



# VENTILATION PRODUCT CATALOG



INLINE VENTILATION FANS | RADON FANS | RADON IN WATER  
RADON TESTING | VI & MOISTURE CONTROL | IAQ PRODUCTS & ACCESSORIES

# PRODUCTS FOR A HEALTHIER INDOOR ENVIRONMENT

Spruce Environmental Technologies, Inc.™ manufactures inline ventilation fans available through authorized distributors. The company, founded in 1989, is committed to improving indoor air quality (IAQ) by building the highest quality inline ventilation fans. Since developing our first inline fan, we have expanded our product offerings to include more than 16 Spruce fan models.

Our first fan, designed specifically for radon mitigation, was released under the RadonAway® brand name. RadonAway now offers 5 fan lines and 17 fan models, including the world's #1 radon fan. The Spruce family of brands has grown to encompass a multitude of indoor air quality, radon mitigation, and radon testing products and services. Besides Spruce Ventilation and RadonAway, the Spruce family also includes AccuStar, our Radon Lab. For more about our brands, please see the specific product pages and view our websites.

Spruce ventilation, radon testing and mitigation, moisture control, soil gas extraction, and water aeration products underscore our ongoing commitment to better indoor air and water quality, resulting in healthier homes, schools, and workplaces. Spruce continues to research and develop the technologies, products and services needed to make the indoor environment a healthier, safer place.



The Spruce family of brands supply superior products for use in the home and workplace. A visual table of contents can be found on pages 4-5. Applications and locations for use include:

- Residential and Commercial Ventilation
- Hydroponics
- Moisture Control
- Radon Reduction (Air & Water) / RRNC
- Radon Testing
- Residential & Commercial Duct Boosting
- Soil Gas Extraction
- Basements
- Bathrooms
- Family or Hobby Rooms
- Garages
- Kitchens
- Laundry Rooms
- Whole House/General

\*All Spruce, RadonAway®, AirRaider™ and AccuStar® manufactured products are made in the USA with U.S. and imported parts.

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*Spruce brands shown below are included in this catalog. All Spruce™, RadonAway®, AIRaider™ and AccuStar® manufactured products are made in the USA with U.S. and imported parts.*



## RADON REDUCTION



## BATHROOM VENTILATION



## DUCT BOOSTING



## RADON IN WATER REMOVAL





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## KITCHEN VENTILATION



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## PRODUCTS & ACCESSORIES



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PRODUCTS FOR A HEALTHIER INDOOR ENVIRONMENT

# VENTILATION

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# BATHROOM VENTILATION

Spruce remote-mounted inline bath fans operate in true silence. Their balanced design and high quality motors offer the latest technology in home ventilation. Without proper ventilation, residual surface moisture builds up in the bathroom, most obviously on walls, linens, and rugs. Moisture buildup can cause or increase allergy symptoms by encouraging the growth of mold, mildew, bacteria and dust mites. Moisture can also create structural damage by providing an ideal condition for insects and wood rot. The Home Ventilation Institute (HVI) recommends a ventilation rate based on the size of the room and the number and type of fixtures present. Exhaust points should be located over or near the shower and/or tub and in any enclosed toilet area. A Spruce inline fan is ideal for this purpose, as it can attach to multiple intake/exhaust points. Matched with the proper fan control, a quality fan from Spruce helps to meet IAQ moisture control requirements.



## PRODUCT FEATURES

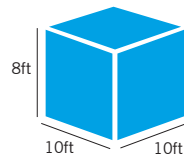
- Premium quality
- Remote mounting
- Rated for commercial or residential installations
- Rated for continuous operation
- Multiple intake locations
- Virtually silent
- Plastic rated for Indoor & Outdoor
- Five-year warranty

### HVI Sizing Recommendations for Bathroom

The Home Ventilating Institute (HVI) provides the following sizing guide for bathroom: 8 Air Changes/Hour (ACH)

Equation:  
Room length x room width x room height =  
room cubic feet x 8 air exchanges / hour = CFM

Example:  
Bathroom is 10ft. x 10ft. x 8ft. =  
800 cu.ft. x 8/60 = 107 CFM Fan



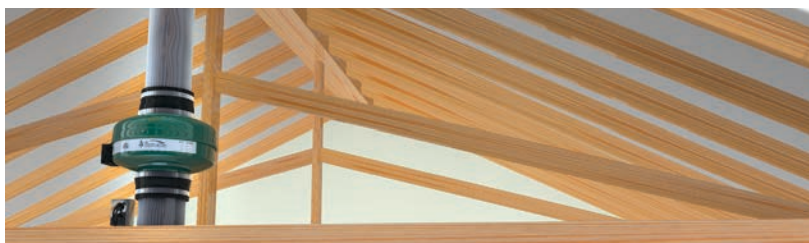
**Online calculator available  
at [spruce.com/fansizecalculator](http://spruce.com/fansizecalculator)**

PRODUCT	HOUSING MATERIAL	MODEL	P/N	DUCT	CFM @ 0.2" WC
	PLASTIC	RV100	28040	4"	100
		RV125	28042	4"	110
		RV150	28041	4"	140
		RV200	28049	6"	170
	PLASTIC	RB110 ☆	28128	4"	100
		RB275	28115	6"	210
		RB300	28088	6"	270
		RB350	28261	6"	299
		RB400	28206	8"	450
		RB500	28207	10"	500
	METAL	RL200	28224	4"	150
		RL300	28225	6"	240
		RL350	28226	6"	280
		RL450	28227	8"	460
		RL500	28228	10"	500
		RL600	28126	12"	610



\*Made in the USA with U.S. and imported parts.  
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# KITCHEN VENTILATION




The Spruce line of virtually silent RL Series metal fans minimize grease build-up and maximize proper ventilation to control cooking odors and moisture in the kitchen, helping to meet most IAQ requirements. Spruce RL fans feature a spun steel housing specifically designed to withstand the harsh elements that cooking produces. A baked powder interior and exterior coating prevents grease corrosion and is heat resistant.

The performance characteristics of the RL Series are ideal for both commercial and residential kitchens. They help maintain better air quality by providing a strong, quiet ventilation system. Every chef and cooking hobbyist will appreciate the benefits of the RL Series fans and their ability to quietly remove contaminants, smoke, grease, odors and moisture.



## PRODUCT FEATURES

- Rated for commercial or residential installations
- Rated for continuous operation
- Available with variable speed control
- Corrosion-resistant steel housing
- Virtually silent
- Five-year warranty

PRODUCT	HOUSING MATERIAL	MODEL	P/N	DUCT	CFM @ 0.2" WC
	METAL	RL200	28224	4"	150
		RL300	28225	6"	240
		RL350	28226	6"	280
		RL450	28227	8"	460
		RL500	28228	10"	500
		RL600	28126	12"	610



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### HVI Sizing Recommendations by BTU

For high output, professional-grade cooktops and ranges - 10 CFM for every 1,000 BTUs

Example: 4-burner cooktop w/9,000 BTUs/burner = 36,000 BTUs:  
1000 BTUs = 36 X 10 CFM = 360 CFM

### HVI Sizing Recommendations by Range/Cooktop

Location	Ventilation Rate/Linear Ft. of Range	Min. Ventilation Rate/Linear Ft. of Range
Against a wall	100 CFM	40 CFM
In an island	150 CFM	50 CFM



## Spruce TECH TIPS

Kitchen exhaust fans are only effective when they vent the kitchen air, removing moisture and pollutants. Spruce remote-mounted RL inline kitchen fans effectively vent and eliminate moisture and pollutants, operating in virtual silence, unlike typical kitchen exhaust fans which can be noisy and obtrusive. The Spruce RL fans have baked powder-coated steel housings, making them resistant to heat and corrosion.





# GARAGE VENTILATION




Spruce manufactures 6 inline fans, both plastic and metal, that are ideal for garage ventilation. Their energy-efficient, continuous operation will remove harmful fumes and pollutants, and prevent them from entering the home by drawing them into a vent pipe and exhausting them harmlessly into the outside air.



