

Gast Hazardous Duty Regenair® Blowers

Operation & Maintenance Manual



This instruction applies to the following models ONLY:


R3105N-50, R4310P-50, R4P115N-50, R5125Q-50,
R5325R-50, R6130Q-50, R6P155Q-50, R6340R-50,
R6P355R-50, and R7100R-50.




www.gastmfg.com

Dear Customer:

Thank you for purchasing this Gast product. It is manufactured to the highest standards using quality materials. Please follow all recommended maintenance, operational, and safety instructions, and you will receive years of trouble-free service.



WARNING



PLEASE READ THIS MANUAL COMPLETELY BEFORE INSTALLING AND USING THIS PRODUCT. SAVE THIS MANUAL FOR FUTURE REFERENCE AND KEEP IN THE VICINITY OF THE PRODUCT.

TABLE OF CONTENTS

General Information	3
Installation	3
Plumbing	3
Noise	3
Rotation	4
Operation	4
Accessories	4
Servicing	4
Motor Wiring Diagrams	5
Connection for Thermostat 3 Phase Motor Protection	6

**Your safety and the safety of others
is extremely important.**

We have provided many important safety messages in this manual and on your product. Always read and obey all safety messages.



This is the safety alert symbol. This symbol alerts you to hazards that can kill or hurt you and others. The safety alert symbol and the words "DANGER" and "WARNING" will precede all safety messages. These words mean:

DANGER

You will be killed or seriously injured if you don't follow instructions.

WARNING

You can be killed or seriously injured if you don't follow instructions.

CAUTION

Minor injury or property damage can occur if hazard is ignored.

All safety messages will identify the hazard, tell you how to reduce the chance of injury, and tell you what can happen if the safety instructions are not followed.

General Information

This instruction applies to the following models ONLY:

R3105N-50, R4310P-50, R4P115N-50, R5125Q-50, R5325R-50, R6130Q-50, R6P155Q-50, R6340R-50, R6P355R-50, and R7100R-50. These blowers are intended for use in Soil Vapor Extraction Systems. The blowers are sealed at the factory for very low leakage. They are powered with a U.L. listed electric motor Class 1 Div. 1 Group D for Hazardous Duty locations. Ambient temperature for normal full load operation should not exceed 40°C (105°F).

Gast Manufacturing may offer general application guidance; however, suitability of the particular blower and/or accessories is ultimately the responsibility of the user, not the manufacturer of the blower.

INSTALLATION



DANGER: Models R5325R-50, R6130Q-50, R6340R-50, R5125Q-50, R6P155Q-50, R6P355R-50, and R7100R-50 use Pilot Duty Thermal Overload Protection. Connecting this protection to the proper control circuitry is mandated by UL674 and NEC501. Failure to do so could/may result in an EXPLOSION. See pages 5 and 6 for recommended wiring schematic for these models.



WARNING: Electric shock can result from improper wiring. A qualified person must install all wiring, conforming to all required safety codes. Grounding is necessary.



WARNING: This blower is intended for use on soil vapor extraction equipment. Any other use must be approved in writing by Gast Manufacturing, Inc.

Install this blower in any mounting position. Do not block the flow of cooling air over the blower and motor.

Plumbing

Use the threaded pipe ports for connection only. They will not support the plumbing. Be sure to use the same or larger size pipe to prevent air flow restriction and overheating of the blower. When installing fittings, be sure to use pipe thread sealant. This protects the threads in the blower housing and prevents leakage. Dirt and chips are often found in new plumbing. Do not allow them to enter the blower.


Noise


Mount the unit on a solid surface as this will reduce noise and vibration. We suggest the use of shock mounts or vibration isolation material for mounting.

Rotation

The Gast Regenair® Blower should only rotate clockwise as viewed from the electric motor end. The casting has an arrow showing the correct direction of rotation. Confirm the proper rotation by checking air flow at the IN and OUT ports. If needed reverse rotation of three phase motors by changing the position of any two of the power line wires.

OPERATION

 **WARNING: Solid or liquid material exiting the blower or piping can cause eye damage or skin cuts. Keep away from air stream.**

 **WARNING: Gast Manufacturing will not knowingly specify, design, or build any blower for installation in a hazardous, combustible, or explosive location without a motor conforming, to the proper NEMA or U.L. standards.**

Blowers with standard TEFC motors should never be utilized for soil vapor extraction applications or where local, state, and or Federal codes specify the use of explosion-proof motors (as defined by the National Electric Code, Articles 100,500 c1990).

 **CAUTION: Attach blower to solid surface before starting to prevent injury or damage from unit movement.**

Air containing solid particles or liquid must pass through a filter before entering the blower. Blowers must have filters, other accessories, and all piping attached before starting. Any foreign material passing through the blower may cause internal damage to the blower.


 **CAUTION: Outlet piping can burn skin. Guard or limit access. Mark "CAUTION Hot Surface. Can Cause Burns."**


Air temperature increases when passing through the blower. When run at duties above 50 in. H₂O, metal pipe may be required for hot exhaust air. The blower must not be operated above the limits for continuous duty. Only models R3105N-50 and R4310P-50 can be operated continuously with no air flowing through the blower. Other units can only be run at the rating shown on the model number label. Do not close off inlet (for vacuum) to reduce extra air flow. This will cause added heat and motor load. Blower exhaust air in excess of 230°F indicates operation in excess of rating which can cause the blower to fail.

Accessories

Gast pressure gauge AJ496 and vacuum gauges AJ497 or AE134 show blower duty. The Gast pressure/vacuum relief valve, AG258 will limit the operating duty by admitting or relieving air. It also allows full flow through the blower when the relief valve closes.

