauthorised access.

Post-heating
Type KWL EC Pro WW
The integrated warm water heating element guarantees the convenient and energy-efficient post-heating of supply air. The setpoint temperature is simply set in the control element.
The hydraulic unit (Type WHSH HE 24 V (0-10 V), accessories) is recommended for controlling the warm water heat exchanger.

Reference
The ventilation unit design according to VDI 6022 requires the use of VDI 6022-compliant air filters.
The use of original replacement air filters is therefore mandatory.

Replacement air filter
– 1 pc. ISO ePM$_{10}$ 50% (M5)
ELF-KWL 2000 D/5 VDI No. 04197
– 1 pc. ISO ePM$_1$ 55% (F7)
ELF-KWL 2000 D/7 VDI No. 04204

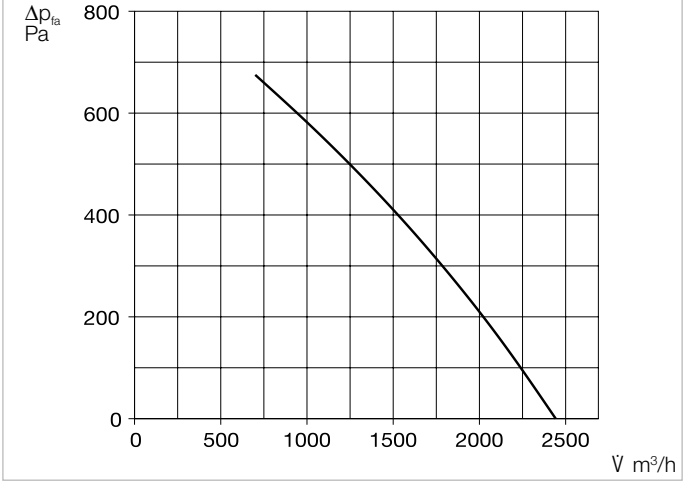
Other accessories

	Page
KWL peripherals	66 ff.
– Air distribution systems	80 ff.
– Further overview, control lines	84 f.

Accessory details
Ventilation grilles, ducts, fittings, roof outlets, extract air elements
Standard range catalogue

Performance curve KWL EC 2000 D

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Extract air	dB(A)	59	56	52	48	49	47	45	40
L_{WA}	Supply air	dB(A)	77	66	68	67	72	69	69	64
L_{PA} at 1 m	Radiation	dB(A)	50	46	42	43	44	38	31	21



Included in delivery

Surface comfort control element
User-friendly control via self-explanatory graphic elements with clear text directly on the touchscreen. Control line (10 metres) included in delivery, other lengths available (ALB EC-SK, accessories).
Dim. mm (W x H x D) 115 x 80 x 25

Control element with connection cable (10 m) included in the scope of delivery.
Dim. mm (WxHxD) 115 x 80 x 25

Accessories for Type Pro WW

Hydraulic unit
WHSH HE 24 V (0-10 V) No. 08318
Controls the flow of the PWW heating element using a three-way valve actuator 24 V (0-10 V) and thus the heat output transferred to the air. Delivered as a complete unit, incl. VL- / RL temperature display, circulating pump and flexible connection hoses.

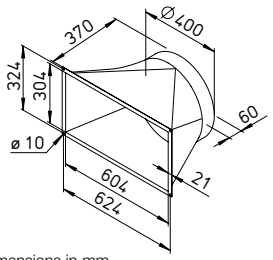
Accessories for all types

Room sensor – Air quality
AIR1/KWL-VOC 0-10V No. 20250
AIR1/KWL-CO2 0-10V No. 20251
AIR1/KWL-FTF 0-10V No. 20252
For measuring the CO_2, mixed gas (VOC) concentration or relative room air humidity. A maximum of one sensor can be connected.
Dim. mm (W x H x D) 85 x 85 x 27

Room sensor – Temperature
TFR-ALB/KWL No. 07277
For measuring the room temperature and controlling the ventilation unit according to the set value. Incl. 20 m control line. Maximum total of one sensor can be connected.
Dim. mm (W x H x D) 80 x 80 x 25

Transition piece – Symmetrical
KWL-ÜS 2000 D No. 04208
From unit flange to round duct systems.

Flexible connecting sleeve
FM 400 No. 01676
For acoustic decoupling, incl. 2 pcs. hose clamps.



Dimensions in mm

Duct shutter, motorised
RVM 400 No. 02580
Prevents cold draughts when the unit is at a standstill. Automatic function through fan operation, with mounted spring return motor (outside of air flow). Installation in any position, closing force adjustable corresponding to fan power and installation position.

Angle flange ring
FR 400 No. 01206
Made of galvanised steel sheet, for duct connection.

Technical data						
	KWL EC 2000 D **Type**		Ref. no.	**KWL EC 2000 D,** With warm water post-heater **Type**		Ref. no.
For ceiling installation	**KWL EC 2000 D Pro**		04175	**KWL EC 2000 D Pro WW**		04176
Flow rate at level[1] Supply air/extract air V̇ m³/h approx.	❸ 1800	❷ 1150	❶ 720	❸ 1800	❷ 1150	❶ 720
Noise dB(A)[2]						
Supply air L_{WA} (sound power)	77	67	57	77	67	57
Extract air L_{WA} (sound power)	59	50	40	59	50	40
Radiation L_{PA} at 1 m	50	n/a	n/a	50	n/a	n/a
Power consumption fans 2 x W	395	245	150	395	245	150
Voltage/Frequency	3N~, 400 V, 50 Hz			3N~, 400 V, 50 Hz		
Rated current A – Ventilation	6.0 / – / –			6,0 / – / –		
– Preheating	10.0 / 11.0 / 11.0			10.0 / 11.0 / 11.0		
– max. total	16.0 / 11.0 / 11.0			16.0 / 11.0 / 11.0		
Heat output/Postheater kW	–			8.1 (at 60/40 °C) / 7,3 (at 50/40 °C) / 4.6 (at 40/30 °C)		
Electric preheater kW	6.6			6.6		
Summer bypass	automatic			automatic		
Wiring diagram no.	1370			1370		
Temperature operating range	– 20 °C to + 40 °C			– 20 °C to + 40 °C		
Connection PWW heating element	–			IG 1/2"		
Weight approx. kg	265			270		

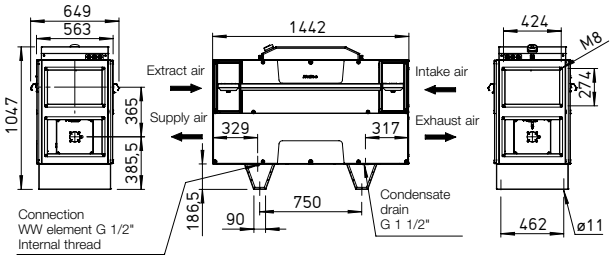
[1] Values based on operating ranges defined according to PHI (Passive House Institute). [2] At 250 Pa.

Central ventilation units with heat recovery, Floor-standing version with air flow rates up to approx. 800 m³/h

KWL EC 800 S

KWL EC 800 S with base cover (accessories)

Dimensions KWL EC 800 S



All Dimensions in mm

Central units with heat recovery for compact and space-saving floor installation (floor standing). With a wide range of residential, commercial and industrial applications.
Independently certified hygiene properties and energy efficiency according to VDI 6022 and the passive house standard. Unit construction and unit components fulfil the general hygiene requirements according to VDI 6022. Optionally available with integrated warm water heating element.

Casing
Double-walled, made of galvanised steel sheet, with 30 mm heat and sound insulation on all sides.
Inspection openings for filter replacement fastened to both side panels with screws.
Both side walls can be completely dismantled for free access to all components.
The unit is suitable for floor installation (standing) indoors.
Vibration dampers can be underlaid (on-site) to prevent the direct transmission of vibrations and structure-borne noise to building parts.

Heat exchanger
Large cross counterflow heat exchanger made of aluminium with heat recovery efficiency of up to 90 %. Dismantling possible in just a few simple steps.

Fans
Two low-noise high-performance EC fans with backward-curved impellers guarantee maximum energy efficiency. The special control technology enables constant volume control or constant pressure control.

Ducts
Installation-friendly connection of intake, exhaust, extract and supply air through pipe or duct system NW 250 mm. The floor-standing unit can be rotated 180° for installation so that intake air and exhaust air as well as extract air and supply air connections can be on the left or right sides.

Condensate connection
The unit contains a stainless steel condensate tray with a condensate drain below. Ball siphon included in delivery. On-site connection to drain pipe.

Air filter
Standard equipment:
Clean intake air supply via F7 filter [3]. The heat exchanger requires a M5 filter [2] on the extract air side.
All filters are pressure-controlled and exchangeable in just a few simple steps.

Summer operation
Standard equipment with automatic bypass function for maximum comfort.

Heat exchanger anti-icing protection
An electric preheating element heats the intake air at very low outdoor temperatures. Thus, it prevents the heat exchanger from icing up and guarantees its safe functioning and optimal heat recovery during the entire heating period.

Power control
The comfort control element with graphic display and user-friendly menu navigation, which is included in the delivery, enables the following functions:
- ☐ Control directly via touchscreen.
- ☐ Freely definable operating points within the entire range of the characteristic curve.
- ☐ Selection between constant volume control or constant pressure control.
- ☐ Demand-oriented ventilation using CO_2, VOC (mixed gas) or humidity sensor.
- ☐ Building control system via ModBus (RS 485, TCP / IP).
- ☐ Initial commissioning (automatic determination of the system characteristic curve).
- ☐ Control of external shutters.
- ☐ Connection of a fire alarm contact.
- ☐ Weekly or daily programme.
- ☐ Pressure monitoring of filter contamination.
- ☐ Indication of necessary filter replacement, operating status, error messages.
- ☐ Different access levels.

Electrical connection
Easily accessible terminal box on top of the casing.
The isolator/main switch can be controlled from below the unit for maintenance work and it can be locked with a padlock to prevent unauthorised access.

Post-heating
Type KWL EC Pro WW
The integrated warm water heating element guarantees the convenient and energy-efficient post-heating of supply air. The setpoint temperature is simply set in the control element.
The hydraulic unit (Type WHSH HE 24 V (0-10 V), accessories) is recommended for controlling the warm water heat exchanger.

Reference
The ventilation unit design according to VDI 6022 requires the use of VDI 6022-compliant air filters.
The use of original replacement air filters is therefore mandatory.

Replacement air filter
– 1 pc. M5 filter [2]
ELF-KWL 800 S/5 VDI No. 08256

– 1 pc. F7 filter [3]
ELF-KWL 800 S/7 VDI No. 08257

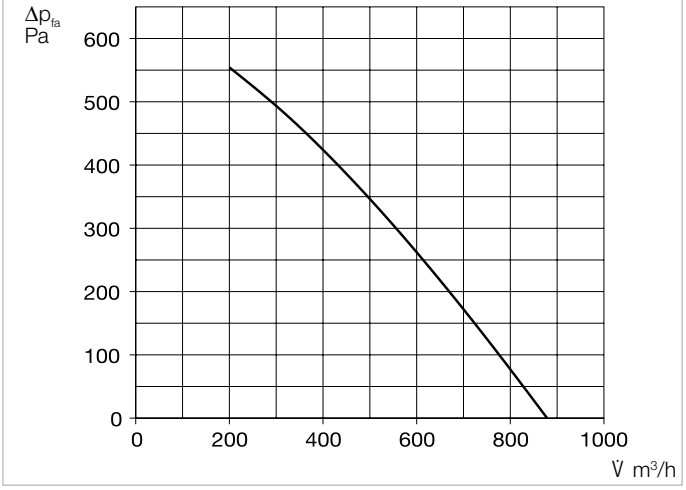
Other accessories

	Page
KWL peripherals	66 ff.
– Air distribution systems	80 ff.
– Further overview, control lines	84 f.

Accessory details
Ventilation grilles, ducts, fittings, roof outlets, extract air elements
Standard range catalogue

Performance curve KWL EC 800 S

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Extract air	dB(A)	70	65	68	54	49	43	35	34
L_{WA}	Supply air	dB(A)	78	76	73	67	63	63	55	55
L_{PA} at 1 m	Radiation	dB(A)	54	50	50	42	42	41	31	25



Included in delivery

Surface comfort control element
User-friendly control via self-explanatory graphic elements with clear text directly on the touchscreen. Control line (10 metres) included in delivery, other lengths available (ALB EC-SK, accessories).
Dim. mm (W x H x D) 115 x 80 x 25

Control element with connection cable (10 m) included in the scope of delivery.
Dim. mm (WxHxD) 115 x 80 x 25

Accessories for Type Pro WW

Hydraulic unit
WHSH HE 24 V (0-10 V) No. 08318
Controls the flow of the PWW heating element using a three-way valve actuator 24 V (0-10 V) and thus the heat output transferred to the air. Delivered as a complete unit, incl. VL-/RL temperature display, circulating pump and flexible connection hoses.

Accessories for all types

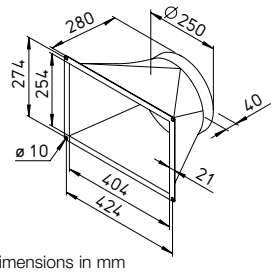
Room sensor – Air quality
AIR1/KWL-VOC 0-10V No. 20250
AIR1/KWL-CO2 0-10V No. 20251
AIR1/KWL-FTF 0-10V No. 20252
For measuring the CO_2, mixed gas (VOC) concentration or relative room air humidity. A maximum of one sensor can be connected.
Dim. mm (W x H x D) 85 x 85 x 27

Room sensor – Temperature
TFR-ALB/KWL No. 07277
For measuring the room temperature and controlling the ventilation unit according to the set value. Incl. 20 m control line. Maximum total of one sensor can be connected.
Dim. mm (W x H x D) 80 x 80 x 25

Transition piece – Symmetrical
KWL-ÜS 800 S No. 08339
From unit flange to round duct systems.

Flexible connecting sleeve
FM 250 No. 01672
For acoustic decoupling, incl. 2 pcs. hose clamps.

Duct shutter, motorised
RVM 250 No. 02576
Prevents cold draughts when the unit is at a standstill. Automatic function through fan operation, with mounted spring return motor (outside of air flow). Installation in any position, closing force adjustable corresponding to fan power and installation position.



Dimensions in mm

Angle flange ring
FR 250 No. 01203
Made of galvanised steel sheet, for duct connection.

Base cover
KWL-SB 800 S No. 09315
Made of galvanised steel sheet.

Technical data						
For floor-standing installation	**KWL EC 800 S** **KWL EC 800 S Pro**		Ref. no. 08327	**KWL EC 800 S** **KWL EC 800 S Pro WW**		Ref. no 08328
Flow rate at level[1] Supply air/extract V̇ m³/h approx.	❸ 600	❷ 490	❶ 325	❸ 600	❷ 490	❶ 325
Noise dB(A) at 620 m³/h and 195 Pa Supply air L_{WA} (sound power) Extract air L_{WA} (sound power) Radiation L_{PA} at 1 m	 78 70 54	 n/a n/a n/a	 n/a n/a n/a	 78 70 54	 n/a n/a n/a	 n/a n/a n/a
Power consumption fans 2xW	140	94	65	140	94	65
Standby power consumption	< 1 W			< 1 W		
Voltage/Frequency	1~, 230 V, 50 Hz			1~, 230 V, 50 Hz		
Rated current A – Ventilation	3.0			3.0		
– Preheating	11.0			11.0		
– max. total	14.0			14.0		
Electric preheater kW	2.4			2.4		
Heat output/post-heating element kW	–			2.8 (at 60/40 °C) / 2.6 (at 50/40 °C) / 1.6 (at 40/30 °C)		
Summer bypass	automatic (adjustable), with heat exchanger cover			automatic (adjustable), with heat exchanger cover		
Wiring diagram no.	1370			1370		
Temperature operating range	–20 °C to +40 °C			–20 °C to +40 °C		
Installation temperature	+5 °C to +40 °C			+5 °C to +40 °C		
Connection PWW heating element	–			IG 1/2"		
Weight approx. kg	172			175		

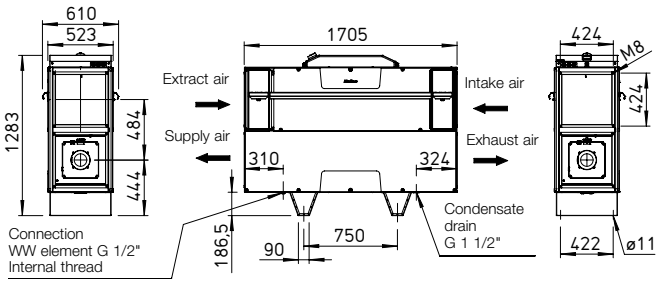
[1] Values based on operating ranges defined according to PHI (Passive House Institute). [2] M5 = ISO ePM10 50%. [3] F7 = ISO ePM1 55%.

Central ventilation units with heat recovery, Floor-standing version with air flow rates up to approx. 1300 m³/h

KWL EC 1200 S

KWL EC 1200 S with base cover (accessories)

Dimensions KWL EC 1200 S



All Dimensions in mm

Central units with heat recovery for compact and space-saving floor installation (floor standing). With a wide range of residential, commercial and industrial applications.
Independently certified hygiene properties and energy efficiency according to VDI 6022 and the passive house standard. Unit construction and unit components fulfil the general hygiene requirements according to VDI 6022. Optionally available with integrated warm water heating element.

Casing
Double-walled, made of galvanised steel sheet, with 30 mm heat and sound insulation on all sides.
Inspection openings for filter replacement fastened to both side panels with screws.
Both side walls can be completely dismantled for free access to all components.
The unit is suitable for floor installation (standing) indoors.
Vibration dampers can be underlaid (on-site) to prevent the direct transmission of vibrations and structure-borne noise to building parts.

Heat exchanger
Large cross counterflow heat exchanger made of aluminium with heat recovery efficiency of up to 90 %. Dismantling possible in just a few simple steps.

Fans
Two low-noise high-performance EC fans with backward-curved impellers guarantee maximum energy efficiency. The special control technology enables constant volume control or constant pressure control.

Ducts
Installation-friendly connection of intake, exhaust, extract and supply air through pipe or duct system NW 355 mm. The floor-standing unit can be rotated 180° for installation so that intake air and exhaust air as well as extract air and supply air connections can be on the left or right sides.

Condensate connection
The unit contains a stainless steel condensate tray with a condensate drain below. Ball siphon included in delivery. On-site connection to drain pipe.

Air filter
Standard equipment:
Clean intake air supply via F7 filter [3]. The heat exchanger requires a M5 filter [2] on the extract air side.
All filters are pressure-controlled and exchangeable in just a few simple steps.

Summer operation
Standard equipment with automatic bypass function for maximum comfort.

Heat exchanger anti-icing protection
An electric preheating element heats the intake air at very low outdoor temperatures. Thus, it prevents the heat exchanger from icing up and guarantees its safe functioning and optimal heat recovery during the entire heating period.

Power control
The comfort control element with graphic display and user-friendly menu navigation, which is included in the delivery, enables the following functions:
- ☐ Control directly via touchscreen.
- ☐ Freely definable operating points within the entire range of the characteristic curve.
- ☐ Selection between constant volume control or constant pressure control.
- ☐ Demand-oriented ventilation using CO_2, VOC (mixed gas) or humidity sensor.
- ☐ Building control system via ModBus (RS 485, TCP / IP).
- ☐ Initial commissioning (automatic determination of the system characteristic curve).
- ☐ Control of external shutters.
- ☐ Connection of a fire alarm contact.
- ☐ Weekly or daily programme.
- ☐ Pressure monitoring of filter contamination.
- ☐ Indication of necessary filter replacement, operating status, error messages.
- ☐ Different access levels.

Electrical connection
Easily accessible terminal box on top of the casing.
The isolator/main switch can be controlled from below the unit for maintenance work and it can be locked with a padlock to prevent unauthorised access.

Post-heating
Type KWL EC Pro WW
The integrated warm water heating element guarantees the convenient and energy-efficient post-heating of supply air. The setpoint temperature is simply set in the control element.
The hydraulic unit (Type WHSH HE 24 V (0-10 V), accessories) is recommended for controlling the warm water heat exchanger.

Reference
The ventilation unit design according to VDI 6022 requires the use of VDI 6022-compliant air filters.
The use of original replacement air filters is therefore mandatory.

Replacement air filter
– 1 pc. ISO ePM_{10} 50% (M5)
ELF-KWL 1200 S/5 VDI No.08347

– 1 pc. ISO ePM_1 55% (F7)
ELF-KWL 1200 S/7 VDI No.08348

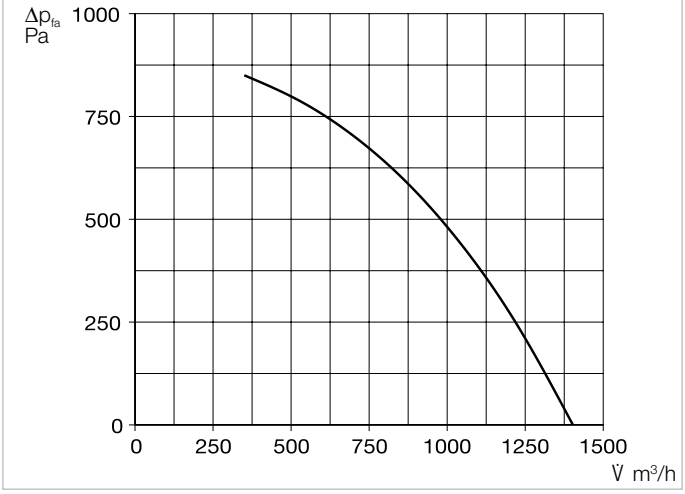
Other accessories

	Page
KWL peripherals	66 ff.
– Air distribution systems	80 ff.
– Further overview, control lines	84 f.

Accessory details
Ventilation grilles, ducts, fittings, roof outlets, extract air elements
Standard range catalogue

Performance curve KWL EC 1200 S

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Extract air	dB(A)	62	46	55	60	53	53	42	32
L_{WA}	Supply air	dB(A)	76	53	63	71	69	73	66	62
L_{PA} at 1 m	Radiation	dB(A)	53	40	47	48	49	47	37	30



Included in delivery

Surface comfort control element
User-friendly control via self-explanatory graphic elements with clear text directly on the touchscreen. Control line (10 metres) included in delivery, other lengths available (ALB EC-SK, accessories).
Dim. mm (W x H x D) 115 x 80 x 25

Control element with connection cable (10 m) included in the scope of delivery.
Dim. mm (WxHxD) 115 x 80 x 25

Accessories for Type Pro WW

Hydraulic unit
WHSH HE 24 V (0-10 V) No. 08318
Controls the flow of the PWW heating element using a three-way valve actuator 24 V (0-10 V) and thus the heat output transferred to the air. Delivered as a complete unit, incl. VL- / RL temperature display, circulating pump and flexible connection hoses.

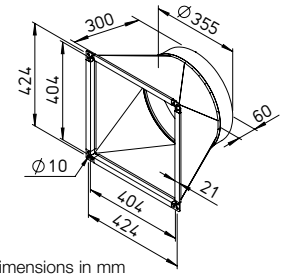
Accessories for all types

Room sensor – Air quality
AIR1/KWL-VOC 0-10V No. 20250
AIR1/KWL-CO2 0-10V No. 20251
AIR1/KWL-FTF 0-10V No. 20252
For measuring the CO_2, mixed gas (VOC) concentration or relative room air humidity. A maximum of one sensor can be connected.
Dim. mm (W x H x D) 85 x 85 x 27

Room sensor – Temperature
TFR-ALB/KWL No. 07277
For measuring the room temperature and controlling the ventilation unit according to the set value. Incl. 20 m control line. Maximum total of one sensor can be connected.
Dim. mm (W x H x D) 80 x 80 x 25

Transition piece – Symmetrical
KWL-ÜS 1200 S No. 08349
From unit flange to round duct systems.

Flexible connecting sleeve
FM 355 No. 01675
For acoustic decoupling, incl. 2 pcs. hose clamps.



Dimensions in mm

Duct shutter,motorised
RVM 355 No. 02579
Prevents cold draughts when the unit is at a standstill. Automatic function through fan operation, with mounted spring return motor (outside of air flow). Installation in any position, closing force adjustable corresponding to fan power and installation position.

Angle flange ring
FR 355 No. 01205
Made of galvanised steel sheet, for duct connection.

Base cover
KWL-SB 1200 S No. 09316
Made of galvanised steel sheet.

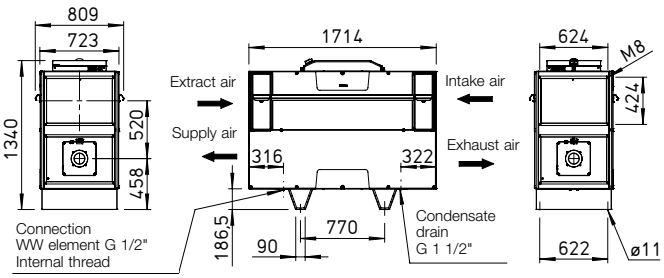
Technical data				
For floor-standing installation	**KWL EC 1200 S** **KWL EC 1200 S Pro**		Ref. no. 08345	**KWL EC 1200 S** **KWL EC 1200 S Pro WW**	Ref. no. 08346
Flow rate at level[1)] Supply air / extract V̇ m³/h approx.	❷ 1300	❶ 350		❷ 1300	❶ 350
Noise dB(A) at 1300 m³/h and 75 Pa Supply air L_{WA} (sound power) Extract air L_{WA} (sound power) Radiation L_{PA} at 1 m	 76 62 53	 n/a n/a n/a		 76 62 53	 n/a n/a n/a
Power consumption fans 2xW	375	80		375	80
Standby power consumption	< 1 W			< 1 W	
Voltage / Frequency	3N~, 400 V, 50 Hz			3N~, 400 V, 50 Hz	
Rated current A – Ventilation	5.0 / – / –			5.0 / – / –	
– Preheating	– / 12.1 / 12.1			– / 12.1 / 12.1	
– max. total	5.0 / 12.1 / 12.1			5.0 / 12.1 / 12.1	
Electric preheater kW	4.2			4.2	
Heat output / post-heating element kW	–			2.8 (at 60/40 °C) / 2.6 (at 50/40 °C) / 1.6 (at 40/30 °C)	
Summer bypass	automatic (adjustable), with heat exchanger cover			automatic (adjustable), with heat exchanger cover	
Wiring diagram no.	1370			1370	
Temperature operating range	– 20 °C to + 40 °C			– 20 °C to + 40 °C	
Installation temperature	+5 °C to + 40 °C			+5 °C to + 40 °C	
Connection PWW heating element	–			IG 1/2"	
Weight approx. kg	250			256	

1) Values based on operating ranges defined according to PHI (Passive House Institute).

KWL EC 1800 S

KWL EC 1800 S with base cover (accessories)

Dimensions KWL EC 1800 S



All Dimensions in mm

CERTIFIED COMPONENT
Passive House Institute

Central units with heat recovery for compact and space-saving floor installation (floor standing). With a wide range of residential, commercial and industrial applications.
Independently certified hygiene properties and energy efficiency according to VDI 6022 and the passive house standard. Unit construction and unit components fulfil the general hygiene requirements according to VDI 6022. Optionally available with integrated warm water heating element.

Casing
Double-walled, made of galvanised steel sheet, with 30 mm heat and sound insulation on all sides.
Inspection openings for filter replacement fastened to both side panels with screws.
Both side walls can be completely dismantled for free access to all components.
The unit is suitable for floor installation (standing) indoors.
Vibration dampers can be underlaid (on-site) to prevent the direct transmission of vibrations and structure-borne noise to building parts.

Heat exchanger
Large cross counterflow heat exchanger made of aluminium with heat recovery efficiency of up to 90 %. Dismantling possible in just a few simple steps.

Fans
Two low-noise high-performance EC fans with backward-curved impellers guarantee maximum energy efficiency. The special control technology enables constant volume control or constant pressure control.

Ducts
Installation-friendly connection of intake, exhaust, extract and supply air through pipe or duct system NW 400 mm. The floor-standing unit can be rotated 180° for installation so that intake air and exhaust air as well as extract air and supply air connections can be on the left or right sides.

Condensate connection
The unit contains a stainless steel condensate tray with a condensate drain below. Ball siphon included in delivery. On-site connection to drain pipe.

Air filter
Standard equipment:
Clean intake air supply via F7 filter [3]. The heat exchanger requires a M5 filter [2] on the extract air side.
All filters are pressure-controlled and exchangeable in just a few simple steps.

Summer operation
Standard equipment with automatic bypass function for maximum comfort.

Heat exchanger anti-icing protection
An electric preheating element heats the intake air at very low outdoor temperatures. Thus, it prevents the heat exchanger from icing up and guarantees its safe functioning and optimal heat recovery during the entire heating period.

