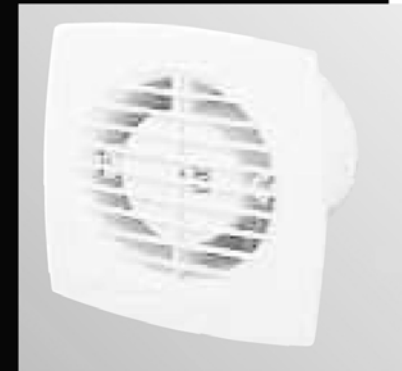


# “RA” - RECESSED AXIAL FANS

## Installation Instructions

- for toilets, bathrooms, utility rooms and kitchens
- 3 options - standard
  - wall
  - ceiling
- 4 models - standard
  - pull cord
  - timer
  - humidity control
- 4 Low Voltage (SELV) models - standard
  - pull cord
  - timer
  - humidity control



## Vectaire Ltd

Lincoln Road, Cressex Business Park, High Wycombe, Bucks, HP12 3RH, UK  
Tel. +44 (0) 1494 522333 - Fax +44 (0) 1494 522337

Ref. 60804460.15.02.2002



## “RA” - RECESSED AXIAL FANS Installation Instructions

**PLEASE READ THE FOLLOWING INSTRUCTIONS VERY CAREFULLY BEFORE INSTALLING THE PRODUCT.**

### THE RANGE

“RA” models - fan only (4”/10 cm sizes models can be installed into single pane or double glazed windows up to 28 mm thick using optional Window Kit)

“RAD” - wall installation models - 4”/10 cm sizes only - complete with telescopic ducting (200-360 mm) and gravity grille for outside wall

“RAC” - ceiling installation models - 4”/10 cm sizes only - complete with 3 m PVC flexible ducting and fixed grille for outside wall.

RA 10/4, RA 12/5, RA 15/6, RAD 10/4, RAC 10/4, RA 10/4 LV - standard

RA 10/4 C, RA 12/5 C, RA 15/6 C, RAD 10/4 C, RA 10/4 CLV - pull cord operated

RA 10/4 T, RA 12/5 T, RA 15/6 T, RAD 10/4 T, RAC 10/4 T, RA 10/4 TLV - with overrun timer - the fan should be operated by a remote switch which can also serve to switch the room light on and off. After the light/fan is switched off the fan will continue to operate for a minimum of 3 minutes (adjustable to a maximum of 15 minutes by turning the trimmer on the PC Board in a clockwise direction).

RA 10/4 HT, RA 12/5 HT, RA 15/6 HT, RAD 10/4 HT, RAC 10/4 HT, RA 10/4 HTLV - with humidistat and timer - the adjustable, electronic humidistat is pre-set so that the fan will operate automatically when the moisture content in the room reaches 70% R.H. The fan will continue to operate until the Relative Humidity falls below the pre-set level and the timer has completed the over-run period. The fan can be operated by a remote switch independently of the humidistat (a neon light indicates that the fan is operating in this mode). (NOTE: the fan will continue to operate for a short period after switching off, ie until the humidistat senses that the relative humidity in the room has fallen beneath the pre-set level and the timer has completed its overrun period.)

**All versions with “LV” are LOW VOLTAGE (SELV). They MUST be installed using the transformer provided.**

All versions with Timer or Humidistat incorporate adjustable trimmers. Before carrying out any adjustment, ALWAYS disconnect the fan from the main supply. The overrun period on the timer can be adjusted upwards by turning the RED trimmer on the PC Board in a clockwise direction. The Humidistat can be adjusted so that it starts to operate at a higher level of relative humidity by turning the BLUE trimmer in a clockwise direction.

