94137E-05
2005-10

FLEXIT

S4 X/TT-A4 X/TT-L4 X/TT
S4 R
S6 R
S7 X/TT-A7 X/TT-L7 X/TT
S7 R

E **Installation Instructions**
Air Handling Unit with
Heat Recovery (Cabinet/Loft)





S = Cabinet unit
L = Loft unit
X = Cross heat exchanger
TT = High-efficiency cross heat exchanger
R = Rotor heat exchanger
A = Cabinet unit with a cross heat exchanger adapted to an external kitchen hood location

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Symbols Used

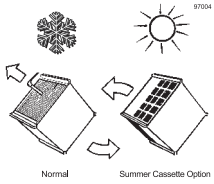
This product has a number of symbols that are used to label the product itself and in the installation and user documentation. Here is an explanation of some of the commonest symbols.



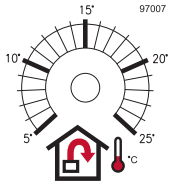
SUPPLY AIR



EXTRACT AIR



EXCHANGER/SUMMER CASSETTE



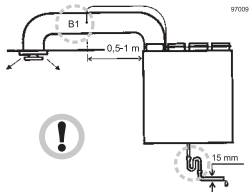
HEATING THERMOSTAT



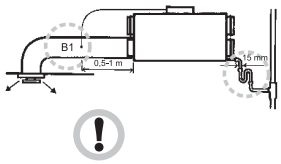
EXHAUST AIR



OUTDOOR AIR



CONNECTION FOR SUPPLY AIR SENSOR AND OUTLET FOR CONDENSATION WATER (cabinet model)



CONNECTION FOR SUPPLY AIR SENSOR AND OUTLET FOR CONDENSATION WATER (loft model)



DANGER! ELECTRICITY

DANGER! DO NOT TOUCH

Symbols for units/electric heating



TRANSFORMER ADJUSTMENT SUPPLY AIR STAGE 2



TRANSFORMER ADJUSTMENT EXTRACT AIR STAGE 2

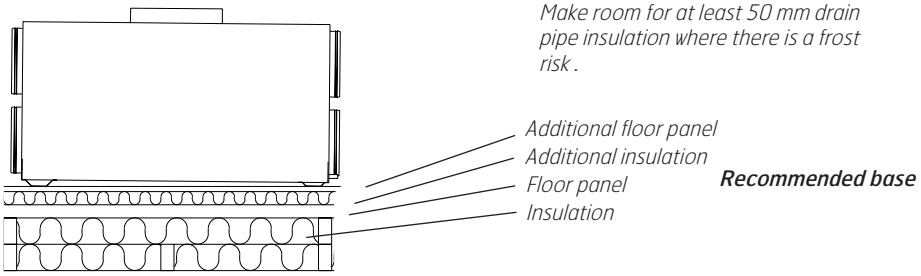
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1 Flexit L Loft Unit

1.1 Location

The unit is designed for installation in a loft, but may also be installed elsewhere. For reasons of noise, it should not be installed right above a bedroom. The unit should stand on a firm base, for example gypsum or chipboard, which must be level. If the room below is sensitive to noise, the panel may be laid on top of a very firm panel of mineral wool for the best possible damping (see the drawing below).
It is important for the unit to be installed so that it is easily accessible for subsequent service/maintenance. It must be possible to open the unit door easily for service/cleaning.
Space in front of the unit: Min. dimensions 60 x (unit length + 100) cm. Space above the unit: Min. 50 cm.

It must be checked that there is an incline between the installed unit and the drainage outlet

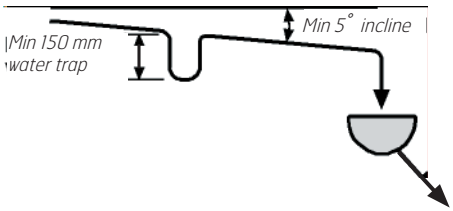


1.2 Drainage

Pipes must be installed by an authorised plumber. Condensation water must be channelled to the nearest soil pipe for waste water, outlet from a basin/sink or floor drain. This connection must always be in a frost-free room and must be terminated with a water trap (enclosed with the system). The water trap MUST be installed. Otherwise, the drainage will not function satisfactorily on account of negative pressure in the unit. Ensure that there is a difference in height between the drainage outlet and the water trap/drainage pipe so that this functions as intended (see the drawing below). 15 mm copper pipe must be used with a minimum 5° incline, which must take the shortest possible route in cold rooms. In cold rooms, the drainage pipe must be insulated with at least 50 mm mineral wool (pipe insulation). If the pipe cannot be laid straight down from the unit, it must be laid between the inner roof and the insulation. If there is no risk of frost, the water trap may be placed in the loft insulation and connected to the unit and the soil pipe with a 16 mm plastic hose. The condensation water pipe must never be laid on top of the loft insulation without also laying heating cables next to the pipe and insulating well on the outside.

