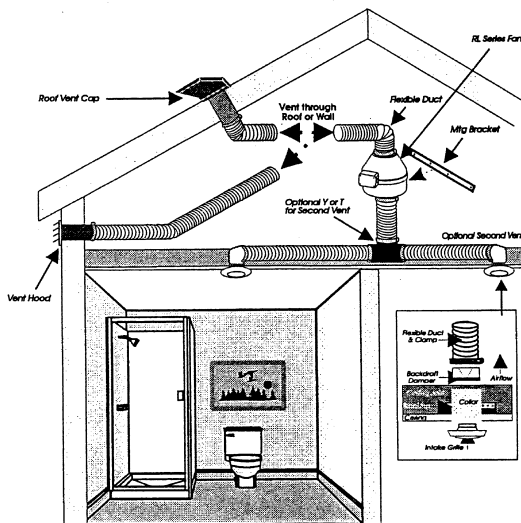
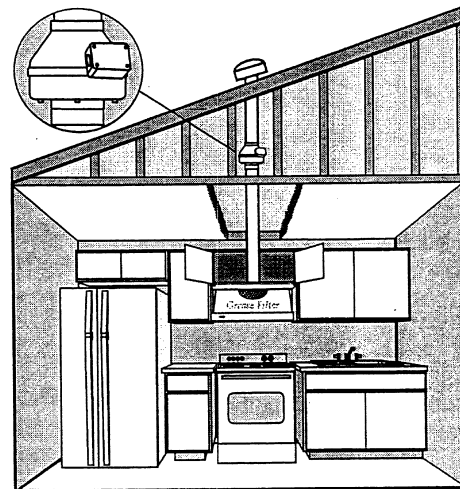


RL Series InLine Fan Installation Instructions

By



Spruce Environmental Technologies, Inc.
Ward Hill, MA P/N INO22 Rev C.

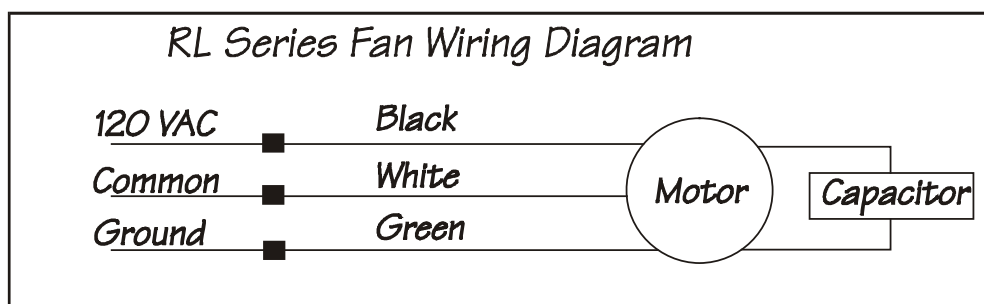


RL Series Commercial/Residential Ventilation Fan Installation Instructions

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!** Do not use fan in hazardous environments where fan electrical system could provide ignition to combustible or flammable materials.
2. **WARNING!** Do not use fan to pump explosive or corrosive gases.
3. **WARNING!** Check voltage at the fan to insure 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 for service.
6. All wiring must be in accordance with local and national electrical codes.
7. **CAUTION!** To reduce the risk of injury to persons, install fan so that the blade is at least 2.1 meters (7 feet) above the floor.
8. **NOTICE!** *USE OF THIS FAN WITHOUT AN ADEQUATE FILTERING SYSTEM IS NOT RECOMMENDED FOR RANGE HOOD APPLICATIONS.*
9. **WARNING!** To reduce the risk of a range top grease fire keep fan, filters and grease laden surfaces clean.
10. **CAUTION!** To reduce risk of fire and to properly exhaust air, be sure to duct air outside - Do not vent exhaust air into spaces within walls or ceilings or into attics, crawlspaces or garages.



