



ARCHITECT AND
SURVEYOR

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Our Ref:

DOCUMENT ISSUE SHEET	Form No:
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TO: FRANK MISS HARRIET FRANK NORTH YORK MOORS NATIONAL PARK AUTHORITY. THE OLD VICARAGE, BONDWATE, HELMSLEY, YORK YO62 5BP.	FROM: JOHN BLAYMIRE. Signature	Date 10 AUGUST 2018
Document	Description	No Of
	DETAILS OF AIR SWIRL PUMP.	1

MESSAGE

DEAR SIR/MADAM

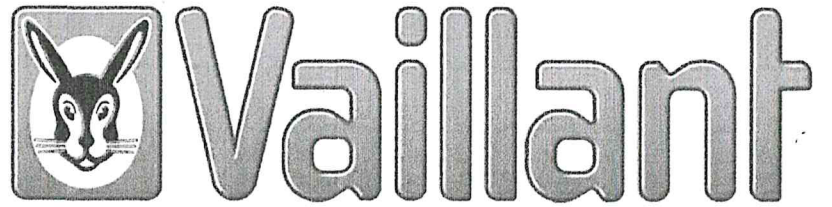
RE PLANNING APPLICATION NYM/2018/0501/FL
ALTERATIONS TO DERWENT DALE, WRENCH GREEN, HALKNESS.

FORWATER TO THE WRITERS BRIEF TEL. CONVERSATION WITH YOUR HARRIET FRANK I ENCLOSE THE ABOVE DETAILS AS REQUESTED IN YOUR LETTER OF 3RD AUGUST 2018.

YOURS FAITHFULLY.



JOHN BLAYMIRE.



Proposed System Specification

System Type:
Hybrid Heat Pump System

Project Reference:
Derwent Dale

Contact Details:
Regional Business Manager: Paul Satow

Date Created:
27 July 2018



Because  **Vaillant** thinks ahead.

Dear Customer

Thank you for your request for information on a Vaillant aroTHERM 15kW Hybrid System. Below and in the appendix you will find a recommended aroTHERM 15kW system and material list. The system is based on information you have supplied.

Estimated Space Heating and DHW requirements

Based on the information supplied we can estimate

- The peak heat loss from the property is 12.4kW at an outside temperature of -2.2°C.
- The Calculated Bi Valent point is 5°C, beyond this outside temperature the heat loss of the property will require the boiler and heat pump to operate.
- The annual heating requirement is 32082kWh/year.
- And that an addition 4776kWh/year will be required for DHW.

Thus making the total energy demand 36858 kWh/year.

Proposed aroTHERM Hybrid System

From the estimated peak heat loss and total energy demand listed above (see "Estimated Space Heating and DHW requirements") the below system(s) have been selected to suit your requirements.

aroTHERM 15kW Hybrid System

From the information you have supplied Vaillant have estimated that an aroTHERM 15kW hybrid with an oil boiler will supply 100% of the heating demand. The aroTHERM 15kW will require a 230V~ single phase electrical supply.

Domestic Hot Water System

From the information you have supplied Vaillant have estimated the properties domestic hot water requirements would be met by our uniSTOR 250L unvented cylinder. The aroTHERM 15kW will support the DHW reheating.

Additional Information

The DHW cylinder size has have been estimated, the requirements of the property need to be confirmed to ensure DHW volume is sufficient.

The emitters and pipe sizing must be designed for a heat pump system. Radiator sizing and underfloor heating spacing should be taken from the heat emitter guide sized to achieve the lowest possible flow temperature and highest star rating. Systems designed with lower flow temperatures will be more efficient. Mixed systems will only be efficient as the highest design temperatures. UFH system should be designed with zero temperature differential thermal mixers.



Installation Information

Please refer to installation instructions for full information on installation requirements.

Before purchase of the heat pump a full heat loss calculation in line with EN12831 should be carried out to ensure that the equipment is fit for the property. The plant room and entrance into the plant room must be measured to ensure all components required can be installed

The heat pump must be raised off the ground >100mm to ensure the condensate when produced can be fully cleared from the unit. A drain or soakaway will need to be accessed near the installation area. For further guidance please consult the installation instructions.

Flexible hoses and anti vibration feet must be installed in accordance with MCS MIS 3005. The primary pipework must be suitably sized to ensure correct flow across the heat pump. The heat should be positioned as close to the property as possible to reduce pressure and energy loss. Any external pipework must be insulated with HT armaflex or similar.

Planning Information

Development is permitted only if the air source heat pump installation complies with the Microgeneration Certification Scheme planning standards or equivalent standards.

