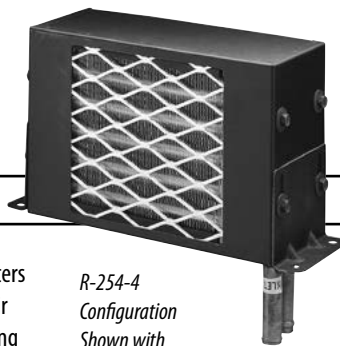


R-254 & R-255

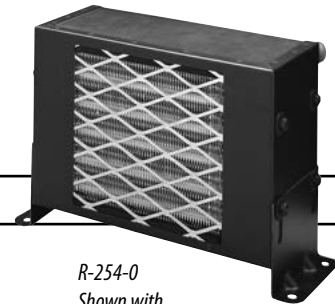
Auxiliary Heaters

RV • TRUCKS

Tried and true, our R-254 (single-fan) and R-255 (double-fan) auxiliary heaters are among the most versatile and maintenance-free heaters you'll find. Their round-tube-and-fin design lets you mount these heaters in any position using our multi-position leg brackets or flush-mount frame, and their compact size, simple plumbing, and high output make them ideal for any application.



R-254-4
Configuration
Shown with
mounting legs, floor
exit



R-254-0
Shown with
mounting legs,
rear exit

SPECIFICATIONS

	R-254	R-255
BTUs	16,000 BTU/Hr @ 150°F (4.69kw @ 65.6°C) air temp. rise	30,000 BTU/Hr @ 100°F (8.79kw @ 37.8°C) air temp. rise
AIR FLOW	150 CFM (255 m ³ /h)	280 CFM (476 m ³ /h)
WEIGHT	7 lbs. (3 kg)	12 lbs. (5.5 kg)
CURRENT DRAW	3.3 amps @ 13.6 VDC 1.7 amps @ 27.2 VDC	6.6 amps @ 13.6 VDC 3.3 amps @ 27.2 VDC
MODELS	Single Fan 5/8" fittings, rear exit: R-254-0P (12 VDC) R-254-0-24P (24 VDC) 3/4" fittings, rear exit: R-254-1P (12 VDC)	Double Fan 5/8" fittings, rear exit: R-255-10P (12 VDC) R-255-10-24P (24 VDC)
	FLOOR EXIT 5/8" fittings: R-254-4P (12 VDC)	FLOOR EXIT 5/8" fittings: R-255-12P (12 VDC)

OPTIONS:

Heater Hose
78R0100

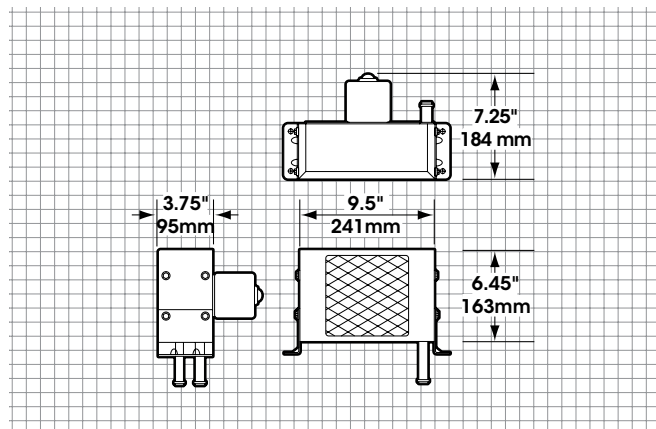
Toggle Switch
71R0100

Defrost Hose Outlet 3 1/2"
RD-1-0639-0P

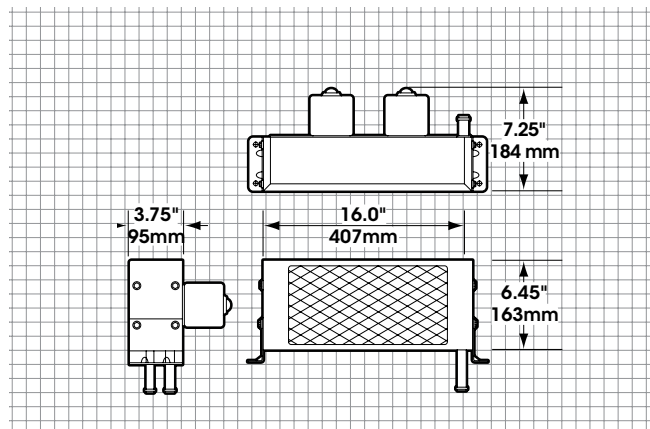
5/8" to 3/4" Adapter
70R7110

Control Panel
71R5819
Heater control -
Two-speed motor switch with manual water valve control