FIG 7: RA 10/4 TLV

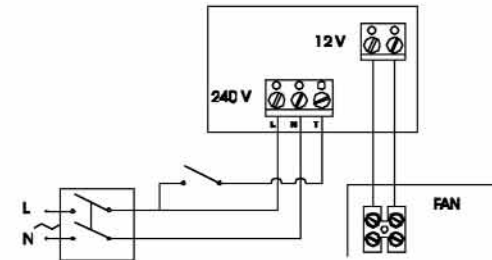
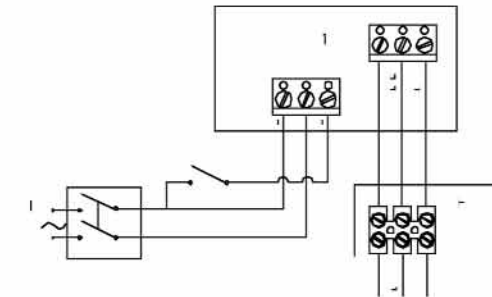


FIG 8: RA 10/4 HTLV



### CLEANING & MAINTENANCE

1. Disconnect mains electrical supply by means of double pole switch.
2. Remove front grille (A) as described above and wash with mild detergent.
3. To clean the inner part of the fan, use a soft brush taking care not to cause any damage or disturb the electrical wiring.

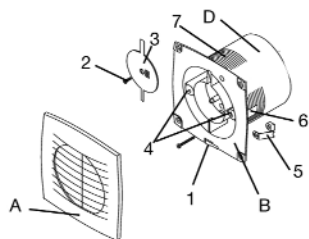
### ACCESSORIES

- Window Kit - necessary for installation of fans into single or double glazed windows up to 28 mm
- Ceiling Ring - for ceiling installation
- Wall Vent Kit - comprises 14” length of flexible duct and gravity grille for outside wall.

3. Check the location of existing wiring for ease of connection.
4. Cut a 4"/10 cm 5"/12 cm or 6"/15 cm hole on the wall, ceiling or window, according to your fan size. Allow space for the ducting, if used.
5. Make the electrical connections as in the following instructions.

#### Fixing Instructions

1. Remove the front cover (A) by pressing the catch (1) with the tip of a screw-driver until it is free. Pull the front cover forward and off main casing (B).
2. **How to install in a wall** - using the quickfit system: loosen the screws (4) until the clips (5) are fully concealed in the housings (6) and the spigot of the fan (D) can be easily fitted into the duct. Tighten the screws until the clips are firmly fixing the spigot of the fan (D) into the duct. If necessary fix the fan to the wall using the screws and plugs via the four holes in the corners of the fan.
3. **How to install in a ceiling** - fix the fan to the ceiling using the optional Ceiling Ring. If the ceiling is of thicker construction use the screws and plugs via the four holes in the corners of the fan.
4. **How to install in a window** - using optional Window Kit - put fan through hole already cut in window and screw the locking ring on to fan spigot securing it firmly. Clip back on the central flange/outer grille to the locking ring ensuring it lines up with the inside part of the fan. N.B.: By following the above instructions, the fan can be installed with the Double Glazing Window Kit after the hole has been cut and sealed by the manufacturer.
5. If using a model with a wall liner or flexible ducting, ensure that the ducting is firmly fixed to the spigot (D) of the fan before proceeding with the electrical connection.
6. If using a model with an outside wall grille, screw the grille to the wall.
7. Connect the incoming wiring supply as indicated in "Wiring Instructions" below and replace the front cover.



#### WIRING INSTRUCTIONS

1. Ensure the mains electrical supply is switched off during the installation of the fixed wiring spur.
2. The fan must be connected to a single phase mains power supply network of the voltage and frequency indicated on the rating label.
3. Loosen the screw (2) until the cover (3) is free and connect as shown in the Wiring Diagrams below.
4. Replace cover (3) and front cover (A).

