

— HOW TO —

# Choose the Right Air Conditioner for Your Sydney Home



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**ALPHA & OMEGA**  
Air Conditioning Services

# Introduction

Considering that Australia has some of the most severe heat waves in the world, it doesn't come as a surprise that 4.6 million Australians have at least one air conditioning unit. That's double since the late 1990s! At the same time, Australia also has cold winters, so these appliances are essential all year round. But did you know that to get optimal performance from your air conditioning you have to choose a unit that matches your room size and has the right energy rating? Otherwise, your brand-new AC will fail to maintain a comfortable room temperature, cause high energy bills, and even malfunction sooner than normal.

If you moved into a new house in Sydney or plan on upgrading your HVAC appliances, these tips will help you choose the right air conditioning for your Sydney home.

## Types of Air Conditioners & Installation Prices

Sydney homes are not identical. Depending on factors such as size, design, humidity, energy requirements and your health, you need to analyse the features of every type of AC unit and choose the one that matches your needs and budget. Of course, price is a major factor too because you want to get the best value possible for your money.

Air conditioners fall into four categories, with prices ranging from \$5,500 to \$100,000+.



# 01

## Ducted Air Conditioning

Ducted air conditioning includes a central appliance in the roof that cools air and then distributes it in all the rooms of the house through a series of ducts connected to it. The biggest benefit of ducted air conditioning is that it offers the best way to heat/cool the whole house with minimal impact on the look of your home. There is usually one controller that senses the temperature for the system and you have the ability to zone the system into different parts of the house. There are 3rd party systems that take the zone to another level where you can control the temperature in each zone

Some contractors will size the system to a zone of the house and not to the size of the whole house. This is done to keep costs down as it requires a smaller system. This is not recommended in most situations especially when you have a family as a lot of times kids will be in their bedrooms during the day and the adults in the living area.

Ducted air conditioning is easy to conceal within the ceiling, so you can adapt it to any interior design style. Another major benefit of ducted air conditioning is that it helps you save on energy bills by zoning off the rooms that no one uses.

**INDUSTRY STANDARD PRICING:**

**\$5,500 - \$30,000**



# 02

## Split System Air Conditioning

Split system air conditioning is one of the most popular options in Australian homes. They consist of two units: one installed on a wall inside the house, and one on the outside. Because the standalone compressor sits on the outside, split system air conditioning is quieter. Additionally, they usually come with extra features such as Wi-Fi connectivity, motion sensors, and ionisers that increase air quality.

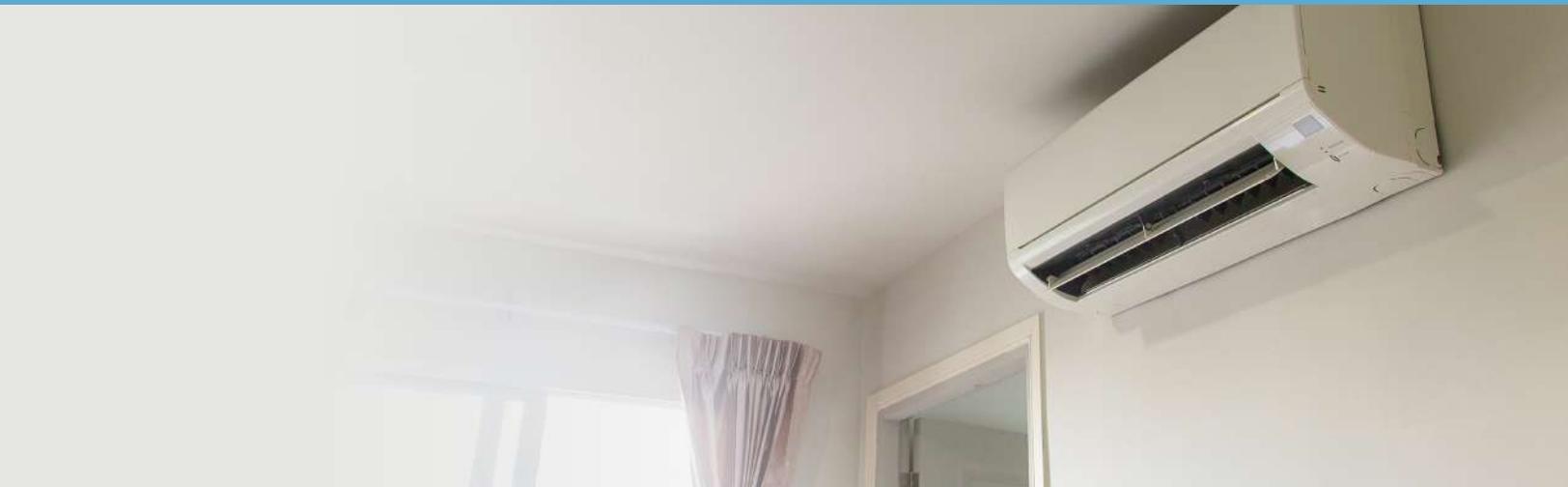
**There are two types of split air conditioning systems:**

