

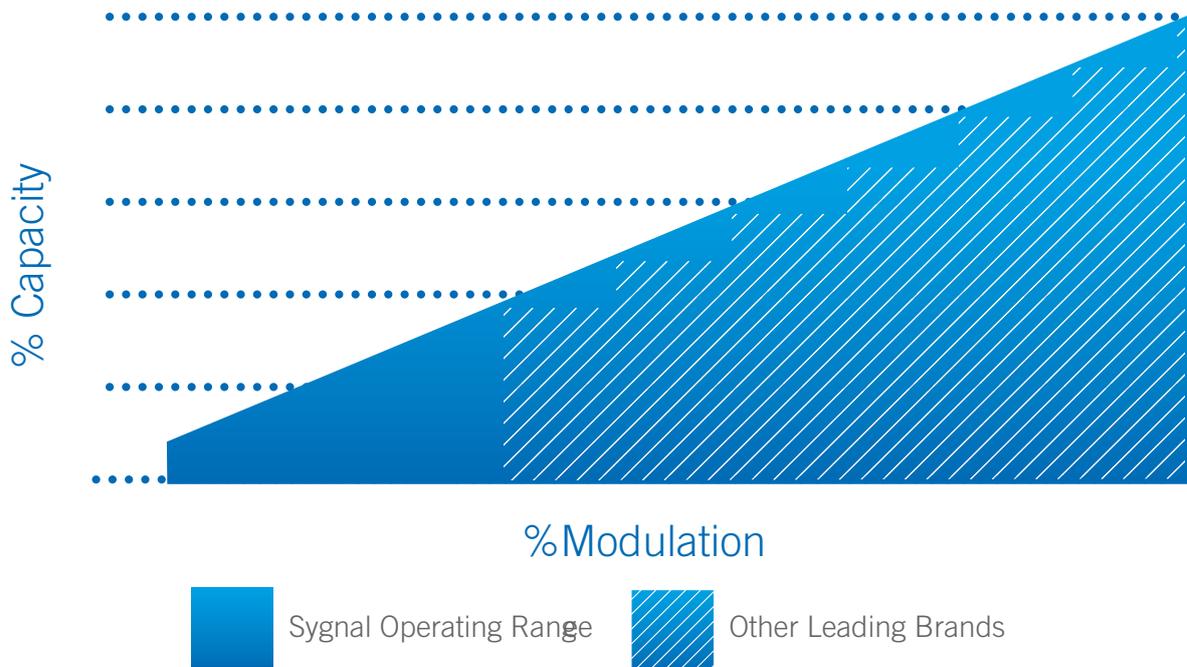
CLIMATE CONTROL OPTIONS

FOR THE HOME

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www.signal.com.au



SYGNAL USES THE LATEST CAPACITY CONTROL TECHNOLOGIES TO EXTEND THE OPERATING ENVELOPE OF OUR RESIDENTIAL DUCTED SYSTEMS TO DELIVER AN 80% INCREASE IN MODULATION.



LEADERS IN TEMPERATURE CONTROL

Sygnal have been the leaders in residential multi-zone temperature control systems since the mid 1990's.

Our 2015 product line-up represents the most sophisticated series of residential concealed ducted air-conditioning systems ever released.

Sygnal's Connect control system sets a comfort target for each room, automatically manages airflow, and when combined with Four Point Modulation technology reduces energy use by eliminating over processing.

Sygnal is the only manufacturer to utilise Four Point Modulation. Other leading brands modulate the refrigerant flow only, during low load periods large quantities of processed air are bypassed through living areas to avoid system malfunction. This approach is low in capital cost but often results in the temperature of the indoor coil rising above the dew point of the

air, resulting in a breakdown of the systems ability to remove moisture and control humidity within the home.

At the core of every Sygnal system is a microprocessor driven control network providing a simple but informative interface for the home and advanced technical information for air-conditioning professionals.

