

Alpha

AIR SOURCE HEAT PUMP

ALPHA HYDRO



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Alpha

INFORMATION



KEY FEATURES:

- + Ideal retrofit and new build renewable solution
- + Exceptionally high energy efficient cylinder - 56W heat loss (Energy Class B)
- + Fully modulating Grundfos UPMXL 15-125 pump fitted for all system sizes
- + High grade 316 stainless steel cylinder and manifold with brass connections
- + Soft blanket high grade insulation with zero GWP and ODP
- + 13A Switched spur power connection drawing Max 10.5A
- + Total cylinder weight 65kg (empty) and 272kg (full)
- + Easy pipework connections and simple wiring
- + Built-in control panel
- + MCS certified
- + Connect and Notify Approved
- + Up to 5 year warranty with an approved design and commissioning

ALPHA HYDRO: PACKAGED HEAT PUMP SOLUTION

The Alpha Hydro is a complete packaged solution comprising a single-phase heat pump in a choice of outputs, paired with a pre-plumbed 200 litre cylinder and Smarttech control. Select one individual component from each of the sections A, B and C below to meet the required specification.

	Description	Part number
SECTION A	200 litre pre-plumbed cylinder	3.033315
SECTION B	Hydro 5kW heat pump	3.033307
	Hydro 8kW heat pump	3.033309
	Hydro 12kW heat pump	3.033311
	Hydro 16kW heat pump	3.033313
SECTION C	Smarttech control	3.030909

The UK has set out to achieve Net Zero carbon emissions by 2050 and the government is encouraging householders to consider making the switch to renewable technologies not only to help lower our national carbon footprint, but also to future-proof their homes in the event of a change to our energy infrastructure.

Now is an important time to consider all options for updating heating systems and adopt a low-carbon solution.

The Alpha Hydro offers a single-phase heat pump in a choice of outputs paired with a pre-plumbed 200 litre cylinder and Smarttech control to provide the ultimate in renewable heating efficiency.

HOW TO MEET DESIRED HOT WATER VOLUMES

Data below is for the Alpha Hydro heat pump package with 200L Pre-plumb cylinder

House Type	Average Occupancy	Building heat load - notional	Heat Pump size	Floor Area	Recommended stored hot water temp*	Equivalent volume at 40°C draw off with 207 L at 50°C (BS6700 - NHBC/MCS)	Full heat from Cold 10°C	Re-heat after draw off - 60L
1 Bed (1 Bath)	2	3000 Watts	5 kW	50 - 60 m ²	50°C	276 L (150L)	200 mins	58 mins
2 Bed (1 Bath)	3	4000 Watts	5 kW	60 - 80 m ²	50°C	276 L (180L)	200 mins	58 mins
3 Bed (2 Bath)	5	5500 Watts	8 kW	80 - 110m ²	50°C	276 L (210)	119 mins	35 mins
4 Bed (2 Bath)	6	6500 Watts	8 kW	100 - 130 m ²	55°C	310 L (250)	119 mins	35 mins
5 Bed (3 Bath)	7	7500 Watts	8 kW	110 - 140 m ²	55°C	310 L (300)	119 mins	35 mins
6 Bed (3 Bath)	8	9000 Watts	12 kW	115 - 150 m ²	55°C	310 L (300)	49 mins	15 mins

* Anti-Legionella cycles are programmable to raise to 60°C.

NHBC GUIDANCE

Hot water storage for notional draw-off requirements should be not less than shown in the following table. Where appliances are to be installed requiring greater amounts of hot water, the storage capacity should be increased accordingly:

Home with Shower	Bath only	Bath and showers*	Two Baths
60L	120L	145L	180L

*max. 2 showers (excludes instantaneous electric showers).

