High Temperature VWART Calculation for Essco Controls Ltd. HIU

Primary flow temperature = 70°C, DHW set point = 55°C, Space heating temperatures = 40°C/60°C

Test carried out by BSRIA Ltd. in November and December 2020, Test Reference 101281/2

Manufacturer: Essco Controls Ltd.; Model: Edge T1 HIU; Serial number: ESS100011499; Year of manufacture: 2020

VWART calculation prepared by Colin Judd of BSRIA Ltd. on 09 December 2020

	VWART (°C)	Volume (m^3)
DHW	15	23.5
Keep Warm	38	28.1
Space Heating	40	44.5

	VWART with keep warm active	
Period	VWART (°C)	% Time
No Heating	28	92.6%
Heating	39	7.4%
Overall	28	

	DHW draw test results			Post DHW draw (60 Seconds)	
	Power (W)	Primary Flow (m^3/hr)	Return Temp (VWART) (°C)	Primary Flow (m^3/hr)	Return Temp (VWART) (°C)
Low	11379	0.171	14.9	0.006	13.07
Medium	18628	0.288	14.5	0.019	14.29
High	23727	0.372	15.6	0.020	15.19

DHW draw volumes per annum		
Energy (kWh)	Time (Hours)	Volume (m^3)
729	64.06	10.982
297	15.94	4.595
444	18.71	6.955

Post DHW draw volumes per annum		
Events	Avg duration (Seconds)	Volume (m^3)
10000	30	0.462
660	75	0.259
300	145	0.240

Keep warm test results	
Primary Flow (m^3/hr)	Return Temp (VWART) (°C)
0.0035	38.0

Keep Warm volumes per annum	
Time (Hours)	Volume (m^3)
8015	28.058

	Space Heating Test Results		
	Power (W)	Primary Flow (m^3/hr)	Return Temp (VWART) (°C)
1kW	925	0.030	39.9
2kW	1981	0.061	40.2
4kW	3955	0.119	40.7

Space Heating volumes per annum		
Energy (kWh)	Time (Hours)	Volume (m^3)
98	105.98	3.227
787	397.19	24.308
565	142.87	16.973