## PREVENTS POLLUTANTS FROM ENTERING THE HOME.

## PRODUCT FEATURES

- Ultra quiet
- Indoor or outdoor installation
- Rated for commercial or residential installations
- Five-year warranty

PRODUCT	HOUSING MATERIAL	MODEL	P/N	DUCT	CFM @ 0.2" WC
	PLASTIC	RV125	28042	4"	110
		RV150	28041	4"	140
	PLASTIC	RB110 ★	28128	4"	100
		RB275	28115	6"	210
	METAL	RL200	28224	4"	150
		RL300	28225	6"	240



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## Spruce TECH TIPS

Even when a home is well sealed, harmful fumes and gases, including carbon monoxide from a car's exhaust, can seep into the home through the attached garage. A continuous ventilation system installed to exhaust the gases and fumes will help to prevent them from entering the home.

# DUCT BOOSTING



Spruce inline fans are ideal for ventilating a new addition and/or for improving the efficiency of an existing air system. Duct boosting will give an old heating and cooling system the lift necessary to get conditioned air into newly expanded living or working areas as well as any other areas where it is needed.

Mechanical ventilation is often necessary to assure better indoor air quality in today's tightly sealed homes and commercial buildings. A Spruce inline fan enhances air quality and helps to meet Energy Star® IAQ requirements with continuous ventilation, which reduces source pollutants in a variety of home and business settings, including workshops, hobby rooms, smoking rooms and other indoor spaces where pollutants enter the air.

Spruce duct boosting kits feature interior mount and lightweight, durable construction; they are rated for continuous operation. See page 14 for fan specifications.

## SDB110P KIT INCLUDES

- RB110 inline fan
- Air pressure-sensing switch
- Probe
- Vinyl tubing
- Five-year warranty
- ☆ Energy Star® rated fan

P/N	FOR USE WITH	CFM @ 0.2"WC
28131	4" Duct	100



## SDB110C KIT INCLUDES

- RB110 Inline fan
- A/C current-sensing switch
- Five-year warranty
- ☆ Energy Star® rated fan

P/N	FOR USE WITH	CFM @ 0.2"WC
28259	4" Duct	100



## Spruce TECH TIPS

In general, sound ratings are not required for remote-mounted inline fans because little or no sound is heard in the space they are ventilating. Some states qualify the requirement by adding a minimum duct length; California, for example, requires at least 4 feet of duct between the closest pickup grille and the fan.





## FRESH AIR INJECTION / MAKE-UP AIR

Bringing in fresh air is a priority for creating a healthy indoor environment. In addition, combustion equipment (gas-fired water heater, clothes dryer, furnace, etc.) requires fresh air to operate properly. Many of today's homes are built so tightly that air must be introduced by a fan. Spruce inline fans offer excellent performance with minimal sound. To enhance efficiency and energy savings while injecting needed make-up air, Spruce fans can be set to turn on automatically when appliances are in use by installing an appropriate switching mechanism. (See page 13.)

## ENHANCED VENTILATION FOR BETTER INDOOR AIR QUALITY

IMAGE	HOUSING MATERIAL	MODEL	P/N	DUCT	CFM @ 0.2" WC
	PLASTIC	RV100	28040	4"	100
		RV125	28042	4"	110
		RV150	28041	4"	140
		RV200	28049	6"	170
	PLASTIC	RB110 ☆	28128	4"	100
		RB275	28115	6"	210
		RB300	28088	6"	270
		RB350	28261	6"	299
		RB400	28206	8"	450
		RB500	28207	10"	500
	METAL	RL200	28224	4"	150
		RL300	28225	6"	240
		RL350	28226	6"	280
		RL450	28227	8"	460
		RL500	28228	10"	500
		RL600	28126	12"	610





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# VENTILATION


## PRODUCTS & ACCESSORIES




### REDUCERS / CLAMPS

IMAGE	PRODUCT	P/N	SIZING	DESCRIPTION
	Reducers	79042	5" x 4"	Metal
		79041	6" x 4"	
		79054	6" x 5"	
		79079-1	10" x 8"	
		79049	3" x 4"	Plastic
	Clamps	67022-1	4"	Metal worm drives
		67022-2	6"	
		67022-3	8"	


### BACKDRAFT DAMPERS

IMAGE	PRODUCT	P/N	SIZING	DESCRIPTION
	Backdraft Dampers	28108	4"	Inline metal
		28109	5"	
		28110	6"	
		28111	8"	
		28112	10"	




### SELF-DAMPENING VENT HOOD

IMAGE	PRODUCT	P/N	SIZING	DESCRIPTION
	Self-Dampening Vent Hoods	76014	4"	Louvered white plastic with tailpiece
		76015	6"	
		76016	4"	Wide mouthed aluminum with tailpiece
		76026	6"	
		76025	3 1/4" x 10"	





### MAKE-UP AIR INLET




IMAGE	PRODUCT	P/N	SIZING	DESCRIPTION
	AIRLET200 (Make-up Air Inlet)	76032-1	5" x 9"	Self-regulating damper; telescoping sleeve accommodates wall thickness 5 3/4" to 8"


### INTAKE / EXHAUST GRILLES



IMAGE	PRODUCT	P/N	SIZING	DESCRIPTION
	Duct Grilles	28102	4"	With metal collar for joist mount
		28103	6"	
		28104	8"	
		28105	4"	With locking ring for ceiling mount
		28106	6"	
		28107	8"	
	Return/Exhaust Grille Assembly	76064	fits 4", 5" and 6" duct	With adjustable damper (rough in flanges available; inquire)
	Grille / Light	28355	7" ceiling mount	14 watt fluorescent bulb









DUCT				
IMAGE	PRODUCT	P/N	SIZING	DESCRIPTION
	Flexible Vinyl Duct	78018-3	4" x 8'	White
		78018-1	4" x 20"	
		78018-2	4" x 50'	
	Foil-Laminate Flex Duct	78022-1	4" x 25'	Silver UL-Listed
		78022-2	6" x 25'	
		78022-3	8" x 25'	
	Semi-Rigid Aluminum Duct	78019-3	4" x 8'	Silver
		78019-1	4" x 25'	
		78019-4	6" x 8'	
		78019-2	6" x 25'	
	Insulated Flexible Duct	78020-1	4" x 25'	Black UL-Listed
		78020-2	6" x 25'	
		78020-3	8" x 25'	

DUCT CONNECTORS				
IMAGE	PRODUCT	P/N	SIZING	DESCRIPTION
	Metal Y Duct Connector	79044	4"	-
		79048	6"	
		79053	8"	
	Metal T Duct Connector	79043	4"	-
		79046	6"	
	Metal Straight Duct Connector	79045	4"	-
		79047	6"	

UNDAMPED INTAKE / EXHAUST VENT				
IMAGE	PRODUCT	P/N	SIZING	DESCRIPTION
	Undamped Intake / Exhaust Vent	76021	4"	Plastic wide mouth with tailpiece and screen
		76022	5"	Louvered white plastic with screen

VENT CAPS				
IMAGE	PRODUCT	P/N	SIZING	DESCRIPTION
	Roof Vent Cap	76017	4"	Milled aluminum
		76018	7"	
		76034	up to 10"	
	Vent Cap	76001	3" Schedule 40	White plastic
		76009	4" Schedule 20	
		76002	4" Schedule 40	

FAN CONTROL & SWITCHES				
IMAGE	PRODUCT	P/N	SIZING	DESCRIPTION
	Digital Fan / Light Timer Switch	73041-3	-	MarkTime® white/ivory 20, 40 or 60 min time delay
		73041-4	-	MarkTime® white/ivory 20, 40, 60 or 120 min time delay
	42 Series Fan / Light Timer Switch	73041-1	-	MarkTime® 2 position, on/time delay off, solid state electronic components
		73041-2	-	
	Fan Speed Control	73009	-	On/Off rotary operation, 5 Amp max, 120V
	Humidity-Activated Switch	73025	-	Adjusts from 20-80% RH
	Pressure Sensing Switch	28098	-	Air pressure sensing switch, probe and vinyl tubing included
	AC Current Sensing Kit	28258	-	2.5 Amp @ 120 VAC output, 1.25 - 40 Amp input; normally open, ideal for duct boosting

## RV SERIES PLASTIC HOUSING

MODEL	P/N	DUCT	WATTS	TYPICAL CFM VS. STATIC PRESSURE						
				0"	0.2"	0.5"	0.75"	1.0"	1.25"	1.5"
RV100	28040	4"	35-44	113	100	71	46	18	-	-
RV125	28042	4"	48-68	115	110	98	87	72	57	43
RV150	28041	4"	48-66	150	140	119	98	76	50	24
RV200	28049	6"	49-66	184	170	144	121	87	47	1



\*Made in the USA with U.S. and imported parts.



