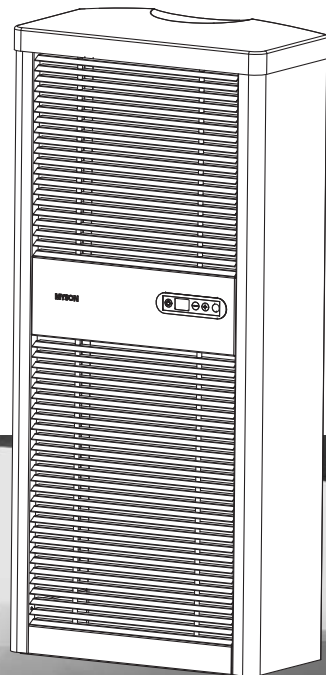


Installation, Operating, Maintenance
and After Sales Manual.

SLIM-LINE RC



heatingthrough**innovation.**

Product Serial Number:

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Please leave this manual with the end user.

Part Number: 1371057

Issue 3



Tested to UL & CSA Standards

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1.0 General Information

- This MYSON SLIM-LINE RC fan convector is designed for wall mounted installation with a minimum installation height of 6 inches to the underside of the unit.
- The SLIM-LINE RC should only be used on closed circulation, two pipe, pump assisted central heating systems, or as a stand alone zone.
- The SLIM-LINE RC can be used on heat pump systems, for heating only.
- The minimum side clearance is 4 inches.
- Before proceeding with the installation, the heating system design must be considered and the unit correctly sized to meet the heat loss requirements of the room at normal fan speed.
- In rooms with ceiling heights above 10ft a ceiling fan or other means of heating stratification should be considered.
- This unit is supplied with an infra red remote control system and has 3 operating modes:
 - Automatic - the desired room temperature is programmed in to the unit and the fan speed is automatically adjusted until the desired room temperature is achieved.
 - Fan only - allows user selection of any of the 3 available fan speeds irrespective of room temperature or water temperature in the coil.
 - Fan only with water temperature control - allows the user to select any of the available fan speeds, which will operate only if the water temperature in the coil is above 90°F. This enables control of the unit via an externally mounted room thermostat if desired.

2.0 Heating System Design

This fan convector can be fitted on a series loop with mono-flow or venturi Tees, on a two pipe system or as a stand alone zone.

For optimum fan convector heating performance the system must be capable of providing sufficient hot water through the heat exchanger. This means that:

1. Care must be taken in sizing both the pump and piping.
2. The minimum pipe size from boiler to fan convector must be at least 1/2 inch.
3. Where the unit is fitted on to a system with other emitters a separate circuit for the fan convector should be considered to provide adequate water flow.
4. The system water must be above 90°F for heating mode.
5. **Optimum performance of this unit will require effective balancing of the whole system.**
6. This unit should NOT be used to replace a radiator in an existing system unless an adequate flow of water can be guaranteed through the unit.
7. The loop must be pumped. HI-LINE fan convectors are not suitable for gravity circulation systems.

3.0 Unit Selection/Sizing

Heat output performance is given in the Technical Data section of this manual. Outputs are shown for the three fan speeds, however, it is important to size the unit to match the calculated heat loss requirements of the room with the unit operating on the low fan speed. The higher fan speeds are used in automatic mode when the room temperature is significantly lower than the preset temperature.

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

4.0 Location

- This SLIM-LINE RC unit may be fitted to any convenient wall at a height from floor level that suits the application, providing an unimpeded flow of warm air into the area to be heated.
- The minimum distance from the underside of the unit to floor level is 6 inches.
- The unit should be mounted on a flat wall, and stud or partition walls should be avoided to minimise the possibility of noise transmission.