FIG 1: RA 10/4, RA 12/5, RA 15/6, RAD 10/4, RAC 10/4

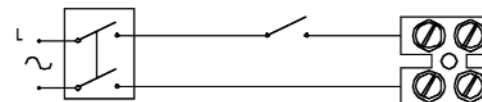


FIG 2: RA 10/4 C, RA 12/5 C, RA 15/6 C, RAD 10/4 C

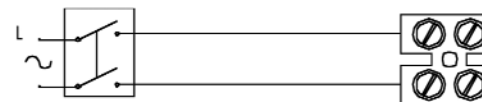
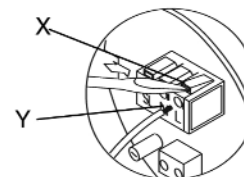
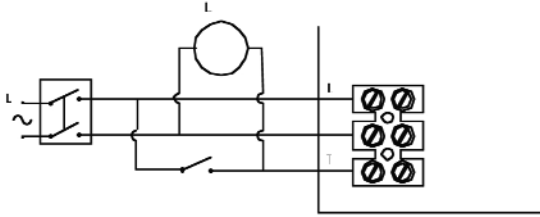


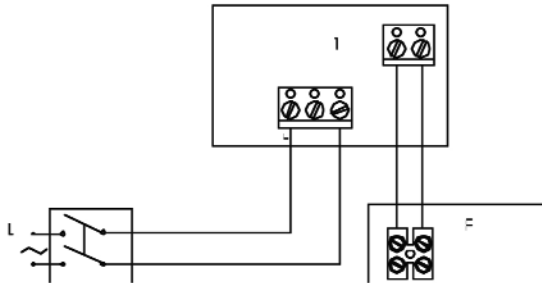
FIG 3: All 10/4T, 12/5T, 15/6T and 10/4HT, 12/5HT, 15/6HT models incorporate a quick fix terminal block. Use the tip of a screwdriver to apply backwards pressure to the slots in the clips (X) on the top of the terminal block and make the connection with the stripped wire into (Y) as shown. NOTE: the terminal block can be signed with "L N T" (as indicated in the wiring diagrams) or with "L N SL". "T" and "SL" are equivalent.



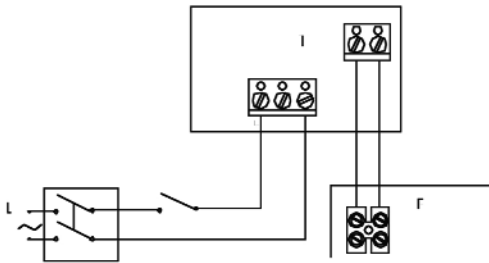
**FIG 4:** RA 10/4 T, RA 12/5 T, RA 15/6 T, RAD 10/4 T, RAC 10/4 T, RA 10/4 HT, RA 12/5 HT, RA 15/6 HT, RAD 10/4 HT, RAC 10/4 HT



**FIG 5:** RA 10/4 CLV



**FIG 6:** RA 10/4 LV



All versions with Humidistat incorporate a controlled temperature set-back allowing the humidistat to take into account variations in the ambient temperature and to avoid the fan switching on unnecessarily.

All the fans (with the exception of the "LV" models) are **splashproof** to standard IPX4. The "LV" fans are rated IP57 enabling them to be safely installed in areas where a splashproof fan does not provide sufficient protection against water ingress.

All fans are extremely quiet in operation.

#### **IMPORTANT - SITING INFORMATION**

- 1 For optimum use your fan should be installed at a minimum height of 2.3 m.
- 2 The fan must not be used in an ambient temperature higher than 40°C.
- 3 Your fan should not be exhausted into a duct which is already used for any other purpose.
- 4 If the fan is to be sited in a room containing a fuel burning appliance which is not of the balanced flue type, the installer must ensure that air replacement is adequate both for the fan and the fuel burning appliance.
- 5 Installation must be carried out by qualified personnel. Incorrect installation can cause damage to people, animals or property for which the manufacturer cannot be held liable.
- 6 If you have any doubts concerning this product, please contact your supplier.