Model	H	h	D	d
RV125	9.25"	1"	8.5"	4"
RV150	9.25"	1"	8.5"	4"
RV200	9.25"	1"	8.5"	6"

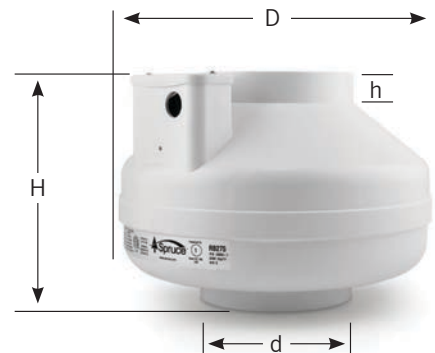
Suitable for: Duct Boosting and  
Bathroom, Living Area, Garage,  
& Continuous Ventilation

## RB SERIES PLASTIC HOUSING

MODEL	P/N	DUCT	WATTS	TYPICAL CFM VS. STATIC PRESSURE						
				0"	0.2"	0.5"	0.75"	1.0"	1.25"	1.5"
RB110 ☆	28128	4"	14-20	121	100	68	20	-	-	-
RB275	28115	6"	47-65	251	210	157	117	70	26	-
RB300	28088	6"	66-87	318	270	211	170	135	87	30
RB350	28261	6"	91-129	334	299	247	210	176	142	116
RB400	28206	8"	95-152	497	450	353	281	220	176	130
RB500	28207	10"	99-152	542	500	420	344	275	219	165



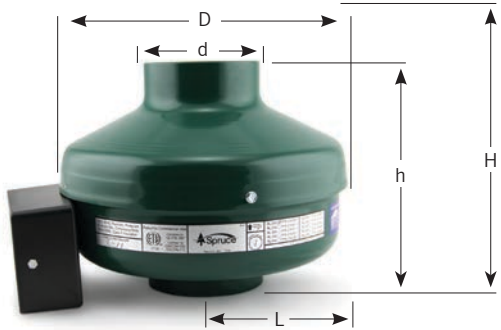
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Model	H	h	D	d
RB110	8.5"	1"	9.7"	4"
RB275	9"	1"	13.4"	6"
RB300	9"	1"	13.4"	6"
RB350	9"	1"	13.4"	6"
RB400	10.5"	1"	13.4"	8"
RB500	10.5"	1"	13.4"	10"

Suitable for: Duct Boosting and  
Bathroom, Living Area, Garage,  
& Continuous Ventilation





Model	H	h	L	D	d
RL200	8.75"	7.38"	4.88"	9.50"	3.88"
RL300	9.38"	7.50"	6.88"	13.50"	5.88"
RL350	9.38"	7.50"	6.88"	13.50"	5.88"
RL450	10.50"	9.13"	6.88"	13.50"	7.88"
RL500	10.50"	9.13"	6.88"	13.50"	9.88"
RL600	N/A	10.00"	8.00"	15.88"	12.38"

Suitable for: Bathroom Ventilation, Kitchen Ventilation, Duct Boosting, Living Area & Garage Ventilation

## RL SERIES METAL HOUSING

MODEL	P/N	DUCT	WATTS	TYPICAL CFM VS. STATIC PRESSURE						
				0"	0.2"	0.5"	0.75"	1.0"	1.25"	1.5"
RL200	28224	4"	42-62	163	150	123	101	76	54	28
RL300	28225	6"	53-79	268	240	194	156	117	74	34
RL350	28226	6"	59-89	300	280	238	201	164	127	89
RL450	28227	8"	92-152	507	460	371	298	241	193	144
RL500	28228	10"	97-153	545	500	419	349	275	222	170
RL600	28126	12"	153-215	670	610	511	419	332	266	210



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## DUCT BOOSTING KIT SPECIFICATIONS



SDB110P with Current Sensing Switch

Model	H	h	D	d
SDB110P	8.5"	1"	9.7"	4"
SDB110C	8.5"	1"	9.7"	4"

Kits include inline fan, switch, and mounting bracket. They have interior mount, lightweight-durable construction and are rated for continuous operation.



SDB110P with Pressure Sensing Switch and Tubing

MODEL	P/N	DUCT	WATTS	TYPICAL CFM VS. STATIC PRESSURE						
				0"	0.2"	0.5"	0.75"	1.0"	1.25"	1.5"
SDB110P ☆	28131	4"	14-20	121	100	68	20	-	-	-
SDB110C ☆	28259	4"	14-20	121	100	68	20	-	-	-



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PRODUCTS FOR A HEALTHIER INDOOR ENVIRONMENT

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# PULL-OUT GUIDE

To remove this guide, firmly hold this 4-page section, then fold back the rest of the catalog and gently pull the guide from the staples.



## RRNC RECOMMENDATIONS

This convenient guide provides you with a quick overview of the requirements of the ANSI-AARST RRNC 2.0 Standard, Reducing Radon in New Construction of One & Two Family Dwellings and Townhouses. It includes a chart of Recommended Fan Types, along with the RadonAway® fans that meet the standard's requirements. Additional information in the guide includes other products, such as RadonAway's Radon-T, VAPORMAT™, and Vapor Barriers – all products needed to meet RRNC recommendations.

As always, Spruce, through its brands and products, remains committed to providing you with not only the highest quality ventilation and radon testing and mitigation products but also information to help you to provide expert, effective professional indoor air quality services.



# RRNC STANDARD & FAN TYPES

## ANSI/AARST RRNC 2.0 STANDARD




AARST-ANSI RRNC 2.0, Reducing Radon in New Construction of 1 & 2 Family Dwellings and Townhouses is a “model code” standard for the installation and testing of new construction radon systems. Its purpose is to further radon risk reduction in the U.S. by providing a model building code to achieve indoor radon concentrations of less than 4 pCi/L [148 Bq/m<sup>3</sup>] in new homes. The standard specifies certain requirements for a radon mitigation system, including fan sizing. The RRNC 2.0 Radon Fan Types chart below reproduces the specifications in the standard’s Chart 901.3, Fan Sizing. The RadonAway® fans listed in the chart below all meet RRNC 2.0 specifications.

To request one complimentary copy of the standard go to [radonaway.com/standard](http://radonaway.com/standard)

## RRNC 2.0 RADON FAN TYPES

PIPE SIZE Nominal (I.D.)	TOTAL FOUNDATION AREA		
	Less than 1600 sq. feet	1600 to 2500 sq. feet	Greater than 2500 sq. feet
	Less than 149 sq. meters	149 to 232 sq. meters	Greater than 232 sq. meters
(3 inch) [7.6 cm]	Use Radon Fan Type: <b>RF1</b> RF1 Minimum rating: 50 cfm @ 0.5" WC [85m <sup>3</sup> /hr @ 125 Pa]	Use Radon Fan Type: <b>RF2</b> RF2 Minimum rating: 75 cfm @ 1.0" WC [127m <sup>3</sup> /hr @ 250 Pa]	Radon fan to be sized by a certified/licensed radon mitigator
(4 inch) [10 cm]	Use Radon Fan Type: <b>RF1</b> RF1 Minimum rating: 50 cfm @ 0.5" WC [85m <sup>3</sup> /hr @ 125 Pa]	Use Radon Fan Type: <b>RF1</b> RF1 Minimum rating: 50 cfm @ 0.5" WC [85m <sup>3</sup> /hr @ 125 Pa]	Radon fan to be sized by a certified/licensed radon mitigator

## RADONAWAY® FANS SUITABLE FOR RRNC 2.0

IMAGE	MODEL	FAN DUCT DIAM.	WATTS	RECOM. MAX. OP. PRES-SURE "WC	TYPICAL CFM vs. STATIC PRESSURE WC				RRNC 2.0 Radon Fan Type
					0"	0.5"	1.0"	1.5"	
	RP140c	4"	15-21	0.7	135	70	-	-	RF1
	RP145c	4"	41-72	1.7	166	126	82	41	RF1, RF2
	XP201c	4"	45-66	1.7	112	95	70	40	RF1

# SYSTEM & RRNC COMPONENTS



## 1 RADONAWAY® RADON-T

### System Base

The RadonAway Radon-T is embedded in the gas permeable layer or aggregate, where it saddles over drainage pipe to permit gas flow and provide a stable system base.