Power control
The comfort control element with graphic display and user-friendly menu navigation, which is included in the delivery, enables the following functions:
- ☐ Control directly via touchscreen.
- ☐ Freely definable operating points within the entire range of the characteristic curve.
- ☐ Selection between constant volume control or constant pressure control.
- ☐ Demand-oriented ventilation using CO_2, VOC (mixed gas) or humidity sensor.
- ☐ Building control system via ModBus (RS 485, TCP / IP).
- ☐ Initial commissioning (automatic determination of the system characteristic curve).
- ☐ Control of external shutters.
- ☐ Connection of a fire alarm contact.
- ☐ Weekly or daily programme.
- ☐ Pressure monitoring of filter contamination.
- ☐ Indication of necessary filter replacement, operating status, error messages.
- ☐ Different access levels.

Electrical connection
Easily accessible terminal box on top of the casing.
The isolator/main switch can be controlled from below the unit for maintenance work and it can be locked with a padlock to prevent unauthorised access.

Post-heating
Type KWL EC Pro WW
The integrated warm water heating element guarantees the convenient and energy-efficient post-heating of supply air. The setpoint temperature is simply set in the control element.
The hydraulic unit (Type WHSH HE 24 V (0-10 V), accessories) is recommended for controlling the warm water heat exchanger.

Reference
The ventilation unit design according to VDI 6022 requires the use of VDI 6022-compliant air filters.
The use of original replacement air filters is therefore mandatory.

Replacement air filter
– 1 pc. ISO ePM_{10} 50% (M5)
ELF-KWL 1800 S/5 VDI No.08258

– 1 pc. ISO ePM_1 55% (F7)
ELF-KWL 1800 S/7 VDI No.08259

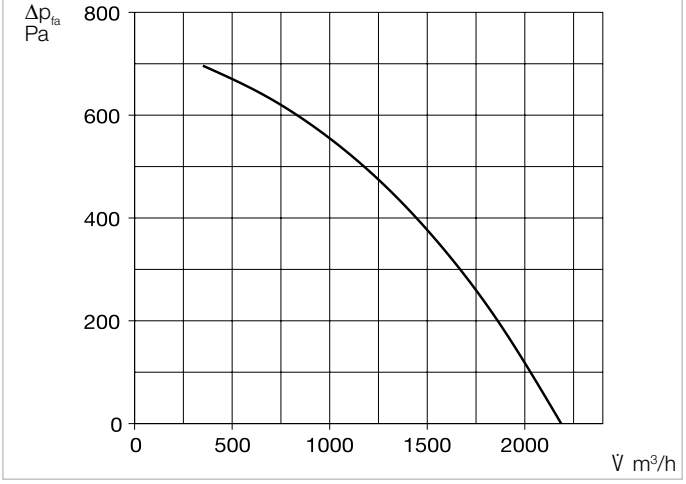
Other accessories

Other accessories	Page
KWL peripherals	66 ff.
– Air distribution systems	80 ff.
– Further overview, control lines	84 f.

Accessory details
Ventilation grilles, ducts, fittings, roof outlets, extract air elements
Standard range catalogue

Performance curve KWL EC 1800 S

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Extract air	dB(A)	61	54	58	51	52	49	38	14
L_{WA}	Supply air	dB(A)	72	61	66	63	65	64	56	56
L_{PA} at 1 m	Radiation	dB(A)	52	35	47	43	47	47	37	28



Included in delivery

Surface comfort control element
User-friendly control via self-explanatory graphic elements with clear text directly on the touchscreen. Control line (10 metres) included in delivery, other lengths available (ALB EC-SK, accessories).
Dim. mm (W x H x D) 115 x 80 x 25

Control element with connection cable (10 m) included in the scope of delivery.
Dim. mm (WxHxD) 115 x 80 x 25

Accessories for Type Pro WW

Hydraulic unit
WHSH HE 24 V (0-10 V) No. 08318
Controls the flow of the PWW heating element using a three-way valve actuator 24 V (0-10 V) and thus the heat output transferred to the air. Delivered as a complete unit, incl. VL- / RL temperature display, circulating pump and flexible connection hoses.

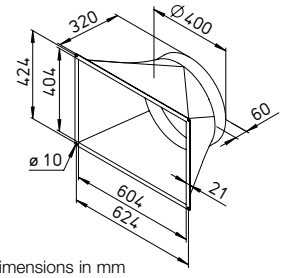
Accessories for all types

Room sensor – Air quality
AIR1/KWL-VOC 0-10V No. 20250
AIR1/KWL-CO2 0-10V No. 20251
AIR1/KWL-FTF 0-10V No. 20252
For measuring the CO_2, mixed gas (VOC) concentration or relative room air humidity. A maximum of one sensor can be connected.
Dim. mm (W x H x D) 85 x 85 x 27

Room sensor – Temperature
TFR-ALB/KWL No. 07277
For measuring the room temperature and controlling the ventilation unit according to the set value. Incl. 20 m control line. Maximum total of one sensor can be connected.
Dim. mm (W x H x D) 80 x 80 x 25

Transition piece – Symmetrical
KWL-ÜS 1800 S No. 08340
From unit flange to round duct systems.

Flexible connecting sleeve
FM 400 No. 01676
For acoustic decoupling, incl. 2 pcs. hose clamps.



Dimensions in mm

Duct shutter, motorised
RVM 400 No. 02580
Prevents cold draughts when the unit is at a standstill. Automatic function through fan operation, with mounted spring return motor (outside of air flow). Installation in any position, closing force adjustable corresponding to fan power and installation position.

Angle flange ring
FR 400 No. 01206
Made of galvanised steel sheet, for duct connection.

Base cover
KWL-SB 1800 S No. 09317
Made of galvanised steel sheet.

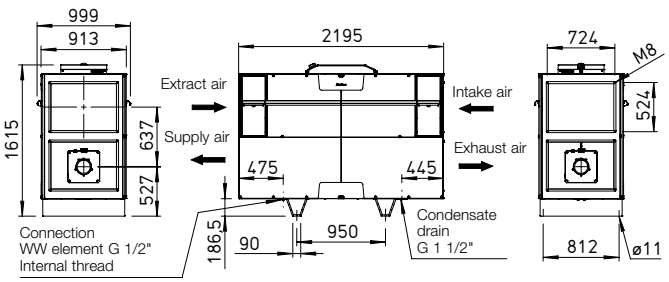
Technical data						
For floor-standing installation	**KWL EC 1800 S** **KWL EC 1800 S Pro**		Ref. no. 08329	**KWL EC 1800 S** **KWL EC 1800 S Pro WW**		Ref. no. 08330
Flow rate at level[1] Supply air / extract V̇ m³/h approx.	❸ 1400	❷ 1070	❶ 810	❸ 1400	❷ 1070	❶ 810
Noise dB(A) at 1400 m³/h and 245 Pa Supply air L_{WA} (sound power) Extract air L_{WA} (sound power) Radiation L_{PA} at 1 m	 72 61 52	 n/a n/a n/a	 n/a n/a n/a	 72 61 52	 n/a n/a n/a	 n/a n/a n/a
Power consumption fans 2xW	315	225	165	315	225	165
Standby power consumption	< 1 W			< 1 W		
Voltage / Frequency	3N~, 400 V, 50 Hz			3N~, 400 V, 50 Hz		
Rated current A – Ventilation	3.9 / – / –			3.9 / – / –		
– Preheating	6.6 / 6.6 / 6.6			6.6 / 6.6 / 6.6		
– max. total	10.5 / 6.6 / 6.6			10.5 / 6.6 / 6.6		
Electric preheater kW	4.5			4.5		
Heat output / post-heating element kW	–			5.2 (at 60/40 °C) / 4.9 (at 50/40 °C) / 3.0 (at 40/30 °C)		
Summer bypass	automatic (adjustable), with heat exchanger cover			automatic (adjustable), with heat exchanger cover		
Wiring diagram no.	1370			1370		
Temperature operating range	– 20 °C to + 40 °C			– 20 °C to + 40 °C		
Installation temperature	+5 °C to + 40 °C			+5 °C to + 40 °C		
Connection PWW heating element	–			IG 1/2"		
Weight approx. kg	290			295		

[1] Values based on operating ranges defined according to PHI (Passive House Institute).

KWL EC 2600 S

KWL EC 2600 S with base cover (accessories)

Dimensions KWL EC 2600 S



All Dimensions in mm

Central units with heat recovery for compact and space-saving floor installation (floor standing). With a wide range of residential, commercial and industrial applications.
Independently certified hygiene properties and energy efficiency according to VDI 6022 and the passive house standard. Unit construction and unit components fulfil the general hygiene requirements according to VDI 6022. Optionally available with integrated warm water heating element.

Casing
Double-walled, made of galvanised steel sheet, with 30 mm heat and sound insulation on all sides.
Inspection openings for filter replacement fastened to both side panels with screws.
Both side walls can be completely dismantled for free access to all components.
The unit is suitable for floor installation (standing) indoors.
Vibration dampers can be underlaid (on-site) to prevent the direct transmission of vibrations and structure-borne noise to building parts.

Heat exchanger
Large cross counterflow heat exchanger made of aluminium with heat recovery efficiency of up to 90 %. Dismantling possible in just a few simple steps.

Fans
Two low-noise high-performance EC fans with backward-curved impellers guarantee maximum energy efficiency. The special control technology enables constant volume control or constant pressure control.

Ducts
Installation-friendly connection of intake, exhaust, extract and supply air through pipe or duct system NW 560 mm. The floor-standing unit can be rotated 180° for installation so that intake air and exhaust air as well as extract air and supply air connections can be on the left or right sides.

Condensate connection
The unit contains a stainless steel condensate tray with a condensate drain below. Ball siphon included in delivery. On-site connection to drain pipe.

Air filter
Standard equipment:
Clean intake air supply via F7 filter [3]. The heat exchanger requires a M5 filter [2] on the extract air side.
All filters are pressure-controlled and exchangeable in just a few simple steps.

Summer operation
Standard equipment with automatic bypass function for maximum comfort.

Heat exchanger anti-icing protection
An electric preheating element heats the intake air at very low outdoor temperatures. Thus, it prevents the heat exchanger from icing up and guarantees its safe functioning and optimal heat recovery during the entire heating period.

Power control
The comfort control element with graphic display and user-friendly menu navigation, which is included in the delivery, enables the following functions:
- ☐ Control directly via touchscreen.
- ☐ Freely definable operating points within the entire range of the characteristic curve.
- ☐ Selection between constant volume control or constant pressure control.
- ☐ Demand-oriented ventilation using CO_2, VOC (mixed gas) or humidity sensor.
- ☐ Building control system via ModBus (RS 485, TCP / IP).
- ☐ Initial commissioning (automatic determination of the system characteristic curve).
- ☐ Control of external shutters.
- ☐ Connection of a fire alarm contact.
- ☐ Weekly or daily programme.
- ☐ Pressure monitoring of filter contamination.
- ☐ Indication of necessary filter replacement, operating status, error messages.
- ☐ Different access levels.

Electrical connection
Easily accessible terminal box on top of the casing.
The isolator/main switch can be controlled from below the unit for maintenance work and it can be locked with a padlock to prevent unauthorised access.

Post-heating
Type KWL EC Pro WW
The integrated warm water heating element guarantees the convenient and energy-efficient post-heating of supply air. The setpoint temperature is simply set in the control element.
The hydraulic unit (Type WHSH HE 24 V (0-10 V), accessories) is recommended for controlling the warm water heat exchanger.

Reference
The ventilation unit design according to VDI 6022 requires the use of VDI 6022-compliant air filters.
The use of original replacement air filters is therefore mandatory.

Replacement air filter
– 1 pc. ISO ePM_{10} 50% (M5)
ELF-KWL 2600 S/5 VDI No.08308

– 1 pc. ISO ePM_1 55% (F7)
ELF-KWL 2600 S/7 VDI No.08325

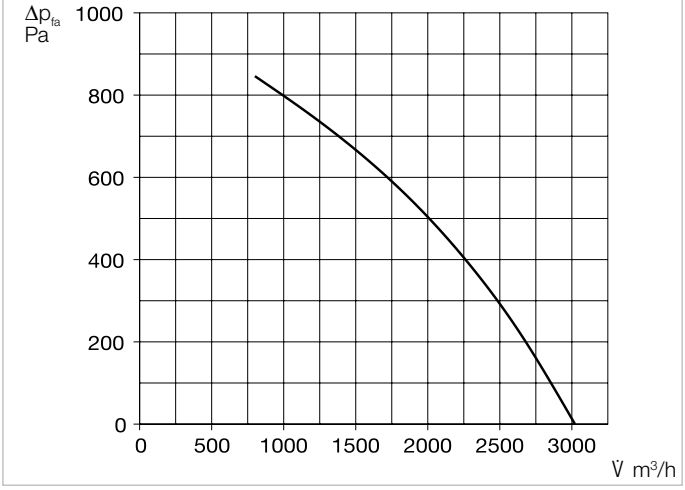
Other accessories

	Page
KWL peripherals	66 ff.
– Air distribution systems	80 ff.
– Further overview, control lines	84 f.

Accessory details
Ventilation grilles, ducts, fittings, roof outlets, extract air elements
Standard range catalogue

Performance curve KWL EC 2600 S

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Extract air	dB(A)	62	52	58	56	54	49	43	27
L_{WA}	Supply air	dB(A)	77	67	69	69	72	67	60	51
L_{PA} at 1 m	Radiation	dB(A)	52	37	48	46	46	43	36	23



Included in delivery

Surface comfort control element
User-friendly control via self-explanatory graphic elements with clear text directly on the touchscreen. Control line (10 metres) included in delivery, other lengths available (ALB EC-SK, accessories).
Dim. mm (W x H x D) 115 x 80 x 25

Control element with connection cable (10 m) included in the scope of delivery.
Dim. mm (WxHxD) 115 x 80 x 25

Accessories for Type Pro WW

Hydraulic unit
WHSH HE 24 V (0-10 V) No. 08318
Controls the flow of the PWW heating element using a three-way valve actuator 24 V (0-10 V) and thus the heat output transferred to the air. Delivered as a complete unit, incl. VL-/RL temperature display, circulating pump and flexible connection hoses.

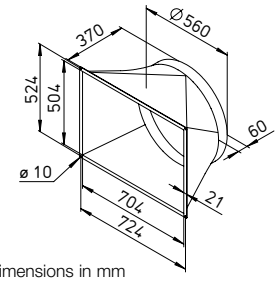
Accessories for all types

Room sensor – Air quality
AIR1/KWL-VOC 0-10V No. 20250
AIR1/KWL-CO2 0-10V No. 20251
AIR1/KWL-FTF 0-10V No. 20252
For measuring the CO_2, mixed gas (VOC) concentration or relative room air humidity. A maximum of one sensor can be connected.
Dim. mm (W x H x D) 85 x 85 x 27

Room sensor – Temperature
TFR-ALB/KWL No. 07277
For measuring the room temperature and controlling the ventilation unit according to the set value. Incl. 20 m control line. Maximum total of one sensor can be connected.
Dim. mm (W x H x D) 80 x 80 x 25

Transition piece – Symmetrical
KWL-ÜS 2600 S No. 08341
From unit flange to round duct systems.

Flexible connecting sleeve
FM 560 No. 01679
For acoustic decoupling, incl. 2 pcs. hose clamps.



Dimensions in mm

Duct shutter, motorised
RVM 560 No. 02583
Prevents cold draughts when the unit is at a standstill. Automatic function through fan operation, with mounted spring return motor (outside of air flow). Installation in any position, closing force adjustable corresponding to fan power and installation position.

Angle flange ring
FR 560 No. 01209
Made of galvanised steel sheet, for duct connection.

Base cover
KWL-SB 2600 S No. 09318
Made of galvanised steel sheet.

Technical data						
For floor-standing installation	**KWL EC 2600 S** **KWL EC 2600 S Pro**		Ref. no. 08331	**KWL EC 2600 S** **KWL EC 2600 S Pro WW**		Ref. no. 08332
Flow rate at level[1] Supply air/extract V̇ m³/h approx.	❸ 2065	❷ 1450	❶ 840	❸ 2065	❷ 1450	❶ 840
Noise dB(A) at 2100 m³/h and 275 Pa Supply air L_{WA} (sound power) Extract air L_{WA} (sound power) Radiation L_{PA} at 1 m	 77 62 52	 n/a n/a n/a	 n/a n/a n/a	 77 62 52	 n/a n/a n/a	 n/a n/a n/a
Power consumption fans 2xW	450	295	175	450	295	175
Standby power consumption	< 1 W			< 1 W		
Voltage/Frequency	3N~, 400 V, 50 Hz			3N~, 400 V, 50 Hz		
Rated current A – Ventilation	2.3 / 2.3 / 2.3			2.3 / 2.3 / 2.3		
– Preheating	10.05 / 10.05 / 10.05			10.05 / 10.05 / 10.05		
– max. total	12.35 / 12.35 / 12.35			12.35 / 12.35 / 12.35		
Electric preheater kW	6.8			6.8		
Heat output/post-heating element kW	–			9.3 (at 60/40 °C) / 8.5 (at 50/40 °C) / 5.3 (at 40/30 °C)		
Summer bypass	automatic (adjustable), with heat exchanger cover			automatic (adjustable), with heat exchanger cover		
Wiring diagram no.	1370			1370		
Temperature operating range	–20 °C to +40 °C			–20 °C to +40 °C		
Installation temperature	+5 °C to +40 °C			+5 °C to +40 °C		
Connection PWW heating element	–			IG 1/2"		
Weight approx. kg	490			500		

[1] Values based on operating ranges defined according to PHI (Passive House Institute).

Relaxed ventilation with KWL® YOGA.

Are your buildings fit for the future? Whether at school or in public buildings, at work or in leisure time – our new, decentralised ventilat-lion units with heat recovery KWL Yoga make it easy to achieve the best indoor air quality.

The extremely compact design and simple installation without an air distribution system also make KWL Yoga perfect for renovation projects. Three available unit sizes for flow rates up to 400, 700 and 1000 m³/h, various equipment versions and the exclusive Style design variant are only some of the highlights of KWL Yoga.

All advantages at a glance:

- Practical: Simple **maintenance and inspection** through freely accessible inspection flaps on the underside of the unit.
- Flexible: Three available unit sizes for flow rates up to **400, 700 and 1000 m³/h.**
- Diverse: Ideal for use in **schools, offices and public facilities.**
- Guaranteed: **Best air quality** with low CO_2 concentration promotes receptiveness and performance.
- Customised: 2 casing variants with 6 different **equipment options:** KWL Yoga and KWL Yoga Style.

KWL Yoga

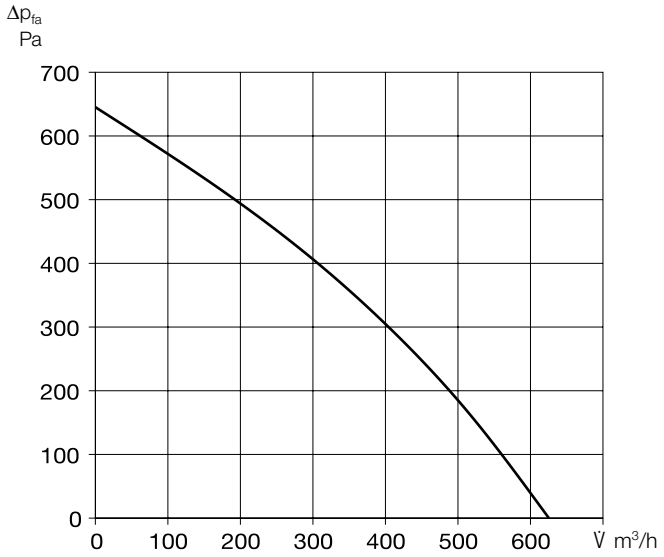
Compact wall units from 400 to 700 m³/h in two versions: KWL Yoga and KWL Yoga Style.

EC

58ff

KWL YOGA / KWL YOGA Style 400

Characteristic curve KWL YOGA / KWL YOGA Style 400



Decentralised compact ventilation units with heat recovery for the supply and extract ventilation of individual rooms, such as classrooms, recreation rooms, offices, commercial units, medical practices and many more. Equipped with highly-efficient aluminium heat exchangers and energy-saving EC motors. Automatic shutters for intake and exhaust prevent cold draughts when the fans are deactivated. The flow-optimised supply air grille allows draught-free ventilation, even in large rooms, through the optimal use of the Coanda effect. Includes a touch control element for easy operation and configuration of unit functions.

Casing
Made of galvanised steel sheet, all casing parts are painted white/powder-coated inside and outside. The double-walled unit casing is equipped with 40 mm thermal and sound insulation on all sides. Easy installation and maintenance due to large inspection panel.

Installation
Ceiling installation is carried out using the vibration-damping fastening elements included in the scope of delivery. Alternatively, combined wall-ceiling installation is possible with the wall bracket set (Ref. no. 40067).

Heat exchanger
Large aluminium cross counterflow heat exchanger with up to 90 % heat recovery efficiency. Dismantling is possible in a few steps.

Fans
Two low-noise, high-performance EC fans with backward curved impellers for maximum energy efficiency.

Sensor system
Integrated CO_2 sensor system. Alternatively, this can be replaced by an external sensor (VOC, CO_2 or humidity) positioned in the room. KWL Yoga can also be controlled with a motion sensor (combination not possible!) instead of the sensors.

Air flow
Supply air on front side, two extract air openings on the underside of the unit. Intake and exhaust air connectors are equipped with spring-loaded shutters.

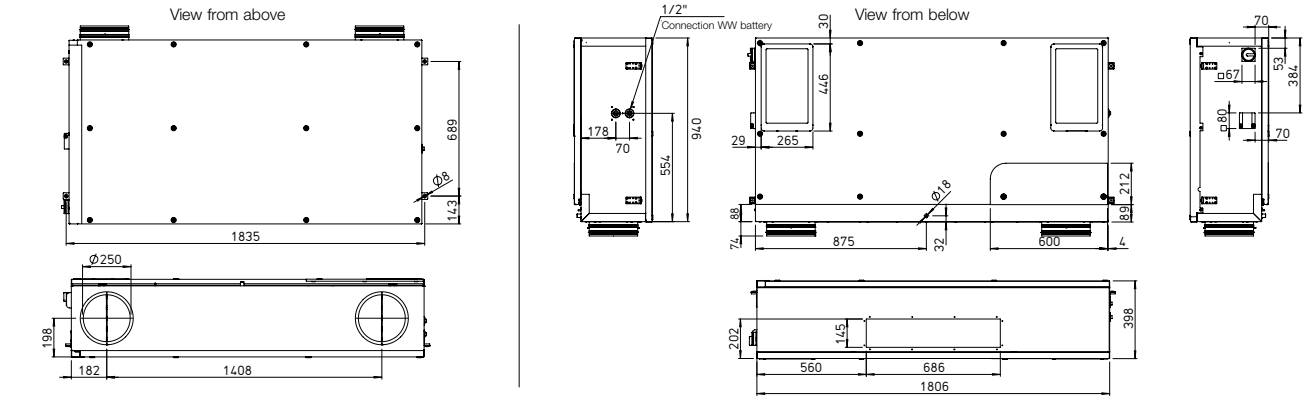
Condensate connection
Condensate drain at the bottom (wall side), optionally via ball siphon in surface-mounted or flush-mounted design or via condensate pump.

Air filter
Clean intake air flow via ISO ePM1 60% filter (F7). Two bag filters for extract air: ISO Coarse 60 % (G4); optionally available: ISO ePM10 60 % (M5).

Summer operation
Equipped with automatic bypass function (bypassing the heat ex-

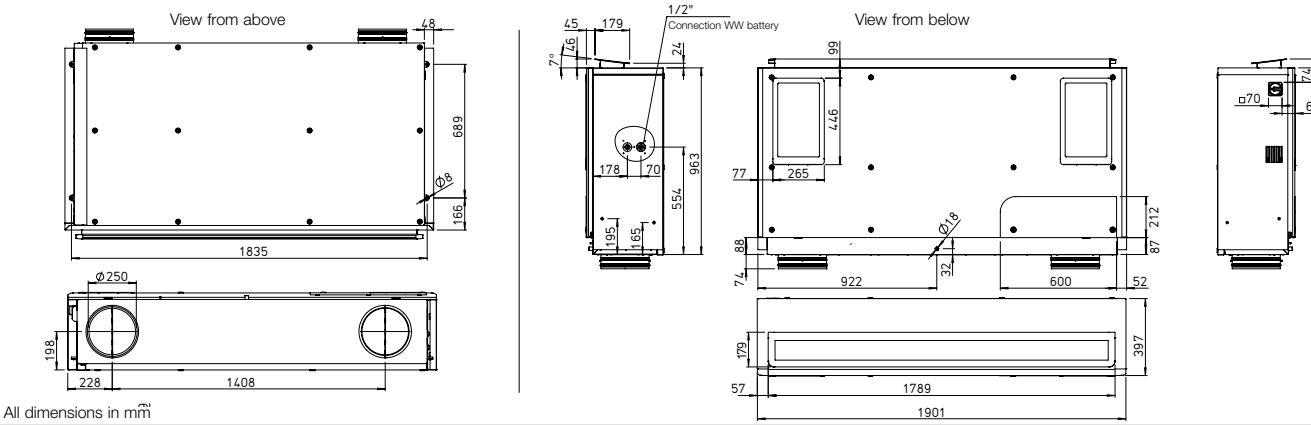
	Without electrical preheater/ without electrical after-heater	Without electrical preheater/ with electrical after-heater	Without electrical preheater/ with warm water after-heater	With electrical preheater/ without after-heater	With electrical preheater/with electrical after-heater
	KWL YOGA 400 Ref. no. 40007 **KWL YOGA Style 400** Ref. no. 40008	**KWL YOGA 400 EN** Ref. no. 40009 **KWL YOGA Style 400 EN** Ref. no. 40010	**KWL YOGA 400 WW** Ref. no. 40011 **KWL YOGA Style 400 WW** Ref. no. 40012	**KWL YOGA 400 EV** Ref. no. 40013 **KWL YOGA Style 400 EV** Ref. no. 40014	**KWL YOGA 400 EV/EN** Ref. no. 40015 **KWL YOGA Style 400 EV/EN** Ref. no. 40016
Intake/exhaust air connector diameter	250	250	250	250	250
Air volume V̇ m³/h (Min. - Max.)	169 - 625	169 - 625	169 - 625	169 - 625	169 - 625
Radiation L_{PA} dB(A) in 1 m / 3 m (at 0 Pa)					
– 169 m³/h	27 / 20	27 / 20	27 / 20	27 / 20	27 / 20
– 316 m³/h	31 / 24	31 / 24	31 / 24	31 / 24	31 / 24
– 415 m³/h	35 / 29	35 / 29	35 / 29	35 / 29	35 / 29
– 625 m³/h	45 / 38	45 / 38	45 / 38	45 / 38	45 / 38
Maximum power consumption W					
– fans	2 x 170	2 x 170	2 x 170	2 x 170	2 x 170
– el. preheater / after-heater	–– / ––	–– / 1500	–– / ––	1500 / ––	1500 / 1500
– total	350	1850	350	1850	3350
Rated current A					
– fans	2 x 1.20	2 x 1.20	2 x 1.20	2 x 1.20	2 x 1.20
– el. preheater / after-heater	–– / ––	–– / 6.53	–– / ––	6.53 / ––	6.53 / 6.53
– total	2.45	8.98	2.45	8.98	15.51
Voltage / frequency	1~, 230 V, 50 Hz	1~, 230 V, 50 Hz	1~, 230 V, 50 Hz	1~, 230 V, 50 Hz	1~, 230 V, 50 Hz
Protection category IP	20	20	20	20	20
Temperature operating range °C	-10 to +40	-10 to +40	-10 to +40	-20 to +40	-20 to +40
Installation temperature °C	+5 to +40	+5 to +40	+5 to +40	+5 to +40	+5 to +40
Weight approx. kg	82 (KWL YOGA Style: 92)	83 (KWL YOGA Style: 93)	85 (KWL YOGA Style: 95)	83 (KWL YOGA Style: 93)	84 (KWL YOGA Style: 94)
Wiring diagram no.	1384	1384	1384	1384	1384

Dimensions KWL YOGA 400



All dimensions in mm

Dimensions KWL YOGA Style 400



All dimensions in mm

changer to use the cool night air for controlling the room temperature) as standard.

Heat exchanger frost protection

The standard frost monitoring automatically regulates the supply air flow and the built-in electrical preheater, depending on the selected equipment.

	With electrical preheater/ with warm water after-heater
	KWL YOGA 400 EV/WW Ref. no. 40017 **KWL YOGA Style 400 EV/WW** Ref. no. 40018
	250
	169 - 625
	27 / 20 31 / 24 35 / 29 45 / 38
	2 x 170
	1500 / ––
	1850
	2 x 1.20
	6.53 / ––
	8.98
	1~, 230 V, 50 Hz
	20
	-20 to +40
	+5 to +40
	86 (KWL YOGA Style: 96)
	1384

After-heater

Unit variants with integrated post-heating (warm water or electrical after-heater) ensure the comfortable and energy-efficient post-heating of supply air. The target supply air temperature is set on the control element. The use of hydraulic unit type WHSH HE 24 V (0-10V), (accessories) is recommended for controlling the warm water heating element.