An AWHP will be passed under permitted developments if the installation area passes a noise assessment (MCS 020) and the requirements of the planning portal are met. Information on planning can be found at <http://planningportal.gov.uk/permission/commonprojects/heatpumps>

N.B 15kw AroTHERM Air to Water Heat Pump requires planning

Non Vaillant required equipment list

Description	Quantity
Full bore isolation valve 28mm (min)	2
Honeywell V4044c 3 port diverting valve 28mm (min)	1
Glycol/inhibitor (Fernox HP15c)	Variable
Return heating filter (Magnaclean, TF1 or equivalent)	1
Expansion vessel kit (for both Glycol and heating circuits)	1*
Heat pump return filter (Fully isolatable, appropriately sized Y strainer)	1
Electric meter (only required for RHI)	1
Class two electrical meter (only required for RHI)	1

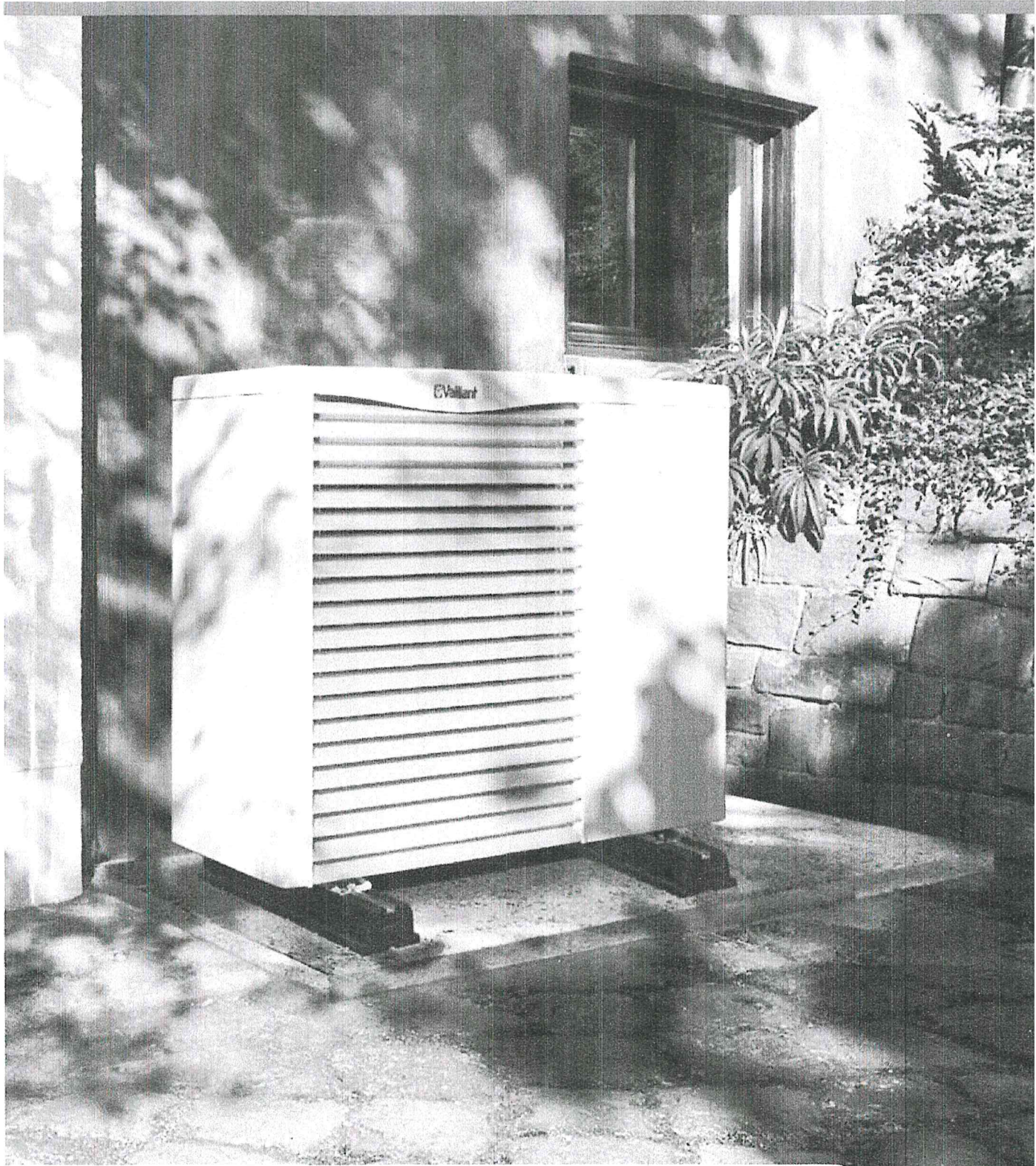
* Two expansion vessels are required if heat exchanger modules are used.



Estimated Running Costs

Estimation of running costs	
Cost space heating	£1,181.39
Cost of DHW from Heat Pump	£227.42
Cost of DHW from Immersion	£0.00
Cost CH pump(s)	£69.62
Total estimated combined running cost	£1,478.43
Electrical system performance	14078 kWh

aroTHERM heat pump



6 aroTHERM is Vaillant's second generation air-to-water heat pump range. Developed in-line with the exacting standards and precision engineering you would expect when you choose Vaillant.