

Learn why Close Comfort is such an improvement over old-style portable ACs



Close Comfort air conditioner



Single hose portable air conditioner

- 55 cm high x 29 cm x 39 cm, 17.5 kg, small and easy to carry
- Can be used anywhere, unlimited mobility
- 300 Watts electrical power, 800 – 1,100 Watts cooling
- Big reduction in CO₂ emissions, 0.25 tonnes in three years
- All cooling directed around user location
- Instant localised cooling
- Noise 47 – 54 dB, quiet like an electric fan
- Purchase price \$649, monthly running cost \$20-30, three year total cost \$800
- Windows and doors open
- Optional bed tent intensifies cooling, provides chemical-free mosquito protection

- 78 cm high x 38 cm x 46 cm, 32 kg, hard to move
- Has to be near window, wheels provide some mobility
- 1,000 – 2,400 Watts electrical power, 2,900 – 7,000 Watts cooling
- Much higher CO₂ emissions, 1 – 2 tonnes in three years
- Cooling wasted on recirculated outside air and cooling walls
- Part of room may feel cooler after several minutes
- Noise 55 – 63 dB, noisy, can be hard to hear what people are saying
- Purchase price \$350 – \$990, monthly running cost \$120 - \$250 (Sydney), total three year cost \$1,000 - \$2,000
- Windows and doors closed

Why buy a machine that sucks more air than it cools and sucks in hot air from the roof space and outside?

A great idea: eliminate the hose!

Traditional portable air conditioners come with a window kit: a large hose and a frame to install it in a window. The kit can be fiddly and difficult to install with many windows.

The hose seems to be there to ensure the hot air from the air conditioner goes outside and does not warm the room. But looks can be deceptive. Here's what the hose *actually* does...

A portable room air conditioner with an exhaust hose actually sucks out more air than it cools. It sucks in hot air from the roof space and outside through all the cracks and openings in the room.

Here is the detailed explanation.

A portable air conditioner with a hot air exhaust pipe typically pumps out about 200 cubic metres of cool air every hour at its outlet A. This air mixes with room air and much of it finds its way to the air inlet B where the machine sucks in about 500 cubic metres per hour of room air. Some of that gets cooled again, and the rest is heated and exhausted through the pipe at C. To make up for the air exhausted through the pipe, about 300 cubic metres per hour of warm air from outside re-enters the room through cracks and gaps in the roof and window openings at D, heating the room, along with more heat conducted through the walls and roof, E.

Most of the energy is consumed in this endless cycle, also cooling walls and the floor, and only a small proportion of the electric power used actually results in room air cooling.

When you see it explained like this, doesn't it look like a crazy idea?

A split air conditioner provides more effective cooling. However, even that has disadvantages. A split air conditioner does not provide any ventilation, so carbon dioxide and volatile organic compounds accumulate in the room, which can make the room air unhealthy in a short time, depending on the number of people and air leakage past doors and windows.

Close Comfort provides a much healthier energy-saving alternative with fresh air circulating through open windows. Close Comfort does not try and cool the walls, ceiling and floor, saving most of the energy used by a room air conditioner. Instead, Close Comfort directs all its cooling where you need it: on your face and upper body, making you *feel* comfortable, using much less energy.

