



CLADE

YEW

**R290 HIGH TEMPERATURE
DIRECT BOILER REPLACEMENT HEAT PUMP //**

July 2025 //



YEW RANGE //

Cutting edge technology to generate high capacity and temperature on a low differential. Featuring unparalleled 80/70 flow and return from a heat pump up to 650KW at +7°C ambient temperature. The Yew can be utilised as a direct boiler replacement and ideal for district heating.

The Yew is as efficient as our standard temperature r290 heat pumps when operated at lower temperatures, this opens up the opportunity to improve building or system performance over time.



Model	-5°C capacity	+7°C capacity
Yew SN 210/140	140KW	210KW
Yew SN 315/210	210KW	315KW
Yew SN 420/280	280KW	420KW
Yew SN 525/350	350KW	525KW

- Variable capacity output with inverter technology
- Accurate LTHW control with PIC valve technology
- Modular units for resilience
- Hot gas defrost
- Future proof refrigerant
- GWP =3/0.02* & ODP = 0
- External header for easy installation in either direction
- Up to 80°C hot water
- Coated coil option
- Can be multiplexed using Clade Multi Controller



R290 - PROPANE

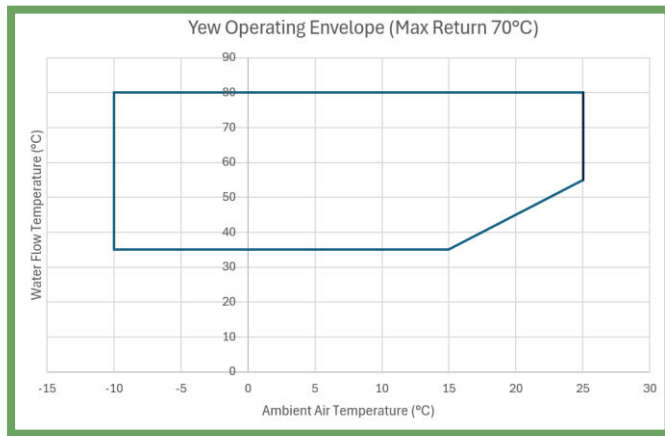
Clade is a leading manufacturer of r290 propane heat pumps being one of the first to bring a large capacity heat pump to market. We continue to innovate with this exciting refrigerant.

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.

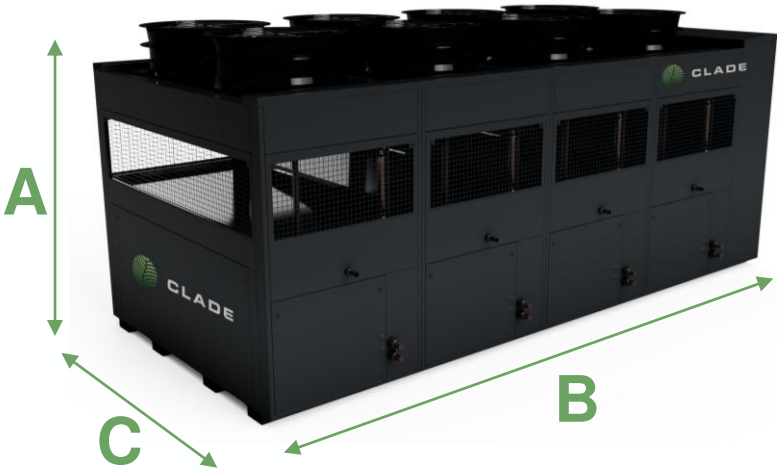
Its high latent heat and superior thermal conductivity enable efficient heat transfer, enhancing the energy efficiency of heat pump systems. R290 operates effectively across a wide range of temperatures, making it suitable for both heating and cooling applications.

While its flammability requires safety consideration, modern system designs and proper handling mitigate these risks. Overall, R290 propane represents a future-proof choice for heat pumps, balancing performance, cost-effectiveness, and sustainability in decarbonizing heating solutions.