#### **IMPORTANT - ELECTRICAL INFORMATION**

- 1 All electrical connections must comply with current IEE wiring regulations.
- 2 The fan is a fixed appliance, and the electrical supply must therefore be by a fixed, wired and fused (3 amp) spur incorporating a double pole switch with contact openings of at least 3 mm. Use twin conductor cable of at least 1 mm<sup>2</sup> in section.
- 3 Your fan is double insulated and does not require earthing.
- 4 The fans comply with BSEN60335; with the Low Voltage Directive; with EC Directive EMC 89/336 for the Suppression of Radio Interference.
- 5 It is recommended that the installation be carried out by a qualified electrician.
- 6 The printed circuit board in these fans has been protected to make it compatible with the majority of fluorescent fittings available on the market today. However, it is impossible to be aware of all the new products introduced. We suggest therefore that you contact your supplier to establish the compatibility of the fluorescent fitting you intend to use.

#### **INSTALLATION INSTRUCTIONS**

##### **Preparation**

- 1 Remove all packing material and check that your fan has not been damaged in transit.
- 2 Check that your electrical voltage and frequency correspond with those marked on the rating label.

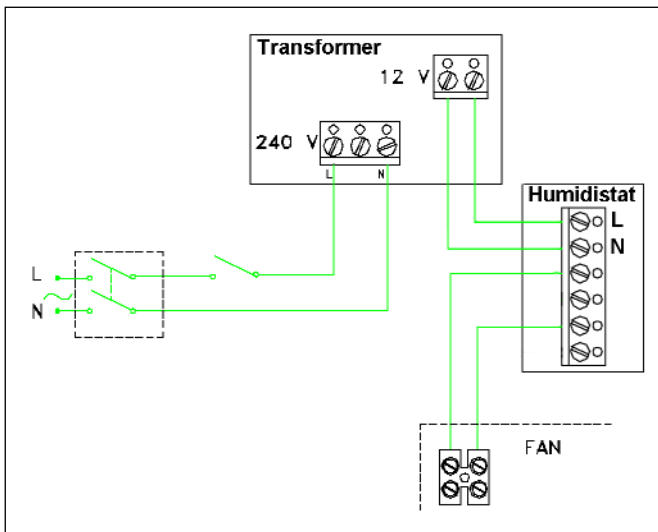
- ii Fit internal clamp section 'd' over the fan spigot 'D' on the fan body, pushing this to the rear part of 'B' of the fan, ensuring that the cable entry hole lines up with the knockout on the fan body.
- iii Offer up this assembly to the hole in the glass from the inside of the room, ensuring that the fixing clip for the front cover is in the 6 o'clock position.
- iv Slide the external clamp section 'c' over the fan spigot from the outside of the room and push gently up to the glass, ensuring that the small fixing screw is on the lower side.
- v Screw the locking ring 'b' onto the fan spigot 'D' and tighten until the assembly is secure against the window. **Do not over-tighten.**
- vi Finally attach the external grille 'a' and secure with the small screw.

**Note:** the internal clamp plate 'd' has 6 optional cable entry points. You should cut out the one you wish to use before assembling the window kit.

**Important:** if the fan is to be installed into double glazing the hole must be cut and sealed by the manufacturer.

#### WIRING INSTRUCTIONS

1. Ensure the mains electrical supply is switched off during the installation of the fixed wiring spur.
2. The fan must be connected to a single phase mains power supply network of the voltage and frequency indicated on the rating label.
3. Loosen the screw (2) until the cover (3) is free and connect as shown in the Wiring Diagram.
4. Replace cover (3) and front cover (A).



#### CLEANING & MAINTENANCE

1. Disconnect mains electrical supply by means of double pole switch.
2. Remove front grille (A) as described above and wash with mild detergent.
3. To clean the inner part of the fan, use a soft brush taking care not to cause any damage or disturb the electrical wiring.

