Helios offers “a good deal” in the field of controlled ventilation of the living space. To ensure the most efficient use of the heat recovery system the ducting intake and extract elements are critical. The Helios “all from a single source” solutions ensure the ideal design is achievable.

Undersoil heat exchangers raise the incoming air temperature without any additional energy input for your heat recovery system.
The SEWT and LEWT use the relatively constant undersoil temperature throughout the year providing pre-heating in winter and refreshing cooler air in summer.
It is a complete package as an ideal supplement for all KWL® ventilation units. Page 102 ff.

Installation of hydraulic unit for connection of ground-to-brine heat exchanger system

“All from a single source“ for a perfect heat recovery system from Helios.

Air distribution box

FlexPipe® duct

Ceiling-intake/outlet

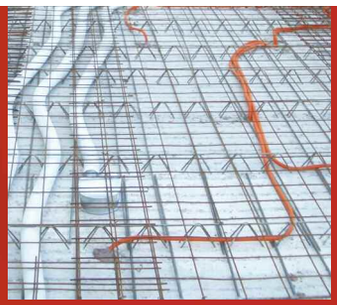
Air distribution systems
for extract- and supply air distribution in buildings. Three styles to suit all types of laying systems and requirements. No matter whether it is used for new buildings or renovations.

FK.. Flat duct systems made from galvanised steel, for laying below the floor screed. Page 108

F.. Flat duct systems made from plastics, for surface and flush mounted laying in existing buildings, in wood constructions and prefabricated buildings. Page 110

FlexPipe® pipe ducting system FRS
Flexible endless laying from the roll, direct in or on the concrete ceiling. The simplest solution for extract air and supply air distribution in new buildings or building stocks.
Our system technology with a smooth inner pipe has a minimal resistance to flow, 50% less component parts and saves approximately 2/3 of time during the installation. Small bending radius (approx. 0.20 m) provides the maximum installation freedom on site.
Page 106

Insulated ducting system IsoPipe®
A clever alternative to the conventional spiral duct with supplementary thermal insulation. It is already completly insulated. The IsoPipe® is ideally suited for supply and exhaust air duct to the KWL® as well as for the supply and or extract air pipe in lofts, basements or cool areas. IsoPipe® prevents condensate accumulation and offers up to 70% time saving. It has a smooth, sound-absorbing inner surface and is easy to clean, in DN 125 and DN 150.
Page 111



Fast, flexible endless laying from the roll: FlexPipe®.

Enormous time saving: IsoPipe®, the insulated duct system.

Floor outlet with grille

The adequate “periphery“ in a building is as important as the KWL® ventilation unit itself. Perfect adapted accessories, air distribution systems for extract-, supply-, intake- and exhaust air as well as undersoil heat exchangers guarantee an acceptable and energy-saving operation of the whole system. Through application of innovative complete systems and software a lot of time is saved at the planning and installation.

Planning and project engineering manual for the controlled ventilation (KWL®) with heat recovery contains furthermore important tips. Please ask for special catalogue.

SEWT-kit

The ground-to brine heat exchanger increases the efficiency of the ventilation units.
SEWT saves even more energy and reduces costs of heating to a minimum. The optimal add-on for ventilation systems with heat recovery.

- Provides additional pre-heating during winter.
- Pleasant cooling on hot days.
- Comes as a complete kit with perfectly fitting components.

Operation

SEWT uses the fact that the temperature below the ground is relatively constant over the year. The undersoil-collector-hose is laid 1.2 m deep.
The hydraulic unit circulates the brine-liquid according to the temperature outside. The brine-liquid serves as heat transfer medium and delivers the heat to the the supply air via the heat exchanger unit.

Effects:

☐ During winter SEWT achieves a pre-heating of the cool outside air up to 14 K. This results in the intake air flowing into the ventilation unit with usually more than 0 °C and therefore prevents the heat exchanger from icing up. The benefits are a higher heat recovery factor and a higher supply air temperature. An additional heater battery is only needed on extremly cold days.

☐ On hot summer days the SEWT arranges for a cooling of the intake air which leads to a noticeable cooling-effect on the room temperature.

☐ During transition periods the circulation of the brine-liquid is provided by the hydraulic unit as a function of the outside temperature. Therefore the outside air always arrives at the ventilation unit energetically optimised. Saving energy and always provides comfortable room climate.

Information on planning

☐ To ensure the highest possible heat transfer, the undersoil collector hose should be laid in at least 1.2 m depth as there is a constant temperature of about 8-12 °C throughout the year. The soil temperature increases the deeper the ducts are laid and becomes constant.

☐ To increase the heat exchange the hose should be laid directly under the soil in a sand filled tranche. Furthermore, a minimum space of 0.5 m from one hose to the other should be observed for two parallel tubes.

☐ Alternativly to laying the hose horizontally in a zigzag arrangement under the soil a vertical bore hole can be used.

Delivery

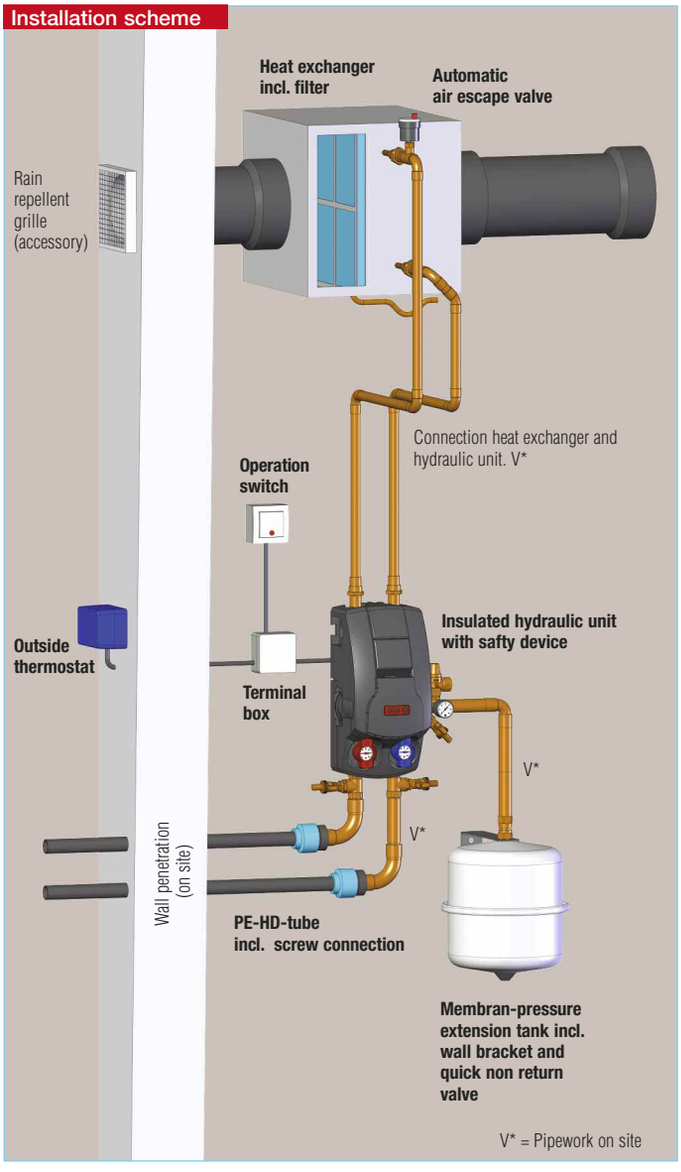
☐ According to the installation order on the building site and to ensure an optimised transport the SEWT is delivered as kit. The SEWT-kit ensures full functionality and perfect fitting accuracy. It consists of three delivery-sets as described on the right page.

SEWT-Kit	Ref. No. 2564

Basic scheme for the installation

The ducting should be done with Helios IsoPipe® to avoid condensation creation. Additionally insulated spiral ducting can be used alternatively.

