CLADE

ROWAN 2 RANGE

R290 HEAT PUMP //

HEATING ONLY
HEATING AND COOLING
HIGH AND MEDIUM TEMPERATURE

Dec 2025 v2 //

ROWAN 2 //

DESIGNED & MADE IN THE UK

The **Rowan 2 R290 Heat Pump** is the ultimate heating and cooling unit, combining the low Global Warming Potential of **R290 refrigerant** with a **strong and robust build** engineered for UK conditions.

Designed for maximum flexibility, it features **no horizontal ATEX zone**, a **space-efficient** design, and can be cascaded for flexible installation. Offering exceptional versatility, the Rowan 2 provides heating and cooling, and every unit is **fully supported by our expert UK engineers** with comprehensive pre- and post-sale technical guidance, ensuring a powerful, sustainable, and entirely reliable heating investment.

- **Heating only or Heating-or-Cooling models available**
- **80°C High temperature or 65°C Medium temperature option**

Model	-5°C capacity	+7°C capacity
Heating mode	97kW	128kW
	+20°C Capacity	+40°C Capacity
Cooling mode	123kW	98kW

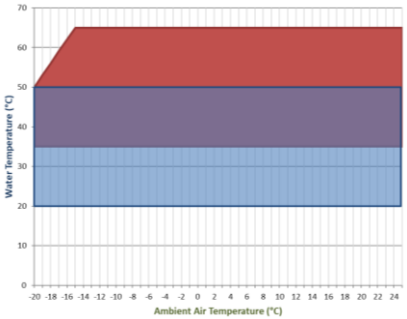
- SCOP - Achieves a high Seasonal Coefficient of Performance of 3.7
- Full performance from -15°C to +40°C ambient temperature
- Future proof refrigerant which is non-toxic with a GWP of 3
- Cooling at 6/12°C water temperatures
- Can be multiplexed using Clade Multi Controller
- Leak detection and vent fan included
- Inverter controlled compressor and fans for maximum efficiency
- PIC Valve for LTHW flow rate control included
- Electronic expansion valve ensures accurate control of refrigerant

R290 – PROPANE PERFORMANCE //

Rowan 2 r290 heating operating envelope

Water flow temperature range

Water return temperature range



High Temperature Option

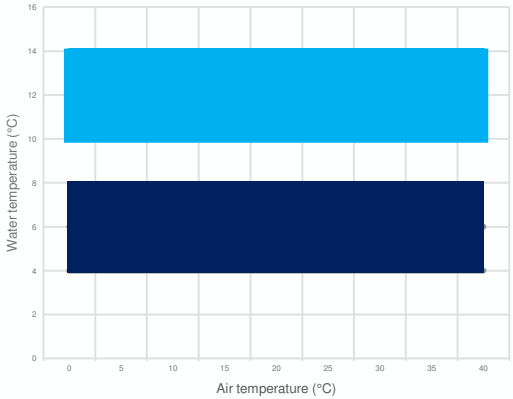
Flow temperature range up to 80°C

Return temperature range up to 70°C

Rowan 2 r290 cooling operating envelope

Water flow temperature range

Water return temperature range



No ATEX zone

R290 propane is an increasingly popular refrigerant for heat pumps due to its excellent thermodynamic properties, environmental benefits, and efficiency.

As a natural hydrocarbon, R290 has an ultra-low Global Warming Potential (GWP) of just 0.02*, making it a sustainable alternative to synthetic refrigerants with high GWP values.

While its flammability require safety consideration, modern system designs and proper handling mitigate these risks.

The Rowan 2 has been designed and independently assessed against EN 378 and BS EN 600079-10-1 with no ATEX zone. This increases the options for locating the Rowan 2 making it easier and cheaper to install.

Overall, R290 propane represents a future-proof choice for heat pumps, balancing performance, cost-effectiveness, and sustainability in decarbonizing heating solutions.

* Propane's GWP, as defined by the IPCC, is approximately 3 and represents propane's inherent ability to absorb infrared radiation, assuming it behaves like long-lived greenhouse gases such as CO_2. However, in real-world applications, propane breaks down rapidly in the atmosphere. This short atmospheric lifetime means it does not accumulate and has a negligible long-term climate impact. As a result, its adjusted GWP over a 100-year timeframe is approximately 0.02.

