Figure 3.1. - Roof ventilator short-circuiting of air
Ensure the roof ventilator base has an airtight seal.

**X Don’t**
If the unit does not have an airtight seal between the base and the upstand, short-circuiting of outside air can occur thereby reducing the amount of air being exhausted from the building.

**✓ Do**
An airtight seal between the upstand and fan base prevents short-circuiting of outside air ensuring the fan is exhausting from the designated space.

Figure 3.2. - Mounting of Roof Units to ductwork

**X Don’t**
Don’t connect to the ‘eye’ of the base as this increases pressure losses on the intake.

**✓ Do**
Size inlet duct to fit roof unit overflashing.
Figure 3.3. - Maximum Mounting Angle for Roof Units

**Do**

- Do ensure the upstand, and therefore fan, is at an angle less than 30°.
- Some fans may require an angle less than 30° or a completely horizontal upstand - refer to the relevant product page.

**Don’t**

- Don’t mount the fan on an upstand or curb with an angle greater than 30°.

Figure 3.4. - Backdraft shutters

Butterfly back-draft shutters on a roof unit should be installed so gravitational effect on each leaf is the same.

**Don’t**

- Don’t have shutters at 90° to roof fall. The lower shutter must overcome a greater gravitational effect for even air flow. Also the top damper may go over top dead centre and not close.

**Do**

- Each leaf has the same gravitational effect when shutters are parallel with roof fall.
3.0 ROOF UNITS (Cont.)

Figure 3.5. - Prevailing winds
Mechanical roof ventilator units perform best if influence of prevailing wind is minimal.

X Don’t

Unit above ridge is exposed to crosswinds. Exhaust capacity may be reduced due to back-pressure effects.

✓ Do

Roof unit relatively sheltered from prevailing winds suffers less from back-pressure effects.