

# aqma

aquamaster fan convector for schools, hospitals and public buildings.  
Features for safety and security.



expect**more**



Powrmatic have extended their range of heating and cooling equipment. The aqma fan convector has been developed in conjunction with specifying authorities, specifically for installation in schools, colleges, hospitals and other public buildings. It incorporates, as standard, all the features that are essential in these demanding environments.

Particular attention has been paid to providing a heater with robust construction, easy installation and maintenance and, of course, one that is totally safe, meeting all current European legislation.



- Easy installation and maintenance
- Robust construction
- Rounded corners and tamperproof grilles
- Front security panel
- Fast heat-up
- Low noise fan unit
- Thermostatic speed control
- Low temperature cut-out thermostat
- White paint finish (RAL 9003). Other BS/RAL colours to special order



aqma Mk II shown

### Frame, casing and grilles

The aqma frame, plinth and casing is manufactured from 1.2mm mild steel, which is the foundation of the finished robust unit. Additional strength is offered with the fitting of heavy duty, cast rounded corners, these are also an important safety feature, reducing the risk of injury to the public, workforce, and in particular, young children.

For safety purposes, the front panel, which allows access to the controls, air filter, heat exchanger battery and fan unit, is fitted with quick release locks, ensuring access by authorised personnel only.

The Mark I casing features front mounted supply and inlet grilles with fine pitch aluminium louvres which restrict the possibility of objects or debris being forced into the heater. They offer a smooth linear appearance and excellent air distribution.

The Mark II casing features pressed panel louvres and offers significant cost savings without affecting air distribution. Heaters are finished in a tough, powder coat, epoxy paint finish, coloured RAL 9003 White.

### Heat Exchanger Battery

The three row batteries have copper tubes and aluminium fins, each fitted with air vents and drain cock. The maximum working hydraulic pressure is 8 bar (120 psi) and the maximum working water temperature is 110°C. Fan convectors are manufactured with the water connections on the right hand side. However, it is a simple operation to reverse the coil so the water connections are on the left hand side.

### Fan Unit

The fan unit consists of one or two centrifugal type fans fitted with balanced aluminium blades inside an involute made of galvanised steel. They are direct drive operation with self lubricated, sealed for life bearings. The motors have three speed operation, thermal overload protection and are suitable for 240V single phase electrical supply.

### Air Filter

This consists of a metal frame supporting the synthetic fibre filter medium. It is situated directly behind the inlet air grille and can be easily withdrawn for vacuum cleaning or washing in a mild detergent.

### Control

The aqma is fitted with a thermostatic speed control as standard. This controls fan speed in a smooth and proportional manner, regulating supply air volume on the dictates of the return air temperature.

The principle of operation is quite simple, the user initially selects low, medium or high speed on the manual speed selector switch, based on the specific application. The fan unit will operate at the set full speed until the return air temperature reaches 2°C below the set design temperature. The fan unit will then automatically regulate air volume, within the 2°C temperature band, maintaining a constant design temperature.

Also fitted is a pre-wired adjustable low temperature cut out thermostat and a summer/winter switch which enables the unit to operate on high speed for air circulation only.

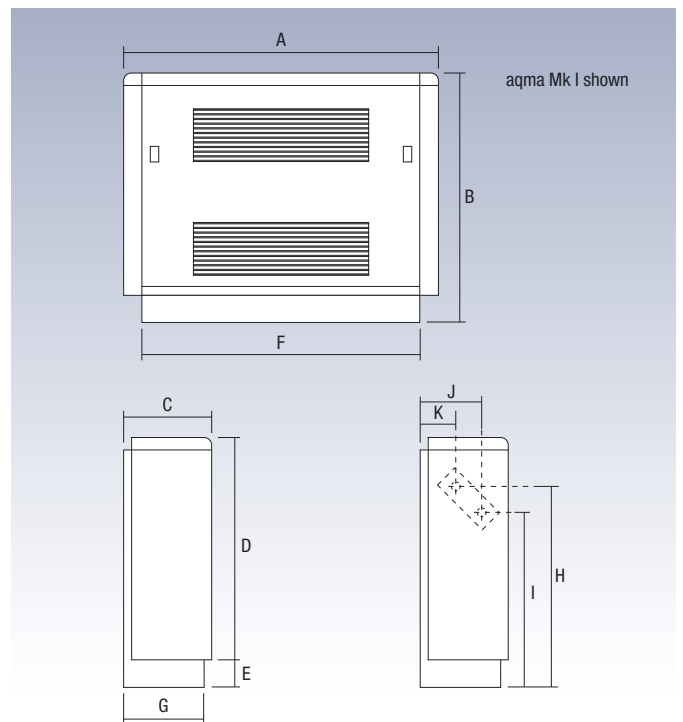
### Optional extras

Wide range of control options:

- Remote thermostat and temperature control
- Remote thermostat and setback facility
- Remote air sensor
- Manually operated 3 speed fan motor and temperature control

### Installation

The aqma is designed to provide simple and quick installation. With the outer casing removed, the chassis and plinth can be installed with unrestricted access for pipework fitting, valve fitting and electrical connections. The outer casing can then be repositioned on the plinth and secured to the wall. When the controls are set and the front panel in place, the heater is ready for operation. Access for maintenance is gained through the front panel. A simple quarter turn on the quick release locks, gives instant access into the heater. Both the fan unit and air filter can be easily withdrawn for cleaning.



aqma Mk I shown

Note: Battery connection: 1/2" B.S.P. female

# aqma fan convector

## Heat output in kW

Entering air temperature		aqma1			aqma2			aqma3			aqma4			aqma5		
Airflow m <sup>3</sup> /h		190	270	360	270	370	500	500	620	780	620	750	920	815	1120	1290
Water temperature 80/70°C	-15°C	5.07	6.77	8.48	7.27	9.44	11.99	12.70	15.06	17.96	15.62	18.16	21.23	20.16	25.76	28.62
	-5°C	4.50	6.00	7.51	6.45	8.37	10.62	11.26	13.36	15.92	13.85	16.09	18.82	17.88	22.84	25.37
	0°C	4.21	5.61	7.03	6.04	7.84	9.94	10.55	12.50	14.90	12.96	15.06	17.61	16.73	21.37	23.74
	15°C	3.34	4.45	5.57	4.80	6.23	7.90	8.39	9.95	11.85	10.30	11.96	13.98	13.31	16.99	18.86
	20°C	3.05	4.07	5.09	4.39	5.70	7.22	7.67	9.09	10.83	9.41	10.93	12.77	12.16	15.52	17.24
Water temperature 70/60°C	-15°C	4.49	5.98	7.49	6.44	8.36	10.60	11.24	13.33	15.89	13.82	16.06	18.77	17.84	22.79	25.31
	-5°C	3.91	5.21	6.52	5.62	7.29	9.24	9.81	11.63	13.86	12.05	13.99	16.35	15.56	19.87	22.06
	0°C	3.62	4.82	6.03	5.21	6.75	8.56	9.09	10.78	12.84	11.16	12.96	15.15	14.42	18.40	20.43
	15°C	2.76	3.67	4.58	3.97	5.15	6.52	6.94	8.22	9.79	8.50	9.87	11.52	10.99	14.02	15.56
	20°C	2.47	3.28	4.10	3.56	4.61	5.84	6.22	7.37	8.77	7.61	8.84	10.32	9.85	12.56	14.94
Water temperature 50/40°C	-15°C	3.31	4.40	5.50	4.77	6.18	7.82	8.33	9.87	11.75	10.21	11.85	13.83	13.20	16.83	18.68
	-5°C	2.73	3.63	4.53	3.95	5.11	6.46	6.90	8.17	9.72	8.43	9.79	11.42	10.91	13.91	15.43
	0°C	2.44	3.24	4.05	3.54	4.57	5.79	6.18	7.32	8.71	7.55	8.76	10.22	9.77	12.45	13.81
	15°C	1.58	2.09	2.60	2.30	2.97	3.75	4.03	4.76	5.66	4.89	5.67	6.60	6.35	8.07	8.94
	20°C	1.29	1.70	2.11	1.89	2.43	3.07	3.31	3.91	4.64	4.01	4.63	5.39	5.21	6.61	7.32

## Flow and pressure

		aqma1	aqma2	aqma3	aqma4	aqma5
Water temperature	°C	80/70	80/70	80/70	80/70	80/70
Flow rate	l/h	252	360	648	792	1044
Pressure drop (low speed)	kpa	1.6	3.6	11.0	4.9	8.5
Flow rate	l/h	360	5.4	792	936	1332
Pressure drop (med speed)	kpa	2.7	5.7	15.0	6.4	13.2
Flow rate	l/h	432	612	936	1116	1476
Pressure drop (high speed)	kpa	4.0	8.8	20.6	8.5	15.9

