



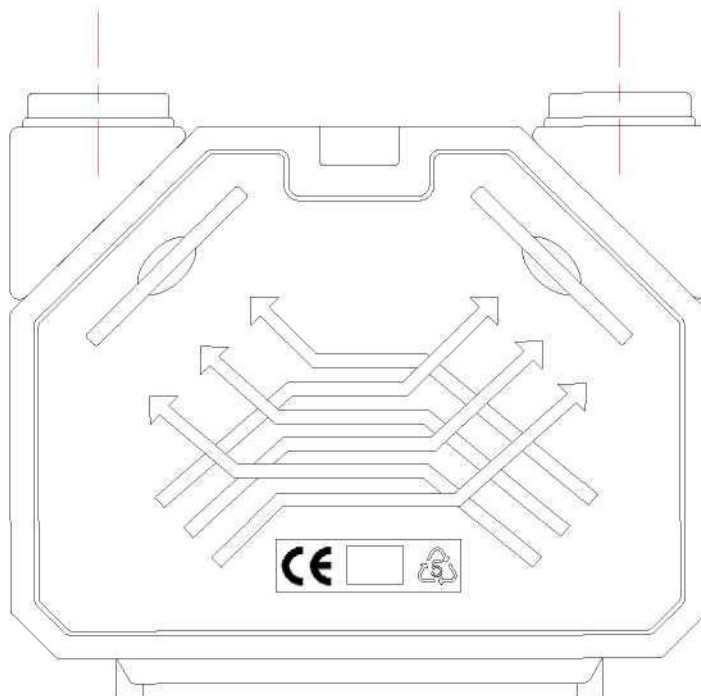
Installation and maintenance instructions

Xpelair Wholehouse

Heat recovery units

Xcell 300/400

Keep these instructions with the heat recovery unit



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1. General

Thank you for purchasing an Xpelair Xcell Wholehouse heat recovery unit. We have paid a great deal of attention to the design of this unit and have only used high quality, recyclable materials in its manufacture which is powered by energy efficient EC/DC motors.

This system is designed to run 24 hours a day.

The Xcell unit is the centre of a balanced supply and extract ventilation system. Other products available from Xpelair include, flexible, flat and slim ductwork, and a 3-speed switch.

In certain circumstances it is possible to connect a fan-less kitchen cooker hood into the system.

This guide is intended as a reference manual for the fitter, so that he can install and correctly maintain the unit. Please read this booklet thoroughly before installing the unit. In the unlikely event that you have to contact our offices please quote the type of unit, order number, and date of manufacture.

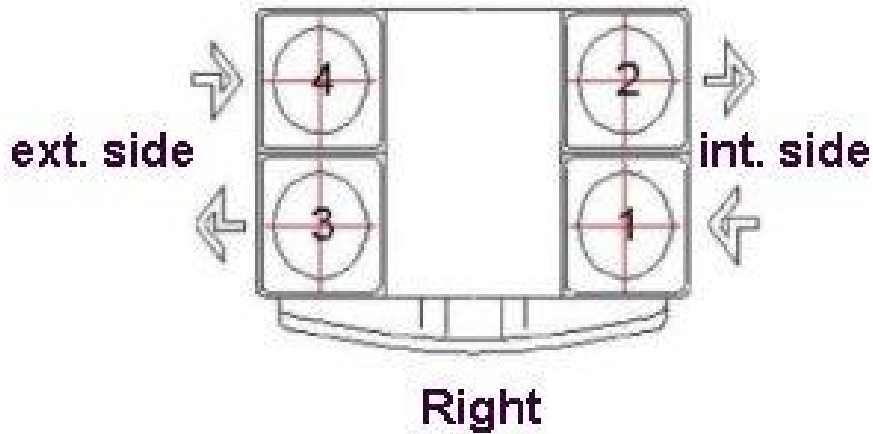
1.1 Configuration

The Xcell unit has been designed for extracting stale air from a dwelling and replacing it with fresh filtered air.

The Xcell units are available in 4 configurations

1. Xcell 300; duct connections to the house on the **right** and external duct connections on the **left**.
2. Xcell 300BP; duct connections to the house on the **right** and external duct connections on the **left**.
This unit is complete with an automatically regulated by pass damper.
3. Xcell 400; duct connections to the house on the **right** and external duct connections on the **left**.
4. Xcell 400BP; duct connections to the house on the **right** and external duct connections on the **left**.
This unit is complete with an automatically regulated by pass damper.

View - looking at the top of the unit



Duct connections

- 1 = Extract internal
- 2 = Supply internal
- 3 = Exhaust external
- 4 = Supply external

2 Installation

The Xcell unit must be placed in a frost-free space.

