



# CLADE

## ASPEN RANGE //

50KW – 150KW Hydrocarbon AIR SOURCE HEAT PUMPS

April 22//



## THE ASPEN //



# LOW CARBON HEATING TECHNOLOGY

Clade R290 Hydrocarbon heat pumps will reduce carbon emissions whilst maximising efficiency.

Flow temperatures up to 65°C and return temperatures in the range of 40°C to 50°C.

The Aspen is suitable for many retrofit applications as well as low temperature heating.





## BENEFITS OF THE CLADE ASPEN HC RANGE //

50-200 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





## 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



## CLADE PERFORMANCE //



Customer benefits from full Clade services offering

- **100% decarbonization**
- **20% electricity price reduction**
- **10% energy reduction**
- **0 refrigerant legacy**
- **20% reduced cost to maintain**
- **Performance guarantee**



## COMPLETE TECHNICAL SUPPORT BASED IN UK //



Clade offer full technical support from our Leeds Technology Centre.

- **Design assistance** – we have an in house design team who are experts in heat pump system design.
- **Product** – our products are developed by our selves from metal frames to the digital controls. Our experts are on hand to assist with any issues or adaptations required.
- **Installation support** – Our full service installation team can arrange delivery, install and carry out specialist services to ensure a successful project.
- **Commissioning** – Our own commissioning Engineers will set up, test and handover your heat pumps. Our team are some of the UK's leading experts in this field.
- **Aftercare** – All servicing and repairs are taken care of, we use online tools and field technicians to ensure maximum availability and reliability.





## CLADE INDUSTRIAL CONTROLS //

The future value of heat pumps will largely depend on rewards for providing grid flexibility and on optimal efficiency in all conditions.



Clade heat pumps are fitted with high specification PLC controls that are networked to cloud services. Delivering multiple benefits

**The Clade digital platform enables continuous operational improvements and lower service and maintenance costs.**

- Data is captured, analysed and insights generated to improve performance
- Alerts and alarms can be raised automatically
- Online diagnostics save call out time and charges

**The Clade digital platform provides dispatch services via pre-built access to the flexibility market or time of day tariff control.**

- Time and control of thermal storage for tariff and timing optimisation
- Access to grid flexibility platforms
- Safe operation of the heat pump in response to market signals that maintains warranty
- Performance and data analytics, reporting in multiple formats

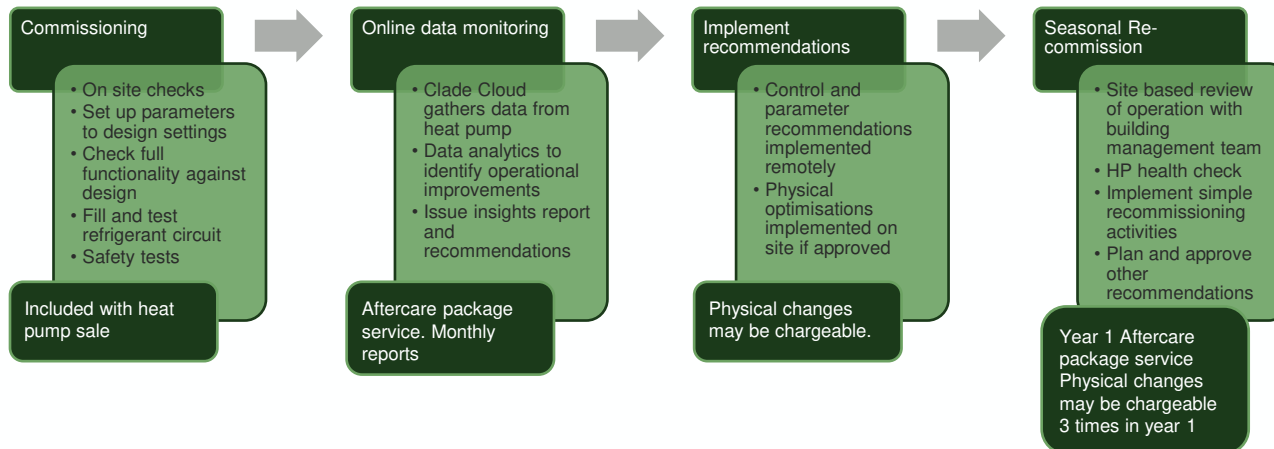


## AFTERCARE OPTIMISATION SERVICES //

Heat pump performance is dependent on four major sets of variables; the ambient conditions, the demand conditions, the physical health of the heat pump and the controls.

The ambient and demand conditions are variable across the day, week, season and year. This means that optimal year round performance is only achieved over a period of time.

Clade Aftercare package provides the basic maintenance services which maintain the physical health of the heat pump and a series of services that optimise heat pump operation over time. These optimisation services are provided by Clades expert Engineers who are on hand to analyse and assist improvements throughout the contract.







# ABOUT CLADE //



- 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  
 ISO14001: 2015  
 OHSAS ISO 18001: 2007

**CERTIFICATIONS**  
 Altius Assured Vendor Award  
 Altius CDM Vendor Award  
 CHAS  
 Sales Contractor



———— THANK YOU //

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