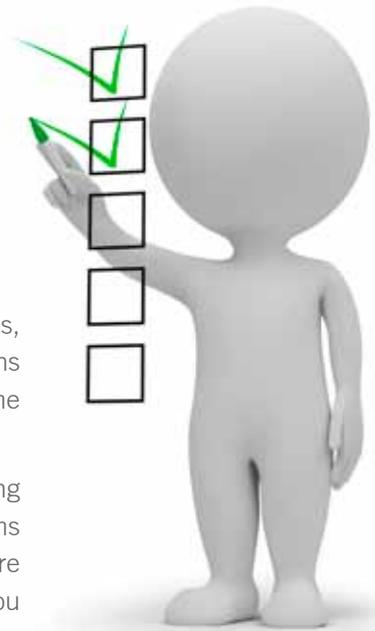
When a Sygnal system is compared with other leading brands the difference is obvious. With 2 x the variable speed drives, 9 x the sensors and 12 x the computer processing power, Sygnal outperforms all competitor products. It is the superior intelligence within the Sygnal system that achieves the comfort target faster whilst using less energy than any of its competitors.

Sygnal - world leading technology developed for the Australian urban landscape.

PERFORMANCE CHECKLIST

Concealed multi-zone residential ducted systems are common in the United States, Spain, the Middle East and Australia. The style of architecture in these regions provides a ceiling cavity that can be used to distribute airflow throughout the home without the need for bulky wall hung units within each room.

Australia's close proximity to Asia means that many ducted systems are being produced by companies that specialise in wall mount split systems. These systems have limited control over the indoor fan, and are designed to control the temperature of the home from a single sensor location. The checklist below will help you differentiate between other brands and Sygnal's world leading technologies:



FEATURES	How Do Others Compare?	Sygnal Z-Plus	Sygnal Connect	Sygnal Chatterbox
Variable Refrigerant Flow		✓	✓	✓
Variable Indoor Airflow (220 l/s ~ Full Speed)		✓	✓	✓
Zone Valve Modulation		✓	✓	✓
Electronically Commutated Indoor Fan		✓	✓	✓
Multiple sensor points for increased comfort and efficiency		✓	✓	✓
Four Point Modulation			✓	✓
Air Stream Mapping			✓	✓
Individual zone temperature control			✓	✓
Individual zone On/Off control		✓	✓	✓
Individual room controls provide system wide access			✓	✓
Can run in one room or the entire home		✓	✓	✓
Fully programmable 7 day multi-event timer for individual zones and/or all zones		✓	✓	✓
Zone run timer			✓	✓
Adjustable energy setting for heating mode			✓	✓
Adjustable energy setting for cooling mode			✓	✓
Load diversification when compressor is not running			✓	✓
Integration Ready: Home Automation, Building Automation, iPad				✓
Integrated support for Fresh Air Economy cycle and Ventilation mode.			✓	✓
MEPS and Greenhouse Office Compliant		✓	✓	✓
Compatible with Dual Inverter Systems 7~17kW		✓	✓	✓
Compatible with Digital Inverter Systems 19~26kW		✓	✓	✓
Compatible with Radical Flow high static systems		✓	✓	✓
Electronic Zone Naming		✓	✓	✓

THE SYGNAL PRODUCT RANGE

Sygnal's engineering team are the industry leaders in residential concealed ducted system innovation. Rather than produce hybrid designs that share technology with high-wall split or large commercial systems, Sygnal systems are designed from the ground up to meet the needs of Australian families. A clear focus on comfort, conservation and connectivity has delivered a range of products that outperform generic systems in every measure.



INVERTER OUTDOOR UNIT

Sygnal Dual Inverter systems use the latest motor speed control technology to modulate the flow of refrigerant at the outdoor unit and the flow of air at the indoor unit. Unlike single inverter systems the Dual Inverter approach maintains a constant temperature of conditioned air to all rooms.

DIGITAL OUTDOOR UNIT

Sygnal Digital Inverter systems are ideal for heat loads in excess of 18kW. The digital system of refrigerant flow management allows the refrigerant mass flow rate to reduce to 10% of the peak without danger of limiting oil circulation. The Digital Inverter maintains a constant temperature of conditioned air to all rooms.