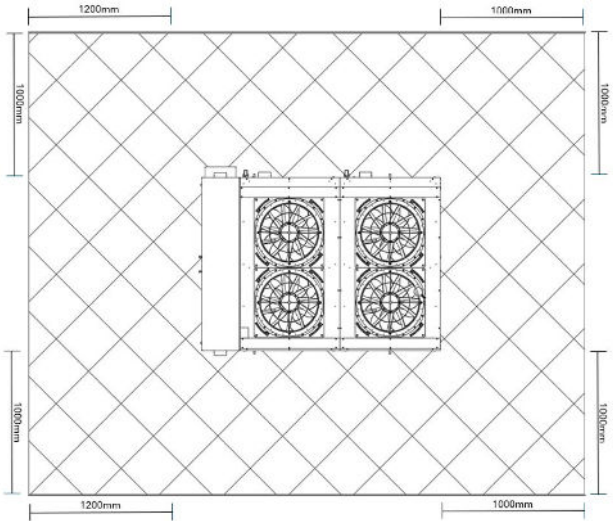




DIMENSIONAL INFORMATION //



Unit	Height 'A' (mm)	Width 'B' (mm)	Depth 'C' (mm)	Operating Weight (kg)	Shipping Weight (kg)
Yew SN 210/140	2382	3315	2646	3318	3250
Yew SN 315/210	2382	4715	2646	4752	4650
Yew SN 420/280	2382	6155	2646	6186	6050
Yew SN 525/350	2838	7517	2646	7620	7450





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.

See capacity tables for details

Pressure independent control valve

A Pressure Independent Control Valve (PICV) controls and regulates the flow of water in a hydronic system while maintaining a set flow rate even when the system pressure fluctuates. It combines the functions of a differential pressure controller and a control valve into a single unit. This allows for automatic balancing and precise control of flow of water over the internal heat exchangers which is matched to the compressor speed in order to maintain optimal efficiency and temperature output.

By combining variable water flow (PICV) and variable refrigerant flow (inverter driven compressor) Clade heat pumps are able to maximise efficiency over a wide range of operating conditions.

All Yew 2 R290 heat pump systems are equipped with a Pressure Independent Control Valve in each module and do not include an internal circulating pump. The pump must be specified by the system designer to provide sufficient flow at full and minimum load conditions.



Yew Range		210/140kW	315/210kW	420/280kW	525/350kW
REFRIGERATION SIDE					
Compressor Type	-	Reciprocating			
Compressor Qty	Pcs.	2	3	4	5
Refrigerant	-	Propane (R290)			
Refrigerant Circuits	Pcs	2	3	4	5
Variable speed drive (VSD)	Pcs.	2	3	4	5
Refrigerant charge	kg	12	18	24	30
No. evaporators	Pcs.	2	3	4	5
Evaporators Type	-	Flat bed			
Fin Material	-	AL/MG			
Defrost Type	-	Hot Gas			
Defrost medium	-	R290			
Electrical supply	-	3~ 400V 50 HZ			
DIMENSIONS & NOISE					
Colour	-	RAL7016 Anthracite			
Unit Weight (empty)	kg	3250	4650	6050	7450
Unit Weight (operational)	kg	3318	4752	6186	7620
Sound Power Level L _{w(A)} (dB)*	dB	90	93	95	97
WATER SIDE					
Type of internal exchangers	-	Stainless steel plate heat exchanger			
Number of internal heat exchangers	I	2	3	4	5
Exchanger Water Content (per module)	I	8.4			
Connections waterside inlet/outlet	DN	67	67	67	67
Connections waterside pressure rating	PN	6			
Factory pressure test rating	PN	6			
Control Methodology	-	PICV			
Pressure Drop Across Each Module (A7/W80) 15K TD	kPa	79.2			

Yew Range*		210/140kW	315/210kW	420/280kW	525/350kW
WATER FLOW RATES					
PER MODULE					
Nominal dT 10 K	l/s	2.44			
Minimum Water Flow Rate	l/s	0.85			
PER UNIT					
Nominal dT 10 K	l/s	4.88	7.2	9.76	12.2
Minimum water volume in heating	l	2612			
Total internal water volume	l	58.2	87.3	116.4	145.5
FANS SECTION					
Fans type	-	Axial fans			
N° fans	Pcs.	4	6	8	10
Standard air-flow	m³/s	17.8	26.7	35.6	44.4
Additional Static Pressure Available	Pa	0	0	0	0
Fan regulation	-	0-10V			
Fan Power Input	kW	7.1	10.6	14.1	17.1
ELECTRICAL DATA					
Total Absorbed Power (at 7°C ambient)	kW	114.6	171.9	229.2	286.5
Total Current per phase	A	208.6	306.3	408.4	510.5
Starting Method	-	Soft Start			
Starting Current (at -5°C ambient)	A	91.3	136.9	182.5	228.1
Total kVA	kVA	144.5	216.8	289	361.3
Electrical supply	-	3~ 400V 50 HZ			
Communication protocol	-	BACNET over IP (optional extra)			
IP-Class	-	IP54			



