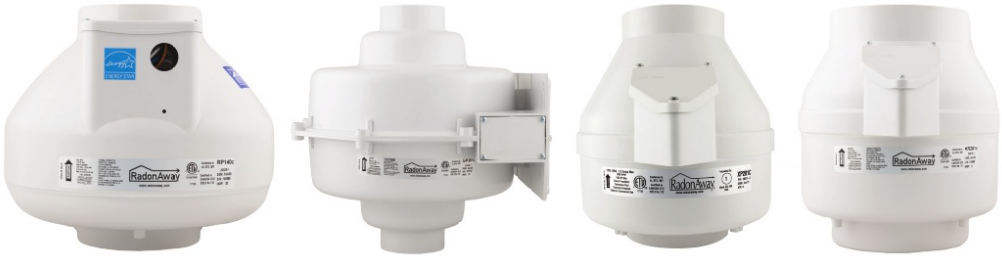
Manuals+

RadonAway GPc Series GP501C 3-Inch Inlet and Outlet Inline Radon Fan Instruction Manual

RPc, GPc, XPc, XR Series
Installation Instructions



Fan Installation & Operating Instructions
RPc, GPc, XPc, XR Series Fans
Please Read and Save These Instructions.

DO NOT CONNECT POWER SUPPLY UNTIL FAN IS COMPLETELY INSTALLED. MAKE SURE ELECTRICAL SERVICE TO FAN IS LOCKED IN “OFF” POSITION. DISCONNECT POWER BEFORE SERVICING FAN.

1. **WARNING!** For General Ventilating Use Only. Do Not Use to Exhaust Hazardous, Corrosive or Explosive Materials, Gases or Vapors. See Vapor Intrusion Application Note #AN001 for important information on VI Applications. RadonAway.com/vapor-intrusion
2. **NOTE:** Fan is suitable for use with solid-state speed controls; however, use of speed controls is not generally recommended.
3. **WARNING!** Check voltage at the fan to ensure it corresponds with nameplate.
4. **WARNING!** Normal operation of this device may affect the combustion airflow needed for safe operation of fuel-burning equipment. Check for possible backdraft conditions on all combustion devices after installation.
5. **NOTICE!** There are no user-serviceable parts located inside the fan unit. Do NOT attempt to open. Return unit to the factory. (See Warranty, p. 8, for details.)
6. **WARNING!** Do not leave fan unit installed on system piping without electrical power for more than 48 hours. Fan failure could result from this non-operational storage.
7. **WARNING!** TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:
   a) Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer. (See p. 8.)
   b) Before servicing or cleaning unit, switch power off at service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.
   c) Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction.
   d) Sufficient air is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel-burning equipment to prevent backdrafting. Follow the heating equipment manufacturers’ guidelines and safety standards such as those published by any National Fire Protection Association, and the American Society for Heating, Refrigerating and Air Conditioning Engineers (ASHRAE), and the local code authorities.
   e) When cutting or drilling into a wall or ceiling, do not damage electrical wiring and other hidden utilities.
   f) Ducted fans must always be vented to outdoors.
   g) If this unit is to be installed over a tub or shower, it must be marked as appropriate for the application and be connected to a GFCI (Ground Fault Circuit Interrupter) protected branch circuit.

RPc Series	GPc Series	XPc / XR Series
RP140c |P/N 23029-1 RP145c | P/N 23030-1RP260c | P/N 23032-1 RP265c | P/N 23033-1	GP301c | P/N 23006-1 GP501c | P/N 23005-1	XP201c | P/N 23011-1 XR261 | P/N 23019-1

SYSTEM DESIGN CONSIDERATIONS

INTRODUCTION

The RPc, GPc, XPc, and XR Series Radon Fans are intended for use by trained, professional, certified/licensed radon mitigators. The purpose of these instructions is to provide additional guidance for the most effective use of RPc, GPc, XPc, and XR Series Radon Fans. These instructions should be

considered supplemental to EPA/radon industry-standard practices, state and local building codes, and regulations. In the event of a conflict, those codes, practices, and regulations take precedence over these instructions.

FAN SEALING

The RPc, GPc, XPc, and XR Series Radon Fans are factory sealed; no additional caulk or other materials are required to inhibit air leakage.

ENVIRONMENTAL

The RPc, GPc, XPc, and XR Series Radon Fans are designed to perform year-round in all but the harshest climates without additional concern for temperature or weather. For installations in an area of severe cold weather, please contact RadonAway for assistance. When not in operation, the fan should be stored in an area where the temperature is never less than 32 degrees F or more than 100 degrees F.

