

Guarantee

UK: The fan is guaranteed against defects for 3 years from the date of purchase.

- Xpelair reserve the right to repair or replace the fan.
- Keep your purchase receipt.
- Any problems, contact the address below.

Technical Advice & Service

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

Outside UK: See International section below.

Please ask for details on:

Tel +44 (0) 8709 000430

Fax +44 (0) 8709 000530

Also at the address below

Head Office – UK Sales Office and Spares

Applied Energy Products Ltd, Morley Way, Peterborough, PE2 9JJ, England

Tel: +44 (0) 1733 456789

Fax: +44 (0) 1733 310606

Sales/Spares Hotline: +44 (0) 8709 000420

Sales/Spares Faxline: +44 (0) 8709 000520

Web: <http://www.xpelair.co.uk>

International

Guarantee – Contact your local distributor or Xpelair direct

Technical advice and Service – Contact your local Xpelair distributor.

Xpelair



Safety Extra Low Voltage Centrifugal Ducted Fans

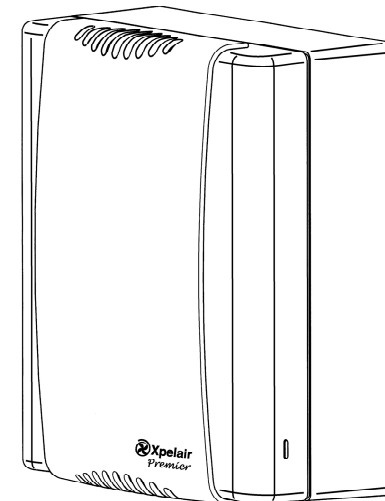
- LVDX200 Standard
- LVDX200T Timer

Condensation Control Fans

- LVCF20 Pull Cord
- LVCF20T Pull Cord/Timer

Installation and Maintenance Instructions

Retain for future reference



applied energy



567-2069-01
Revision D



IMPORTANT

1. READ ALL THESE INSTRUCTIONS & WARNINGS FULLY BEFORE COMMENCING INSTALLATION.
2. INSTALLATIONS AND WIRING MUST CONFORM TO CURRENT IEE REGULATIONS (UK), LOCAL OR APPROPRIATE REGULATIONS (OTHER COUNTRIES). IT IS THE INSTALLER'S RESPONSIBILITY TO ENSURE THAT THE APPROPRIATE BUILDING CODES OF PRACTICE ARE ADHERED TO.
3. A QUALIFIED ELECTRICIAN MUST SUPERVISE ALL INSTALLATIONS.
4. THESE APPLIANCES ARE INTENDED FOR CONNECTION TO FIXED WIRING.
5. CHECK THAT THE ELECTRICAL RATING SHOWN ON THE TRANSFORMER MATCHES THE MAINS SUPPLY.
6. SITE BOTH FAN AND TRANSFORMER AWAY FROM DIRECT SOURCES OF HEAT (I.E. GAS COOKERS OR EYE LEVEL GRILLES). THE FAN MUST NOT BE MOUNTED WHERE AMBIENT TEMPERATURES ARE LIKELY TO EXCEED 40°C. THE TRANSFORMER MUST NOT BE MOUNTED WHERE AMBIENT TEMPERATURES ARE LIKELY TO EXCEED 40°C.
7. WHEN THE FAN IS INSTALLED IN A ROOM CONTAINING A FUEL BURNING APPLIANCE, THE INSTALLER MUST ENSURE THAT AIR REPLACEMENT IS ADEQUATE FOR BOTH THE FAN AND THE FUEL BURNING APPLIANCE.
8. ENSURE THAT ALL RELEVANT SAFETY PRECAUTIONS (CORRECT EYE PROTECTION AND PROTECTIVE CLOTHING ETC) ARE TAKEN WHEN INSTALLING, OPERATING AND MAINTAINING THIS FAN.
9. GENERAL GUIDANCE FOR SITING THE FAN SEE "FIG.G". ALWAYS SITE FAN AS HIGH AS POSSIBLE.
10. IF ANY SECTION OF THE DUCTWORK IS POSITIONED HIGHER THAN THE FAN A CONDENSATION TRAP (XCT100) MUST BE FITTED AS CLOSE AS POSSIBLE TO THE FAN.
11. THIS APPLIANCE IS NOT INTENDED FOR USE BY YOUNG CHILDREN OR INFIRM PERSONS WITHOUT SUPERVISION. YOUNG CHILDREN SHOULD BE SUPERVISED TO ENSURE THEY DO NOT PLAY WITH THE APPLIANCE.