5.0 Preparation

Before proceeding with the installation, unpack the carton contents and check against the checklist below:

1. SLIM-LINE RC unit.
2. Instruction manual.
3. Fixing kit (rubber mounts and cable gland).
4. Remote control handset.

6.0 Fixing

- Using the fixing dimensions (see fig. 1), mark the fixing hole positions on the wall.
- Drill and plug the wall for No. 8 x 1 $\frac{1}{2}$ inch round head wood screws ensuring that the wall plugs are suitable for the wall type.
- Remove the backing from the self-adhesive washers and place on screws with adhesive side towards the point.
- Tighten the screws into the wall leaving about $\frac{3}{8}$ inch projecting.
- Press adhesive washers to the wall.
- Remove outer case fixing screw at the bottom of the unit (see fig. 2).
- Lift off outer case.
- Fit chassis on to retaining screws and tighten.

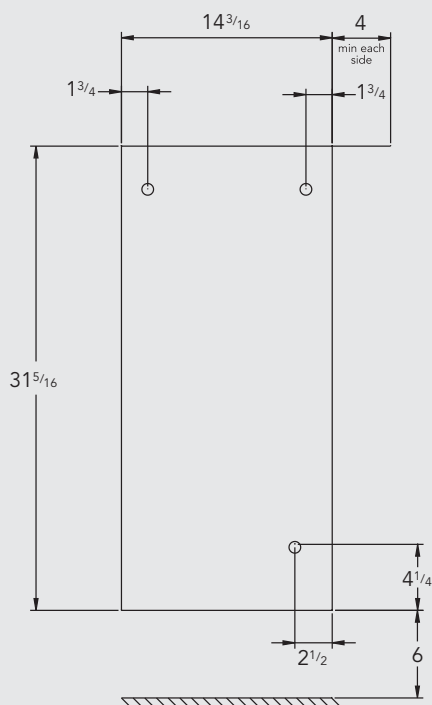


Fig. 1

7.0 Water Connections

- Connect unit to system flow and return pipes. It is recommended that two 1/2 inch isolating valves are fitted. This will enable isolation of the unit for maintenance activities.
- Ensure system is flushed in accordance with recognised best practice and a suitable inhibitor is added to the system as necessary.
- Open valves fully, check pipe connections for leaks and vent the heat exchanger - see Commissioning Procedure.

Note: To ensure effective venting of the heat exchanger the flow pipe should be connected to the bottom connection of the heat exchanger.

Note: For SLIM-LINE RC installations pipe-work must not be routed directly underneath the unit as this will adversely affect the operation of the integral room thermostat. **If this cannot be avoided, the pipe-work must be boxed to prevent heat rise.**