SELECTING THE RIGHT TECHNOLOGY

Sygnal systems are designed to provide unprecedented levels of performance through the entire operating envelope. Variable indoor airflow scales output capacity to demand, resulting in rooms getting to temperature faster and reduced energy consumption. Sygnal utilises electronically commutated indoor fan motors to modulate from a single room to an entire home.

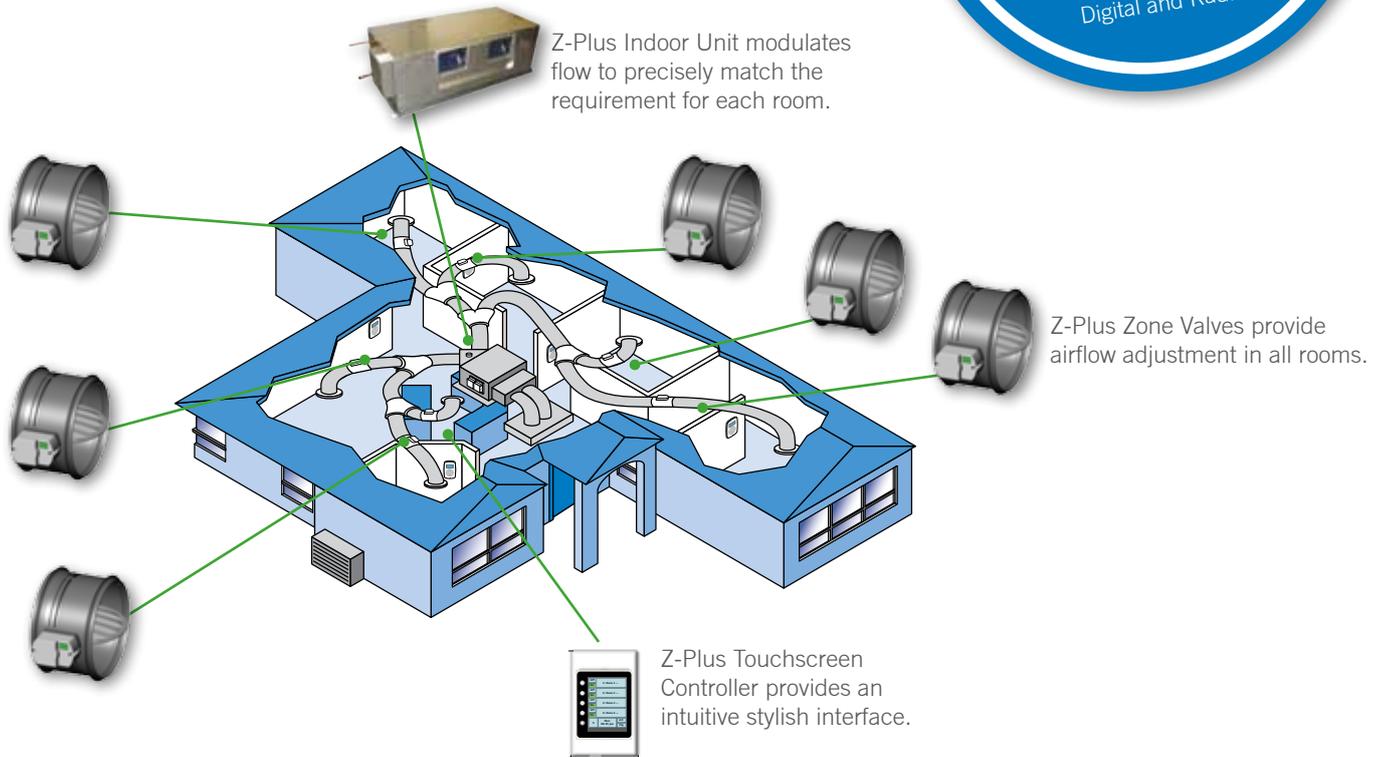
Modulating indoor airflow alone does not provide a complete solution. Sygnal systems modulate refrigerant flow through the use of two compressor technologies - DC Inverter and Digital Scroll. Digital Scroll technology is ideally suited for larger systems as oil distribution is supported at low mass flow rates. DC Inverter technology is adopted for smaller systems as the soft start component of system function is ideal for single phase applications.