Power control

The included comfort control element with touch functionality and easy menu navigation provide the following functions:

- ☐ Demand-oriented ventilation, optionally with CO_2, VOC, or humidity sensor (1 sensor can be connected).
- ☐ Initial commissioning (automatic determination of system characteristic curve).
- ☐ Fire alarm contact connection.
- ☐ Weekly or daily programme.
- ☐ Automatic bypass (summer operation: use of cool night air).
- ☐ Pressure monitoring of filter contamination.
- ☐ Displays required filter replacement.
- ☐ 5 password-protected function levels can be configured.
- ☐ Control via central building control system possible (ModBus RTU and ModBus TCP, BACnet)
- ☐ Including control line cable (10 m)

Electrical connection

After opening the inspection cover, the easily accessible terminal box is located in the side of the casing. The isolator/main switch is located on the outside of the unit for easy maintenance. It can be locked using a padlock to prevent unauthorised access.

Sensors

Infrared motion sensor for detecting the presence of people in the room.

BWM Ref. no. 08323

CO_2 sensor for measuring the CO_2 concentration.

AIR1/KWL-VOC 0-10V No. 20250

VOC sensor for measuring the mixed gas concentration (VOC).

AIR1/KWL-CO2 0-10V No. 20251

Humidity-temperature sensor for measuring the relative air humidity.

AIR1/KWL-FTF 0-10V No. 20252

Installation accessories

Flush-mounted/wall-mounted siphon

KWL-KS WE Ref. no. 40064

Ball-tube siphon

KWL-KS Ref. no. 40065

Condensate pump

KWL-KP Ref. no. 40066

Wall bracket console set for combined wall-ceiling installation.

KWL YOGA-WH Ref. no. 40067

Hydraulic unit

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

Facade grille, circular

FGR 250 Ref. no. 40181

FGR 315 Ref. no. 40182

Filter

Spare air filter (extract air)

ISO Coarse 60% (G4). Unit = 1 pc.

ELF-KWL YOGA 400/Coarse 60% Ref. no. 40068

Spare air filter (extract air)

ISO ePM 10 60% (M5). Unit = 1 pc.

ELF-KWL YOGA 400/ePM 10 60% Ref. no. 40071

Note: 2 extract air filters are required per unit.

Spare air filter (intake air)

ISO ePM1 60% (F7). Unit = 1 pc.

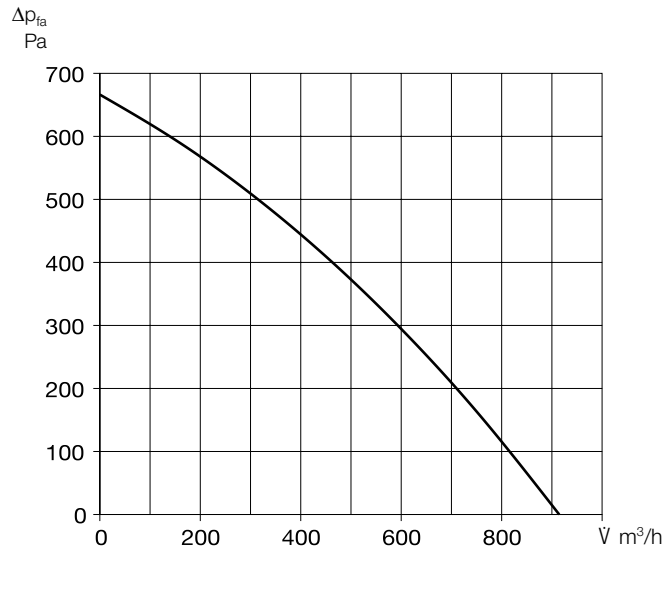
ELF-KWL YOGA 400/ePM1 60% Ref. no. 40074

Important note

Further information on accessories can be found on page 64.

KWL YOGA / KWL YOGA Style 700

Characteristic curve KWL YOGA / KWL YOGA Style 700



Decentralised compact ventilation units with heat recovery for the supply and extract ventilation of individual rooms, such as classrooms, recreation rooms, offices, commercial units, medical practices and many more. Equipped with highly-efficient aluminium heat exchangers and energy-saving EC motors. Automatic shutters for intake and exhaust prevent cold draughts when the fans are deactivated. The flow-optimised supply air grille allows draught-free ventilation, even in large rooms, through the optimal use of the Coanda effect. Includes a touch control element for easy operation and configuration of unit functions.

Casing
Made of galvanised steel sheet, all casing parts are painted white/powder-coated inside and outside. The double-walled unit casing is equipped with 40 mm thermal and sound insulation on all sides. Easy installation and maintenance due to large inspection panel.

Installation
Ceiling installation is carried out using the vibration-damping fastening elements included in the scope of delivery. Alternatively, combined wall-ceiling installation is possible with the wall bracket set (Ref. no. 40067).

Heat exchanger
Large aluminium cross counterflow heat exchanger with up to 90 % heat recovery efficiency. Dismantling is possible in a few steps.

Fans
Two low-noise, high-performance EC fans with backward curved impellers for maximum energy efficiency.

Sensor system
Integrated CO_2 sensor system. Alternatively, this can be replaced by an external sensor (VOC, CO_2 or humidity) positioned in the room. KWL Yoga can also be controlled with a motion sensor (combination not possible!) instead of the sensors.

Air flow
Supply air on front side, two extract air openings on the underside of the unit. Intake and exhaust air connectors are equipped with spring-loaded shutters.

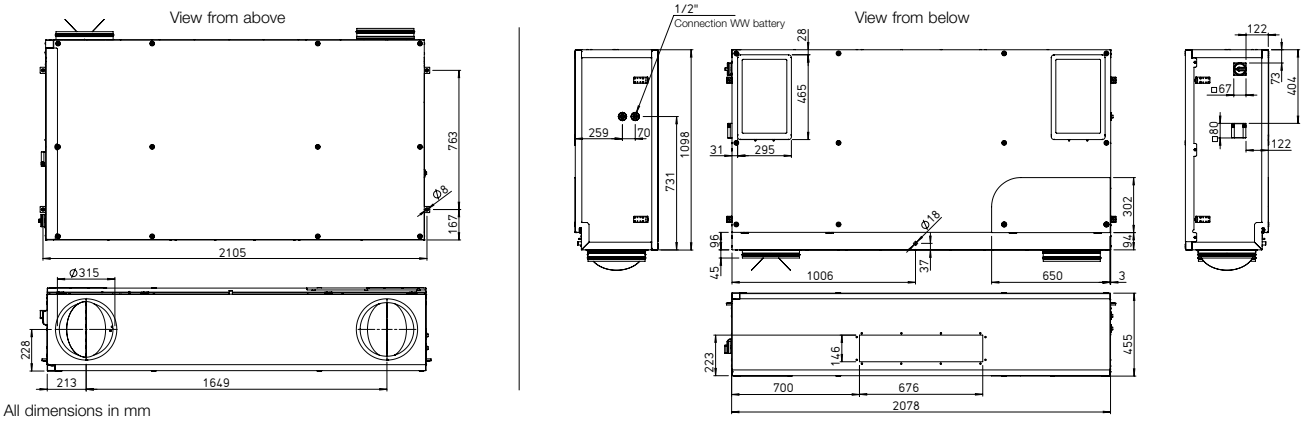
Condensate connection
Condensate drain at the bottom (wall side), optionally via ball siphon in surface-mounted or flush-mounted design or via condensate pump.

Air filter
Clean intake air flow via ISO ePM1 60% filter (F7). Two bag filters for extract air: ISO Coarse 60 % (G4); optionally available: ISO ePM10 60 % (M5).

Summer operation
Equipped with automatic bypass function (bypassing the heat ex-

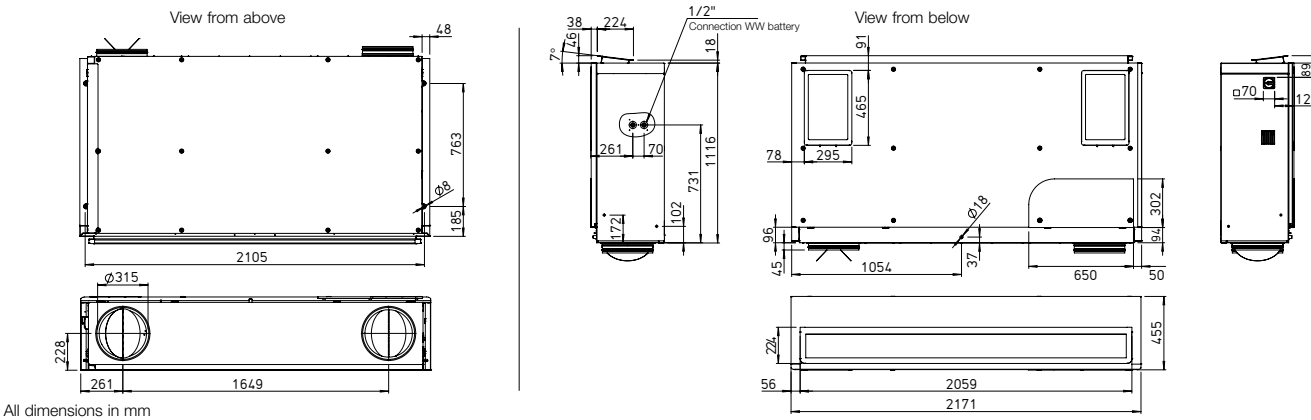
	Without electrical preheater/ without electrical after-heater	Without electrical preheater/ with electrical after-heater	Without electrical preheater/ with warm water after-heater	With electrical preheater/ without after-heater	With electrical preheater/with electrical after-heater
	KWL YOGA 700 Ref. no. 40019	**KWL YOGA 700 EN** Ref. no. 40021	**KWL YOGA 700 WW** Ref. no. 40023	**KWL YOGA 700 EV** Ref. no. 40025	**KWL YOGA 700 EV/EN** Ref. no. 40027
	KWL YOGA Style 700 Ref. no. 40020	**KWL YOGA Style 700 EN** Ref. no. 40022	**KWL YOGA Style 700 WW** Ref. no. 40024	**KWL YOGA Style 700 EV** Ref. no. 40026	**KWL YOGA Style 700 EV/EN** Ref. no. 40028
Intake/exhaust air connector diameter	315	315	315	315	315
Air volume V̇ m³/h (Min. - Max.)	307 - 917	307 - 917	307 - 917	307 - 917	307 - 917
Radiation L_{PA} dB(A) in 1 m / 3 m (at 0 Pa)					
– 307 m³/h	26 / 20	26 / 20	26 / 20	26 / 20	26 / 20
– 449 m³/h	27 / 21	27 / 21	27 / 21	27 / 21	27 / 21
– 589 m³/h	31 / 24	31 / 24	31 / 24	31 / 24	31 / 24
– 917 m³/h	42 / 35	42 / 35	42 / 35	42 / 35	42 / 35
Maximum power consumption W					
– fans	2 x 170	2 x 170	2 x 170	2 x 170	2 x 170
– el. preheater / after-heater	–– / ––	–– / 2250	–– / ––	2000 / ––	2000 / 2250
– total	350	2600	350	2350	4600
Rated current A					
– fans	2 x 1.20	2 x 1.20	2 x 1.20	2 x 1.20	2 x 1.20
– el. preheater / after-heater	–– / ––	–– / 9.79	–– / ––	8.7 / ––	8.7 / 9.79
– total	2.45	12.24	2.45	11.15	9.79
Voltage / frequency	1~, 230 V, 50 Hz	1~, 230 V, 50 Hz	1~, 230 V, 50 Hz	1~, 230 V, 50 Hz	3~, 400 V, 50 Hz
Protection category IP	20	20	20	20	20
Temperature operating range °C	-10 to +40	-10 to +40	-10 to +40	-20 to +40	-20 to +40
Installation temperature °C	+5 to +40	+5 to +40	+5 to +40	+5 to +40	+5 to +40
Weight approx. kg	116 (KWL YOGA Style: 126)	117 (KWL YOGA Style: 127)	119 (KWL YOGA Style: 129)	117 (KWL YOGA Style: 127)	118 (KWL YOGA Style: 128)
Wiring diagram no.	1384	1384	1384	1384	1384

Dimensions KWL YOGA 700



All dimensions in mm

Dimensions KWL YOGA Style 700



All dimensions in mm

changer to use the cool night air for controlling the room temperature) as standard.

Heat exchanger frost protection

The standard frost monitoring automatically regulates the supply air flow and the built-in electrical preheater, depending on the selected equipment.

	With electrical preheater/ with warm water after-heater
	KWL YOGA 700 EV/WW Ref. no. 40029 **KWL YOGA Style 700 EV/WW** Ref. no. 40030
	315
	307 - 917
	26 / 20
	27 / 21
	31 / 24
	42 / 35
	2 x 170
	2000 / –– 2350
	2 x 1.20
	8.7 / ––
	11.15
	1~, 230 V, 50 Hz
	20
	-20 to +40
	+5 to +40
	120 (KWL YOGA Style: 130)
	1384

After-heater

Unit variants with integrated post-heating (warm water or electrical after-heater) ensure the comfortable and energy-efficient post-heating of supply air. The target supply air temperature is set on the control element. The use of hydraulic unit type WHSH HE 24 V (0-10V), (accessories) is recommended for controlling the warm water heating element.

Power control

The included comfort control element with touch functionality and easy menu navigation provide the following functions:

- ☐ Demand-oriented ventilation, optionally with CO_2, VOC, or humidity sensor (1 sensor can be connected).
- ☐ Initial commissioning (automatic determination of system characteristic curve).
- ☐ Fire alarm contact connection.
- ☐ Weekly or daily programme.
- ☐ Automatic bypass (summer operation: use of cool night air).
- ☐ Pressure monitoring of filter contamination.
- ☐ Displays required filter replacement.
- ☐ 5 password-protected function levels can be configured.
- ☐ Control via central building control system possible (ModBus RTU and ModBus TCP, BACnet)
- ☐ Including control line cable (10 m)

Electrical connection

After opening the inspection cover, the easily accessible terminal box is located in the side of the casing. The isolator/main switch is located on the outside of the unit for easy maintenance. It can be locked using a padlock to prevent unauthorised access.

Sensors

Infrared motion sensor for detecting the presence of people in the room.

BWM Ref. no. 08323

CO_2 sensor for measuring the CO_2 concentration.

AIR1/KWL-VOC 0-10V No. 20250

VOC sensor for measuring the mixed gas concentration (VOC).

AIR1/KWL-CO2 0-10V No. 20251

Humidity-temperature sensor for measuring the relative air humidity.

AIR1/KWL-FTF 0-10V No. 20252

Installation accessories

Flush-mounted/wall-mounted siphon

KWL-KS WE Ref. no. 40064

Ball-tube siphon

KWL-KS Ref. no. 40065

Condensate pump

KWL-KP Ref. no. 40066

Wall bracket console set for combined wall-ceiling installation.

KWL YOGA-WH Ref. no. 40067

Hydraulic unit

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

Facade grille, circular

FGR 250 Ref. no. 40181

FGR 315 Ref. no. 40182

Filter

Spare air filter (extract air)

ISO Coarse 60% (G4). Unit = 1 pc.

ELF-KWL YOGA 400/Coarse 60% Ref. no. 40068

Spare air filter (extract air)

ISO ePM 10 60% (M5). Unit = 1 pc.

ELF-KWL YOGA 400/ePM 10 60% Ref. no. 40071

Note: 2 extract air filters are required per unit.

Spare air filter (intake air)

ISO ePM1 60% (F7). Unit = 1 pc.

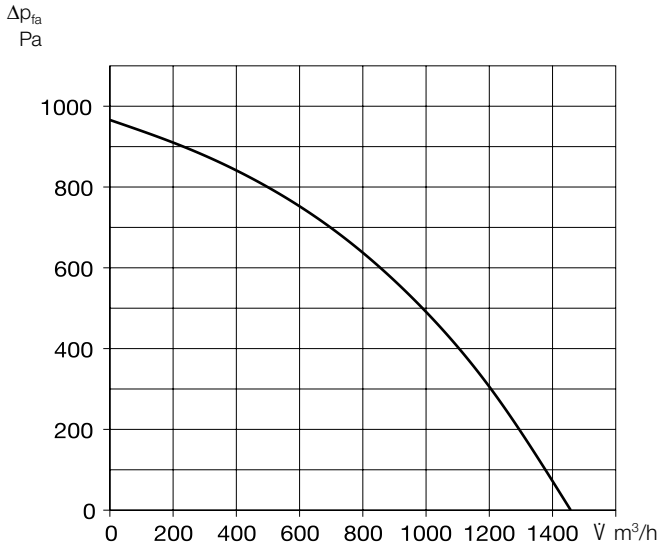
ELF-KWL YOGA 400/ePM1 60% Ref. no. 40074

Important note

Further information on accessories can be found on page 64.

KWL YOGA / KWL YOGA Style 1000

Characteristic curve KWL YOGA / KWL YOGA Style 1000



Decentralised compact ventilation units with heat recovery for the supply and extract ventilation of individual rooms, such as classrooms, recreation rooms, offices, commercial units, medical practices and many more. Equipped with highly-efficient aluminium heat exchangers and energy-saving EC motors. Automatic shutters for intake and exhaust prevent cold draughts when the fans are deactivated. The flow-optimised supply air grille allows draught-free ventilation, even in large rooms, through the optimal use of the Coanda effect. Includes a touch control element for easy operation and configuration of unit functions.

Casing
Made of galvanised steel sheet, all casing parts are painted white/powder-coated inside and outside. The double-walled unit casing is equipped with 40 mm thermal and sound insulation on all sides. Easy installation and maintenance due to large inspection panel.

Installation
Ceiling installation is carried out using the vibration-damping fastening elements included in the scope of delivery. Alternatively, combined wall-ceiling installation is possible with the wall bracket set (Ref. no. 40067).

Heat exchanger
Large aluminium cross counterflow heat exchanger with up to 90 % heat recovery efficiency. Dismantling is possible in a few steps.

Fans
Two low-noise, high-performance EC fans with backward curved impellers for maximum energy efficiency.

Sensor system
Integrated CO_2 sensor system. Alternatively, this can be replaced by an external sensor (VOC, CO_2 or humidity) positioned in the room. KWL Yoga can also be controlled with a motion sensor (combination not possible!) instead of the sensors.

Air flow
Supply air on front side, two extract air openings on the underside of the unit. Intake and exhaust air connectors are equipped with spring-loaded shutters.

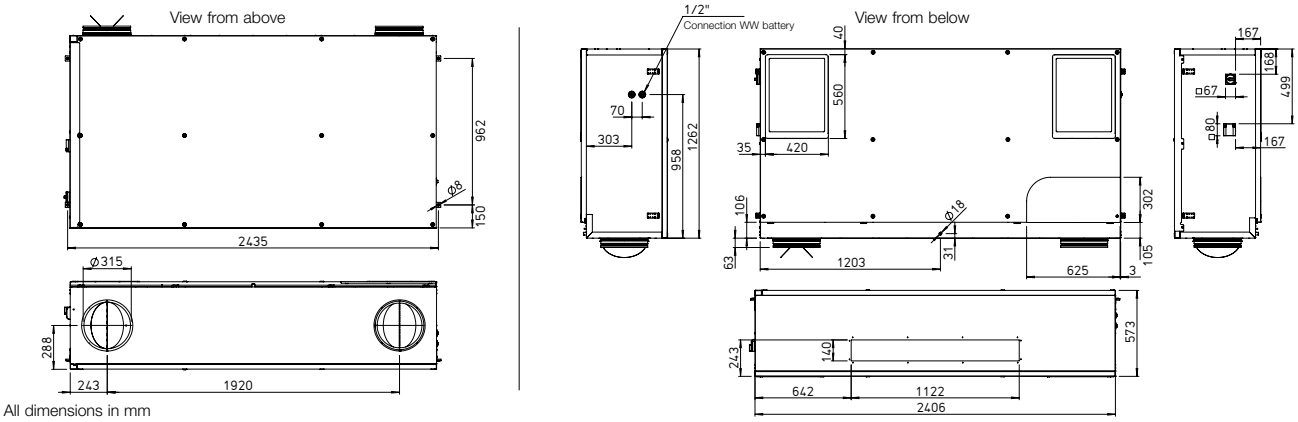
Condensate connection
Condensate drain at the bottom (wall side), optionally via ball siphon in surface-mounted or flush-mounted design or via condensate pump.

Air filter
Clean intake air flow via ISO ePM1 60% filter (F7). Two bag filters for extract air: ISO Coarse 60 % (G4); optionally available: ISO ePM10 60 % (M5).

Summer operation
Equipped with automatic bypass function (bypassing the heat ex-

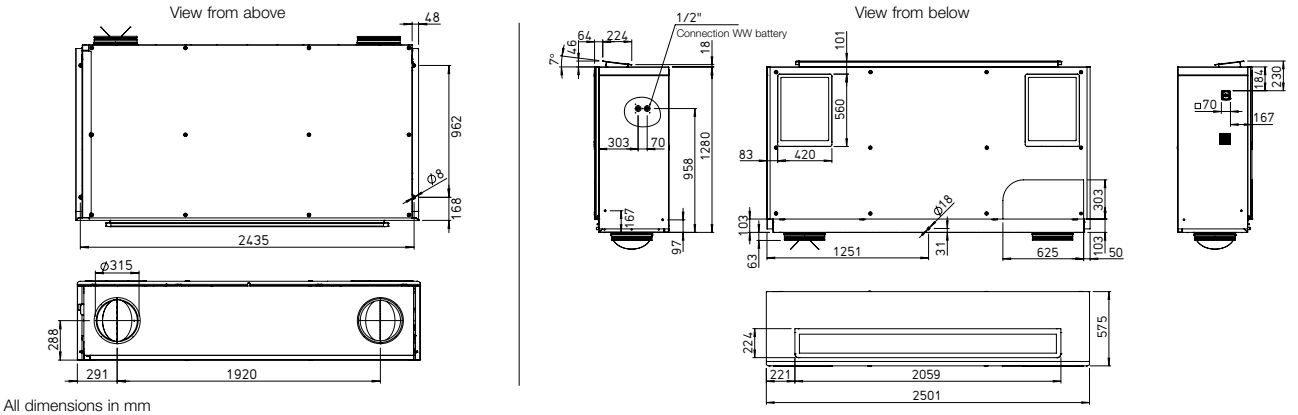
	Without electrical preheater/ without electrical after-heater	Without electrical preheater/ with electrical after-heater	Without electrical preheater/ with warm water after-heater	With electrical preheater/ without after-heater	With electrical preheater/with electrical after-heater
	KWL YOGA 1000 Ref. no. 40031	**KWL YOGA 1000 EN** Ref. no. 40033	**KWL YOGA 1000 WW** Ref. no. 40035	**KWL YOGA 1000 EV** Ref. no. 40037	**KWL YOGA 1000 EV/EN** Ref. no. 40039
	KWL YOGA Style 1000 Ref. no. 40032	**KWL YOGA Style 1000 EN** Ref. no. 40034	**KWL YOGA Style 1000 WW** Ref. no. 40036	**KWL YOGA Style 1000 EV** Ref. no. 40038	**KWL YOGA Style 1000 EV/EN** Ref. no. 40040
Intake/exhaust air connector diameter	315	315	315	315	315
Air volume V̇ m³/h (Min. - Max.)	499 - 1456	499 - 1456	499 - 1456	499 - 1456	499 - 1456
Radiation L_{PA} dB(A) in 1 m / 3 m (at 0 Pa)					
– 499 m³/h	24 / 18	24 / 18	24 / 18	24 / 18	24 / 18
– 772 m³/h	30 / 24	30 / 24	30 / 24	30 / 24	30 / 24
– 1018 m³/h	35 / 29	35 / 29	35 / 29	35 / 29	35 / 29
– 1456 m³/h	47 / 41	47 / 41	47 / 41	47 / 41	47 / 41
Maximum power consumption W					
– fans	2 x 395	2 x 395	2 x 385	2 x 395	2 x 395
– el. preheater / after-heater	–– / ––	–– / 3000	–– / ––	3000 / ––	3000 / 3000
– total	800	3800	800	3800	6800
Rated current A					
– fans	2 x 2.4	2 x 2.4	2 x 2.4	2 x 2.4	2 x 2.4
– el. preheater / after-heater	–– / ––	–– / 4.33	–– / ––	7.5 / ––	7.5 / 4.33
– total	4.85	9.18	4.85	7.5	11.83
Voltage / frequency	1~, 230 V, 50 Hz	3~, 400 V, 50 Hz	1~, 230 V, 50 Hz	3~, 400 V, 50 Hz	3~, 400 V, 50 Hz
Protection category IP	20	20	20	20	20
Temperature operating range °C	-10 to +40	-10 to +40	-10 to +40	-20 to +40	-20 to +40
Installation temperature °C	+5 to +40	+5 to +40	+5 to +40	+5 to +40	+5 to +40
Weight approx. kg	139 (KWL YOGA Style: 149)	140 (KWL YOGA Style: 150)	142 (KWL YOGA Style: 152)	140 (KWL YOGA Style: 150)	141 (KWL YOGA Style: 151)
Wiring diagram no.	1384	1384	1384	1384	1384

Dimensions KWL YOGA 1000



All dimensions in mm

Dimensions WL YOGA Style 1000



All dimensions in mm

changer to use the cool night air for controlling the room temperature) as standard.

Heat exchanger frost protection

The standard frost monitoring automatically regulates the supply air flow and the built-in electrical preheater, depending on the selected equipment.

	With electrical preheater/ with warm water after-heater
	KWL YOGA 1000 EV/WW Ref. no. 40041 **KWL YOGA Style 1000 EV/WW** Ref. no. 40042
	315
	499 - 1456
	24 / 18
	30 / 24
	35 / 29
	47 / 41
	2 x 395
	3000 / ––
	3800
	2 x 2.4
	7.5 / ––
	7.5
	3~, 400 V, 50 Hz
	20
	-20 to +40
	+5 to +40
	143 (KWL YOGA Style: 153)
	1384

After-heater

Unit variants with integrated post-heating (warm water or electrical after-heater) ensure the comfortable and energy-efficient post-heating of supply air. The target supply air temperature is set on the control element. The use of hydraulic unit type WHSH HE 24 V (0-10V), (accessories) is recommended for controlling the warm water heating element.

Power control

The included comfort control element with touch functionality and easy menu navigation provide the following functions:

- ☐ Demand-oriented ventilation, optionally with CO_2, VOC, or humidity sensor (1 sensor can be connected).
- ☐ Initial commissioning (automatic determination of system characteristic curve).
- ☐ Fire alarm contact connection.
- ☐ Weekly or daily programme.
- ☐ Automatic bypass (summer operation: use of cool night air).
- ☐ Pressure monitoring of filter contamination.
- ☐ Displays required filter replacement.
- ☐ 5 password-protected function levels can be configured.
- ☐ Control via central building control system possible (ModBus RTU and ModBus TCP, BACnet)
- ☐ Including control line cable (10 m)

Electrical connection

After opening the inspection cover, the easily accessible terminal box is located in the side of the casing. The isolator/main switch is located on the outside of the unit for easy maintenance. It can be locked using a padlock to prevent unauthorised access.

Sensors

Infrared motion sensor for detecting the presence of people in the room.

BWM Ref. no. 08323

CO_2 sensor for measuring the CO_2 concentration.

AIR1/KWL-VOC 0-10V No. 20250

VOC sensor for measuring the mixed gas concentration (VOC).

AIR1/KWL-CO2 0-10V No. 20251

Humidity-temperature sensor for measuring the relative air humidity.

AIR1/KWL-FTF 0-10V No. 20252

Installation accessories

Flush-mounted/wall-mounted siphon

KWL-KS WE Ref. no. 40064

Ball-tube siphon

KWL-KS Ref. no. 40065

Condensate pump

KWL-KP Ref. no. 40066

Wall bracket console set for combined wall-ceiling installation.

KWL YOGA-WH Ref. no. 40067

Hydraulic unit

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

Facade grille, circular

FGR 250 Ref. no. 40181

FGR 315 Ref. no. 40182

Filter

Spare air filter (extract air)

ISO Coarse 60% (G4). Unit = 1 pc.

ELF-KWL YOGA 700/Coarse 60% Ref. no. 40069

Spare air filter (extract air)

ISO ePM 10 60% (M5). Unit = 1 pc.

ELF-KWL YOGA 700/ePM 10 60% Ref. no. 40072

Note: 2 extract air filters are required per unit.

Spare air filter (intake air)

ISO ePM1 60% (F7). Unit = 1 pc.

ELF-KWL YOGA 700/ePM1 60% Ref. no. 40075

Important note

Further information on accessories can be found on page 64.