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TECHNICAL INFORMATION //

ROWAN 2 SN								
Ambient Air Temperature	°C	-10	-5	0	5	7	10	15
Water Supply Temperature	°C	45	45	45	45	45	45	45
Water Return Temperature	°C	35	35	35	35	35	35	35
TD	K	10	10	10	10	10	10	10
Heating Medium		Water						
COP (1)		2.69	2.88	3.16	3.45	3.61	3.71	3.95
SCOP - Variable Supply Temp - W45 (1)		3.84						
Refrigeration Circuit								
Refrigerant		Propane (R290)						
Heating Water Circuit								
Required System Water Flow Rate (per Module)	l/s	2.04	2.30	2.60	2.91	3.05	3.05	3.05
Total Waterside Pressure Drop	kPa	41.4	44.5	48.4	53.0	55.2	55.2	55.2
Maximum System Water Flow Rate (per Module)	l/s	3.05						
Control Methodology		Pressure Independent Control Valve - Danfoss AB-QM						
PIC Valve Max Flow Rate	l/s	3.47						
Fan Performance								
Total System Airflow	m^3/s	8.9	8.9	7.4	5.9	4.4	4.4	4.4
Total Number of Fans		2						
Evaporator Airside Pressure Drop	Pa	201	201	168	134	101	101	101
Electrical Data								
Total Absorbed Power	kW	31.7	33.4	34.4	35.3	35.3	34.4	32.3
Compressor Current per Phase per Compressor	A	47.9	50.7	53.5	56.0	57.0	55.3	51.8
Total Current per Phase (FLC)	A	53.9	56.7	58.5	60.0	60.0	58.3	54.8
Total KVA	kVA	37.3	39.3	40.5	41.6	41.6	40.4	38.0
Maximum Inrush Current	A	135.0						
Maximum Start-Up Current	A	31.5						

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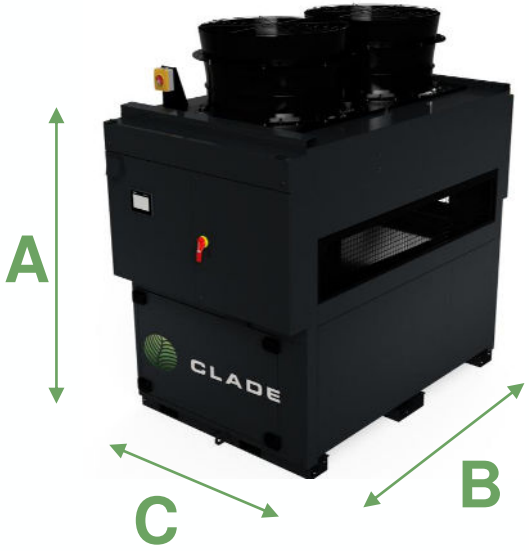
DIMENSIONAL INFORMATION //



Unit	Height 'A' (mm)	Length 'B' (mm)	Depth 'C' (mm)
Rowan 2	2636	2400	1700

CONTROL OPTIONS //

Capped Capacity Control

There are two options for output capacity available from the Clade controls.

1. Efficiency mode: Capped at -5°C – the unit will only deliver heat up to the -5°C ambient rated output.
2. Power mode: Capped at +7°C – the unit will deliver heat up to the maximum rating at +7°C ambient temperature.

Multiplex Control

The Rowan 2 is designed to operate as part of a mult-heat pump array. A wall mounted cascade controller is required.

The multiplex controller coordinates the Rowan 2 modules for maximum efficiency and lead rotation.

Pressure Independent Control Valve

All Rowan 2 R290 heat pump systems are equipped with Pressure Independent Control Valves (PICVs) and do not include an internal circulating pump. The PICVs are provided to regulate the flow of water through the plate heat exchanger by varying the pressure drop across the valve independently of the inlet pressure. This design ensures that the system-side flow balance remains unaffected.

Acoustic information

Noise details are detailed below for the Rowan heat pump Range. The A-weighted sound power levels LwA shown below are declared in accordance with BS EN ISO 4871:2009. Measurements were performed using the BS EN ISO 9614-1:2009 sound-intensity method (survey grade). The “Sound Pressure at 10 m” values actual site sound pressures will vary with distance, screening, reflections, and background noise. Conditions apply see product manual for full information.