## Battery characteristics

		aqma1	aqma2	aqma3	aqma4	aqma5
Standard battery	rows	3	3	3	3	3
Frontal area	m <sup>2</sup>	0.082	0.118	0.152	0.186	0.220
Condensate tray connection Ø	mm	20	20	20	20	20
Battery connection	Ø	1/2" B.S.P.	1/2" B.S.P.	1/2" B.S.P.	1/2" B.S.P.	1/2" B.S.P.
Water content	l	1.1	1.4	1.6	2.0	2.3

## Electrical characteristics

		aqma1	aqma2	aqma3	aqma4	aqma5
Motor size	W	85	90	130	135	200
Load (low)	W	28	29	50	53	100
Load (med)	W	39	40	65	67	140
Load (high)	W	54	57	83	88	200
Running current (low)	A	0.13	0.13	0.23	0.24	0.45
Running current (med)	A	0.18	0.18	0.30	0.30	0.64
Running current (high)	A	0.25	0.26	0.38	0.40	0.91

## Weights

		aqma1	aqma2	aqma3	aqma4	aqma5
Weight	kg	30	35	40	46	52

## Noise levels in dB(A)

Fan speed	aqma1			aqma2			aqma3			aqma4			aqma5		
	Low	Med	High	Low	Med	High	Low	Med	High	Low	Med	High	Low	Med	High
63Hz	30.1	35.0	37.0	38.4	40.6	42.3	45.0	46.0	47.0	46.6	48.5	50.8	43.4	46.2	49.1
125Hz	27.2	29.0	35.2	32.4	38.0	43.0	36.0	39.0	46.5	42.9	44.2	47.1	44.8	45.3	48.4
250Hz	24.1	35.0	36.3	29.3	37.2	44.0	33.0	37.0	42.5	38.3	40.5	45.6	39.9	46.2	49.8
500Hz	21.3	30.0	35.1	21.8	30.8	43.6	30.0	39.0	45.0	33.4	40.1	45.3	40.2	51.2	52.4
1000Hz	16.2	24.0	26.8	15.2	25.6	34.6	25.0	31.9	36.5	27.2	33.8	39.4	41.1	43.0	45.2
2000Hz	13.3	17.0	18.6	10.0	19.3	30.9	22.5	30.5	37.5	20.6	29.1	36.0	34.9	39.2	42.5
4000Hz	12.4	13.0	14.1	10.2	14.3	23.0	14.0	20.5	28.5	13.3	21.7	29.2	29.2	30.2	38.8
8000Hz	10.5	10.0	10.5	10.3	10.6	13.7	11.0	12.5	18.0	10.6	12.6	18.5	19.4	21.3	33.2
Overall acoustic level	23.1	29.2	32.1	23.5	33.4	42.0	32.5	39.0	44.5	33.2	40.8	45.6	39.5	44.4	46.8

## Dimensions in mm (see diagram opposite)

	A	B	C	D	E	F	G	H	I	J	K
aqma1	865	687	234	585	102	765	214	524	400	190	73
aqma2	1045	687	234	585	102	945	214	524	400	190	73
aqma3	1215	687	234	585	102	1115	214	524	400	190	73
aqma4	1385	687	234	585	102	1285	214	524	400	190	73
aqma5	1555	687	234	585	102	1455	214	524	400	190	73

Whatever your heating and ventilation requirements, powrmatic can provide a total solution from a single source.

Our experienced sales engineers provide expert advice on all aspects of design and application, with after sales service and spares availability guaranteed by our network of regional service engineers and spares stockists strategically located throughout the UK.

powrmatic offers customers the most comprehensive range of heating and ventilation solutions available in Europe. Whatever your requirements, powrmatic has the capability to provide a total solution from a single source with products proven in some of the world's most prestigious and demanding applications.

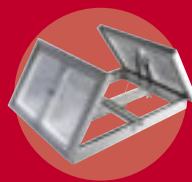
**pgv**

Glass louvred ventilator. Both functional and attractive. Specifically designed for modern building requirements.



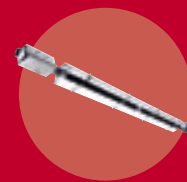
**tfv**

Twin flap natural ventilator. Suitable for smoke venting & featuring very low air leakage when closed.



**prt**

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**Cabinet heaters**

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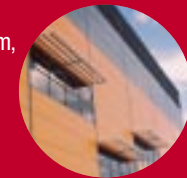
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Powered roof extract. Heavy duty high performance unit.



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Fixed solar shading system, providing attractive yet low cost solutions to reducing heat gains.



**Gas unit heaters**

A quality range of suspended gas fired unit heaters.



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