For speed and ease of installation, your installation may require some of the Ancillaries indicated in "Ancillary Options".

If installing the fan on a wall (surface mounting)

1. Mark on the wall the centre of the duct hole **A**.
2. Use this centre to cut an opening through the wall 117mm dia. with a slight fall to the exterior.
3. Fit the wall tube (not supplied), and motor into place.

If installing the fan in a wall (flush mounting)

1. Mark on the wall the centre of the duct hole **A**, and drill a pilot hole through both walls.
2. Use the centre to mark a rectangular hole for the inner wall using the dimensions **B**.
3. Cut the rectangular hole through the inner wall.
4. Go outside and cut a 117mm diameter hole in the outer wall using the small hole as the centre.
5. Measure the wall thickness.
6. Cut the wall tube (not supplied), so that it is 64mm less than the wall thickness.

If installing the fan on a ceiling (surface mounting)

This method requires a space above the ceiling, such as a loft or attic, to provide access for 100mm internal diameter ducting.

1. Mark on the ceiling the centre of the duct hole **A**, avoiding ceiling joists and buried cables etc.
2. Cut a 117mm diameter hole using the marked centre.

If installing the fan in a ceiling (flush mounting)

For 100mm diameter ducting:

This method requires a space above the ceiling, such as a loft or attic, to provide access for 100mm internal diameter ducting.

1. Mark a rectangular hole using the dimensions **B**.
2. Cut the hole, avoiding ceiling joists and buried cables etc.

For flat ducting:

- This fan can be installed within a 50mm void without the circular spigot ? (Fig. **B**). Flat ducting adapter kit (FDA) available.

Preparing the fan for installation

1. Remove the front cover • (Fig. **C**).
2. Fit the foam tape **D** supplied around the circular spigot ? (Fig. **B**).
3. Remove the electrical cover • (Fig. **B**). The impeller can be removed to ease access (if required). This is a push on/pull off assembly.

Setting the condensation speed

LVCF20 / LVCF20T Only (Fig. **B**)

4. The correct condensation control speed should be selected to suit the room size in which the fan is to be installed. Slide the switch **X** to the required position. Please note that the fan is factory set to "Position 2".
- | Switch Position | Size / Room Volume (m³) |
|-----------------|-------------------------|
| 1 | Large (34 and above) |
| 2 | Medium (28 – 34) |
| 3 | Small (less than 28) |

Setting the trickle speed

LVCF20 / LVCF20T Only (Fig. **B**)

6. The fan can be set so that it provides constant trickle extraction. Slide the switch **Y** to the required position. Please note that the fan is factory set to "Position 0".
- | Switch Position | Setting |
|-----------------|------------------------|
| 0 | Trickle extraction OFF |
| 1 | Trickle extraction ON |

Setting the time delay start

LVDX200T / LVCF20T Only (Fig. **D**)

8. The fan can be set so that there is a 2-minute delayed start to its operation when used with an external on/off switch. Slide the switch **Z** to the required position. Please note that the fan is factory set to "Position 0".
- | Switch Position | Setting |
|-----------------|----------------------|
| 0 | Time delay start OFF |
| 1 | Time delay start ON |

Mounting the Fan

The fan must not be mounted where ambient temperatures are likely to exceed 40°C.

Mounting the fan on a wall or ceiling (surface mounting)

1. Place the ducting into the hole and align to the required position. If wall mounting, ensure that the ducting slopes down and away from the fan.
2. Mark the positions of the three fixing holes **A** in fan box ? (Fig. **B**).
3. If wall mounting, drill three holes 5.5mm diameter for wall plugs (supplied). If ceiling mounting **B**, use appropriate fasteners (not supplied).
4. Cut out the cable inlet hole, if required, in the surround ? and slit the cable grommet. Slide the surround ? over the fan box ?.
5. Pass the electrical cables into the fan box ? through the rear cable inlet hole and surround, and re-fit the cable grommet. **Ensure that the cable grommet is in place and a tight fit.**
6. Offer the fan box ? up to the wall or ceiling. Ensure the circular spigot ? enters the ducting.
7. Fix the fan box ? to the wall using screws ? or to the ceiling using appropriate fasteners (not supplied).

