b) providing high and low level *trickle ventilators* located on the external wall (see Paragraph 1.3.9 for *trickle ventilators*), sized according to the combined floor area, and

c) providing an area of *permanent opening* between the two spaces of no less than 5% of the combined floor area of the *habitable spaces*, and

d) having a combined distance of the *habitable spaces*, measured between the external wall and furthest opposing wall, of less than 6 metres.

Passive stack ventilators

1.3.7 *Passive stack ventilators* consist of a vertical ventilation shaft which uses air buoyancy to ventilate spaces. *Passive stack ventilators* shall:

a) have no connections from spaces other than kitchens connecting to the kitchen *passive stack ventilator*, and

b) not be used in *household units* in combination with mechanical ventilation systems, and

c) be designed in accordance with AS/NZS 4740 Section 3, and

d) be designed to achieve extract airflow rates specified in AS 1668.2 Table B1, using the following parameters:

Air Density	ρ = 1.2 kg/m³
Gravitational Constant	g = 9.81 m/s²
Temperature Differential	ΔT = 3K
Outside Ambient Temperature	T = 300K
Wind Velocity	V_t = 0m/s, and

e) be integrated into the *building* without decreasing the performance of the *building* envelope and the partition walls of the *building* for external moisture, fire and acoustics, and

f) be capable of drawing air through *trickle ventilators* or *permanent openings* from the room or adjacent spaces. The *permanent openings* to the surrounding spaces and *trickle ventilators* to the outside shall have an *equivalent aerodynamic area* greater than the *equivalent aerodynamic area* of the *passive stack ventilator*. This is to ensure air can be drawn through the *passive stack ventilator* effectively.

g) when extracting from kitchens:

i) maintain the *fire separation* of the fire separated shaft with a pressure-forming intumescent fire collar around a collapsible duct, and

ii) have ducting, downstream of the fire collar, made of non-combustible material, and

iii) have connections that contain no more than two bends and do not have any duct that is more than 45° to the vertical, and

Figure 1: Fire Shunt System
Paragraph 1.3.7