KWL-KS WE

Flush-mounted/wall-mounted siphon

Flush-mounted condensate siphon for ventilation units, for odourless discharge of condensate in the sewage system. Desiccation-safe and cleanable by removing siphon cartridge. Incl. plug-in seal (rubber) for Ø 20 – 32 mm. Vertical outlet connector DN32. Structural protection can be cut to installation depth. Incl. odour barrier, pursuant to EN 681, DIN 19541.

Technical data	KWL-KS WE Ref. no. 40064
Material	Polypropylene (PP) and ABS
Drainage capacity l/s	0.15
Min. - max. duct length (feed) in m	0.2 – 3.5
Minimum installation depth in mm	60
Condensate line connection	External Ø 20 – 32 mm / Internal Ø 18 mm
Dimensions (L x W x H) in mm	110 x 110 x 60
Weight approx. kg	0.25

KWL-KS

Ball-tube siphon

Ball-tube siphon for ventilation units, for odourless discharge of condensate in the sewage system. Desiccation-safe. Incl. plug-in seal (rubber) for Ø 9 – 29 mm. Horizontal outlet connector DN40.

Technical data	KWL-KS Ref. no. 40065
Material	Polypropylene (PP)
Drainage capacity l/s	0.6
Drain connection	DN40

KWL-KP

Condensate pump

Technical data	KWL-KP Ref. no. 40066
Maximum pumping capacity	35 l/h at 0 m discharge head
Maximum recommended discharge head	15 m
Maximum suction head	2 m (self-priming)
Noise level	35 dB(A) at 1 m
Supply voltage	230 V, 0.1 A, 16 W, 50/60 Hz
Maximum water temperature	40 °C
Pressure line (inside)	6 mm
Protection category	IP21
Safety switch	Break contact 3.0 A
Weight approx. kg	0.45

KWL Yoga-WH

Wall bracket

Console set for combined wall-ceiling installation of KWL Yoga units.
Set consists of 2 pcs. Material: steel sheet, powder-coated.
Colour: white, RAL 9016.

KWL YOGA-WH	Ref. no. 40067

WHSH HE 24 V (0-10V)

Hydraulic unit

Controls the flow of the PWW heater element by means of three point valve actuator 24 V (0-10 V) and thus the thermal output which is conveyed to the air. Delivered as complete unit, incl. flow/return temperature display, circulation pump and flexible connecting pipes.

WHSH HE 24V (0-10V)	Ref. no. 08318

AIR1/KWL-VOC 0-10V / -CO2 0-10V / -FTF 0-10V

Room sensor

For measuring the CO_2, mixed gas (VOC) concentration or relative humidity. Dim. mm (W x H x D) 85 x 85 x 27

VOC sensor for measuring the mixed gas concentration (VOC).

AIR1/KWL-VOC 0-10V	Ref. no. 20250

CO_2 sensor for measuring the CO_2 concentration.

AIR1/KWL-CO2 0-10V	Ref. no. 20251

Humidity-temperature sensor for measuring the relative air humidity.

AIR1/KWL-FTF 0-10V	Ref. no. 20252

BWM

Infrared motion sensor

Motion sensor for detecting the presence of people in the room. Wall installation (surface mounted) (cable entry at top or bottom) or installation in flush-mounted box Ø 55 mm (cable entry at back).

Technical data	BWM Ref. no. 08323
Material casing	ABS plastic, white (similar RAL 9010)
Protection class	III
Protection category	IP 30
Electrical connection	0.14 – 1.5 mm² (screw terminals)
Dimensions in mm (W x H x D)	85 x 85 x 27

FGR

Facade grille, circular

For flush covering of ventilation openings on the facade. Can be used for circular outdoor and exhaust air ducts. Two holes in the pipe spigot allow secure fastening with screws, to be provided by customer.
Solid aluminium construction. Fixed blades with stainless steel wire mesh behind, mesh size 10 x 10 mm.

FGR 250	Ref. no. 40181
FGR 315	Ref. no. 40182

ELF-KWL YOGA

Intake air filter

Extract air filter

Filter

Spare air filter (extract air) ISO Coarse 60 % (G4). Unit = 1 pc

ELF-KWL YOGA 400/Coarse 60%	Ref. no. 40068
ELF-KWL YOGA 700/Coarse 60%	Ref. no. 40069
ELF-KWL YOGA 1000/Coarse 60%	Ref. no. 40070

Note: 2 extract air filters are required per unit.

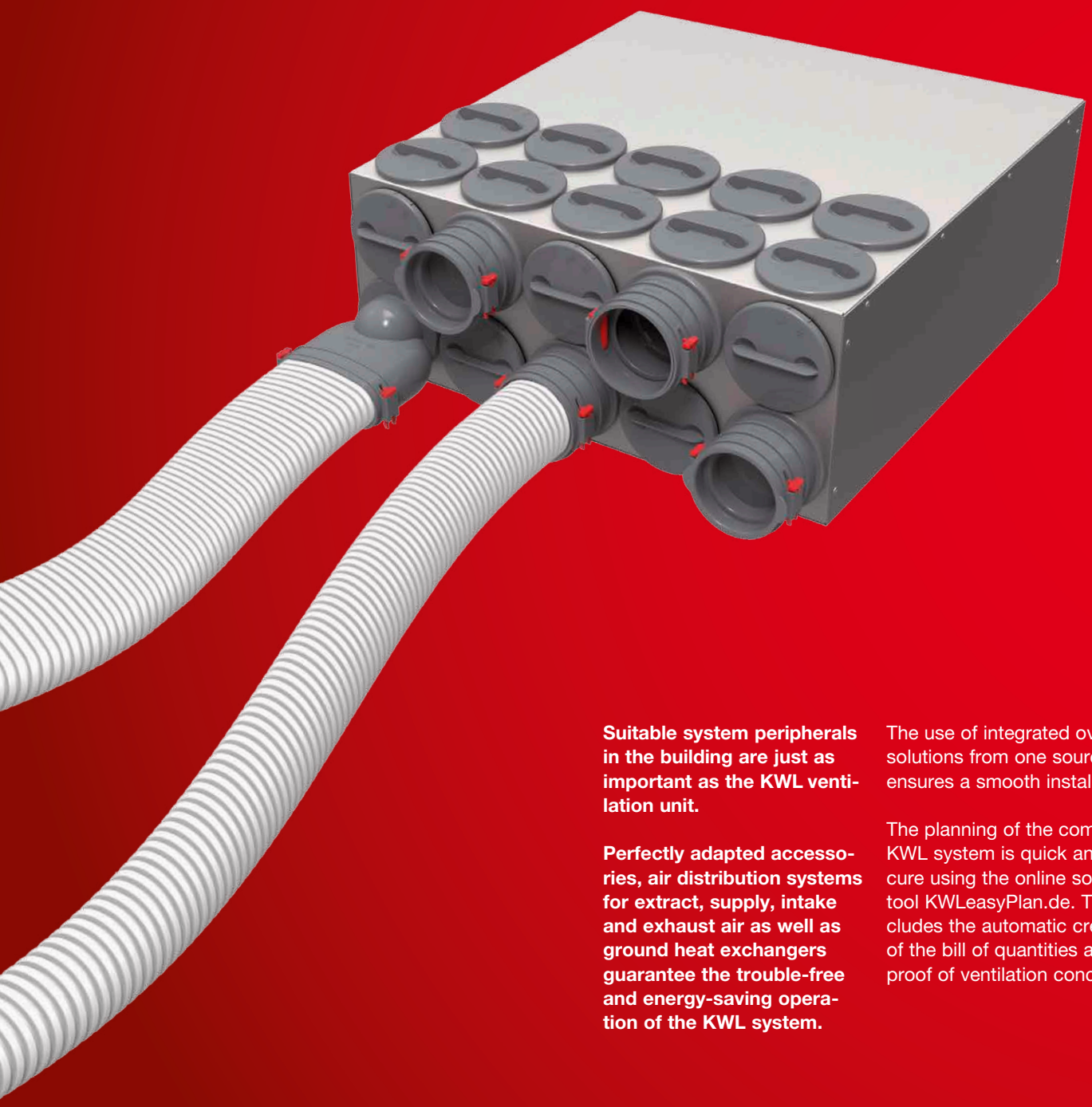
Spare air filter (extract air) ISO ePM 10 60 % (M5). Unit = 1 pc.

ELF-KWL YOGA 400/ePM 10 60%	Ref. no. 40071
ELF-KWL YOGA 700/ePM 10 60%	Ref. no. 40072
ELF-KWL YOGA 1000/ePM 10 60%	Ref. no. 40073

Spare air filter (intake air) ISO ePM1 60% (F7). Unit = 1 pc.

ELF-KWL YOGA 400/ePM1 60%	Ref. no. 40074
ELF-KWL YOGA 700/ePM1 60%	Ref. no. 40075
ELF-KWL YOGA 1000/ePM1 60%	Ref. no. 40076

Everything from one source. For the perfect functioning of the KWL® system.



Suitable system peripherals in the building are just as important as the KWL ventilation unit.

Perfectly adapted accessories, air distribution systems for extract, supply, intake and exhaust air as well as ground heat exchangers guarantee the trouble-free and energy-saving operation of the KWL system.

The use of integrated overall solutions from one source ensures a smooth installation.

The planning of the complete KWL system is quick and secure using the online software tool KWLeasyPlan.de. This includes the automatic creation of the bill of quantities and proof of ventilation concept.

Accessories

84f

Flexible duct system FlexPipe

The right solution for every type of installation. FlexPipe*plus* combines the proven round duct concept with oval components.

This makes the planning and installation of complete ventilation systems with heat recovery much easier and DIN-compliant.

FlexPipe*plus* provides the greatest possible flexibility with low parts diversity.

68ff

Duct system IsoPipe and air distribution system RenoPipe

IsoPipe is the practical alternative to spiral duct installation with subsequent thermal insulation. Since it is already fully insulated, IsoPipe is ideally suitable for intake air and exhaust air ducting as well as supply air and extract air ducting in basements or low-temperature zones.

RenoPipe is the perfect solution for energy-saving renovations and it is simply surface-mounted to the ceiling or wall.

78ff

KWL MultiZoneBox

When combined with a central building KWL unit from Helios, the MultiZoneBox ensures demand-oriented ventilation in multi-floor buildings.

Supply/extract air-side volume flow control, sound insulation, air distribution and intelligent system control – the KWL MultiZoneBox combines all seven components in one unit.

74f

KWL HygroBox and ground heat exchanger

As an active humidification unit, the **HygroBox** ensures a health room air humidity throughout the year and prevents expensive damage to furniture, floor coverings, etc.

Optional **ground-to-brine or ground-to-air heat exchangers** guarantee that the intake air is always energy-optimised when it flows into the ventilation unit.
This saves even more energy in winter and results in intake air temperature reduction in summer.

86ff

FlexPipe*plus* round and oval ducting system. Arbitrarily combinable.

FlexPipe*plus* is the further development of the successful FlexPipe air distribution system and it combines round and oval ducts in one smart system package with all conceivable round-oval combinations.

The oval duct has the identical hydraulic cross-section and pressure loss as the round duct as well as a point-symmetric design.
This results in unique advantages:

- No matter if it's planning and layout or installation and adjustment or maintenance, round and oval pipe behave completely identical.
- Depending on the structural circumstances, the optional change between round and oval ducts is possible using adapters, both in line and away from the distribution box. This provides the greatest possible planning and installation freedom.
- The ideal, economical option can be selected at any time. The space-saving oval duct is mainly used if low installation heights are required.
- The round-oval compatibility results in low parts diversity. The stocking and consultation processes are greatly simplified. The installation is almost intuitive.
- The point-symmetric oval design allows installation from horizontal to vertical without the use of adapters for position correction.

Reference
FlexPipe round duct system with ext. Ø 63 mm, int. 52 mm
for volume flows up to 20 m³/h
see page76

FlexPipe*plus* is available in two designs which can be combined as required:

- FRS 75, round:
  External Ø: 75 mm, internal: 63 mm for volume flows up to 30 m³/h. For installation in concrete ceilings. High ring strength (STIS ≥ 10 kN/m² according to DIN EN 9969). Bending radius horizontal and vertical 150 mm.
- FRS 51, oval:
  51 x 114 mm, for volume flows up to 30 m³/h, ideal for space-saving installation e.g. on unfinished floors or in walls. Bending radius horizontal 300 mm, vertical 200 mm.

Installation, handling, commissioning

- Ultra-simple planning thanks to identical duct cross-sections and pressure losses.
- Quick installation due to radial, flexible endless installation from the roll.
- Construction site-compliant handling due to its low weight.
- Quick commissioning due to minimal adjustment effort.
- Uniform air distribution.
- Hygienically optimal and easy to clean.

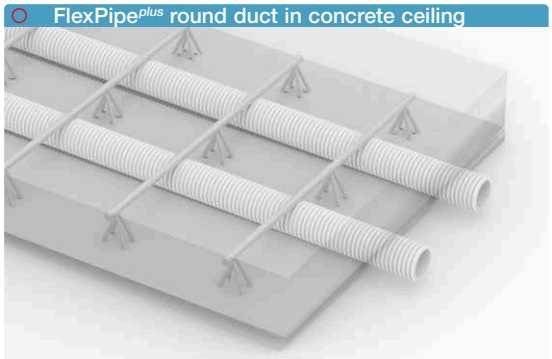
Duct properties and advantages

- Special round and oval ventilation duct made of hygienically safe PE-HD new material.
- Two-layer design – externally corrugated and internally smooth and antistatic. This minimises the pressure losses and prevents flow noises and dirt deposits.
- The extreme horizontal and vertical bending elasticity of both duct geometries minimises the number of necessary moulded parts.
- The point-symmetric design allows the installation of the oval duct from horizontal to vertical, upwards or downwards, without the use of adapters.

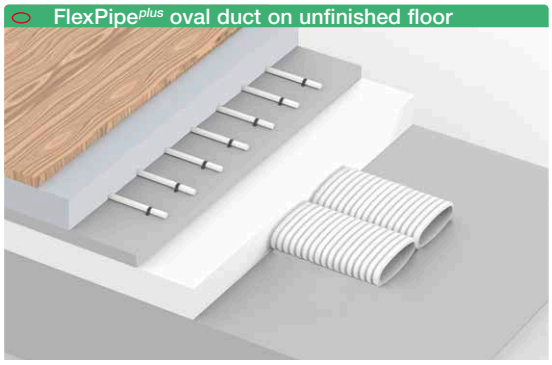
Duct concept, installation

- Mounting clips on all moulded parts for secure fixation to floors, walls or ceilings.
- Detachable mounting brackets guarantee quick, tear-proof duct fixation to all connection points.
- No additional cross talk silencer due to sound-insulating distribution box.
- Precision-fit seal system on all moulded parts for leak-free air transportation.
- Aerodynamically optimised ceiling and floor boxes as well as wall outlets are available for the use of room-side inlet and outlet elements at the duct ends. These have two parallel duct connections for delivering the volume flows required according to DIN 1946-6 with low pressure loss.

FlexPipe*plus* round duct in concrete ceiling

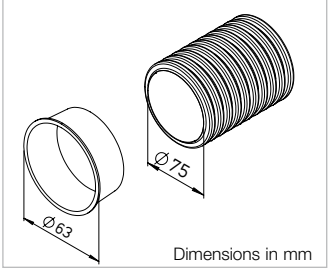


FlexPipe*plus* oval duct on unfinished floor



FlexPipe*plus* allows any round-oval combination

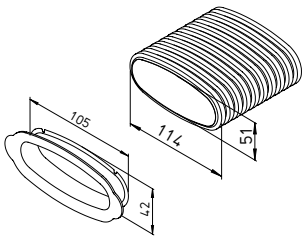
FlexPipe vent. duct round



FlexPipe vent. duct (bundle = 50 lin. m)			
Type Ø 75 mm	Ref. no.	Dim. in mm Ext. Ø	Int. Ø
FRS-R 75	02913	75	63
Hygiene duct shutter cover			Unit
FRS-VD 75	02915		10 pcs.

Flexible round duct made of PE-HD, ideal for installation in concrete ceiling.
Includes two hygiene duct shutter covers, can also be ordered separately.

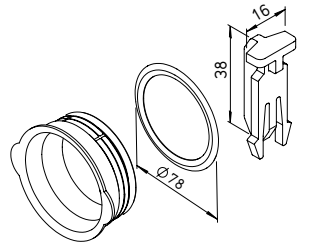
FlexPipe vent. duct oval



FlexPipe vent. duct (bundle = 20 lin. m)			
Type 114 x 51 mm	Ref. no.	Dim. in mm Width	Height
FRS-R 51	03850	114	51
Hygiene duct shutter cover			Unit
FRS-VD 51	03866		10 pcs.

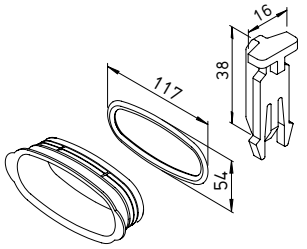
Flexible oval duct made of PE-HD, for space-saving installation on unfinished floors, installation in walls or suspended ceilings. Includes two hygiene duct shutter covers, can also be ordered separately.

Cover, seal ring, bracket



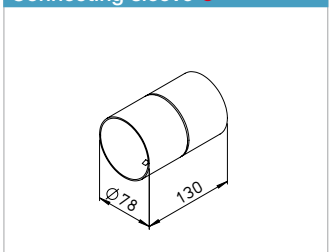
Connector cover / seal ring / bracket		
Type Ø 75 mm	Ref. no.	Unit
Connector shutter cover with seal ring		
FRS-VDS 75	03855	1 pc.
Seal ring		
FRS-DR 75	02916	10 pcs.
Bracket, detachable		
FRS-FK	03854	10 pcs.

Cover, seal ring, bracket



Connector cover / seal ring / bracket		
Type 114 x 51 mm	Ref. no.	Unit
Connector shutter cover with seal ring		
FRS-VDS 51	03856	1 pc.
Seal ring		
FRS-DR 51	03864	10 pcs.
Bracket, detachable		
FRS-FK	03854	10 pcs.

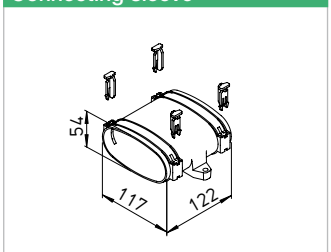
Connecting sleeve



Connecting sleeve	
Type Ø 75 mm	Ref. no.
FRS-VM 75	02914

Connecting sleeve for round duct FRS-R 75 with tear-off protection on both sides, made of polyethylene.

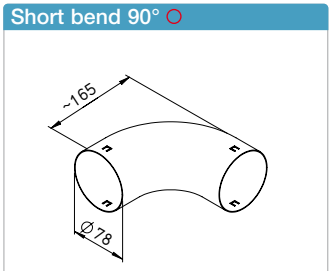
Connecting sleeve



Connecting sleeve	
Type 114 x 51 mm	Ref. no.
FRS-VM 51	03862

Connecting sleeve for oval duct FRS-R 51.
With integrated fastening tabs, includes duct mounting brackets (4 pcs.).
Made of impact-resistant polypropylene.

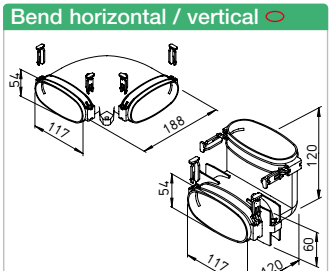
Short bend 90°



Short bend 90°	
Type Ø 75 mm	Ref. no.
FRS-B 75	02994

Short bend 90° for bending radii < 2 x round duct external diameter. Horizontal and vertical application with tear-off protection on both sides.
Made of galvanised steel sheet.

Bend horizontal / vertical



Bend horizontal / vertical	
Type 114 x 51 mm	Ref. no.
FRS-BH 51	03863
FRS-BV 51	03859

Horizontal or vertical bend 90°.
With integrated fastening tabs, includes duct mounting brackets (4 pcs.).
Made of impact-resistant polypropylene.

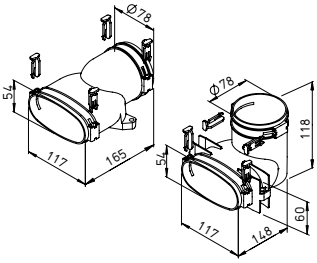
Optional possibility to combine round and oval ducts

- With FlexPipe*plus* from Helios, you rely on one system and you have the ideal solution at your fingertips at all times, depending on building requirements.
- The ultra-flat (only 51 mm) oval duct is used if low installation heights are required. The proven duct lends itself for direct embedding in concrete ceilings.
- Thanks to the identical hydraulic cross-sections and pressure losses of the two ducts and due to well-conceived system components, round and oval ducts can be combined in any way – both in line and away from the distribution box.

Vertical and horizontal adapters allow any round/oval, oval/oval and round/round combination.

The distribution boxes can be equipped with round and oval single connectors and mixed connectors.

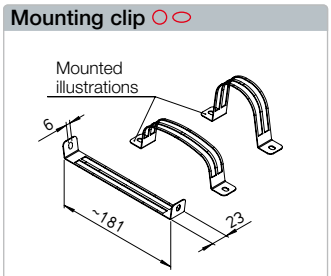
Adapter straight / vertical



Adapter straight / vertical	
Type Ø 75 mm / 114 x 51 mm	Ref. no.
Adapter straight	
FRS-ÜG 51-75	03861
Adapter vertical	
FRS-ÜV 51-75	03860

Horizontal and vertical adapter from round duct FRS-R 75 to oval duct FRS-R 51.
With integrated fastening tabs, includes duct mounting brackets (4 pcs.).
Made of impact-resistant polypropylene.

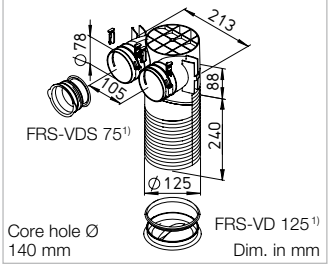
Mounting clip



Mounting clip		
Type Ø 75 mm / 114 x 51 mm	Ref. no.	Unit
FRS-BS	03869	10 pcs.

Mounting clip for round duct FRS-R 75 and oval duct FRS-R 51.
For non-slip duct fixation.
Made of galvanised steel sheet.

Ceiling/wall box ○

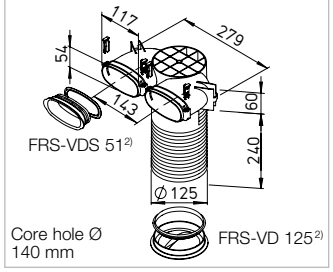


Ceiling / wall box	
Type Ø 75 mm	Ref. no.
FRS-DWK 2-75/125 ○	03857
Extension for ceilings > 240 mm	
FRS-VV 125 ○ ⬭	03906

Ceiling / wall box for max. 2 round ducts FRS-R 75. For connection of supply / extract air valves DN 125. Height marks can be shortened to fit. Per 1 pc. connector blind cover DN 75, DN 125.

[1] Integr. mounting clips, duct mounting brackets (4 pcs.), made of impact-resistant polypropylene.

Ceiling/wall box ⬭

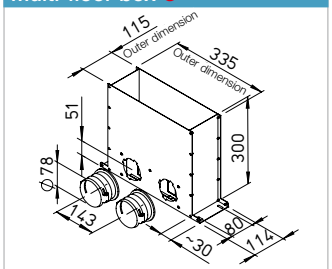


Ceiling / wall box	
Type 114 x 51 mm	Ref. no.
FRS-DWK 2-51/125 ⬭	03858
Extension for ceilings > 240 mm	
FRS-VV 125 ○ ⬭	03906

Ceiling / wall box for max. 2 oval ducts FRS-R 51. For connection of supply / extract air valves DN 125. Height marks can be shortened to fit. Per 1 pc. connector blind cover 51 mm, DN 125.

[2] Integr. mounting clips, duct mounting brackets (4 pcs.), made of impact-resistant polypropylene.

Multi-floor box ○

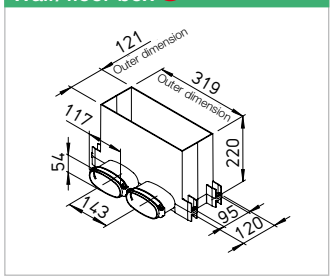


Multi-floor box	
Type Ø 75 mm	Ref. no.
FRS-MBK 2-75 ○	03872

Multi-floor box for connection of max. 2 round ducts FRS-R 75. Suitable for embedding in concrete ceiling, consists of:

– Floor box with air volume control insert in robust sheet metal design
– 2 pcs. connectors (round) and 1 pc. connector cover with seal (round)

Wall/floor box ⬭

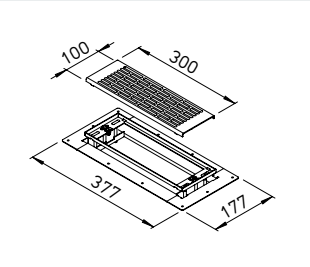


Wall / floor box	
Type 114 x 51 mm	Ref. no.
FRS-WBK 2-51 ⬭	03877

Wall / floor box for connection of max. 2 oval ducts FRS-R 51. Installation in walls or on unfinished floor, consists of:

– Plastic box made of impact-resistant polypropylene with air volume control insert. For use with FRS-WGS or FRS-BGS. 1 pc. connector cover with seal (oval).

Floor grille set ○ ⬭

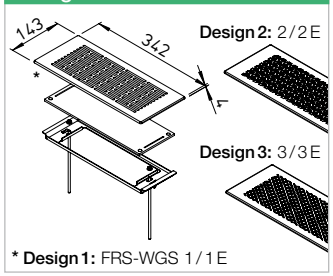


Floor grille set	
Type	Ref. no.
FRS-BGS 1 ○ ⬭	03878

Floor grille set made of stainless steel for multi-floor box FRS-MBK 2-75 and wall / floor box FRS-WBK 2-51, consists of:

– Grille frame with height adjustment for barrier-free installation in the floor covering
– Anti-puncture design floor grille
– Insert filter (replacement filter mats ELF-BGS, Ref. no. 03914, unit = 2 pcs.)

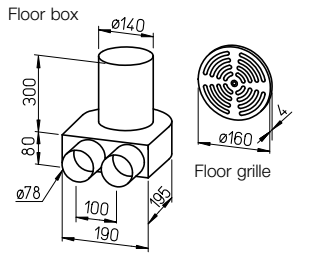
Wall grille set ⬭



Wall grille set		
Type	Ref. no.	
FRS-WGS 1 ⬭	03881	white
FRS-WGS 2 ⬭	03882	white
FRS-WGS 3 ⬭	03883	white
FRS-WGS 1 E ⬭	03886	Stainl. steel
FRS-WGS 2 E ⬭	03892	Stainl. steel
FRS-WGS 3 E ⬭	03904	Stainl. steel

Wall grille set with installation frame and insert filter for FRS-WBK 2-51. See p. 28 for grille designs.

Floor box set ○

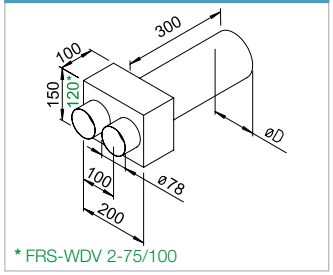


Floor box set	
Type Ø 75 mm	Ref. no.
FRS-BKGS 2-75 ○	09992

Floor box set consists of:

– 1 pc. floor box for grille connection DN 160
– 1 pc. floor grille made of brushed stainless steel with adjustable volume flow
– 1 pc. cover

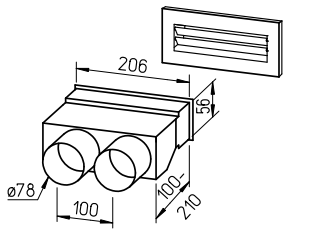
Wall outlet ○



Wall outlet for valve connection		
Type Ø 75 mm	Ref. no.	Ø D mm
FRS-WDV 2-75/100 ○	09621	100
FRS-WDV 2-75/125 ○	09622	125

Wall outlet incl. plaster / formwork lid and cover (1 pc.). For connection of supply air or extract air valves DN 100 or DN 125.