If mounting the fan in a wall (flush mounting)

The surround ? is not required. Fit the ducting to the circular spigot ?.

If the hole size is as recommended:

1. Assemble the three fan body clamps ? to the fan box ? using screws ?.
2. Slit the cable grommet. Pass the electrical cables into the fan box ? through the cable inlet hole and cable grommet.

Ensure cable grommet is in place and a tight fit.

3. Offer the fan box ? up to the wall.
4. Tighten up the three screws ? until the fan is clamped to the inner wall. The fan body clamps ? will rotate to an automatic stop position. **DO NOT OVERTIGHTEN.**

If the hole size is larger than recommended i.e. larger than the flange on the fan box ? (Mostly related to "retro-fit" installations):

1. The fan body clamps ARE NOT suitable. Construct a wooden frame of INTERNAL dimensions 203 x 233mm. Depth should be at least 50mm. Fit the wooden frame into the internal wall and make good the hole.
2. Offer the fan box ? up to the wall.
3. Screw the fan box ? to the wooden frame using the slots in the flange (screws not supplied).

If mounting the fan in a ceiling (flush mounting)

1. The surround ? is not required.
2. Insert the fan box ? into the hole and mark four positions using the slots in the flange **B**.
3. Remove the fan box ? from ceiling and fit the four ceiling clips (supplied) over the edge of the hole, so that the clips align with the marks on the ceiling **B**.
4. Drill 4 pilot holes into the ceiling through the hole of each clip, ensuring not to damage the clip, and fit the clips ensuring correct alignment.
5. Fit the ducting to the circular spigot ?.
6. Offer the fan box ? up to the ceiling.
7. Slit the cable grommet. Pass the electrical cable into the fan box ? through the front cable inlet hole.

Ensure cable grommet is in place and a tight fit.

8. Using the screws 11 (Fig. **B**), fix the fan box flange to the ceiling clips.

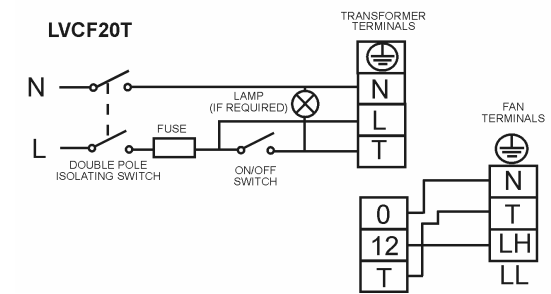
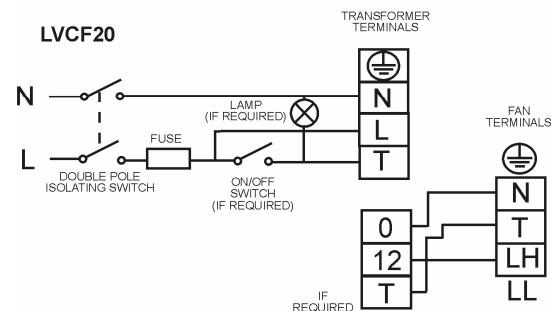
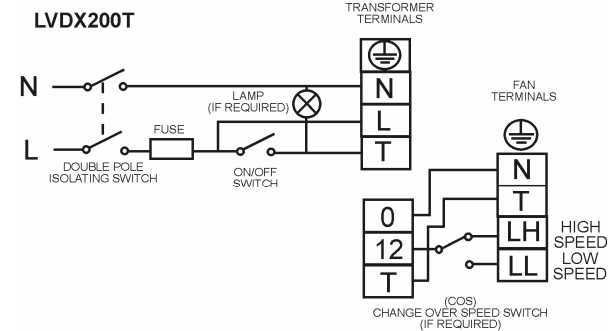
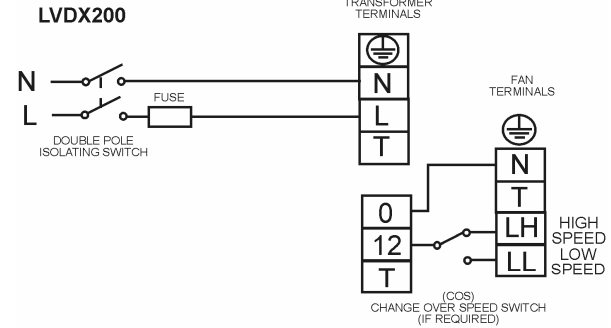
Terminating the ducting

