



CLADE

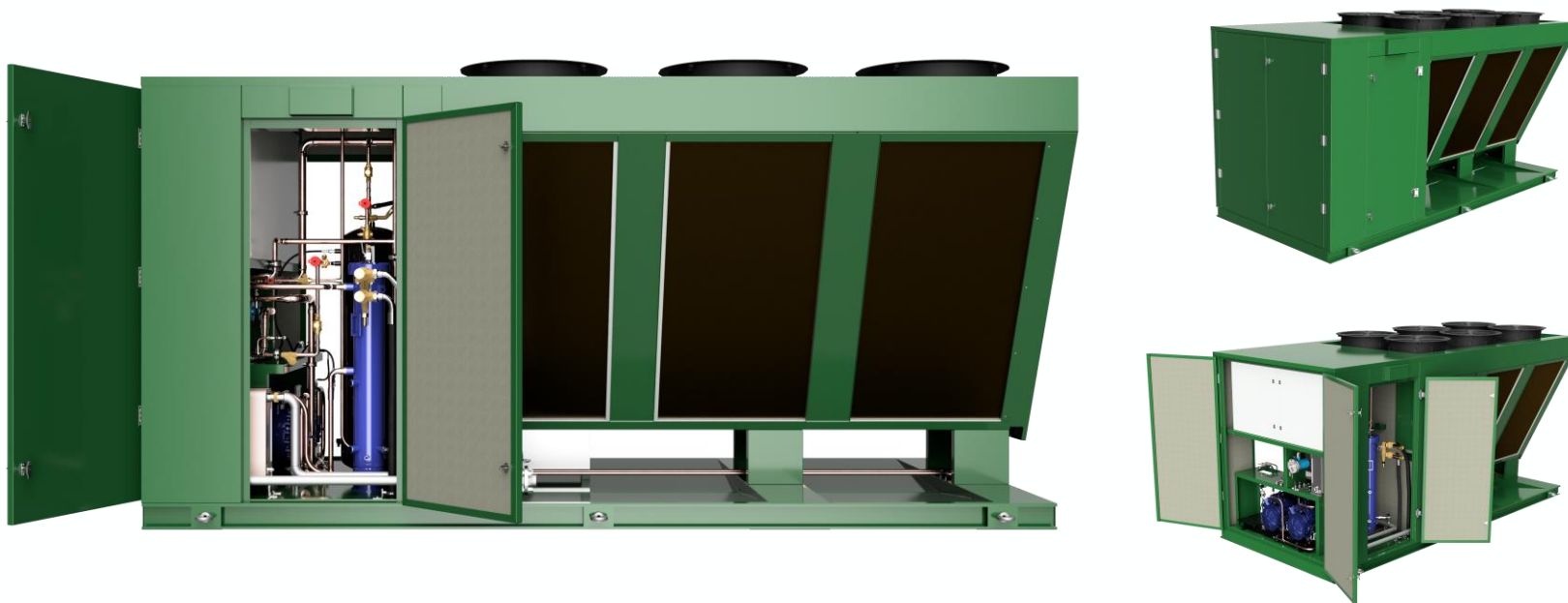
OAK 150kW HEAT PUMP //

Jan 23 //



THE CLADE OAK 150kW //

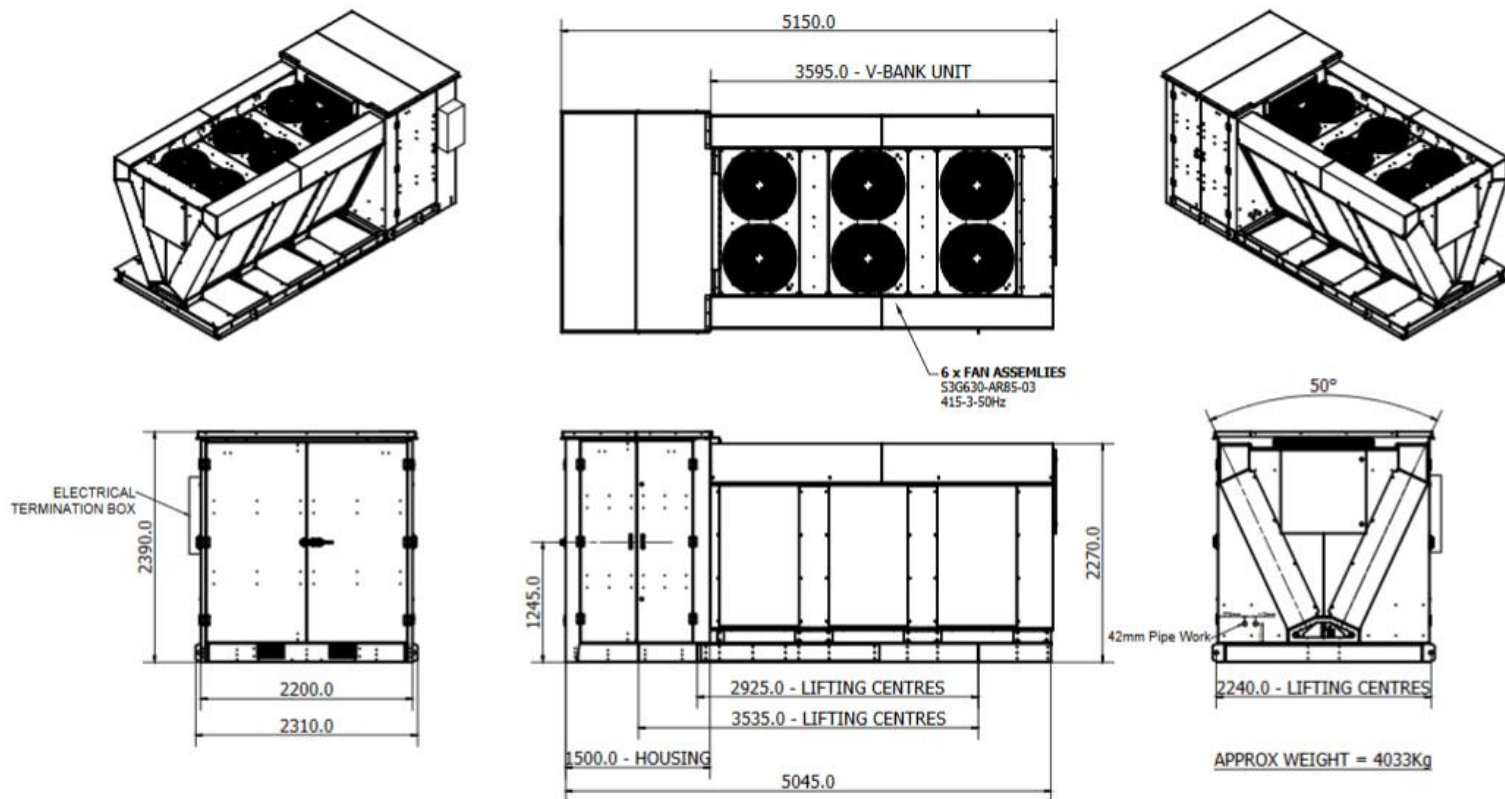
Single unit combining; compressor station, controls, gas cooler and water side pump, evaporator section