Pour a little water into the base of the unit so that the water trap is filled up.

If the drainage system is not installed according to regulations, there is a risk of water leaks.



1.3 Connection of Ducts

- The ducts are connected to the nipples at the ends of the unit.
- Ensure that the ducts arrive at the right nipple. See the marking on the unit (open the door). See under *Symbols Used* on page 2.
- The unit is fitted with 2 inspection doors to make it flexible with regard to duct connection.
- Pull the duct insulation well up to the unit.
- The outdoor air duct should be laid with a slight incline towards the outdoor air cap so that any water that enters drains out again.
- The exhaust air duct should have an incline towards the unit so that any condensation water can run back to the unit.
- At a short distance between the unit and the exhaust point, sound insulation must be installed to meet the requirements for the outdoor sound level.
- In heated surroundings the outdoor- and exhaust air ducts must always be externally insulated with a plastic sleeve.

1.4 Heating sensor (B1)

This must be located inside the supply air duct (red in the Flexit drawing/*Symbols Used*, page 2) approximately 1 m from the unit. Roll out the marked coil of cable on the unit near the supply air nipple. Drill a dia. 7 mm hole in the duct where the sensor can be inserted. Seal the hole with sealant and tape the cable in place on the outside of the duct so that it stays in place.

1.5 Electrical Connection

The unit is supplied with a 1.8 m cable and plug (which also functions as the service switch). This is connected to a 230 V 50 Hz single-phase earthed power point that is located in an easily accessible position close by.

Flexit L410 A circuit
Flexit L716 A circuit

2 Flexit S Cabinet Unit

2.1 Location

The unit is designed for installation in washrooms, storage rooms or other suitable rooms that are frost-free (such as technical rooms). The unit is suspended on the wall in mounting holes on the top using the enclosed screws.
S4 and S7: Corner installation requires a minimum 40 mm distance to the side walls on account of the side-hinged doors. Ensure that there is a minimum of 1 m space in front of the unit for access for maintenance/service.

The unit is available in a left or right version (outdoor air nipple to the left or right), depending on which is most favourable for duct location. In wet rooms, the unit must be installed in zone 3 (minimum 0.6 m from the edge of a bath and 1.2 m from a shower head). The unit is fixed to the wall by fixing the attached angle to the wall underneath the unit and then screwing the unit in place in the fixing bracket at the top. The fixing angle and suspension are provided with several fixing holes so that the unit can be fixed to two studs in most cases. If this cannot be used, additional studding (transoms) must be considered.
Particularly for the SR rotor:
These units are so heavy that studding between the studs of 48 x 98 mm, possibly 48 x 148 mm, must be used for suspension at the top and the support bracket at the bottom (c/c distance 900 mm). With an existing half-timbered wall, an 18 mm plywood panel is used, which must be at least as large as the unit and is screwed to the wall first to distribute the weight. The panel must be anchored to at least one stud at 3 points (minimum) with countersunk screws (6 x 4.5 x 50 fixing screws are enclosed).

2.2 Drainage

(Does Not Apply to Type SR Rotor Units)

Pipes must be installed by an authorised plumber.
The unit is supplied with a length (90 cm) of 15 mm plastic hose with a hose clip and reducing sleeve which is screwed to the base of the drainage outlet that is located under the centre of the unit. If the room has no floor drain, the drainage pipe must be laid to the nearest drain, soil pipe for waste water or outlet from a basin/sink. The pipe must incline at least 5° from the unit (see the drawing below). A water trap is supplied with the unit, mounted at the end of the plastic hose. In rooms in which there may be frost, the drainage outlet must be insulated/protected against frost.

Important! Pour a little water into the base of the unit so that the water trap is filled up. If the drainage system is not installed according to regulations, there is a risk of water leaks.