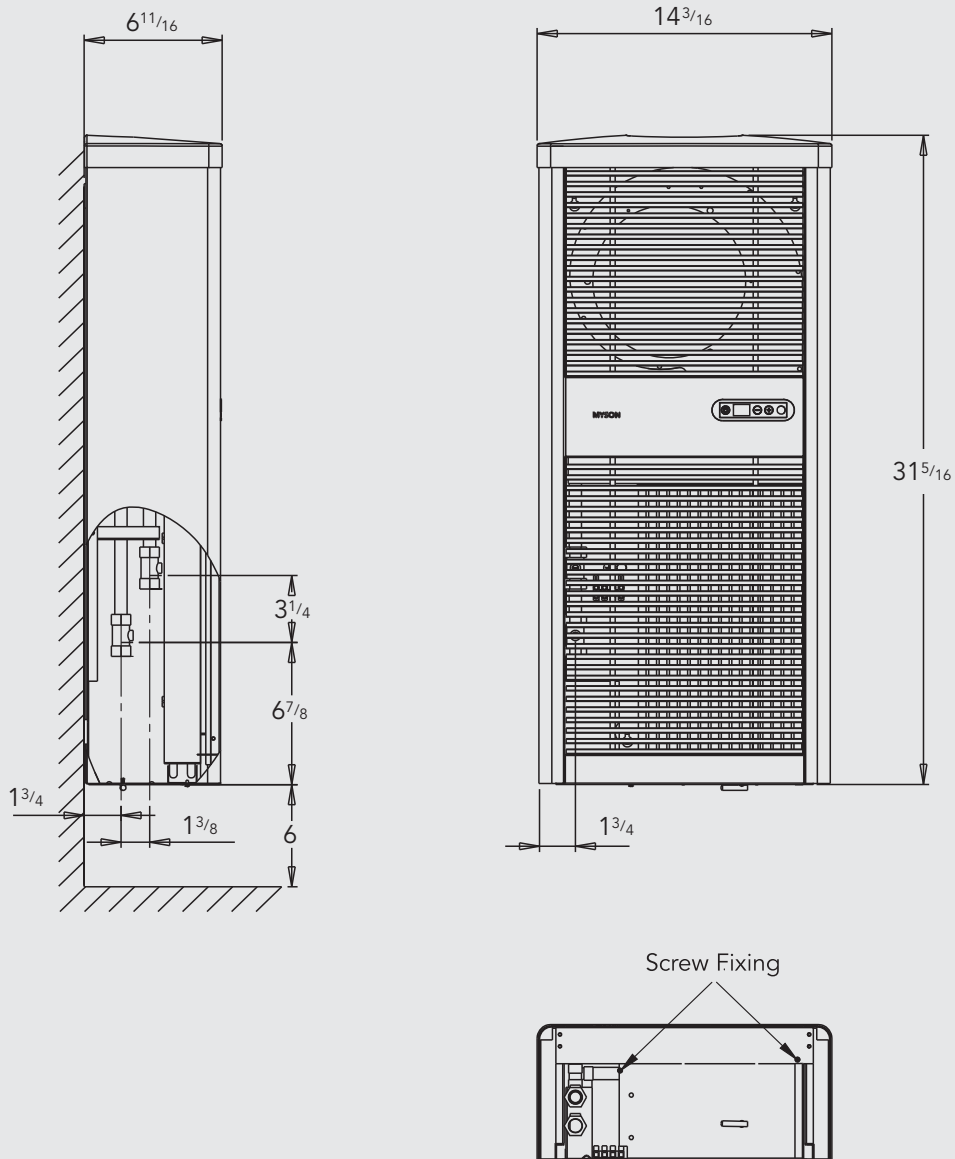


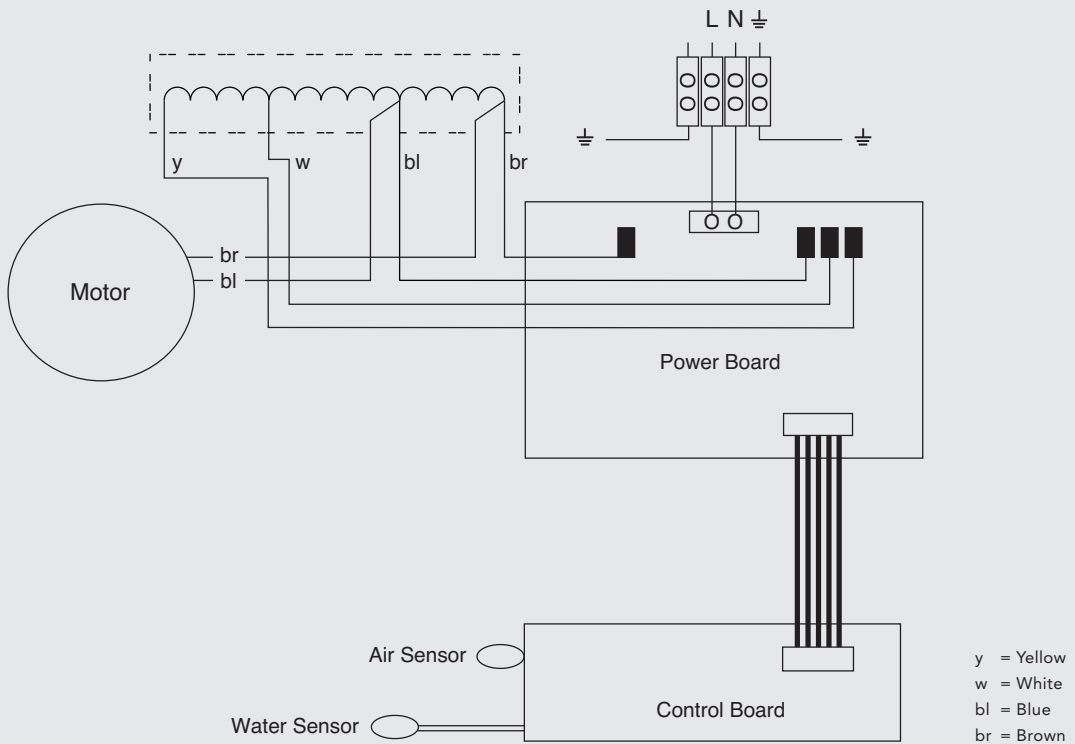
Fig. 2

8.0 Electrical Connection

WARNING: This appliance must be grounded. The electrical installation must comply with state and local codes.