Rowan Range	100KW
	SN
Sound Pressure Level at 10m	51 dB
Uncertainty (dB)	4

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ROWAN 2 PERFORMANCE – EFFICIENCY MODE – MEDIUM TEMPERATURE //

EFFICIENCY MODE (-5°C CAPACITY CONTROL)																							
Model name	Water Temp (°C)	SCOP	-10°C External			-5°C External			0°C External			5°C External			7°C External			10°C External			15°C External		
			QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP
ROWAN 2 SN Single Module (HEATING)	65/55	2.4	80.9	38.8	2.1	91.2	41.3	2.2	91.2	39.3	2.3	91.2	37.0	2.5	91.2	35.7	2.6	91.2	34.8	2.6	91.2	33.0	2.8
	65/50	2.5	79.5	37.3	2.1	89.6	39.6	2.3	89.6	37.5	2.4	89.6	35.2	2.5	89.6	33.9	2.6	89.6	33.0	2.7	89.6	31.1	2.9
	60/40	2.7	80.7	35.4	2.3	91.0	37.5	2.4	91.0	35.4	2.6	91.0	33.1	2.7	91.0	31.8	2.9	91.0	30.9	2.9	91.0	29.1	3.1
	50/40	3.0	84.2	33.3	2.5	95.1	35.2	2.7	95.1	33.0	2.9	95.1	30.8	3.1	95.1	29.5	3.2	95.1	28.7	3.3	95.1	26.9	3.5
	45/35	3.2	85.3	31.7	2.7	96.3	33.4	2.9	96.3	31.2	3.1	96.3	29.0	3.3	96.3	27.7	3.5	96.3	26.9	3.6	96.3	25.1	3.8
	40/30	3.5	86.4	30.2	2.9	97.6	31.7	3.1	97.6	29.5	3.3	97.6	27.3	3.6	97.6	26.0	3.8	97.6	25.2	3.9	97.6	23.5	4.2

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ROWAN 2 PERFORMANCE – POWER MODE – MEDIUM TEMPERATURE //

POWER MODE (+7°C CAPACITY CONTROL)																						
Model name	Water Temp (°C)	SCOP	-10°C External			-5°C External			0°C External			5°C External			7°C External			10°C External			15°C External		
			QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP
ROWAN 2 SN Single Module (HEATING)	65/55	2.5	80.9	38.8	2.1	91.2	41.3	2.2	101.5	42.9	2.4	113.5	44.6	2.5	118.6	44.9	2.6	118.6	43.8	2.7	118.6	41.7	2.8
	65/50	2.5	79.5	37.3	2.1	89.6	39.6	2.3	99.7	41.0	2.4	111.5	42.4	2.6	116.4	42.6	2.7	116.4	41.5	2.8	116.4	39.3	3.0
	60/40	2.7	80.7	35.4	2.3	91.0	37.5	2.4	101.6	38.7	2.6	113.6	40.0	2.8	118.8	40.1	3.0	118.8	39.0	3.0	118.8	36.9	3.2
	50/40	3.1	84.2	33.3	2.5	95.1	35.2	2.7	106.9	36.4	2.9	119.7	37.4	3.2	125.4	37.5	3.3	125.4	36.5	3.4	125.4	34.4	3.6
	45/35	3.3	85.3	31.7	2.7	96.3	33.4	2.9	108.7	34.4	3.2	121.7	35.3	3.4	127.6	35.3	3.6	127.6	34.4	3.7	127.6	32.3	4.0
	40/30	3.5	86.4	30.2	2.9	97.6	31.7	3.1	110.4	32.6	3.4	123.7	33.3	3.7	129.8	33.3	3.9	129.8	32.3	4.0	129.8	30.3	4.3