Wall outlet set ○

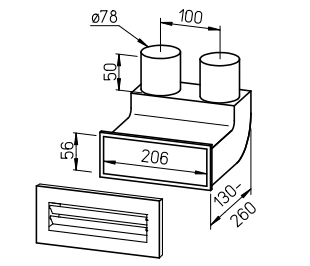


Wall outlet set, straight	
Type Ø 75 mm	Ref. no.
FRS-WDS 2-75 ○	09994

Wall outlet set consists of:

– Wall outlet with sliding connector
– Wall outlet white (FK-WA 200 W), 250 x 103 mm
– 1 pc. cover

Angle bend set ○



Angle bend set, 90°	
Type Ø 75 mm	Ref. no.
FRS-WBS 2-75 ○	09996

Angle bend set consists of:

– Angle bend with sliding connector
– Wall outlet white (FK-WA 200 W), 250 x 103 mm
– 1 pc. cover

Basic set package ○

Basic set package		
Type	Ref. no.	Ø D mm
FRS-RP 75 ○	09397	75

FlexPipe basic set package consists of:

– 3 pcs. FRS-R 75 (Ref. no. 02913)
– 2 pcs. FRS-VK 10-75/160 (Ref. no. 03847)
– 8 pcs. FRS-DWK 2-75/125 (Ref. no. 03857)
– 7 pcs. FRS-B 75 (Ref. no. 02994)
– 7 pcs. FRS-VM 75 (Ref. no. 02914)
– 4 units FRS-DR 75 (Ref. no. 02916)
– 1 units FRS-VD 75 (Ref. no. 02915)
– 1 pcs. cold shrink tape KSB (Ref. no. 09343)

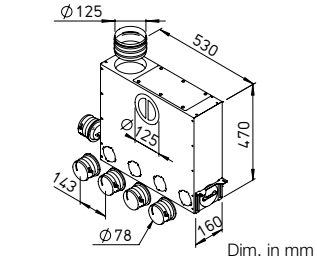
By choosing the Helios basic set package, you can save

– money due to the discounted package price.
– time, because everything is included to get started right away. There is no need for time consuming, annoying additional trips because little things are missing.

[1] Cover with integrated seal FRS-VDS 75, Ref. no. 03855 and -VD 125, Ref. no. 03865. Cover can be used for the connector or duct connection opening on distribution box.

[2] Cover with integrated seal FRS-VDS 51, Ref. no. 03856 and -VD 125, Ref. no. 03865. Can also be used as cover for the connector or duct connection opening on distribution box.

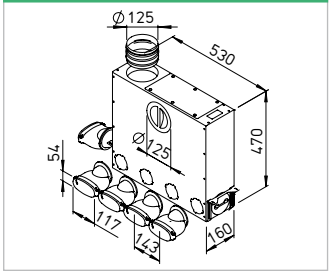
Multi-distribution box 4+1x ○



Multi-distribution box [1]		
Type Ø 75 mm	Ref. no.	Ø NW mm
FRS-MVK 4+1-75/125 ○	03843	125

For universal installation in/on unfinished concrete flooring. With height-adjustable mounting brackets. Duct connection DN 125 optionally horizontal or vertical. 10 connection options for up to 5 ventilation ducts FRS-R 75. With sound-absorbing cladding and large inspection opening.

Multi-distribution box 4+1x ⬭



Multi-distribution box 4+1x [1]		
Type 114 x 51 mm	Ref. no.	Ø NW mm
FRS-MVK 4+1-51/125 ⬭	03841	125

For universal installation on unfinished concrete flooring. With height-adjustable mounting brackets. Duct connection DN 125 optionally horizontal or vertical. 10 connection options for up to 5 oval ventilation ducts FRS-R 51. With sound-absorbing cladding and large inspection opening.

Multi-distribution box 5+2x ○

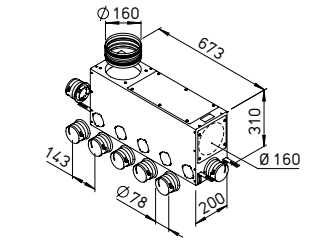
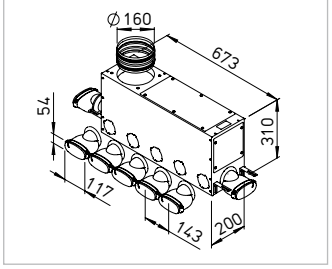


Fig.: FRS-MVK 5+2-75/160

Multi-distribution box 5+2x [1]		
Type Ø 75 mm	No.	Ø NW mm
FRS-MVK 5+2-75/160 ○	03836	160
FRS-MVK 5+2-75/160 H ○	03835	160

For universal installation in/on unfinished concrete flooring. With height-adjustable mounting brackets. Duct connection DN 160 optionally horizontal or vertical. Type FRS-MVK 5+2-75/160 H with 380 mm casing height and 3 x duct connection DN 160. 12 connection options for up to 7 ventilation ducts FRS-R 75.

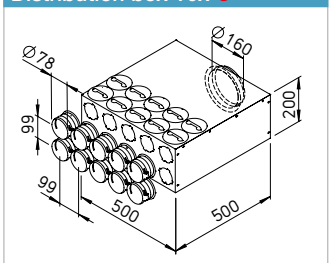
Multi-distribution box 5+2x ⬭



Multi-distribution box 5+2x [1]		
Type 114 x 51 mm	Ref. no.	Ø NW mm
FRS-MVK 5+2-51/160 ⬭	03838	160

For universal installation on unfinished concrete flooring or as floor distributor. With height-adjustable mounting brackets. Duct connection DN 160 optionally horizontal or vertical. 12 connection options for up to 7 oval ventilation ducts FRS-R 51. With sound-absorbing cladding and large inspection opening.

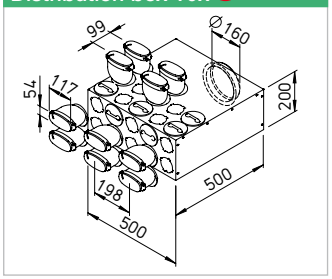
Distribution box 10x ○



Distribution box 10-75 [2]		
Type Ø 75 mm	Ref. no.	Ø NW mm
FRS-VK 10-75/160 ○	03847	160

20 connection options for up to 10 ventilation ducts FRS-R 75. Can be installed as straight distributor, 90° distributor or combined. Mixed setup with oval connectors possible (Type FRS-ES 51, Ref. no. 03851). With sound-absorbing cladding and large inspection opening.

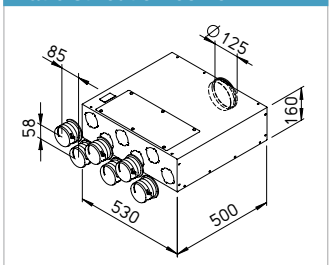
Distribution box 10x ⬭



Distribution box 10-51 [2]		
Type 114 x 51 mm	Ref. no.	Ø NW mm
FRS-VK 10-51/160 ⬭	03849	160

20 connection options for up to 10 oval ventilation ducts FRS-R 51. Can be installed as straight distributor, 90° distributor or combined. Mixed setup with round connectors possible (Type FRS-ES 75, Ref. no. 03852). With sound-absorbing cladding and large inspection opening.

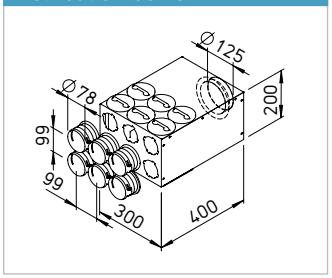
Flat distribution box 6x ○



Distribution box 6-75, flat design [1]		
Type Ø 75 mm	Ref. no.	Ø NW mm
FRS-FVK 6-75/125 ○	03845	125

For connection of up to 6 ventilation ducts FRS-R 75. Installation as straight distributor. Mixed setup with oval connectors possible (Type FRS-ES 51, Ref. no. 03851). With sound-absorbing cladding and large inspection opening.

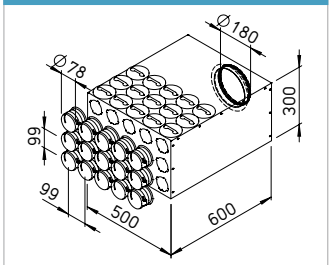
Distribution box 6x ○



Distribution box 6-75 [1]		
Type Ø 75 mm	Ref. no.	Ø NW mm
FRS-VK 6-75/125 ○	03846	125

12 connection options for up to 6 ventilation ducts FRS-R 75. Can be installed as straight distributor, 90° distributor or combined. Mixed setup with oval connectors possible (Type FRS-ES 51, Ref. no. 03851). With sound-absorbing cladding and large inspection opening.

Distribution box 15x ○



Distribution box 15-75 [2]		
Type Ø 75 mm	Ref. no.	Ø NW mm
FRS-VK 15-75/180 ○	03848	180

30 connection options for up to 15 ventilation ducts FRS-R 75. Can be installed as straight distributor, 90° distributor or combined. Mixed setup with oval connectors possible (Type FRS-ES 51, Ref. no. 03851). With sound-absorbing cladding and large inspection opening.

Combination distribution box ○

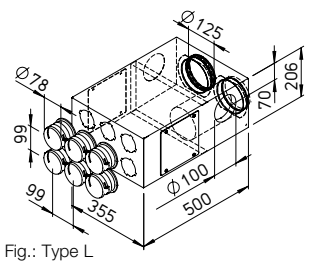
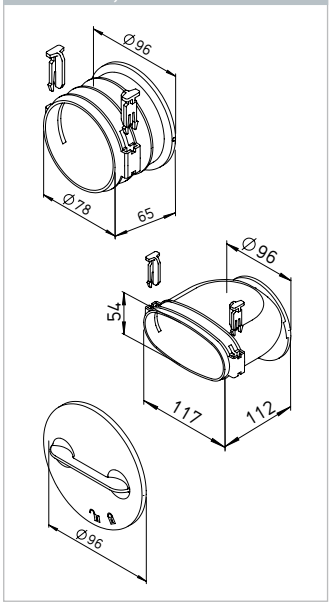


Fig.: Type L

Combination distribution box [1]		
Type Ø 75 mm	Ref. no.	Ø NW mm
FRS-KVK 6-75/125 L* ○	03873	125
FRS-KVK 6-75/125 R* ○	03874	125

* Supply air connection on left or right. Compact distribution box, ideal for adjoining extract air rooms. 2 x DN 100 for direct insertion of extract air valves DLV (see accessories). Supply air distribution via connection of up to 6 ventilation ducts FRS-R 75.

Connector, cover ○ ⬭



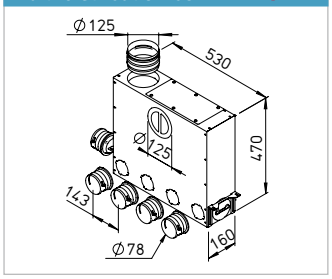
Connector, bayonet cap		
Type	Ref. no.	Unit
Connector, Ø 75 mm		
FRS-ES 75 ○	03852	1 pc.
Connector, 114 x 51 mm		
FRS-ES 51 ⬭	03851	1 pc.
Bayonet cap		
FRS-VDB ○ ⬭	03853	1 pc.

Additional connectors for connection of round ventilation duct FRS-R 75 or oval ventilation duct FRS-R 51 to distribution box. Easy and variable positioning using bayonet closure. Tight-closing, includes duct mounting brackets (2 pcs.), made of impact-resistant polypropylene. Bayonet cap for the connector openings on the distribution box.

[1] incl. 2 pcs. connector cover. [2] incl. 4 pcs. connector cover.

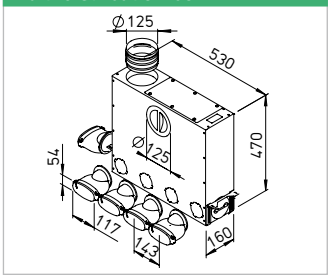
FlexPipe® *plus* Round 75 mm Ø in combination with Oval 51 x 114 mm
Insertion loss Distribution boxes

Multi-distribution box 4+1x ○



Type Ø 75 mm	No.	Ø NW mm
FRS-MVK 4+1-75/125 ○	03843	125

Multi-distribution box 4+1x ⬭



Type 114 x 51 mm	No.	Ø NW mm
FRS-MVK 4+1-51/125 ⬭	03841	125

Frequency	Insertion loss	Cross-talk loss
Hz	dB	dB
125	23.5	30.6
250	24.2	25.3
500	19.3	18.3
1000	28.7	25.3
2000	30.8	39.0
4000	36.6	42.9
8000	38.3	40.8

Multi-distribution box 5+2x ○

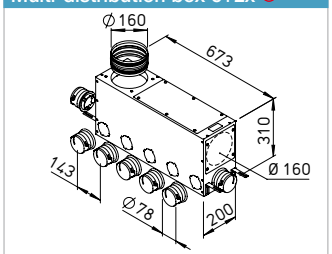
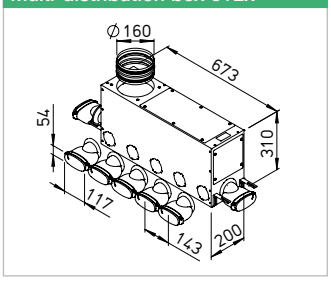


Abb.: FRS-MVK 5+2-75/160

Type Ø 75 mm	No.	Ø NW mm
FRS-MVK 5+2-75/160 ○	03836	160
FRS-MVK 5+2-75/160 H ○	03835	160

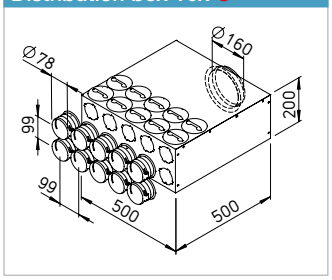
Multi-distribution box 5+2x ⬭



Type 114 x 51 mm	No.	Ø NW mm
FRS-MVK 5+2-51/160 ⬭	03838	160

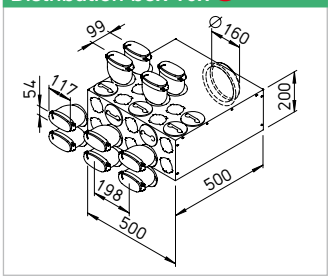
Frequency	Insertion loss	Cross-talk loss
Hz	dB	dB
125	21.0	28.8
250	16.5	24.7
500	24.6	28.0
1000	36.3	34.4
2000	35.2	40.2
4000	43.8	45.0
8000	46.1	41.1

Distribution box 10x ○



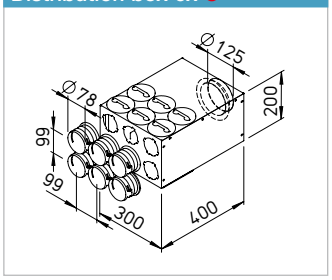
Type Ø 75 mm	No	Ø NW mm
FRS-VK 10-75/160 ○	03847	160

Distribution box 10x ⬭



Type 114 x 51 mm	No.	Ø NW mm
FRS-VK 10-51/160 ⬭	03849	160

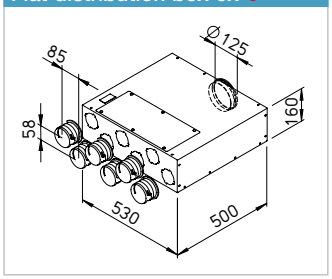
Distribution box 6x ○



Type Ø 75 mm	No.	Ø NW mm
FRS-VK 6-75/125 ○	03846	125

Frequency	Insertion loss	Cross-talk loss
Hz	dB	dB
125	23.0	34.4
250	21.8	33.1
500	36.2	27.4
1000	29.4	26.9
2000	28.9	38.7
4000	34.4	44.2
8000	36.1	44.0

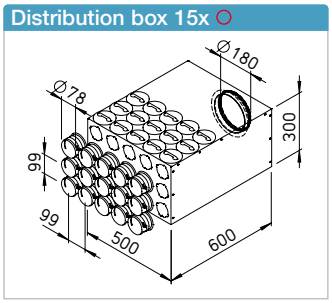
Flat distribution box 6x ○



Type Ø 75 mm	No.	Ø NW mm
FRS-FVK 6-75/125 ○	03845	125

Frequency	Insertion loss	Cross-talk loss
Hz	dB	dB
125	22.6	27.4
250	21.3	21.4
500	27.7	20.4
1000	28.8	20.2
2000	30.6	33.6
4000	42.6	40.1
8000	43.2	40.2

Distribution box 15x ○

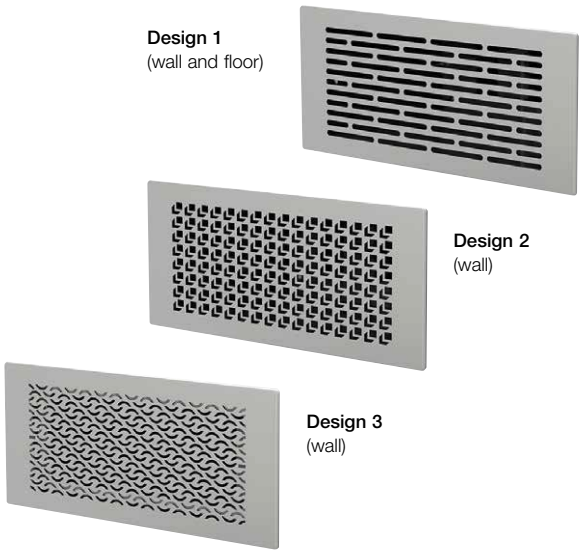


Type Ø 75 mm	No.	Ø NW mm
FRS-VK 15-75/180 ○	03848	180

Frequency	Insertion loss	Cross-talk loss
Hz	dB	dB
125	26.8	30.9
250	19.4	30.2
500	28.4	25.3
1000	25.4	29.0
2000	30.8	39.8
4000	34.7	49.1
8000	34.9	53.0

Measured in accordance with DIN EN ISO 7235 and DIN EN ISO 11820.

Design grilles for walls and floors



Stainless steel version

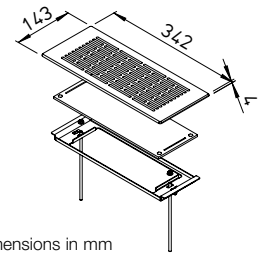
The elegant wall grilles in three high-quality designs (stainless steel or signal white coating) blend perfectly into any room atmosphere and guarantee the pleasant draught-free flow of supply air.

- **Description Wall grille set**
  Grille for wall / floor box FRS-WBK 2-51.
  - Set consists of:
    Metal wall grille with installation frame and insert filter.
- **Surfaces / Colours**
  - Powder coating in white: FRS-WGS 1, FRS-WGS 2 and FRS-WGS 3.
  - High-quality stainless steel: FRS-WGS 1 E, FRS-WGS 2 E and FRS-WGS 3 E.

Floor grille set for floor level installation. Three-dimensional adjustable compensation mechanism for adapting the grille to different floor covering heights or for alignment to a wall or window.

- **Description Floor grille set**
  Grille for multi-floor box FRS-MBK 2-75 and wall / floor box FRS-WBK 2-51.
  - Set consists of:
    Grille frame, design floor grille and insert filter.
- **Surfaces/ Colours**
  - High-quality stainless steel: FRS-BGS 1.

Wall grille set / Design 1



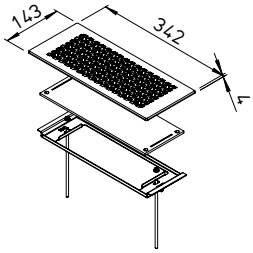
Dimensions in mm

Wall grille set		
Type	Ref. no.	
FRS-WGS 1	03881	White
FRS-WGS 1 E	03886	Stainl. steel

Replacement filter mat for insert filter:
Type ELF-WGS, Ref. no. 03915, unit = 2 pcs.

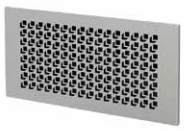
- **Wall grille set FRS-WGS 1 E**
  with additional wall / floor box FRS-WBK 2-51.

Wall grille set / Design 2



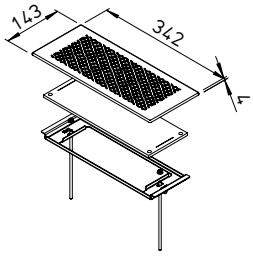
Wall grille set		
Type	Ref. no.	
FRS-WGS 2	03882	White
FRS-WGS 2 E	03892	Stainl. steel

Replacement filter mat for insert filter:
Type ELF-WGS, Ref. no. 03915, unit = 2 pcs.



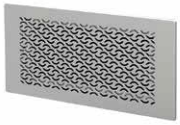
- **Wall grille set FRS-WGS 2 E**
  with additional wall / floor box FRS-WBK 2-51.

Wall grille set / Design 3



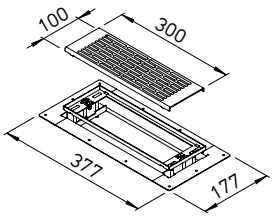
Wall grille set		
Type	Ref. no.	
FRS-WGS 3	03883	White
FRS-WGS 3 E	03904	Stainl. steel

Replacement filter mat for insert filter:
Type ELF-WGS, Ref. no. 03915, unit = 2 pcs



- **Wall grille set FRS-WGS 3 E**
  with additional wall / floor box FRS-WBK 2-51.

Floor grille set



Floor grille set		
Type	Ref. no.	
FRS-BGS 1	03878	Stainl. steel

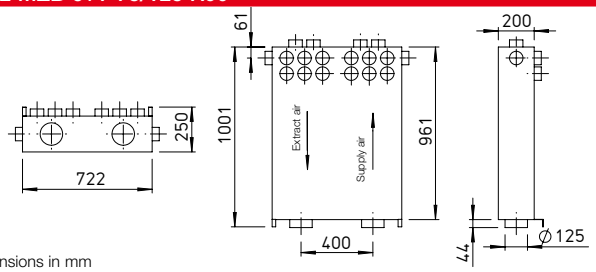
Replacement filter mat for insert filter:
Type ELF-BGS, Ref. no. 03914, unit = 2 pcs.

- **Floor grille set FRS-BGS 1**
  with additional wall / floor box FRS-WBK 2-51.
  Also suitable for multi-floor box FRS-MBK 2-75.

KWL-MZB 6+1-75/125 R90 and KWL-MZB 6+1-75/125 L90

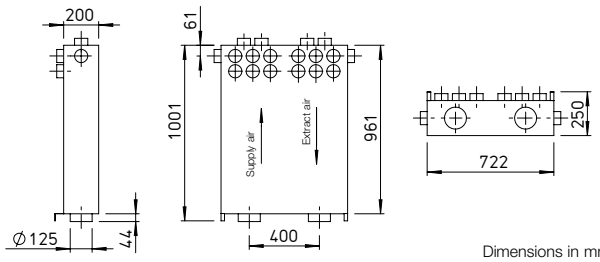
Compact unit for connection of supply and extract air DN 125 and 2 x 7 connectors DN 75 with supply air on right or left side.

KWL-MZB 6+1-75/125 R90



Dimensions in mm

KWL-MZB 6+1-75/125 L90



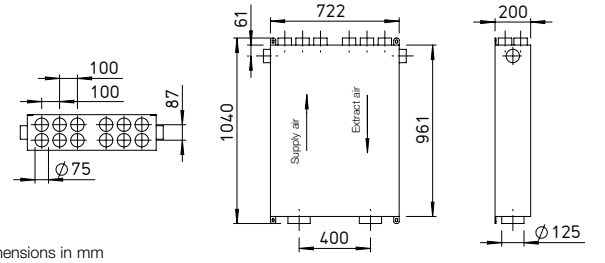
Dimensions in mm

KWL-MZB 6+1-75/125 and KWL-MZB 125/125

Compact unit for the connection of supply and extract air DN 125 and 2 x 7 connectors DN 75.

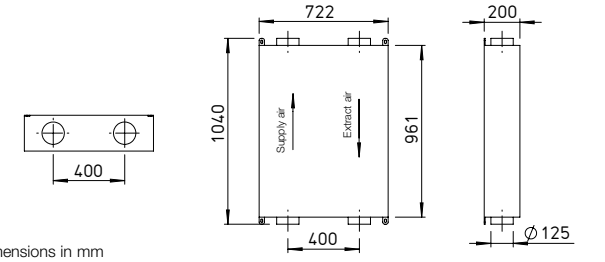
Box with one connection each for supply and extract air on each side DN 125.

KWL-MZB 6+1-75/125



Dimensions in mm

KWL-MZB 125/125



Dimensions in mm

Volume flow control, sound insulation, air distribution and system control – solve seven problems at once with the new KWL MultiZoneBox.
When combined with a central building KWL unit, the MultiZoneBox ensures the silent, demand-oriented supply and extract ventilation of residential and commercial units.

Advantages

- The installation and commissioning are particularly simple and safe.
- Spiral ducts can also be connected just as easily as the flexible plastic duct system FlexPipe*plus*.
- Reliable air distribution for almost all areas of application.
- Practical advantages include freedom from maintenance, maximum functional reliability and whisper-quiet operation.
- When multiple KWL MultiZoneBoxes are used to ventilate a large unit, e.g. a doctor's surgery, different zones can be supplied with varying air volumes independently and according to demand.
- Whether the ventilation system is installed in the basement or on the roof, indoors or outdoors.
- The KWL MultiZoneBox always ensures an ideal air distribution.

Special features

- Large sound insulation elements guarantee silent operation.
- The optional room air sensor makes the MultiZoneBox a complete demand-controlled ventilation unit.
- Only one single, compact box is installed.
- Expendable parts and wear parts were dispensed with completely in the design of the KWL MultiZoneBox.
- Revolutionary technology safely guarantees the predefined volume flow.

Functional principle

Thanks to the intuitive PC software, the commissioning of the KWL MultiZoneBox is convenient and fast:

- Start software > enter air volumes > done!
  There is no need for elaborate, time-consuming pressure differential measurements.
- A variety of other configuration options are available, if required.
- Once set, the defined parameters can be stored on a computer and transferred to other boxes.

The box in the network

All boxes can be combined to form a network and operated centrally (using a central controller, KWL-ZR, accessories):
The KWL MultiZoneBox software allows the central commissioning of all boxes in the network. Optionally on-site or via the internet.

The ultimate solution

This technology is used to constantly coordinate the performance of the central ventilation unit with the changing conditions for each KWL MultiZoneBox. The unit supplies the exact air volume individually required for every moment. This reduces energy consumption without comprising on comfort.

Control element Touch
KWL-MZB-BET Ref. no. 04214

Description
- Touch display made of glass for controlling the boxes.
- Dimensions (WxHxD) 110x93x19 mm.
- 3.9 inch display including temperature sensor, flush-mounted version.

KWL-MZB-BET

KWL-MZB-ZR

Central controller
KWL-MZB-ZR Ref. no. 04215

Description
- Central control, configuration and management of all connected boxes.
- Networking of up to 256 boxes.
- Fan optimiser function.
- Suitable switching power supply: KWL 45 SNH, No. 03001.

Control element ECO
KWL-MZB-BE Ref. no. 04213

Description
- Manual 4-step operation or automatic mode. For flush-mounted installation.
- Dimensions (WxHxD) 80x80x10 mm.
- 4-step with LED, flush-mounted version.

KWL-MZB-BE

KWL-MZB-AP

Connection plate
KWL-MZB-AP Ref. no. 04217

Description
- For installation in concrete ceilings.
- Dimensions (WxHxD) 776x50x255 mm.
- 2 x 6 connectors DN 75.
- For direct box connection to the duct system in the ceiling.

Pipe support
KWL-MZB-RH13 Ref. no. 04249

Description
- Pipe supports for one-sided connection of FlexPipe*plus*.
- Consists of 1 connection plate with 13 supports.

KWL-MZB-RH13

KWL-MZB-VOC-F

Combi-sensor
KWL-MZB-VOC-F No. 04216

Description
- Combi-sensor (air humidity and VOC)for installation in MZB.
- VOC-humidity sensor.
- Installation in KWL MultiZone-Box.

Pipe support
KWL-MZB-RH7 Ref. no. 04236

Description
- Pipe supports for two-sided connection of FlexPipe*plus*.
- Set consists of 2 connection plates each with 7 supports.

KWL-MZB-RH7

KWL-MZB-F

Humidity sensor
KWL-MZB-F Ref. no. 04250

Description
- Air humidity sensor for installation in KWL MultiZoneBox.

Connection set
KWL-MZB-VSAP Ref. no. 04219

Description
- For ceiling installation with connection plate. Set with 12 connectors and mounting bracket.
- Includes 12 connectors for connection plate.

KWL-MZB-VSAP

KWL-MZB-KSS

Plastic connectors DN 75
KWL-MZB-KSS Ref. no. 04253

Description
- Set consists of 2 pcs., for the optional, side connection of a ventilation duct DN 75 to KWL-MZB 125/125 (Ref. no. 04053), included in delivery for boxes 04050, 04051, 04052.

Technical data MultiZoneBox

Type	Ref. no.	Type	Ref. no.
KWL-MZB 6+1-75/125 R90	04050	**KWL-MZB 6+1-75/125***	04052
KWL-MZB 6+1-75/125 L90	04051	**KWL-MZB 125/125***	04053
Range of application			40–220 m³/h
Measurement accuracy			+/-10 m³/h
Voltage / Frequency			1~, 230 V, 50 Hz
Max. power consumption			6 Watt
Protection category			IP 40
Weight			25 kg

* Supply air and extract air flow directions freely selectable.
Individual type details at www.HeliosSelect.de.

Reference
Suitable revision solution for drywall construction on request.

FlexPipe is embedded directly in concrete or on/under ceilings,
- **Simple planning and quick installation due to star-shaped, flexible continuous installation from the roll.**
- **Construction site-compliant handling due to low weight.**
- **Quick commissioning, uniform air distribution.**
- **Easy to clean.**

Available in two sizes and designs

- FlexPipe FRS 63
  External Ø: 63 mm, internal: 52 mm for vol. flows up to 20 m³/h.
- FlexPipe*plus*
  External Ø: 75 mm, internal: 63 mm for vol. flows up to 30 m³/h. Can be combined with oval duct FRS-R 51 and oval components, see page 68 ff.