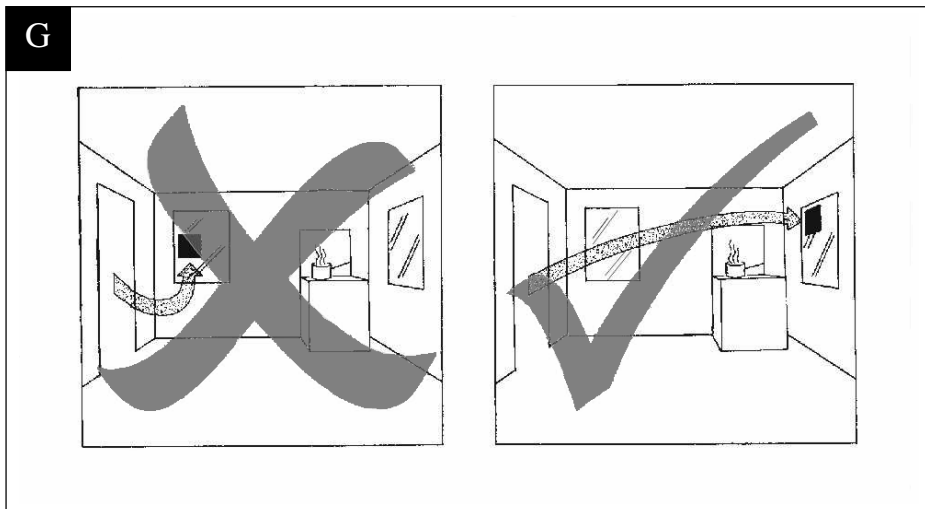
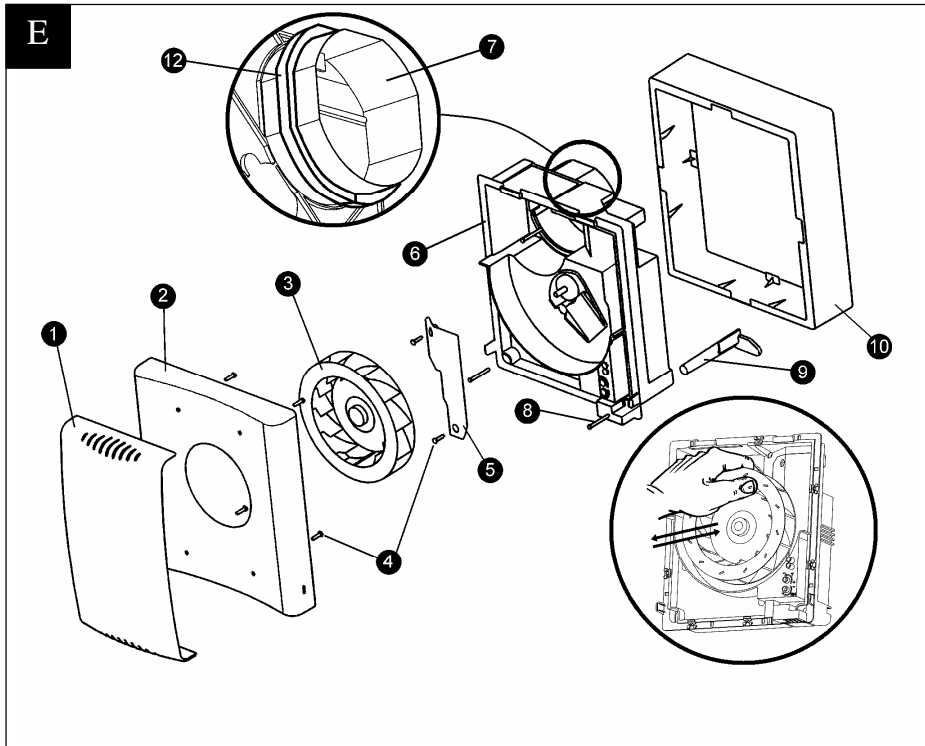
Fit an outer grille (CF20 variants only) to the outer wall. For ceiling mounting, use appropriate ancillaries (not supplied).

