Low Temperature VWART
BESA calculation method

Low Temperature VWART Calculation for Giacomini UK Ltd. HIU
Primary flow temperature = 60°C, DHW set point = 50°C, Space heating temperatures = 35°C/45°C
Test carried out by BSRIA Ltd. in September 2019, Test Reference 100799/1
Manufacturer: Giacomini UK Ltd.; Model: GE55 6Y421; Serial number: 00062/2019; Year of manufacture: 2019
VWART calculation prepared by Colin Judd of BSRIA Ltd. on 27 September 2019

	VWART (°C)	Volume (m^3)
DHW	16	29.5
Keep warm	43	52.7
Space heating	35	51.2

	VWART with keep warm active	
Period	VWART (°C)	% Time
No heating	33	93%
Heating	35	7%
Overall	33	

	DHW draw test results			Post DHW draw (60 seconds)	
	Power (W)	Primary flow (m^3/hr)	Return temp (°C)	Primary flow (m^3/hr)	Return temp (°C)
Low	10070	0.186	15.9	0.009	14.33
Medium	16212	0.319	16.0	0.026	17.00
High	21003	0.415	17.2	0.029	17.83

DHW draw volumes per annum		
Energy (kWh)	Time (hours)	Volume (m^3)
729	72.39	13.431
297	18.32	5.847
444	21.14	8.777

Post DHW draw volumes per annum		
Events	Avg duration (seconds)	Volume (m^3)
10000	30	0.780
660	75	0.360
300	145	0.352

Keep warm test results	
Primary flow (m^3/hr)	Return temp (°C)
0.0066	42.9

Keep warm volumes per annum	
Time (hours)	Volume (m^3)
7994	52.726

	Space heating test results		
	Power (W)	Primary flow (m^3/hr)	Return temp (°C)
1 kW	958	0.036	34.8
2 kW	1930	0.068	34.8
4 kW	3915	0.137	35.0

Space heating volumes per annum		
Energy (kWh)	Time (hours)	Volume (m^3)
98	102.32	3.646
787	407.68	27.846
565	144.30	19.741