

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

Close Comfort (left) creates a cool microclimate within the room.

A single hose portable (right) is supposed to cool the whole room with a hose attached to the window. Actually it sucks out more air than it cools and replaces it with hot, humid air from the roof space and outside. As a result, there is only slight room cooling and it uses four or more times as much energy.



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| <ul style="list-style-type: none"><li>• <b>Small, easy to move</b><br/>55 cm high x 29 cm x 39 cm, 17.5 kg, small and easy to carry</li><li>• <b>Unlimited mobility</b><br/>Can be used anywhere, unlimited mobility. Can easily be moved to another place when cooling is desired. Can even be used outside in sheltered places.</li><li>• <b>15-25% of the energy</b><br/>300 Watts electrical, 800 – 1,100 Watts cooling, 0.25 tonnes CO<sub>2</sub> in 3 years</li><li>• <b>Big reduction in CO<sub>2</sub> emissions</b><br/>0.25 tonnes in three years, equivalent to 110 litres petrol</li><li>• <b>Focused cooling at user location</b></li><li>• <b>Instant localised cooling</b></li><li>• <b>Quiet like a fan</b><br/>47 – 54 dB</li></ul> | <ul style="list-style-type: none"><li>• <b>Heavy to move</b><br/>78 cm high x 38 cm x 46 cm, 32 kg</li><li>• <b>Almost immobile</b><br/>Has to be installed near window. While the wheels provide some mobility, you need one in every room where cooling is desired.</li><li>• <b>4-8 times energy consumption</b><br/>1,000 – 2,400 Watts electrical, 2,900 – 7,000 Watts cooling, 1-2 tonnes CO<sub>2</sub> in 3 years</li><li>• <b>Much higher CO<sub>2</sub> emissions</b><br/>1 – 2 tonnes in three years, equivalent to 450 – 900 litres petrol</li><li>• <b>Cooling wasted on recirculated outside air and cooling walls</b></li><li>• <b>Part of room may feel cooler after several minutes</b></li><li>• <b>Noisy, can be hard to hear what people are saying</b><br/>55 – 63 dB</li></ul> |
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- **Lowest cost air conditioning solution, three year cost \$820**

Purchase price \$649, monthly running cost \$25 - \$30

- **Fresh air: windows and doors open**

- **Best solution for bedrooms**

In moderately hot weather, Close Comfort can be used on its own (as shown) or with a normal mosquito net. We recommend the optional Igloo bed tent in really hot conditions with indoor temperatures consistently over 28°C at night. The tent amplifies cooling over the bed and can also reduce energy consumption by about 30-40% which is ideal for battery and off-grid applications.

- **Total three year cost \$1,000 - \$2,000**

Purchase price \$350 – \$990, monthly running cost \$120 - \$250 (Sydney)

- **Windows and doors closed**

- **Unsuitable for bedroom**

Old style portables are noisy and have relatively low cooling performance compared with a split AC using the same power. Also humidity builds up in room with time.

## Frequently Asked Questions

Since Close Comfort has no exhaust hose, surely the warm air must heat the room?

Close Comfort releases only 300 Watts, similar to three people in the room. Close Comfort directs its warm air exhaust to the ceiling where the heat is absorbed, just like the warmth from your fridge which you don't notice (warm air rises naturally). Any excess finds its way out of open windows or doors.

What size room does Close Comfort cool?

Close Comfort works in any room, even outside in sheltered places. It creates a micro-climate, a cool zone, up to 4-5 square metres.

When should I consider using the optional bed tent?

If the temperature inside your bedroom regularly exceeds 28°C at night, the Igloo tent provides extra cooling to keep you comfortable, and also provides chemical-free mosquito protection. The Igloo tent also reduces the air conditioner power consumption to about 180 Watts average, a valuable saving for off-grid battery installations. The Igloo tent also provides an ideal place for your baby or small child to be cool and comfortable during the day time.

How far away can Close Comfort be effective?

We recommend keeping Close Comfort near you, no more than 1 or 2 metres away. If you need it further away, or want to use while you are standing, we recommend our Cool Focus accessory which extends the range and optionally directs the cool air flow at a higher angle.

Can it warm me in winter?

No. Close Comfort is designed for energy-efficient cooling in summer. An electric throw rug is an extremely energy-efficient option for winter warmth.

Is there still a reason for using a split AC?

If you need to cool a crowded room for 2 – 3 hours, a split AC is effective. Split ACs provide no fresh air exchange and the doors and windows need to be closed to retain the cool air so carbon dioxide, volatile organic compounds and body odours build up with time. Prolonged use of split ACs for sleeping can cause dry itchy eyes and skin irritation from dry air and the running cost can be very high. Expect to pay \$1,500 or more to install it and \$120 - \$250 a month for electricity if you use it for sleeping or during the day.

## 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 much more effective cooling *for the whole room*. 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 after a couple of hours, 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.

Best of all, Close Comfort causes far less greenhouse emissions than normal room air conditioners, from manufacture all the way to disposal at the end of its life. Close Comfort is the future of air conditioning – economic, convenient, versatile, energy-efficient and far better for the environment.