ACOUSTICS

The RPc, GPc, XPc and XR Series Radon Fans, when installed properly, operate with little or no noticeable noise to the building occupants. The velocity of the outgoing air should be considered in the overall system design. In some cases the “rushing” sound of the outlet air may be disturbing. In these instances, the use of a RadonAway Exhaust Muffler is recommended.
(To ensure quiet operation of inline and remote fans, each fan shall be installed using sound attenuation techniques appropriate for the installation. For bathroom and general ventilation applications, at least 8 feet of insulated flexible duct shall be installed between the exhaust or supply grille(s) and the fan(s). RPc, GPc, XPc and XR Series Radon Fans are not suitable for kitchen range hood remote ventilation applications.)

GROUNDWATER

In the event that a temporary high water table results in water at or above slab level, water may be drawn into the riser pipes, thus blocking air flow to the RPc, GPc, XPc and XR Series Radon Fan. The lack of cooling air may result in the fan cycling on and off as the internal temperature rises above the thermal cutoff. Should this condition arise, it is recommended that the fan be turned off until the water recedes, allowing for return to normal operation.

SLAB COVERAGE

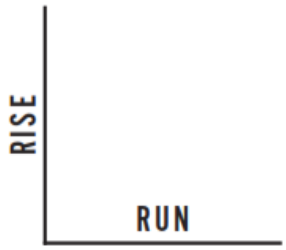
The RPc, GPc, XPc and XR Series Radon Fans can provide coverage up to 2000+ sq. ft. per slab penetration. This will primarily depend on the sub-slab material in any particular installation. In general, the tighter the material, the smaller the area covered per penetration. Appropriate selection of the RPc, GPc, XPc and XR Series Radon Fan best suited for the sub-slab material can improve the slab coverage. The RPc, GPc, XPc, and XR Series Radon Fans have a wide range of models to choose from to cover a wide range of sub-slab materials. The RP140c and 145c are best suited for general purpose use. The RP260c can be used where additional airflow is required, and the RP265c is best suited for large slab, high airflow applications. Additional suction points can be added as required. It is recommended that a small pit (5 to 10 gallons in size) be created below the slab at each suction hole.

CONDENSATION & DRAINAGE

Condensation is formed in the piping of a mitigation system when the air in the piping is chilled below its dew point. This can occur at points where the system piping goes through unheated space such as an attic, garage, or outside. The system design must provide a means for water to drain back to a slab hole to remove the condensation. The RPc, GPc, XPc, and XR Series Radon Fan MUST be mounted vertically plumb and level, with the outlet pointing up for proper drainage through the fan. Avoid mounting the fan in any orientation that will allow water to accumulate inside the fan housing. The RPc, GPc, XPc, and XR Series Radon Fans are NOT suitable for underground burial.
For RPc, GPc, XPc, and XR Series Radon Fan piping, the following table provides the minimum recommended pipe diameter and pitch under several system conditions.

Pipe Diameter	Minimum Rise per Ft of Run*		
	@25 CFM	@50 CFM	@100 CFM
4″	1/8″	1/4″	3/8″
3″	1/4″	3/8″	1 1/2″

*See p. 7 for detailed specifications.



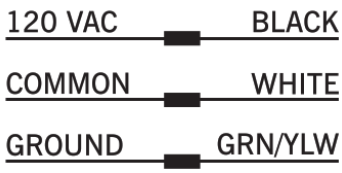
SYSTEM MONITOR & LABEL

A System Monitor, such as a manometer (P/N 50017) or audible alarm (P/N 28535, 28001-2, 28001-4, or 28421), is required to notify the occupants of a fan system malfunction. A System Label (provided with Manometer P/N 50017) with instructions for contacting the installing contractor for service and identifying the necessity for regular radon tests to be conducted by the building occupants must be conspicuously placed in a location where the occupants frequent and can see the label.

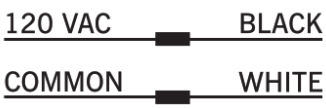
ELECTRICAL WIRING

The RPc, GPc, XPc, and XR Series Radon Fans operate on standard 120V, 60Hz AC. All wiring must be performed in accordance with National Fire Protection (NFPA) National Electrical Code, Standard #70, current edition, for all commercial and industrial work, and state and local building codes. All wiring must be performed by a qualified and licensed electrician. Outdoor installations require the use of a UL Listed watertight conduit. Ensure that all exterior electrical boxes are outdoor rated and properly sealed to prevent water penetration into the box. A means, such as a weep hole, is recommended to drain the box.