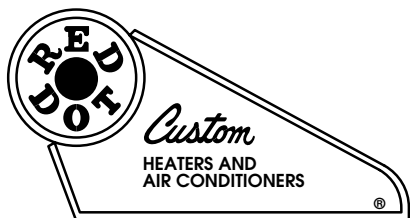
Diagrams for R-254



Diagrams for R-255



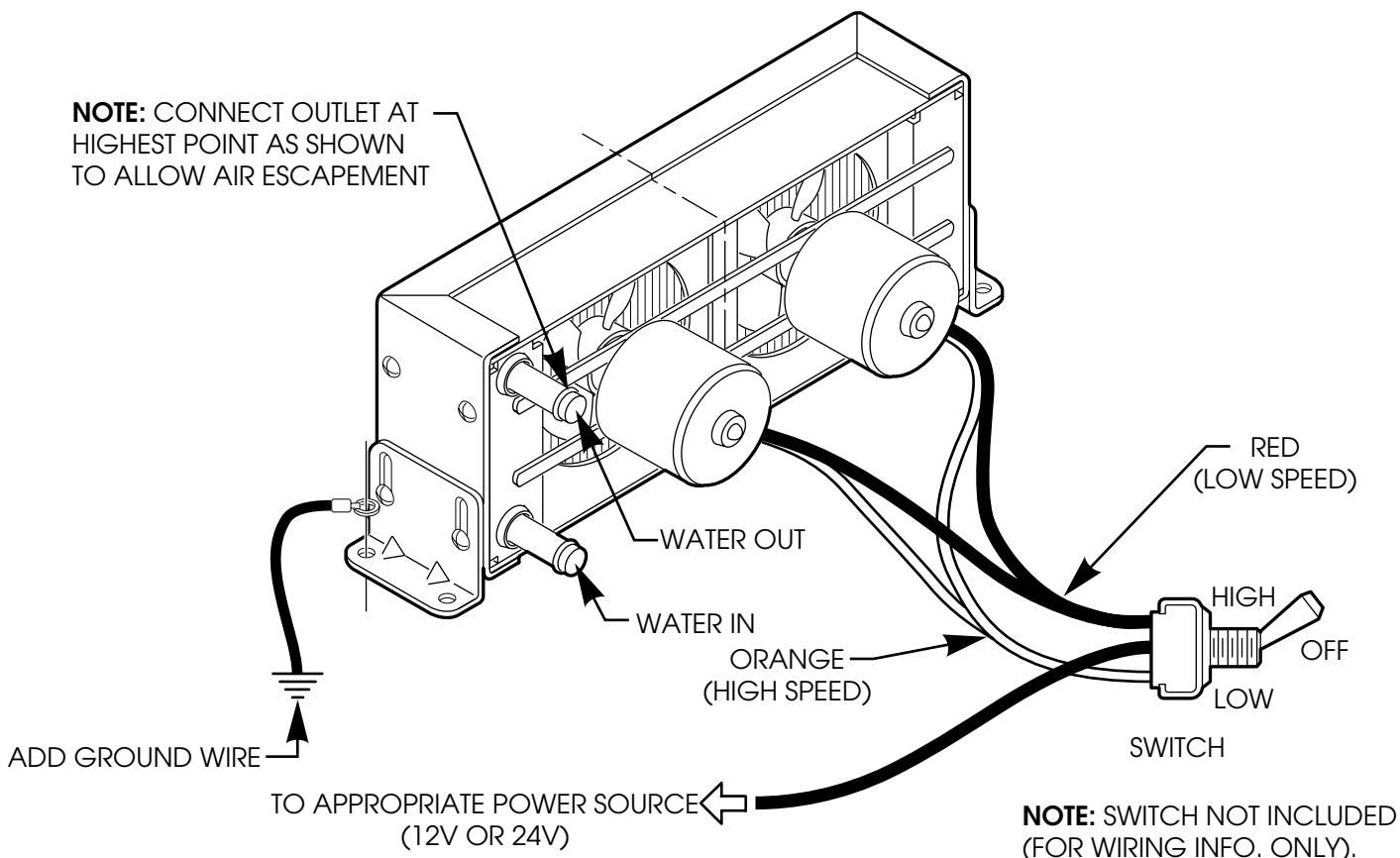
HEATER ONLY



Auxiliary Heaters

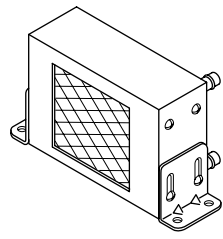
INSTALLATION INSTRUCTIONS

NOTE: R-254 & R-256 HAVE SINGLE MOTORS.

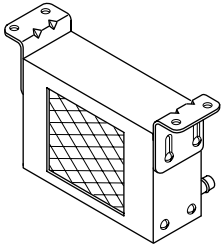


WARNING: UNIT WARRANTY VOID IF FUSED POWER SOURCE NOT USED.
NOTE: NOT SUITABLE FOR OTHER THAN FRESH WATER COOLING.

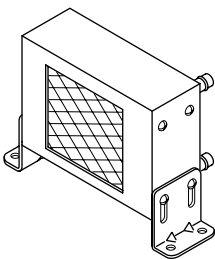
MOUNTING POSITIONS (TYPICAL)



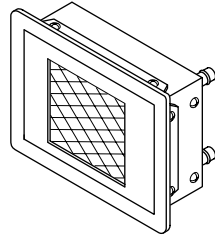
Floor Mount



Ceiling Mount



Floor Mount (Extended)

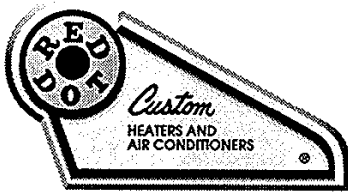


Bulkhead Mount (Flush)

Models R-254, R-255, R-256

RED DOT CORPORATION P.O. Box 88790, Seattle, WA 98138

RD-5-4534-0 (REV. --)



Auxiliary Marine Heaters R-257 and R-258

INSTALLATION INSTRUCTIONS

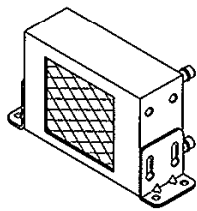
BEFORE INSTALLATION:

1. Read these instructions.
2. Make a list of all tools and parts you will need to complete the job.
3. When working around electrical panels or batteries disconnect the battery or shut off the master power switch.

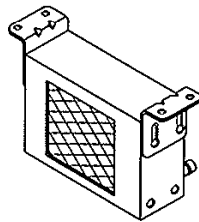
A. MOUNTING:

1. These heaters come with a variety of mounting options. Select a location near the deck such that the warm air coming out of the heater will blow into that area you wish to heat. The mounting legs can be used to support the heater from any solid surface. When installing in a vertical bulkhead, the picture frame mounting bracket provides a clean finished look. See Figure 1.