Close to the unit there must be a 220/240 Volt fused spur (with earth), a suitable connection for the condensate drain and sufficient space to connect the duct runs to the heat recovery unit.

If the unit is to be fixed to a wall/partition the unit must be installed using the hanging bracket provided. The wall should be structurally rated to accept a weight of 200Kg per square meter.

The unit must be installed horizontally (with the spigots at the top). A spirit level should be used to make sure that it is straight.

Enough space should be left to allow a significant slope for the condensate drain to ensure correct evacuation of the water.

A minimum space of 800 mm is needed at the front of the unit to open the access door and change the filters.

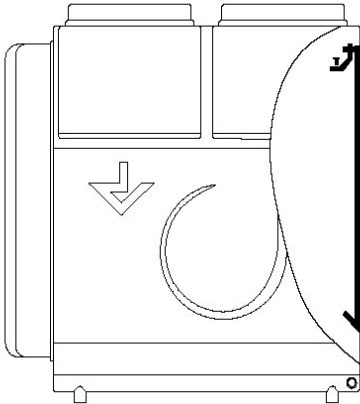


Connect power supply after assembling the ducting!

2.1 Regulations

Where applicable installation of the unit must comply with all local regulations including, building, electrical and sewerage connections.

2.2 Mounting the unit



The Xcell unit can be placed on a floor or attached to a wall with the hanging bracket provided. If floor mounted, assemble the unit so that sound and vibration transfer is avoided and there is sufficient height for the condensation drain. If wall mounted secure the unit by using the bracket provided. The wall or partition should be at least 100 mm thick.

Unpack the unit and place it on the ground. Unbolt the metal lid on the top of the unit and remove it. Turn the nut separately and remove the hanging bracket. Fix the hanging bracket to the wall/partition. Use a spirit level to make sure the bracket is level.

2.3 Connect the ducting

To avoid condensation ductwork inside the loft space must be insulated.

It is recommended that that insulated acoustic flexible ducting be used with a minimum length of 1 metre on the external sides of the unit and a minimum length of 500 mm on the internal side.

Where possible the air intake to the building should be sited in a sheltered area.

Supply and extract to and from the house can be through roof terminals or louvres.

To make sure there is no re-circuiting of polluted air a minimum of 2 metres should be allowed between the supply and discharge terminals.

To allow free airflow through out the house a gap beneath the doors must be provided (or grilles put at low level in the doors)

2.4 Positioning extract and supply valves

Extract grilles should be placed in all wet rooms in accordance with the Building Regulations and supply valves in all the heated rooms. Extract grilles should be sited close to the main source of humidity.

Care should be taken not to create drafts in sensitive areas of the house e.g. bedrooms, etc.

2.5 Connect condensation evacuation.

The condensation drain is in the lower part of the unit.

In a **Right-handed** unit the left hose connection must be used.

The hose fitted to the condensate drain must have an internal diameter of 12 mm and a minimum length of 1.5 metres.

2.5.1 The drain should run through a secondary trap before being discharged though the eaves of the house or into the waste water systems (check local regulations).

2.9 By-pass

The Xcell unit with by-pass is factory installed and programmed by Xpelair. There is an extra bypass circuit in the connection box, and one in the by-pass cassette. These circuits automatically control the opening and closing of the by-pass. The room and outside temperatures are detected by two sensors, which are fitted inside the unit.

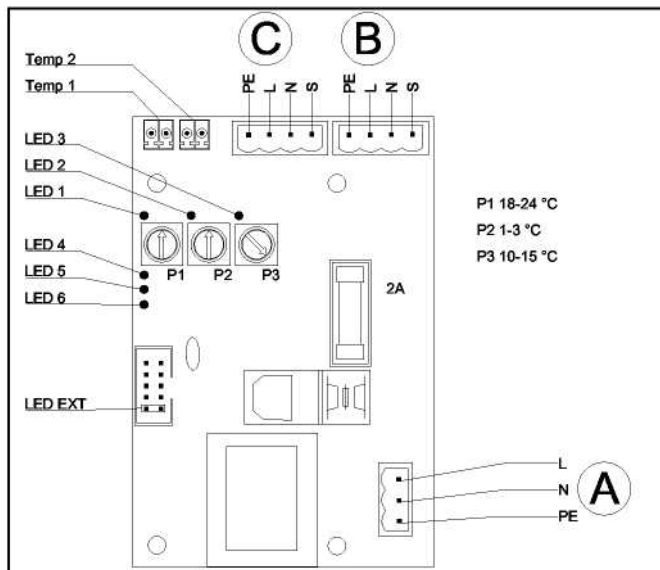
The temperature sensors have been fitted to the bypass module. The sensor fitted to the lower part is the room temperature sensor (red) and the sensor to the upper part is the outside air temperature sensor (blue).

