



CLADE

**ACER 50KW LOW NOISE CO2 HEAT PUMP //
for HEATING AND HOT WATER**

Sept 22 //



ACER MODELS //

Low Noise Model



Hawk Grey



Eagle White



Ultra Low Noise Model



Hawk Grey



Eagle White



Ultra low global warming potential refrigerant for lowest climate impact and maximum performance

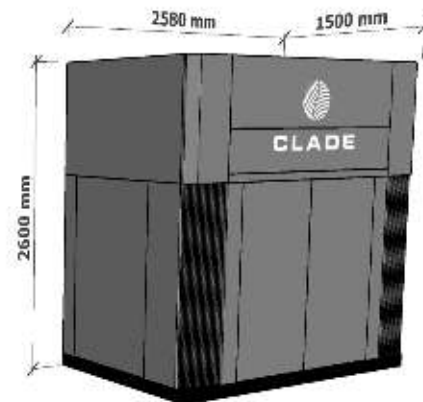
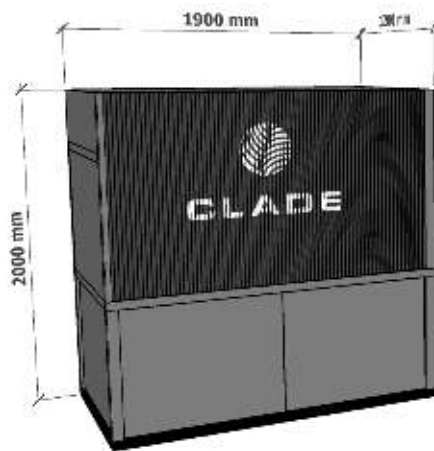


High flow temperatures for heating and hot water



DIMENSIONAL INFORMATION //

Acer Low Noise Dimensional Data



Acer Ultra Low Noise Dimensional Data





HEAT PUMP PERFORMANCE //

Noise Performance

Sound Pressure Ratings	Rating @1m
Industry Standard	58 dBA @ 1m
Acer Low Noise	48 dBA @ 1m
Acer Ultra Low Noise	33 dBA @ 1m

Market Comparison

Conditions specified	Competitors COP	Clade COP
16C, 60 flow, 10 return	4.7	4.9
7C, 60 flow, 5 return	4.3	4.5

Clade Heat Pump Performance Characteristics

SPF 3.15, SCOP 3.05 at return temperature of 30 DegC

Model name	Output Temp -10°C External		-5°C External		0°C External		5°C External		10°C External		15°C External		20°C External		25°C External		
	Heating KW	COP	Heating KW	COP	Heating KW	COP	Heating KW	COP	Heating KW	COP	Heating KW	COP	Heating KW	COP	Heating KW	COP	
Acer 50kW	55	40	2.22	50	2.48	50	2.78	50	3.09	50	3.39	50	3.66	50	3.93	50	4.27
	60	40	2.22	50	2.48	50	2.78	50	3.09	50	3.39	50	3.66	50	3.93	50	4.27
	65	40	2.22	50	2.48	50	2.78	50	3.09	50	3.39	50	3.66	50	3.93	50	4.27
	70	40	2.15	50	2.4	50	2.7	50	3	50	3.3	50	3.6	50	3.85	50	4.2
	75	40	2.15	50	2.4	50	2.7	50	3	50	3.3	50	3.6	50	3.85	50	4.2
	80	40	2.15	50	2.4	50	2.7	50	3	50	3.3	50	3.6	50	3.85	50	4.2





BUILDING CONNECTIONS //

POWER

3 phase.
 Connection box mounted in position shown.
 Isolation at control panel only.
 Installer to provide local isolator external to heat pump.