YEW PERFORMANCE DATA 210/140 EFFICIENCY MODE //

Heating Capacity (Efficiency Mode)																								
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	
Yew 210/140	80/70	1.9	135.5	78.5	1.7	151.7	84.2	1.8	151.7	81.7	1.9	151.7	78.7	1.9	151.7	77.3	2.0	151.7	75.7	2.0	151.7	72.2	2.1	
	75/65	2.0	136.6	73.7	1.9	153.2	78.9	1.9	153.2	77.5	2.0	153.2	74.3	2.1	153.2	72.9	2.1	153.2	71.3	2.2	153.2	67.7	2.3	
	70/60	2.2	137.7	69.2	2.0	154.8	74.1	2.1	154.8	73.5	2.1	154.8	70.2	2.2	154.8	68.6	2.3	154.8	67.0	2.3	154.8	63.4	2.4	
	65/55	2.3	138.9	65.2	2.1	156.4	69.7	2.2	156.4	69.7	2.2	156.4	66.2	2.4	156.4	64.5	2.4	156.4	63.0	2.5	156.4	59.2	2.6	
	60/50	2.5	140.3	61.4	2.3	158.1	65.6	2.4	158.1	65.9	2.4	158.1	62.3	2.5	158.1	60.6	2.6	158.1	59.1	2.7	158.1	55.3	2.9	
	55/45	2.7	141.6	58.0	2.4	159.8	61.9	2.6	159.8	62.3	2.6	159.8	58.6	2.7	159.8	56.9	2.8	159.8	55.4	2.9	159.8	51.5	3.1	
	50/40	2.9	143.1	54.9	2.6	161.6	58.4	2.8	161.6	58.9	2.7	161.6	55.1	2.9	161.6	53.3	3.0	161.6	51.8	3.1	161.6	47.9	3.4	
	45/35	3.1	144.5	52.0	2.8	163.4	55.2	3.0	163.4	55.5	2.9	163.4	51.7	3.2	163.4	49.8	3.3	163.4	48.3	3.4	163.4	44.5	3.7	
	35/25	3.6	147.5	46.8	3.2	166.9	49.4	3.4	166.9	49.1	3.4	166.9	45.2	3.7	166.9	43.3	3.9	166.9	41.8	4.0	166.9	37.9	4.4	



YEW PERFORMANCE DATA 315/240 EFFICIENCY MODE //

Heating Capacity (Efficiency Mode)																							
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
Yew 315/240	80/70	1.9	203.3	117.8	1.7	227.6	126.3	1.8	227.6	122.6	1.9	227.6	118.0	1.9	227.6	116.0	2.0	227.6	113.5	2.0	227.6	108.3	2.1
	75/65	2.0	204.8	110.5	1.9	229.8	118.4	1.9	229.8	116.3	2.0	229.8	111.5	2.1	229.8	109.3	2.1	229.8	106.9	2.2	229.8	101.5	2.3
	70/60	2.2	206.6	103.8	2.0	232.2	111.2	2.1	232.2	110.3	2.1	232.2	105.2	2.2	232.2	102.9	2.3	232.2	100.5	2.3	232.2	95.0	2.4
	65/55	2.3	208.4	97.7	2.1	234.6	104.5	2.2	234.6	104.5	2.2	234.6	99.2	2.4	234.6	96.8	2.4	234.6	94.5	2.5	234.6	88.9	2.6
	60/50	2.5	210.4	92.2	2.3	237.2	98.4	2.4	237.2	98.9	2.4	237.2	93.5	2.5	237.2	90.9	2.6	237.2	88.6	2.7	237.2	83.0	2.9
	55/45	2.7	212.5	87.1	2.4	239.8	92.8	2.6	239.8	93.5	2.6	239.8	88.0	2.7	239.8	85.3	2.8	239.8	83.1	2.9	239.8	77.3	3.1
	50/40	2.9	214.6	82.4	2.6	242.4	87.6	2.8	242.4	88.3	2.7	242.4	82.6	2.9	242.4	79.9	3.0	242.4	77.7	3.1	242.4	71.9	3.4
	45/35	3.1	216.8	78.0	2.8	245.1	82.8	3.0	245.1	83.3	2.9	245.1	77.5	3.2	245.1	74.8	3.3	245.1	72.5	3.4	245.1	66.7	3.7
	35/25	3.6	221.3	70.2	3.2	250.4	74.1	3.4	250.4	73.6	3.4	250.4	67.7	3.7	250.4	64.9	3.9	250.4	62.7	4.0	250.4	56.9	4.4



