CLADE

ROWAN 2 RANGE

R290 HEAT PUMP //
HEATING ONLY
HEATING AND COOLING
HIGH AND MEDIUM TEMPERATURE

April 2026 //

ROWAN 2 //

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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 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.

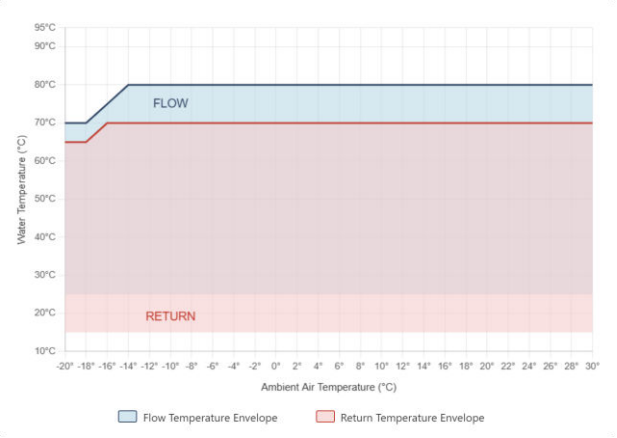
- **Heating only or Heating-or-Cooling models available**
- **80°C High temperature**

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

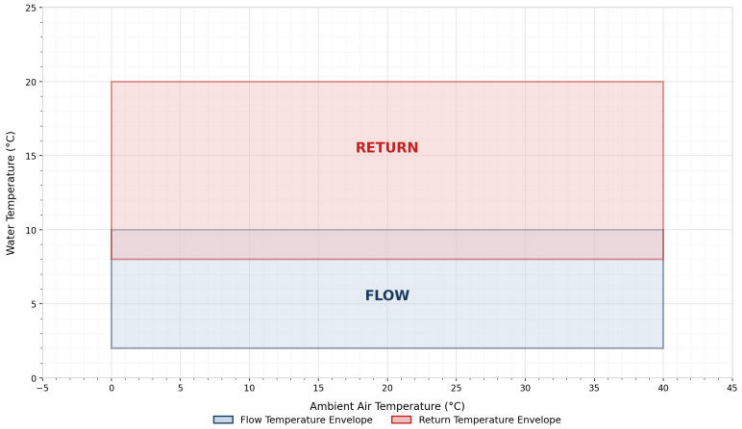
- SCOP - Achieves a high Seasonal Coefficient of Performance of 3.7
- Full performance from -15°C to +40°C ambient temperature
- Future proof refrigerant which is non-toxic with a GWP of 3
- Cooling at 6/12°C water temperatures
- Can be multiplexed using Clade Controller
- Leak detection and vent fan 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



Rowan 2 r290 cooling operating envelope



R290 - Propane

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.

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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ROWAN 2 TECHNICAL DATA //

Rowan 2 120/90 kW		Heating Mode	Cooling Mode
REFRIGERATION SIDE			
Compressor Type	-	Reciprocating	
Compressor Qty	Pcs.	1	
Refrigerant	-	Propane (R290)	
Refrigerant Circuits	Pcs.	1	
Variable speed drive (VSD)	Pcs.	1	
Refrigerant charge	kg	11.2	
Defrost Type	-	Hot Gas	
Defrost medium	-	R290	
Low Noise (LN)			
Unit Weight (Shipped)	kg	2400	
Sound Power Level Lw(A)	dB	68	84
Standard Noise (LN)			
Unit Weight (Shipped)	kg	2200	
Sound Power Level Lw(A)	dB	84	87
WATER SIDE			
Type of internal exchangers	-	Stainless steel plate	Stainless steel plate
No. of Plate Heat Exchangers	Pcs.	1 (condenser PHX)	1 (evaporator PHX)
Exchanger Water Volume	L	27.3	56.8
Connections waterside inlet/outlet	mm (OD)	67	76
Control Methodology	-	PICV (Danfoss AB-QM)	PICV (Danfoss AB-QM)
Total Waterside Pressure Drop (Max)	kPa	56.1	78.3
Max System Water Flow Rate	l/s	3.10 at W40/30 10K TD	4.88 at W6/12 6K TD
Min Water Flow Rate	l/s	0.95	1.91

FANS SECTION			
Fans type	-	Axial	Axial
N° fans	Pcs.	2	2
Total System Airflow (Max)	m^3/s	9.5	11.5
Evaporator Airside Pressure Drop	Pa	212	257
Fan Input Power (Max)	kW	3.9	5.4
Fan regulation	-	0-10V	0-10V
ELECTRICAL DATA			
Electrical supply	-	3~ 400V 50 HZ	
Total Absorbed Power (Max)	kW	42.8	50
Total Current per phase (FLC)	A	72.7	84.9
Max Operating Current (MOC)	A	100	100
Max Start-Up Current	A	38	47.1
Max Inrush Current	A	135	135
Total kVA (Max)	kVA	50.3	58.8
Mains Isolator	A	125	125
Communication protocol	-	BACNET over IP (optional extra)	
IP-Class	-	IP54	