HEATING

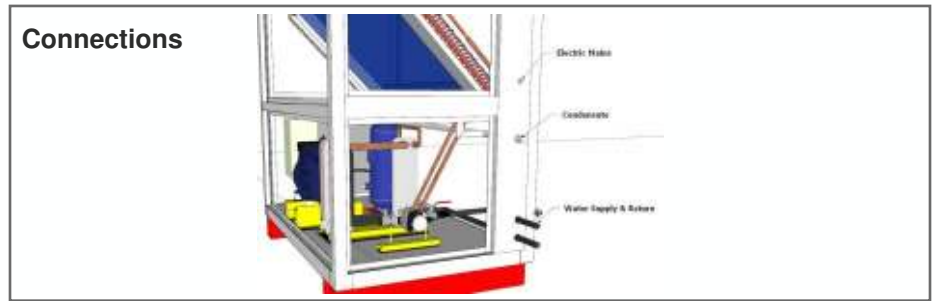
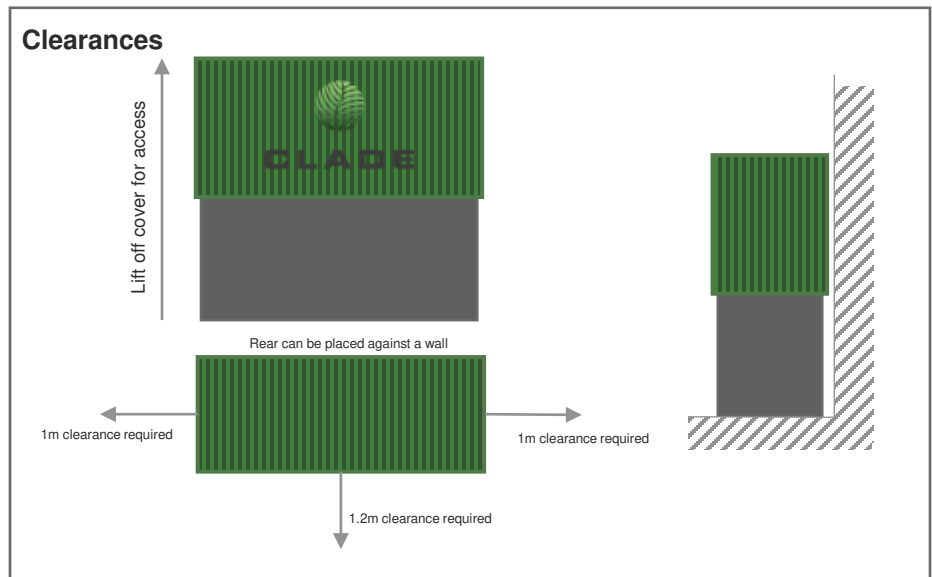
Supplied with primary pump VSD
 Flow and return located in position shown.
 PN 6 connections

CONDENSATE

Condensate from the evaporator will drain centrally from the base of the unit.
 It is recommended that a gully be installed below the heat pump and lead to a soak away.

CONTROLS

The heat pump has self contained controls that manage its operation and the primary pump.
 BMS connection by bacNet for alarms and enable signals





OPTIONS & TECHNICAL NOTES //

The following can be supplied with the Acer

- **500L Buffer for hydronic separation**

It is recommended to always use a buffer to provide separation between the system and the heat pump. The minimum volume is 500L.

- **Remote monitoring**

A modem can be factory fitted to provide remote access for performance data and fault monitoring.

System performance notes

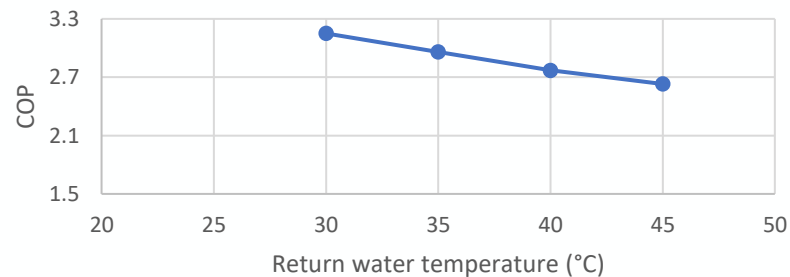
The Acer is designed for heating and hot water generation.

CO₂ is a high performance refrigerant which is safe, cheap and widely available. In order to benefit from CO₂ it is a requirement that the building system returns water at around 30° C.

The chart below shows the effect of return temperature on COP 45°C is the limit for the Acer. The controls will turn down export flow rate as return temperature rises up to this limit. Flow temperature is maintained.

Advice on achieving this system performance is available on our website or in person from one of our Engineers.

COP as a function of return temp. at 4 °C ambient and 65 °C supply temp.





BENEFITS OF CLADE ACER HEAT PUMP//

FUTURE PROOF

- Use of CO₂ natural refrigerant to avoid the future risk of the asset becoming stranded due to any pending change in F-gas regulations

MARKET LEADING LOW NOISE

- Has a sound pressure rating of no more than 48dBA @ 1m (ACER unit)
- 33dBA for Ultra Low Noise variant
- Competitor product is 59dBA @ 1m. Planning application friendly

HIGH PERFORMANCE

- Able to operate at a design ambient temperature of -10° Celsius with a seasonal coefficient of performance (SCOP) of 3 or better

SCALABLE

- Can be supplied singularly or in series, with variable flow pumps improving overall system efficiency

INTELLIGENT CONTROL

- Centrally controlled with up to six units operating from a lead controller

NO DROP-OUT IN PERFORMANCE

- Able to maintain heat output during the defrost cycle

● **ALL UNDERPINNED BY CLADE'S PERFORMANCE GUARANTEE***

*Where Clade have completed or overseen the design to stage 4 and have oversight of the stage 5 design and installation



THANK YOU //

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