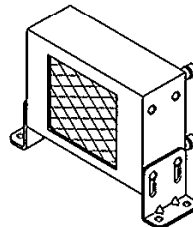
MOUNTING POSITIONS (TYPICAL)



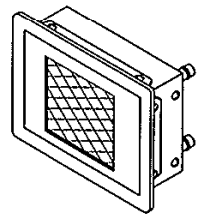
Floor Mount



Ceiling Mount



Floor Mount (Extended)



Bulkhead Mount (Flush)

Figure 1

2. When selecting a mounting location remember these heaters take air from behind the unit and blow out the front. If the heater is installed extending into an engine compartment, the fumes here will be blown into the cabin. It may be necessary to build an enclosure around the rear of the heater to assure clean air is pulled into the unit.
3. A good heater location is often above the engine. If this height is less than three (3) feet there should be no problem purging the heater air and getting a good coolant flow. For lifts greater than three (3) feet, you may need to install an auxiliary circulating pump. If such an installation is made, care should be taken when removing the cooling system pressure cap as coolant in the system could flow out of the fill port.

B. PLUMBING:

1. These heaters contain inlet and outlet nipples designed for 5/8 inch diameter heater hose. If the supply and return ports are not 5/8 inch, you will need step-up or step-down adapters.
2. When connecting the hoses, use only stainless steel hose clamps.

3. The heater uses hot engine coolant for the source of heat. Connect into the engines fresh water cooling system. The hot coolant (supply) is generally near the top of the engine. The return line connects to the suction side of the water pump. Contact the engine manufacturer for recommendations on supply and return locations.
4. The engine must be equipped with a thermostat to keep coolant temperature at or above 165°F.
5. If the boat is equipped with twin engines and a hot water tank, it is recommended to connect hoses to the motor that does not supply water to the hot water tank.
6. If the boat is equipped with an engine heated hot water tank, it is possible to add the Red Dot heater in series with this unit. The diagram below shows various installations: (See Figure 2.)

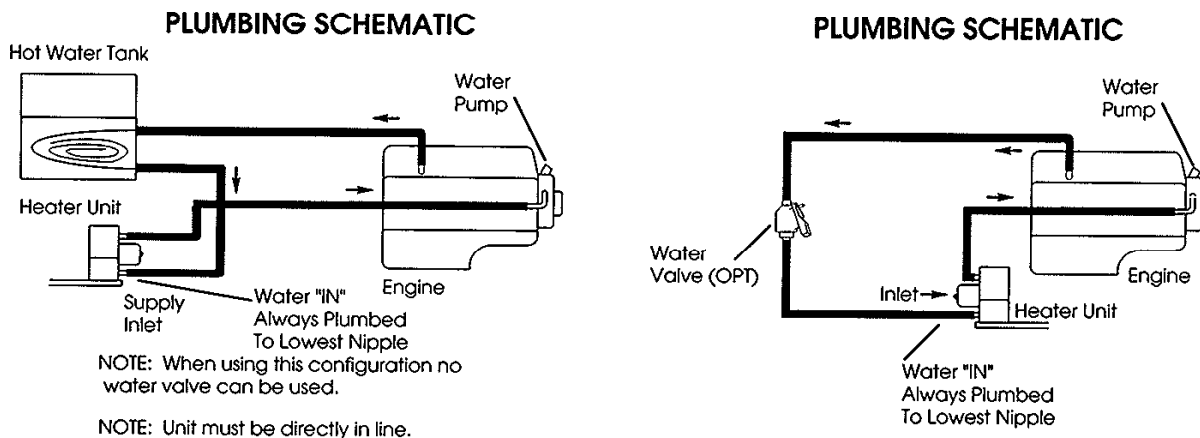


Figure 2

7. Connect the supply hose to the lower nipple on the heater. This allows the heater to fill with coolant and purge air in the system. The return line connects to the upper nipple.
8. Heater hoses should be routed away from sharp corners and properly clamped to prohibit movement.
9. If the hose runs are long, it is a good idea to identify one hose with electrical tape at both ends. This makes it easy to identify the supply from the return.
10. Once the plumbing system is completed, fill the engine cooling system with an antifreeze mixture. Run the engine for a short time then check coolant level. You will probably have to add additional coolant once the air has been purged from the heater.
11. Heater output can be controlled with the high and low fan speeds. If additional temperature control is desired, a water valve (flow control) needs to be placed in the plumbing loop. This could be a simple brass gate valve or one operated with a push-pull cable.
12. Shut off valves are sometimes installed on the supply and return lines at the engine to isolate the heater system, should it be necessary.

C. ELECTRICAL:

1. The heater motors and switch in the Red Dot kit have been tested and qualified for a label of "Ignition Protected", as defined in the American Boat and Yacht Council Standards, Section E-9. Testing was conducted per SAE Standard J1171-Marine.
2. The motors are 12 VDC, two (2) speed units. A single motor will draw five (5) amps on high speed. The two motor units will draw ten (10) amps. A fuse or circuit breaker should be in the positive wire between the battery and heater to protect from electrical overload.
3. These heaters are supplied with a wire harnesses to simplify installation. On the R-257, there is a connector on the heater and on the wire harness. These connectors will plug into each other. On the R-258, a jumper harness is provided to bring the two motors into one wire harness. Once you have plugged both motors into the jumper harness, plug the single end into the wire harness.

A red and black wire exit the wire harness about midway through the harness. The red wire is the positive wire, and the black wire is the ground wire. (See Figure 3.)

NOTE: If more wire is needed, be sure to use the same size wire.

4. All wire connections should be done with crimped type connectors and covered with shrink tubing or electrical tape.
5. A wiring diagram for each heater is shown below: (See Figure 3.)