See catalog p. 19

## 2 VAPORMAT™

### Soil Gas Collector

The soil gas collector, which can be gravel and/or geotextile drainage matting, such as RadonAway's VAPORMAT™, is installed to allow the lateral flow of soil gases.

See catalog p. 19

## 3 VAPOR BARRIER

### Soil Gas Plenum Seal

Prior to pouring the slab, the soil gas collector and all exposed soil must be covered with a soil gas retarder (vapor barrier) installed in accordance with the RRNC 2.0 Standard.

Call for information.

## 4 RADONAWAY® FAN

### Radon Fan

The radon fan, usually located in the attic, activates the installed RRNC system. RadonAway® radon fans that meet RRNC requirements are listed in the chart on the previous page.

See catalog p. 20

## 5 RADONAWAY® U-TUBE MANOMETER

### System Operation Monitor

Each RRNC system must have a negative pressure monitor, such as the RadonAway® U-tube Manometer, which must be located indoors in an area that is readily observable by the occupants.

See catalog p. 22

FOR MORE INFORMATION CONTACT



SPRUCE ENVIRONMENTAL TECHNOLOGIES, INC.

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## REQUEST THE RRNC 2.0 STANDARD

As RRNC gains increased acceptance throughout the U.S., it is important for every professional in a construction-related industry to become familiar with the ANSI-AARST RRNC 2.0 Standard. Scan this QR code to request a free, downloadable copy of RRNC 2.0. If your smartphone does not have a reader, go to [radonaway.com/standard](http://radonaway.com/standard) to request your copy.





# RADON TESTING

## TEST KITS / CRMs

For radon in air, Spruce's AccuStar® radon testing laboratories offer short-term (two to four days) and long-term (three months to a year) test kits, as well as RadStar continuous radon monitors and the GM 1-2 radon diagnostic device. AccuStar also offers a test kit to measure radon in water. All test kits, which include laboratory analysis, are manufactured and analyzed in AccuStar's laboratories, which are certified, accredited and internationally recognized for test result accuracy.

**For more details on lab qualifications, contact your Spruce representative or visit [spruce.com/contact](http://spruce.com/contact)**



## RADON TEST KITS

**AccuStar**

Spruce radon test kits are manufactured and analyzed by our own radon laboratory division, AccuStar. Our LS test kits are passive, short-term kits with a test duration of 2-4 days. The Alpha Track is the ideal device for radon tests longer than 90 days and was rated #1 by a leading consumer advocacy group. The Radon in Water test kit is fast, reliable and efficient with easy sample collection. All of our radon test kits include analysis and return postage.

### Liquid Scintillation (LS) Test Kit

Single Vial - P/N 28034-1

Double Vial - P/N 28327

### Alpha Track Test Kit

P/N 28033-1

### Radon in Water Test Kit

P/N 28140



## GM 1-2

P/N 28337

**RadonAway**

The RadStar GM 1-2 is a one-of-a-kind diagnostic aid designed specifically for the needs of radon mitigation professionals. The Radon Grab Sampler feature is the perfect diagnostic tool to assist you in finding radon sources. The Micro-Manometer measures pressure field extension. The GM 1-2 comes built into its own sturdy carrying case.

### FEATURES:

#### 1 - Radon Grab Sampler

- Performs a 6-minute radon grab sample
- Displays real-time alpha particle counts
- Readings can be in pCi/L or Bq/m<sup>3</sup>
- Approximately 5-hour battery life

#### 2 - Micro-Manometer

- Time Average option adjusts readings for high wind or other environmental conditions
- Readings can be in "WC or Pascals
- Approximately 5-day battery life



## RADSTAR RS800 & RS300

**RadonAway**

RadStar continuous radon monitors are the professionals' first choice for top quality, accuracy, and reliability. Both RadStar models include MS Windows-based software to transfer test data to your laptop or desktop, and a Data Download Cable Kit (USB 2.0 to DB9). They also contain a motion sensor and internal rechargeable battery. *RS800 available for rental.*

### RS800 - P/N 28154

#### The most accurate of electronic radon monitors

- Top-of-the-line radon monitor - 24 cph per pCi/L
- Hourly radon, temperature, and relative humidity measurements
- 12- or 24-hour delay option

### RS300 - P/N 28157

#### Affordable, accurate radon monitoring

- Excellent sensitivity - 16 cph per pCi/L
- Measures radon hourly
- Downloadable software with ability to calculate 12- or 24-hour delay

RadStars for international use provide measurements in Bq/m<sup>3</sup>. For more information about the RS800i (P/N 28265) and RS300i (P/N 28264), please inquire.

# ACTIVE SOIL DEPRESSURIZATION

## RADON REDUCTION / VOCs



“Toxic air pollutants, also known as hazardous air pollutants, are those pollutants that are known or suspected to cause cancer or other serious health effects,” according to the U.S. Environmental Protection Agency. Toxic air pollutants can enter the home undetected from beneath the slab. These pollutants include radon and other harmful soil gases and volatile organic compounds. Moisture vapor also can enter the home in the same manner. The installation of an Active Soil Depressurization (ASD) system is not only the best but also the easiest solution for preventing pollutants from entering the home.

Spruce's RadonAway® radon fans, introduced in 1989, are the world's leading radon fans, known for their effectiveness and reliability. These radon fans are just as effective for reducing other air toxins and moisture, and the process recommended is the same: sealing cracks, installing pipe from below the slab to vent above the roof, and activating by installing a RadonAway® radon fan.

RadonAway® fans have the additional benefit of being sealed against leakage of radon, other soil gases, and water vapor, so that pollutants drawn from beneath the slab are inhibited from leaking from the fan into the air.

The following pages provide details on soil gas mitigation products from Spruce.

***“Active Soil Depressurization is the Best Technology for reducing radon levels and harmful soil gases.”***



## Radon TECH TIPS

Use ASD for: Radon, Other Soil Gases, Moisture, VOCs.

Active soil depressurization (ASD) describes a group of techniques used to reduce radon, water vapor, soil gas and volatile organic compound (VOC) concentrations in homes and other buildings. ASD techniques create a negative pressure field beneath the structure, inhibiting radon, moisture and VOC entry by drawing gases and vapor from under the slab and venting above the roofline. For these applications, an ASD system generally includes one or more draw (or suction) points, PVC pipe, and a fan specifically designed for ASD.



# MOISTURE CONTROL/RRNC

## REDUCING RADON IN NEW CONSTRUCTION

### RRNC & MOISTURE CONTROL

AARST-ANSI RRNC 2.0, Reducing Radon in New Construction of 1 & 2 Family Dwellings and Townhouses is a “model code” standard for the installation and testing of new construction radon systems. Its purpose is to further radon risk reduction in the U.S. by providing a model building code to achieve indoor radon concentrations of less than 4 pCi/L [148 Bq/m<sup>3</sup>] in new homes. For more RRNC details see the **RRNC Pull-Out Guide**, located after p. 16.