By-pass **open** when:

The room temperature is above 20 °C. (LED 1 = on) and
the outside temperature is under the room temperature (LED 2 = on) and
the outside temperature is above 15 °C (LED 3 = on).

By-pass **closed** when:

The outside temperature is above the inside temperature or
The outside temperature is below 15 °C or
The inside temperature is below 20 °C.



Temp 1 = room temperature sensor.
Temp 2 = outside temperature sensor.

LED 1 = room temperature.
LED 2 = difference between outside and
inside temperature.
LED 3 = outside temperature.

LED 4 = By-pass closed.
LED 5 = By-pass open.
LED 6 = By-pass active.

LED EXT = for connection to a remote
LED (not supplied).

3. Commissioning the system

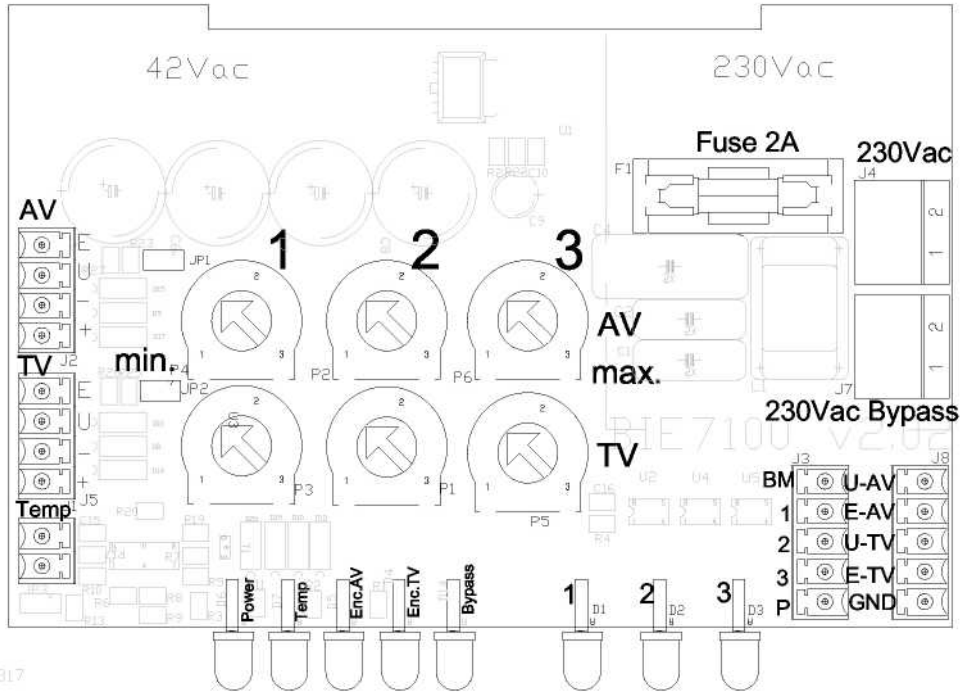
3.1 Setting the air volume

The unit is provided with 3-step regulation. The supply and extract fan run independently of each other and are individually programmable.

3.2 Fan speed adjustment (Figure 1)

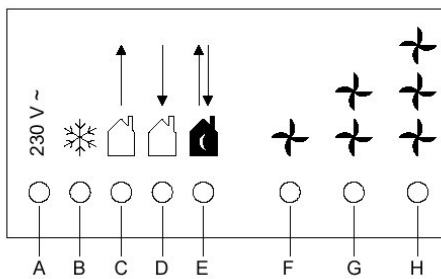
The extract fan can be adjusted with the 3 red potentiometers that are marked AV and the supply fan by those marked TV.

When the speed settings are changed the system must be rebalanced ensuring that the supply and extract air flow are similar. This is to protect the heat exchanger from any possible damage.



