

MVHR Running Costs

Heat Recovery vs. Extract Ventilation

Produced by Vent Axia 2013 using data from SAP Appendix Q test

http://www.sap-appendixq.org.uk/documents/Vent_Axia_Sentinel_Kinetic_Plus_MVHR_BP.pdf

	Flow rate, l/s	W/l/s	Electrical consumption kW/h per yr	Electrical COST £/yr at 12p/kWh	Temperature efficiency, %	Energy recovered, kWh/year	Value of energy RECOVERED £/yr at 5p/kWh	Annual Energy Cost
Sentinel Kinetic Plus								
Kitchen Plus two wet rooms	21	0.49	90	£10.82	92	1,888	£94.40	-£83.58
Kitchen Plus three wet rooms	29	0.52	132	£15.85	91	2,579	£128.94	-£113.09
Kitchen Plus four wet rooms	37	0.57	185	£22.17	90	3,254	£162.71	-£140.54
Kitchen Plus five wet rooms	45	0.62	244	£29.33	90	3,958	£197.89	-£168.56
Kitchen Plus six wet rooms	53	0.7	325	£39.00	89	4,610	£230.48	-£191.48
Kitchen Plus seven wet rooms	61	0.8	427	£51.30	89	5,305	£265.27	-£213.97
Sentinel Kinetic Compact (or Cookerhood variant)								
	Flow rate, l/s	W/l/s	Electrical consumption kW/h per yr	Electrical COST £/yr at 12p/kWh	Temperature efficiency, %	Energy recovered, kWh/year	Value of energy RECOVERED £/yr at 5p/kWh	Annual Energy Cost
Kitchen Plus two wet rooms	21	0.74	136	£16.34	91	1,867	£93.37	-£77.04
Kitchen Plus three wet rooms	29	0.81	206	£24.69	90	2,551	£127.53	-£102.83
Kitchen Plus four wet rooms	37	0.93	301	£36.17	88	3,182	£159.09	-£122.92
Kitchen Plus five wet rooms	45	1.07	422	£50.62	87	3,826	£191.29	-£140.68

Traditional ventilation by comparison..

	Flow rate, l/s	W/l/s	Electrical consumption kW/h per yr	Electrical COST £/yr at 12p/kWh	Ventilation energy loss, kWh/year	Infiltration energy loss, kWh/year	Value of energy LOST £/yr at 5p/kWh	Annual Energy Cost
Intermittent Extract Fans								
VA150	60	0.32	14	£1.68	482	2543	£152.92	£154.60
VA100 x 3	25	0.6	11	£1.31	602		£31.43	£32.75
								£187.35

Assumptions: (MVHR)

- 1) Time spent at "Boost" speed has been disregarded for both electricity used and energy recovered.
- 2) Properties are gas heated
- 3) Price of electricity 12 p/kWh
- 4) The Specific Fan Powers are from the SAP Appendix Q database and assumes the installed system resistance is the same as in that test.

Assumptions: (Intermittent Fans)

- Intermittent fans run for 2 hours per day
Infiltration rate 10m3/hr/m2@50 Pa