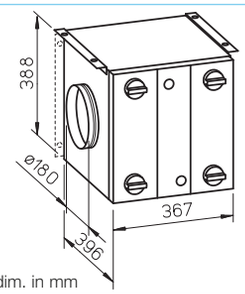
Installation scheme



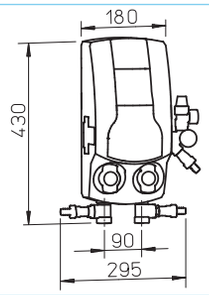
SEWT-W

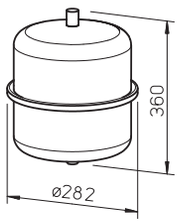
SEWT-H

SEWT-E



All dim. in mm





Brine-to-air heat exchanger

Specification

- ☐ High efficient brine-to-air heat exchanger with fins made from aluminium to ensure the best transfer to the intake air. Connection pipes made of copper Ø 12 mm.
- ☐ Double walled, completly insulated casing (20 mm insulation) made of steel, powder coated in grey. With mounting brackets for wall- and ceiling installation.
- ☐ Ø 180 mm spigots with twin-seal rubber gaskets.
- ☐ With integrated G 3 filter. Prevents dust, insects etc. from accessing the duct system.
- ☐ Easy accessible panel can be opened without tools and allows simple access to the filter.
- ☐ Air flow direction is variable as the filter can easily be placed for both directions.
- ☐ Condensation outlet incl. condensation trap, Ø 1/2“.

Accessory

Replacement filter (Set = 3 pcs.)

ELF-SEWT-F	Ref. No. 2568

Hydraulic unit and control unit

Specification

- ☐ Complete hydraulic-set with all components needed to connect the brine-to-air heat exchanger unit. Delivered as standard with control unit for automatic and manual operation.

Delivery

- ☐ Brine-pump unit (230 V), completly premounted in a foamed housing incl. safety device.
- ☐ Automatic protection against reverse flow.
- ☐ Temperature gauges for flow and return.
- ☐ Pressure expansion tank – 12 litres, connection 3/4“, incl. wall bracket and stop valve for maintenance.

- ☐ Thermostat module with 2 setpoints for automatic control of the closed brine loop in summer/ winter operation.
- ☐ Control unit to change from automatic (thermostat operation) a manual operation of the closed brine loop.
  (incl. separate terminal box).

Technical data thermostat	
Current	16 A (4 A ind.)
Voltage	230 V, 50/60 Hz
Protection to	IP 54
Wiring diagram no.	SS-906
Temperature range (adjustable)	2 x 0 – 40 °C
Technical data brine pump	
Current max.	0.2 A
Voltage	230 V, 50 Hz
Power, 3 steps	25, 35, 45 W
Protection to	IP 44

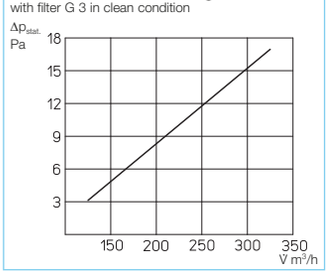
Undersoil hose set with screw connections and ethylene glycol

Specification

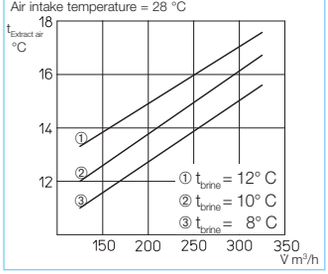
- ☐ Flexible PE-HD undersoil hose (PE-HD = polyethylene high pressure hose), wall thickness 2.9 mm, outer-Ø 32 mm. Delivered as bundle with 100 running mtrs.
- ☐ Especially designed for undersoil laying.
- ☐ Screw connection set made from high class polymer (PP) to connect the undersoil hose to the hydraulic unit.
- ☐ Screw connection set (32-1“) with active sealing system.
- ☐ 20 l canister with ethylene glycol, free of amine und nitrite. Adequate for one complete filling of the system with a 25 % glycol-water mix.

Technical data SEWT-W

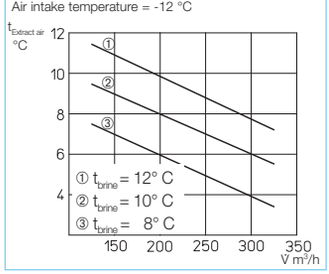
Pressure loss heat exchanger unit
with filter G 3 in clean condition



Air extract temperature summer
Air intake temperature = 28 °C



Air extract temperature winter
Air intake temperature = -12 °C



Information

The SEWT-kit with the advantage of the package price ensures full functinality and perfect fitting accuracy:

Type	**Ref. No.**
SEWT-kit	2564

The single parts of the SEWT-kit can also be ordered separately:

Type	**Ref. No.**
SEWT-E	2567
SEWT-W	2565
SEWT-H	2566

The undersoil air heat exchanger LEWT substantially increases the efficiency of the ventilation units with heat recovery – without any requirements for additional energy! LEWT saves even more energy and reduces costs for heating to a minimum.
The optimal add-on for ventilation systems with heat recovery.

LEWT-kit

Advantages
- Provides additional pre-heating during winter without any further energy requirements.
- Prevents the heat exchanger from icing up.
- Pleasant cooling on hot days.
- Additional heating of the supply air is only necessary when outside temperature is very low.
- Comes as a complete kit with perfectly fitting components.

■ Functional principle
LEWT uses the fact that the temperature below the ground is relatively constant all year. The outside air is not taken in directly but passes through the undersoil-collector-duct installed in at least 1.2 m deep.

■ Effects:
☐ During winter LEWT achieves a pre-heating of the cool outside air up to 14 K.
This results in the intake air flowing into the ventilation unit at more than 0 °C usually and therefore prevents the heat exchanger from icing up. The benefits are a higher heat recovery factor and a higher supply air temperature. The heater battery is only needed on very cold days.
☐ On hot summer days the LEWT provides cooling of the intake air which leads to a noticeable cooling-effect on the room temperature.
☐ During transition periods the intake is by either the air passing through the undersoil collector or the direct intake opening depending on the outside temperature detected by the sensor. The electric bypass shutter controls the air intake automatically. The outside air reaches the ventilation unit energetically optimised which additionally saves energy and provides a comfortable climate within the rooms.

■ Delivery
☐ According to the installation order on the building site and to ensure an optimised transport the LEWT is delivered as a kit. It consists of three delivery-sets as described on the right hand page.

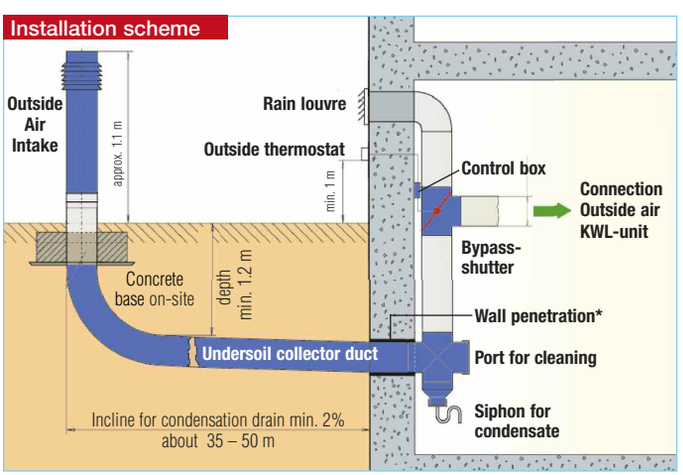
☐ The single components perfectly fit together as a sophisticated system. This ensures easy, quick and precise mounting with a high installation reliability.

LEWT-kit **Ref. No. 2977**

■ Information on planning
☐ To ensure the highest possible heat transfer, the undersoil air collector duct should be laid in at least 1.2 m depth as there is a constant temperature of about 8 °C throughout the year. The soil temperature increases the deeper the ducts are laid and becomes constant.
☐ When installing it is important to consider that the condensation drain requires an incline of at least 2%.
☐ To increase the heat exchange the duct should be laid directly under the soil and not e. g. in a sandbed. Furthermore, a space of 1 m from one duct to the other should be maintained when laying two ducts parallel.
☐ To keep the downstream pressure loss minimised a bending radius of at least 1 m is recommended.

■ Basic scheme for the laying: Buildings with basements
The undersoil collector reaches the building subsurface through a wall penetration.

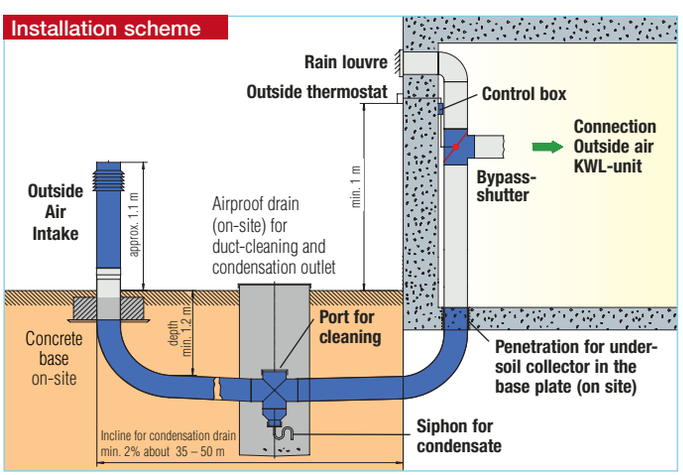
Installation scheme



* not suitable for water pressure

■ Basic scheme for the laying: Buildings without basements
The undersoil collector reaches the building subsurface through the base plate. For revision purposes a drain is required by customer.