RL Series Inline Fan	
RL600	p/n 23040-1, p/n 28126
RL500	p/n 23039-1, p/n 28228
RL450	p/n 23043-1, p/n 28227
RL350	p/n 23042-1, p/n 28226
RL300	p/n 23037-1, p/n 28225
RL200	p/n 23036-1, p/n 28224

1.0 Mounting

The RL Series fan may be mounted at an angle without affecting performance although the vertical mounting position shown in Fig. 1 is **highly recommended**. If the vertical mounting position is not possible, care should be taken to avoid creating a low spot in the fan/duct system where condensation might accumulate in the fan housing as shown in Fig. 2. In situations where horizontal mounting is desired and condensation is likely to occur (bathroom ventilation in cold climates) this problem might be avoided by mounting the fan 30 degrees beyond horizontal as shown in Fig. 3.

Fig. 1

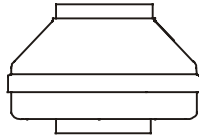


Fig. 2

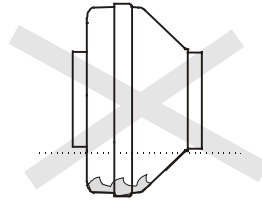
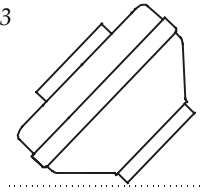


Fig. 3



2.0 Ducting

Any type of ducting is acceptable, however, flexible nonmetallic ducting is recommended for easy installation and quieter operation. Insulated flexible ducting is **highly recommended** in cold climates to prevent the warm bathroom air from forming condensation in the ducting where it is exposed to colder attic air. The outlet of the fan should always be ducted to the outside. Avoid venting the outlet of the fan directly into an attic area. The excess moisture from the bathroom can cause damage to building structure and any items stored in the attic. Multiple venting points may be connected together using a "T" or "Y" fitting. Straight smooth runs of ducting will present the least resistance and maximize system performance.

For quietest performance, the fan should be mounted further away from the inlet duct, near the outside vent. A minimum distance of 10 feet is recommended between the fan or T/Y of a multi-intake system and intake grille(s).

3.0 Backdraft Dampers

Backdraft dampers allow airflow in only one direction preventing cold/hot drafts from entering the vented area and minimize possible condensation and icing within the system while the fan is not operating. Backdraft dampers are **highly recommended** at each intake grille for bathroom ventilation in all cold climate installations.

4.0 Electrical Wiring

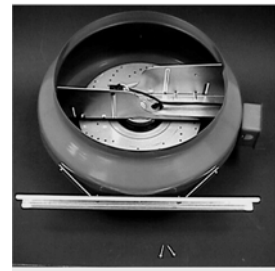
Electrical connection to the fan should be performed by a qualified person in accordance with all local, state and national electrical codes. A Ground Fault Interrupter (GFI) circuit is not required in most installations, check your local codes.

5.0 Applications

Suitable for general ventilation, bathroom venting, fresh air supply, duct boosting, building pressurization, etc. Suitable for kitchen exhaust venting.

6.0 Installation

Step 1: Attach the mounting bracket to the fan unit with (2) #10 x 1/2" screws, provided. Avoid over tightening screws.



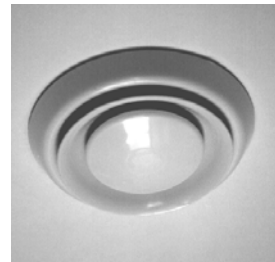
Step 2: Select location for fan mounting. A location 2/3 along the ducting, a minimum of 10 feet away from the inlet vent to the fan or the Y/T of a multi-intake system will provide the quietest operation. Fan should be mounted vertically to prevent moisture from accumulating in the fan housing. Attach bracket to mounting structure with the 1 1/4" screws provided. Ensure the fan is securely fastened.



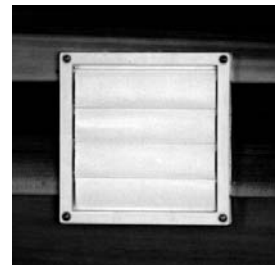
Step 3: Connect ductwork between fan inlet and area to be vented through inlet grille. Flexible, nonmetallic ducting is recommended for quietest operation and easiest installation. Insulated flexible ducting is **highly recommended** for bathroom ventilation in all cold climate installations.