Standard settings for the Xcell 300 are 100, 150 and 300 m³/h
 Standard settings for the Xcell 400 are 100, 200 and 350 m³/h

Figure 2: LED panel

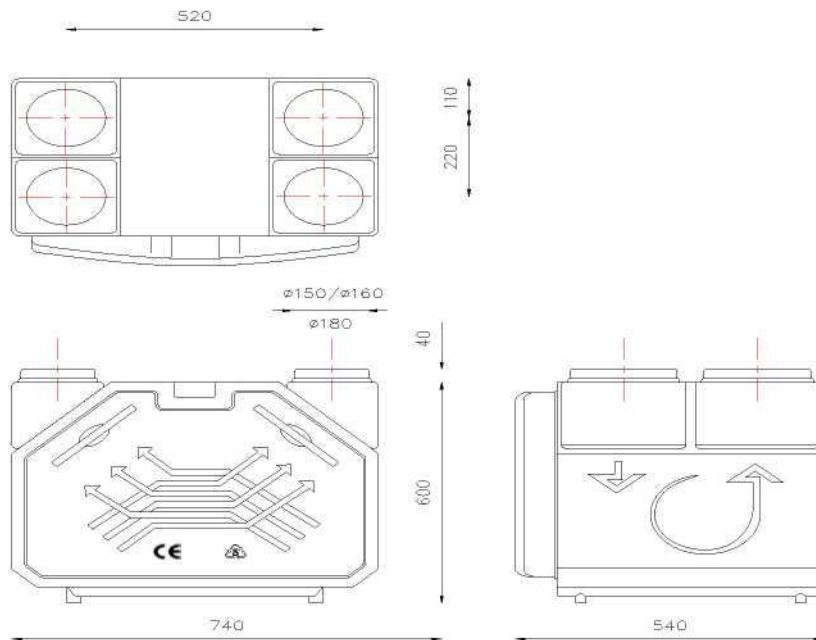


- A Power supply
- B Frost protection
- C Extract fan on
- D Supply fan on
- E Bypass open (optional)
- F Pos 1: Set back (holidays etc.) (1)
- G Pos 2: Standard setting (2)
- H Pos 3: Boost (3)

4. Technical specifications

4.1 unit specification

Figure 3: Dimensions Xcell unit

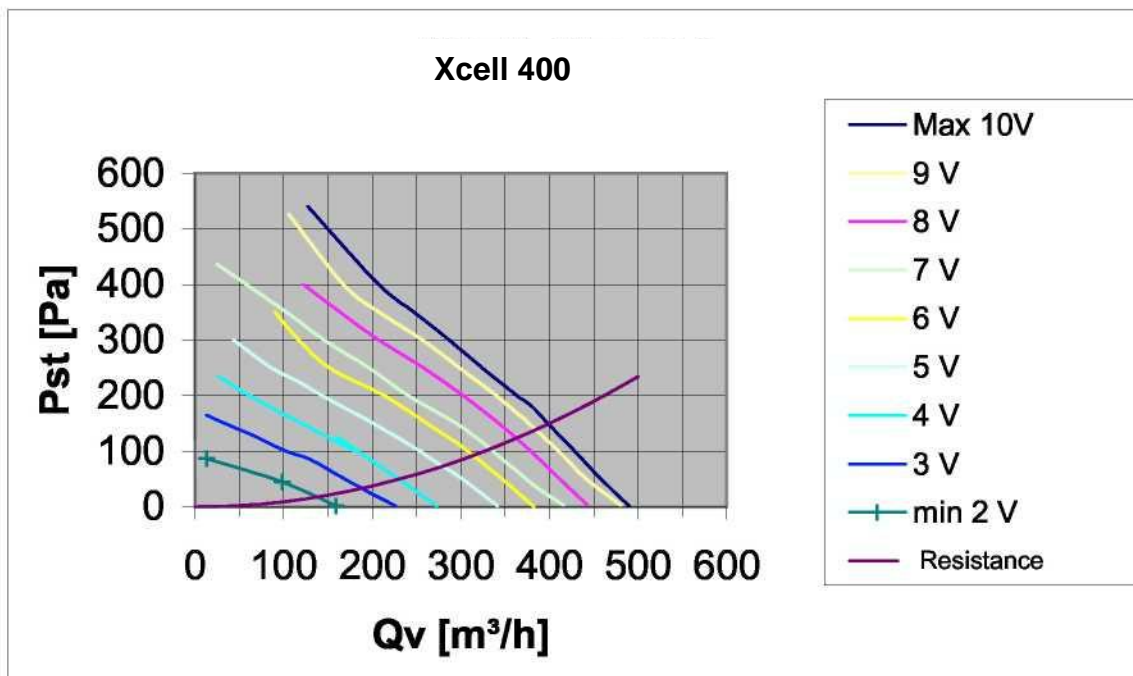


Dimensions (W x d x h)	: 740 x 600 x 540 mm
Diameter ducting	: Ø150/160 mm (Xcell 300) or Ø 180 mm (Xcell 400)
Weight	: 32 kg
Temperature efficiency	: 90%
Power supply	: 230 V 50 Hz
Fuse in unit	: 2,0A
Protection class	: IP20
Filter class	: G3