- Electrical cable entry to the unit should be made at the bottom left hand side of the unit.
- A hole is provided for BX or Romex connector.
- Connect supply to terminal block provided as per the wiring diagram below.

Wiring diagram



9.0 Commissioning Procedure

- Fill and vent the system.
- Open both valves fully and vent air from the heat exchanger by unscrewing the air bleed valve situated at the top of the coil and accessible through the right hand side of the chassis.
- Check for leaks at pipe connections.
- Refit the outer case and secure using the 2 fixing screws.
- Switch on electrical supply.
- Check the operation of the unit by following the operating instructions.
- When installation and commissioning are complete, hand over instruction manual to end-user.

Heat Pump and Low Water Temperature Systems

In heating mode, the control system brings the fan on when the water in the coil reaches 90°F. For low water temperature systems, e.g. heat pump systems, it is possible to switch off the boost speed option in automatic mode so that the unit runs in medium or normal fan speeds depending on demand. This means low outlet air temperatures from the unit are avoided when the room temperature is low in relation to the set temperature.

This facility can be switched on or off by following the instruction below:

- Isolate electrical supply.
- Remove outer cover.
- Change switch 1 position according to requirements (see fig. 3).

- Refit outer cover.
- Switch on electrical supply.

Fan Pulse

Fan pulse mode causes room air to be drawn over the air temperature sensor periodically to maintain room temperatures more effectively. In certain circumstances, for example when units are over-sized in relation to the heat loss of the room, it may be necessary to turn off this function. Use dipswitch 3 according to requirements.

Displayed Temperature Calibration

Depending on the location of the unit there may be a difference between the temperature at the unit and the temperature in the middle of the room being heated.

The displayed temperature calibration function enables calibration in heating mode of the displayed temperature to the actual room temperature using the following procedure:

- Press the 'On/Off' key and '+' key for 5 seconds (the display will flash, alternating between 'ro' and the calibration temperature).
- Calibrate the displayed room temperature by using the '+' and '-' keys with the fan running.
- Press the 'On/Off' key to finish.

Switch		Switch Down	Switch Up
1	Auto Fan Speed Selection	2 Speed	3 Speed
2	Heating / Cooling	Heating	Heating & Cooling
3	Fan Pulse	Off	On
4	Temperature Display	°F	°C

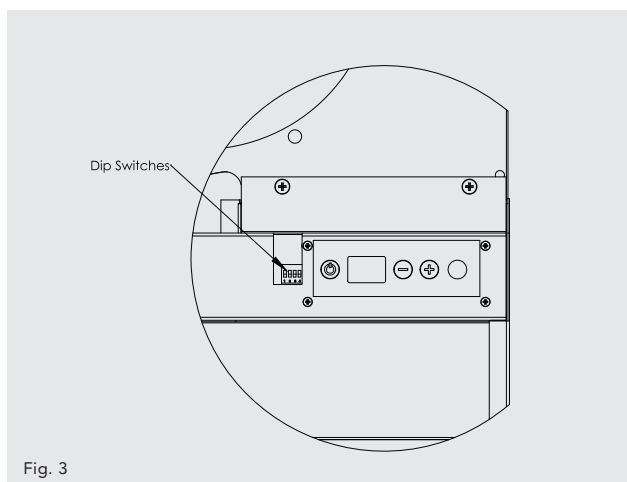


Fig. 3

10.0 Technical Data

Heating Performance Data

Fan Setting	Flowrate GPM	Air Flowrate CFM	Heat Output (Btu/h)									
			Entering Water Temperature (°F), Entering Air Temperature 65°F									
			110	120	130	140	150	160	170	180	190	200
Boost	1	186	5029	5663	6657	7661	8664	9668	10572	11678	12680	13864
Medium		127	4385	4881	5887	6745	7651	8559	9567	10374	11281	12186
Normal		97	3743	4207	5018	5829	6639	7450	8261	9072	9883	10694
Boost	3	186	6597	7404	8719	10034	11349	12663	13978	15293	16608	17923
Medium		127	5743	6457	7646	8831	10023	11411	12399	13588	14776	16280
Normal		97	4902	5510	6572	7634	8696	9758	10820	11882	12944	14005