2.3 Connection of Ducts

- The ducts usually come from joists and are connected to the nipples on the top of the unit.
- Ensure that the ducts arrive at the right nipple. See the marking on the unit (open the door).
  The symbols are explained on page 2 – *Symbols Used.*
- Pull the duct insulation well up to the unit.
- To avoid the formation of condensation, it is particularly important for the outdoor air duct to be well insulated and for the plastic sleeve around it to be sealed to the unit as well as possible.
- The outdoor air duct should be laid with a slight incline towards the outdoor air cap so that any water that enters drains out again.
- The exhaust air duct should have an incline towards the unit so that any condensation water can run back to the unit.
- At a short distance between the unit and the exhaust point, sound insulation must be installed to meet the requirements for the outdoor sound level.

2.4 Heating sensor

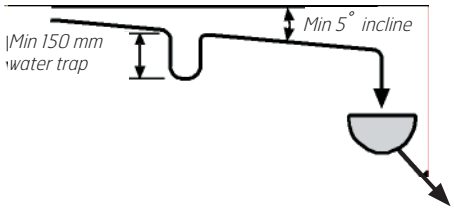
This must be located inside the supply air duct approximately 1 m from the unit. Roll out the marked coil of cable on the top of the unit near the supply air nipple. Drill a dia. 7 mm hole in the duct where the sensor can be inserted. Seal the hole with sealant and tape the cable in place on the outside of the duct so that it stays in place.

2.5 Electrical Connection

The unit is supplied with a 1.8 m cable and plug (which also functions as the service switch).
This is connected to a 230 V 50 Hz single-phase earthed power point that is located in an easily accessible position beside the top of the unit.

S4R 10 A circuit

S/A4X 10 A circuit	S/A 4TT 10 A circuit	S6R 10 A circuit
S/A7X 16 A circuit	S/A 7TT 10 A circuit	S7R 16 A circuit



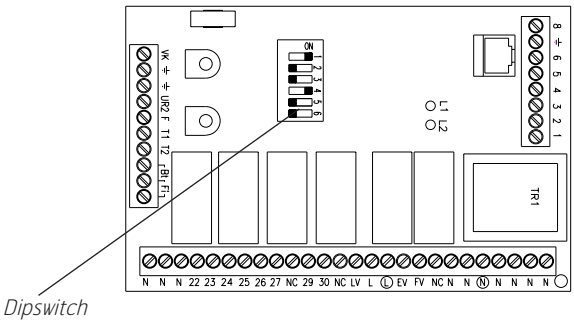
3 Adjusting the Unit

Before opening the door of the heat recovery system or carrying out maintenance on the kitchen hood: switch off the heat, let the fans continue for three minutes to remove hot air, remove the power from the unit and wait 2 minutes before opening the doors.

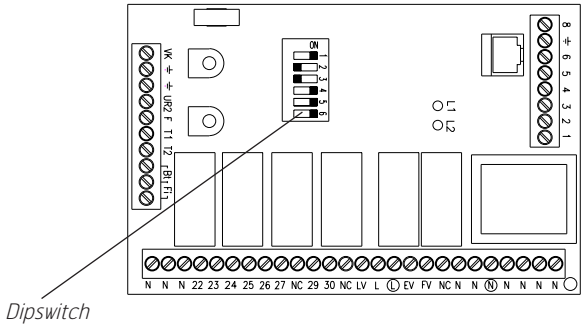
3.1 Adjustment

The speed of the unit at the normal stage must be set to the voltage specified in the "Documentation of Ventilation Data" form that is enclosed with the ventilation drawings from the company responsible for project planning. Open the door and unscrew and remove the cover of the automatic control compartment. The transformer is then visible and the cables marked 1 **2** 3 (as shown on page 2) can be switched over to the specified voltage level.

			Extract air	**Supply air**
S/A4X-S/A4TT:	The automatic control compartment is behind the cover at the bottom of the unit.	Factory setting	150 V	170 V
S/A7X-S/A7TT:	The automatic control compartment is always on the right side.	Factory setting	150 V	170 V
L4 X/L7 X:	The automatic control compartment is on the top of the unit.	Factory setting	150 V	170 V
S4 R/S6 R/S7 R:	The automatic control compartment is behind cover /above heating element.	Factory setting	150 V	150 V



