

System Design for Fan Convectors

Fan convectors are intended to be connected to central heating systems in the same way as radiators, and offer advantages and benefits not available from traditional emitters. To ensure optimum fan convector performance, great care must be taken to ensure that the choice of unit and the heating system design are considered. The following factors must be taken into consideration:

- Fan convectors should only be used on closed circulation, two pipe, pump assisted central heating systems.
- Fan convectors should be correctly sized to match the heat loss requirement of the room with the unit operating at its lowest fan speed.
- The heating system must be capable of providing sufficient hot water through the heat exchanger. This means that:
 - The minimum pipe size should be 15mm.
 - Fan convectors are not suitable for use on microbore pipe-work.
 - Fan convectors are not suitable for one-pipe systems.
 - Where the unit is fitted onto a system with other emitters, a separate circuit for the fan convector should be considered to ensure an adequate water flow through it.
- The heating system water temperature must be greater than 43°C in heating mode for the unit to operate (lower temperatures possible for heat pump applications).
- Optimum performance of the fan convector will require effective balancing of the whole system.
- Fan convectors should not be used to replace radiators in existing systems unless pipe-work sizing, system design and system balancing can guarantee an adequate flow of water through the fan convector.
- The maximum working pressure through the heat exchanger is 10 bar (150 lb/in²). The maximum allowable water temperature through the heat exchanger is 90°C.
- The unit should be mounted on a flat wall, and stud or partition walls should be avoided to minimise the possibility of noise transmission.

LO-LINE RC Performance Data

It is preferable to select the model with an output capable of maintaining the calculated heat losses of the room when operating at normal speed. The higher fan speeds will be used automatically when the room temperature is significantly lower than the preset temperature. When establishing the temperature

difference, i.e. mean water to room temperature, allowance should be made for temperature drop in the system. It is the temperature at the convector which dictates the output.

Heating Performance Data

Model	Fan Speed	Heat Output (watts)						Heat Output (Btu/h)					
		Temperature Difference (°C)						Temperature Difference (°F)					
		40°	45°	50°	55°	60°	65°	72°	81°	90°	99°	108°	117°
19-15	Normal	2921	3268	3613	3956	4298	4639	9970	11154	12331	13503	14670	15832
	Medium	3351	3748	4144	4538	4930	5321	11436	12783	14144	15488	16826	18159
	Boost	3751	4197	4640	5081	5520	5957	12803	14323	15836	17340	18839	20331
14-10	Normal	1922	2150	2377	2603	2828	3052	6559	7338	8113	8884	9652	10416
	Medium	2367	2648	2928	3206	3483	3759	8080	9039	9993	10943	11889	12831
	Boost	2803	3136	3467	3796	4125	4451	9567	10703	11833	12957	14077	15192
9-6	Normal	1098	1228	1357	1486	1617	1743	3748	4191	4633	5073	5519	5948
	Medium	1437	1608	1777	1945	2114	2282	4904	5486	6066	6642	7216	7788
	Boost	1811	2026	2240	2453	2665	2875	6182	6916	7645	8372	9096	9816
6-4	Normal	741	829	916	1003	1090	1176	2528	2829	3127	3424	3720	4015
	Medium	843	943	1043	1142	1240	1339	2877	3218	3558	3896	4233	4568
	Boost	1162	1300	1437	1574	1710	1845	3965	4436	4905	5371	5836	6297

Heat outputs tested in accordance with BS 4856 Part 1.

Flow Rate: 340 ltr/h (75 gal/h).

Flow Rate Correction Factors:

- 455 ltr/h (100 gal/h) multiply output by 1.06.
- 227 ltr/h (50 gal/h) multiply output by 0.96.
- 113 ltr/h (25 gal/h) multiply output by 0.85.

For combined heating and cooling applications, a suitable chilled water source and associated controls must be provided and installed, in accordance with the recommendations of the chiller manufacturer.

Provision must be made for condensate disposal, in accordance with any local regulations. A condensate collection tray is fitted

and a suitable drain pipe should be connected to the spigot (15mm) at the base of the condensate tray.

Thermostatic control for cooling may be achieved by connection of a thermostat into the mains supply to the unit.