Properties and advantages

- Special ventilation duct made of hygienically safe PE-HD new material, odourless.
- The two-layer design (externally corrugated and internally smooth and antistatically treated) guarantees:
  - Low flow resistances and high sound insulation.
  - Minimal dirt deposits.
  - Easy to clean.

Installation

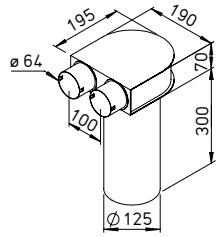
- The FlexPipe plastic corrugated pipe has high ring strength (S_{R24} > 8 kN/m²) and it can be installed directly in, on or under concrete ceilings due to its high flexibility in the desired system.
- Airtight and watertight connection simply through the use of FRS seal rings.

FlexPipe vent. duct round

FlexPipe vent. duct (bundle = 50 lin. m)

Type Ø 63 mm	Ref. no.	Dim. in mm Ext. Ø	Int. Ø
FRS-R 63	09327	63	52

Ceiling box



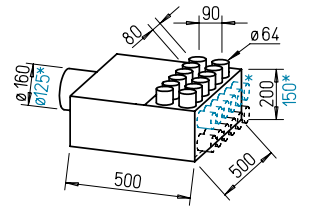
Dimensions in mm

Ceiling box [2] for valve connection DN 125

Type Ø 63 mm	Ref. no.
FRS-DKV 2-63/125	09430

Ceiling box incl. plaster/formwork lid. For connection of supply or extract air valves DN 125 (accessories, see page 84).

Distribution box 6-63, 12-63



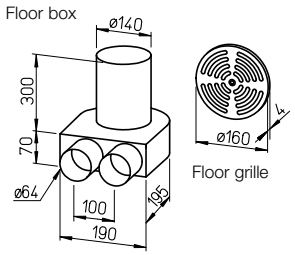
* FRS-VK 6-63/125

Distribution box 6-63, 12-63 [1]

Type Ø 63 mm	Ref. no.	Ø NW mm
FRS-VK 6-63/125	09355	125
FRS-VK 12-63/160	09336	160

For connection of up to 6 or 12 ventilation ducts FRS-R 63, with sound-absorbing cladding. The connector plate can be replaced with the inspection opening and rotated 90° for type 12-63.

Floor box set

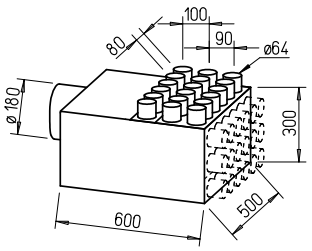


Floor box set [2]

Type Ø 63 mm	Ref. no.
FRS-BKGS 2-63	09991

Floor box set consists of:
- 1 pc. floor box for grille connection DN 160
- 1 pc. floor grille made of brushed stainless steel with adjustable volume flow.

Distribution box 18-63

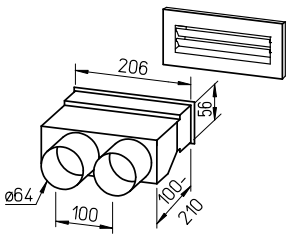


Distribution box 18-63 [1]

Type Ø 63 mm	Ref. no.	Ø NW mm
FRS-VK 18-63/180	09364	180

For connection of up to 18 ventilation ducts FRS-R 63, with sound-absorbing cladding. The connector plate with the connectors can be replaced with the inspection opening and rotated 90°. This allows installation as a straight or 90° distributor.

Wall outlet set

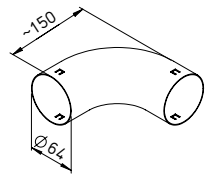


Wall outlet set, straight [2]

Type Ø 63 mm	Ref. no.
FRS-WDS 2-63	09993

Wall outlet set consists of:
- Wall outlet with sliding connector
- Wall outlet white (FK-WA 200 W), 250 x 103 mm

Short bend 90°

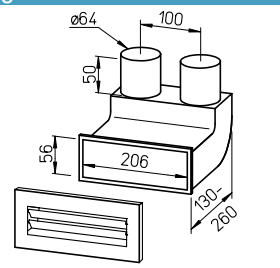


Short bend 90°

Type Ø 63 mm	Ref. no.
FRS-B 63	09348

Short bend 90° for bending radius < 2 x external duct diameter.

Angle bend set

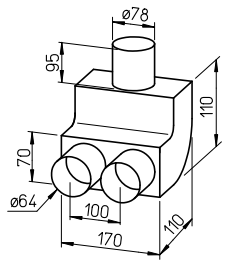


Angle bend set, 90° [2]

Type Ø 63 mm	Ref. no.
FRS-WBS 2-63	09995

Angle bend set consists of:
- Angle bend with sliding connector
- Wall outlet white (FK-WA 200 W), 250 x 103 mm

Short bend 90°

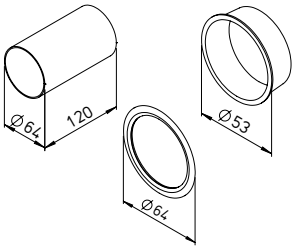


Short bend 90°

Type Ø 63 mm	Ref. no.
FRS-B 75/2-63	09341

Short bend 90° as transition from 1 x 75 mm to 2 hoses with 63 mm.

Sleeve, cover, seal ring



Sleeve, cover, seal ring

Type Ø 63 mm	Ref. no.	Unit
FRS-VM 63 Sleeve	09329	
FRS-VD 63 Cover	09330	10 pcs.
FRS-DR 63 Seal ring	09331	10 pcs.

Note: A seal ring (for IP 66) must be used at every connection point (duct / duct, duct / moulded part). Please order corresponding number separately. Coating with lubricant is recommended for installation.

[1] incl. 6 pcs. cover. [2] incl. 1 pcs. cover.

IsoPipe facade panels

IsoPipe facade panels made of stainless steel for connection to intake air and exhaust air ducts.

Properties

All IsoPipe facade panels are made of high-quality stainless steel.
Also available in coated version (types B) for use in environments with severe air pollution or high salt concentration in the air (near the coast).

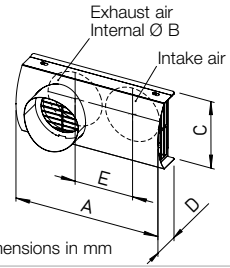
Application and installation

Facade combination panel IP-FKB
Designed for the compact installation of IsoPipe intake air and exhaust air ducts with just one facade panel. Universally applicable for horizontal or vertical installation.
Exhaust connectors can be positioned on the right, left or top.

Exhaust air facade panel IP-FBF
For the IsoPipe duct system. Horizontal installation position. The exhaust air is discharged directly and horizontally through the duct connectors.

Intake air facade panel IP-FBA
For the IsoPipe duct system. Horizontal installation position. The intake air is taken in through the side on both sides.

IP-FKB

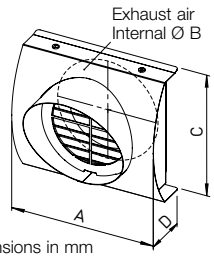


Dimensions in mm

IsoPipe Ø 125 mm						IsoPipe Ø 160 mm						IsoPipe Ø 180 mm					
Type	Ref. no.					**Type**	Ref. no.					**Type**	Ref. no.				
Facade combination panel – Stainless steel																	
IP-FKB 125	02689					**IP-FKB 160**	02694					**IP-FKB 180**	02695				
Dim. in mm	A	ØB	C	D	E	Dim. in mm	A	ØB	C	D	E	Dim. in mm	A	ØB	C	D	E
	420	157	200	100	170		480	192	240	118	210		520	212	290	150	230
Facade combination panel – Stainless steel with additional coating																	
IP-FKB 125 B	02661					**IP-FKB 160 B**	02662					**IP-FKB 180 B**	02663				
Dim. in mm	A	ØB	C	D	E	Dim. in mm	A	ØB	C	D	E	Dim. in mm	A	ØB	C	D	E
	420	157	200	100	170		480	192	240	118	210		520	212	290	150	230

Exhaust air outlet on the right, left or top.

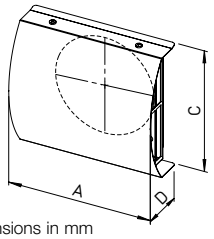
IP-FBF



Dimensions in mm

IsoPipe Ø 125 mm					IsoPipe Ø 160 mm					IsoPipe Ø 180 mm				
Type	Ref. no.				**Type**	Ref. no.				**Type**	Ref. no.			
Facade panel – Stainl. steel, for exh. air														
IP-FBF 125	03126				**IP-FBF 160**	03128				**IP-FBF 180**	03131			
Dim. in mm	A	ØB	C	D	Dim. in mm	A	ØB	C	D	Dim. in mm	A	ØB	C	D
	230	157	200	78		265	192	240	97		285	212	260	126
Facade panel – Stainl. steel, for exh. air with additional coating														
IP-FBF 125 B	02901				**IP-FBF 160 B**	02902				**IP-FBF 180 B**	02903			
Dim. in mm	A	ØB	C	D	Dim. in mm	A	ØB	C	D	Dim. in mm	A	ØB	C	D
	230	157	200	78		265	192	240	97		285	212	260	126

IP-FBA



Dimensions in mm

IsoPipe Ø 125 mm				IsoPipe Ø 160 mm				IsoPipe Ø 180 mm			
Type	Ref. no.			**Type**	Ref. no.			**Type**	Ref. no.		
Facade panel – Stainl. steel, for intake air											
IP-FBA 125	03125			**IP-FBA 160**	03127			**IP-FBA 180**	03130		
Dim. in mm	A	B	C	Dim. in mm	A	B	C	Dim. in mm	A	B	C
	230	200	78		265	240	97		285	260	126
Facade panel – Stainl. steel, for intake air with additional coating											
IP-FBA 125 B	02664			**IP-FBA 160 B**	02665			**IP-FBA 180 B**	02666		
Dim. in mm	A	B	C	Dim. in mm	A	B	C	Dim. in mm	A	B	C
	230	200	78		265	240	97		285	260	126

Installation

Types IP-FKB are universally applicable for horizontal or vertical installation. Exhaust air outlet on the right, left or top.
The adjacent figure shows horizontal installation in an external wall.

Types IP-FBF and IP-FBA for horizontal installation.

Insulated duct system IsoPipe

The innovative alternative to spiral duct installation with subsequent thermal insulation.

- **The insulated round duct system IsoPipe**
- **prevents condensation,**
- **has a smooth, sound-absorbing inner surface and is easy to clean,**
- **saves an enormous amount of installation time,**
- **is the ideal solution for intake air and exhaust air ducting.**

Installation

- All IsoPipe moulded parts, bends, wall outlets and roof outlets are precisely matched to each other and simply plugged into each other.
  IsoPipe is quick to install: Compared to the use of insulated spiral duct, the result is work time savings of up to 70 %.

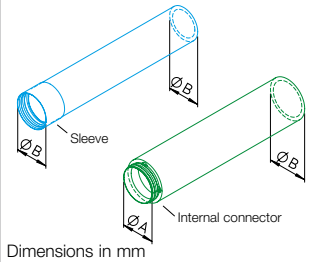
Properties

All pipe parts are fully insulated and consist of vapour-tight, anti-static EPE. Flame retardant according to fire class B1. Air flow temperature from –25 to +80 °C. λ = 0.04 W/mK, d = 16 mm.

Duct concept and installation

- IsoPipe is especially suitable for intake air and exhaust air ducting or supply air and extract air ducting in the basement or low-temperature zone of a KWL system.
- Can be used for volume flows up to 500 m³/h.
- IsoPipe is shock-proof, particularly lightweight and it can easily be shortened to the desired length with a knife.

IsoPipe duct

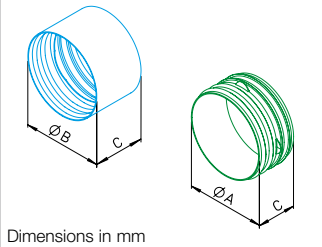


Dimensions in mm

IsoPipe Ø 125 mm				IsoPipe Ø 160 mm				IsoPipe Ø 180 mm				IsoPipe Ø 200 mm			
Type	Best.-Nr.	ØA	ØB	**Type**	Best.-Nr.	ØA	ØB	**Type**	Best.-Nr.	ØA	ØB	**Type**	Best.-Nr.	ØA	ØB
Duct with sleeve															
IP 125/2000 [1]	09406	—	157	—	—		—	—	—		—	—	—		—
Duct with internal connector															
—			—	**IP 160/2000** [2]	09447	160	192	**IP 180/2000** [3]	09448	180	212	**IP 200/2000** [4]	03810	200	232

[1] Unit = 8 x 2 m [2] Unit = 6 x 2 m [3] Unit = 4 x 2 m [4] Unit = 3 x 2 m

Sleeve / Internal connector

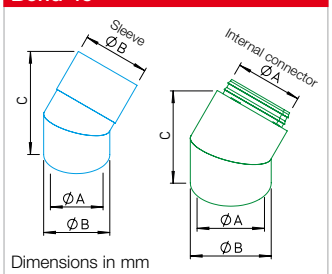


Dimensions in mm

IsoPipe Ø 125 mm					IsoPipe Ø 160 mm					IsoPipe Ø 180 mm					IsoPipe Ø 200 mm				
Type	Best.-Nr.	ØA	ØB	C	**Type**	Best.-Nr.	ØA	ØB	C	**Type**	Best.-Nr.	ØA	ØB	C	**Type**	Best.-Nr.	ØA	ØB	C
Connecting sleeve																			
IP-MU 125	09394	—	157	104	—	—		—		—	—		—		—	—		—	
Internal connector																			
—				—	**IP-IV 160**	09453	160	—	80	**IP-IV 180**	09454	180	—	80	**IP-IV 200**	03811	200	—	80

Made of plastic.

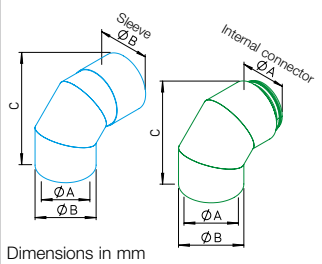
Bend 45°



Dimensions in mm

IsoPipe Ø 125 mm					IsoPipe Ø 160 mm					IsoPipe Ø 180 mm					IsoPipe Ø 200 mm				
Type	Best.-Nr.	ØA	ØB	C	**Type**	Best.-Nr.	ØA	ØB	C	**Type**	Best.-Nr.	ØA	ØB	C	**Type**	Best.-Nr.	ØA	ØB	C
Bend 45° with sleeve																			
IP-B 125/45	09399	125	157	255	—	—		—		—	—		—		—	—		—	
Bend 45° with int. connector																			
—				—	**IP-B 160/45**	09449	160	192	242	**IP-B 180/45**	09450	180	212	256	**IP-B 200/45**	03809	200	232	270

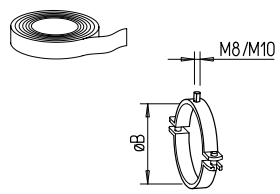
Bend 90°



Dimensions in mm

IsoPipe Ø 125 mm					IsoPipe Ø 160 mm					IsoPipe Ø 180 mm					IsoPipe Ø 200 mm				
Type	Best.-Nr.	ØA	ØB	C	**Type**	Best.-Nr.	ØA	ØB	C	**Type**	Best.-Nr.	ØA	ØB	C	**Type**	Best.-Nr.	ØA	ØB	C
Bend 90° with sleeve																			
IP-B 125/90	09398	125	157	239	—	—		—		—	—		—		—	—		—	
Bend 90° with int. connector																			
—				—	**IP-B 160/90**	09451	160	192	272	**IP-B 180/90**	09452	180	212	292	**IP-B 200/90**	03808	200	232	312

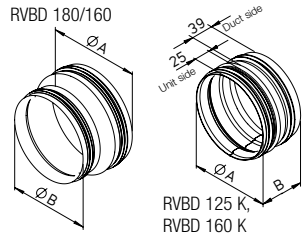
Tape / Pipe clamp



Dimensions in mm

IsoPipe Ø 125 mm			IsoPipe Ø 160 mm			IsoPipe Ø 180 mm			IsoPipe Ø 200 mm		
Type	Best.-Nr.	ØB	**Type**	Best.-Nr.	ØB	**Type**	Best.-Nr.	ØB	**Type**	Best.-Nr.	ØB
Tape, insulated, 50x3 mm, 15 lin. m											
IP-KLB	09643		**IP-KLB**	09643		**IP-KLB**	09643		**IP-KLB**	09643	
Pipe clamp											
IP-S 125	09395	157	**IP-S 160**	09392	192	**IP-S 180**	09421	212	**IP-S 200**	03812	232

Fittings for unit connection

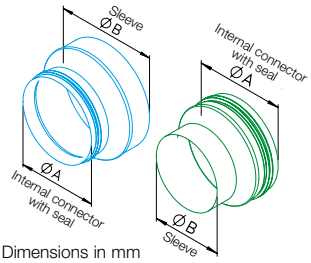


Dimensions in mm

IsoPipe Ø 125 mm				IsoPipe Ø 160 mm				IsoPipe Ø 180 mm				IsoPipe Ø 200 mm			
Type	Best.-Nr.	ØA	B	**Type**	Best.-Nr.	ØA	B	**Type**	Best.-Nr.	ØA	B	**Type**	Best.-Nr.	ØA	B
Connector with seal for connection to KWL units – with sleeve DN 125															
RVBD 125 K [1]	03414	125	70	—	—	—		—	—	—		—	—	—	
Connector with seal for connection to KWL units – with sleeve DN 160															
—	—	—		**RVBD 160 K** [2]	03415	160	70	**RVBD 180/160** [2]	09589	180	160	—	—	—	
Connector with seal for															
—	—	—		—	—	—		—	—	—		**RVBD 200 K**	03813	200	70

All fittings made of galvanised steel sheet.
[1] Compatible with KWL EC 170 W, KWL EC 200 W, KWL EC 300 W and KWL EC 220 D.
[2] Compatible with KWL EC 500 W and KWL EC 340 D.

Fittings for distribution box

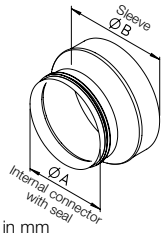


Dimensions in mm

IsoPipe Ø 125 mm				IsoPipe Ø 160 mm				IsoPipe Ø 180 mm				IsoPipe Ø 200 mm			
Type	Best.-Nr.	ØA	ØB	**Type**	Best.-Nr.	ØA	ØB	**Type**	Best.-Nr.	ØA	ØB	**Type**	Best.-Nr.	ØA	ØB
Fitting for connection to distribution boxes – with connector DN 125															
Direct duct connection				**IP-ARZ 125/160**	09458	160	125	—	—	—		—	—	—	
Fitting for connection to distribution boxes – with connector DN 160															
IP-ARZ 160/125	09358	125	160	Direct duct connection				**IP-ARZ 160/180**	09459	180	160	**IP-ARZ 160/200**	03816	200	160
Fitting for connection to distribution boxes – with connector DN 180															
IP-ARZ 180/125	09360	125	180	**IP-ARZ 180/160**	09455	160	180	Direct duct connection				**IP-ARZ 180/200**	03814	200	180

All fittings made of galvanised steel sheet.

Fittings for KWL HygroBox and ground heat exchange

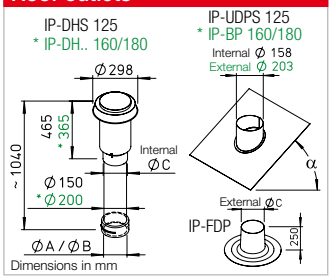


Dimensions in mm

IsoPipe Ø 125 mm				IsoPipe Ø 160 mm				IsoPipe Ø 180 mm				IsoPipe Ø 200 mm			
Type	Best.-Nr.	ØA	ØB	**Type**	Best.-Nr.	ØA	ØB	**Type**	Best.-Nr.	ØA	ØB	**Type**	Best.-Nr.	ØA	ØB
Fitting for connection to KWL HygroBox – KWL HB 250, connec. DN 160															
IP-ARZ 160/125	09358	125	160	Direct duct connection				—	—	—		**IP-ARZ160/200**	03816	200	160
Fitting for connection to KWL HygroBox – KWL HB 500, connec. DN 250															
—	—	—		**IP-ARZ 250/160**	09590	160	250	**IP-ARZ 250/180**	09591	180	250	**IP-ARZ 250/200**	03815	200	250
Fitting for connection to ground heat exchanger – LEWT, connector DN 200															
IP-ARZ 200/125	09359	125	200	**IP-ARZ 200/160**	09456	160	200	**IP-ARZ 200/180**	09457	180	200	Direct duct connection			
Fitting for connection to ground heat exchanger – SEWT, connector DN 180															
IP-ARZ 180/125	09360	125	180	**IP-ARZ 180/160**	09455	160	180	Direct duct connection				**IP-ARZ 180/200**	03814	200	180

Alle Formstücke aus verzinktem Stahlblech.

Roof outlets



Dimensions in mm

IsoPipe Ø 125 mm				IsoPipe Ø 160 mm				IsoPipe Ø 180 mm			
Type	Best.-Nr.	ØB	ØC	**Type**	Best.-Nr.	ØB	ØC	**Type**	Best.-Nr.	ØA	ØC
Roof outlet, consisting of hood and pan tile* **– Roof hood** black											
IP-DHS 125	03541	157	160	**IP-DHS 160**	03542	192	250	**IP-DHS 180**	03542	180	210
Roof outlet, consisting of hood and pan tile* **– Roof hood including duct** red											
—		—		**IP-DHR 160**	03543	192	250	**IP-DHR 180**	03543	180	210
Roof outlet, consisting of hood and pan tile* **– Roof pan tile for pitched roofs,** with lead edge											
IP-UDPS 125	03546	α 25°– 45°		**IP-BP 160/25**	09384	α 20°– 30°		**IP-BP 180/25**	09384	α 20°– 30°	
—		—		**IP-BP 160/35**	09385	α 30°– 40°		**IP-BP 180/35**	09385	α 30°– 40°	
—		—		**IP-BP 160/45**	09386	α 40°– 50°		**IP-BP 180/45**	09386	α 40°– 50°	
Roof outlet, consisting of hood and pan tile* **– Roof pan tile for flat roof**											
IP-FDP 125	03544	—	158	**IP-FDP 160**	03545	—	203	**IP-FDP 180**	03545	—	203

* Please order roof hoods and pan tiles separately.

Silencer

IsoPipe Ø 125 mm		IsoPipe Ø 160 mm		IsoPipe Ø 180 mm	
Type	Best.-Nr.	**Type**	Best.-Nr.	**Type**	Best.-Nr.
Flexible duct silencer, made of aluminium duct, Length approx. 1 m, elastic					
SDE 125	00789	**SDE 160**	00790	**SDE 180**	00499

Type	Insulation	Insertion loss dB at Hz						
	mm	125	250	500	1000	2000	4000	8000
SDE 125	50	32	42	45	46	50	42	41
SDE 160	50	23	40	43	46	46	31	29
SDE 180	50	20	39	43	47	46	28	29

Air distribution system RenoPipe

The smart solution, specifically developed for energy-saving renovation: RenoPipe combines ducting and ventilation duct cladding in one component.

- **Quick, easy installation, even in occupied buildings.**
- **Installation without rework possible in drywall construction.**
- **Minimisation of material usage and costs.**
- **Cost-effective due to few components and elimination of exhaust air piping.**

Installation

- The RP moulded parts can be easily shortened to the desired length with a fine-toothed saw.
- Visible installation in ceilings or walls by clicking the long connector into the mounting brackets included in the delivery.
- Free cuts in the duct compensate for unevenness, miter cuts are unnecessary due to precision-fit moulded parts. Fastening elements with longitudinal, lateral and height compensation guarantee a precise fit.

Properties and advantages

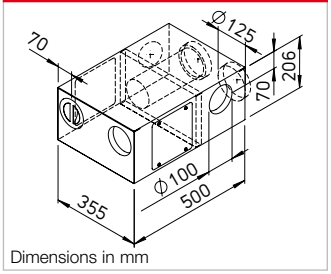
- Coatable components made of smooth, high-density EPS in white.
- Quick visible installation, without elaborate ceiling suspensions and drywall construction work.

Duct concept, installation

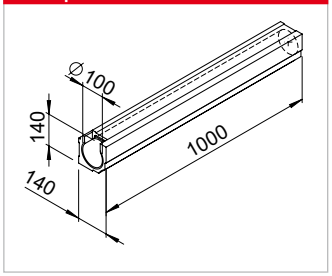
- The extract air from the adjoining extract air rooms is collected directly in the sound-insulated combination distributor. There is no extract air piping or separate silencers.
- Asymmetric lip seals ensure the leak tightness of the entire RenoPipe system.

Combination distribution box, supply air right
Compact distributor made of galvanised steel sheet with sound-absorbing lining of inner sides. Properties: Extract air collector, supply air distributor with sound insulation function. Unit connection 2 x DN 125, 2 x DN 100 for extract air, 2 x DN 100 for supply air. Incl. inspection opening and cover.
RP-KVK 3-100/125 R No. 03048

Combination distributor



Duct piece

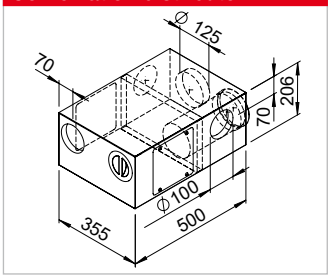


Duct Unit = 4 pcs.*
Duct with smooth, square profile. Internal diameter DN 100, length 1 m.
RP-K Ref. no. 03061

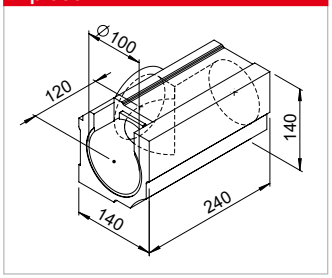
Duct with stucco profile Unit = 4 pcs.*
Like above but with visually appealing stucco profile.
RP-SK Ref. no. 03065

Combination distribution box, supply air left
Compact distributor made of galvanised steel sheet with sound-absorbing lining of inner sides. Properties: Extract air collector, supply air distributor with sound insulation function. Unit connection 2 x DN 125, 2 x DN 100 for extract air, 2 x DN 100 for supply air. Incl. inspection opening and cover.
RP-KVK 3-100/125 L No. 03038

Combination distributor



T-piece

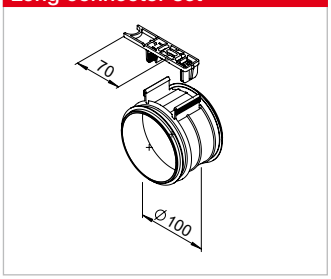


T-piece Unit = 4 pcs.*
Compact T-piece with smooth, square profile. Internal diameter DN 100/100/100.
RP-T Ref. no. 03062

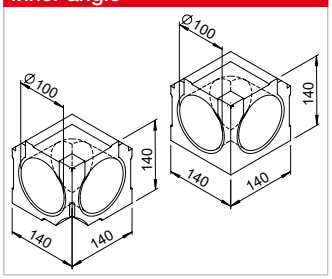
T-piece with stucco Unit = 4 pcs.*
Like above but with visually appealing stucco profile.
RP-ST Ref. no. 03066

Long connector set
Consists of a connecting sleeve DN 100 made of impact-resistant polypropylene and two lip seals for airtight connection of the duct. Includes mounting bracket for simple click installation of the duct.
RP-LV Ref. no. 03029

Long connector set



Inner angle

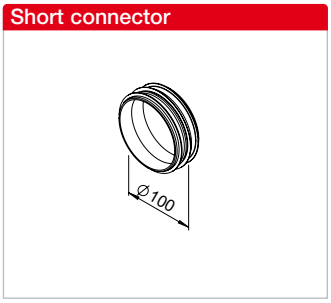


Inner angle Unit = 2 pcs.*
90° inner angle with smooth, square profile. Internal diameter DN 100.
RP-IW Ref. no. 03075

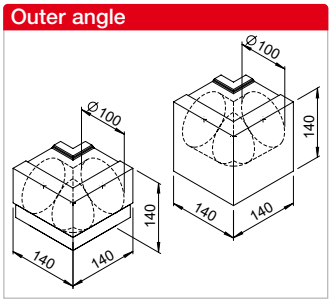
Inner angle with stucco Unit = 2 pcs.*
Like above but with visually appealing stucco profile.
RP-SIW Ref. no. 03077

Long connector set
Consists of a connecting sleeve DN 100 made of impact-resistant polypropylene and two lip seals for airtight connection of the duct. Includes mounting bracket for simple click installation of the duct.
RP-KV Ref. no. 03030

Short connector



Outer angle



Outer angle Unit = 2 pcs.*
90° outer angle with smooth, square profile. Internal diameter DN 100.
RP-AW Ref. no. 03076

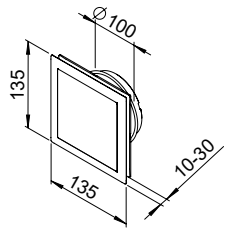
Outer angle with stucco Unit = 2 pcs.*
Like above but with visually appealing stucco profile.
RP-SAW Ref. no. 03078

* Delivered in packaging units.