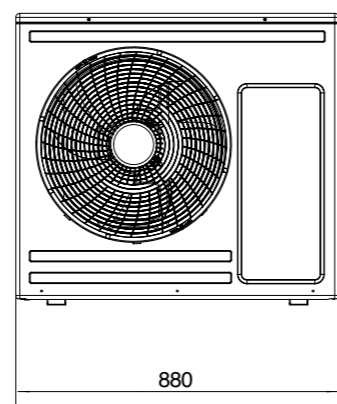
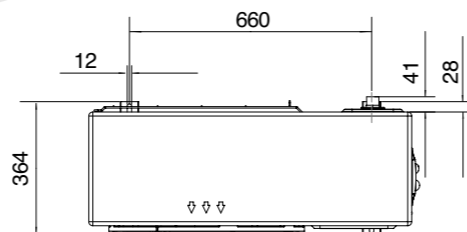
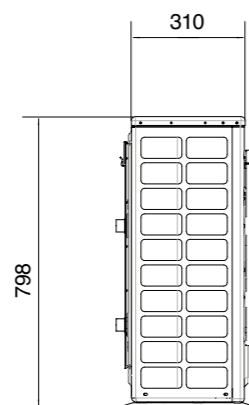
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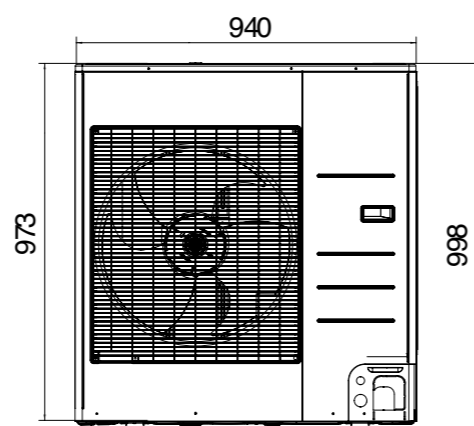
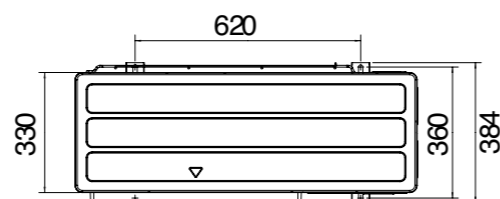
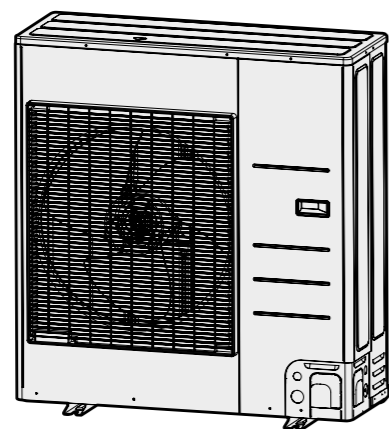
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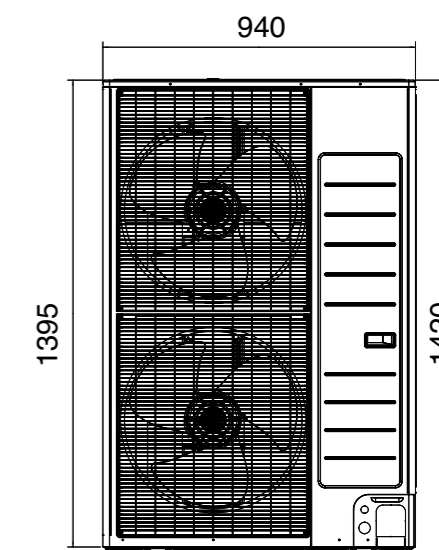
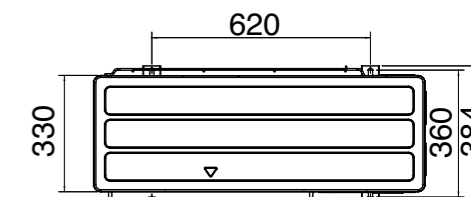
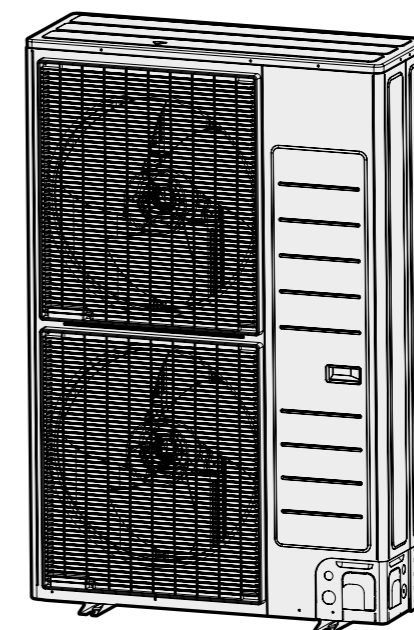
1) 5kW