All pipework must be wrapped with anti-condensate material 5-10mm thick.

Cooling Performance Data (Heater/Cooler Model Only)

Model	Fan Speed	Cooling Performance (watts)						Cooling Performance (Btu/h)					
		Air-Mean Water Temperature Difference (°C)						Air-Mean Water Temperature Difference (°F)					
		15°		20°		25°		27°		36°		45°	
		Tot.	Sens.	Tot.	Sens.	Tot.	Sens.	Tot.	Sens.	Tot.	Sens.	Tot.	Sens.
19-15	Normal	1340	1104	2002	1345	2734	1452	4572	3767	6831	4589	9328	4954
	Medium	1464	1203	2187	1511	2987	1632	4995	4105	7462	5156	10192	5568
	Boost	1533	1305	2291	1656	3128	1725	5231	4453	7817	5650	10673	5886
14-10	Normal	877	754	1310	969	1788	1034	2992	2573	4470	3306	6101	3528
	Medium	1032	878	1542	1113	2106	1159	3521	2996	5261	3798	7186	3955
	Boost	1228	1052	1835	1347	2505	1427	4190	3589	6261	4596	8547	4869
9-6	Normal	499	423	745	535	1018	553	1703	1443	2542	1825	3473	1887
	Medium	600	507	896	639	1223	655	2047	1730	3057	2180	4173	2235
	Boost	710	581	1061	770	1448	957	2423	1982	3620	2627	4941	3265
6-4	Normal	321	277	480	357	655	383	1095	945	1638	1218	2235	1307
	Medium	391	335	585	429	798	454	1334	1143	1996	1464	2723	1549
	Boost	496	397	741	526	1012	654	1692	1355	2528	1795	3453	2231

Cooling performance tested in accordance with BS 4856 Part 2.

Flow Rate: 340 ltr/h (75 gal/h).

Relative Humidity: 50%.

Flow Rate Correction Factors:

- 455 ltr/h (100 gal/h) multiply output by 1.06.
- 227 ltr/h (50 gal/h) multiply output by 0.96.
- 113 ltr/h (25 gal/h) multiply output by 0.85.

LO-LINE RC Performance Data (continued)

Approximate Hydraulic Resistance

Litres	mm wg				kPa			
	6-4	9-6	14-10	19-15	6-4	9-6	14-10	19-15
455	910	998	1240	1670	8.98	9.85	12.20	16.40
340	514	520	719	954	5.06	5.10	7.00	9.40
227	235	121	324	469	2.35	1.18	3.20	4.60
113	47	97	75	77	0.45	0.97	0.75	0.82

Weight, Water Content and Motor Power

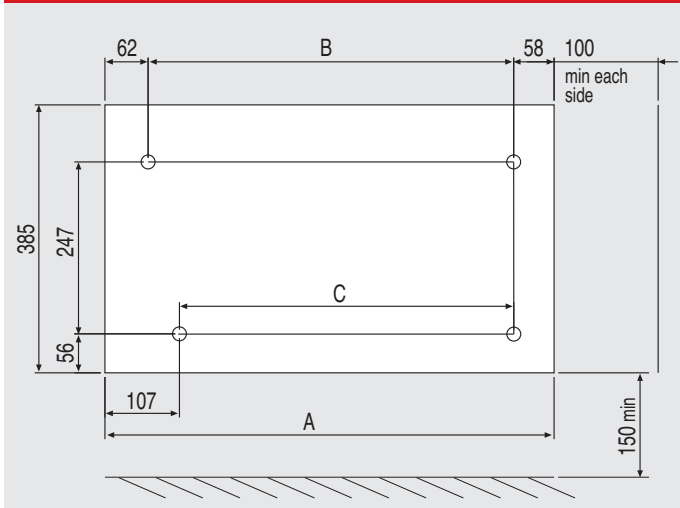
Model	Motor Power (W)	Water Content (l)	Unpacked Weight (kg)
19-15	80	0.75	15.7
14-10	62	0.56	12.7
9-6	35	0.32	9.1
6-4	35	0.3	7.7

LO-LINE RC Controls

Units are supplied with an electronic infra-red remote control system with the following features:

- Automatic room temperature control.
- Fan only option for ambient air circulation.
- Three fan speeds.
- Unit mounted controls and display.
- Unit control panel electronic tamper proof lock.
- Low water temperature set point adjustment.
- Displayed temperature calibration system.