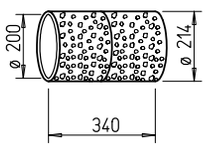
Installation scheme



LEWT-E+M

LEWT-A

LEWT-S+F



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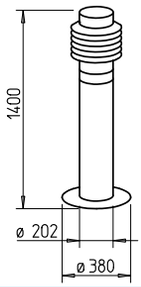
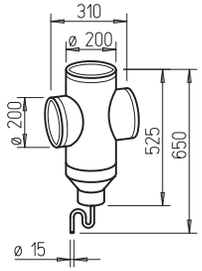
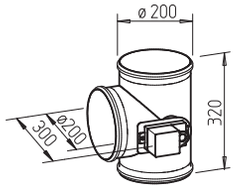






Undersoil collector duct and wall penetration LEWT-E+M

Description

- ☐ Flexible undersoil collector duct, ribbed on the outside, smooth inner surface to ensure a very low air resistance, Ø 200 mm.
- ☐ Co-extruded compound duct made of polyethylen. Developed specifically for undersoil laying.
- ☐ Antibacterial and antistatic material with smooth surface.
- ☐ Easy to clean.
- ☐ 100 % non-porous, odourless. The material PE-HD achieves a 2-times higher conductivity than PP with comparable wall thicknesses / duct cross sections. Even at 2.5 x better heat conduction performance a rises compared to PVC.
- ☐ Supplied as set with 2 x 25 running meters including connectors and seals. The undersoil collector duct can be directly laid in the excavation. The total duct length should be at least 40 m.
- ☐ Wall liner nom. dia. 200 made from polyethylen, bonding surface.
- ☐ Profile seals are included as standard to seal to the outside-air-intake.
- ☐ Undersoil collector, wall penetration and seals comply with IP 67, assuming accurate installation.

Outside-air-intake LEWT-A with filter

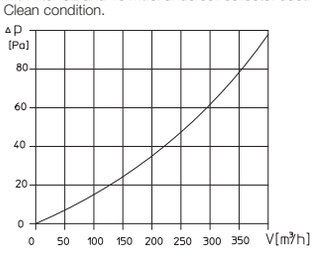
Description

- ☐ Outside-air-intake in modern and timeless stainless-steel design.
- ☐ To be secured on site by setting in concrete.
- ☐ With integrated cone air filter, class G3. Prevents dust and insects from accessing the duct system.
- ☐ Cone filter easily be released by hand for cleaning and changing.
- ☐ The connection between the outside-air-intake and undersoil-duct is done by just clipping.
- ☐ All parts are made of stainless steel.

Accessory

Replacement filter (Set = 3 pcs.)
ELF-LEWT-A Ref. No. 2975

Outside air intake
with filter G2 and 40 mtrs. undersoil collector duct. Clean condition.



Controller and duct form parts LEWT-S+F

Description

- ☐ Automatic controlling of the outside air intake via the undersoil collector duct or directly via the outside area as per the detected outside temperature.
- ☐ Temperature range for direct intake can be adjusted individually.
- ☐ Manual selection of the operation mode is possible.

Contents

- ☐ Bypass shutter NW 200 with servo motor 230 V; for vertical mounting above the cross piece.
- ☐ Cross piece for connection with the wall penetration. Including port for cleaning, condensation collector, siphon and cover.
- ☐ Rain enclosure RAG (without pic.) suitable as coverage of the direct air intake. Prevents rain and insects from entering.

- ☐ Control knob and thermostat for automatic and manual control of the bypass shutter. To be mounted in a weather-protected place on the north-side of the building at 1 mtr height. Dimensions in mm
  W 200 x H 90 x D 70

- ☐ Control box with double switch. Modes:
  – Thermostat mode, automatic
  – Undersoil heat, manual
  – Outside air, manual
  Dimensions in mm
  W 110 x H 180 x D 100

Technical data thermostat	
Current	16 A (4 A ind.)
Voltage	230 V, 50/60 Hz
Protection to	IP 54
Wiring diagram no.	SS-798.1
Temperature range (adjustable)	2 x 0 – 40 °C
Technical data servo motor	
Voltage	230 V, 50/60 Hz
Power	1.5 W
Protection to	IP 54

Information

The single parts of the LEWT-kit can also be ordered separately:

Type	Ref. No.
LEWT-E+M	2991
LEWT-S+F	2990
LEWT-A	2992

Flexible ducting system FRS

The flexible ducting system FRS is directly laid into or on the concrete. Even the most difficult outes of ducts are easily feasible. FRS is convenient and reasonably priced.

- Simple to plan.
- Easy to install through star shaped laying.
- Fast initiation as the adjustments are reduced to a minimum.
- Constant air distribution.
- Easy to clean, hygienically perfect.

Available in two sizes

☐ FRS.. 75
Outer-Ø: 75 mm, inner-Ø: 63 mm
for air flow vol. up to 30 m³/h,

☐ FRS.. 63
Outer-Ø: 63 mm, inner-Ø: 52 mm
for air flow vol. up to 20 m³/h.

Laying

☐ The FRS polymer pipe is very flexible and therefore easy to install.
Resilience: (S_{R24} > 8 kN/m²).

Characteristics and advantages

☐ The pipe consists of quality-assured PE-HD made of new raw material and is treated to be non-porous, odourless and antistatic.

☐ The outside is ribbed where as the inner surface is absolutely smooth and antistaticly coated. This provides substantial advantages:

- very low air flow resistance and high sound absorption
- minimal dirt deposits
- easy to clean
- easy handling-designed to be light and easy to use.

Laying-conception/installation

☐ One air distribution box for the supply air and one for the extract air main duct is to be installed.

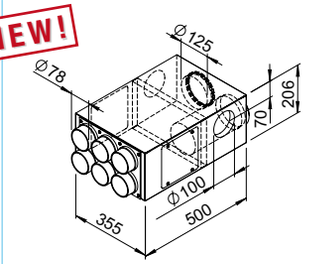
☐ Larger rooms require two ducts to improve the required air flow.

☐ Many different components ensure the perfect solution for nearly every request. There are ceiling outlets available for all kind of valves with ND 125 as well as wall and floor outlets, delivered with grilles as standard.

☐ The connections between the form parts and duct connectors are build as sleeves. The ends of the pipe are to be plugged with seal rings.

Compact distribution box

NEW!



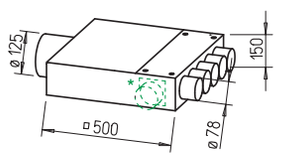
Compact distribution box [2]		
Type	Ref. No.	ø NW
ø 75 mm		mm
FRS-KVK 6-75/125	9419	125

Compact distribution box, perfect next to adjacent exhaust air rooms. 2 x DN 100 for extraction with extract air valves DLV (see page 112). Supply air distribution via connection of up to 6 flexible ducts FRS-R 75. Assembly as straight-way distributor. Acoustically lined in the inside and with large inspection opening.

Flexible duct

Flexible duct (bundle = 50 running mtrs)			
Type	Ref. No.	Dim. in mm	
		Outer-ø	Inner-ø
ø 63 mm			
FRS-R 63	9327	63	52
ø 75 mm			
FRS-R 75	2913	75	63

Distribution box 5-75, 5+1-75

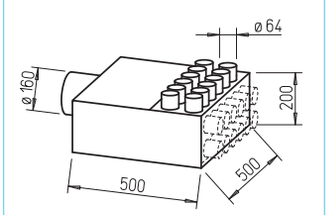


* With FRS-VK 5+1-75/125 additional spigot on the side, alternatively applicable on the left or right.

Distribution box 5-75, 5+1-75 [2]		
Type	Ref. No.	ø NW
ø 75 mm		mm
FRS-VK 5-75/125	9477	125
FRS-VK 5+1-75/125	9365	125

To connect up to 5 or 6 flexible ducts FRS-R 75; FRS-VK 5+1-75/125 with additional spigot on the side. As the box is noise-absorbing it is also suitable as silencer element. The connecting plate with the pipe spigots is not interchangeable with the inspection door. 2 caps delivered as standard.