4.1. Performance and electrical data Xcell 400

Qv [m ³ /h]	Pst [Pa]	U [V]	I [A]	P [W]	cos phi [-]
400	147	230	1,52	241	0,69
377	150	230	1,42	223	0,68
347	145	230	1,20	189	0,68
337	100	230	1,02	155	0,66
299	110	230	0,88	133	0,66
265	88	230	0,70	103	0,64
230	50	230	0,53	75	0,62
169	50	230	0,38	49	0,56
98	45	230	0,28	31	0,48

4.2. Fan Curves



Electrical data Xcell 300

4.3 Performance Data

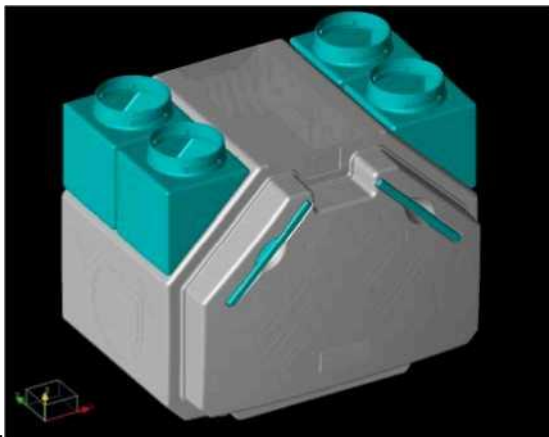
	Qv[m ³ /h]	U[V]	I [A]	P[W]	cos phi [-]
200	303	230	1,17	185	0,69
251	257	230	1,15	177	0,67
200	241	230	1,00	153	0,66
150	262	230	0,87	133	0,66
150	201	230	0,69	101	0,64
101	181	230	0,50	71	0,61
100	103	230	0,37	47	0,55
45	98	230	0,28	31	0,48

5 Maintenance

5.1 User maintenance

Clean the filters (with a vacuum cleaner) twice a year and the air vent grilles wiped clean every 6 months.

The two filters can be taken out by the handgrips



5.2 Specialist maintenance

The heat exchanger must be removed and cleaned every 3 years.

Remove the filters. Unscrew the front panel (two screws). Remove the cover plate. Where there is a by-pass, disconnect the plugs on the board. The heat exchanger is now accessible. Remove the four rubber gaskets and take the heat exchanger out.



Clean the exchanger, with warm water and a normal soap (no solvents). Then rinse with warm water. Reassemble the unit (reverse of dismantling) making sure all components are correctly refitted ensuring there are no air leaks. If the fans are dirty they must be cleaned with a brush and vacuum cleaner.

6. Commissioning Records

Type plate:

Type	
Bypass	
Order number	
Date	

Valves Extract

	Required Normal 2	Measured Normal2	Measured Boost 3	Measured Set back1	Type valve	Setting valve
Kichen						
Bathroom						
Toilet						
Total:						

Supply

	Required Normal Pos2	Measured Normal Pos2	Measured Boost Pos3	Measured Set back Pos1	Type valve	Setting valve
Living room 1						
Living room 2						
Living room 3						
Bedroom 1						
Bedroom 2						
Bedroom 3						
Total:						

7.1 Guarantee

Do's and don'ts

- Do read all the instruction leaflet before commencing installation.
- Do install each fan with a double pole isolating switch.
- Do make sure the mains supply is switched off before attempting to make electrical connections or carry out any maintenance or cleaning

Guarantee

Customers outside UK – see international below.

- UK: The fan is guaranteed against defects for 5 years from the date of purchase.
- Please keep your purchase receipt.
- If you have any problems, contact Xpelair's Head Office at the address shown below.

Technical advice and service

Customers outside UK – see international below.

UK: Xpelair have a comprehensive range of services including:

- Free technical advice help-desk from Engineers on all aspects of ventilation
- Free design service, quotations and site surveys
- Service and maintenance contracts to suit all requirements.

Please ask for details:

- By telephone on Techline: +44 (0) 8709 000430
- By fax on Techfax: +44 (0) 8709 000530
- At the address below

International

- Guarantee: Contact your local distributor or Xpelair direct for details.
- Technical Advice and Service: Contact your local Xpelair distributor

7.2 Liability

The Xcell unit has been designed and manufactured for use only as part of a "balanced ventilation system". If the Xcell unit is used in any other way this may lead to damage of the Xcell unit. In such circumstances the guarantee will be void and Xpelair will not accept any responsibility.

Do not use a motorised cooking hood on this system.



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