# "RA10/4LV"

## Recessed Axial Fan

### Installation Instructions



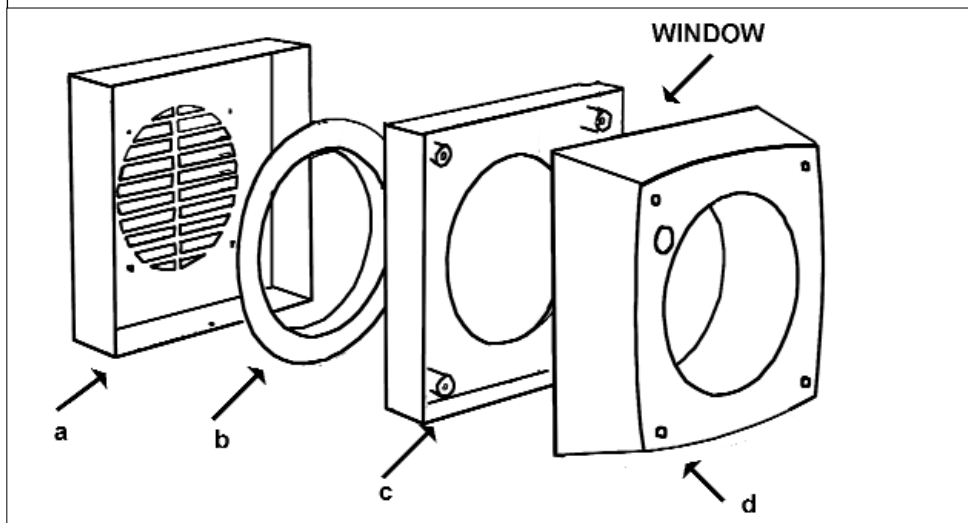
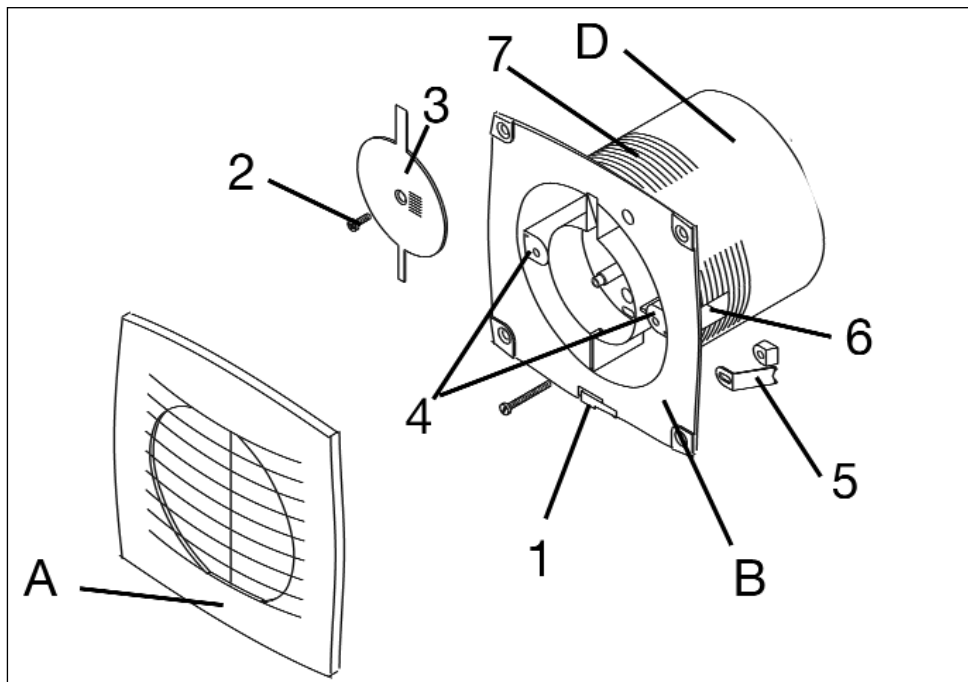
IP57

