



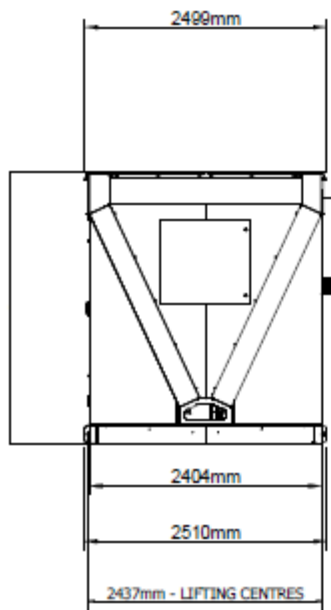
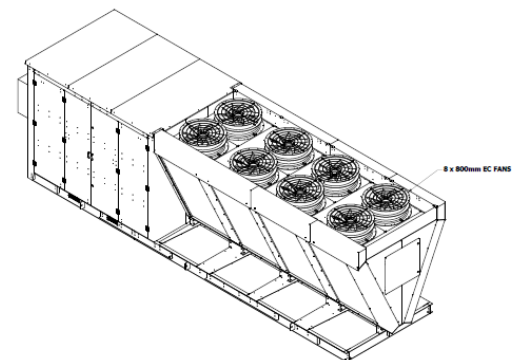
CLADE

OAK 400kW HEAT PUMP //

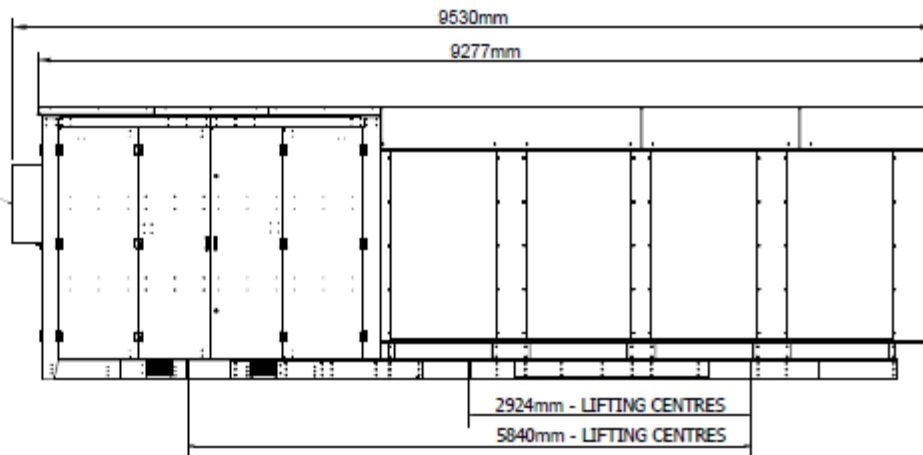
March 2023 //



DIMENSIONAL INFORMATION //



ELECTRICAL
TERMINATION BOX





TECHNICAL INFORMATION //

OAK 400kW //

Clade 400kW Oak ASHP - v1.1

Nominal conditions: Water side		flow 45c to 85c Return temperature <35°C	
Nominal conditions: CO ₂ side		Ambient air temperature +3°C (85% RH) and -9°C evaporation	
Compressor Manufacturer			Dorin
Compressor Heating Qty	Pcs.		3
Compressor Paralell Qty	Pcs.		1
Compressor Power @ Design total	kW		157.8
Evaporator fans Power at design	kW		17.3
Total	kW		177.65
Total Amps	A		303
Variable speed drive (VSD)	Pcs.		2
Refrigerant charge (CO ₂)	kg		352
Electrical supply	-		3~ 400V 50 HZ
Housing Weight (empty)	kg		7,756
Housing Weight (operational)	kg		8,108
Water Volume	L		21
Sound Power	dB(A)		84.5
Sound Pressure 1m	dB(A)		61
Sound Pressure 10m	dB(A)		51
Connections waterside flow	DN		67mm Copper
Connections waterside Return	DN		67mm Copper
Connections waterside Pressure Rating	PN		6
Waterside Burst Disk	PN		6
Waterside Flow/Return Temp	C		
Communication protocol	-		MODBUS/BACNET
IP-Class	-		IP54
Evaporators Type			V Block
No. evaporators	Pcs.		8
Fin Material	-		AL/MG
Defrost Type	-		Cool Gas CO ₂
Defrost medium	-		CO ₂
Defrost design/condition	-		> +6c ambient Off Cycle / < +6c ambient Cool Gas
Fan regulation	-		0-10v
Colour	-		BS4800 00A05 Goosewing Grey Textured paint