### **Multi-split systems**

which use one main compressor and up to five air outlets, which allow you to cool multiple rooms at a time. These units range from \$4,500 to \$20,000.

### **Reverse cycle split systems**

which not only cool your home in summer, but also heat it in winter by absorbing heat from the outdoor air. Reverse cycle air conditioning can be found in almost half of Australian homes, and prices range from \$1,800 to \$5,000.



# 03

## Bulkhead Air Conditioning

Bulkhead air conditioning systems are similar to the ducted ones, but they were designed for homes with space constraints. If your home has a flatter roof, doesn't meet the space requirements for a ducted AC, or you want a unit that's exceptionally discreet, then bulkhead air conditioning can be an excellent alternative.

**INDUSTRY STANDARD PRICING:**

**\$3,000 - \$12,000**



# 04

## VRV Air Conditioning Systems

Also known as Variable Refrigerant Flow (VRF), Variable Refrigerant Volume (VRV) air conditioning is an HVAC technology invented by Daikin in 1982. VRV air conditioning systems alternate the refrigerant volume to match the requirements of your home. This way, they only cool certain areas when required, offering energy savings of up to 55%.

**INDUSTRY STANDARD PRICING:**

**\$10,000 - \$100,000+**

# Size & Power: Matching the Type of Air Conditioner to Your Room Size

Before buying an AC unit, measure the length and width of the room where it will be installed. Then, use these measurements to calculate the capacity needed, which is usually measured in kilowatts.

No matter how high-end the air conditioning system, it needs to be matched to your room size. If the capacity is too high for your room size, the unit will waste energy. It can also add more stress on the compressor, making it burn out quicker. If the AC is too small, it will have higher running costs, as it is working harder for longer periods and you won't get the effect required..

When calculating the square area, we add the hallways too.



Here is a general guide to help you match the room size with the right type of air conditioning system:

Room size (sq. metres)	Type	Capacity
Small (<20)	split type, bulkhead	2kw - 3.5kw
Medium (20-40)	split type, bulkhead	5kw
Large (>40)	split type, bulkhead	6kw - 9.4kw
Multiple rooms	ducted, multi-split, VRV	7kw - 12kw
Whole House	ducted, multi-split, VRV	10kw - 25kw+



# Room Sizes to Kw Size

## SPLIT SYSTEMS

Room size (square metres)	Capacity (kw)
0 - 16	2
16 - 20	2.5
20-27	3.5
27- 39	4.6 (compact, will fit a smaller space)
27-39	5
39-47	6
47-55	7.1
55-66	8.5
66-74	9.4

A room larger than 74 square metres can be air conditioned by using several split systems or a ducted system.