Distribution box 12-63

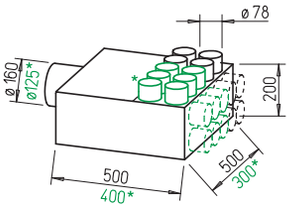


All dim. in mm

Distribution box 12-63 [1]		
Type	Ref. No.	ø NW
		mm
ø 63 mm		
FRS-VK 12-63/160	9336	160

To connect up to 10 flexible ducts FRS-R 63. As the box is noise-absorbing it is also suitable as silencer element. Choice of manifold position, the cover of the access opening. Therefore the distribution box can be used for vertical and horizontal positioning.

Distribution box 6-75, 10-75

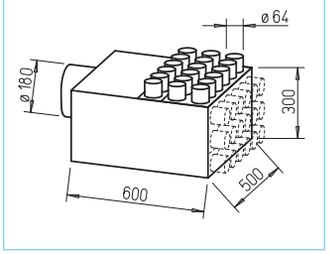


* FRS-VK 6-75/125

Distribution box 6-75, 10-75 [3]		
Type	Ref. No.	ø NW
ø 75 mm		mm
FRS-VK 6-75/125	9370	125
FRS-VK 10-75/160	2985	160

To connect up to 6 or 10 flexible ducts. As the box is noise-absorbing it is also suitable as silencer element. The connecting plate with the pipe spigots is interchangeable with the inspection door and can therefore be shifted by 90°. Therefore the box can be used for vertical and horizontal positioning.

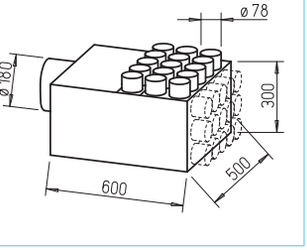
Distribution box 18-63



Distribution box 18-63 [1]		
Type	Ref. No.	ø NW
		mm
ø 63 mm		
FRS-VK 18-63/180	9364	180

To connect up to 18 flexible ducts FRS-R 63. As the box is noise-absorbing it is also suitable as silencer element. Choice of manifold position, the cover of the access opening. Therefore the distribution box can be used for vertical and horizontal positioning.

Distribution box 15-75

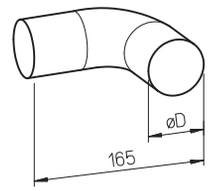


Distribution box 15-75 [3]		
Type	Ref. No.	ø NW
		mm
ø 75 mm		
FRS-VK 15-75/180	9363	180

To connect up to 15 flexible ducts FRS-R 75. As the box is noise-absorbing it is also suitable as silencer element. The connecting plate with the pipe spigots is interchangeable with the inspection door and can be shifted by 90°. Therefore the box can be used for vertical and horizontal positioning.

[1] incl. 6 pcs. caps. [2] incl. 2 pcs. caps. [3] incl. 5 pcs. caps.

Elbow 90°

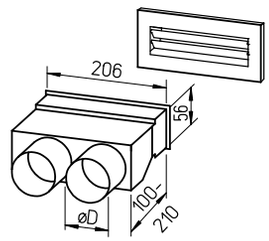


All dim. in mm

Elbow 90°		
Type	Ref. No.	ø D mm
ø 63 mm		
FRS-B 63	9348	64
ø 75 mm		
FRS-B 75	2994	78

Elbow 90° for bend radius < 2 x duct outer diameter.

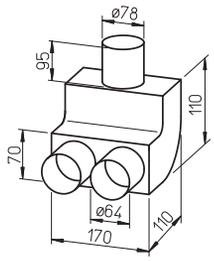
Grille with box



Grille with box, straigth*		
Type	Ref. No.	ø D mm
ø 63 mm		
FRS-WDS 2-63	9993	64
ø 75 mm		
FRS-WDS 2-75	9994	78

Grille with box:
– outlet box with sliding type fitting
– grille white (FK-WA 200 W), 250 x 113 mm

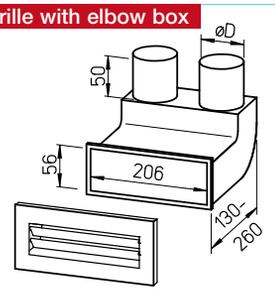
Adapting elbow 90°



Adapting elbow 90°	
Type	Ref. No.
ø 63 mm	
FRS-B 75/2-63	9341
ø 75 mm	
FRS-B 75/2-63	9341

Adapting elbow 90° as adaptor from 1 x 75 mm to 2 flexible ducts nom. dia. 63 mm.

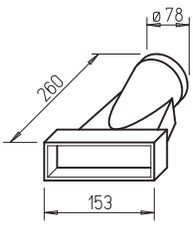
Grille with elbow box



Grille with ellbow box, 90°*		
Type	Ref. No.	ø D mm
ø 63 mm		
FRS-WBS 2-63	9995	64
ø 75 mm		
FRS-WBS 2-75	9996	78

Grille with elbow box
– elbow box with sliding type fitting
– grille white (FK-WA 200 W), 250 x 113 mm

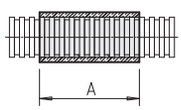
Adaptor



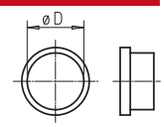
Adaptor	
Type	Ref. No.
ø 75 mm	
FK-Ü 75/150	2948

Adaptor from flexible duct system nom. dia. 75 mm to flat duct system FK 100 x 50 mm (see page 108).

Connection sleeve



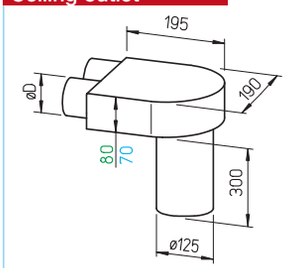
Cap



Connection sleeve / Cap		
Type	Ref. No.	A / ø D mm
ø 63 mm		
FRS-VM 63	9329	120 / 64
FRS-VD 63	9330	– / 53
ø 75 mm		
FRS-VM 75	2914	150 / 78
FRS-VD 75	2915	– / 63

Cap (Set = 10 pcs)

Ceiling outlet



Ceiling outlet* for valves DN 125		
Type	Ref. No.	ø D mm
ø 63 mm		
FRS-DKV 2-63/125	9430	64
ø 75 mm		
FRS-DKV 2-75/125	9431	78

Ceiling outlet incl. cover to avoid soil in the system during construction work. For intake and extract valves nom. dia. 125 (Accessory, see page 112).

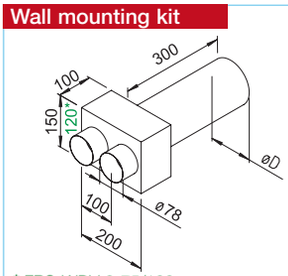
Seal ring

Information: To ensure protection to IP 66 a seal ring is to be used on each connection (duct to duct and duct to all other parts). Seal rings must be ordered separatly. For an easy installation it is recommended to use lubricant.

Seal ring		
Type	Ref. No.	ø D mm
ø 63 mm		
FRS-DR 63	9331	63
ø 75 mm		
FRS-DR 75	2916	75

Seal ring (Set = 10 pcs)

Wall mounting kit

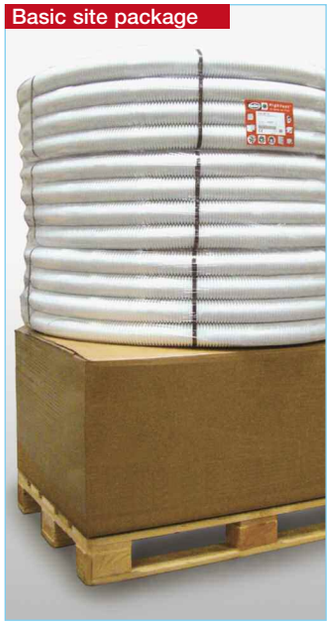


* FRS-WDV 2-75/100

Wall mounting kit* for valve connection		
Type	Ref. No.	ø D mm
ø 75 mm		
FRS-WDV 2-75/100	9621	100
FRS-WDV 2-75/125	9622	125

Wall mounting kit including plaster cover plate. For connection of supply or extract air valves DN 100 and/or DN 125.

