

Integrated Solutions

Customised Packaged Systems for Outside Air Treatment & Climate Control

FRESH, CLEAN AIR INDOORS

LOW ENERGY USE

A GREENER TOMORROW

HEALTHIER PEOPLE & SPACES

robatherm Air Handling Units – German-Engineered to the highest standards

robatherm

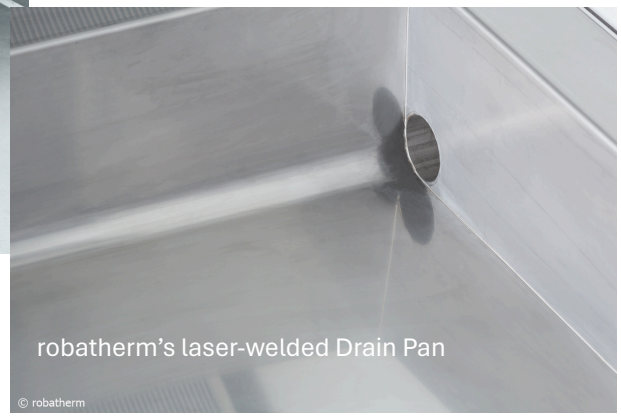


robatherm specialise in Air Handling. Every unit produced is designed to the highest airtightness and thermal bridging standards, and every aspect of the unit is meticulously engineered to provide the ideal solution for even the most challenging application. In other words, the units are designed to perform in the incredibly demanding, and ever-changing, Australian climate.

With the addition of efficient VRF condensers from Carrier and smart controls, the result is a complete system that will exceed expectations in all conditions throughout the year. AG Solutions provides the complete package, customised and fit-for-purpose.



- **L1 Airtightness Rating**
- **TB1 Thermal Bridging**
- **D1 Strength Rating**
- **Stainless Steel Drain Pan with rounded edge for constant, complete drainage**
- **Efficient Outside Air Treatment utilising Energy Recovery Heat Exchangers**
- **Anti-microbial powdercoating for internal walls (option)**


robatherm's laser-welded Drain Pan

© robatherm

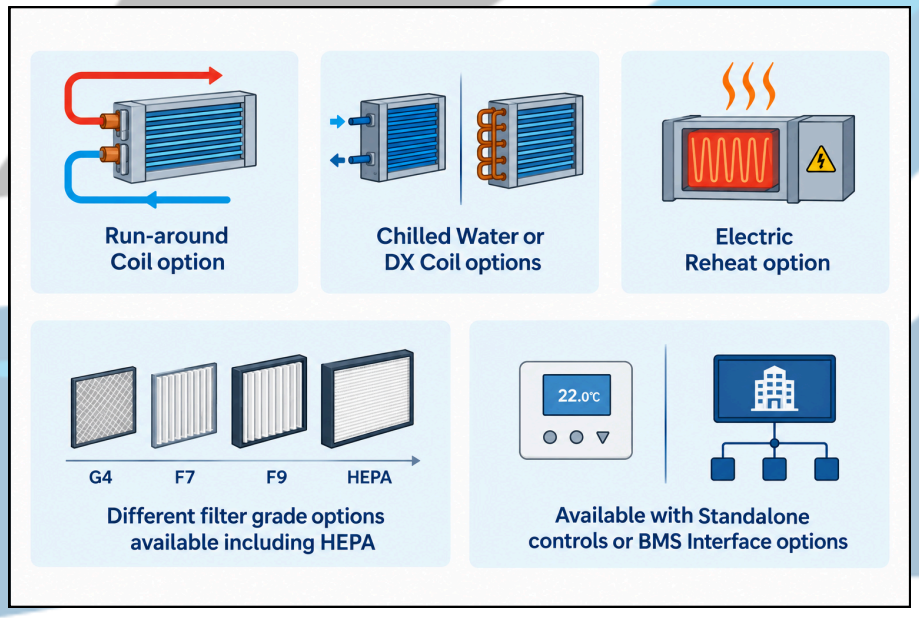
FULLY CONFIGURABLE AND CUSTOMISABLE SOLUTIONS, ENGINEERED TO SUIT THE APPLICATION

Optional configurations and components:

- 100% Outside Air, Return Air or mixed supply configurations
- With or without Heat Exchangers (Rotary or Plate types & Enthalpy or Sensible Only recovery)
- Utilising either DX Refrigerant Coils or Chilled Water Coils for Cooling, Heating & Dehumidification
- Option for Carrier VRF Condensers (supplied by AG Solutions) – Incorporated on common platform or separately mounted
- All year-round operations – Cooling, Dehumidification & Heating
- Option for addition of a run-around coil
- Various filter grade options available including HEPA



(*3D Render of integrated solution with VRF condenser platform)



Typical Applications:

- Halls, Gymnasiums & Indoor Arenas
- Shopping Centres & Large Retail
- Large Volume Outside Air Requirements
- Laboratories & Clean Rooms
- Pharmaceuticals Production & Storage
- Factories & Food Processing
- Precise Temperature & Humidity control requirements

Controls Options

- Standalone Control – Local or Central Controller
- BMS Interface through BACnet or Modbus Protocols
- Economy Cycle & CO_2 Control functions available

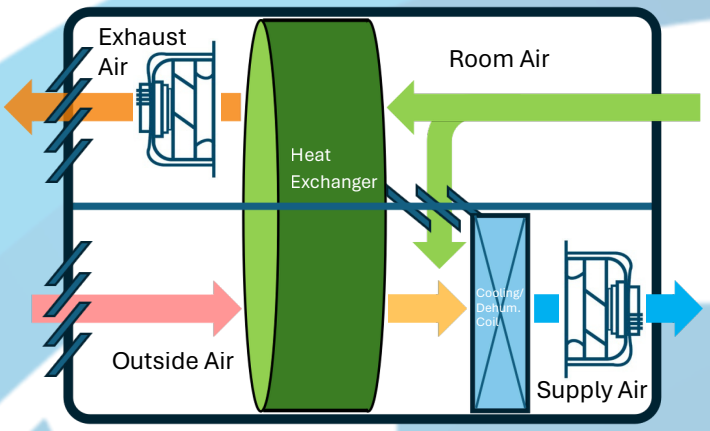
RANGE OVERVIEW

ERC Series (Energy Recovery + Coil)

Outside Air/Return Air/Mixed Air Units with Heat Exchanger for Heat Recovery

Can operate with 100% Outside Air, return air, or a mixed operation depending on the internal conditions and CO_2 levels. Economy cycle operation is also available.

In outside air mode, fresh outside air is passed through a Heat Exchanger to pre-cool & dehumidify it before the cooling coil, conversely, air is drawn from the internal space and heat & humidity is transferred between the two air streams. Energy is saved that would otherwise be wasted.

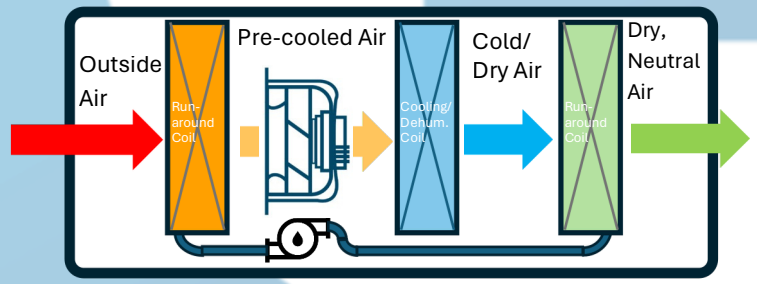


RAC Series (Run-around Coil)

100% Outside Air Units with Run-around Coils

Provides 100% outside air, cooled, dehumidified and at near room conditions. The inclusion of the run-around coil improves system efficiency since air is pre-cooled before the coil and outside air heat is repurposed to reheat the air before supplying to the room space and avoid over-cooling.

Addition of an electric heater provides warming on mild days with high humidity for precise temperature control.



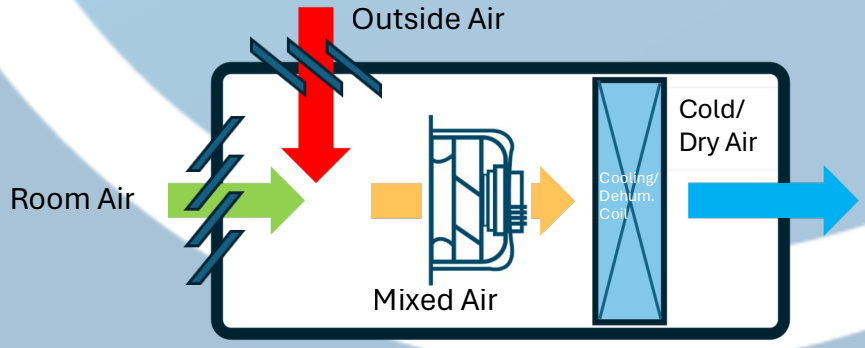
HCC Series (Heating/Cooling Coil)

Outside Air, Return Air or Mixed Air operations

Standard air conditioning unit that can operate with up to 100% outside air as required.