Step 4: Connect inlet grille(s). An optional backdraft damper may be installed in the inlet grille to prevent cold air from backing into the inlet and also prevent condensation from forming inside the ductwork. Backdraft dampers are **highly recommended** at each intake grille for bathroom ventilation in all cold climate installations.



Step 5: Connect outlet of fan to outside vent. The outside vent may go through the roof, sidewall or soffit as desired. Flexible, nonmetallic ducting is recommended for quietest operation and easiest installation. Insulated flexible ducting is **highly recommended** for bathroom ventilation in all cold climate installations.



Step 6: Make electrical connection to fan. Observe the proper wiring connections:

RL Series Wire	AC Connection
Black	AC Hot
White	AC Common
Green	Ground



RL SERIES PRODUCT SPECIFICATIONS

The following chart shows fan performance for the RL Series Commercial/Residential Fan:

Model	Typical CFM vs Static Pressure							Max Static, " WC
	0	0.2	0.5	0.75	1	1.25	1.5	
RL200	160	147	127	108	90	60	42	1.77
RL300	261	237	175	125	90	55	37	1.74
RL350	290	266	220	175	141	100	55	1.82
RL450	476	429	350	280	235	192	145	2.20
RL500	531	479	395	310	240	197	160	2.22
RL600	670	610	513	420	329	263	206	2.75

Power Consumption @ 120 VAC , 60Hz (5.0 Amp Max)					
Model	Duct	Watts	Model	Duct	Watts
RL200	4"	39-59	RL450	8"	95-150
RL300	6"	50-73	RL500	10"	98-152
RL350	6"	64-86	RL600	12"	150-215

Mounting: Mounting bracket included.

Recommended ducting: Flexible Ducting.

Storage temperature range: 32 - 100 degrees F.

Normal operating temperature range: -20 - 120 degrees F.

Maximum inlet air temperature: 140 degrees F continuous.