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ROWAN 2 PERFORMANCE – EFFICIENCY MODE – HIGH TEMPERATURE //

EFFICIENCY MODE (-5°C CAPACITY CONTROL)																						
Model name	Water Temp (°C)	SCOP	-10°C External			-5°C External			0°C External			5°C External			7°C External			10°C External			15°C External		
			QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP
Rowan 2 SN Single Module (HEATING)	80/70	1.9	77.9	45.8	1.7	87.5	49.0	1.8	87.5	47.1	1.9	87.5	44.8	2.0	87.5	43.4	2.0	87.5	42.4	2.1	87.5	40.5	2.2
	75/65	2.1	78.8	43.3	1.8	88.8	46.2	1.9	88.8	44.3	2.0	88.8	42.0	2.1	88.8	40.7	2.2	88.8	39.7	2.2	88.8	37.8	2.3
	70/50	2.2	79.9	41.0	1.9	90.0	43.7	2.1	90.0	41.7	2.2	90.0	39.4	2.3	90.0	38.1	2.4	90.0	37.2	2.4	90.0	35.3	2.5
	65/55	2.4	80.9	38.8	2.1	91.2	41.3	2.2	91.2	39.3	2.3	91.2	37.0	2.5	91.2	35.7	2.6	91.2	34.8	2.6	91.2	33.0	2.8
	60/50	2.6	82.0	36.8	2.2	92.5	39.1	2.4	92.5	37.1	2.5	92.5	34.8	2.7	92.5	33.5	2.8	92.5	32.6	2.8	92.5	30.9	3.0
	55/45	2.8	83.1	35.0	2.4	93.8	37.1	2.5	93.8	35.0	2.7	93.8	32.7	2.9	93.8	31.4	3.0	93.8	30.6	3.1	93.8	28.8	3.3
	50/40	3.0	84.2	33.3	2.5	95.1	35.2	2.7	95.1	33.0	2.9	95.1	30.8	3.1	95.1	29.5	3.2	95.1	28.7	3.3	95.1	26.9	3.5
	45/35	3.2	85.3	31.7	2.7	96.3	33.4	2.9	96.3	31.2	3.1	96.3	29.0	3.3	96.3	27.7	3.5	96.3	26.9	3.6	96.3	25.1	3.8

ROWAN 2 PERFORMANCE – POWER MODE – HIGH TEMPERATURE //

POWER MODE (+7°C CAPACITY CONTROL)																						
Model name	Water Temp (°C)	SCOP	-10°C External			-5°C External			0°C External			5°C External			7°C External			10°C External			15°C External		
			QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP
Rowan 2 SN Single Module (HEATING)	80/70	2.0	77.9	45.8	1.7	87.5	49.0	1.8	96.1	50.9	1.9	107.2	53.3	2.0	111.5	53.8	2.1	111.5	52.6	2.1	111.5	50.3	2.2
	75/65	2.1	78.8	43.3	1.8	88.8	46.2	1.9	97.9	48.1	2.0	109.3	50.2	2.2	113.9	50.6	2.2	113.9	49.5	2.3	113.9	47.3	2.4
	70/50	2.3	79.9	41.0	1.9	90.0	43.7	2.1	99.7	45.4	2.2	111.4	47.3	2.4	116.2	47.7	2.4	116.2	46.5	2.5	116.2	44.4	2.6
	65/55	2.5	80.9	38.8	2.1	91.2	41.3	2.2	101.5	42.9	2.4	113.5	44.6	2.5	118.6	44.9	2.6	118.6	43.8	2.7	118.6	41.7	2.8
	60/50	2.7	82.0	36.8	2.2	92.5	39.1	2.4	103.3	40.6	2.5	115.6	42.0	2.7	120.9	42.3	2.9	120.9	41.2	2.9	120.9	39.1	3.1
	55/45	2.9	83.1	35.0	2.4	93.8	37.1	2.5	105.1	38.4	2.7	117.7	39.7	3.0	123.2	39.8	3.1	123.2	38.8	3.2	123.2	36.7	3.4
	50/40	3.1	84.2	33.3	2.5	95.1	35.2	2.7	106.9	36.4	2.9	119.7	37.4	3.2	125.4	37.5	3.3	125.4	36.5	3.4	125.4	34.4	3.6
	45/35	3.3	85.3	31.7	2.7	96.3	33.4	2.9	108.7	34.4	3.2	121.7	35.3	3.4	127.6	35.3	3.6	127.6	34.4	3.7	127.6	32.3	4.0

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ROWAN 2 COOLING PERFORMANCE //