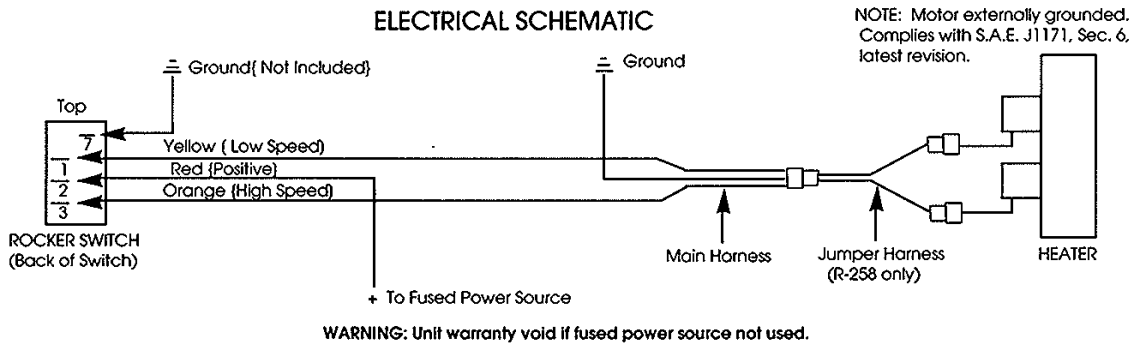
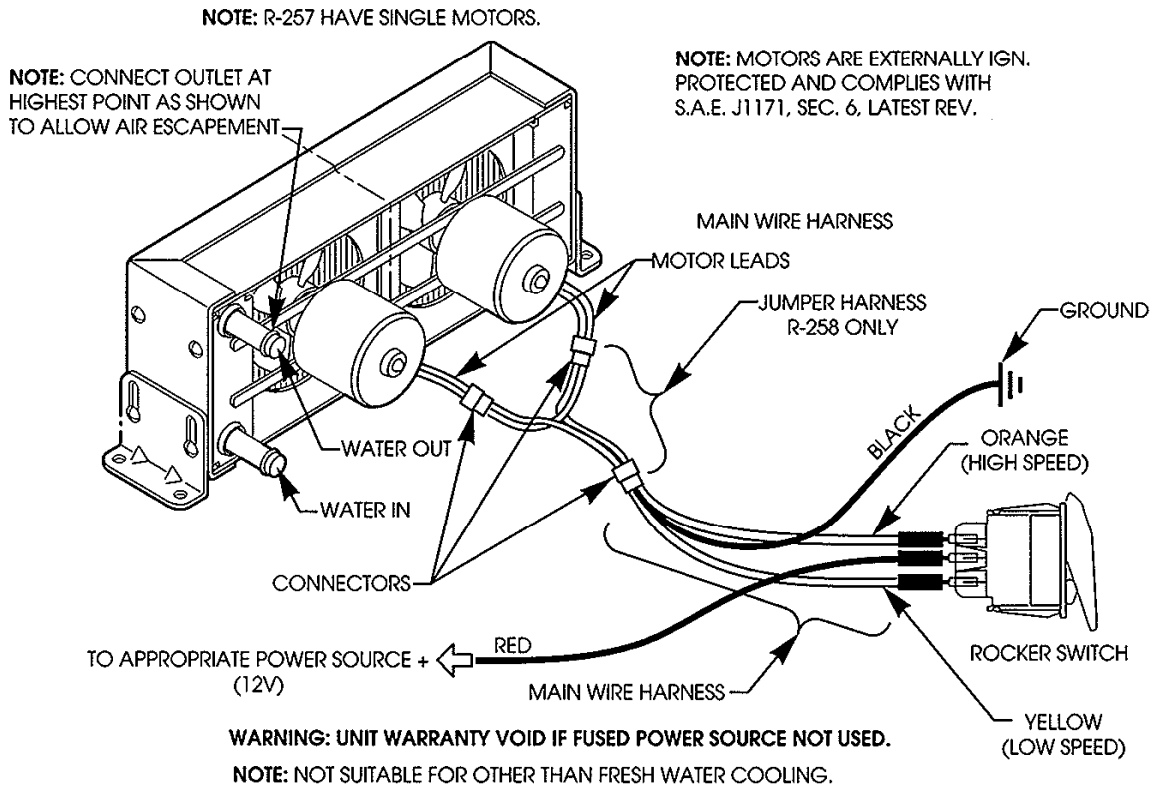


Figure 3



R-290

Auxiliary Heater (Single Blower)

The R-290 is a compact, high-velocity heater with a single three-speed blower motor. A defrost hose adapter is available for ducting air.

R-290 SPECIFICATIONS	
BTUs	20,000 BTU/Hr @ 150°F (kw 5.86 @ 65.6°C) air temp. rise
AIR FLOW	220 CFM (373 m ³ /h)
WEIGHT	7 lbs. (3 kg)
CURRENT DRAW	4.3 amps @ 13.6 VDC (high speed) 2.7 amps @ 27.2 VDC (high speed)
MODELS	R-290-0P (12 VDC), 5/8 fitting rear exit R-290-0-24P (24 VDC), 5/8 fitting rear exit LS R-290-4P (12 VDC), 5/8 fitting floor exit R-290-4-24P (24 VDC), 5/8 fitting floor exit

LS = Limited to stock on hand

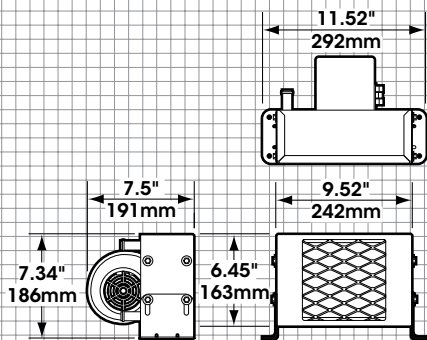


OPTIONS:

Defrost Hose Outlet Adapter	Switch	Knob
3 1/2" RD-1-0639-0P	71R1150	71R4050

Control Panel

- 71R5821 Heater control – Three-speed motor switch with manual water valve control
- 71R5823 Heater control – Three-speed motor switch with electronic water valve control

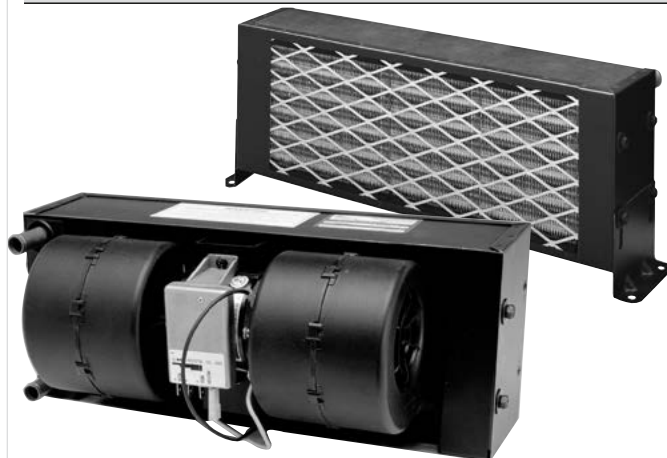


R-295

Auxiliary Heater (Double Blower)

With a three-speed blower motor, the R-295 produces 430 CFM—a powerful, compact, and robust heater. A defrost hose adapter is available for ducting air.

R-295 SPECIFICATIONS	
BTUs	35,000 BTU/Hr @ 180°F (kw 10.25 @ 82°C) air temp. rise
AIR FLOW	430 CFM (730 m ³ /h)
WEIGHT	11 lbs. (5 kg)
CURRENT DRAW	16 amps @ 13.6 VDC (high speed) 7 amps @ 27.2 VDC (high speed)
UNITS	R-295-0P (12 VDC), 5/8 fitting rear exit R-295-0-24P (24 VDC), 5/8 fitting rear exit R-295-4P (12 VDC), 5/8 fitting floor exit

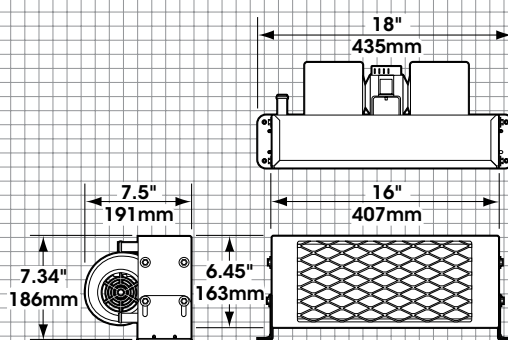


OPTIONS:

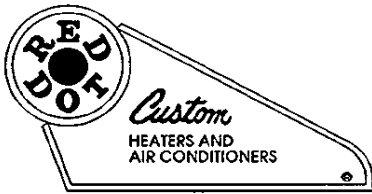
Defrost Hose Outlet Adapter	Switch	Knob
3 1/2" RD-1-0639-0P (uses two)	71R1150	71R4050

Control Panel

- 71R5821 Heater control – Three-speed motor switch with manual water valve control
- 71R5823 Heater control – Three-speed motor switch with electronic water valve control