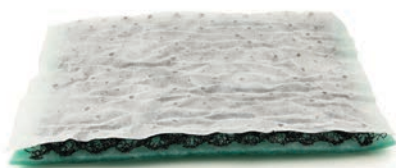
To obtain a copy of this standard, go to <http://www.radonaway.com/standard>

PIPE SIZE NOMINAL (I.D.)	TOTAL FOUNDATION AREA					
	LESS THAN 1600 SQ. FEET	LESS THAN 149 SQ. METERS	1600 TO 2500 SQ. FEET	149 TO 232 SQ. METERS	GREATER THAN 2500 SQ. FEET	GREATER THAN 232 SQ. METERS
(3 INCH) [7.6 CM]	Use Radon Fan Type: RF1 RF1 Minimum rating: 50 cfm @ 0.5" WC [85m <sup>3</sup> /hr @ 125 Pa]		Use Radon Fan Type: RF2 RF2 Minimum rating: 75 cfm @ 1.0" WC [127m <sup>3</sup> /hr @ 250 Pa]		Radon fan to be sized by a certified/licensed radon mitigator.	
(4 INCH) [10 CM]	Use Radon Fan Type: RF1 RF1 Minimum rating: 50 cfm @ 0.5" WC [85m <sup>3</sup> /hr @ 125 Pa]		Use Radon Fan Type: RF1 RF1 Minimum rating: 50 cfm @ 0.5" WC [85m <sup>3</sup> /hr @ 125 Pa]		Radon fan to be sized by a certified/licensed radon mitigator.	

MODEL	FAN DUCT DIAMETER	WATTS	RECOM. MAX. OP. PRESSURE "WC	TYPICAL CFM VS. STATIC PRESSURE WC				RRNC 2.0 RADON FAN TYPE
				0"	.5"	1.0"	1.5"	
RP140c	4"	15-21	0.7	135	70	-	-	RF1
RP145c	4"	41-72	1.7	166	126	82	41	RF1, RF2
XP201c	4"	45-66	1.7	112	95	70	40	RF1

>> For RadonAway® fan series descriptions/specifications see p. 24-25. Spruce Environmental Technologies, Inc. and RadonAway® recommend that radon reduction systems be installed by qualified radon professionals.

### VAPORMAT™



4' (48") x 50' x 0.4" thick (30lbs per roll) - P/N 66105  
1.25' (15") x 45' x 0.8" thick (10lbs per roll) - P/N 66106  
VaporMat Staples - P/N 66107

VAPORMAT Radon & Moisture Mitigation Channeling Systems, available in two thicknesses, can be used for easy-to-install, time-saving drainage and air flow beneath the vapor barrier. Simply cut it to size and place it over the area and RadonAway Radon-T (P/N 28353), to cover the substrate, cutting a hole to allow the PVC pipe to protrude from the Radon-T. Now you're ready to install the vapor barrier.

### RADON-T KIT



Single Radon-T Kit - P/N 28353  
Radon-T Contractor Pack, 12 Kits - P/N 28354

Designed specifically as the starting point for RRNC or an active radon or moisture control system, the innovative Radon-T replaces an ordinary PVC tee, offering more stability; better air, soil gas and vapor flow; and the ability to saddle over drainage piping.

Includes:

- Radon-T
- 4 stakes for stabilization
- Cap to prevent debris entry
- 4 vent pipe labels



# RADON REDUCTION

## RADON FANS



Radon gas is the #1 cause of lung cancer in nonsmokers, killing more than 21,000 people annually in the U.S. alone. Many radon-related deaths can be avoided by the installation of an Active Soil Depressurization (ASD) radon mitigation system. RadonAway® radon mitigation fans, when installed properly as the main component of an ASD system, effectively reduce the amount of radon, other soil gases and moisture that can enter homes and other buildings. All RadonAway radon fans, except as noted, carry a 5-year manufacturer's warranty when installed by a qualified radon mitigation professional.



### RPc SERIES

RP140c, RP145c, RP260c, RP265c



- Energy efficient
- Ultra-quiet operation
- Meets all electrical code requirements
- Water-hardened motorized impeller
- Seams sealed to inhibit radon leakage (RP140c & RP145c double snap sealed)

- RP140c Energy Star® Rated
- ETL Listed - for indoor or outdoor use
- Thermally protected motor
- Rated for commercial and residential use

Use RPc fans for quiet operation, energy efficiency and high air flow in porous sub-slab or sub-membrane materials consisting of about 4 inches of clean, size 4-6 gravel.



### XP201c



- Low energy consumption
- Quiet operation
- Low-profile design
- Water-hardened, thermally protected motor

- Seams sealed to inhibit radon leakage
- Meets all electrical code requirements
- ETL Listed - for indoor or outdoor use
- Rated for commercial and residential use

Use XP201c fans for compact size, lower pressure and average flow in very porous sub-slab/membrane materials consisting of 4 inches of clean, size 4-6 gravel.



## Radon TECH TIPS

Although RadonAway radon fans are built to resist moisture, in certain climate conditions, you can further minimize the potential for moisture to cause damage to an exterior-mounted fan by installing a condensate bypass, which diverts the flow of exhaust pipe condensation. Hint: to save installation time and create a finished look, install the bypass with a transition fitting. See p. 23 for product descriptions.

## GPc SERIES

### GP301c, GP501c



- Quiet operation
- Water-hardened motor
- Seams sealed under negative pressure to inhibit radon leakage
- Mounts on duct pipe or with integral flange
- 3" diameter ducts for use with 3" or 4" pipe
- Electrical box for hard wire or plug in
- ETL Listed - for indoor or outdoor use
- 2 interchangeable GP models

Use GPc fans for versatility and a broad performance range in moderate to tight sub-slab/sub-membrane conditions. Ideal choice when multiple suction points are necessary.



## SF180



- Stay-white (non-yellowing) exterior
- Built-in moisture/condensate management
- Seams sealed under negative pressure to inhibit radon leakage
- Interchangeable with other fan models
- Inlet/Outlet: 4.3" OD (4" PVC Sched 40 size compatible)
- Designed to conceal electrical disconnect
- Quiet operation (Mounting method limits vibration transfer)

Use the SF180 for its low profile design and moderate to good air flow in porous sub-slab or sub-membrane conditions ranging from about 4 inches of clean, size 4-6 gravel to very loose soil.



## GP500



- Attractive alternative to inline fan
- Two-year hassle-free warranty
- Thermally protected
- Inlet / Outlet: 3" PVC
- High performance
- Non-yellowing finish
- Internal condensate bypass

Use the GP500 in situations that require a high-performance box fan as an effective alternative to more commonly used inline tube fans. It can provide coverage up to 1,000 sq.ft. per slab penetration.



## HS SERIES



- Internal condensate bypass
- Brackets for vertical mounting indoors and outdoors
- Warranty: 1 year (3-year option available)
- Inlet: 3" PVC / Outlet: 2" PVC (4" PVC Sched. 40 size compatible)
- Weight: 18 lbs.
- Size: 15.5"W x 13.3"H x 8.2"D

Use High Suction fans in sand, clay or tight soil conditions when you need up to 25 times the suction of inline radon fans.



>> For fan P/N, sizing, specifications and models see p. 24-25.  
Spruce Environmental Technologies, Inc. and RadonAway recommend that radon reduction systems be installed by qualified radon professionals.

# RADON SYSTEM MONITORING



Radon system fan monitoring devices provide audible and/or visible warnings when airflow or pressure in the system pipe drops. They are ideal for use by professionals as well as homeowners who require reassurance that their radon system is working. *NOTE: These devices monitor system operation; they do not measure radon levels.*



## AIR FLOW ALARM

P/N 28421



RadonAway's battery-powered air flow alarm monitors radon system operation. It mounts directly onto the system pipe to alert users of a low or no air flow condition.

- Easy installation (indoor use only)
- For use on 3" or 4" pipe\*
- Battery-operated
- Audible alarm and visual alarm (red LED light)
- Low battery warning

\*Requires 10CFM in 3" pipe; 15CFM in 4" pipe to keep vane aloft



## CHECKPOINT SERIES



### Mitigation System Monitor/Pressure Alarm

Checkpoint 2A - P/N 28001-2      Checkpoint 2A Remote - P/N 28001-4

- Audible alarm
- Green and red LED readout
- Factory preset to activate at .25"WC vacuum pressure
- Low voltage
- Checkpoint 2AR includes: Remote module with audible alarm and red LED indicator light. Also includes 50' of wire
- Models activating at 0.1" WC vacuum pressure are available. Call for details.



## EASY READ MANOMETER



### U-Tube Manometer

Easy Read Manometer, Blue Oil - P/N 50017      Easy Read Manometer, Red Oil - P/N 50018

Manometers read 0-4.5" WC, include non-toxic fluid and feature an adjustable zero gauge. Each manometer kit includes:

- Easy Read U-Tube Manometer (with tubing and self-tap screws)
- Installation instructions
- System and component labels
- Homeowner system information brochure
- Private labelling available. Call for details.