Test pressure: 290 psi
 Max working pressure: 145 psi
 Water connections: 1/2 inch compression
 Electrical supply: 110V 60Hz

Approximate Hydraulic Resistance through Fan Convactor

GPM	ft wg
3	11.04
1	1.84

Noise levels in accordance with EN 23741

Fan Setting	Sound Pressure at 2.5m (dBA)
Normal	21.9
Medium	30.6
Boost	39.7

11.0 Operating Instructions

Description

This SLIM-LINE RC unit is fitted with a control system that provides either automatic or manual control of the unit. In automatic mode the desired temperature set point is selected and the unit will adjust the fan speed according to the difference between the actual room temperature and the set point. When the room temperature reaches the set point the fan will switch off and thereafter will continue to cycle on and off to maintain the room temperature. The temperature set point range is 59 - 95°F.

In manual mode the automatic temperature control is overridden and any of the three fan speeds can be operated

irrespective of the water temperature in the unit. This means that air circulation can be provided in summer for example, or that heating performance can be controlled manually.

In manual mode, with water temperature control, any of the 3 fan speeds can be selected and the fan will operate when the water temperature in the coil is greater than 90°F. This means that heating performance can be controlled manually, and the unit could be controlled via an external room thermostat.

The unit can be controlled using the infra red remote control handset supplied with the unit (see fig. 4) and also using the control panel on the unit (see fig. 5). If necessary, however, the control panel can be locked electronically to prevent tampering once the controls have been set (see over).



Fig. 4

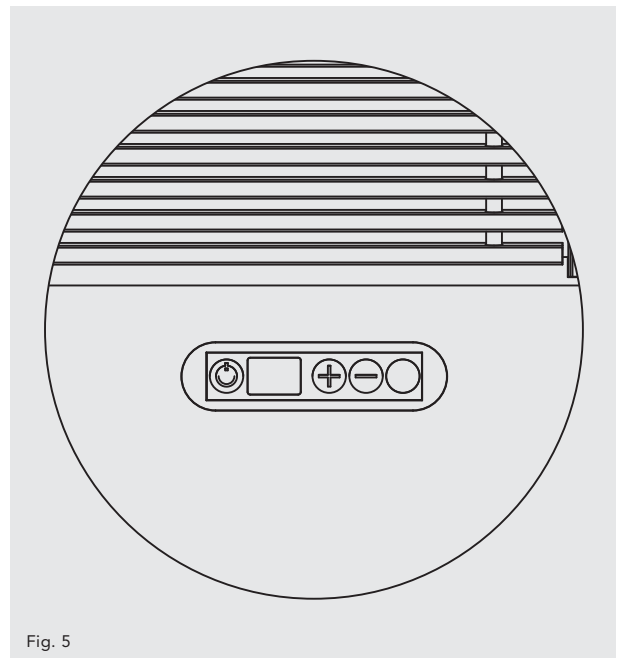


Fig. 5

The remote control hand set takes 2 AAA batteries (not supplied).

Controls

Power button
'+/-' button








Display

Switches unit on & off
Adjust temperature set point from 59 - 95°F
Scrolls into F1, F2, F3, A1, A2 or A3 manual mode.

Heating

The unit will only operate in heating mode when the central heating boiler is on, the pump is running and the system water temperature is greater than 90°F. Ensure the boiler is on, and set timer, boiler controls and room thermostats as necessary.