SERVICING

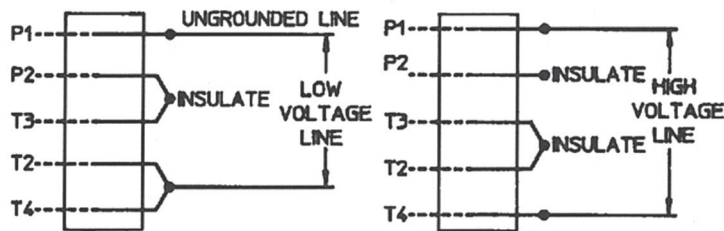
 **WARNING: To retain their sealed construction they should be serviced by Gast Manufacturing ONLY. These models are sealed at the factory for very low leakage.**

 **WARNING: Turn off electric power before removing blower from service. Be sure rotating parts have stopped. Electric shock or severe cuts can result.**

Inlet and exhaust filters attached to the blower may need cleaning or replacement of the elements. Failure to do so will result in more pressure drop, reduced air flow and hotter operation of the blower. The outside of the unit requires cleaning of dust and dirt. The inside of the blower also may need cleaning to remove foreign material coating the impeller and housing. This should be done at a Gast Manufacturing Facility only. This buildup can cause vibration, failure of the motor to operate or reduced flow.

MOTOR WIRING DIAGRAMS

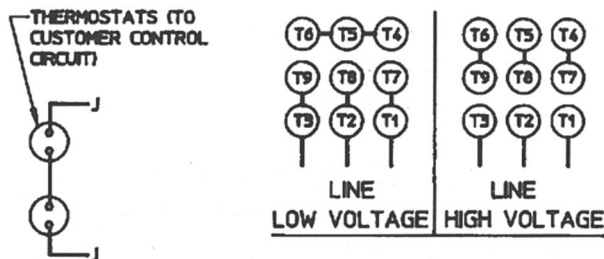
Motor Wiring Diagram for R3105N-50



WARNING: This motor is thermally protected and will automatically restart when protector resets. Always disconnect power supply before servicing.

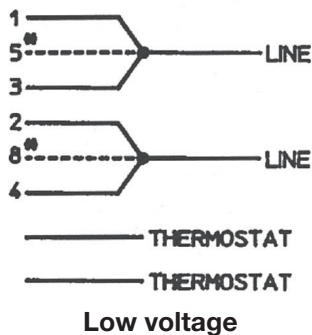
Motor Wiring Diagram for R4310P-50, R5325R-50, R6340R-50, R6P355R-50, and R7100R-50

To reverse rotation, interchange the external connections to any two leads.

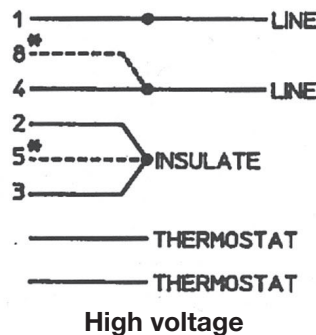


WARNING: This motor is thermally protected and will automatically restart when protector resets. Always disconnect power supply before servicing.

Single Phase Motor Wiring Diagram for R5125Q-50 and R4P115N-50



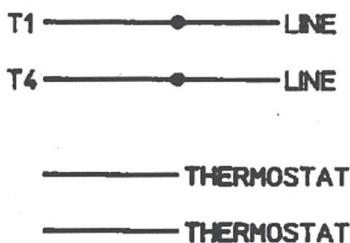
Low voltage



High voltage

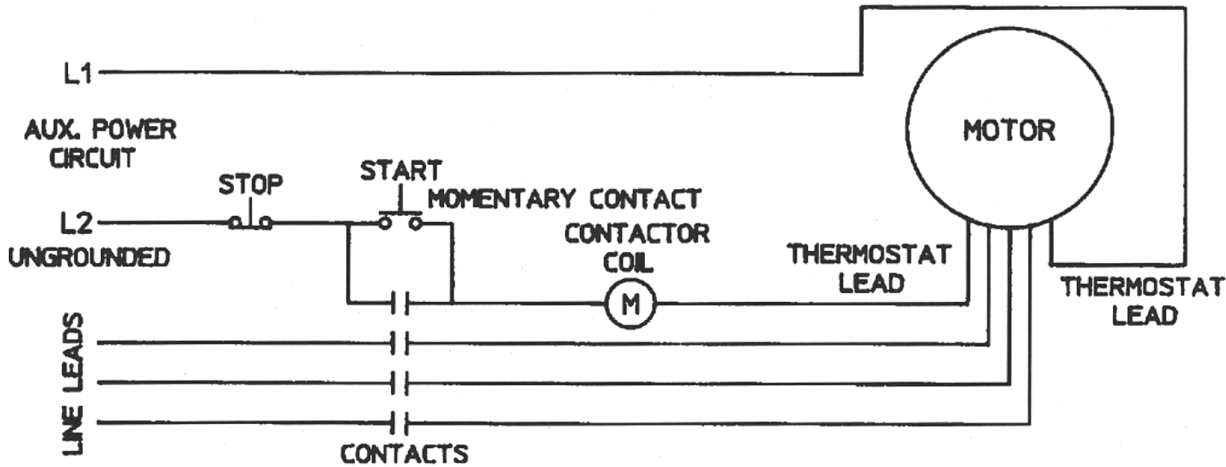
*R5125Q-50 Blowers produced after September 1992 (Serial No. 0992) do not have motor leads 5 and 8.

Single Phase Motor Wiring Diagram for R6130Q-50 and R6P155Q-50



Connect Thermostat to Motor Protection Circuit

Connection for Thermostat 3 Phase Motor Protection



Thermostats to be connected in series with control as shown. Motor furnished with automatic thermostats rated A.C. 115-600V. 720VA circuit shown is for 3 phase motor. Single phase motor has two line leads in the above circuit.

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