Dampers control the ratio of outside air to room air based on temperatures, humidity & CO_2 levels.

Economy cycle operation is also available with this configuration.

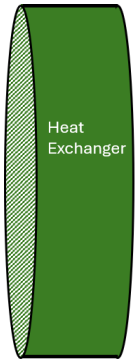


*** Other configurations available**

These are just three examples; we can tailor a unit specifically to the requirement upon request when heat loads & other technical requirements are provided.

PSYCHROMETRICS

ERC Series (Energy Recovery + Coil) – Outside Air Operation



1 → 2 – Heat Exchanger

(Pre-cooling & Dehumidification)

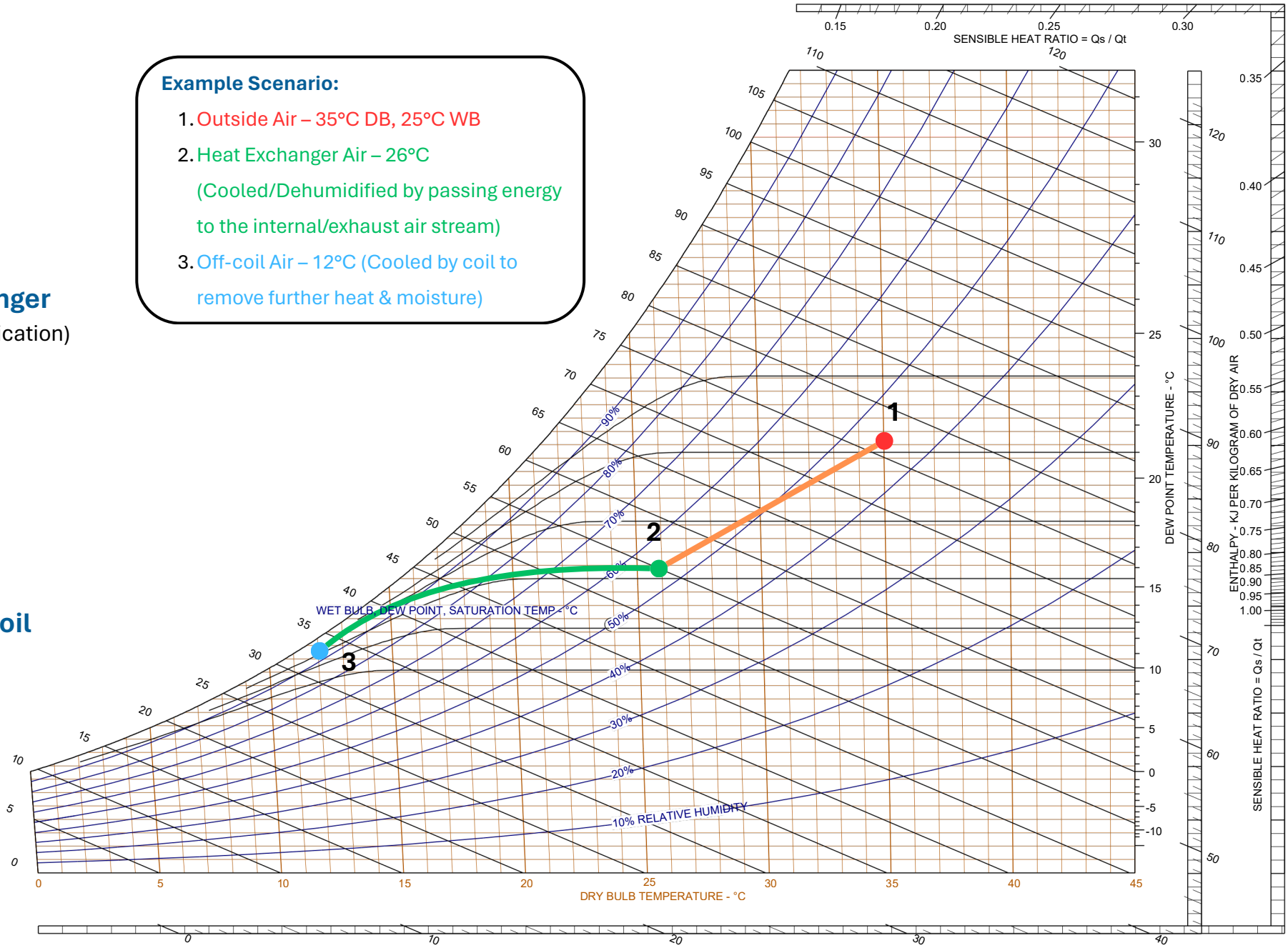


2 → 3 – Cooling Coil

(Further Cooling & Dehumidification)