2) 8kW



3) 12&16kW



Model (nominal Capacity)	5kW	8kW	12kW	16kW
SCOP	4.31	4.35	4.63	4.43
Power Supply	1Φ, 220~240V, 50Hz			
COP @ 35°C	4.85	4.52	4.53	4.42
MCS REFERENCE NO.	011-1W0592	011-1W0593	011-1W0591_1	011-1W0591_2
Operating Temperature (min/max)	-25°C ~ 35°C			
Minimum System Flow Rate	12 LPM	20 LPM	30 LPM	30 LPM
Breaker Size	16A	20A	32A	32A
Piping Connections	1" BSP	1" BSP	1" BSP	1" BSP
Net Weight	58.5kg	76kg	110kg	110kg
Pre Charged R32	1kg	1.15kg	2.2kg	2.2kg
Compressor	Twin Rotary Compressor			
Sound Pressure Level	45dBA	48dBA	50dBA	52dBA
Sound Power Level	61dBA	63dBA	64dBA	66dBA
Unit Casing	Single Fan	Single Fan	Double Fan	Double Fan

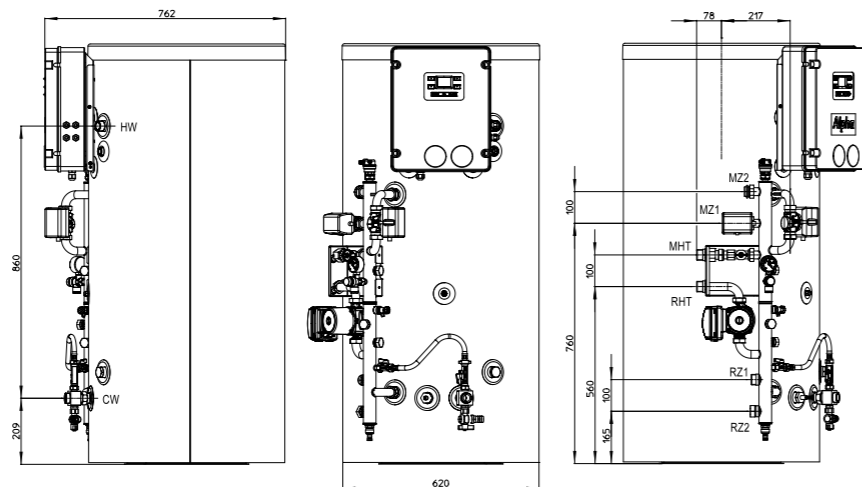
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ACCESSORIES

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Key	
MHT	Heat pump flow
RHT	Heat pump return
MZ1	Main zone 1 heating circuit flow
MZ2	Zone 2 heating circuit return (optional - remove blanking cap)
RZ1	Main zone 1 heating circuit return
RZ2	Zone 2 heating circuit return (optional - remove blanking cap)
CW	Cold water in
HW	Hot water out



Result Load profile		Hydro 5 XL	Hydro 8 XL	Hydro 12 XL	Hydro 16 XL	Symbol
Heating up time	h:min	2:00	1:19	0:49	0:39	t_h
Heating up electrical energy consumption	kWh	2.80	2.80	2.74	3.11	W_{eh-HP}
Stand-by power input	W	46	41	42	46	P_{es}
Total useful energy content during load profile	kWh	19.15	19.14	19.14	19.12	Q_{LP}
Total energy consumption during load profile	kWh	7.00	7.43	7.60	8.05	W_{EL-LP}
Daily electrical energy consumption	kWh	6.97	7.41	7.58	8.03	Q_{elec}
Coefficient of performance		2.74	2.58	2.52	2.37	COP_{DHW}
Water heating energy efficiency	%	114	106	104	98	η_{wh}
Annual electrical energy consumption	kWh/a	1474	1577	1613	1708	AEC
Reference hot water temperature	°C	50.03	48.22	46.92	47.31	θ_{WH}
Maximum volume of mixed water at 40°C	L	248.7	232.8	221.5	222.4	V_{40}
Rated volume of tank, where applicable	L	206	206	206	206	V_m
Rated heat output	kW	4.33	6.17	9.49	11.89	P_{rated}
Seasonal coefficient of performance		2.74	2.58	2.52	2.37	$SCOP_{DHW}$



CONTROL PANEL

To save installation time and space, the pre-plumbed 200 cylinder assembly is fitted with a fully wired control panel.

Only connection to the outside heat pump using a two-core cable is required and a 13A power supply connection.

Settings and commissioning via the push button digital display.

The Smartech thermostat is then wirelessly connected for temperature and time user settings with a Wi-Fi user App option.

An optional second heating zone can be served directly from the cylinder with the second zone kit valve and Smartech expansion kit.



Smartech control



2nd zone kit for use with the optional Smartech expansion kit



Anti-vibration feet (all models)



Wall bracket (5kW and 8kW models only)

Alpha

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