COOLING MODE																					
Model name	Water Temp (°C)	SCOP	20°C External			25°C External			30°C External			32°C External			35°C External			38°C External			40°C External		
			QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP	QH (kW)	PI (kW)	COP
ROWAN 2 SN Single Module (COOLING)	12/ 6	TBD	122.62	42.39	2.89	116.59	43.63	2.67	110.47	45.00	2.46	108.00	45.58	2.37	104.27	46.49	2.24	100.50	47.45	2.12	97.97	48.12	2.04

MULTI-ROWAN 2 INSTALLATION //

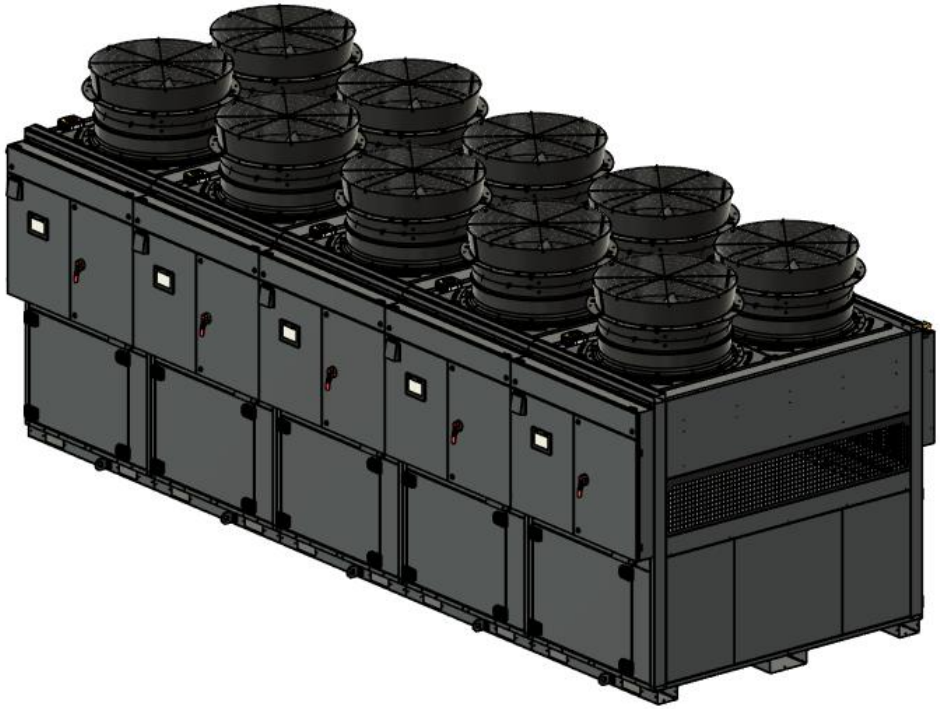
The Rowan 2 can be installed in multiple units in two configurations:

1. Close coupled with a reverse return header for space saving and easy balancing.
2. Separated for flexibility and weight spreading.

In either configuration the Rowan 2 multiplex controller (wall mounted) provides the same level of control and efficiency.

This flexible design provides maximum options for installations enabling the Rowan 2 to be used on a wide range of buildings.

1m clearance for service and air flow is required to the front, back and cascade ends.



ABOUT THIS INFORMATION //

Performance may vary based on climate conditions, installation quality, and specific usage patterns. Actual energy savings may differ from estimates.

Professional installation is required to ensure optimal performance and compliance with local building codes. Improper installation will void the warranty.

Regular maintenance is necessary to maintain efficiency and performance. Failure to perform recommended maintenance may reduce system lifespan and efficiency.

Efficiency ratings (COP) are based on standard testing conditions and control patterns. Actual efficiency may vary depending on operational conditions and geographic location. COP are instantaneous figures not averaged over any period of time which may include defrost and other system variables.

Heat pumps are designed for specific use. Using the product for unintended purposes may result in suboptimal performance or damage.

Noise levels produced by the heat pump may vary based on the installation environment and operating conditions. Sound pressure figures are for free field without the specifics of the site application.

Please refer to the user manual and installation guide for detailed information on operation, maintenance, and safety instructions.

Clade continually innovate to improve our products, the information in this document are valid (excepting typographic errors) at the time of publication. Availability, specification and performance are subject to change from time to time and without warning.

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