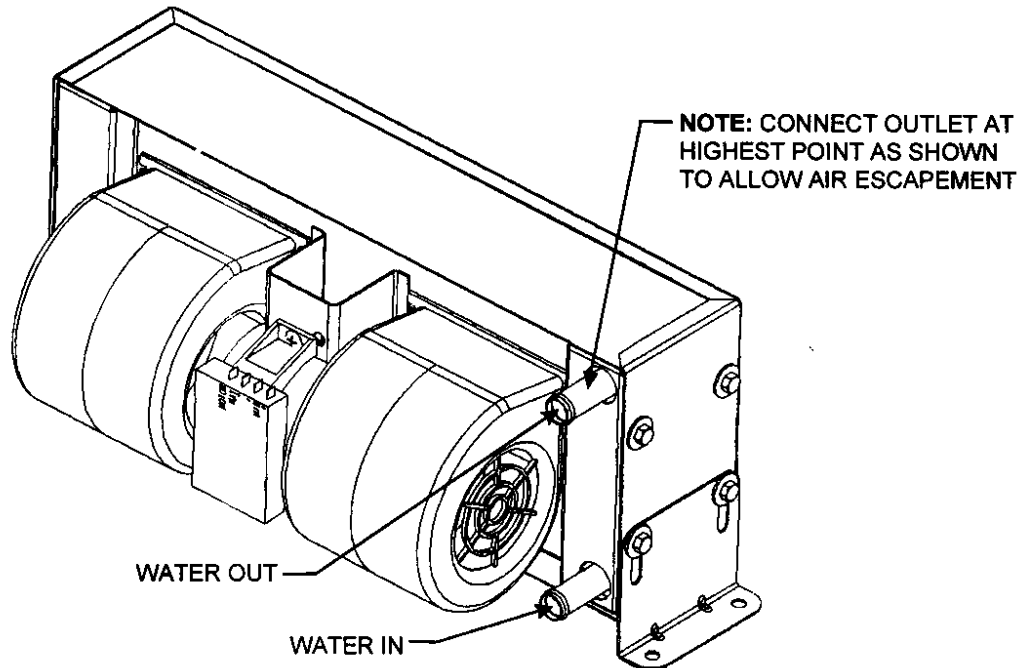
HEATER ONLY



Auxiliary Heaters R-290, R-295

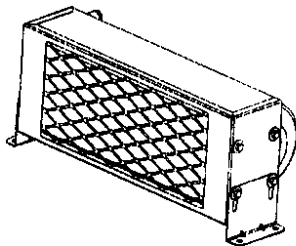
Installation Instructions

NOTE: R-290 HAS A SINGLE BLOWER MOTOR

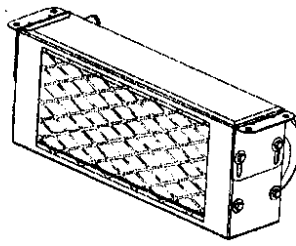


WARNING: UNIT WARRANTY VOID IF FUSED POWER SOURCE NOT USED
NOTE: NOT SUITABLE FOR OTHER THAN FRESH WATER COOLING.

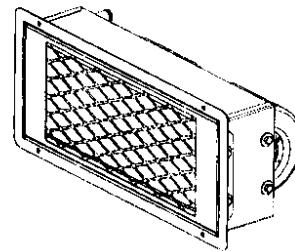
MOUNTING POSITIONS



Floor Mount
(Extended or Flush)



Ceiling Mount
(Extended or Flush)

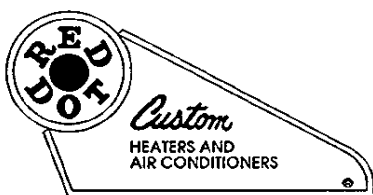


Bulkhead Mount
(Flush)

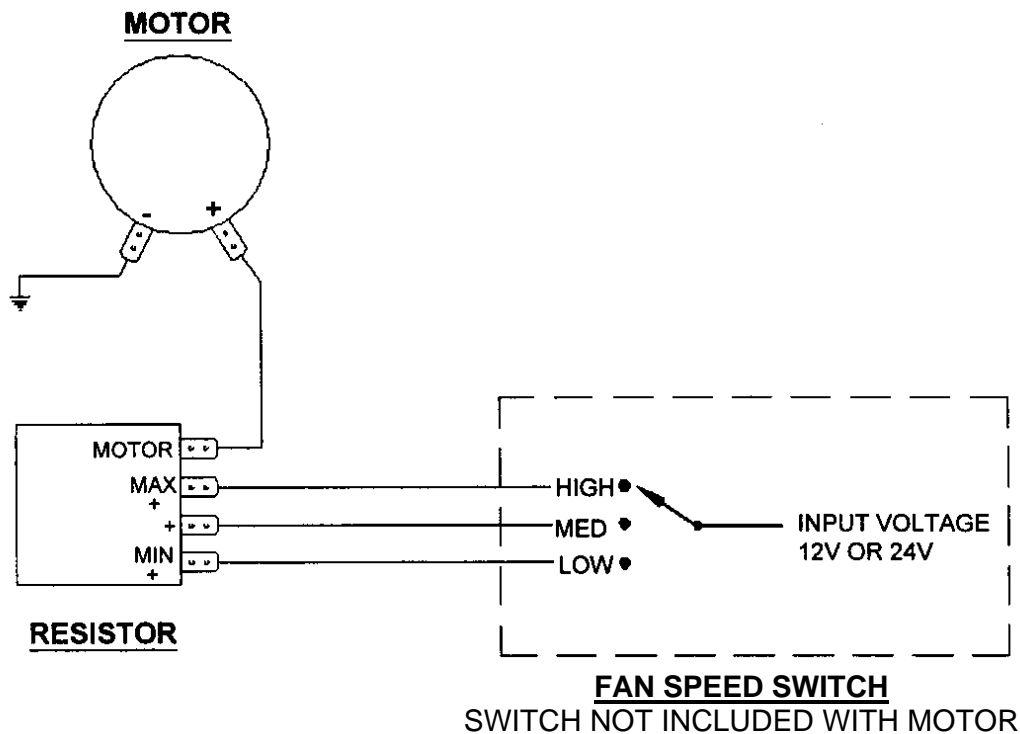
RED DOT CORPORATION PO Box 88790, Seattle, WA 98138 (425) 251-6897 Fax (425) 251-3934

RD-5-8847 REV - For reference only. Subject to change without notice

Page 1 of 2



Auxiliary Heaters R-290, R-295



WIRING DIAGRAM

WARNING: UNIT WARRANTY VOID IF FUSED POWER SOURCE NOT USED

R-297

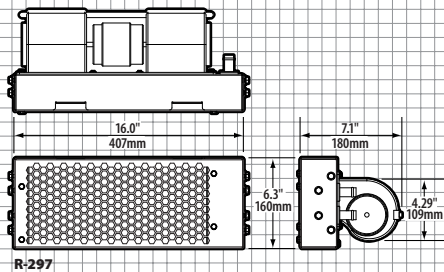
Auxiliary Double Blower Heater

TRUCK SLEEPERS

The R-297 is a powerful, three-speed floor-mounted heater for cabs used in demanding environments.