Basic site package

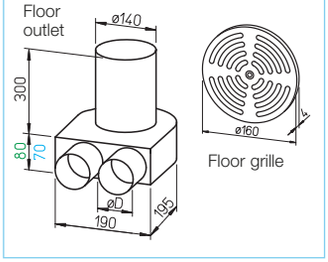


Basic site package		
Type	Ref. No.	ø D mm
ø 75 mm		
FRS-RP 75	9397	75

Flexible duct system basic site package:
– 3 pcs FRS-R 75 (Ref. No. 2913)
– 2 pcs FRS-VK 10-75/160 (Ref. No. 2985)
– 8 pcs FRS-DKV 2-75/125 (Ref. No. 9431)
– 7 pcs FRS-B 75 (Ref. No. 2994)
– 7 pcs FRS-VM 75 (Ref. No. 2914)
– 4 sets FRS-DR 75 (Ref. No. 2916)
– 1 set FRS-VD 75 (Ref. No. 2915)
– 1 pc Cold shrinking strip KSB (Ref. No. 9343)

Choosing the Helios basic site package, saves
– money as you will benefit from the package-price.
– time because everything you need is already included. That way you can start right away.

Floor outlet with grille

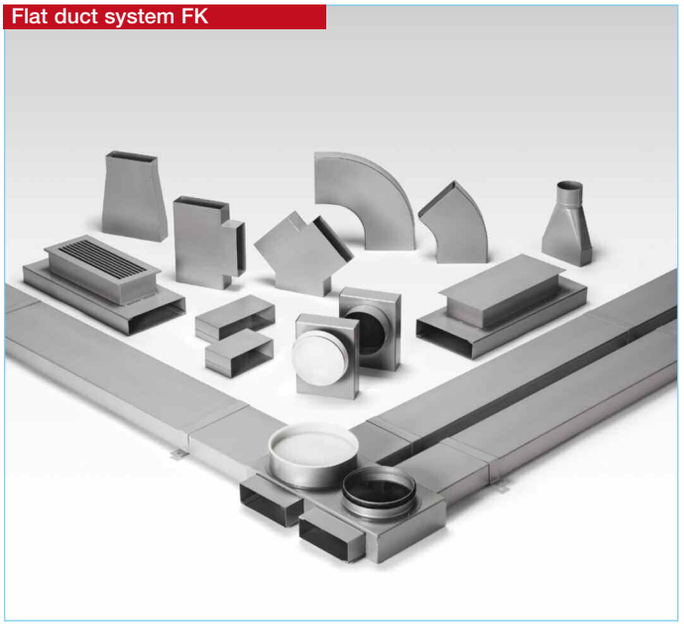


Floor outlet with grille*		
Type	Ref. No.	ø D mm
ø 63 mm		
FRS-BKGS 2-63	9991	64
ø 75 mm		
FRS-BKGS 2-75	9992	78

Floor outlet with grille:
– 1 floor outlet for grilles nom. dia. 160 and
– 1 floor grille made of stainless steel with adjustable air flow.

* incl.1 cap.

Flat duct system FK



Underfloor-system made of galvanised steel; especially developed for room ventilation. The optimum solution for hidden air ducts, therefore perfectly suitable for new buildings.

Characteristics

- All parts made of galvanised steel, noncorrosive and non inflammable.

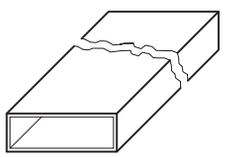
Available in two sizes

- FK.. 150 x 50 mm for air flow volume up to 90 m³/h
- FK.. 200 x 50 mm for air flow volume up to 140 m³/h

Ducts conception and mounting

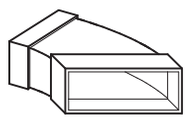
- Flat design and rigid construction allow a trouble-free laying below the floor screed. The substantial range of fittings allows nearly every course of the ducting.
- Connection via external connectors. Fittings with sockets (35 mm insertion). Therefore, the absolutely smooth inner surface ensures low air flow resistance and no barriers for dirt. However, disinfection is possible, if desired.
- The junction box for the supply air and extract air routing is installed on each floor which simplifies the duct routing.
- Special flat sound absorbers can be installed within the duct route to protect (e. g. bedrooms) from noise (FK-SD).

Flat duct



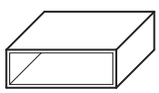
Flat duct				
Type	Ref. No.	Dim. in mm Width	Height	Length
150 x 50 mm				
FK 150	2905	150	50	1500
200 x 50 mm				
FK 200	2906	200	50	1500

Bend, horizontal 45°



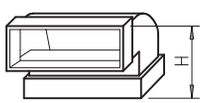
Bend, horizontal 45°				
Type	Ref. No.	Dim. in mm Width	Height	Radius
150 x 50 mm				
FK-BH 150/45	2910	153	53	45°
200 x 50 mm				
FK-BH 200/45	2912	203	53	45°

Flat duct connector



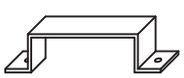
Flat duct connector				
Type	Ref. No.	Dim. in mm Width	Height	Length
150 x 50 mm				
FK-V 150	2941	153	53	200
200 x 50 mm				
FK-V 200	2942	203	53	200

Elbow, vertical 90°



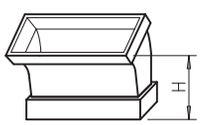
Elbow, vertical 90°				
Type	Ref. No.	Dim. in mm Width	Height	Radius
150 x 50 mm				
FK-BV 150/90	2919	153	103	90°
200 x 50 mm				
FK-BV 200/90	2920	203	103	90°

Mounting Bracket



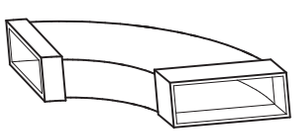
Mounting Bracket				
Type	Ref. No.	Dim. in mm Width	Height	Length
150 x 50 mm				
FK-B 150	2907	151	52	30
200 x 50 mm				
FK-B 200	2908	201	52	30

Elbow, vertical 45°



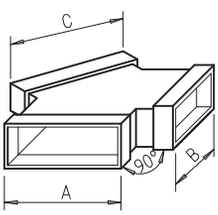
Elbow, vertical 45°				
Type	Ref. No.	Dim. in mm Width	Height	Radius
150 x 50 mm				
FK-BV 150/45	2917	153	73	45°
200 x 50 mm				
FK-BV 200/45	2918	203	73	45°

Elbow, horizontal 90°



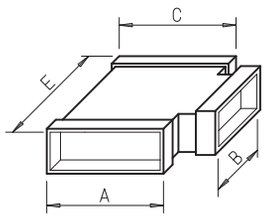
Elbow, horizontal 90°				
Type	Ref. No.	Dim. in mm Width	Height	Radius
150 x 50 mm				
FK-BH 150/90	2909	153	53	90°
200 x 50 mm				
FK-BH 200/90	2911	203	53	90°

Y-Branch



Y-Branch				
Type	Ref. No.	Dim. in mm A	B	C
150 x 50 mm				
FK-Y 150/150/150	2927	153	153	153
200 x 50 mm				
FK-Y 200/150/150	2929	153	153	203

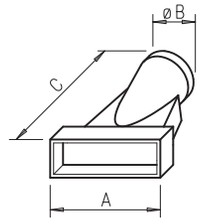
T-piece



T-piece

Type	Ref. No.	Dim. in mm A	B	C	E
FK-T 150/150/150	2921	153	153	153	250
FK-T 150/150/200	2923	153	153	203	390
FK-T 150/200/150	2926	153	203	153	300
FK-T 200/150/200	2925	203	153	203	250
FK-T 150/200/200	2924	153	203	203	440
FK-T 200/200/200	2922	203	203	203	300

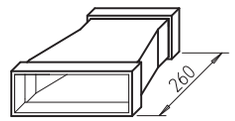
Adaptor



Adaptor

Type	Ref. No.	Dim. in mm A	ø B	C
150 x 50 mm				
FK-Ü 75/150	2948	153	78	260
FK-Ü 100/150	2996	153	103	260
200 x 50 mm				
FK-Ü 100/200	2997	203	103	260
FK-Ü 125/200	2998	203	128	260

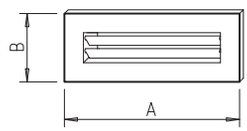
Reducer



Reducer

Type	Ref. No.	Dim. in mm Length	Hight
Reducer symmetric			
FK-RS 200/150	2932	260	53
Reducer asymmetric			
FK-RA 200/150	2933	260	53

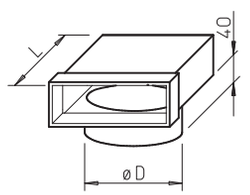
Grille



Wall and ceiling grill

Type	Ref. No.	colour	Dim. in mm A	B
200 x 50 mm				
FK-WA 200 W	9350	white	250	113
FK-WA 200 AL	9351	alu	250	113