3-WIRE FAN WIRING DIAGRAM



2-WIRE FAN WIRING DIAGRAM



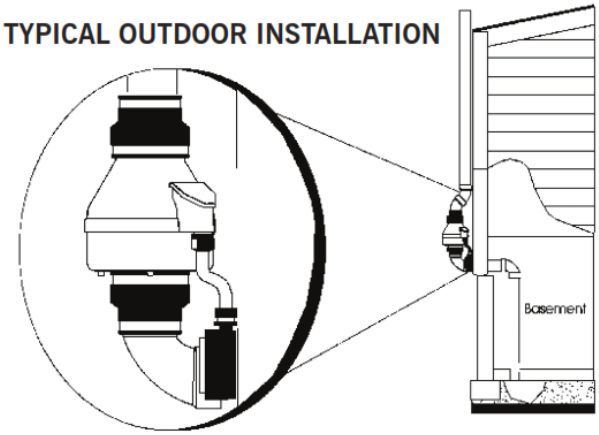
SPEED CONTROLS

The RPc, GPc, XPc, and XR Series Radon Fans are rated for use with electronic speed controls; however, speed controls are generally not recommended. If used, the recommended speed control is Pass & Seymour Solid State Speed Control (Cat. No. 94601-1).

INSTALLATION

The RPc, GPc, XPc, and XR Series Radon Fans can be mounted indoors or outdoors. (It is suggested that EPA and radon mitigation standards recommendations be followed in choosing the fan location.) The GPc Radon Fans have an integrated mounting bracket; RPc, XPc, and XR Series Radon Fans may be mounted directly on the system piping or fastened to a supporting structure by means of an optional mounting bracket.
The ducting from the fan to the outside of the building has a strong effect on noise and fan energy use. Use the shortest, straightest duct routing possible for best performance, and avoid installing the fan with smaller ducts than recommended. Insulation around the ducts can reduce energy loss and inhibit mold growth. Fans installed with existing ducts may not achieve their rated airflow.

TYPICAL OUTDOOR INSTALLATION



MOUNTING

Mount the RPc, GPc, XPc and XR Series Radon Fan vertically with outlet up. Ensure the unit is plumb and level. When mounting directly on the system piping assure that the fan does not contact any building surface to avoid vibration noise.

MOUNTING BRACKET (optional)

The RPc, XPc and XR Series Radon Fans may be optionally secured with the RadonAway Fan Mounting Bracket (P/N 25007). Foam or rubber grommets may also be used between the bracket and mounting surface for vibration isolation.

SYSTEM PIPING

Complete piping run, using fl exible couplings as a means of disconnect for servicing the unit and for vibration isolation. As the fan is typically outside of the building thermal boundary and is venting to the outside, installation of insulation around the fan is not required.

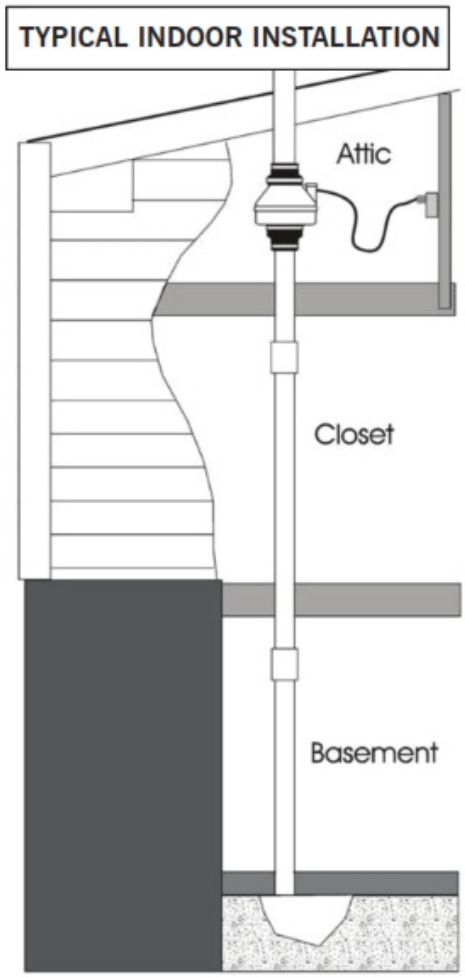
ELECTRICAL CONNECTION

Connect wiring with wire nuts provided, observing proper connections (See Section 1.9). Note that the fan is not intended for connection to rigid metal conduit.

VENT MUFFLER (optional)

Install the muffl er assembly in the selected location in the outlet ducting. Solvent weld all connections. The muffl er is normally installed at the end of the vent pipe.