No More Capacity Dumping:

0-100% airflow adjustment in every zone

Touchscreen Controller

Works with Dual, Digital and Radical



Z - PLUS

When Sygnal Z-Plus is used with Sygnal Dual Inverter, Digital Inverter or Radical Flow systems, indoor airflow can be adjusted from a single room, to the entire home. System capacity modulates from 10% ~ 100%, eliminating the need for capacity dumping or spill zones.

A full colour touchscreen provides an intuitive interface that can be easily operated without an instruction manual. Other functionality including programmed start and stop times, zone grouping, sensor linking and sensor averaging provide unprecedented flexibility.

CONTROL THE AIRFLOW IN EVERY ROOM

Concealed ducted air-conditioning is recognised as the most efficient way to air condition a home as it allows system capacity to be directed into areas when they are in use, or shut off when they are not in use. Conventional systems have three fan speeds and achieve capacity distribution through a series of valves that can be open and shut off. When more than 30% of the airflow is not required, generic systems dump excess capacity into a sacrificial area (often a family room or living room).

Sygnal Z-Plus increases control of these valves to modulate the airflow in 5% steps. Z-Plus gathers the information from each room and adjusts the indoor fan flow so that there is no requirement for capacity dumping, resulting in improved comfort and energy performance throughout the entire home.

MULTI-ZONE FULL TEMPERATURE CONTROL

SYGNAL CONNECT — THE FLEXIBLE, INTELLIGENT CONTROL PLATFORM THAT ALLOWS YOU TO GET CONNECTED AND STAY CONNECTED.

At Sygnal we recognise that a home is made up of individual rooms and a family is made up of individuals.

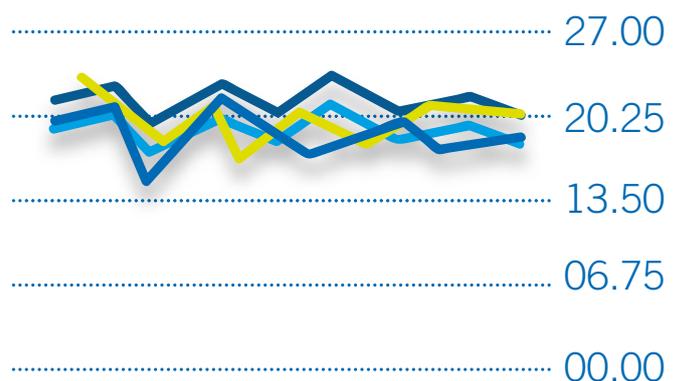
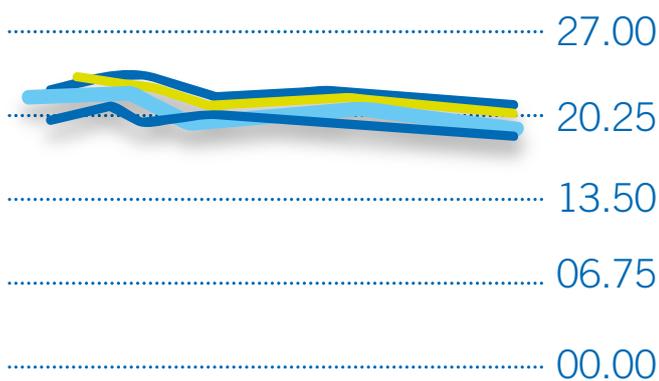
Sygnal Connect is a flexible control platform that can be tailored to suit the needs of each family member. Sygnal Connect provides the choice of flow rate or temperature comfort targets (set-points) for each room.

If the preference is to set the flow rate, the system can adjust the position of the aerofoil zone from 0~100%. Should the preference be to have a room at a constant temperature, a temperature target can be set.

Sygnal Connect includes a number of energy settings that may be altered to easily achieve the right compromise between comfort and conservation.

When Sygnal Connect is operating with a temperature target in each room, it uses a proprietary algorithm we call Airstream Mapping.

Airstream Mapping identifies the quantity of heat to be added or removed in each room and anticipates the volume and temperature of conditioned air needed to bring the room to its target temperature. The ability to understand the different size and heat load of individual rooms is integral to Airstream Mapping and a key factor in its performance advantage over competitor products.