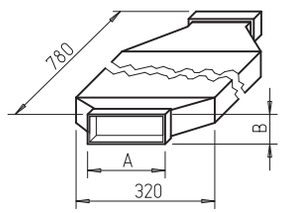
End piece – spiral duct



End piece with duct connector

Type	Ref. No.	Dim. in mm ø D	L
150 x 50 mm			
FK-ER 150/100	2934	99	200
FK-ER 150/125	2935	124	200
200 x 50 mm			
FK-ER 200/160	2936	159	220

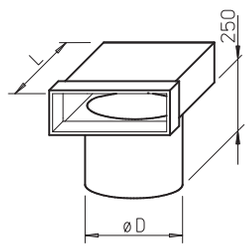
Attenuator



Attenuator

Type	Ref. No.	Dim. in mm A	B
150 x 50 mm			
FK-SD 150	2945	153	53
200 x 50 mm			
FK-SD 200	2946	203	53

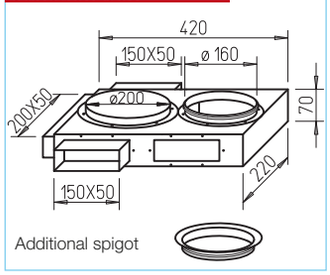
End piece – valve



End piece with valve connector

Type	Ref. No.	Dim. in mm ø D	L
150 x 50 mm			
FK-EV 150/100	2937	102	200
FK-EV 150/125	2938	127	200
200 x 50 mm			
FK-EV 200/100	2939	102	200
FK-EV 200/125	2940	127	200

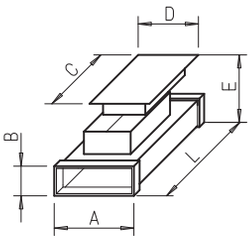
Junction box



Junction box

Type	Ref. No.
FK-VK	2987
Scope of delivery FK-VK	
4 spigots 150 x 50 (2 fixed, 2 loose)	
1 spigot 200 x 50	
1 revision shutter	
Additional spigots for pass junction box	
FK-ZS	2947

Access opening piece

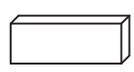


Access opening piece

Type	Ref. No.	Dim. in mm A	B	C	D	L
150 x 50 mm						
FK-RZ 150	2930	153	53	347	137	500
200 x 50 mm						
FK-RZ 200	2931	203	53	347	137	500

E can be adapted from 105-130 mm.

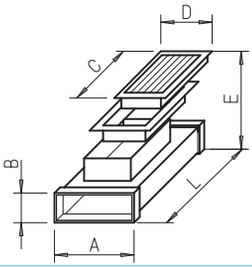
End cover



End cover

Type	Ref. No.
150 x 50 mm	
FK-ED 150	2943
200 x 50 mm	
FK-ED 200	2944

Floor grille

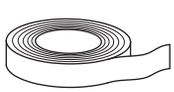


Aluminium floor grille with casing

Type	Ref. No.	Dim. in mm A	B	C	D	L
150 x 50 mm						
FK-BA 150	2986	153	53	348	152	500

E can be adapted from 112-152 mm.

Sealing strip



Textile sealing strip

Type	Ref. No.	
Cold shrinking strip aluminium		
KSB	9343	50 mm width, 15 mtrs
Cold shrinking strip		
KSB ALU	9344	50 mm width, 15 mtrs
Strip		
KLB	0619	50 mm width, 20 mtrs

Flat polymer duct system F

Easy and fast to lay air distribution system. Prior used for renovation of existing buildings and prefabricated houses.

Laying

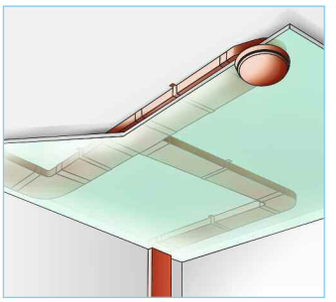
☐ Easy and fast laying due to the low weight. Joining sections of all kinds ensure nearly unlimited possibilities. Space-saving and universal.

Characteristics

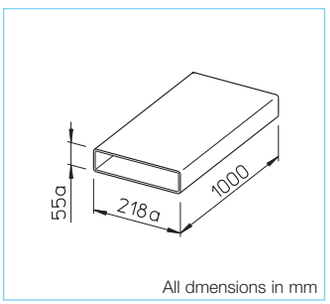
All sections of white, antistatic polymer. Hardly inflammable B1, DIN 4102. Max. temperature +50 °C. Max. outside dimension: 218,5 x 55,5 mm.

Duct-concept and mounting

☐ Specially shaped duct alignment starting at the ventilation unit or the on-site-inserted distributor to the air intakes and outlets of the rooms. Branch connection ensured by T-pieces.

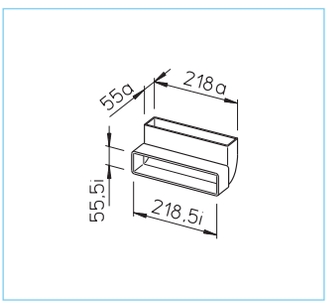


☐ Cross-section surface for air flow volume of up to 150 m³/h.
☐ The connections of the form parts are built as slip-in sleeve; duct connection is done by outside-connection sleeves.
☐ Requires air-tight connection achieved by using duct tape (accessory).
☐ Fixation of the pieces using FB.

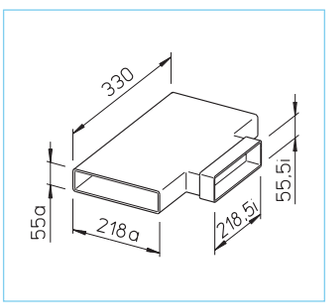


All dmensions in mm

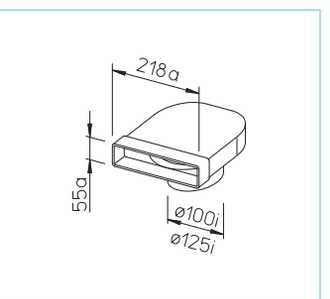
Flat duct w/o sleeve, length 1 m
FOM Ref. No. 0624



90°-bend vertical
FBV 90 Ref. No. 0630

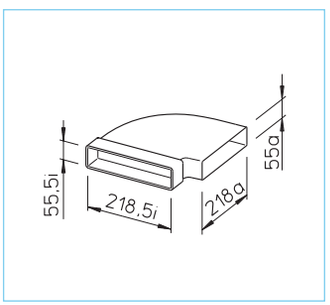


Flat duct T-piece
FTS Ref. No. 0631

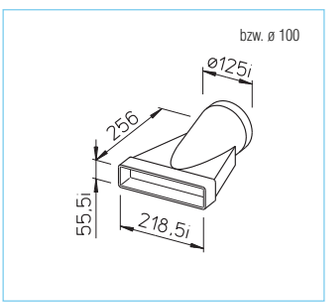


End piece with connection from ø to ▭
FE 100 Ref. No. 0621
FE 125 Ref. No. 0622

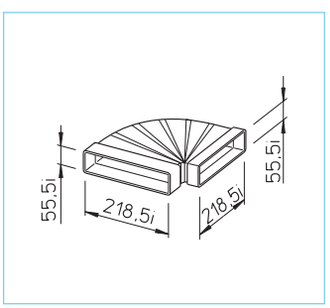
End piece with connection from ø to ▭ with 1 mtr. tube and 2 brackets
FU 90/100 Ref. No. 0627
FU 90/125 Ref. No. 0638



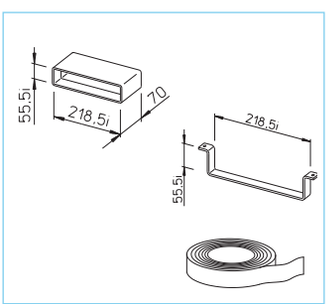
90°-bend horizontal
FBH 90 Ref. No. 0629



Connection from ø to ▭
FUE 100 Ref. No. 0628
FUE 125 Ref. No. 0639



Flexible bend
FBO Ref. No. 0632



Flat duct connector
FV Ref. No. 0625

Mounting bracket
FB Ref. No. 0626

Strip
KLB Ref. No. 0619
PVC-Strip, width 50 mm
Reel with 20 metres length

Insulated ducting system IsoPipe®

The innovative alternative to spiral ducting that must be insulated additionally to avoid condensation.