Mounting the transformer

The transformer **A** can be fixed directly to the wall. The transformer can be sited in a loft or in a convenient position on a wall (not ceiling). **The transformer must not be covered by loft insulation. For wall mounting the fan must be orientated as shown in **1** to fulfil ingress protection requirements.**

F





The transformer must also not be mounted within 0.6m of a bath or shower cubicle, up to a height of 2.25m.

The transformer must not be mounted where ambient temperatures are likely to exceed 40°C.

Fixing the transformer directly

1. Remove the two screws securing the cover, remove cover.
2. Position the transformer on the wall, and mark the two fixing holes.
3. Drill and plug the two holes and fix the transformer with the screws supplied.

For loft mounting:

The transformer can be fixed to a wooden surface with the two screws supplied.

For fixed surface wiring:

Use the rectangular knockouts on each side (X). These accept 25 x 16mm trunking (not supplied)

For concealed wiring:

Use knockout (Z). Use flexible cable.

When using the side entries with flexible cable, a hole suitable for the cable size must be made centrally in the rectangular section.

Wire the Fan

1. Isolate the electricity supply and remove all fuses.

The terminal block will accept cable up to 1.5mm².

2. A means for disconnection in all poles must be incorporated in the fixed wiring in accordance with the wiring rules.
3. Use suitably rated 3-core or 4-core cable dependent on application.
4. Remove the retaining screws of the terminal cover •, if still in position.
5. Wire the fan as shown in E using the cable clamp provided. Check fan model diagram LVDX200T: "LH" = Live (High Speed) / "LL" = Live (Low Speed)
6. Replace the terminal cover • and fasten the retaining screws.
7. See section on "User adjustments" if you wish to use settings other than those that have been factory set.
8. Refit the front cover • (Fig. C).
9. Connect the cable from the isolating switch to electrical supply wiring, and re-check installation.
10. Refit fuses before turning on electricity supply.
11. For fixed wiring circuits, the protective fuse for the appliance must not exceed 5A.

For Australia Only

LVCF20 – Connection to the supply – flexible 3-core cable with 3 pin plug top for insertion into an approved 10A wall mounted surface switch with at least 3mm clearance between contacts.

ALL OTHERS – Permanently connected to the supply and a remote switch controls operation. They should be directly wired to the operation through an approved 10A wall mounted surface switch with at least 3mm clearance between contacts.

Wire the Transformer

Always wire via the cable clamp.

1. Remove the cable clamps.
2. Wire the transformer as shown in E. Check the fan model to diagram.
3. Ensure all connections are tight.
4. Replace the clamps and two screws. Ensure the cable is firmly retained by the clamp.
5. Replace the transformer cover with the two screws.
6. Switch off the mains electrical supply and remove fuses.
7. Connect the cable from the isolating switch to the electrical supply wiring.
8. For fixed wiring circuits the protective fuse for the appliance must not exceed 5A.

User adjustments

Before making any adjustments, isolate the fan completely from the mains supply, check specification below to see which features apply to your fan.

1. Remove the front cover and replace after adjustment (Fig. D).

LVDX200

There are no user adjustments for the LVDX200 fan.

LVDX200T

1. The timer over-run period can be adjusted between approximately 30 seconds and 20 minutes. Use an electrician's screwdriver and turn screw "T" (Fig. D), clockwise to increase time, anti-clockwise to decrease. (Factory preset to approximately 10 minutes).

LVCF20

1. The humidity setting is adjustable between approximately 50% and 90% relative humidity. Use an electrician's screwdriver, and turn screw "RH" (Fig. D), clockwise to increase the relative humidity setting and anti-clockwise to decrease. (Note: the fan is more sensitive at 50% RH than at 90%).

LVCF20T

1. The timer over-run period can be adjusted between approximately 30 seconds and 20 minutes. Use an electrician's screwdriver and turn screw "T" (Fig. D), clockwise to increase time, anti-clockwise to decrease. (Factory preset to approximately 10 minutes).
2. The humidity setting is adjustable between approximately 50% and 90% relative humidity. Use an electrician's screwdriver, and turn screw "RH" (Fig. D), clockwise to increase the relative humidity setting and anti-clockwise to decrease. (Note: the fan is more sensitive at 50% RH than at 90%).