LO-LINE RC Dimensions and Fixings



Model	Dimensions (mm)		
	A	B	C
19-15	1138	1018	974
14-10	854	733	681
9-6	645	526	481
6-4	523	404	359

Noise Levels

Model	Sound Pressures at 2.5m (dBA)		
	Normal	Medium	Boost
19-15	27.2	31.8	38.6
14-10	23.1	28.5	40.1
9-6	21.6	29.6	38
6-4	23.7	31.7	40.7

Noise levels tested in accordance with EN 23741.

Air Flow

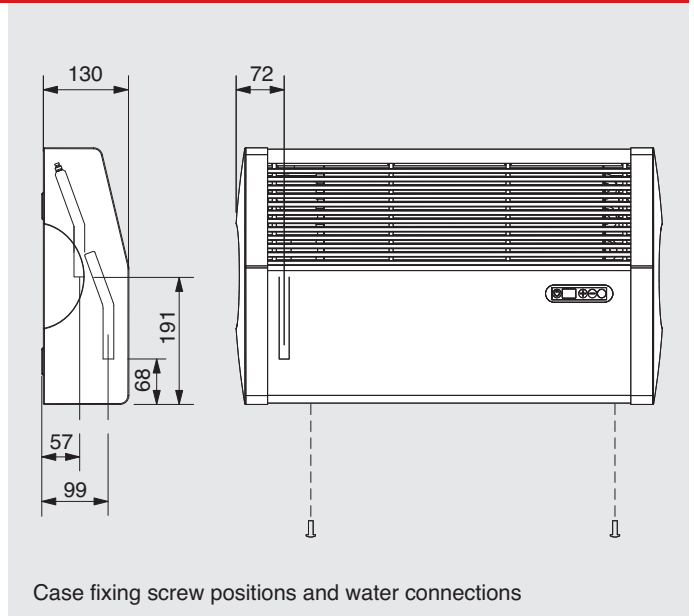
Model	Air Flow (m ³ /h)			Air Flow (ft ³ /h)		
	Normal	Medium	Boost	Normal	Medium	Boost
19-15	241	288	335	8507	10166	11826
14-10	160	200	288	5648	7060	10166
9-6	112	129	175	3954	4554	6178
6-4	65	86	122	2295	3036	4307

LO-LINE RC Water Connections

Water connections (15mm compression) are on the left-hand side and the system pipework may be brought in from underneath or the rear.

LO-LINE RC Electrical Data

All LO-LINE models require an electrical supply of 220-240V – 50Hz fused at 3A.



- Maximum installation height is 150mm to the underside of the unit.
- Maximum ceiling height is 3m.
- Minimum side clearance is 100mm.

General Information for Fan Convectors

Effective Heating

To achieve the best possible results, the correct output requirement needs to be calculated. For optimal positioning and size of heat emitter please consult a qualified plumber or heating installer for advice. A heatloss manager CD can be ordered free of charge from Customer Services.

Approval & Certification

All **MYSON** fan convectors are manufactured to the requirements of BS EN ISO 9001 and the factory is certified to the environmental standard BS EN ISO 14001. All products are tested to comply with European safety standards and are CE marked as well as carrying national approval marks, where appropriate.

Performance

All **MYSON** fan convector heat outputs are tested to BS 4856 Part 1 for heating and Part 2 for cooling performance. Noise levels are independently tested by Sound Research Laboratories to EN 23741.

Packaging

All fan convectors are packed in robust cardboard packaging specially designed to ensure the product reaches you in perfect condition.

Finishing

Wall mounted fan convectors are finished with a White (RAL 9016) powder coating, while the **KICKSPACE**® grilles are available in White (supplied with the unit), Brown, Black, Brushed Stainless Steel, Chrome and Aluminium.

Warranty

MYSON fan convectors carry a 2 year parts and labour warranty.

Accessories

At **MYSON** we take care of every detail and there is a variety of accessories available for the fan convector range of products, including wall switches and **KICKSPACE**® fascia grilles. For further details, please consult the technical section of this brochure.