Design ventilation valve
Design ventilation valve for extract air operation, DN 100, adjustable. With closed front and integrated filter.
DLV 100 Ref. no. 03039

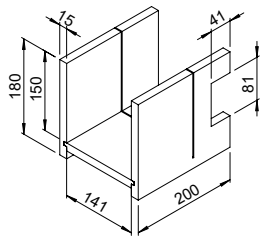
Replacement air filter Unit = 5 pcs.*
ELF-DLV 100 Ref. no. 03042

Ventilation valve



Dimensions in mm

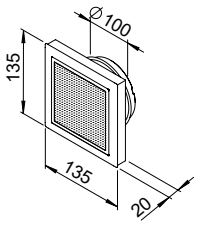
Cutting aid



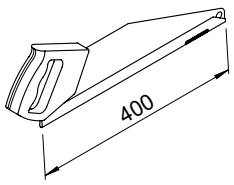
Cutting aid
Stable cutting aid, beech multiplex 15 mm, for easy cutting of duct to length.
RP-SH Ref. no. 03036

Design ventilation valve, for supply air
Design ventilation valve for supply air operation, DN 100.
DLVZ 100 Ref. no. 03040

Ventilation valve



Fine-toothed saw

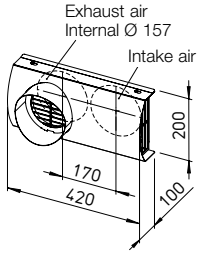


Fine-toothed saw
Special fine-toothed handsaw for precise cuts.
RP-FS Ref. no. 03044

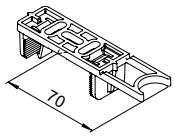
Facade combination panel
For intake air and exhaust air ducts. Universally applicable. Elegant, made of high-quality stainless steel. Connection DN 125.
IP-FKB 125 Ref. no. 02689

With additional coating for use in environments with severe air pollution or high salt concentration in the air.
IP-FKB 125 B Ref. no. 02661

Facade combination panel



Bracket

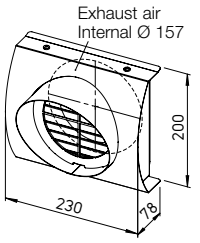


Mounting bracket Unit = 5 pcs.*
Made of high-quality, impact-resistant plastic.
RP-BK Ref. no. 03031

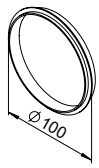
Exhaust air panel
Elegant, made of high-quality stainless steel.
Connection DN 125.
IP-FBF 125 Ref. no. 03126

With additional coating for use in environments with severe air pollution or high salt concentration in the air.
IP-FBF 125 B Ref. no. 02901

Exhaust air panel



Seal

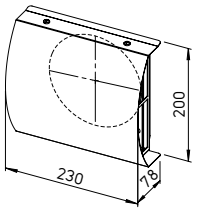


Lip seal Unit = 10 pcs.*
DN 100 made of EPDM.
RP-LD Ref. no. 03033

Intake air panel
Elegant, made of high-quality stainless steel.
Connection DN 125.
IP-FBA 125 Ref. no. 03125

With additional coating for use in environments with severe air pollution or high salt concentration in the air.
IP-FBA 125 B Ref. no. 02664

Intake air panel

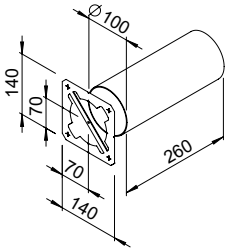


End/inspection cover

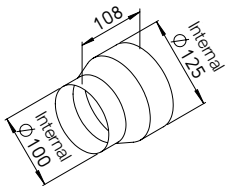
End/inspection cover
DN 100 made of high-quality plastic, with lip seal. For attachment to am duct end piece.
RP-RD Ref. no. 03037

Wall sleeve
DN 100 made of PVC, incl. mounting template for simple wall outlet.
RP-WH Ref. no. 03035

Wall sleeve



Reducer



Reducer
Made of galvanised steel sheet.
RP-RZ 125/100 Ref. no. 03017

* Delivered in packaging units.

Flat duct system FK made of galvanised steel sheet
For installation in unfinished flooring

Flat duct system FK

Underfloor duct system made of galvanised steel sheet, specifically developed for domestic ventilation. The optimal solution for concealed air ducts; ideal for air distribution in new buildings.

Properties

- All components made of galvanised steel sheet, corrosion-resistant and non-flammable.

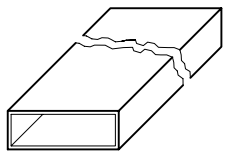
Available in two sizes

- FK 150 x 50 mm for volume flows up to 90 m³/h.
- FK 200 x 50 mm for volume flows up to 140 m³/h.

Duct concept and installation

- Flat design and rigid construction allow easy installation in unfinished flooring.
- Connection using external connector. Moulded parts with integrated sleeve (insertion depth approx. 35 mm). The smooth internal walls result in low flow resistances and do not create obstacles for dirt deposits. Cleaning (disinfection) is still possible.
- The distribution box, which must be installed per floor for extract and supply air delivery, simplifies the duct layout.
- Flat silencers (FK-SD) can be installed in the duct system to protect noise-sensitive rooms, e.g. bedrooms.

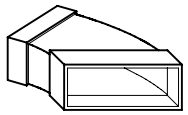
Flat duct



Dimensions in mm

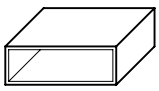
Flat duct				
Type	Ref. no.	Dim. in mm Width	Height	Length
150 x 50 m				
FK 150	02905	150	50	1500
200 x 50 mm				
FK 200	02906	200	50	1500

Bend, horizontal 45°



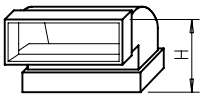
Bend, horizontal 45°				
Type	Ref. no.	Dim. in mm Width	Height	Radius
150 x 50 m				
FK-BH 150/45	02910	153	53	45°
200 x 50 mm				
FK-BH 200/45	02912	203	53	45°

Connector



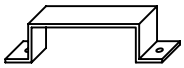
Connector				
Type	Ref. no.	Dim. in mm Width	Height	Length
150 x 50 m				
FK-V 150	02941	153	53	200
200 x 50 mm				
FK-V 200	02942	203	53	200

Bend, vertical 90°



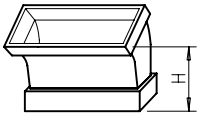
Bend, vertical 90°				
Type	Ref. no.	Dim. in mm Width	Height	Radius
150 x 50 m				
FK-BV 150/90	02919	153	103	90°
200 x 50 mm				
FK-BV 200/90	02920	203	103	90°

Mounting bracket



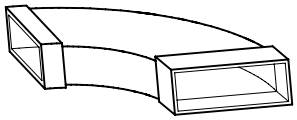
Mounting bracket				
Type	Ref. no.	Dim. in mm Width	Height	Length
150 x 50 m				
FK-B 150	02907	151	52	30
200 x 50 mm				
FK-B 200	02908	201	52	30

Bend, vertical 45°



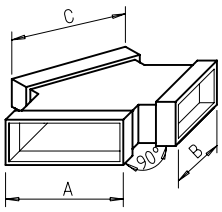
Bend, vertical 45°				
Type	Ref. no.	Dim. in mm Width	Height	Radius
150 x 50 m				
FK-BV 150/45	02917	153	73	45°
200 x 50 mm				
FK-BV 200/45	02918	203	73	45°

Bend, horizontal 90°



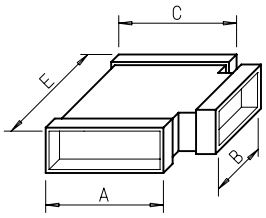
Bend, horizontal 90°				
Type	Ref. no.	Dim. in mm Width	Height	Radius
150 x 50 m				
FK-BH 150/90	02909	153	53	90°
200 x 50 mm				
FK-BH 200/90	02911	203	53	90°

Y-branch



Y-branch				
Type	Ref. no.	Dim. in mm A	B	C
150 x 50 m				
FK-Y 150/150/150	02927	153	153	153
200 x 50 mm				
FK-Y 200/150/150	02929	153	153	203

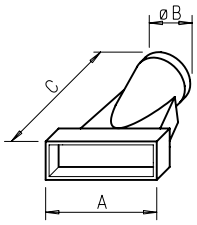
T-piece



Dimensions in mm

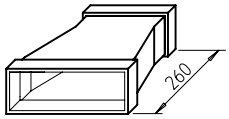
T-piece					
Type	Ref. no.	Dim. in mm A	B	C	E
FK-T 150/150/150	02921	153	153	153	250
FK-T 150/150/200	02923	153	153	203	390
FK-T 150/200/150	02926	153	203	153	300
FK-T 200/150/200	02925	203	153	203	250
FK-T 150/200/200	02924	153	203	203	440
FK-T 200/200/200	02922	203	203	203	300

Transition piece



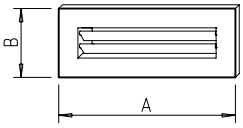
Transition piece				
Type	Ref. no.	Dim. in mm A	ØB	C
150 x 50 mm				
FK-Ü 75/150	02948	153	78	260
FK-Ü 100/150	02996	153	103	260
200 x 50 mm				
FK-Ü 100/200	02997	203	103	260
FK-Ü 125/200	02998	203	128	260

Reducers



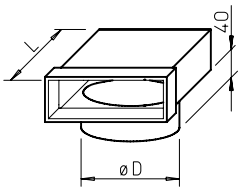
Reducers			
Type	Ref. no.	Dim. in mm Length	Heigth
Reducer symmetrical			
FK-RS 200/150	02932	260	53
Reducer asymmetrical			
FK-RA 200/150	02933	260	53

Outlet



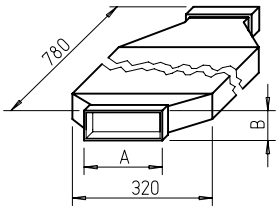
Ceiling/wall outlet				
Type	Ref. no.	Dim. in mm Colour	A	B
200 x 50 mm				
FK-WA 200 W	09350	White	250	103
FK-WA 200 AL	09351	Alum.	250	103

End piece – Spiral duct



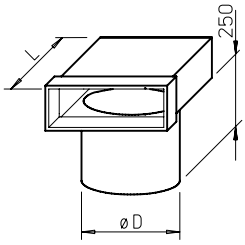
End piece with connection for spiral duct			
Type	Ref. no.	Dim. in mm Ø D	L
150 x 50 mm			
FK-ER 150/100	02934	99	200
FK-ER 150/125	02935	124	200
200 x 50 mm			
FK-ER 200/160	02936	159	220

Silencer



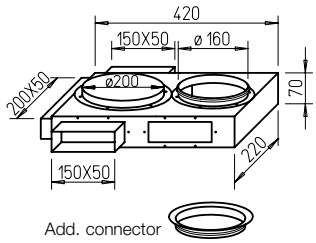
Silencer			
Type	Ref. no.	Dim. in mm A	B
150 x 50 mm			
FK-SD 150	02945	153	53
200 x 50 mm			
FK-SD 200	02946	203	53

End piece – Valve



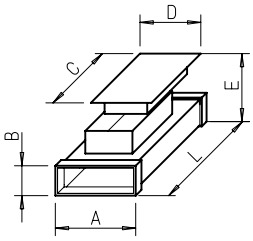
End piece with connection for spiral duct			
Type	Ref. no.	Dim. in mm Ø D	L
150 x 50 mm			
FK-EV 150/100	02937	102	200
FK-EV 150/125	02938	127	200
200 x 50 mm			
FK-EV 200/100	02939	102	200
FK-EV 200/125	02940	127	200

Distribution box



Distribution box	
Type	Ref. no.
FK-VK	02987
Delivery FK-VK	
4 connectors 150 x 50 (2 enclosed loose),	
1 connectors 200 x 50 and 1 inspection panel.	
Add. connectors for straight distributor	
FK-ZS	02947

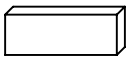
Inspection piece



Inspection piece						
Type	Ref. no.	Dim. in mm A	B	C	D	L
150 x 50 mm						
FK-RZ 150	02930	153	53	347	137	500
200 x 50 mm						
FK-RZ 200	02931	203	53	347	137	500

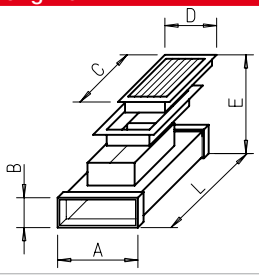
Dim. E can vary from 105-130 mm.

End cover



End cover	
Type	Ref. no.
150 x 50 mm	
FK-ED 150	02943
200 x 50 mm	
FK-ED 200	02944

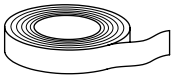
Floor grille



Aluminium floor grille with inst. casing						
Type	Ref. no.	Dim. in mm A	B	C	D	L
150 x 50 mm						
FK-BA 150	02986	153	53	348	152	500

Dim. E can vary from 112-152 mm.

Sealing tape



Sealing tape/Tape		
Type	Ref. no.	
Cold shrink tape		
KSB	09343	50 mm wide, 15 lin. m
Aluminium cold shrink tape		
KSB ALU	09344	50 mm wide, 15 lin. m
Tape		
KLB	00619	50 mm wide, 20 lin. m

Extract air elements

Design ventilation valves and disc valves

For extract air delivery at high and low flow rates or resistances.
DLV with visually closed front design and integrated filter.

Ø 80		Ø 100		Ø 125		Ø 160	
Type	**Ref. no.**	**Type**	**Ref. no.**	**Type**	**Ref. no.**	**Type**	**Ref. no.**
Design ventilation valve DLV [1] for extract air							
		DLV 100	03039	**DLV 125**	03049		
		ELF-DLV 100 [2]	03042	**ELF-DLV 125 [2]**	03058		
Plastic disc valve KTVA							
KTVA 75/80	00940	**KTVA 100**	00941	**KTVA 125**	00942	**KTVA 160**	00943
Metal disc valve for extract air (for areas where non-flammable components are compulsory)							
MTVA 75/80	08868	**MTVA 100**	08869	**MTVA 125**	08870	**MTVA 160**	08871

[1] With integrated filter. [2] Replacement air filter for DLV, unit = 5 pcs.

Supply air elements

Design ventilation valves and disc valves

For supply air delivery at high and low flow rates or resistances.
DLV 125 with visually closed front design and integrated filter.

Ø 80		Ø 100		Ø 125		Ø 160	
Type	**Ref. no.**	**Type**	**Ref. no.**	**Type**	**Ref. no.**	**Type**	**Ref. no.**
Ventilation grille LGK, Design ventilation valve DLV for supply air							
LGK 80	00259	**DLVZ 100**	03040	**DLV 125**	03049		
				ELF-DLV 125 [1]	03058		
Plastic disc valve KTVZ							
KTVZ 80	02762	**KTVZ 100**	02736	**KTVZ 125**	02737	**KTVZ 160**	02738
Metal disc valve for supply air (for areas where non-flammable components are compulsory)							
MTVZ 75/80	09603	**MTVZ 100**	09604	**MTVZ 125**	09605	**MTVZ 160**	09606

[1] Replacement air filter for DLV 125, unit = 5 pcs.

Supply air-extract air valve ZAV

Supply air-extract air valve ZAV

Elegant plastic valve for wall and ceiling installation.
Can be used as a wall element with open front grille.
Ceiling installation with closed front grille.
Flexible application as supply air valve or extract air valve.

Ø 80		Ø 100		Ø 125		Ø 160	
Type	**Ref. no.**	**Type**	**Ref. no.**	**Type**	**Ref. no.**	**Type**	**Ref. no.**
Plastic valve for supply and extract air ZAV							
ZAV 80	03079			**ZAV 125**	03080		

Attachment filter element VFE

Attachment filter element VFE

For installation in front of disc valves for greasy, contaminated room air. Prevents grease and dirt deposits.
Casing made of galvanised steel sheet, white, plastic powder-coated. Filter made of dimensionally stable aluminium filter fabric with 324 cm² free filter surface and aluminium frame.

VFE 70	Ref. no. 02552
VFE 90	Ref. no. 02553
ELF/VFE	Ref. no. 02554

Replacement air filter, unit = 2 pcs.

Control lines

Control lines

8-pin AWG24 twisted pair cable for the control element for types KWL EC 700 D to KWL EC 2600 S and KWL YOGA from 400 to 1000.

	For control element KWL EC 700 D - 2600 S and KWL YOGA 400 - 1000 (8-pin AWG24 twisted pair cable)	
Cable length	**Type**	**Ref. no.**
20 metres	**ALB EC-SK 20**	06816
40 metres	**ALB EC-SK 40**	06817

Adapter board

Adapter board

Adapter from flat ribbon cable to stranded wire or cable. For connection of KNX module and RJ10 control line. See KWL unit product pages for description of KNX module.

Type KWL-RJ10 KL No. 04277

Other accessories	**Page**
– Enthalpy heat exchanger	21
– HygroBox	86 f.
– Ground heat exchang.	88 ff.
– Insulated duct system	78 f.
– Air distrib. systems	80 ff.
– Fire prot. elements	

Main Helios Catalogue

Accessory details

Dimensions, further technical information and other sizes:

Warm water heating elements and temp. control systems
Ventilation grilles, ducts, moulded parts, roof outlets

Extract air elements, attachment filter elements, Disc valves

Main Helios Catalogue

Shutters

Silencer

Ø 100	Ø 125	Ø 160	Ø 200	Ø 250	Ø 315	Ø 355	Ø 400
Flexible connecting sleeve – For acoustic decoupling, incl. 2 pcs. hose clamps							
FM 100 01681	**FM 125** 01682	**FM 160** 01684	**FM 200** 01670	**FM 250** 01672	**FM 315** 01674	**FM 355** 01675	**FM 400** 01676
Duct shutters – Self-actuating or **motorised, installed in pipeline, casing made of galvanised steel sheet or *plastic							
RSKK* 100 05106	**RSKK* 125** 05107	**RSK 160** 05669	**RSK 200** 05074	**RSK 250** 05673	**RSK 315** 05674	**RSK 355** 05650	**RSK 400** 05651
				RVM 250** 02576	**RVM** 315** 02578	**RVM** 355** 02579	**RVM** 400** 02580
KAK 100 04097	**KAK 125** 04098	**KAK 160** 04099	**KAK 200** 04100	**Cold smoke shutter**			
Flexible cross talk silencer FSD [1], **duct silencer RSD** [1] – Galvanised steel sheet				**Duct silencer SDE** see page 79			
FSD 100 00676	**FSD 125** 00677	**FSD 160** 00678	**FSD 200** 00679	**FSD 250** 00680	**FSD 315** 00681	**FSD 355** 00682	**FSD 400** 00683
—	—	—	—	**RSD 250** 08739	**RSD 315** 08745	**RSD 355** 08748	**RSD 400** 08751

[1] See product page for average insulation dimension.

Warm water heating element

Type	Ref. no.	Compatible with duct	Air-side data: Heat output		Air-side data: Δ T air		Air-side data: at V	Water-side data [1]: Pressure loss	Water-side data [1]: with water volume	Weight	Compatible temperature control system: Type	Compatible temperature control system: Ref. no.
		Ø mm	kW [1]	kW [2]	K [1]	K [2]	m³/h	Δp_w kPa	l/h	approx. kg		
WHR 100	09479	100	1.9	0.9	35	17	150	1	84	3.2	**WHST 300 T50**	08820
WHR 125	09480	125	2.6	1.1	29	13	250	2	115	3.2	**WHST 300 T50**	08820
WHR 160	09481	160	5.5	3.1	38	22	400	11	245	4.9	**WHST 300 T50**	08820
WHR 200	09482	200	7.2	4.1	33	19	600	17	317	4.9	**WHST 300 T50**	08820
WHR 250	09483	250	10.7	6.0	37	21	800	8	470	6.9	**WHSH HE 24 V**	08318
WHR 315	09484	351	18.3	10.4	36,2	21	1400	9	810	9.0	**WHSH HE 24 V**	08318
WHR 400	09524	400	26.2	15.0	36	21	2000	11	1060	12.5	**WHSH HE 24 V**	08318

Door ventilation grilles

Door ventilation grilles
Unobtrusive, sight screening ventilation grille made of break-resistant plastic for installation in door leaf.

See product page for detailed description.

LTGW Ref. no. 00246
Made of plastic, white.

LTGB Ref. no. 00247
Made of plastic, brown.

Cleaning set

Cleaning set for air distribution systems FlexPipe and RenoPipe.
The universal cleaning set KWL-RS is ideally suitable for cleaning the FlexPipe duct systems (DN 75, DN 63) and the RenoPipe air distribution system (DN 100). Application is possible either by pushing (for short distances) or pulling. In case of longer duct sections or narrow bends, the round nylon brush is simply pulled in the direction of the distribution box, where the 90° bend is used for the intake connection. This is used to easily remove the dust loosened by the round nylon brush with a commercially available vacuum cleaner.

Delivered in a practical transport bag.
Delivery: Per 1 pc.
- Reel with flexible GFK wire (20 linear m.)
- Round brushes DN 63, 75, 100
- 90° bend and seal for intake connection DN 56
- Adapter DN 56/40, DN 56/32.

KWL-RS Ref. no. 02797

Air temperature control

Air temperature control for KWL units with PWW post-heater.
For air heating control of the PWW post-heater integrated in KWL WW types. Consists of thermostat with remote adjustment and remote sensor. Simple, cost-effective and quick-to-install solution.
Temperature range 8 – 38 °C.
WHST 300 T38 Ref. no. 08817

Air temperature control

Air temperature control for warm water heating element WHR. Ideal for use as supply air heater.
Consists of thermostat incl. duct temperature sensor (with 2 m capillary tube) and valve. Provides a constant supply air temperature. Simple, cost-effective and quick-to-install solution.
Temperature range 20 – 50 °C.
WHST 300 T50 Ref. no. 08820

Hydraulic unit

Hydraulic unit
Controls the flow of the PWW heating element using a three-way valve actuator 24 V (0-10 V) and thus the heat output transferred to the air. Delivered as a complete unit, incl. VL-/RL temperature display, circulating pump and flexible connection hoses.

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

Weekly timer

Weekly timer
Digital timer with LCD display for autom. control of op. mode, programmable for every weekday. Surface and flush-mounted install.
Dim. mm (WxHxD) 84 x 84 x 40
WSUP Ref. no. 09990

For switch cabinet installation (2 space units required).
Dim. mm ((WxHxD) 36 x 90 x 63
WSUP-S Ref. no. 09577

WHR: The values apply for supply air temp. 0 °C and flow/return temperatures: [1] 90/70 °C, [2] 60/40 °C.

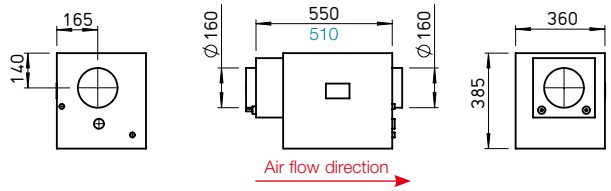
KWL® HygroBox
Active humidification for a healthy feel-good atmosphere

KWL HB..

KWL HB 250..

KWL HBX 500..

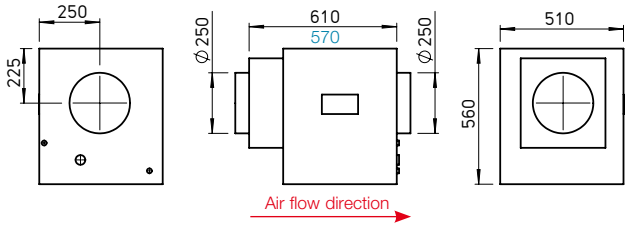
Dimensions KWL HB 250.. L



Dimensions in mm

KWL HB 250 WW L, KWL HB 250 EH L

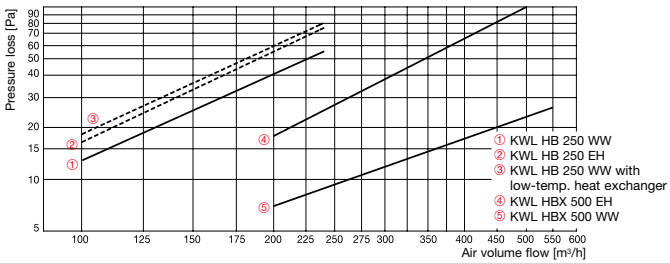
Dimensions KWL HBX 500.. L



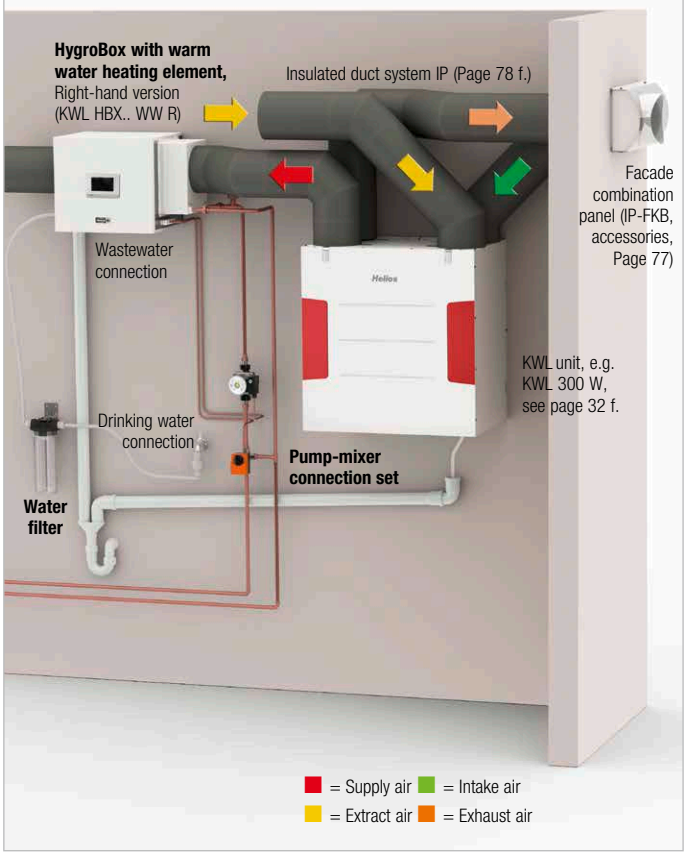
Dimensions in mm

KWL HBX 500 WW L, KWL HBX 500 EH L

Performance curves KWL HB..



Schematic diagram KWL HBX.. WW R



Designed specifically for ventilation systems in residential buildings and offices, the Helios HygroBox automatically guarantees a healthy feel-good atmosphere with ideal air humidity throughout the year.

Advantages
- Constant indoor climate with ideal moisture content.
- Prevention of expensive damage to furniture, wooden floor coverings and antiques.
- Alleviation of allergy symptoms and health impacts. Strengthening of the immune system by reducing the lifetime of bacteria and viruses.
- Reduction of fine dust and electrostatic charges.

Special HygroBox features
- Constant supply air humidity and temperature in all rooms.
- The principle of natural evaporation prevents excessive humidification.
- Hygienically safe due to UVC disinfection.
- Fully automated operation with automatic summer deactivation.
- Low-maintenance and easy to install.
- Low operating costs through the use of evaporation energy from the existing heating system.

Functional principle
The HygroBox is an active humidification unit for integration in new or existing KWL ventilation units with heat recovery. The fresh intake air flows through the KWL unit heat exchanger and absorbs the thermal energy from the extract air. This preheated air is then delivered to the HygroBox, where active and automatic humidification takes place according to the principle of natural evaporation. A bladed rotor rotates continuously in a water bath inside the unit and releases water molecules into the preheated supply air via the wetted blade surface. Regardless of the KWL unit operating level and external weather influences, the HygroBox constantly maintains the preselected relative air humidity and thus guarantees a healthy feel-good atmosphere with ideal moisture content.

Delivery
Delivered as a plug-in compact unit including water supply hoses and water filter.

Heating element
- The HygroBox is equipped with a warm water (WW types) or electric heating element (EH types). This heats the supply air before humidification and thereby guarantees the required evaporation energy and pleasant supply air temperature.
- With regard to heating systems with low flow temperature (e.g. heat pumps), a low-temperature heating element (type KWL-NHR, accessories, see right page) must be connected downstream of the HygroBox.

Summer operation
- The HydroBox automatically switches to standby mode when the moisture content of the intake air is sufficiently high (e.g. in summer). In this state, there is no water in the unit and the remains at a standstill.

KWL-NHR

Low-temperature heating element (for KWL HB.. WW)

Description

- The additional installation of a post-heating element on the HygroBox air outlet is recommended in combination with low-temperature heaters to compensate for the evaporative cooling.
- The external temperature sensor, which is included in the delivery of the post-heating element, must be installed in the supply air duct at a distance of approx. 50 cm behind the post-heating element.

