



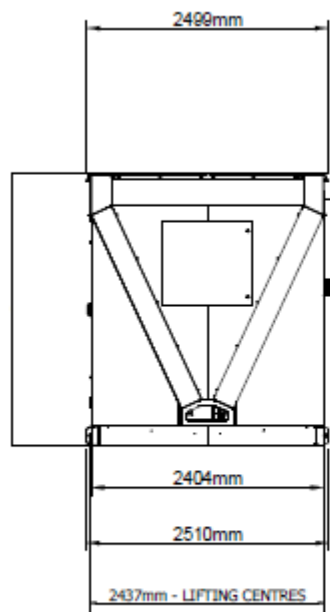
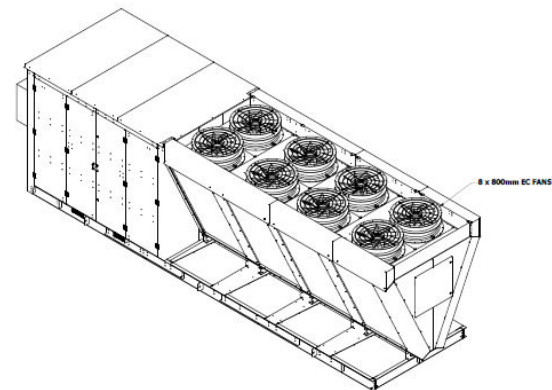
**CLADE**

**OAK 500kW HEAT PUMP //**

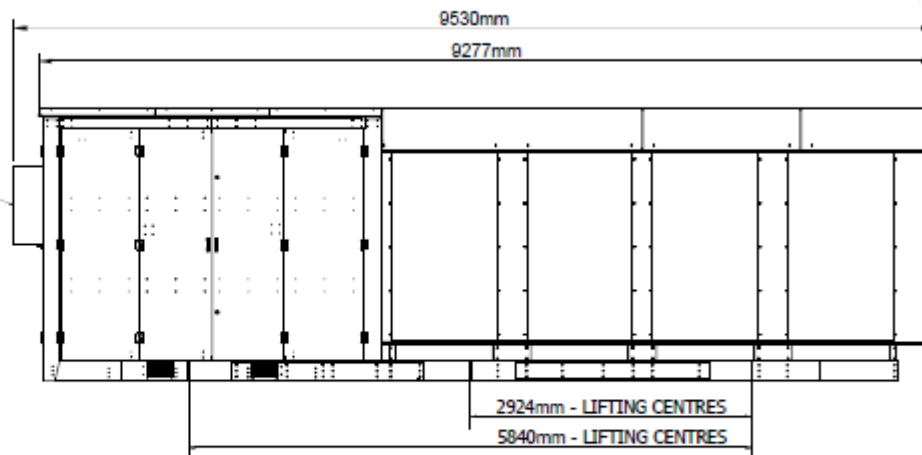
March 2023 //



# DIMENSIONAL INFORMATION //



ELECTRICAL  
TERMINATION BOX





# TECHNICAL INFORMATION //

OAK 500kW //

Clade Oak 500kW ASHP - v1.1		
Nominal conditions: Water side		flow 45c to 85c Return temperature <35°C
Nominal conditions: CO <sub>2</sub> side		Ambient air temperature +3°C (85% RH) and -9°C evaporation
Compressor Manufacturer		Dorin
Compressor Heating Qty	Pcs.	4
Compressor Paralell Qty	Pcs.	1
Compressor Power @ Design total	kW	218
Evaporator fans Power at design	kW	21.6
Total	kW	242
Total Amps	A	418
Variable speed drive (VSD)	Pcs.	2
Refrigerant charge (CO <sub>2</sub> )	kg	400
Electrical supply	-	3~ 400V 50 HZ
Housing Weight (empty)	kg	8,254
Housing Weight (operational)	kg	8,681
Water Volume	L	27
Sound Power	dB(A)	86
Sound Pressure 1m	dB(A)	62
Sound Pressure 10m	dB(A)	52
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	65/30
Communication protocol	-	MODBUS/BACNET
IP-Class	-	IP54
Evaporators Type		V Block
No. evaporators	Pcs.	10
Fin Material	-	AL/MG
Defrost Type	-	Cool Gas CO <sub>2</sub>
Defrost medium	-	CO <sub>2</sub>
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 500kW //

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 500kW	500	55	35	2.8	2.9	400	194	2.06	500	218	2.29	550	214	2.57	600	210	2.86	600	192	3.13	600	177	3.39	600	165	3.63	600	152	3.95
		60	35	2.8	2.9	400	194	2.06	500	218	2.29	550	214	2.57	600	210	2.86	600	192	3.13	600	177	3.39	600	165	3.63	600	152	3.95
		65	35	2.8	2.9	400	194	2.06	500	218	2.29	550	214	2.57	600	210	2.86	600	192	3.13	600	177	3.39	600	165	3.63	600	152	3.95
		70	35	2.8	2.9	400	199	2.01	500	227	2.2	550	220	2.5	600	214	2.8	600	197	3.05	600	182	3.3	600	169	3.55	600	154	3.9
		75	35	2.8	2.9	400	200	2	500	227	2.2	550	220	2.5	600	214	2.8	600	197	3.05	600	182	3.3	600	169	3.55	600	154	3.9
		80	35	2.8	2.9	400	200	2	500	227	2.2	550	220	2.5	600	214	2.8	600	197	3.05	600	182	3.3	600	169	3.55	600	154	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 500kW	500	55	30	3	3.1	400	180	2.22	500	202	2.48	550	198	2.78	600	194	3.09	600	177	3.39	600	164	3.66	600	153	3.93	600	141	4.27
		60	30	3	3.1	400	180	2.22	500	202	2.48	550	198	2.78	600	194	3.09	600	177	3.39	600	164	3.66	600	153	3.93	600	141	4.27
		65	30	3	3.1	400	180	2.22	500	202	2.48	550	198	2.78	600	194	3.09	600	177	3.39	600	164	3.66	600	153	3.93	600	141	4.27
		70	30	3	3.1	400	186	2.15	500	208	2.4	550	204	2.7	600	200	3	600	182	3.3	600	167	3.6	600	156	3.85	600	143	4.2
		75	30	3	3.1	400	186	2.15	500	208	2.4	550	204	2.7	600	200	3	600	182	3.3	600	167	3.6	600	156	3.85	600	143	4.2
		80	30	3	3.1	400	186	2.15	500	208	2.4	550	204	2.7	600	200	3	600	182	3.3	600	167	3.6	600	156	3.85	600	143	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.

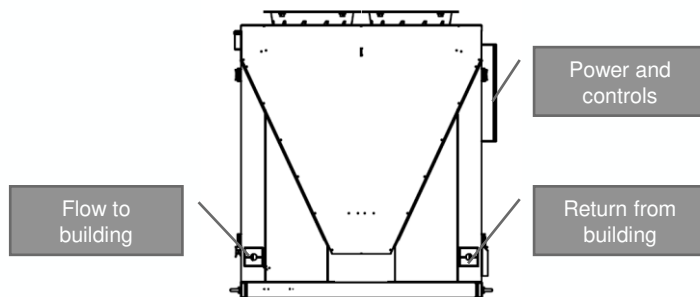
It is recommended that a gully be installed below the heat pump and lead to a soak away.

### CONTROLS

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

#### Alarms

- Hardwired shut down signal for fire alarm
- CO<sub>2</sub> detection
- Other fault
- High return water temperature.






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**CERTIFICATIONS**  
 Altius Assured Vendor Award  
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THANK YOU //

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