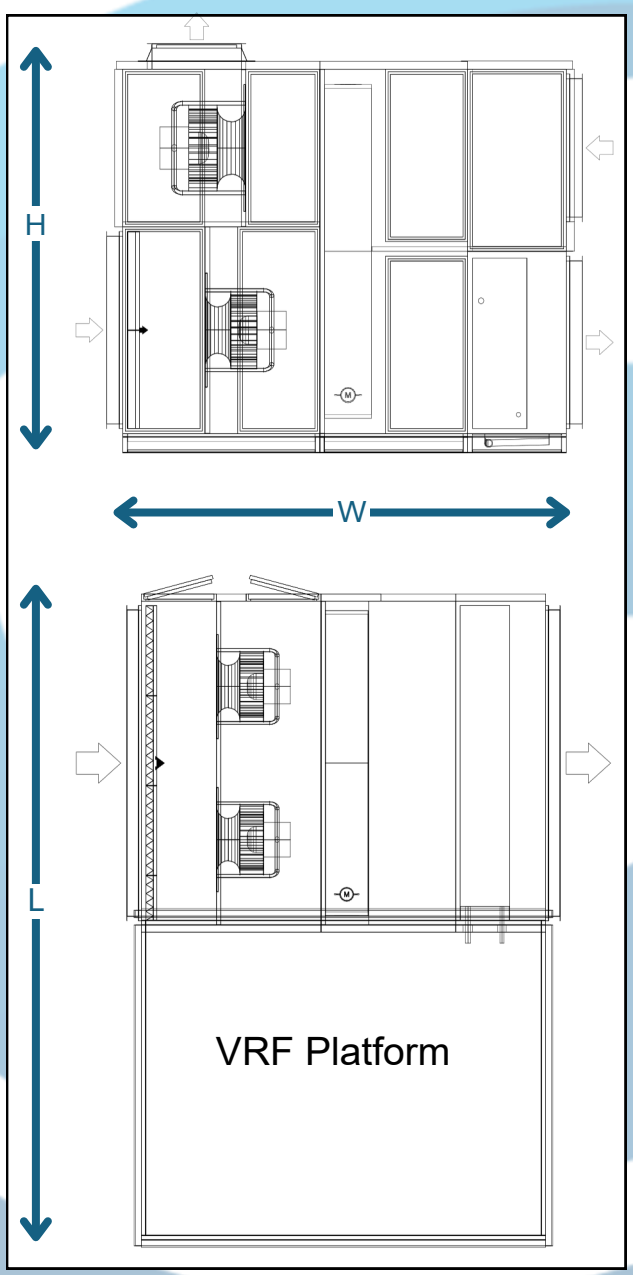
Example Scenario:

1. Outside Air – 35°C DB, 25°C WB
2. Heat Exchanger Air – 26°C (Cooled/Dehumidified by passing energy to the internal/exhaust air stream)
3. Off-coil Air – 12°C (Cooled by coil to remove further heat & moisture)