-  NON FLAMMABLE
-  NATURAL
-  CO₂
-  LOW GWP
-  80°C WATER



DIMENSIONAL INFORMATION //



DIMENSIONED OUTSIDE (mm) UNLESS STATED



TECHNICAL INFORMATION //

Clade Oak 150kW ASHP Data Sheet - 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.		2
Compressor Paralell Qty	Pcs.		0
Compressor Power @ Design total	kW		62.8
Evaporator fans Power at design	kW		4.2
Total	kW		69
Total Amps	A		128
Variable speed drive (VSD)	Pcs.		1
Refrigerant charge (CO ₂)	kg		135
Electrical supply	-		3~ 400V 50 HZ
Unit Weight (Operational)	kg		4,033
Unit Weight (Empty)	kg		3,890
Water Volume	L		8
Sound Power	dB(A)		82.2
Sound Pressure 1m	dB(A)		61
Sound Pressure 10m	dB(A)		50
Connections waterside flow	DN		42mm Copper
Connections waterside Return	DN		42mm 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.		6
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 //

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 150kW	150	55	35	2.8	2.9	120	58	2.06	150	66	2.29	165	64	2.57	180	63	2.86	180	58	3.13	180	53	3.39	180	50	3.63	180	46	3.95
		60	35	2.8	2.9	120	58	2.06	150	66	2.29	165	64	2.57	180	63	2.86	180	58	3.13	180	53	3.39	180	50	3.63	180	46	3.95
		65	35	2.8	2.9	120	58	2.06	150	66	2.29	165	64	2.57	180	63	2.86	180	58	3.13	180	53	3.39	180	50	3.63	180	46	3.95
		70	35	2.8	2.9	120	60	2.01	150	68	2.2	165	66	2.5	180	64	2.8	180	59	3.05	180	55	3.3	180	51	3.55	180	46	3.9
		75	35	2.8	2.9	120	60	2	150	68	2.2	165	66	2.5	180	64	2.8	180	59	3.05	180	55	3.3	180	51	3.55	180	46	3.9
		80	35	2.8	2.9	120	60	2	150	68	2.2	165	66	2.5	180	64	2.8	180	59	3.05	180	55	3.3	180	51	3.55	180	46	3.9

Clade Heat Pump Performance Characteristics																													
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						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 150kW	150	55	30	3	3.1	120	54	2.22	150	60	2.48	165	59	2.78	180	58	3.09	180	53	3.39	180	49	3.66	180	46	3.93	180	42	4.27
		60	30	3	3.1	120	54	2.22	150	60	2.48	165	59	2.78	180	58	3.09	180	53	3.39	180	49	3.66	180	46	3.93	180	42	4.27
		65	30	3	3.1	120	54	2.22	150	60	2.48	165	59	2.78	180	58	3.09	180	53	3.39	180	49	3.66	180	46	3.93	180	42	4.27
		70	30	3	3.1	120	56	2.15	150	63	2.4	165	61	2.7	180	60	3	180	55	3.3	180	50	3.6	180	47	3.85	180	43	4.2
		75	30	3	3.1	120	56	2.15	150	63	2.4	165	61	2.7	180	60	3	180	55	3.3	180	50	3.6	180	47	3.85	180	43	4.2
		80	30	3	3.1	120	56	2.15	150	63	2.4	165	61	2.7	180	60	3	180	55	3.3	180	50	3.6	180	47	3.85	180	43	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.



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