#### Vectaire Ltd

Lincoln Road, Cressex Business Park, High Wycombe, Bucks, HP12 3RH, UK  
Tel. +44 (0) 1494 522333 - Fax +44 (0) 1494 522337

## "RA10/4LV" - RECESSED AXIAL FANS INSTALLATION and OPERATING INSTRUCTIONS

PLEASE READ THE FOLLOWING INSTRUCTIONS VERY CAREFULLY BEFORE USING THE PRODUCT. THE MANUFACTURER WILL NOT BE HELD RESPONSIBLE AND DECLINES ANY AND ALL LIABILITY FOR DAMAGE CAUSED TO PERSONS OR PROPERTY DUE TO IMPROPER USE WITH REFERENCE TO THE PRECAUTIONS OUTLINED IN THIS MANUAL. **THIS MANUAL MUST ALWAYS BE READILY AVAILABLE.**



### RA10/4LV with DRHLV

4"/10cm axial fan for installation into walls, ceilings or single pane or double glazed windows up to 28mm thick using optional Window Kit.

This is a **LOW VOLTAGE** model and **MUST** be installed using the transformer provided.

This fan works in conjunction with a Dynamic Remote Humidistat, which is also a SELV (Safety Extra Low Voltage) product.

The adjustable, humidistat is pre-set so that the fan will operate automatically when the moisture content in the room reaches 70% R.H. The fan will continue to operate until the Relative Humidity falls below the pre-set level and the timer has completed the over-run period. There is a trimmer inside the humidistat which allows it to operate at a higher or lower level of humidity. The Humidistat can be adjusted so that it starts to operate from a minimum of 40% to a maximum of 100%. All versions with Humidistat incorporate a controlled temperature set-back allowing the humidistat to take into account variations in the ambient temperature and to avoid the fan switching on unnecessarily. This reduces fan operation at night.

### IMPORTANT - SITING INFORMATION

1. For optimum use your fan should be installed at a minimum height of 2.3 m.
2. The fan must not be used in an ambient temperature higher than 40°C.
3. Your fan should not be exhausted into a duct which is already used for any other purpose.
4. An adequate supply of fresh air must be provided if the fan is to be fitted in a room containing a fuel burning appliance which is not of the balanced flue type.
5. Installation must be carried out by qualified personnel. Incorrect installation can cause damage to people, animals or property for which the manufacturer cannot be held liable.
6. If you have any doubts concerning this product, please contact your supplier.

### IMPORTANT - ELECTRICAL INFORMATION

1. All electrical connections must comply with current BS7671 wiring regulations.
2. The fan is a fixed appliance, and the electrical supply must therefore be by a fixed wired and fused (3 amp) spur incorporating a double pole switch with contact openings of at least 3 mm. Use twin conductor cable of at least 1mm in section.
3. Your fan is double insulated and does not require earthing.
4. The fan complies with BSEN60335; with the Low Voltage Directive; with EC Directive EMC 89/336 for the Suppression of Radio Interference.
5. It is recommended that the installation be carried out by a qualified electrician.

### INSTALLATION INSTRUCTIONS

#### Preparation

1. Remove all packing material and check that your fan has not been damaged in transit.
2. Check that your electrical voltage and frequency correspond with those marked on the transformer rating label.
3. Check the location of existing wiring for ease of connection.
4. Cut a 4"/10 cm hole (plus thickness of ducting to be used, when necessary) on the wall, ceiling or window.
5. Make the electrical connections as in the following instructions.

#### Fixing Instructions

1. Remove the front cover (A) by pressing the catch (1) with the tip of a screw-driver until it is free. Pull the front cover forward and off main casing (B). Note that the fixing clip is at the 6 o'clock position.
2. How to install in a window – using optional Window Kit.
  - i. Separate the sections of the window kit - these will consist of:
    - a - external grille
    - b - circular fixing ring
    - c - external clamp section
    - d - tapered internal clamp section