YEW PERFORMANCE DATA 420/280 EFFICIENCY MODE //

Heating Capacity (Efficiency Mode)																							
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
Yew 420/280	80/70	1.9	271.0	157.1	1.7	303.5	168.4	1.8	303.5	163.5	1.9	303.5	157.4	1.9	303.5	154.7	2.0	303.5	151.4	2.0	303.5	144.5	2.1
	75/65	2.0	273.1	147.3	1.9	306.5	157.9	1.9	306.5	155.1	2.0	306.5	148.7	2.1	306.5	145.7	2.1	306.5	142.5	2.2	306.5	135.4	2.3
	70/60	2.2	275.4	138.4	2.0	309.6	148.2	2.1	309.6	147.0	2.1	309.6	140.3	2.2	309.6	137.2	2.3	309.6	134.0	2.3	309.6	126.7	2.4
	65/55	2.3	277.9	130.3	2.1	312.9	139.4	2.2	312.9	139.3	2.2	312.9	132.3	2.4	312.9	129.0	2.4	312.9	125.9	2.5	312.9	118.5	2.6
	60/50	2.5	280.5	122.9	2.3	316.2	131.2	2.4	316.2	131.9	2.4	316.2	124.7	2.5	316.2	121.2	2.6	316.2	118.2	2.7	316.2	110.6	2.9
	55/45	2.7	283.3	116.1	2.4	319.7	123.7	2.6	319.7	124.7	2.6	319.7	117.3	2.7	319.7	113.8	2.8	319.7	110.7	2.9	319.7	103.1	3.1
	50/40	2.9	286.2	109.8	2.6	323.2	116.8	2.8	323.2	117.7	2.7	323.2	110.2	2.9	323.2	106.6	3.0	323.2	103.6	3.1	323.2	95.9	3.4
	45/35	3.1	289.1	104.0	2.8	326.8	110.3	3.0	326.8	111.0	2.9	326.8	103.3	3.2	326.8	99.7	3.3	326.8	96.7	3.4	326.8	88.9	3.7
	35/25	3.6	295.0	93.6	3.2	333.9	98.8	3.4	333.9	98.2	3.4	333.9	90.3	3.7	333.9	86.6	3.9	333.9	83.6	4.0	333.9	75.8	4.4