## PRESSURE SWITCH

P/N 73023



- Suitable to activate a light or alarm for monitoring fan operation
- Activates at .25"WC
- UL/CSA recognized





# RADON

## PRODUCTS & ACCESSORIES

### FLEXIBLE COUPLINGS

IMAGE	PRODUCT	P/N	SIZING	DESCRIPTION
	Ferncos	79037	3 x 3	White
		79038	3 x 4	
		79152	3 x 6	
		79040	4 x 4	
		79039	4 x 6	
		79055	4 x 4.5	

### FAN GUARD KITS

IMAGE	PRODUCT	P/N	SIZING	DESCRIPTION
	Fan Guard Kit	76040-1	3" schedule 40	Designed to prevent condensation, rain or melting ice from damaging the fan. Connects to schedule 40 PVC. Includes coupling, 2 fittings, 3" drain tube and 3' of tubing insulation.
		76040-2	4" schedule 40	

### PIPE CLAMPS/HANGERS

IMAGE	PRODUCT	P/N	SIZING	DESCRIPTION
	HangerLok®	76075	3"	UV stable, automatic-locking, adjustable pipe clamps colored to match white PVC (HDPE), hold pipe more securely to building allowing less movement and vibration, minimizing pipe noise
		76076	4"	

### ANTI -VIBRATION HARDWARE

IMAGE	PRODUCT	P/N	SIZE/QUANTITY	DESCRIPTION
	3" HangerLok® Dampener	28433	24 pcs/pkt	1/4" thick custom-cut neoprene sponge for mounting 3" HangerLok® to structure
	4" HangerLok® Dampener	28434	24 pcs/pkt	1/4" thick custom-cut neoprene sponge for mounting 4" HangerLok® to structure
	HangerLok® Center-Hole Bushing	28440	25 pcs/pkt	Provides buffer between HangerLok® and screw when mounting using center hole
	HangerLok® Offset-Hole Bushing	28441	25 pcs/pkt	Provides buffer between HangerLok® and screws when mounting using offset holes

### RADON-T KITS

IMAGE	PRODUCT	P/N	SIZING	DESCRIPTION
	Radon-T Kit	28353	Single Kit	Kit Includes: <ul style="list-style-type: none"> <li>• 4 stakes for stabilization</li> <li>• Cap to prevent debris entry</li> <li>• Instruction Guide</li> <li>• 4 vent pipe labels</li> </ul>
		28354	Contractor Pack (12 kits)	

### RADON FAN COVERS

IMAGE	PRODUCT	P/N	SIZING	DESCRIPTION
	Complete Fan Cover Kit	Black - 28043	31"H x 13"W x 13"D	Complete kit includes baseplate, transition fitting and fan cover. Fits all RadonAway® RPC, XPc and GPc fans.
		White - 28388		
	Fan Cover Only	White - 28043-2		4" Cutout. Fits all RadonAway® RPC, XPc and GPc fans. Material: Durable, Paintable ABS plastic.
		Black - 28043-1		No Cutout. Fits all RadonAway® RPC, XPc and GPc fans. Material: Durable, Paintable ABS plastic.
		Black - 28043-4		
	Baseplate Only	28043-3	31"H x 13"W	Durable plastic base for fan cover.

### TRANSITION FITTING

IMAGE	PRODUCT	P/N	SIZING	DESCRIPTION
	Transition Fitting	13245	-	UV-resistant white schedule 40 PVC pipe fitting for use with all RadonAway® RPC, XPc, and GPc fans. Replaces 2 or more fittings. Internal slot for weir (included in Condensate Bypass Kit).

### CONDENSATE BYPASS KIT

IMAGE	PRODUCT	P/N	SIZING	DESCRIPTION
	Condensate Bypass Kit	25030	-	Minimizes potential fan damage by bypassing flow of exhaust pipe condensation. Includes 3' of tubing, 3' of tubing insulation, 2 barbed fittings, and weir.

More products and accessories available.  
Contact your Spruce Representative for complete listing.

## RPc SERIES

Use RPc fans for quiet operation, energy efficiency and high air flow in porous sub-slab or sub-membrane materials consisting of about 4 inches of clean, size 4-6 gravel.



MODEL	P/N	FAN DUCT DIAMETER	WATTS	RECOM. MAX. OP. PRESSURE "WC	TYPICAL CFM VS. STATIC PRESSURE WC					FAN SIZING		
					0"	.5"	1.0"	1.5"	2.0"	H	D	d
RP140c	23029-1	4"	15-21	0.7	135	70	-	-	-	8.5"	9.7"	4.5"
RP145c	23030-1	4"	41-72	1.7	166	126	82	41	3	8.5"	9.7"	4.5"
RP260c	23030-1	6"	47-65	1.3	251	157	70	-	-	8.6"	11.75"	6"
RP265c	23033-1	6"	91-129	2.2	334	247	176	116	52	8.6"	11.75"	6"

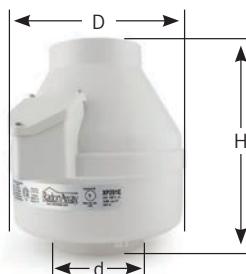


\* Made in the USA with U.S. and imported parts.



## XP201c

Use the XP201c fan for compact size, lower pressure and average flow in very porous sub-slab/sub-membrane materials consisting of 4 inches of clean, size 4-6 gravel.



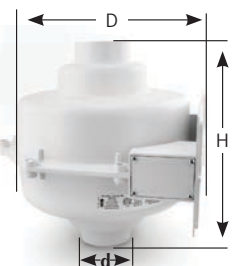
MODEL	P/N	FAN DUCT DIAMETER	WATTS	RECOM. MAX. OP. PRESSURE "WC	TYPICAL CFM VS. STATIC PRESSURE WC				FAN SIZING		
					0"	.5"	1.0"	1.5"	H	D	d
XP201c	23011-1	4"	45-66	1.7	112	95	70	40	9.5"	8.5"	4"



\* Made in the USA with U.S. and imported parts.

## GPc SERIES

Use GPc fans for versatility and a broad performance range in moderate to tight sub-slab/sub-membrane conditions. Ideal choice when multiple suction points are necessary.



MODEL	P/N	FAN DUCT DIAMETER	WATTS	RECOM. MAX. OP. PRESSURE "WC	TYPICAL CFM VS. STATIC PRESSURE WC							FAN SIZING		
					1.0"	1.5"	2.0"	2.5"	3.0"	3.5"	4.0"	H	D	d
GP301c	23006-1	3"	56-100	2.3	64	54	41	4	-	-	-	13"	12.5"	3"
GP501c	23005-1	3"	68-146	3.8	-	-	66	58	50	27	4	13"	12.5"	3"

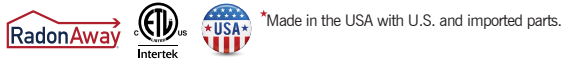


\* Made in the USA with U.S. and imported parts.

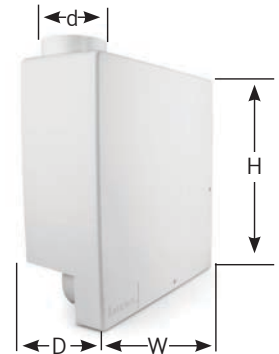
Use the SF180 for its low profile design and moderate to good air flow in porous sub-slab or sub-membrane conditions ranging from about 4 inches of clean, size 4-6 gravel to very loose soil.

## SF180

MODEL	P/N	FAN DUCT DIAMETER	WATTS	RECOM. MAX. OP. PRESSURE "WC	TYPICAL CFM VS. STATIC PRESSURE WC				FAN SIZING			
					0"	.5"	1.0"	1.5"	H	W	d	D
SF180	28317	3" or 4"*	53-71	1.7	149	127	96	61	17.5"	16"	4.3"	6.5"



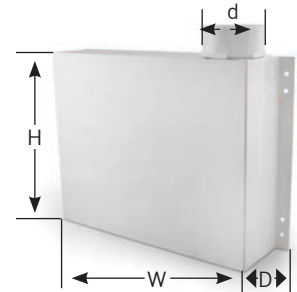
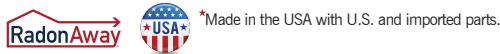
\*For installation on 3" pipe, install with offset bushing (P/N 13165). Call for details.



