



CLADE

ASPEN 200KW //

Hydrocarbon AIR SOURCE HEAT PUMPS

Aug 22//



THE ASPEN //



LOW CARBON HEATING TECHNOLOGY

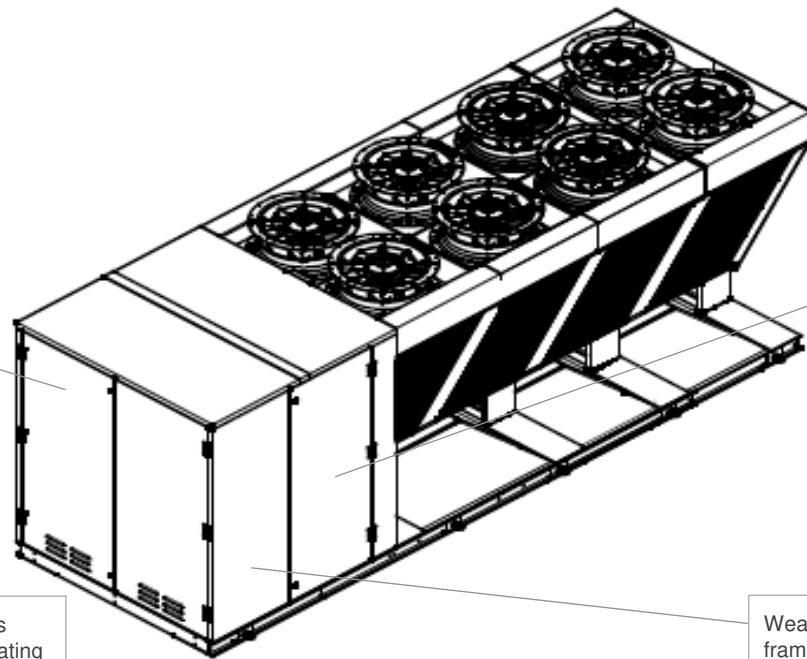
Clade Hydrocarbon heat pumps will reduce carbon emissions whilst maximising efficiency with existing cooling and heating systems. Our full-service offering makes heat pumps a simple and low risk way to improve your ESG and operational performance.





BENEFITS OF THE CLADE ASPEN HC RANGE //

200 KW of heating capacity, single unit for easy installation



Integrated electrical control panel to work seamlessly alongside client selected BMS system.

Specialist compressors provide a greater operating temperature range and increased COP.

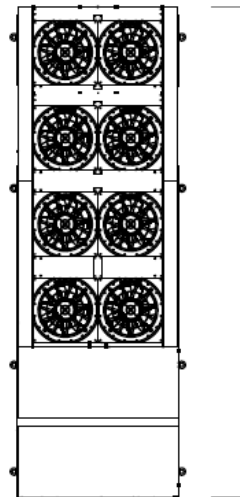
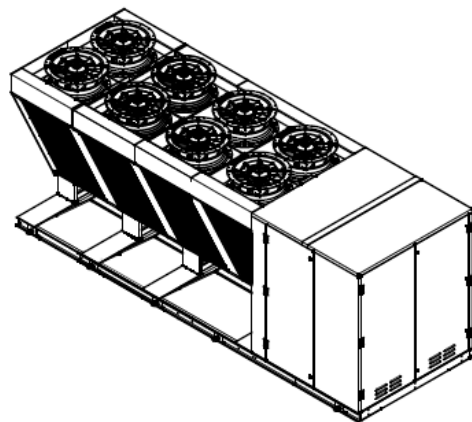
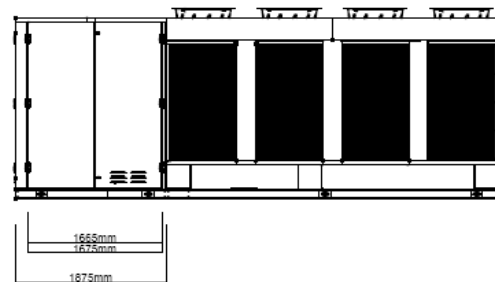
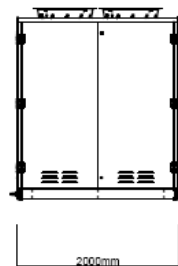
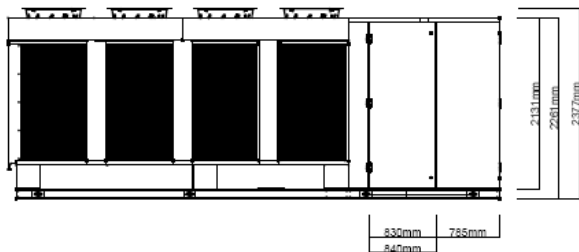
All components are easily accessible for quick and effective maintenance.