OPERATION CHECKS & ANNUAL SYSTEM MAINTENANCE



- **Verify** all connections are tight and leak-free.
- **Ensure** the RPc, GPc, XPc, and XR Series Radon Fan and all ducting are secure and vibration-free.
- **Verify system vacuum pressure** with manometer. Ensure vacuum pressure is within normal operating range and less than the maximum recommended operating pressure. (Based on sea-level operation, at higher altitudes reduce by about 4% per 1000 feet) (Further, reduce Maximum Operating Pressure by 10% for High-Temperature environments.) See Product Specifications. If this is exceeded, increase the number of suction points.
- **Verify Radon levels** by testing to EPA Protocol and applicable testing standards.

THE FOLLOWING CHARTS SHOW THE PERFORMANCE OF THE RPc, GPc, XPc AND XR SERIES RADON FANS
RPc Series Product Specifications

Typical CFM Vs. Static Pressure "WC

Model	0″	.2″	.5″	.75″	1.0″	1.25″	1.5″	1.75″	2.0″
RP140c	152	120*	64*				–	–	
RP145c	168	150*	123*	105	84*	64	44	20	3
RP260c	251	210*	157	117	70	26			
RP265c	326	290*	241*	207	174*	143	118	89	60

*Denotes HVI Certified Values.

Model	**Power Consumption 120VAC, 60Hz, 1.5 Amp Maximum**	**Maximum Recommended Operation Pressure* (Sea Level Operation)****
RP140c	14 – 19 watts	0.6" WC
RP145c	46 – 72 watts	1.7" WC
RP260c	47- 65 watts	1.3" WC
RP265c	86 – 122 watts	2.2" WC

*Reduce by 10% for High Temperature Operation. **Reduce by 4% per 1000 ft. of altitude.

Model	Size	Weight	Inlet/Outlet	L.2
RP140c	8.5”H x 9.7” Dia.	5.5 lbs	4.5”OD (4.0” PVC Sched 40 size compatible)	25
RP145c	8.5”H x 9.7” Dia.	5.5 lbs	4.5” OD	15
RP260c	8.6”H x 11.75” Dia.	5.5 lbs	6.0” OD	48
RP265c	8.6”H x 11.75” Dia.	6.5 lbs	6.0” OD	30

L.2 = Estimated Equivalent Length of Rigid Metal Ducting resulting in .2” WC pressure loss for Duct Size listed. Longer Equivalent Lengths can be accommodated at Flows Lower than that at .2” WC pressure loss (see CFM Vs Static Pressure “WC Table).

XPc and XR Series Product Specifications

Typical CFM Vs. Static Pressure “WC

	0″	.5″	1.0″	1.5″	1.75″	2.0″
XP201c	112	95	70	40		
XR261	217	149	87	27		

Model	Power Consumption 120VAC, 60Hz, 1.5 Amp Maximum	Maximum Recommended Operation Pressure* (Sea Level Operation)**
XP201c	45 – 66 watts	1.7″ WC
XR261	67 – 117 watts	1.6″ WC

*Reduce by 10% for High Temperature Operation. **Reduce by 4% per 1000 ft. of altitude.

Model	Size	Weight	Inlet/Outlet
XP201c	9.5″H x 8.5″ Dia.	6 lbs	4.5″ OD
XR261	9.5″H x 8.5″ Dia.	7 lbs	6″ OD

GPc Series Product Specifi cations

Typical CFM Vs. Static Pressure “WC

	1.0″	1.5″	2.0″	2.5″	3.0″	3.5″	4.0″
GP301c	64	54	41	4			
GP501c			66	58	50	27	4

Model	Power Consumption 120VAC, 60Hz, 1.5 Amp Maximum	Maximum Recommended Operation Pressure* (Sea Level Operation)**
GP301c	56-100 watts	2.3″ WC
GP501c	68 – 146 watts	3.8″ WC

*Reduce by 10% for High Temperature Operation. **Reduce by 4% per 1000 ft. of altitude.