Use the GP500 in situations that require a high-performance box fan as an effective alternative to more commonly used inline tube fans. It can provide coverage up to 1,000 sq.ft. per slab penetration.

## GP500

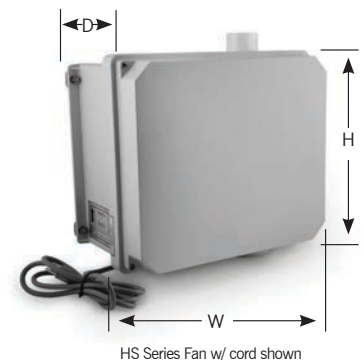
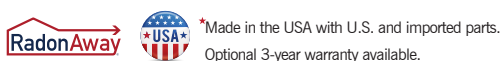
MODEL	P/N	FAN DUCT DIAMETER	WATTS	RECOM. MAX. OP. PRESSURE "WC	TYPICAL CFM VS. STATIC PRESSURE WC							FAN SIZING			
					1.0"	1.5"	2.0"	2.5"	3.0"	3.5"	4.0"	H	W	d	D
GP500	23003-1	3"	85-152	3.8	-	-	51	45	35	18	2	12"	15"	3.5"	4"



Use HS fans in sand, clay or tight soil conditions when you need up to 25 times the suction of inline radon fans.

## HS SERIES

MODEL	CORD / SWITCH BOX	P/N	FAN DUCT DIAMETER	WATTS	RECOM. MAX. OP. PRESSURE "WC	TYPICAL CFM VS. STATIC PRESSURE "WC						FAN SIZING		
						0"	10"	15"	20"	25"	35"	H	W	D
HS2000	With Cord	23004-1	3" In / 2" Out	174-304	14	63	37	12	-	-	-	13.3"	15.5"	8.2"
HS3000		23004-2	3" In / 2" Out	120-250	21	39	30	25	19	-	-	13.3"	15.5"	8.2"
HS5000		23004-3	3" In / 2" Out	223-385	35	44	37	33	29	25	16	13.3"	15.5"	8.2"
HS2000E	With Switch Box	23004-4	3" In / 2" Out	174-304	14	63	37	12	-	-	-	13.3"	15.5"	8.2"
HS3000E		23004-5	3" In / 2" Out	120-250	21	39	30	25	19	-	-	13.3"	15.5"	8.2"
HS5000E		23004-6	3" In / 2" Out	223-385	35	44	37	33	29	25	16	13.3"	15.5"	8.2"





# RADON IN WATER

Removal Systems

27

Removal System Specification Charts

28-29



# RADON IN WATER REMOVAL SYSTEMS

AIRRAIDER™ Systems – using aeration, the method that the U.S. EPA terms the “best available technology” for reducing radon in water—efficiently, effectively and reliably remove radon, MTBE, benzene, hydrogen sulfide, vinyl chloride, THMs, toluene, and other VOCs from well water. There are three series of AIRRAIDER™ Systems, with seven models to fit most reduction needs. We are also the sole manufacturer of the CLEARADON® 3311, which expands our water aeration technology.

For more details see specification charts (p. 28–29), contact your Spruce representative, or visit [spruce.com/contact](http://spruce.com/contact)

## AIRRAIDER™ 321 SERIES



### Value Priced

The AIRRAIDER 321 models combine spray and diffused bubble aeration for the best quality and results at a value price. Developed for easy installation, they are ideal when the more powerful 433 is not required. The 321 includes a wire from control panel for pump. The 321-S50X includes an integrated internal submersible repressurization pump with a wired 40/60 pressure switch to be mounted on a tank tee. (Tank kit fitting sold separately.) *Provides up to 95+% radon reduction.*

**Tank Capacity:** 44 gallons

**Tank Dimensions:** 35" H\* x 34.25" W x 22" L

\*40.25" to top of cover hub



AIRRAIDER 321

## AIRRAIDER™ 433 SERIES



### Proven Effective

The AIRRAIDER 433 models successfully and dependably remove radon and VOCs from well water through a patented diffused bubble multi-stage aeration method. For over 20 years, they have provided the standard by which other radon in water aeration equipment is measured. *Provides up to 99+% radon reduction.*

**Tank Capacity:** 44 gallons

**Tank Dimensions:** 35" H\* x 34.25" W x 22" L

\*40.25" to top of cover hub



AIRRAIDER 433

## AIRRAIDER™ 433-S SERIES



### Submersible Pump

The 433-S series takes the 433 to a new level. With engineering that includes an integrated internal submersible repressurization pump, S series models offer easy installation, a compact set-up and quieter operation. The 433-S50 includes a pressure regulator valve with 40/60 pressure switch to be mounted on a tank tee. The S50X includes a wired 40/60 pressure switch to be mounted on a tank tee. (Tank kit fitting sold separately.) *Provides up to 99+% radon reduction.*

**Tank Capacity:** 44 gallons

**Tank Dimensions:** 35" H\* x 34.25" W x 22" L

\*40.25" to top of cover hub



AIRRAIDER 433-S50

## CLEARADON® 3311



### Energy Efficient

The CLEARADON fits conveniently into your current water system (in the basement or utility room). A powerful yet energy efficient shallow tray aeration system, the CLEARADON is designed and manufactured for years of trouble-free operation. The pump controller is a pressure switch or integral to the pump (both sold separately). *Provides up to 99+% radon reduction*

**Tank Capacity:** 14.5 gallons

**Tank Dimensions:** 36" H x 38" D

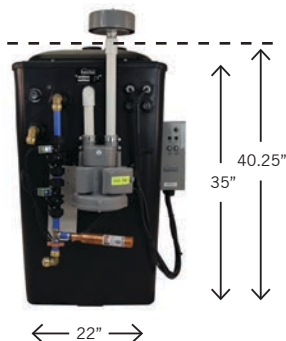
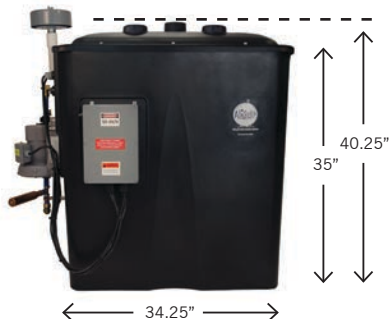
\*Recommended GPM should not be exceeded. High flow rates will decrease contaminant removal.



CLEARADON 3311



## AIRRAIDER 321 SERIES



MODEL*	P/N	SYSTEM VOLTAGE	BLOWER	PUMP	PLUMBING CONNECTIONS	FLOW RATE <sup>1</sup>	PSI RANGE <sup>2</sup>	RADON REDUCTION <sup>4</sup>	REPRESSURIZATION TANK (SOLD SEPARATELY)
321	28424	115V	0.11 hp Regenerative Blower 1.2 Amp	Sold Separately	3/4" Quick Connect In/Out	Up to 10 GPM <sup>3</sup>	PSIs Vary	Up to 95+%	20 Gal. Min. Recommended
321-S50X	28425	115V	0.11 hp Regenerative Blower 1.2 Amp	1/2 hp Sta-Rite Submersible 9.0 Amp Built-In	3/4" Quick Connect In/Out	Up to 16 GPM <sup>3</sup> @ 40 PSI	40-60 PSI	Up to 95+%	20 Gal. Min. Recommended



\*Made in the USA with U.S. and imported parts.

AIRraider 321 Shown

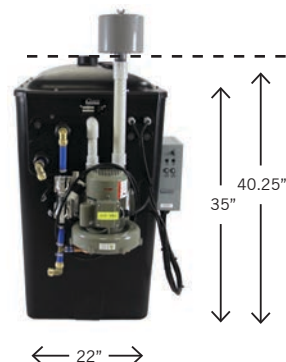
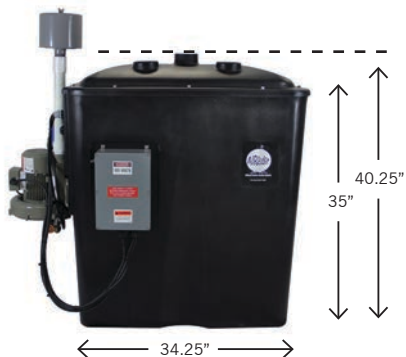
1 Flow rate out of system must be balanced to be less than flow rate into system.