Weather proof housing and galvanised lifting frame for easy positioning on site





DIMENSIONAL INFORMATION //



Rev	Date	Details
Drawing Title: R290 2000w 45HP		
Drawing No. Aspen - 200 - R3		01
Site Address:		
Client Dwg:		
Project Manager:	Designed By:	Date:
Scale: 1:50	Drawn By: NA	Revised: A



CLADE

CLADE Engineering Systems,
Unit R3 Calderstone Spur Industrial Estate,
Stone 17th Lane, Nidley, Leicestershire
LE27 7JZ
Regional Office in Bedford & Harington
Tel: +44(0) 112 987 9604



TECHNICAL SPECIFICATION

Clade Aspen R290 ASHP		Aspen - 200kW
Nominal conditions: Water side		40/45
Nominal conditions: R290 side		Ambient air temperature -3°C (85% RH) and -12°C evaporation
Compressor Manufacturer		Dorin
Compressor Heating Qty	Pcs.	2
Compressor Power @ Design total	kW	67.9
Evaporator fans Power at design	kW	16.0
Total	kW	83.9
Heat Pump Design Run Amps DRA	A	107.4
Ancillary Controls Amps	A	10.0
Total Amps	A	117.4
Max Operating current	A	220.0
MCB / MCCB	A	200
Variable speed drive (VSD)	Pcs.	2
Receiver size	Litres	150
Refrigerant charge R290	kg	30
Electrical supply current	-	3~ 400V 50 HZ
Heating capacity	kW	200
Cooling capacity	kW	140
COP (heat pump) SCOP	-	2.33
COP (total excl. pumps) SCOP	-	2.42
Weight (empty)	kg	3,245
Weight (operational)	kg	3,275
Sound Power	dB(A)	77
Connections waterside flow	DN	DN50
Connections waterside Return	DN	DN50
Connections waterside Pressure Rating	PN	10
Waterside Burst Disk	PN	10
Design pressure HP/LP	bar	15/30
Controller type	-	PLC
Communication protocol	-	MODBUS/BACNET
IP-Class	-	IP58
Evaporators Type		V Block
No. Evaporators	Pcs.	8
No. Evaporators Fans		8
Fin Material	-	AL/MG
Defrost design/condition	-	> +6c ambient Off Cycle / < +6c ambient Cool Gas
Colour	-	RAL6035 Forest Green



PERFORMANCE //

Noise Performance Characteristics					
Model name	Nameplate output (kW)	Output Temp (°C)	Noise Data db(A)		
			Sound Power	Sound Pressure @ 1m	Sound Pressure @ 10m
Aspen 200KW	200	65	87	61	49
		70	87	61	49
		75	88	62	50
		80	88	62	50

