



CLADE

OAK 200kW HEAT PUMP //

Jan 2023 //



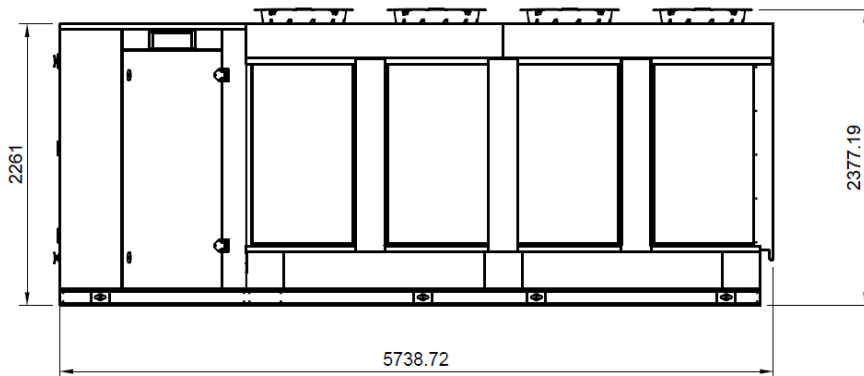
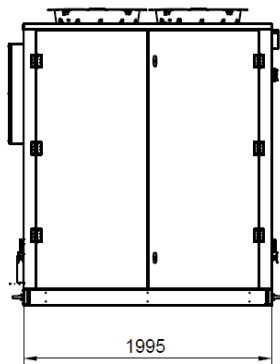
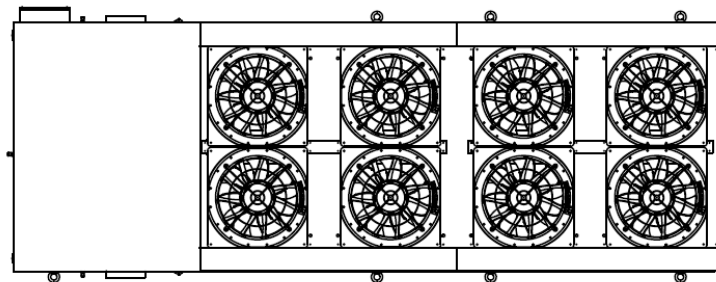
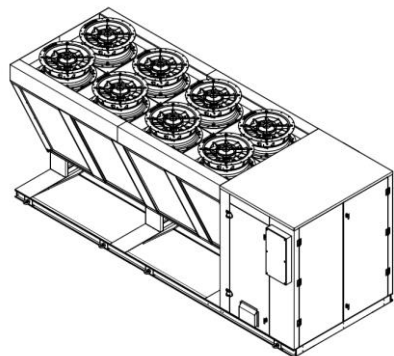
THE CLADE OAK 200kW //

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





DIMENSIONAL INFORMATION //





TECHNICAL INFORMATION //

OAK 200kW //

Clade Oak 200kW 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.	2
Compressor Paralell Qty	Pcs.	1
Compressor Power @ Design total	kW	79.2
Evaporator fans Power at design	kW	5.6
Total	kW	88
Total Amps	A	158
Variable speed drive (VSD)	Pcs.	2
Refrigerant charge (CO ₂)	kg	180
Electrical supply	-	3~ 400V 50 HZ
Unit Weight Weight (operational)	kg	4,966
Unit Weight (Empty)	kg	4,786
Water Volume	L	10
Sound Power	dB(A)	83.2
Sound Pressure 1m	dB(A)	63
Sound Pressure 10m	dB(A)	51
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.	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 200kW //

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 200kW	200	55	35	2.8	2.9	160	78	2.06	200	87	2.29	220	86	2.57	240	84	2.86	240	77	3.13	240	71	3.39	240	66	3.63	240	61	3.95
		60	35	2.8	2.9	160	78	2.06	200	87	2.29	220	86	2.57	240	84	2.86	240	77	3.13	240	71	3.39	240	66	3.63	240	61	3.95
		65	35	2.8	2.9	160	78	2.06	200	87	2.29	220	86	2.57	240	84	2.86	240	77	3.13	240	71	3.39	240	66	3.63	240	61	3.95
		70	35	2.8	2.9	160	80	2.01	200	91	2.2	220	88	2.5	240	86	2.8	240	79	3.05	240	73	3.3	240	68	3.55	240	62	3.9
		75	35	2.8	2.9	160	80	2	200	91	2.2	220	88	2.5	240	86	2.8	240	79	3.05	240	73	3.3	240	68	3.55	240	62	3.9
		80	35	2.8	2.9	160	80	2	200	91	2.2	220	88	2.5	240	86	2.8	240	79	3.05	240	73	3.3	240	68	3.55	240	62	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 200kW	200	55	30	3	3.1	160	72	2.22	200	81	2.48	220	79	2.78	240	78	3.09	240	71	3.39	240	66	3.66	240	61	3.93	240	56	4.27
		60	30	3	3.1	160	72	2.22	200	81	2.48	220	79	2.78	240	78	3.09	240	71	3.39	240	66	3.66	240	61	3.93	240	56	4.27
		65	30	3	3.1	160	72	2.22	200	81	2.48	220	79	2.78	240	78	3.09	240	71	3.39	240	66	3.66	240	61	3.93	240	56	4.27
		70	30	3	3.1	160	74	2.15	200	83	2.4	220	81	2.7	240	80	3	240	73	3.3	240	67	3.6	240	62	3.85	240	57	4.2
		75	30	3	3.1	160	74	2.15	200	83	2.4	220	81	2.7	240	80	3	240	73	3.3	240	67	3.6	240	62	3.85	240	57	4.2
		80	30	3	3.1	160	74	2.15	200	83	2.4	220	81	2.7	240	80	3	240	73	3.3	240	67	3.6	240	62	3.85	240	57	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.

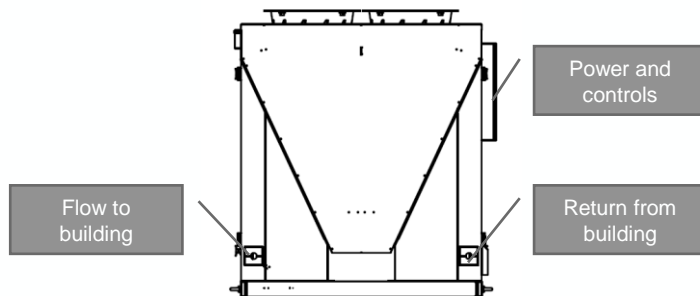
It is recommended that a gully be installed below the heat pump and lead to a soak away.

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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