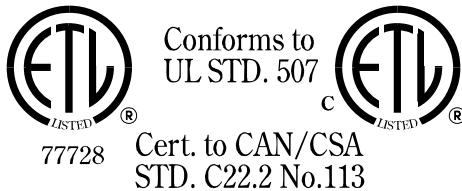
Class B Insulation

Continuous Duty

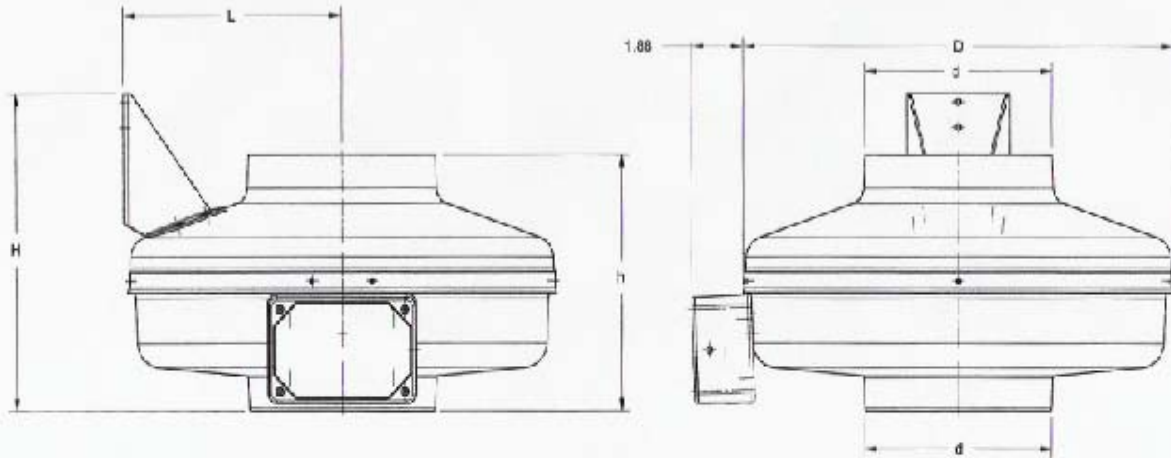
3000 RPM

Thermally protected

Rated for Residential and Commercial use

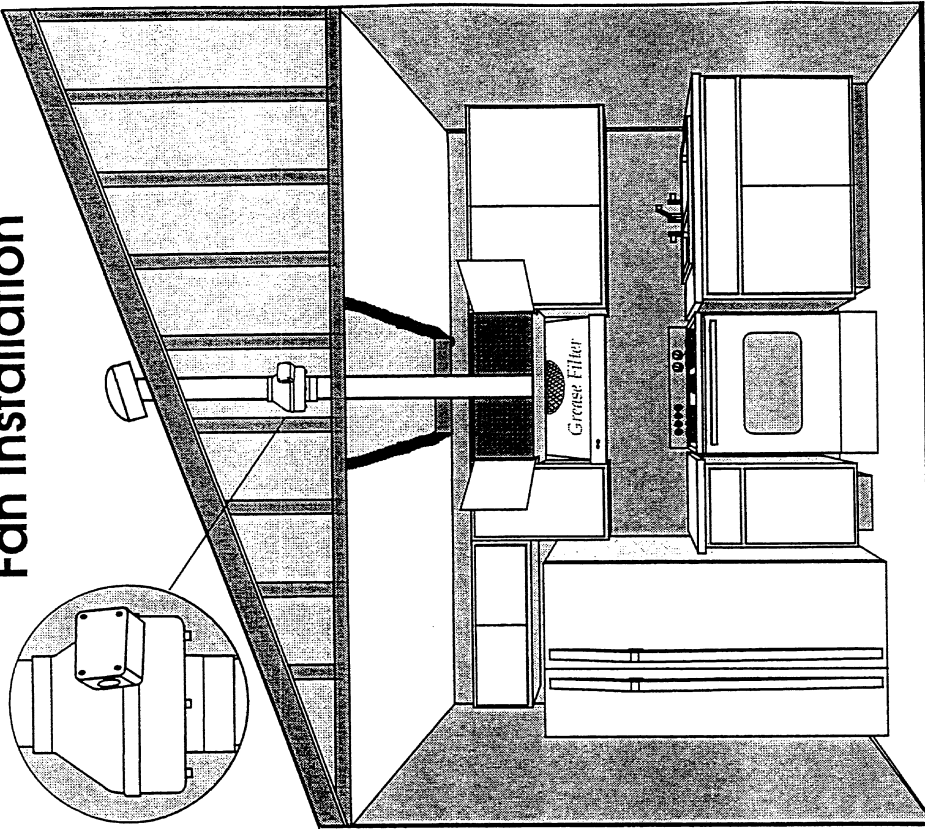


DIMENSIONS AND WEIGHTS, RL FANS.