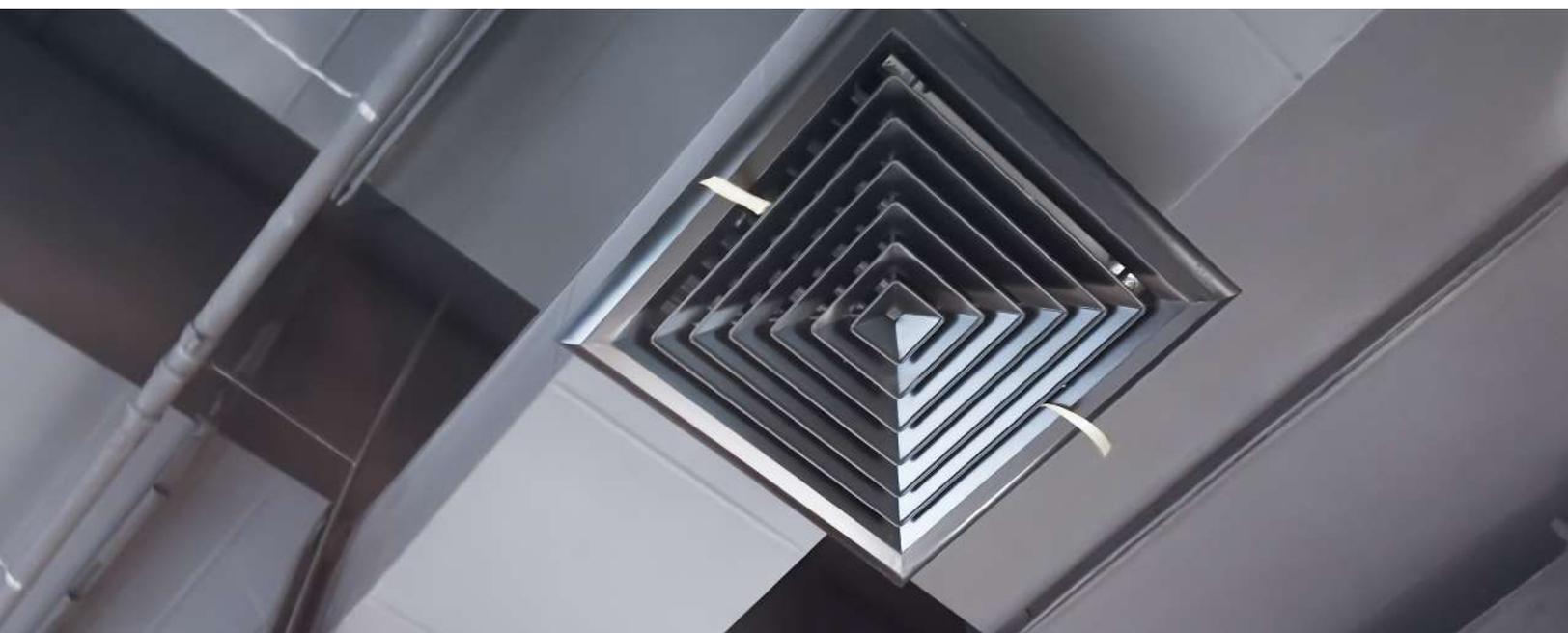
These figures are all based on standard heat load conditions (125 watts of power for every square metre). To make sure your chosen air conditioning unit matches your room size, contact a professional air conditioning installer.

## ROOM SIZES TO KW SIZE

## DUCTED SYSTEMS

Room size (square metres)	Capacity (kw)
0-60	7.1
60-85	10
85-100	12.5
100-112	14
112-125	16
125-140	18, three-phase
140-160	20, three-phase
160-200	25, three-phase

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# How much will the air conditioner cost to run?

This is a question that many homeowners would like to know the answer to, but it's impossible to give an exact number because there are too many factors involved. The size of the system, the amount of time it's in use, outdoor and indoor temperatures, are just some of the things that can influence the running cost of an air conditioning.

On average, a split system can be as low as \$30 a quarter and a ducted system could be \$80 a quarter.

## THE DIFFERENT TYPES OF ENERGY RATINGS

According to a recent study , 48% of Australian homeowners who purchased an air conditioner in the last two years rated energy efficiency as the top factor when deciding between brands. Meanwhile, 36% focused on cost, and only 5% cited design as the decisive factor.