HEAT PUMP PERFORMANCE //

OAK 400kW //

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			15°C External			20°C External			25°C External		
						QH (kW)	PI (kW)	COPH (-)	QH (kW)	PI (kW)	COPH (-)	QH (kW)	PI (kW)	COPH (-)	QH (kW)	PI (kW)	COPH (-)	QH (kW)	PI (kW)	COPH (-)	QH (kW)	PI (kW)	COPH (-)	QH (kW)	PI (kW)	COPH (-)	QH (kW)	PI (kW)	COPH (-)
Oak 400kW	400	55	35	2.8	2.9	320	155	2.06	400	175	2.29	440	171	2.57	480	168	2.86	480	153	3.13	480	142	3.39	480	132	3.63	480	122	3.95
		60	35	2.8	2.9	320	155	2.06	400	175	2.29	440	171	2.57	480	168	2.86	480	153	3.13	480	142	3.39	480	132	3.63	480	122	3.95
		65	35	2.8	2.9	320	155	2.06	400	175	2.29	440	171	2.57	480	168	2.86	480	153	3.13	480	142	3.39	480	132	3.63	480	122	3.95
		70	35	2.8	2.9	320	159	2.01	400	182	2.2	440	176	2.5	480	171	2.8	480	157	3.05	480	145	3.3	480	135	3.55	480	123	3.9
		75	35	2.8	2.9	320	160	2	400	182	2.2	440	176	2.5	480	171	2.8	480	157	3.05	480	145	3.3	480	135	3.55	480	123	3.9
		80	35	2.8	2.9	320	160	2	400	182	2.2	440	176	2.5	480	171	2.8	480	157	3.05	480	145	3.3	480	135	3.55	480	123	3.9
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			15°C External			20°C External			25°C External		
						QH (kW)	PI (kW)	COPH (-)	QH (kW)	PI (kW)	COPH (-)	QH (kW)	PI (kW)	COPH (-)	QH (kW)	PI (kW)	COPH (-)	QH (kW)	PI (kW)	COPH (-)	QH (kW)	PI (kW)	COPH (-)	QH (kW)	PI (kW)	COPH (-)	QH (kW)	PI (kW)	COPH (-)
Oak 400kW	400	55	30	3	3.1	320	144	2.22	400	161	2.48	440	158	2.78	480	155	3.09	480	142	3.39	480	131	3.66	480	122	3.93	480	112	4.27
		60	30	3	3.1	320	144	2.22	400	161	2.48	440	158	2.78	480	155	3.09	480	142	3.39	480	131	3.66	480	122	3.93	480	112	4.27
		65	30	3	3.1	320	144	2.22	400	161	2.48	440	158	2.78	480	155	3.09	480	142	3.39	480	131	3.66	480	122	3.93	480	112	4.27
		70	30	3	3.1	320	149	2.15	400	167	2.4	440	163	2.7	480	160	3	480	145	3.3	480	133	3.6	480	125	3.85	480	114	4.2
		75	30	3	3.1	320	149	2.15	400	167	2.4	440	163	2.7	480	160	3	480	145	3.3	480	133	3.6	480	125	3.85	480	114	4.2
		80	30	3	3.1	320	149	2.15	400	167	2.4	440	163	2.7	480	160	3	480	145	3.3	480	133	3.6	480	125	3.85	480	114	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 with 14m spare head.

Flow and return located in position shown.

CONDENSATE

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

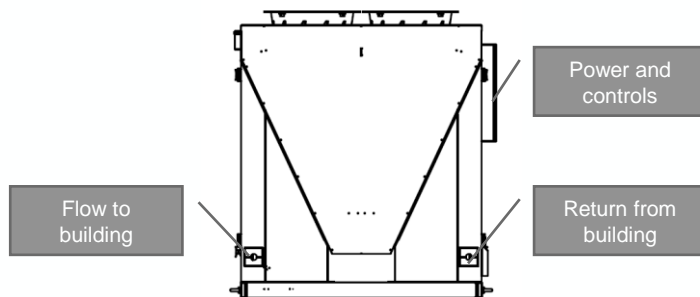
It is recommended that a gully be installed below the heat pump and lead to a soak away.

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.






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

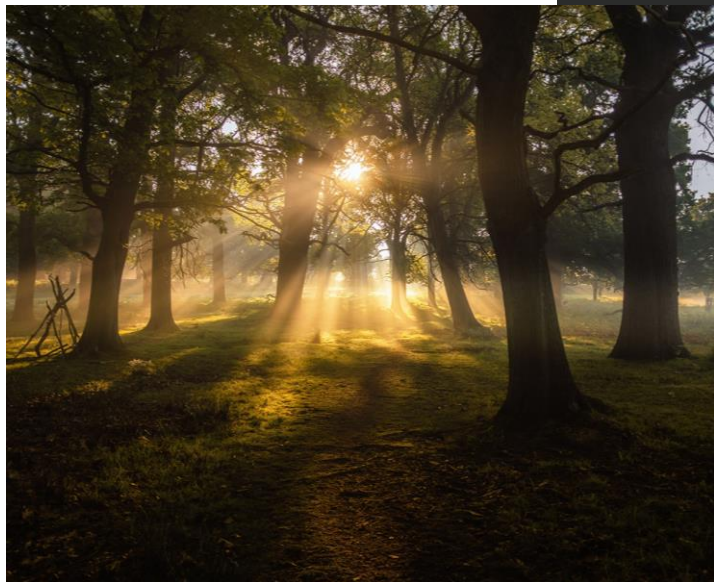


ISO 9001:2015
ISO 14001:2015
OHSAS ISO 18001:2007

CERTIFICATIONS



Altus Assured Vendor Award
Altus CDM 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