R-297 SPECIFICATIONS

BTUs	Heating - 28,000 BTU/Hr	
AIR FLOW	300 CFM (510 m ³ /h)	
WEIGHT	9.8 lbs. (4 kg)	
CURRENT DRAW	6A @ 27V 12A @ 13.5V	
UNITS	R-297-0P	12 VDC
	R-297-0-24P	24 VDC



R-297

HEATER ONLY

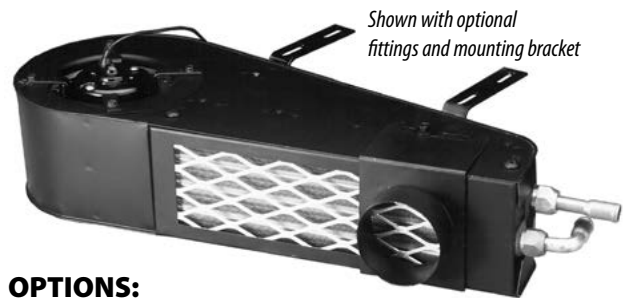
R-2020

Auxiliary Heater-Defrost and Oil Cooler

MARINE • INDUSTRIAL • CONSTRUCTION

R-2020 SPECIFICATIONS

BTUs	Heat - 17,800 BTU/Hr @ 100°F (kw 5.21 @ 37.8°C) with water for heat source (BTU's per hour with oil for heat source lower)
AIR FLOW	165 CFM (280 m ³ /h)
WEIGHT	10.7 lbs. (4.85 kg)
MOTOR	One 12 VDC or one 24 VDC single speed
CURRENT DRAW	6 amps @ 13.6 VDC, 3 amps @ 27.2 VDC
UNITS	R-2020-0P (12 VDC), R-2020-0-24P (24 VDC)



Shown with optional fittings and mounting bracket

OPTIONS:

2 1/2" Defrost Adapter

72R3601

3" Defrost Adapter

72R3603

Swivel Fittings

70R7600 (Straight 5/8" hose)

70R7650 (90° 5/8" hose)

Hoses

78R0100 (Heater, 5/8" 50ft)

78R0250 (Defrost, 2 1/2" 9ft)

78R0300 (Defrost, 3" 9ft)

Switches

71R0050 (Toggle, ON-OFF)

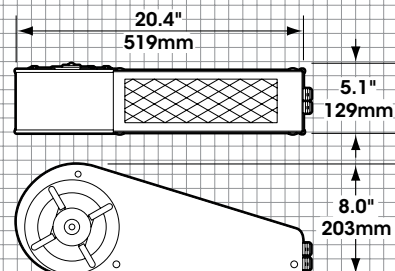
71R1210 (Rotary, 3-speed)

Mounting Bracket

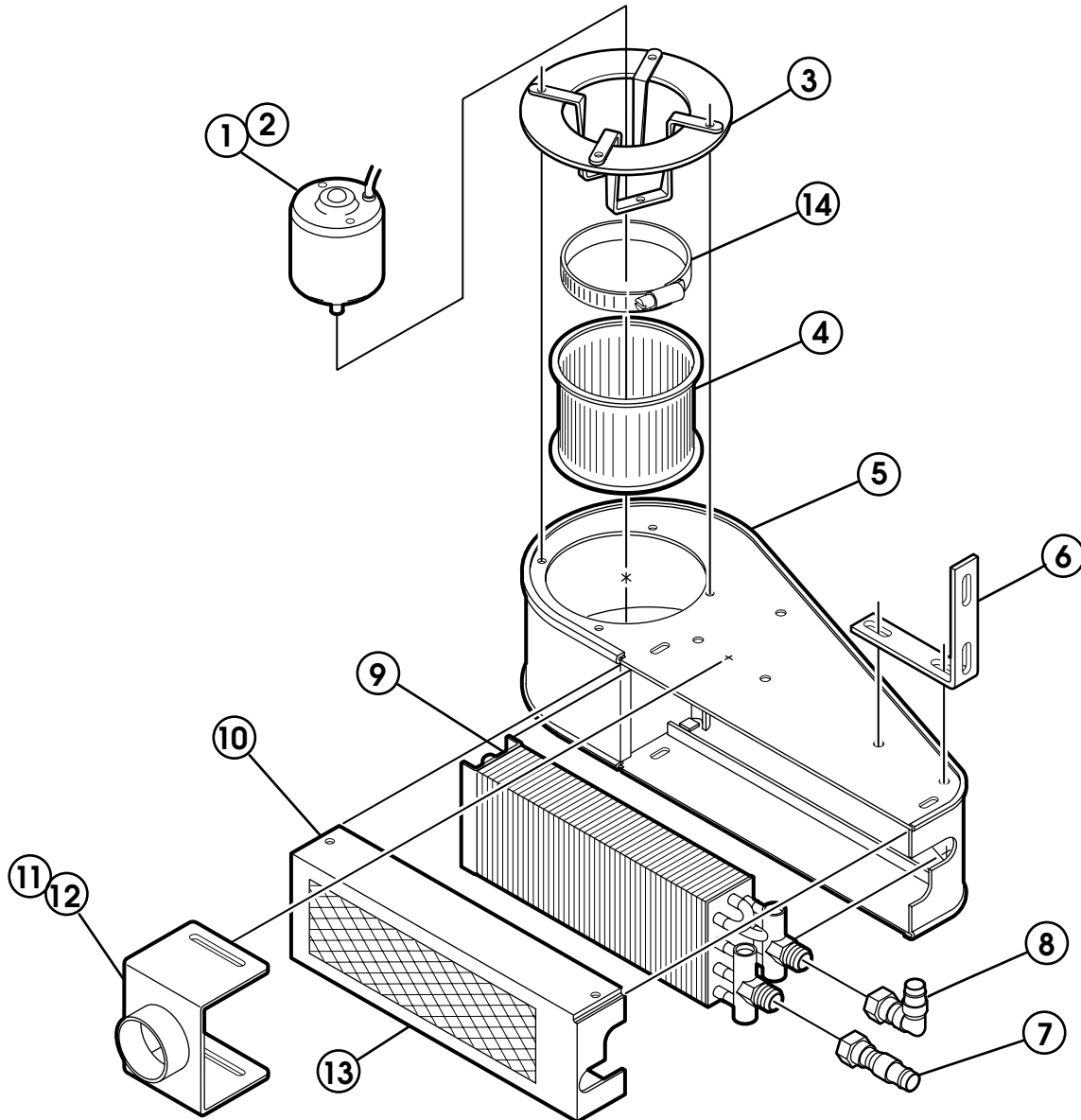
RD-1-0419-0P

Control Panel

71R5817 Heater control - Single speed motor switch with manual water valve control