Energy ratings are an indicator of energy efficiency, depending on how much energy they require to run. Knowing the energy rating of an AC unit can help you get an idea of how much that unit will cost to run, based on average usage per year.

There are two values included on the energy star label:

**01**

Estimated energy consumption over 12 months. According to the new energy star labels, air conditioning systems can be split into three zones, as in hotter climates, more energy will be consumed.

## 02 — The star rating. This rates how efficiently the appliance uses energy

In the case of reverse recycle system units, you'll see two labels: the red one shows how energy-efficient the unit is for heating, while the blue one shows how energy-efficient it is for cooling.



### IMPORTANT NOTE:

The actual energy consumption depends on how you install and use the appliance. To reduce energy bills in the long run, keep in mind these additional factors:

- ❖ Consider adding insulation to your home if it hasn't already. It will not eliminate the need for an air conditioner, but it will prevent heat exchange, maintaining a stable temperature indoors and putting less strain on the AC.
- ❖ Clean the filters regularly. Dirty filters spread dust, reduce air quality, and force the system to work harder, thus consuming more power.
- ❖ Program your air conditioner to work only when you're at home and use energy saving mode to avoid unnecessary use. If these features are available, set timers or program it to turn on when you get home.
- ❖ Keep the windows and doors closed while the air conditioner is running.
- ❖ Invest in regular maintenance and servicing to expand the unit's lifespan and prevent loss of efficiency.

## ADDITIONAL FEATURES TO CONSIDER

In addition to cooling your home, modern air conditioning systems come with many exciting features that boost indoor comfort and cater to your lifestyle. Here are a few to consider:

### ASTHMA FILTERS.

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If someone in your family has asthma, Daikin's sensitive asthma smart choice filters are an excellent option because they trap particles such as smoke, pollen, and other allergens. Daikin is the only brand approved by the Asthma Foundation.

### HUMIDIFIERS.

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If you want to sleep with the air conditioner on or you often experience dry skin, throat, and eyes when sitting in an air-conditioned room for extended periods, you can choose a unit with automatic moisture control.

### HOME AUTOMATION.

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Some AC units support integration with Wi-Fi modules. This way, you can activate them by using Google Assistant, Amazon Alexa, or IFTTT, as well as set automation rules for different situations, such as when arriving at home or going to bed.

### ZONE OR AIRTOUCH ZONING SYSTEMS.

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Available for ducted systems, these let you adjust the temperature for each zone, so that you can zone every room in a much better way. These systems have a touch screen controller, and you can integrate them with Google Assistant, Amazon Alexa, and home automation hubs.

### BETTER RATED DUCT INSULATION.

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Can make ducted systems perform more efficiently. R0.6 is the standard, but we use R1 and it can go higher.

## ENVIROTEMP

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improves the efficiency of older units and prevents new units from losing their efficiency over their lifetime. For units older than six years, we have observed a 50% improvement in performance.

## RUST PROOFING.

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If your Sydney home is close to the ocean, rust proofing can protect the AC unit and prevent long-term damage.

## AIR CONDITIONER INSTALLATION – IMPORTANT CONSIDERATIONS

### Safety:

Adequate installation of your air conditioning unit is important not only for its energy efficiency and life span, but also for your own safety. For these reasons, you should never attempt to install an air conditioner yourself. Australian regulations require installers to have an ARC license, as they are working with ozone-depleting gases. Attempting to install an AC unit yourself can result in appliance malfunction or serious accidents. Our technicians are qualified or are training to be air conditioner installers. Leave it to the professionals that have an ARC license.



### IMPORTANT!

Not all air conditioning systems can be installed in all spaces. Each type of AC system comes with specific requirements that must be met if you want to enjoy maximum performance and energy efficiency.

## Placement

### **SPLIT SYSTEMS**

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Need an inside wall with easy outdoor access. Installers have to run pipes and add a condensate drain leading directly to the outside. Alternatively, a pump can be used to drain the water to the drainage point, but this option requires regular maintenance. In the past, these drains made a lot of noise, but modern drains are quieter.