Clade Heat Pump Performance Characteristics																				
Model name	Nameplate output (kW)	Output Temp (°C)	Return Temp (°C)	SCOP	SPF	-10°C External			-5°C External			0°C External			5°C External			10°C External		
						kW(th)	kW(e)	COP	kW(th)	kW(e)	COP	kW(th)	kW(e)	COP	kW(th)	kW(e)	COP	kW(th)	kW(e)	COP
Aspen 200	200	50.0	30.0	3.5	3.6	168.0	61.5	2.7	183.6	61.4	3.0	204.0	61.8	3.3	232.0	63.7	3.6	266.4	66.3	4.0
		55.0	30.0	3.2	3.3	166.2	66.5	2.5	183.6	67.3	2.7	204.0	68.2	3.0	232.0	70.3	3.3	266.4	74.0	3.6
		60.0	30.0	2.9	3.0	175.6	76.0	2.3	183.6	73.4	2.5	204.0	74.7	2.7	232.0	77.3	3.0	266.4	80.7	3.3
		65.0	30.0	2.7	2.7	175.6	81.3	2.2	183.6	79.5	2.3	204.0	81.6	2.5	232.0	85.9	2.7	266.4	88.8	3.0
Aspen 200	200	50.0	40.0	3.3	3.4	159.6	61.5	2.6	174.4	61.4	2.8	193.8	61.8	3.1	220.4	63.7	3.5	253.1	66.3	3.8
		55.0	40.0	3.0	3.1	157.9	66.5	2.4	174.4	67.3	2.6	193.8	68.2	2.8	220.4	70.3	3.1	253.1	74.0	3.4
		60.0	40.0	2.8	2.8	166.8	76.0	2.2	174.4	73.4	2.4	193.8	74.7	2.6	220.4	77.3	2.9	253.1	80.7	3.1
Aspen 200	200	50.0	45.0	3.2	3.3	154.6	62.9	2.5	168.9	62.8	2.7	187.7	63.2	3.0	213.4	65.2	3.3	245.1	67.7	3.6
		55.0	45.0	2.9	3.0	152.9	68.0	2.3	168.9	68.7	2.5	187.7	69.7	2.7	213.4	71.9	3.0	245.1	75.6	3.2
		60.0	45.0	2.6	2.7	161.6	77.7	2.1	168.9	75.1	2.3	187.7	76.4	2.5	213.4	79.1	2.7	245.1	82.5	3.0
		65.0	45.0	2.4	2.5	161.6	83.1	1.9	168.9	81.2	2.1	187.7	83.4	2.3	213.4	87.8	2.4	245.1	90.8	2.7

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 with 14m spare head.

Flow and return located in position shown.

PN 10 Flanged steel connections with butterfly valve.

CONDENSATE

Condensate from the evaporator will drain centrally from the base of the unit.

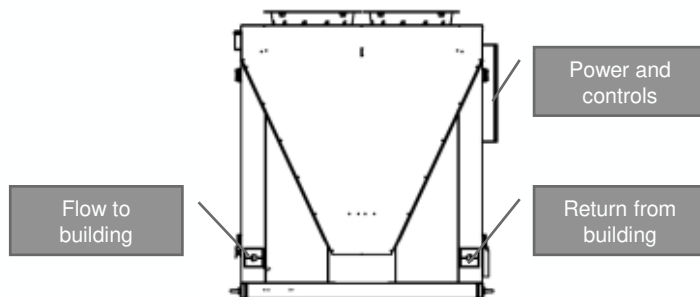
It is recommended that a gully be installed below the heat pump and lead to a soak away.

CONTROLS

The heat pump has self contained controls that manage its operation and the primary pump.

Alarms

- Hardwired shut down signal for fire alarm
- CO₂ detection
- Other fault
- High return water temperature.





PROVEN PERFORMANCE //



In 2019 Clade supplied a HC heat pump for the Trago Mills store in Devon, which at 12,500 square feet was one of Co-op's larger format stores in the portfolio.

The store has operated for over a year and the measured results are a fantastic reflection of the standard of engineering that Clade delivers.

Seasonal COP is 3.7

	COP		
	MAX	AVERAGE	MIN
June	6.9	4	2.9
July	6.8	4	3.1
August	6.8	4	3.1
September	6.5	3.9	3
October	5.9	3.8	3.1
November	6.5	3.8	2.9
December	7.4	3.5	2.8
January	5.6	3.6	2.8
February	5.2	3.4	2.8
March	5.6	3.4	2.8
April	5.3	3.4	2.8
May	5.6	3.6	2.8



LEEDS MANUFACTURING CENTRE //



- UK based
- 35 years of engineering experience
- Leeds manufacturing division
- Committed to sustainable business and sustainable products
- Investing in people, diversity & inclusion
- Non leveraged, owner operated

ACCREDITATIONS
 ISO 9001:2015
 ISO 14001:2015
 OHSAS ISO 18001:2007

CERTIFICATIONS
 Altius Assured Vendor Award
 Altius ODM Vendor Award
 CHAS
 Sales Contractor



———— THANK YOU //

www.clade-es.com

Sales@clade-es.com

Aftersales@clade-es.com

Head Office & Registered Office //
Bristol & Bath Science Park,
Dirac Crescent, Emersons Green,
BRISTOL BS16 7FR

The Technology Centre //
Unit R3 Gildersome Spur Industrial Estate,
Stone Pits Lane, Morley,
LEEDS LS27 7JZ