PERFORMANCE DATA & SPECIFICATIONS

ERC Series - Specs & Features								
Airflow		1,000 L/s	2,000 L/s	3,000 L/s	4,000 L/s	5,000 L/s	7,000 L/s	9,000 L/s
Pre-cooling Performance[1]								
Heat Exchanger	Total	24.3 kW	46.8 kW	72.4 kW	97.8 kW	107.9 kW	159.4 kW	232.2 kW
	Sensible	11.3 kW	22.7 kW	34.8 kW	46.9 kW	54.3 kW	79.5 kW	102.0 kW
Cooling Coil	Total	27.0 kW	54.0 kW	79.0 kW	104.0 kW	146.0 kW	190.0 kW	227.0 kW
	Sensible	17.0 kW	34.0 kW	50.0 kW	66.0 kW	87.0 kW	71.0 kW	152.0 kW
Total Cooling	Total	51.3 kW	100.8 kW	151.4 kW	201.8 kW	253.9 kW	349.4 kW	459.2 kW
	Sensible	28.3 kW	56.7 kW	84.8 kW	112.9 kW	141.3 kW	150.5 kW	254.0 kW
Power Input		8.6 kW	19.4 kW	28.4 kW	41.2 kW	54.5 kW	76.9 kW	94.1 kW
COP (Full Load) [2]		6.0	5.2	5.3	4.9	4.7	4.5	4.9
COP (Part Load) [2 & 3]		7.4	7.4	7.1	6.6	7.1	6.8	6.3
Running Amps		6.1 A	14.6 A	20.2 A	30.6 A	37.8 A	52.7 A	72.4 A
Standalone Cooling Performance [4]								
Total		24.3 kW	48.6 kW	72.8 kW	97.1 kW	121.4 kW	170.0 kW	218.5 kW
Sensible		18.4 kW	36.8 kW	55.2 kW	73.6 kW	92.0 kW	128.7 kW	165.5 kW
Power Input		6.1 kW	14.6 kW	20.2 kW	30.6 kW	37.8 kW	52.7 kW	72.4 kW
COP [2]		4.0	3.3	3.6	3.2	3.2	3.2	3.0
AHU Only	Dimensions (HxWxL)	1,650 x 2,850 x 1,400	1,950 x 2,950 x 1,700	2,250 x 2,950 x 2,000	2,550 x 2,950 x 2,300	2,550 x 2,950 x 2,300	2,250 x 3,250 x 3,850	2,550 x 3,250 x 4,450
	Weight	1,450 kg	2,050 kg	2,580 kg	3,000 kg	3,280 kg	4,630 kg	5,280 kg
AHU + Condensers on Common Platform	Dimensions (HxWxL)	1,650 x 2,850 x 2,850	1,950 x 2,950 x 3,250	2,250 x 2,950 x 3,550	2,550 x 2,950 x 3,850	2,550x2,950x4,450	2,250x3,250x6,000	2,550x3,250x6,600
	Weight	1,890 kg	2,570 kg	3,370 kg	4,010 kg	4,630 kg	6,260 kg	7,140 kg
Supply & Exhaust Fans & Qty		Electronically Commutated Centrifugal (EC Plug) Fans x 2				Electronically Commutated Centrifugal (EC Plug) Fans x 4		
Electrical Supply		3-phase, 380-415V, 50 Hz						
Air Filters		From G4 to HEPA Grades available						
Heat Exchanger Type		Rotary Enthalpy Type with 75% Efficiency (Cross/Counter-flow Type & Higher Efficiency Heat Exchangers also available)						



[1] Pre-cooling performance is calculated at nominal conditions; 35°C DB, 25°C WB Ambient & 23°C DB 55%RH Indoor Conditions & 12°C Supply Temperature

[2] COP is calculated from published data at nominal conditions

[3] Part Load COP for Pre-cooling is calculated at 27°C DB / 22°C WB ambient conditions (approx. 75-85% capacity)

[4] Standalone Cooling Performance is calculated at nominal conditions; 27°C DB, 19°C WB & 35°C Ambient

[5] All units are fully customisable. Airflow and capacity are adjusted to suit the specific site or project. Actual dimensions & weights will vary from this table

UPCOMING PROJECT – MIAMI MARKETTA

Indoor Live Music Venue, Gold Coast QLD

- 3 x ERC Series Units (Outside Air/Return Air type) – Totalling 12,000L/s of air and 560kW of Pre-cooling Capacity
- robatherm Air Handling Units with Enthalpy Type Rotary Heat Exchangers & Refrigerant Coils
- Carrier VRF Condensing Units
- Full controls system for autonomous operation
- ERC Series – Operating in three modes, full outside air, full return air or mixed depending on internal temperatures and CO_2 levels
- Stage: Under Construction
- Delivery/commissioning: January 2027





Supplied & Commissioned by:

AG SOLUTIONS
ENGINEERED HVAC PRODUCTS



* Generic image, not actual units

ERC Series Solution



Air Handling Units plus VRF Condensers (mounted separately)

robatherm

Carrier

AG SOLUTIONS
ENGINEERED HVAC PRODUCTS

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Disclaimer:

Information in this brochure was correct at the time of preparation. Performance figures are indicative only, accurate data is provided upon selection, once optional/custom components have been selected

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