Cross unit control card



Rotor unit control card

3.2 Control Card Adjustment Options

TYPE X / TT			**TYPE S / R**	
Dipswitch no.	**OFF**	**ON**	**OFF**	**NO**
1	Heating is not affected with frost protection	**Heating is switched off with frost protection**	Not used	Not used
2	**Heating and preheating function normally**	Heating and preheating are switched off at the min stage	**Must be in this position**	Not used
3	**Not affected with nighttime temperature reduction**	Temperature is reduced by 3°C with nighttime temperature reduction	**Not affected with night-time temperature reduction**	Temperature is reduced by 3°C with nighttime temperature reduction
4	Not affected with nighttime temperature reduction	**Fan speed is reduced to low with nighttime temperature reduction**	Not affected with nighttime temperature reduction	**Fan speed is reduced to low with nighttime temperature reduction**
5	**Preheating element is used only for frost protection**	Preheating element is also used for heating	Heating not available	**Heating available**
6	**Must be in this position**	Not used	Not used	**Must be in this position**

***Bold type** shows the standard factory setting. All settings can be combined.*

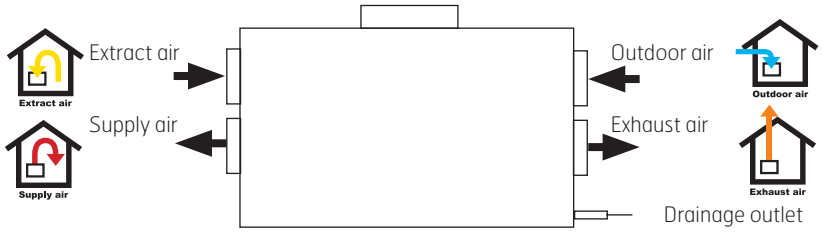
With the standard settings, the unit functions in such a way that heating is available if required with normal operation, while heating is switched off with frost protection operation, when the preheating element takes over.
If both elements are required for heating in cold areas during frost protection operation, switch 1 must be switched to OFF. Please note that the unit's rated power will then increase with the power of the preheating element. On the L4/S4, 13 A fuses must be used in such cases.

3.3 Final Checks

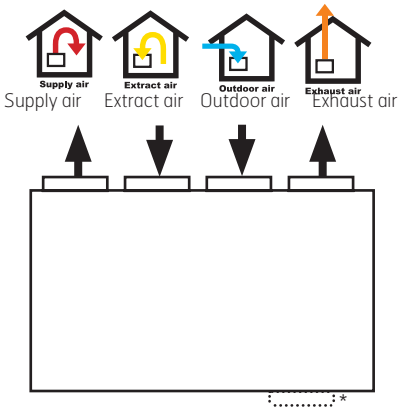
Check that:

- The duct insulation is in accordance with the manual and the technical documents
- Ducts are connected to the right nipples – check against the unit drawings below
- The temperature sensor is in place in the supply air duct
- Drainage is connected
- Adjustment has been carried out in accordance with the manual and ventilation data documentation
- The unit operates normally at all stages
- Heating power switches in

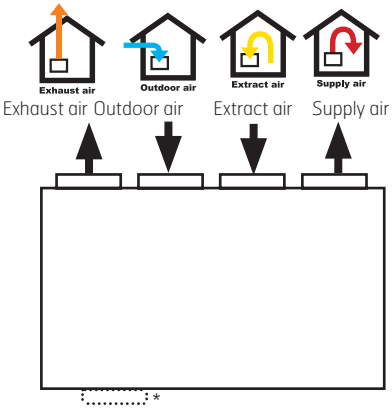
Type L



Type S (right model)

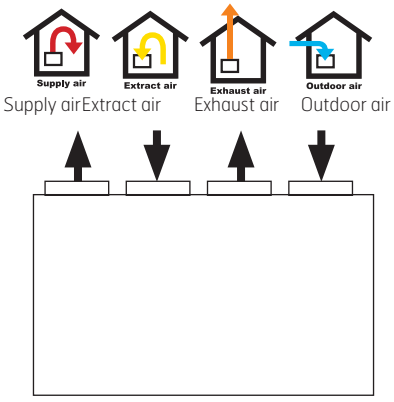


Type S (left model)

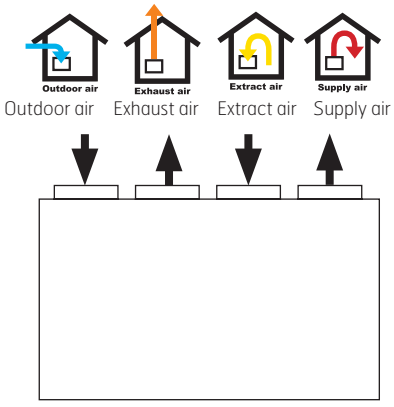


* A models: Connection to kitchen hood

Type SR (right model)



Type SR (left model)



The installer may be held liable for any incorrect or defective installation

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