11.0 Operating Instructions (continued...)

Operation	Display
Power off	No Display
Switch on supply to unit (unit off)	 for 30 seconds
	 Supply on / unit off
Switch on unit	 Set point flashes for approx 5 secs, then
	 Ambient temperature displayed
Use '+/-' to adjust set point	 Set point flashes for approx 5 secs, then
	 Ambient temperature
Water temp <110°F	 Shows both power & unit on

*110°F in normal heating system, 90°F for heat pumps and above 68°F in cooling.

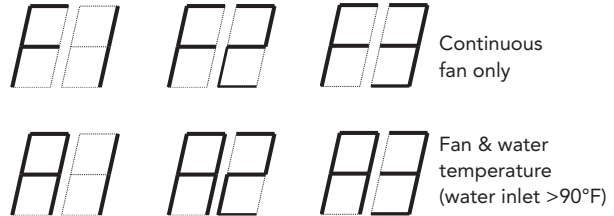
12.0 Troubleshooting

Once installed this fan convector becomes part of a complete heating system that generally will include boiler, pump, other emitters such as radiators and fan convectors, and a number of heating controls, dependent on system complexity. An apparent problem with this unit may be the result of system controls being incorrectly set and can be solved easily without calling out your installer or MYSON. Before calling your installer or MYSON, please carry out the checks listed opposite.

Manual
 Manual mode can be used for air circulation without heat or for manual control of the heating function.

Use '+' to scroll beyond 95°F
 Or use '-' to scroll below 59°F

Selected fan speed displayed



Scrolling back out of manual using the '+' or '-' button will revert the unit back to last temperature set point.

Cooling Mode

- Close the heating system and isolate any other heat emitters.
- Open the cooling water system.
- Ensure cooling is on, and set cooling unit timer and controls as necessary.

Cooling operation works in exactly the same way as heating. Follow the procedure above to set the unit controls.

Locking Unit Controls

The control panel on the main unit can be locked electronically to prevent interference once the controls have been set. After setting the unit to the desired temperature setting and with the unit in running mode, press the On/Off button on the main unit for about 6 seconds until the two middle horizontal bars appear on the display. The horizontal bars will disappear after about 6 seconds and the unit is in key lock mode.

If any of the unit controls are pressed the horizontal bars will reappear to show the key lock mode is activated, however, during this mode the handset controls remain functional.

To unlock the system press the On/Off button for about 6 seconds until the horizontal bars disappear.

12.0 Troubleshooting (continued...)

Problem	Possible Causes	Remedy
Heating Mode - No Fan	Unit switched off	Turn on
	Temperature set point reached	Increase temperature set point
	Unit not switched on at breaker panel	Switch on at breaker
	Breaker tripped at panel	Check all wiring and reset breaker
	Unit isolating valves shut	Open valves
	Water temperature reaching fan convector below 110°F (Heater model only)	Check boiler - Programmer ON Boiler ON and set to high with central heating pump running <i>Note:</i> Operation of fan convector can be checked by switching to manual fan setting
Heating Mode (Heater model only) poor heating performance and/or unit cycles on water sensor	Low water temperature to unit	Turn up boiler thermostat
	Poor water flow	Vent air from heating system

If the fan convector is still faulty after checking the above, call your installer or MYSON.

Common Installation Faults

For optimum performance, this unit must be correctly sized to match the heat loss requirements of the space it is required to

heat, and the heating system must be correctly designed to provide adequate flow of hot water to the unit (see Section 2). If the recommendations in Section 2 are not followed, problems may arise as detailed below.

Problem	Possible Causes
Poor heating performance (Heater model only)	Unit incorrectly sized for heat loss of room
Heating Mode (Heater model only) poor heating performance and/or unit cycles on water sensor	Boiler thermostat set too low
	Lack of flow to fan convector -
	Pump set on low setting
	Isolating valves not fully open
	System incorrectly balanced with unit starved of hot water flow
	Pipe sizing to unit too small

13.0 Maintenance

Before undertaking any maintenance activity isolate the electrical supply.

with warm water and mild detergent taking care to avoid water entering the grille areas.

Maintenance should be restricted to occasional removal of dust and lint around the unit. The outer surface may be wiped over



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Spare parts and technical help on all Convector products are available from MYSON Service.