Accessories
Low-temperature post-heating element

– for KWL HB 250 WW
KWL-NHR 250 Ref. no. 05628

– for KWL HBX 500 WW
KWL-NHR 500 Ref. no. 05633

KWL-PMAS

Pump-mixer connection set (for KWL HB.. WW)

Description

- For connection of the HygroBox to existing heating circuits.
- Consists of:
  – 1 pc. circulating pump 230 V
  – 2 pc. screw fittings, R 1/2a/15 mm MS (brass)
  – 1 pc. 3-way mixer valve with actuator 230 V, Rp1/2", DN 15.

Accessories
Pump-mixer connection set

– for KWL HB 250 WW
KWL-PMA 250 Ref. no. 05629

– for KWL HBX 500 WW
KWL-PMAS 500 Ref. no. 40194

KWL-UVR, KWL-OME

Replacement UVC ducts and osmosis membrane (for all types)

Description

- Helios HygroBoxes are equipped with a constant, automatically monitored UVC disinfection system which effectively kills all germs and bacteria.
- In addition, the water in the evaporator tray is automatically changed depending on the water hardness and evaporation performance.
- A reverse osmosis unit protects the unit against limescale deposits.
- The hygienic safety of the HygroBox is documented and certified by experts.

Accessories
Replacement UVC ducts
KWL-UVR Ref. no. 05631

Replacement osmosis membrane
KWL-OME Ref. no. 05632

KWL-WF

Replacement water filter (for all types)

- As a general rule, the water filter in the water supply pipe must be replaced every 6 months. The filter replacement is indicated on the HygroBox display.

Accessories
Replacement water filter
Unit = 1 pc. filter cartridge (without casing, without hoses)
KWL-WF Ref. no. 05630

Technical data

	With electric heating element				With warm water heating element			
	For KWL units up to 250 m³/h flow rate		For KWL units up to 500 m³/h flow rate NEW		For KWL units up to 250 m³/h flow rate		For KWL units up to 500 m³/h flow rate	
	Type	Ref. no.	**Type**	Ref. no.	**Type**	Ref. no.	**Type**	Ref. no.
Right-hand version (air outlet right) **Left-hand version** (air outlet left)	**KWL HB 250 EH R** **KWL HB 250 EH L**	00963 00962	**KWL HBX 500 EH R** **KWL HBX 500 EH L**	40191 40192	**KWL HB 250 WW R** **KWL HB 250 WW L**	00923 00922	**KWL HBX 500 WW R** **KWL HBX 500 WW L**	40190 40189
Adjustable relative supply air humidity in %	40-60		40-60		40-60		40-60	
Adjustable supply air temperature °C	15-25		15-25		15-25		15-25	
Air volume flow m³/h	250		500		250		500	
Power consumption max. W	1400		2850		100		100	
Heat output W	1300		2800		2000		4200	
Voltage/Frequency	230 V~, 50 Hz		230 V~, 50 Hz		230 V~, 50 Hz		230 V~, 50 Hz	
Water connection	3/4"		3/4"		3/4"		3/4"	
Water drain Ø mm	40-50		40-50		40-50		40-50	
Weight (empty weight/operating weight) approx. kg	25		47		25/28		47/53	
Accessories								
Pump-mixer connection set	—		—		**KWL-PMA 250**		**KWL-PMAS 500**	
Ref. no.	—		—		05629		40194	
Low-temperature post-heating element	—		—		**KWL-NHR 250**		**KWL-NHR 500**	
Ref. no.	—		—		05628		05633	
UVC ducts	**KWL-UVR**		**KWL-UVR**		**KWL-UVR**		**KWL-UVR**	
Ref. no.	05631		05631		05631		05631	
Water filter	**KWL-WF**		**KWL-WF**		**KWL-WF**		**KWL-WF**	
Ref. no.	05630		05630		05630		05630	
Osmosis membrane	**KWL-OME**		**KWL-OME**		**KWL-OME**		**KWL-OME**	
Ref. no.	05632		05632		05632		05632	

SEWT kit

The ground-to-brine heat exchanger SEWT significantly increases the efficiency of ventilation units with heat recovery! SEWT saves even more energy and minimises heating costs. The optimal addition for ventilation units with heat recovery.

Advantages

- Additional preheating and prevention of icing during the cold season.
- Pleasant "natural cooling" on hot days.
- Complete kit with coordinated components.

Functional principle

The ground-to-brine heat exchanger SEWT utilises the ground temperature which is relatively constant throughout the year. The ground collector pipe is installed is laid in the ground at a depth of approx. 1.2 m. The hydraulic unit ensures the circulation of the brine depending on the outdoor temperature.
The brine serves as a heat transfer medium and releases the heat to the supply air through the heat exchanger module.

This results in the following:

- <u>During the cold season</u>
  The preheating of cold intake air of up to 14 K.
  Thus, the intake air is normally at a temperature above 0 °C when it reaches the ventilation unit with heat recovery (anti-icing operation). This results in a higher supply air temperature and a positive effect on the total energy balance. Post-heating is only necessary in case of very low outdoor temperatures.
- <u>On hot summer days</u>
  The ground-to-brine heat exchanger reduces the intake air temperature.
- <u>During the transitional period</u>
  The brine is circulated depending on the outdoor temperature measured via the thermostats. The intake air is always energetically optimised when it reaches the ventilation unit, which additionally saves energy – the indoor climate is always comfortable.

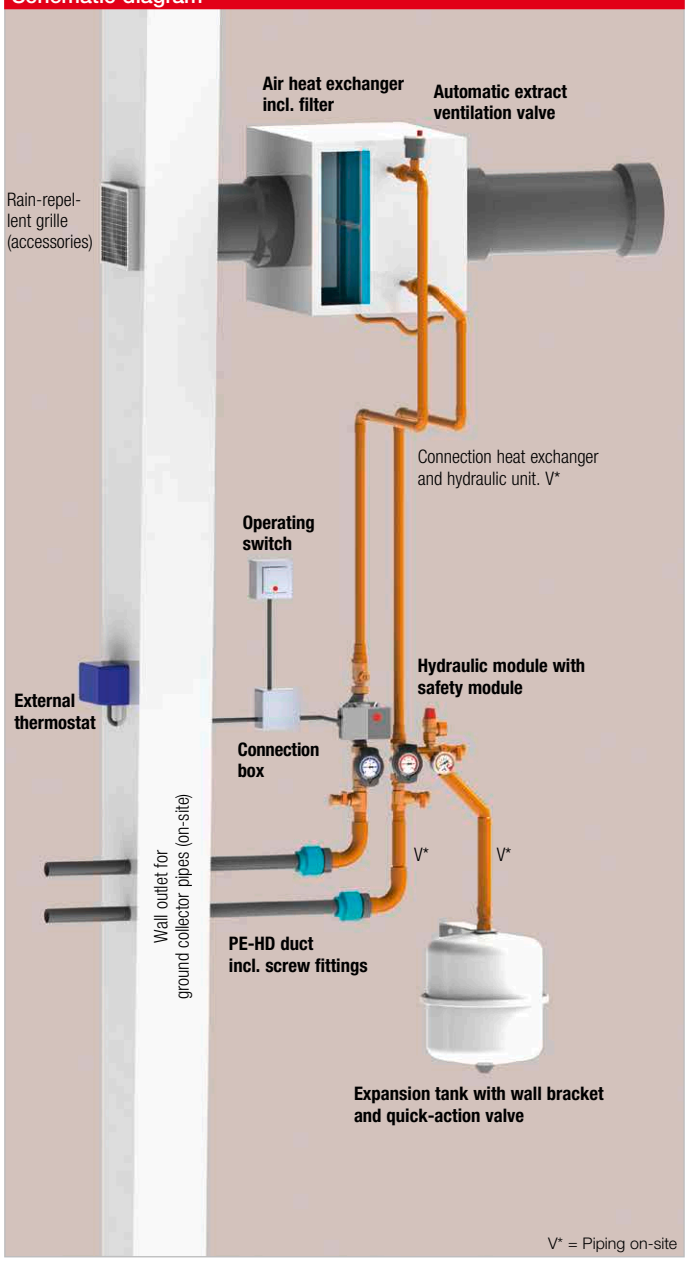
Planning information

- In order to maximise the heat transfer, the ground collector pipe should be laid at a depth of at least 1.2 m, since the temperature there is constantly approx. 8–12 °C throughout the year. The ground temperature increases and stabilises with installation depth.
- In order to increase the heat transfer, the pipe should be laid directly in the ground in a sand bed. Furthermore, if ground collector pipes are laid in parallel, the distance should not be less than 0.5 m (from pipe to pipe).
- There is also the option of probe drilling as an alternative to surface laying.

Delivery

- The ground-to-brine heat exchanger SEWT is delivered as a kit corresponding to the course of processing on-site and for optimised transportation.
  The complete set guarantees the absolute precision fit and functional reliability, because all individual components are matched to each other. The kit consists of three sets, which are described on the adjacent page.

Schematic diagram



SEWT kit	Ref. no. 02564

Pictorial schematic

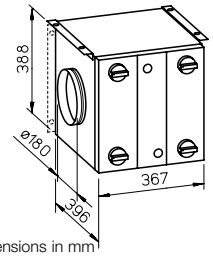
The pre-insulated duct system IsoPipe should be used to prevent condensation.
Alternative: Spiral duct with additional insulation.

SEWT-W

SEWT-H

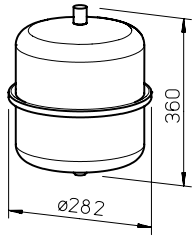
SEWT-E

Dimensions SEWT-W



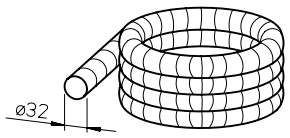
Dimensions in mm

Dimensions SEWT-H



Dimensions in mm

Dimensions SEWT-E



Dimensions in mm

Heat exchanger module

Description

- Highly efficient ground-to-brine heat exchanger unit with aluminium blades for optimal heat transfer to the intake air. Connection duct Ø 12 mm made of copper.
- Double-walled, fully insulated casing made of steel sheet (20 mm insulation, white powder-coated. With mounting bracket for wall or ceiling mounting.
- Connector Ø 180 mm with double lip seal.
- Variable air flow direction through convertible air filter.
- With integrated air filter, class G4*. Prevents the ingress of dirt, insects, etc.
- Inspection panels are easy to open without tools for quick and easy access to the filter.
- Condensate drain connector incl. siphon, Ø 1/2".

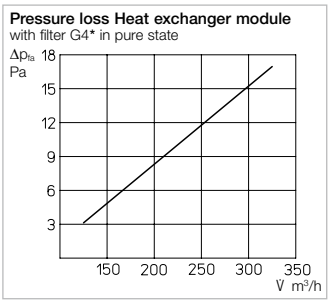
Accessories

Replacement air filter class G4*
Unit = 3 pcs.

ELF-SEWT-F	No. 02568

* G4 = ISO Coarse 75%.

Technical data SEWT-W



Hydraulic module and control

Description

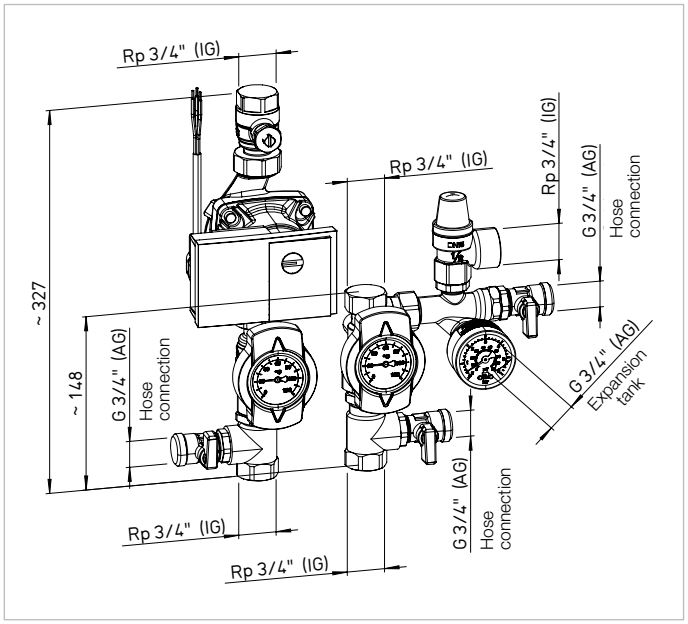
- Complete hydraulic kit with all components necessary for the connection of the ground-to-brine heat exchanger system and the corresponding control unit for automatic or manual system operation.

Delivery

- Brine pump unit (230 V) incl. safety module.
- Flow and return temperature display.
- Automatic quick-vent valve with non-return valve.
- Membrane pressure expansion tank – 12 litre, connection 3/4", incl. wall bracket and quick-action valve.
- Thermostat module with 2 setpoints for automatic control of the brine circuit in summer / winter operation.

- Switch unit for switching between automatic (thermostatic operation) and manual control of the brine circuit (incl. separate connection box – no Fig.)

Technical data Thermostat	
Load capacity	16 A (4 A ind.)
Voltage	230V, 50/60Hz
Protection category	IP 54
Wiring diagram no.	906
Temperature range (adjust.)	2 x 0 – 40 °C
Technical data Hydraulic module	
Current consumption max.	0.44 A
Voltage	230 V, 50 Hz
Power consumption	3 – 45 W
Protection category	IP 44



Ground installation set with screw fittings and 20 l ethylene glycol.

Description

- Flexible PE-HD ground collector pipe (PE-HD = polyethylene high-pressure pipe), wall thickness 2.9 mm, external Ø 32 mm. Delivered in 100 metre bundle.
- Specifically designed for ground installation.
- Screw fitting set made of high-quality polypropylene (PP) for connection of the ground collector pipe to the hydraulic unit.
- The screw fitting set (32-1") has an active seal system.
- 20 l canister of ethylene glycol, free from amines and nitrites. Sufficient for completely filling the duct system with a 25 % glycol-water mixture.

Reference

The SEWT kit offers functional reliability and accuracy of fit in addition to the package price saving:

Type	Ref. no.
SEWT kit	02564

The individual components of the SEWT kit are to be ordered separately:

Type	Ref. no.
SEWT-W	02565
SEWT-H	02566
SEWT-E	02567

LEWT kit

Planning information

- In order to maximise the heat transfer, the ground collector pipe should be laid at a depth of at least 1.2 m, since the temperature there is constantly approx. 8 °C throughout the year. The ground temperature increases and stabilises with installation depth.
- During installation, it should be ensured that there is a gradient of at least 2% for the condensate drain.
- In order to increase the heat transfer, the pipe should be laid directly in the ground in a sand bed. Furthermore, if ground collector pipes are laid in parallel, the distance should not be less than 1 m (from pipe to pipe).
- A minimum bend radius of 1 m is recommended to minimise the air-side pressure loss.

The ground-to-air heat exchanger LEWT further optimises the efficiency of ventilation units with heat recovery.

Advantages

- ZAdditional preheating during the cold season without any additional energy requirements.
- Prevention of icing of the heat exchanger.
- Pleasant cooling on hot days.
- Additional post-heating of supply air is only necessary in case of very low outdoor temperatures.
- Complete kit with coordinated components.

Functional principle

The ground-to-air heat exchanger LEWT utilises the fact that the ground temperature remains relatively constant throughout the year. The intake air is drawn through an upstream ground collector pipe. This can be installed in an existing construction pit at a depth of approx. 1.2 to 1.5 m; the total pipe length should be at least 40 m.

- This results in the following:
- During the cold season
  The preheating of cold intake air of up to 14 K. Thus, the intake air is normally at a temperature above 0 °C when it reaches the ventilation unit with heat recovery (anti-icing operation). This results in an increased heat recovery rate and a higher supply air temperature. Post-heating is only necessary in case of very low outdoor temperatures.
- On hot summer days
  The ground-to-air heat exchanger reduces the intake air temperature.
- During the transitional period
  Intake either through the ground collector or direct intake opening. This is dependent on the outdoor temperature measured via the thermostats. The electric bypass shutter automatically controls the ideal intake volume. The intake air is always energetically optimised when it reaches the ventilation unit, which additionally saves energy – the indoor climate is always comfortable.

Delivery

- The ground-to-air heat exchanger LEWT is delivered as a kit corresponding to the course of processing on-site and for optimised transportation. It consists of three sets, which are described on the adjacent page.
- The individual components are perfectly matched to each other and form a system. This guarantees simple, quick and precise installation as well as high functional reliability.

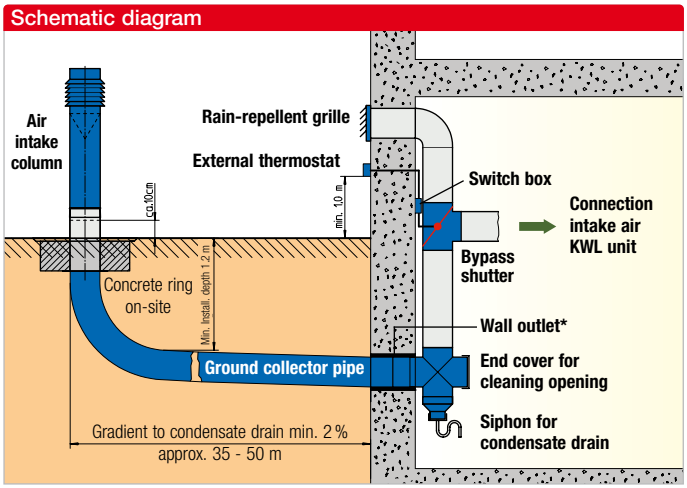
Complete kit
consisting of ground collector pipe, outlet wall bushing, air intake column, control and pipe fittings.

LEWT kit	Ref. no. 02977

Pictorial schematic for installation in buildings with basements

The ground collector pipe enters the building via an underground wall outlet.

Schematic diagram

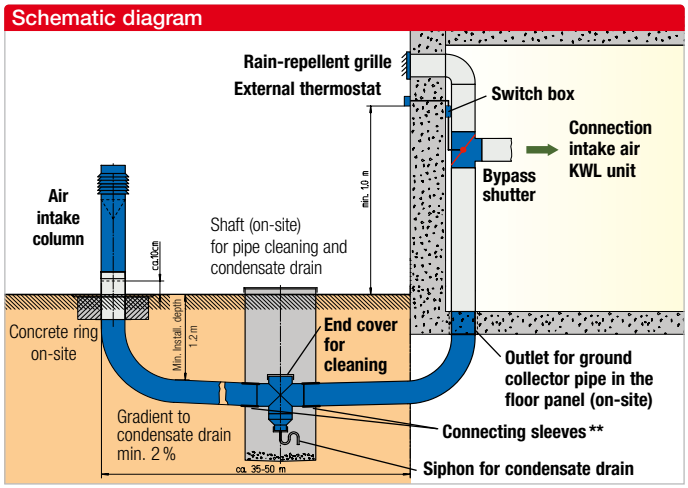


*not suitable for pressing water.

Pictorial schematic for installation in buildings without basements

The ground collector pipe is placed in the building via the floor panel. A shaft must be provided on-site for inspection purposes.

Schematic diagram

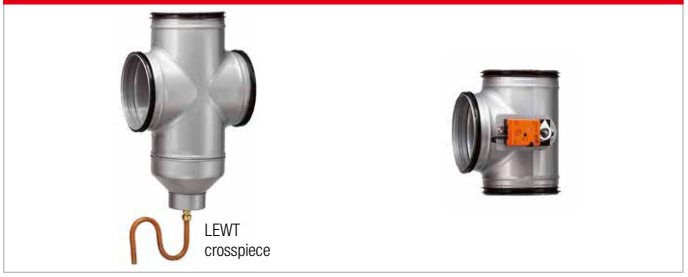


**in case of assembly with shaft please order additionally 1 pc. connecting sleeve LEWT-MU No. 02971.

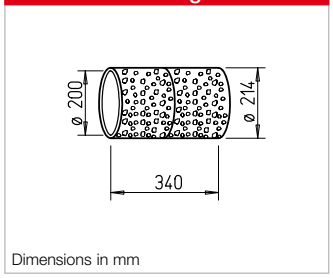
LEWT-E+M

LEWT-A

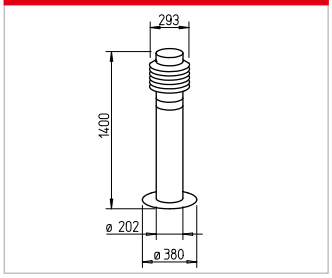
LEWT-S+F



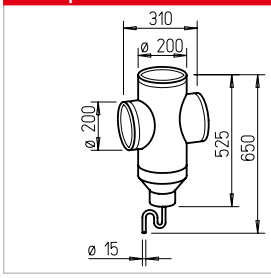
Outlet wall bushing



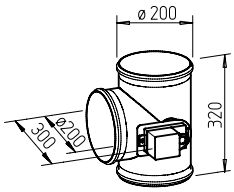
Air intake column



Crosspiece



Bypass shutter



Ground collector pipe and wall outlet LEWT-E+M

Description

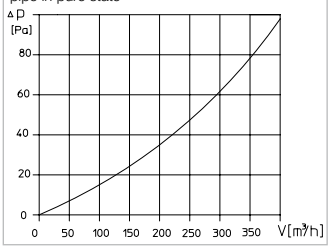
- FFlexible, externally corrugated and internally smooth ground collector pipe with low air resistance; external Ø 200 mm.
- Coextruded composite pipe made of physiologically and toxicologically safe polyethylene (PE-HD). Antibacterial, antistatic inner wall. Specifically developed as a ventilation duct for ground installation.
- Easy to clean, fulfils DIN 1946-6 (VDI 6022).
- 100% odourless, assured top quality level excludes the transmission of harmful substances and vapours.
- The PE-HD material achieves double the conductivity of PP with comparable wall thicknesses / pipe cross-sections. In comparison to PVC, the heat conductivity is two and a half times better.
- Delivered in bundle with 2 x 25 liner metres. Includes wall outlet DN 200 made of polypropylene (sanded), profile seal rings, connecting sleeve and seals.
- Ground collector pipe, wall outlet and profile seal rings comply with protection category IP 67 when processed according to instructions.

Air intake column LEWT-A with filter

Description

- Air intake column in modern design and aesthetic stainless steel look for supply air intake.
- Simple plug-in connection between the intake column and ground collector pipe.
- Fixation with support plate or bordering plate (on-site) in drywall construction or set in concrete.
- All parts made of stainless steel.
- With integrated cone air filter, class ISO Coarse 45% (G3). Prevents the ingress of dirt, insects and contaminants.
- Cone filter must be removed by hand for cleaning and replacement after removing the blade head.

Pressure loss Air intake column
with filter G3* and 40 metre ground collector pipe in pure state



Control and moulded duct parts LEWT-S+F

Description

- Automatic control of air intake via the ground collector pipe or directly from the outdoor area depending on the outdoor temperature measured by the thermostat.
- Temperature range for direct intake individually adjustable at thermostat.
- The desired operating mode can be manually selected.

Delivery

- Bypass shutter NW 200 with actuator 230 V; for vertical installation using the crosspiece.
- Crosspiece for connection to the wall outlet. Includes cleaning opening, condensate collector, siphon and end cover.
- Rain-repellent grille (no Fig.) as wall cover for direct intake opening. Prevents the ingress of rain, small animals and insects into the intake air duct.

Technical data Thermostat	
Load capacity	16 A (4 A ind.)
Voltage	230V, 50/60 Hz
Protection category	IP 54
Wiring diagram no.	798.1
Temperature range (adjust.)	2 x 0 – 40 °C
Technical data Actuator	
Voltage	230V, 50/60 Hz
Power consumption	1.5 W
Protection category	IP 54

- Setpoint adjuster and thermostat for automatic and manual bypass shutter control. For attachment in weatherproof location in the outdoor area on the north side of the building at a height of approx. 1 m.

Dim. in mm B 200 x H 90 x T 70

- Switch box with double toggle switch for following operating modes:
  - Thermostatic operation, automatic
  - Ground heat, manual
  - Intake air, manual

Dim. in mm W 110 x H 180 x D 100

Accessories

Replacement air filter class ISO Coarse 45% (G3)
Unit = 3 pcs.

ELF-LEWT-A	Ref. no. 02975

Additional connecting sleeve
Includes 2 pcs. seal rings.

LEWT-MU	Ref. no. 02971

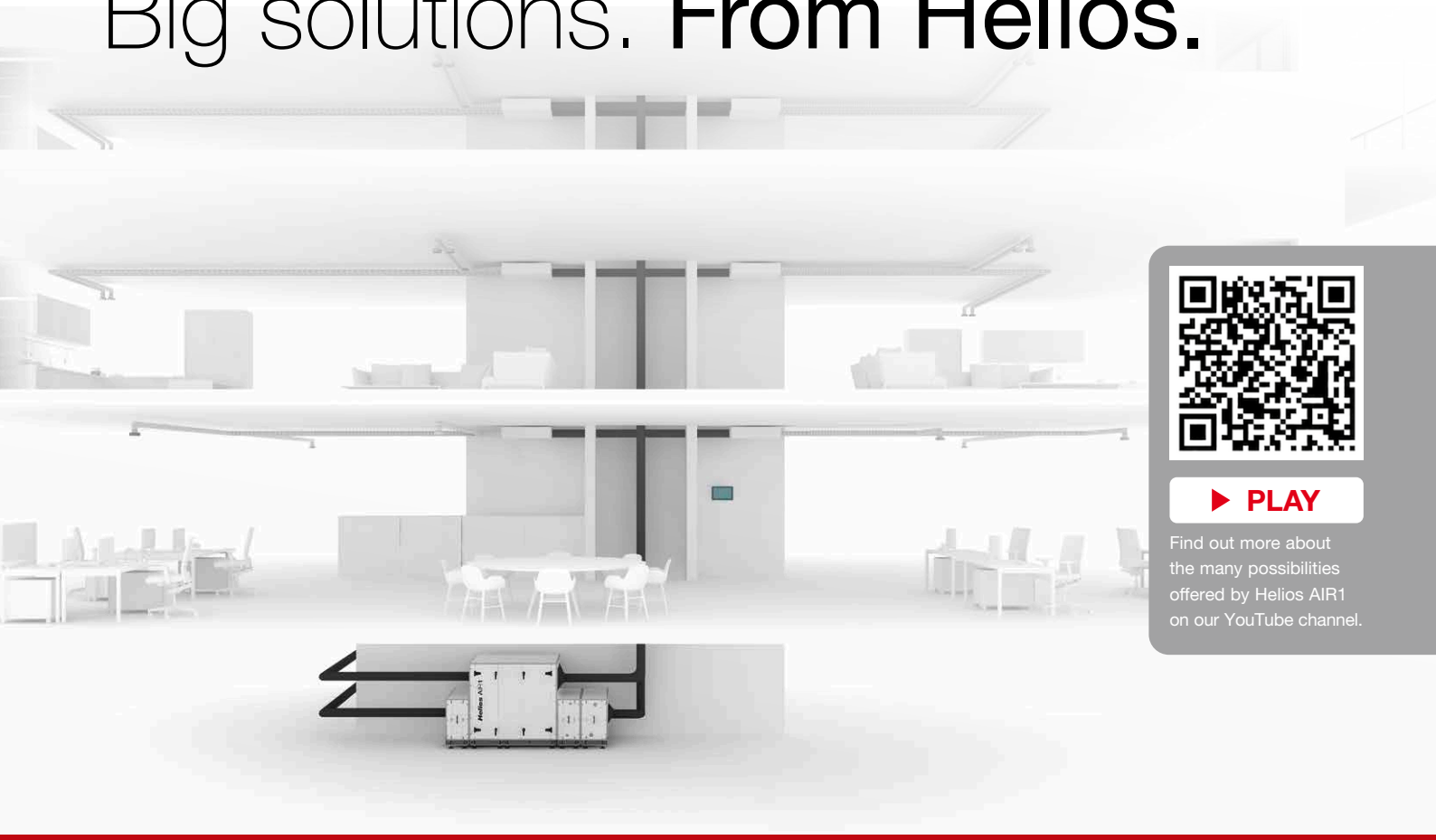
Reference

The individual components of the LEWT kit are to be ordered separately:

Type	Ref. no.
LEWT-E+M	02991
LEWT-S+F	02990
LEWT-A	02992
LEWT crosspiece	02967

Helios AIR1

Big solutions. **From Helios.**



PLAY

Find out more about the many possibilities offered by Helios AIR1 on our YouTube channel.

If you have big plans, you will find exactly the right solution for energy-efficient ventilation with heat recovery at Helios.

The Helios AIR1 product range offers various technical variants in 3 series: For ceiling or floor standing installation, with highly efficient cross counterflow or rotary heat exchangers for use inside or outside. In this respect, no less than 22 models in a flow rate range from 500 to 15 000 m³/h guarantee a suitable selection for virtually all areas of application and performance classes.

AIR1Select, the intuitive online software, provides the necessary overview for the simple and quick selection of your individual ventilation solution.

Further information can be found at:
www.HeliosAIR1.com

Notes

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