Using the Fan

LVDX200

Operate the fan using the external On/Off switch. Repeat to switch off. The fan speed is pre-set by the Installer to either high or low speed. Both speeds can be selected when wired through a change over switch Part No. 90108AW.

LVDX200T

Operate the fan using the external on/off switch. Repeat to switch off.

When the switch is turned off, the fan continues to operate for the selected over-run timer period. Top light "I" is lit when the external on/off switch is turned on.

The fan speed is pre-set by the installer to either high or low speed. (If a change over switch has been installed then the user can switch between high speed and low speed.)

Time delay start feature on or off

This is set by the installer to provide a 2-minute time delay start when the fan is switched on using the external on/off switch.

LVCF20 / LVCF20T

Switched Operation

The fan can be wired with a separate on/off switch. Fan operates at condensation speed when switched on. Top light "F" is lit when the separate on/off switch is switched on. When switched off, the fan will continue to operate if the humidity level has not reached that set by adjusting screw "RH". LVCF20T only: When switched off, the fan continues to operate for the adjustable timer over-run period.

Condensation Operation

The fan operates at condensation control speed, when the relative humidity exceeds the set level, and turns off when the humidity drops.

Boost Operation

The integral pull cord switch switches the fan to run at high speed. Bottom light "II" is lit when the fan is

operating at high speed. Note: If the separate on/off switch and integral pull cord are both on, the lights "I" and "II" will both be lit and the fan will run at high speed.

Trickle feature on or off

This is set by the installer to provide continuous background extraction, when the humidity level is below that set by adjusting screw "RH".

LVCF20T only

Time delay stat feature on or off

This is set by the installer to provide a 2-minute time delay start when the fan is switched on using a separate on/off switch.

Cleaning

Before cleaning, isolate the fan completely from the mains supply.

1. Only clean the external surface of the fan, using a damp lint free cloth.
2. Do not use strong detergents, solvents or chemical cleaners.
3. Allow the fan to dry thoroughly before use.
4. Apart from cleaning, no other maintenance is required.

Key

See Diagram E

1. Baffle Plate
2. Front Cover
3. Impeller
4. Fixing Screws
5. Terminal Cover
6. Fan Box
7. Circular Spigot
8. Clamp screws and wall plugs – 3 off
9. Fan body clamps – 3 off
10. Surround
11. Ceiling screws 25mm long - 4 off (Diagram D)
12. Foam Tape

PLEASE LEAVE THIS LEAFLET WITH THE FAN FOR THE BENEFIT OF THE USER

Ancillary Options

For speed and ease of installation, your installation may require some of the Ancillaries listed below:

WD100	Wall Duct
CFWG100	Wall Grille
XC1100	Condensation Trap
DGW/B	Air Replacement Grille
SP100	Spigot Plate
XAA	Air Brick Adaptor
VC10	Vent Cowl
WT10	Termination Ducting Kit
XF/EM	Flat Ducting (Plastic/Metal) (Plastic 234x29 Metal 230x25)
VK10	Wall Vent Kit
FD100	Flexible Ducting
WDC5	Worm Drive Clips
XCMK	Ceiling Mounting Kit
XBP	In-Line Back Draught Shutter
EFT	Easy Fit Termination Kit
GMK	Glass Mounting Adaptor
PDXGF	Grease Filter
FDA	Flat Duct Adaptor Kit

Spare

Listed below are some of the spares available. See back page of this booklet for ordering details:

41756SK	Motor (LVDX200T)
41757SK	Motor (LVCF20/LVCF20T)
41758SK	PCB Assy. (LVDX200T)
41759SK	PCB Assy. (LVCF20)
41760SK	PCB Assy. (LVCF20T)
41769SK	Front Cover c/w Baffle (LVDX200T)
41770SK	Front Cover c/w Baffle (LVCF20 / LVCF20T)
41740SK	Surround Moulding (Entire Range)
41741SK	Pull-Cord Assembly (Entire Range)
41742SK	Impeller (Entire Range)