The insulated duct system IsoPipe®
- **avoids condensation build-up,**
- **is provided with a smooth, sound absorbing inner surface and is easy to clean,**
- **saves assembly time,**
- **is the perfect solution for intake and extract ducting.**

Laying

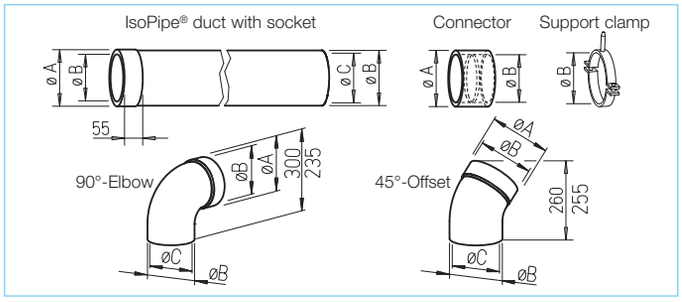
☐ All IsoPipe® parts, bends, wall and roof outlets are designed to fit together perfectly and fit into each other easily. IsoPipe® is mounted quickly: it saves up to 70% assembly time compared to a spiral ducting installation with additional insulation.

Specification

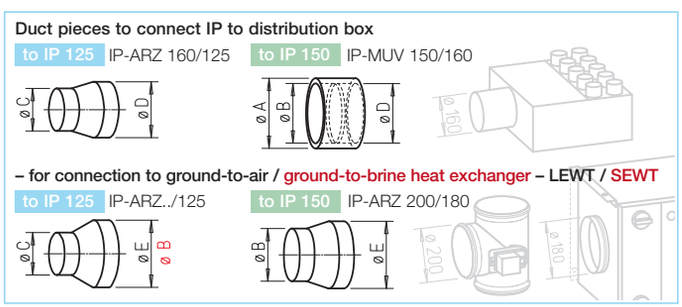
All parts are completely insulated and are made of water-vapour-tight and antistatic EPP or EPE. Normally inflammable to class B2. Suitable for air flow temperatures from –25 to +80 °C.

Laying-conception and installation

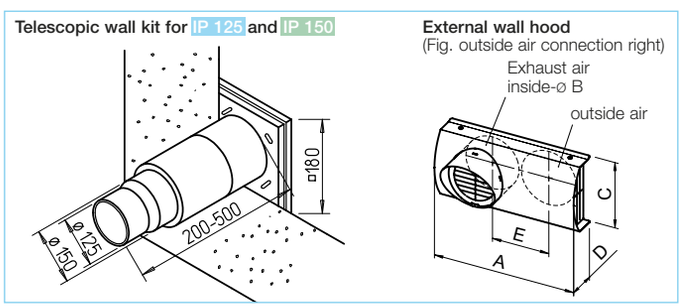
☐ IsoPipe® is especially applicable for intake and exhaust ducting in basements and cold surroundings.
☐ Suitable for air flow volumes up to 450 m³/h.
☐ All bends have slip-in sockets; the duct connections are made with sockets on the outside.
☐ IsoPipe® is impact resistant, very lightweight and can easily be shortened to the required length with a knife.



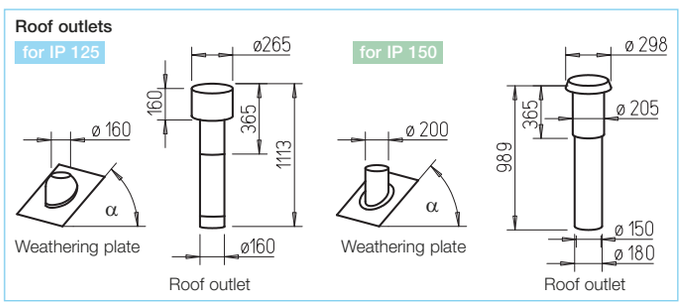
Description	Nominal-Ø 125 mm					Nominal-Ø 150 mm				
	Type	Ref. No.	Set[1]			Type	Ref. No.	Set[1]		
IsoPipe® duct with socket	**IP 125/2000**	9406	8x2m			**IP 150/1000**	9376	6x1m		
Connector (additional)	**IP-MU 125**	9394	1 pc			**IP-MU 150**	9381	1 pc		
Support clamp	**IP-S 125**	9395	1 pc			**IP-S 150**	9392	1 pc		
90°-Elbow	**IP-B 125/90**	9398	1 pc			**IP-B 150/90**	9378	1 pc		
45°-Offset	**IP-B 125/45**	9399	1 pc			**IP-B 150/45**	9379	1 pc		
Dimensions in mm	A	B	C	D	E	A	B	C	D	E
	165	155	125	–	–	205	180	150	–	–



Description	Nominal-Ø 125 mm					Nominal-Ø 150 mm				
Duct pieces to connect to distribution box + KWL®-units	Type	Ref. No.	Set[1]			Type	Ref. No.	Set[1]		
with spigot nom. dia. 125						**IP-RZB 150/125**	9393	4 pc[2]		
with spigot nom. dia. 160	**IP-ARZ 160/125**	9358	1 pc			**IP-MUV 150/160**	9387	1 pc		
with spigot nom. dia. 180						**IP-MU 150**	9381	1 pc		
to LEWT with spigot ND 200	**IP-ARZ 200/125**	9359	1 pc			**IP-ARZ 200/180**	9354	1 pc		
to SEWT with spigot ND 200	**IP-ARZ 180/125**	9360	1 pc							
Dimensions in mm	A	B	C	D	E	A	B	C	D	E
	–	180	125	160	200	205	180	150	160	200



Description	Nominal-Ø 125 mm					Nominal-Ø 150 mm				
Telescopic wall kit	Type	Ref. No.	Set[1]			Type	Ref. No.	Set[1]		
contains telescopic duct, outdoor shutter and spigot. All parts made of white high-grade polymer	**TMK 125/150**	0845	1 pc			**TMK 125/150**	0845	1 pc		
External wall hood	**from high-grade steel**					**from high-grade steel**				
Outside air connection right	**IP-FKB 125 R**	2689	1 pc			**IP-FKB 150 R**	2691	1 pc		
Outside air connection left	**IP-FKB 125 L**	2690	1 pc			**IP-FKB 150 L**	2692	1 pc		
Dimensions in mm	A	B	C	D	E	A	B	C	D	E
	420	155	200	99	170	450	180	240	118	190



Description	Nominal-Ø 125 mm					Nominal-Ø 150 mm				
Roof termination	Type	Ref. No.	Set[1]			Type	Ref. No.	Set[1]		
consisting of 2 elements, which must be ordered separately:										
a) Roof outlet black	**DH 160 S**[3][4]	2019	1 pc			**IP-DHS 150**	9382	1 pc		
with ducting terracotta						**IP-DHR 150**	9383	1 pc		
b) Weathering plate α										
with leaded sheet 25° – 45°	**UDP 160 S**[3]	2023	1 pc							
20° – 30°						**IP-BP 150/25**	9384	1 pc		
30° – 40°						**IP-BP 150/35**	9385	1 pc		
40° – 50°						**IP-BP 150/45**	9386	1 pc		
Flashing plate	**FDP 160**[3]	2025	1 pc							

[1] packing unit [2] set = 4 pcs [3] IsoPipe® is inserted directly into the tube.
[4] Seal ring IP-DR 125 (Ref. No. 9338, accessory) required for installation.

Air extract elements

See also extract air elements AE.. page 375 on.

NEW!

DLV KTVA / MTVA

Design valves for air extract with higher and lower air flow speeds and/or resistances. DLV with compact and attractively designed facia and integrated filter.

ø 80		ø 100		ø 125		ø 160	
Type	**Ref. No.**	**Type**	**Ref. No.**	**Type**	**Ref. No.**	**Type**	**Ref. No.**
Polymer valve for extraction KTVA / Design valve DLV [1] for air extract							
KTVA 75/80	0940	**KTVA 100**	0941	**KTVA 125**	0942	**KTVA 160**	0943
		DLV 100	3039				
		ELF-DLV 100	3042	(replacement air filter for DLV 100, unit = 5 pcs.)			
Metall valve for extraction [2]							
MTVA 75/80	8868	**MTVA 100**	8869	**MTVA 125**	8870	**MTVA 160**	8871

[1] With integrated filter. [2] Especially for areas, in which inflammable components are not prescribed.

Attachement filter element

VFE

Attachement filter element VFE covering air extract elements AE.. or valves. Prevents fat and dust deposits on extract elements, valves and connected ducting system. Casing made from galvanised steel, white powder coated. Filter made from aluminium with 324 cm² filter surface and aluminium frame.

VFE 70	Ref. No. 2552
VFE 90	Ref. No. 2553
ELF/VFE	Ref. No. 2554

replacement air filters, unit = 2 pcs.

Supply

NEW!