### **FLOOR SPLITS**

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Can be installed when there is no space available on the walls. Because this option is more uncommon, prices tend to be higher.

### **MULTI SPLITS**

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Are used when there is limited space for multiple outdoor units. However, you still need to get access from each indoor unit to the outdoor unit. Again, the cost of multi splits is higher than that of individual splits, and if there is an issue with the outdoor unit, then you lose all the indoor units.

### **DUCTED SYSTEMS**

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Are the best solution if you want to have air conditioning in the entire house. However, good ceiling space is mandatory if you want to install a ducted system. Truss roofs can create issues for ducted systems as they usually have more timber and don't leave enough room to fit in the fan coil. In this case, the roof could be re-designed but would involve a structural engineer, and the cost would outweigh the outcome. If you have a flat roof, an underfloor system can be an option, but only if there is space and access. Underfloor systems are 10% more expensive than a standard ceiling installed ducted.

Flat roof houses present a lot of challenges for designing a whole house air conditioning system, but these can be overcome by using splits, multi-splits, or VRV systems. With multi-splits or VRV systems, we can offer multiple different indoor units that can include wall splits, bulkhead units or mini ducted systems. These units can be installed in the top of cabinets, dropped ceilings or bulkheads purposely built to accommodate these systems.

Apartment installations can also be more challenging, especially when you are dealing with shared walls and small balconies, which limit the place where you can install the outdoor unit. Likewise, if the unit will be close to the neighbour's windows and doors, you will also need to take noise levels into account and make sure the unit respects the regulations in your area.

## General placement guidelines

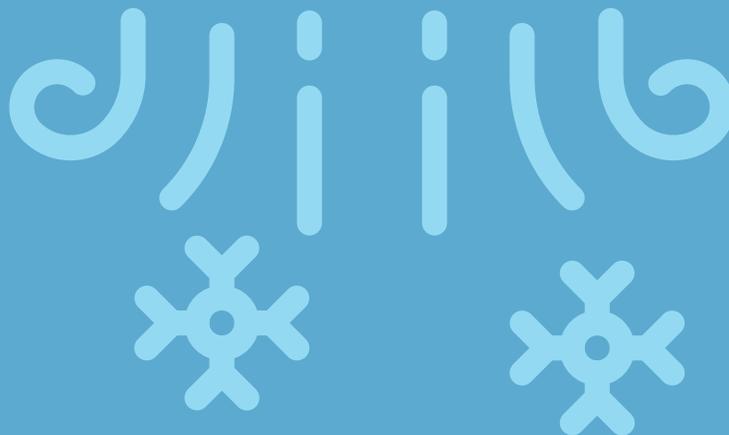
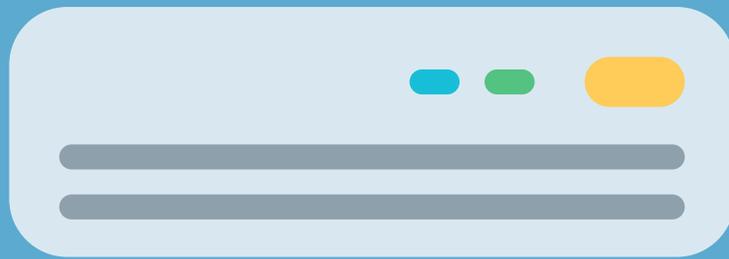
- ❖ Outdoor units can be installed on brackets on walls or placed on roofs. They are designed to withstand the harsh Australian conditions. The only real threat is salt air. Any units installed directly near saltwater must be maintained frequently with rust protection.
- ❖ Make sure there is adequate airflow in front of the unit. If they are boxed in, issues will arise when operating in hot conditions.
- ❖ If your room doesn't follow the traditional rectangle shape plan and has an uncommon design, always consult an expert before choosing where to place the air conditioner.

In most cases, using an expert is the best way to ensure you're designing the best system for your house.

# Need help deciding on your Air Conditioning System?

Call Alpha & Omega Air today

 1300 156 466



**ALPHA & OMEGA**  
Air Conditioning Services