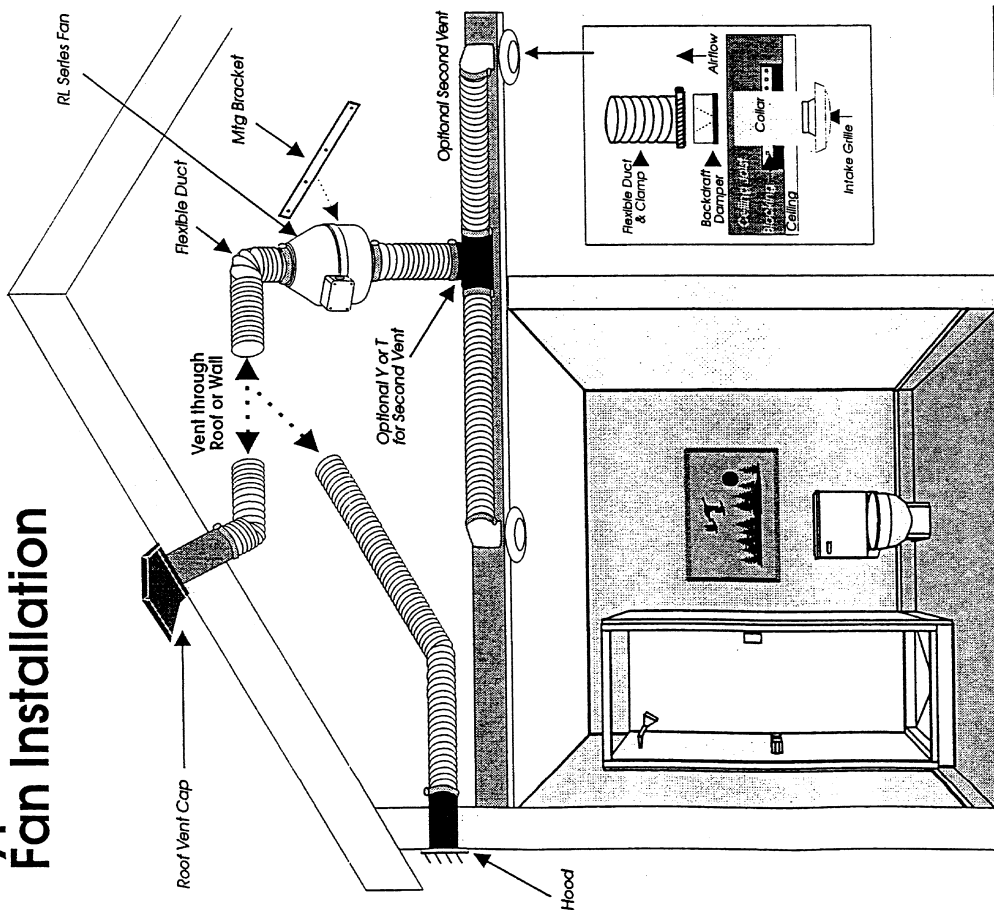


MODEL	H	h	L	D	d	Wt, lbs
RL200	8.75	7.38	4.88	9.50	3.88	6.5
RL300	9.38	7.50	6.88	13.50	5.88	8.0
RL350	9.38	7.50	6.88	13.50	5.88	8.0
RL450	10.50	9.13	6.88	13.50	7.88	10.0
RL500	10.50	9.13	6.88	13.50	9.88	10.0
RL600	N/A	10.00	8.00	15.88	12.38	12.0

Typical RL Series Kitchen Exhaust Fan Installation



Typical RL Series Fan Installation



IMPORTANT INSTRUCTIONS TO INSTALLER

Inspect the RL Series Fan for shipping damage within 15 days of receipt. Notify Spruce of any damages immediately. Spruce is not responsible for damages incurred during shipping. However, for your benefit, Spruce does insure shipments.

There are no user serviceable parts inside the fan. **Do not attempt to open.** Return unit to factory for service.

Install the RL Series Fan in accordance with all state and local building codes and state regulations.

WARRANTY

Subject to any applicable consumer protection legislation, Spruce Environmental Technologies, Inc. ("Spruce") warrants that the RV/RB/DB/RL Series Fan (the "Fan") will be free from defects in materials and workmanship for a period of five (5) years from the date of manufacture (the "Warranty Term").

Warranty claims made during the first thirty days after installation:

Spruce will replace any Fan which fails due to defects in materials or workmanship. The Fan may be returned (at owner's cost) to either the point of purchase or the Spruce factory. The point of purchase may require proof of purchase or a bill of sales for replacement.

Warranty claims made after the first thirty days after installation through the end of the Warranty Term:

Spruce will (at its option) either recondition or replace any Fan which fails due to defects in materials or workmanship. The Fan must be returned (at owner's cost) to the Spruce factory.

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 include damage in shipment unless the damage is due to the negligence of Spruce.

Spruce is not responsible for installation, removal or delivery costs associated with this Warranty.

EXCEPT AS STATED ABOVE, THE RL SERIES 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 SPRUCE BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR RELATING TO, THE FAN OR THE PERFORMANCE THEREOF. SPRUCE'S AGGREGATE LIABILITY 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 SPRUCE'S WARRANTY AS PROVIDED ABOVE.

For service under this Warranty, contact Spruce 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 cost to and from factory.

Spruce Environmental Technologies, Inc.
3 Saber Way
Ward Hill, MA 01835
TEL. (978) 355-0901
FAX (978) 521-3964

Record the following information for your records:

Serial No. _____
Purchase Date _____