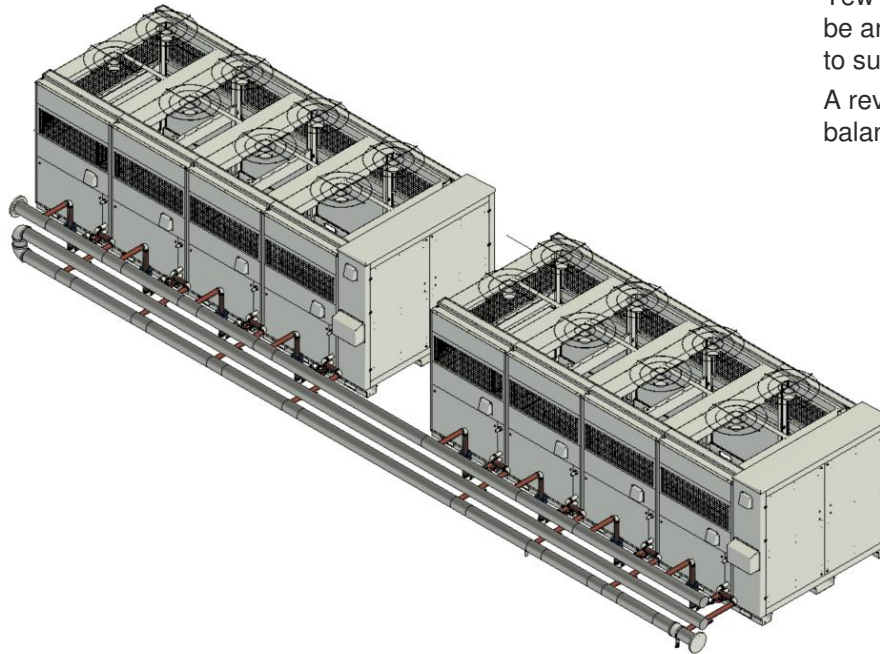


YEW PERFORMANCE DATA 525/350 EFFICIENCY MODE //

Heating Capacity (Efficiency Mode)																							
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
Yew 525/350	80/70	1.9	338.8	196.3	1.7	379.4	210.5	1.8	379.4	204.3	1.9	379.4	196.7	1.9	379.4	193.4	2.0	379.4	189.2	2.0	379.4	180.6	2.1
	75/65	2.0	341.4	184.2	1.9	383.1	197.4	1.9	383.1	193.9	2.0	383.1	185.8	2.1	383.1	182.1	2.1	383.1	178.1	2.2	383.1	169.2	2.3
	70/60	2.2	344.3	173.0	2.0	387.0	185.3	2.1	387.0	183.8	2.1	387.0	175.4	2.2	387.0	171.5	2.3	387.0	167.6	2.3	387.0	158.4	2.4
	65/55	2.3	347.4	162.9	2.1	391.1	174.2	2.2	391.1	174.1	2.2	391.1	165.4	2.4	391.1	161.3	2.4	391.1	157.4	2.5	391.1	148.1	2.6
	60/50	2.5	350.7	153.6	2.3	395.3	164.0	2.4	395.3	164.8	2.4	395.3	155.8	2.5	395.3	151.5	2.6	395.3	147.7	2.7	395.3	138.3	2.9
	55/45	2.7	354.1	145.1	2.4	399.6	154.7	2.6	399.6	155.9	2.6	399.6	146.6	2.7	399.6	142.2	2.8	399.6	138.4	2.9	399.6	128.9	3.1
	50/40	2.9	357.7	137.3	2.6	404.0	146.0	2.8	404.0	147.2	2.7	404.0	137.7	2.9	404.0	133.2	3.0	404.0	129.5	3.1	404.0	119.8	3.4
	45/35	3.1	361.4	130.0	2.8	408.5	137.9	3.0	408.5	138.8	2.9	408.5	129.2	3.2	408.5	124.6	3.3	408.5	120.8	3.4	408.5	111.2	3.7
	35/25	3.6	368.8	117.1	3.2	417.3	123.5	3.4	417.3	122.7	3.4	417.3	112.9	3.7	417.3	108.2	3.9	417.3	104.5	4.0	417.3	94.8	4.4



HEADER ARRANGEMENT //



Yew heat pumps require external headers which can be arranged in either a right or left hand configuration to suit the application.

A reverse return arrangement provides good balancing across all 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.

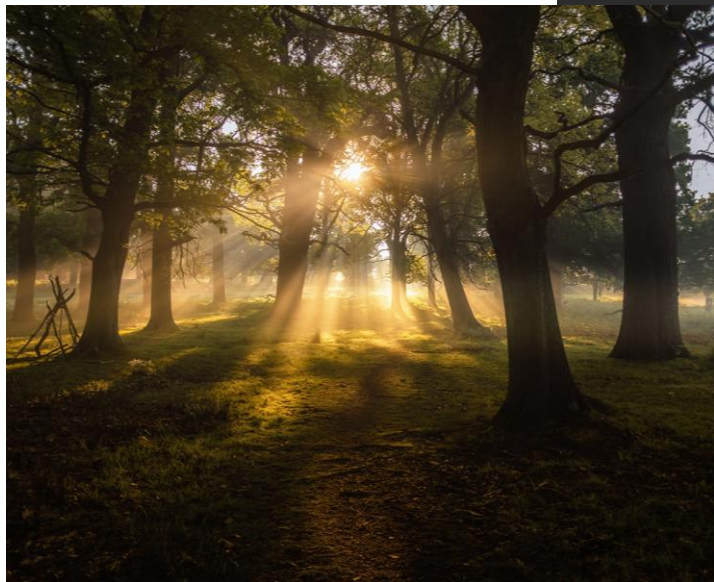
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