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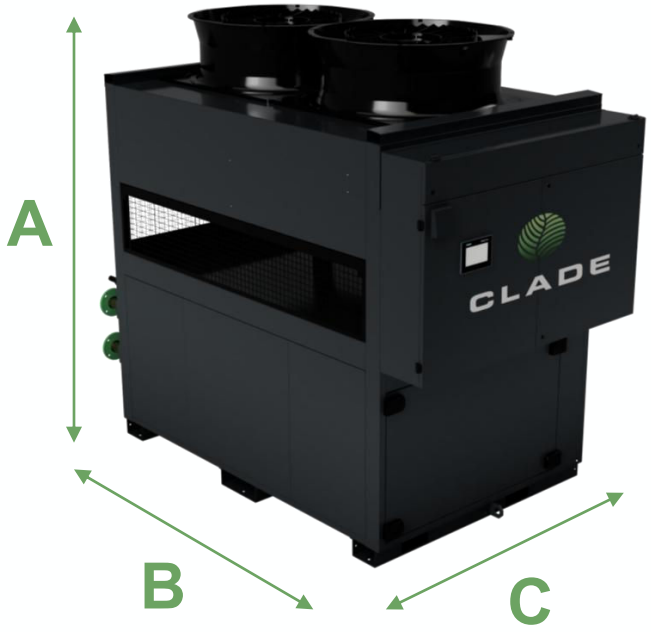
DIMENSIONAL INFORMATION //



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

ACCESS			
Minimum free space side	mm	1000	1000
Minimum free space front	mm	1000	1000
Minimum free space back	mm	1000	1000
Minimum free space above	mm	6000	6000

CONTROL OPTIONS //

Modular Control

The Rowan 2 is designed to operate as part of a multi-heat pump array. A modular controller is required for installations of 1 up to 6 heat pumps. The controller can be mounted on one unit or separately as required.

Buffer Control

The Clade Buffer Controller can be used as normal with arrays of Rowan2 heat pumps. The buffer controller enables BACNET integration, buffer charge and discharge management and sequencing of cascades of heat pumps.

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.

SEASONAL COEFFICIENT OF PERFORMANCE //

System seasonal efficiency can be significantly improved by varying the water flow temperature in response to external ambient temperature, a strategy known as weather compensation. The table below shows the SCOP achievable at different design flow temperatures for each standard array configuration.

Rowan 2	Heating
SCOP - Variable Supply Temp - W65 (1)	3.20
SCOP - Variable Supply Temp - W55 (1)	3.60
SCOP - Variable Supply Temp - W45 (1)	3.84
SCOP - Variable Supply Temp - W35 (1)	4.18

• COP / EER figures provided in this table are calculated in line with EN14511 (SCOP/SEER in line with EN14825) at the stated ambient conditions and design water flow and return temperatures. Figures shown relate to specific design conditions which in physical application may vary significantly due to changes and fluctuations in conditions such as ambient temperature, humidity and fluctuations to system temperatures, flow rates etc. As such all COP / EER figures are subject to variation and should be taken as maximum achievable instantaneous figures at the design condition.
•SCOP figures represent the maximum achievable seasonal efficiency at the stated design condition. Actual in-service performance will vary with ambient temperature, humidity, system flow rates, and the degree to which weather compensation control is implemented. These figures should not be used as guaranteed energy consumption values for building regulations compliance calculations without applying appropriate correction factors.

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ROWAN 2 PERFORMANCE //

Heating

Model name	Water Temp (°C)	-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	80/70	78	46	1.7	88	49	1.8	96	51	1.9	107	54	2.0	112	54	2.1	112	53	2.1	112	51	2.2
	75/65	79	44	1.8	89	47	1.9	98	48	2.0	109	50	2.2	114	51	2.2	114	50	2.3	114	47	2.4
	70/60	80	41	1.9	90	44	2.0	100	46	2.2	111	48	2.3	116	48	2.4	116	47	2.5	116	45	2.6
	65/55	81	39	2.1	91	42	2.2	102	43	2.4	114	45	2.5	119	45	2.6	119	44	2.7	119	42	2.8
	60/50	82	37	2.2	93	39	2.3	103	41	2.5	116	42	2.7	121	42	2.8	121	41	2.9	121	39	3.1
	55/45	83	35	2.4	94	37	2.5	105	39	2.7	118	40	3.0	123	40	3.1	123	39	3.2	123	37	3.3
	50/40	84	34	2.5	95	36	2.7	107	37	2.9	120	38	3.2	125	38	3.3	125	37	3.4	125	35	3.6
	45/35	85	32	2.7	96	34	2.9	109	35	3.1	122	36	3.4	128	36	3.6	128	35	3.7	128	33	3.9

Cooling

Model name	Water Temp (°C)	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)	EER	QH (kW)	PI (kW)	EER	QH (kW)	PI (kW)	EER	QH (kW)	PI (kW)	EER	QH (kW)	PI (kW)	EER	QH (kW)	PI (kW)	EER	QH (kW)	PI (kW)	EER
ROWAN 2	12/6	123	44	2.8	117	46	2.6	111	47	2.4	108	48	2.3	104	48	2.2	101	49	2.0	98	50	2.0
	11/5	120	43	2.8	114	45	2.6	108	46	2.4	106	46	2.3	102	47	2.2	98	48	2.0	96	49	2.0
	13/7	123	48	2.6	117	49	2.4	111	50	2.2	108	51	2.1	104	52	2.0	100	53	1.9	98	54	1.8
	14/8	126	49	2.6	119	50	2.4	113	52	2.2	111	52	2.1	107	53	2.0	103	54	1.9	100	55	1.8
	16/10	131	51	2.6	125	52	2.4	118	54	2.2	116	54	2.1	112	55	2.0	107	56	1.9	105	57	1.8
	17/11	134	52	2.6	128	53	2.4	121	55	2.2	118	55	2.1	114	56	2.0	110	57	1.9	107	58	1.8

The performance data presented here reflects testing under the controlled parameters outlined in EN 14511 and is intended for ideal conditions only. Actual performance may differ due to variables such as installation specifics, operational settings, and climatic variations. Customers should verify requirements for each individual application, recognizing that local conditions in the United Kingdom can markedly influence real-world results.

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.

* In cooling mode access is required all around the individual modules

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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