DLVZ KTVZ / MTVZ

Design valves for air intake with higher and lower air flow speeds and/or resistances. DLV with compact and attractively designed facia and integrated filter.

ø 80		ø 100		ø 125		ø 160	
Type	**Ref. No.**	**Type**	**Ref. No.**	**Type**	**Ref. No.**	**Type**	**Ref. No.**
Polymer valve for supply KTVZ / Design valve DLVZ [1] for air intake							
KTVZ 80	2762	**KTVZ 100**	2736	**KTVZ 125**	2737	**KTVZ 160**	2738
		DLVZ 100	3040				
		ELF-DLVZ 100	3043	(replacement air filter for DLVZ 100, unit = 3 pcs.)			
Metal valve for supply [2]							
MTVZ 75/80	9603	**MTVZ 100**	9604	**MTVZ 125**	9605	**MTVZ 160**	9606

[1] With integrated filter. [2] Especially for areas, in which inflammable components are not prescribed.

Air intake elements

LTG

Door grilles
Unobstructive overflow grille made from impact resistant polymer, to be installed into doors. Detailed information see product page grilles.

For full details see product page.

LTGW	Ref. No. 0246

Made from white polymer.

LTGB	Ref. No. 0247

Made from brown polymer.

Cleaning kit

NEW!

KWL-RS

Cleaning kit for air distribution systems FlexPipe® and RenoPipe
The universal cleaning kit is perfect for cleaning of the flexible ducting system FlexPipe® (DN 75, DN 63) as well as the RenoPipe air distribution system (DN 100, see separate leaflet, Ref. No. 86643). Application is optionally under pressure (with short ways) or tension possible. With longer ducting distances or narrow elbows the nylon wheel brush is pulled simply toward the distribution box, at which the 90° elbow is used for the vacuum connection.

Via this, the dust particles dislodged by the nylon wheel brush are vacuumed without problems with a commercial vacuum cleaner.

KWL-RS	Ref. No. 2797

Delivery in practical transportation bag.
Scope of delivery: 1 piece of each
- Hand reel with flexible glass fibre reinforced wire (20 running mtrs)
- Wheel brush DN 63, 75, 100
- 90° elbow and sealing for vacuum connection DN 56
- Adapter DN 56/40, DN 56/32

Shutters

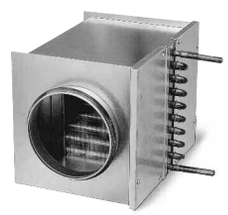
Attenuators

ø 80	ø 100	ø 125	ø 160	ø 200	ø 250	ø 315
Backdraught shutter – automatic, in-line installation, casing made from galvanised steel or polymer*, flaps made from aluminium						
	RSKK* 100 5106	**RSKK* 125** 5107	**RSK 160** 5669	**RSK 200** 5074	**RSK 250** 5673	**RSK 315** 5674
Lock cold smoke valves – For mains common in multi-storeyed						
KAK 80 4096	**KAK 100** 4097	**KAK 125** 4098	**KAK 160** 4099	**KAK 200** 4100		
Flexible attenuator bzw. elastic silencer (SDE) – made from flexible aluminum duct						
	FSD 100 0676	**SDE 125** 0789	**SDE 160** 0790	**FSD 200** 0679	**FSD 250** 0680	**FSD 315** 0681

Wall and roof terminations

ø 80		ø 100		ø 125		ø 160		ø 200		ø 250		ø 315	
Type	**Ref. No.**	**Type**	**Ref. No.**	**Type**	**Ref. No.**	**Type**	**Ref. No.**	**Type**	**Ref. No.**	**Type**	**Ref. No.**	**Type**	**Ref. No.**
Telescopic wall mounting kit – to put air intakes and outlets through walls													
		TMK 100	0844	**TMK 125/150**	0845								
Universal-roof termination – adaptable to all kind of roof tiles, for ridged roofs and flat roofs													
				DDF 125	1964	**DDF 160**	1965	**DDF 200**	1966	**DDF 250**	1967	**DDF 315**	1968
Roof outlet DH [1], weathering plate UDP [1], flashing plate FDP, connector STV [2] – to be ordered separately.													
		DH 100 S	2015	**DH 125 S**	2017	**DH 160 S**	2019						
		UDP 100 S	2021	**UDP 125 S**	2021	**UDP 160 S**	2023						
		FDP 100	2024	**FDP 125**	2013	**FDP 160**	2025						

Water heater batteries



Type	Ref. No.	suitable for pipe	Air-side data: Heat		Air-side data: Δ T Air		Air-side data: at V	Water-data[1]: Pressure drop	Water-data[1]: in water volume	Weight	Suitable temperature control system: Type	Ref. No.
		ø mm	kW[1]	kW[2]	K[1]	K[2]	m³/h	Δp_w kPa	l/h	approx. kg		
WHR 100	9479	100	1.9	0.9	35	17	150	1	84	3.2	**WHST 300 T50**	8820
WHR 125	9480	125	2.6	1.1	29	13	250	2	115	3.2	**WHST 300 T50**	8820
WHR 160	9481	160	5.5	3.1	38	22	400	11	245	4.9	**WHST 300 T50**	8820
WHR 200	9482	200	7.2	4.1	33	19	600	17	317	4.9	**WHST 300 T50**	8820
WHR 250	9483	250	10.7	6	37	21	800	8	470	6.9	–	–
WHR 315	9484	315	18.3	10.4	36.2	21	1400	9	810	9.0	–	–

The above values apply for an intake air temp. of 0° C and flow/return water temperatures: [1] 90/70 °C, [2] 60/40 °C

Air temperature control

NEW!

WHST 300 T50

Air temperature control system for warm water battery WHR Ideal for the application as supply air heating.
Consisting of thermostat incl. 2 duct temperature sensors (with 2 m capillary tube) and valve. Enables a constant supply air temperature. Simple, low-cost and quick assembly solution. Temperature range 20 – 50° C.
WHST 300 T50 Ref. No. 8820

Air temperature control system

WHST 300 T38

Air temperature control for KWL®- units with integrated water heater battery.
For air temperature control of KWL.. WW types with integrated PWW water heater battery. Consisting of thermostat with remote control and remote sensor. Simple, low-cost and quick assembly solution. Temperature range 8 – 38° C.
WHST 300 T38 Ref. No. 8817

Spare and pollen filters

ELF-KWL 350/3/3/7

Set of filters:	2 pc G4 and 1 pc F7 (../4/4/7)		1 pc pollen filter F 7 (../7)	
for KWL-unit	**Type**	**Ref. No.**	**Type**	**Ref. No.**
KWL EC 60	**ELF-KWL 60/4/4**	9445	**ELF-KWL 60/7/7 [3]**	9446
KWL 230 Roto	—	—	**ELF-KWL 230 F7**	0049
KWL EC 200 Eco/Pro	**ELF-KWL 200/4/4 Eco**	0021	**ELF-KWL 200/7 [3]**	0038
KWL EC 270/370	**ELF-KWL 270/370/4/4**	9613	**ELF-KWL 270/370/7**	9614
KWL EC 270/370..	**ELF-KWL 270/370/4/4 BP [4]**	9617	**ELF-KWL 270/370/7 BP [4]**	9618
KWL EC 300 Eco	**ELF-KWL 300/4/4 Eco**	0021	**ELF-KWL 300/7 [3]**	0038
KWL EC 300 Pro	**ELF-KWL 300/4/4/7 Pro**	0020	—	—
KWL EC 500 Eco/Pro	**ELF-KWL 500/4/4**	0039	**ELF-KWL 500/7 [3]**	0042

Set of filters:	2 pc G 3 + 1 pc fine filter F 5		2 St. G 3 + 1 pc pollen filter F 7	
KWL-unit	**Type**	**Ref. No.**	**Type**	**Ref. No.**
KWL 350	**ELF-KWL 350/3/3/5**	0024	**ELF-KWL 350/3/3/7 [3]**	0025
KWL EC 350	**ELF-KWL EC 350/3/3/5**	0034	**ELF-KWL EC 350/3/3/7 [3]**	0035
KWL 650	**ELF-KWL 650/3/3/5**	0026	**ELF-KWL 650/3/3/7 [3]**	0027

[1] For other colours see product pages.
[2] Connector to avoid condensation emissionon the connection: STV 100 (Ref. No. 2026), STV 125 (Ref. No. 2027), STV 160 (Ref. No. 2028).
[3] Allow a volume reduction of about 10 % when using an F7 filter. [4] Bypass-filter.

Accessories – Details Page

Dimensions, further technical information as well as other sizes:

Information Page