2 Range may vary slightly.

3 GPM dependent upon repressurization selection. High flow rates will require proper sizing. Please call for sizing and technical assistance.

4 Site-specific characteristics and system implementation may affect performance.

## AIRRAIDER 433 SERIES



MODEL*	P/N	SYSTEM VOLTAGE	BLOWER	PUMP	PLUMBING CONNECTIONS	FLOW RATE <sup>1</sup>	PSI RANGE <sup>2</sup>	RADON REDUCTION <sup>4</sup>	REPRESSURIZATION TANK (SOLD SEPARATELY)
433	28426	115V	0.5 hp Regenerative Blower 5.0 Amp	Sold Separately	3/4" Quick Connect	Up to 15 GPM <sup>3</sup>	PSIs Vary	Up to 99+%	20 Gal. Min. Recommended
433-1	28427	115V	0.5 hp Regenerative Blower 5.0 Amp	Sold Separately	1" Quick Connect	Up to 20 GPM <sup>3</sup>	PSIs Vary	Up to 99+%	20 Gal. Min. Recommended
433-1TF	28338	115V	0.5 hp Regenerative Blower 5.0 Amp	N/A	3/4" FNPT Inlet, 1 1/4" FNPT Outlet	Up to 20 GPM <sup>3</sup>	N/A	Up to 99+%	N/A (Gravity-Fed Flow-Through with Adjustable Timer)



\*Made in the USA with U.S. and imported parts.

AIRraider 433 Shown

1 Flow rate out of system must be balanced to be less than flow rate into system.

2 Range may vary slightly.

3 GPM dependent upon repressurization selection. High flow rates will require proper sizing. Please call for sizing and technical assistance.

4 Site-specific characteristics and system implementation may affect performance.



# RADON IN WATER SPECIFICATIONS



## AIRRAIDER 433-S SERIES

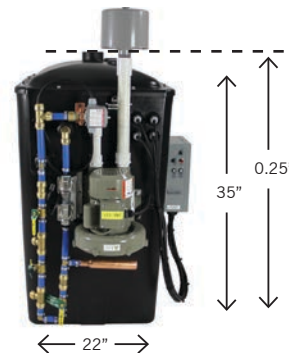
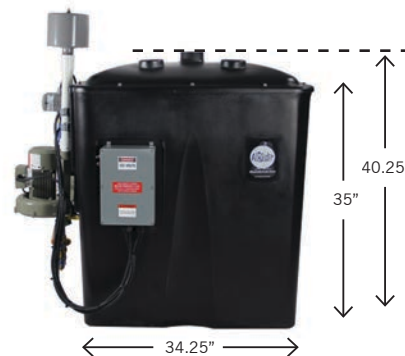
MODEL*	P/N	SYSTEM VOLTAGE	BLOWER	PUMP	PLUMBING CONNECTIONS	FLOW RATE <sup>1</sup>	PSI RANGE <sup>2</sup>	RADON REDUCTION <sup>4</sup>	REPRESSURIZATION TANK (SOLD SEPARATELY)
433-S50 (includes bypass)	28428	115V	0.5 hp Regenerative Blower 5.0 Amp	½ hp Sta-Rite Submersible 9.0 Amp Built-In	¾" Quick Connect In/Out	Up to 16 GPM <sup>3</sup> @ 40PSI	40-60 PSI	Up to 99+%	5 Gal. required (pressure set to 35 PSI)
433-S50X	28429	115V	0.5 hp Regenerative Blower 5.0 Amp	½ hp Sta-Rite Submersible 9.0 Amp Built-In	¾" Quick Connect In/Out	Up to 16 GPM <sup>3</sup> @ 40PSI	40-60 PSI	Up to 99+%	20 Gal. Min. Recommended



\*Made in the USA with U.S. and imported parts.

AIRRaider 433-S50 Shown

- 1 Flow rate out of system must be balanced to be less than flow rate into system.  
 2 Range may vary slightly.  
 3 GPM dependent upon repressurization selection. High flow rates will require proper sizing. Please call for sizing and technical assistance.  
 4 Site-specific characteristics and system implementation may affect performance.



Manufactured by RadonAway®

## CLEARADON 3311

MODEL*	P/N	SYSTEM VOLTAGE	BLOWER	PUMP	PLUMBING CONNECTIONS	FLOW RATE <sup>1</sup>	PSI RANGE <sup>2</sup>	RADON REDUCTION <sup>4</sup>	REPRESSURIZATION TANK (SOLD SEPARATELY)
3311	28455	115V	0.5 hp Centrifugal Blower 5.0 Amp	Sold Separately	¾" Hose Adapter Inlet, 1" Hose Adapter Outlet	6 GPM up to 9 GPM <sup>3</sup>	PSIs Vary	up to 99+%	Tank size varies by pump size. Call for details



\*Made in the USA with U.S. and imported parts.

CLEARADON 3311 Shown

- 1 Flow rate out of system must be balanced to be less than flow rate into system.  
 2 Range may vary slightly.  
 3 GPM dependent upon repressurization selection. Please call for sizing and technical assistance.  
 4 Site-specific characteristics and system implementation may affect performance.



\* All AIRRaider and CLEARADON systems have a 2-year limited warranty. Inquire for details.

# RADON TRAINING

## THE SPRUCE TRAINING ADVANTAGE:

Spruce has been an innovative leader in the indoor air quality industry for nearly three decades, and our commitment to quality and excellence reaches beyond the manufacture and distribution of products. In conjunction with our AccuStar® and RadonAway® brands, we offer a growing catalog of highly regarded training courses developed by us specifically for professionals in radon and radon-related industries. These courses prepare professionals for entry-level and advanced radon certification and provide continuing education credits. Courses are added regularly, so check our online Course Catalog for updates.

Taking our radon training courses is easier than ever!  
You can make your course selection and complete your registration on our website.

- Go to Training on [radonaway.com](http://radonaway.com) and click the link to go to the online Course Catalog to choose your course(s) and register.
- Contact us at [800-355-0901](tel:800-355-0901) or [training@spruce.com](mailto:training@spruce.com) for assistance.



## CERTIFICATION AND CONTINUING EDUCATION CREDITS

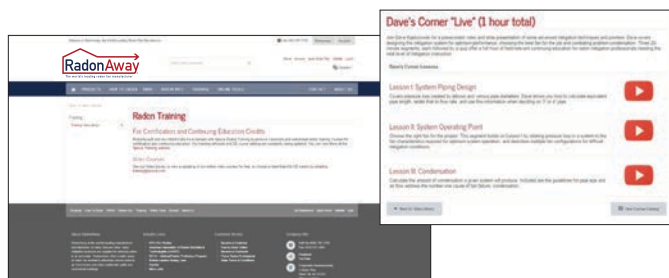
### CERTIFICATION AND ADVANCED CERTIFICATE COURSES

Entry-level and advanced certificate courses are offered in Classroom Locations periodically as needed and when requested by companies or other organizations. They are available as Live Webinars on a scheduled basis and by request. Watch for email updates and check the Live Training Schedule on our training website ([spruce.com/radon-training](http://spruce.com/radon-training)) for updates.



### CONTINUING EDUCATION CLASSES

CE classes are occasionally scheduled in Classroom Locations or via Live Webinars as needed and when requested. Many of our CE courses are available as online classes that you can register for and take anytime, at your convenience. The catalog of online courses is continually updated and includes practical measurement, mitigation, and business tips. Several of our video courses can be viewed for free (no CE credits) by clicking on Training Video Library on [radonaway.com](http://radonaway.com) and choosing a video. To register for an online CE course at \$25.00 per credit hour, go to the Training section on [radonaway.com](http://radonaway.com) and click on Course Catalog to make your selection and register.



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SPRING 2017