SYGNAL CONNECT

Sygnal Connect measures the temperature in each room, resulting in consistent temperatures in all active zones regardless of the outside environment.

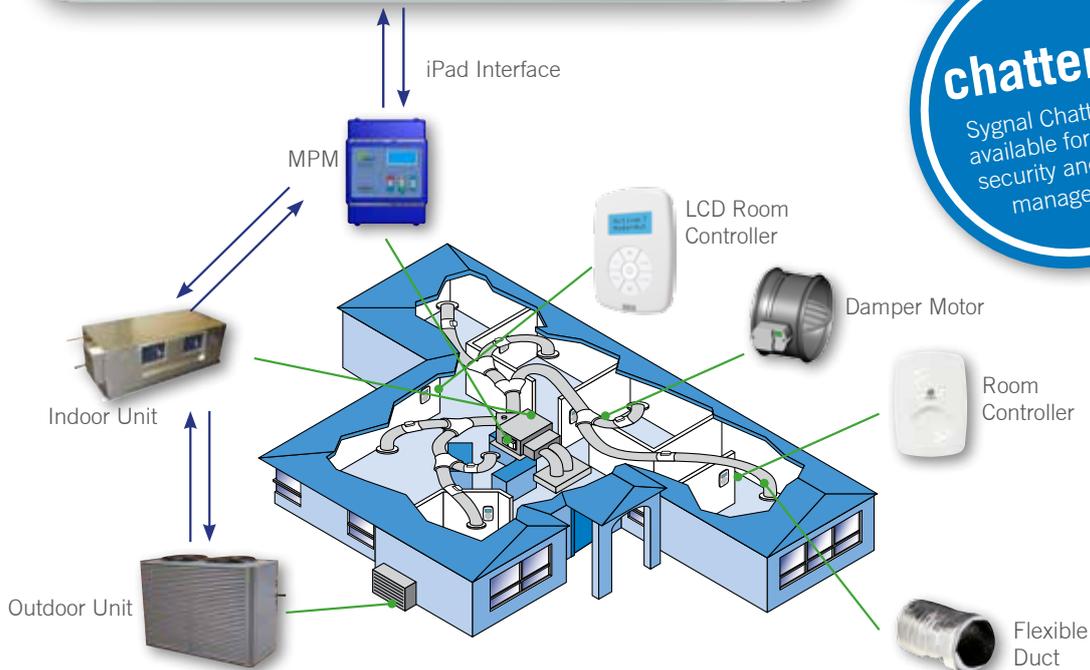
SINGLE SENSOR SYSTEM

Conventional single sensor systems can only maintain a constant temperature in the room where the sensor is positioned. The result is a wide variation in temperatures across all other rooms.

COMFORT, CONSERVATION AND CONNECTIVITY



chatterbox
 Sygnal Chatterbox is available for lighting, security and energy management.



INTRODUCING CHATTERBOX

The future of residential design will incorporate advanced technologies in energy efficiency, comfort control, and improved health quality, enhancing the lived experience.

At Sygnal, it is our aim to design systems that provide convenience, flexibility, ease of operation and maximum control for the home owner. Sygnal Chatterbox is an example of how advanced technologies can be used to simplify, rather than complicate.

Sygnal Chatterbox provides a gateway for smart devices. Control your climate from your smart phone, tablet, PC or home automation system; the choice is yours. A Sygnal Chatterbox can be tailored to meet each household's individual requirements.

Sygnal Chatterbox when used with Sygnal Connect includes Dynamic Heat Recovery minimising energy use at the touch of a smart device.

*GUI image can be tailored to individual projects. Displayed image is for promotional purposes only.

SYGNAL PEACE OF MIND WARRANTY

Sygnal Climate provides a comprehensive 5 year warranty on the air-conditioning unit and all Sygnal branded air-conditioning components. This ensures that all Sygnal branded electronic and mechanical components of your air conditioning system are covered.

TO FIND OUT MORE ABOUT OUR PEACE OF MIND WARRANTY POLICY VISIT

<http://www.sygnalsupport.com.au>



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