Model	Size	Weight	Inlet/Outlet
GP301c	13″H x 12.5″ Dia.	12 lbs	3.5″ OD
GP501c	13″H x 12.5″ Dia.	12 lbs	3.5″ OD

RPc, XPc, XR, and GPc Series Additional Specifications

Model	Recommended Duct	PVC Pipe Mounting	Thermal Cutout	Insulation Class
RP140c	3″ or 4″ Schedule 20/40 PVC	Mount on the duct pipe or with optional mounting bracket. For Ventilation: 4″, 6″ or 8″ Rigid or Flexible Ducting.	130°C/266°F	Class B Insulation
RP145c			130°C/266°F	Class F Insulation
RP260c			150°C/302°F	
RP265c			150°C/302°F	
XP201c	3″ or 4″ Schedule 20/40 PVC	Fan may be mounted on the duct pipe or with integral flanges.	120°C/248°F	Class B Insulation
XR261				
GP301c	3″ or 4″ Schedule 20/40 PVC	Fan may be mounted on the duct pipe or with integral flanges.	120°C/248°F	Class B Insulation
GP501c				

Continuous Duty 3000 RPM
Thermally Protected
RPc, GPc Residential, and Commercial
XPc, XR Residential Only
Rated for Indoor or Outdoor Use

ENERGY STAR
RP140c Only

LISTED
Electric Fan
Intertek
77728
Conforms to
UL STD. 507
Certified to
CAN/CSA STD.
C22.2 No.113

IMPORTANT INSTRUCTIONS TO INSTALLER

Inspect the RadonAway® RPc, GPc, XPc, and XR Series Radon Fan for shipping damage within 15 days of receipt. **Notify RadonAway of any damages immediately.** RadonAway is not responsible for damages incurred during shipping. However, for your benefit, RadonAway does insure shipments. There are no user serviceable parts inside the fan. Do not attempt to open the housing. Return unit to factory. (See Warranty below).
Install the RPc, GPc, XPc and XR Series Radon Fan in accordance with all EPA, ANSI/AARST standard practices, and state and local building codes and regulations.
Provide a copy of this instruction or comparable radon system and testing information to the building occupants after completing system installation.

Warranty

RadonAway® warrants that the RPc, GPc, XPc, and XR Series Radon Fan (the “Fan”) will be free from defects in materials and workmanship for a period of 12 months from the date of purchase or 18 months from the date of manufacture, whichever is sooner (the “Warranty Term”). RadonAway® will replace any fan which fails due to defects in materials or workmanship during the Warranty Term. This Warranty is contingent on installation of the Fan in accordance with the instructions provided. This Warranty does not apply where any repairs or alterations have been made or attempted by others, or if the unit has been abused or misused. Warranty does not cover damage in shipment unless the damage is due to the egligence of RadonAway®.
The Fan must be returned (at Owner’s cost) to the RadonAway® factory. Any Fan returned to the factory will be discarded unless the Owner provides specific instructions along with the Fan when it is returned regardless of whether or not the Fan is actually replaced under this warranty. Proof of purchase must be supplied upon request for service under this Warranty.

5-YEAR EXTENDED WARRANTY WITH PROFESSIONAL INSTALLATION.
RadonAway® will extend the Warranty Term of the fan to 60 months (5 years) from date of purchase or 66 months from date of manufacture, whichever is sooner, provided that the fan is installed by a professional radon mitigation contractor. Proof of purchase and/or proof of professional installation may be required for service under this warranty. No extended warranty is offered outside the Continental United States and Canada beyond the standard 12 months from the date of purchase or 18 months from the date of manufacture, whichever is sooner.
RadonAway® is not responsible for installation, removal, or delivery costs associated with this Warranty.

LIMITATION OF WARRANTY
EXCEPT AS STATED ABOVE, THE RPc, GPc, XPc, and XR SERIES RADON FANS ARE PROVIDED WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.
IN NO EVENT SHALL RADONAWAY BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR RELATING TO, THE FAN OR THE PERFORMANCE THEREOF. RADONAWAY’S AGGREGATE IABILITY HEREUNDER SHALL NOT, IN ANY EVENT, EXCEED THE AMOUNT OF THE PURCHASE PRICE OF SAID PRODUCT. THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY SHALL BE THE REPAIR OR REPLACEMENT OF THE PRODUCT, TO THE EXTENT THE SAME DOES NOT MEET WITH RADONAWAY’S WARRANTY AS PROVIDED ABOVE.
For service under this Warranty, contact RadonAway for a Return Material Authorization (RMA) number and shipping information.
No returns can be accepted without an RMA. If factory return is required, the customer assumes all shipping costs, including insurance, to and from factory.

RadonAway® 3 Saber Way
Ward Hill, MA 01835 USA TEL (978) 521-3703
FAX (978) 521-3964
Email to: **Returns@RadonAway.com**

Record the following information for your records:

Serial Number: ……..Purchase Date:……..

IN096 REV D 0122
3 Saber Way Ward, Hill, MA 01835
radonaway.com

Documents / Resources



GPc Series GP501C 3-Inch Inlet and Outlet Inline Radon Fan

Instruction Manual · GPc Series, GP501C, 3-Inch Inlet and Outlet Inline Radon Fan

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