SERVICE PARTS LIST



ITEM	NOTE	PART NO.	DESCRIPTION	CAT. NO.	ITEM	NOTE	PART NO.	DESCRIPTION	CAT. NO.
1		RD-5-4550-0	MOTOR (12V)	73R 0102	8	A	RD-1-0426-0	90° SWIVEL FTG	70R 7650
2		RD-5-4550-24	MOTOR (24V)	73R 0104				ASSY-USE W/ 5/8" HOSE	
3		RD-1-0411-0	MOTOR MOUNT ASSY		9		RD-1-0427-0	HEATER CORE ASSY	76R 0500
4		RD-5-3800-0	BLOWER WHEEL	73R 6250	10		RD-1-0440-0	FRONT COVER ASSY	
5		RD-1-0408-0	HOUSING ASSY		11	A	RD-1-0422-0	AUX OUTLET ASSY(2.5")	
6	A	RD-1-0419-0	MOUNTING BRACKET		12	A	RD-1-0423-0	AUX OUTLET ASSY(3.0")	
7	A	RD-1-0425-0	STRAIGHT SWIVEL FTG	70R 7600	13		RD-1-0415-0	SCREEN	
			ASSY-USE W/ 5/8" HOSE		14		RD-5-4035-52	CLAMP	70R 5650
					15	A	RD-1-1153-0	AUX. OUTLET (3-RING)	

RD-1-0439-0 (REV C)

A. OPTIONAL ITEM

ORDERING INFORMATION

ORDER BY MODEL NUMBER R-2020-0.
FOR 24 VOLT APPLICATIONS ADD -24 TO MODEL NUMBER.

Additional Cost Items May Be Needed For Installation:

1. Control Switch - RD-5-5194-0 (3 Speed)
2. 2.50" Outlet Assy - RD-1-0422-0
3. 3.00" Outlet Assy - RD-1-0423-0
4. 3- Ring 2.5" Outlet Assy- RD-1-1153-0
5. Universal Mounting Bracket - RD-1-0419-0
6. 90° Fitting Assy #8 Female O-Ring & 5/8" Hose Fitting - RD-1-0426-0
7. Straight Fitting Assy #8 Female O-Ring & 5/8" Hose Fitting - RD-1-0425-0

RED DOT CORPORATION P.O. Box 58270 Seattle, WA 98138 (253) 575-3840

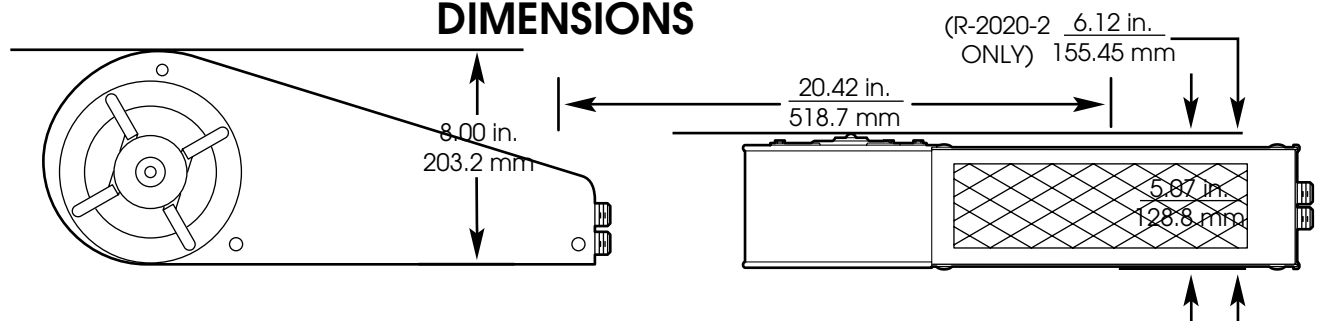
FOR REFERENCE ONLY. SUBJECT TO CHANGE WITHOUT NOTICE



Red Dot Auxiliary Heater-Defroster R-2020 Series

TECHNICAL SALES BULLETIN AND SERVICE PARTS LIST

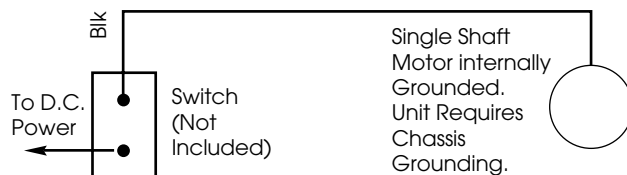
DIMENSIONS



SPECIFICATIONS

BTU's Per Hour:	17,800 BTU/Hr @ 100°F. Air Temp. Rise
Air Flow:	165 C.F.M.
Current Draw:	6 Amps @ 12 Volts 3 Amps @ 24 Volts
Weight:	10.7 Lbs.

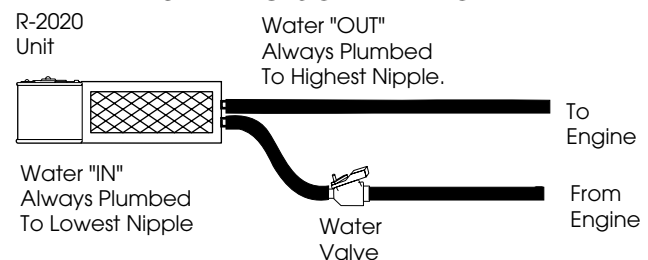
ELECTRICAL SCHEMATIC



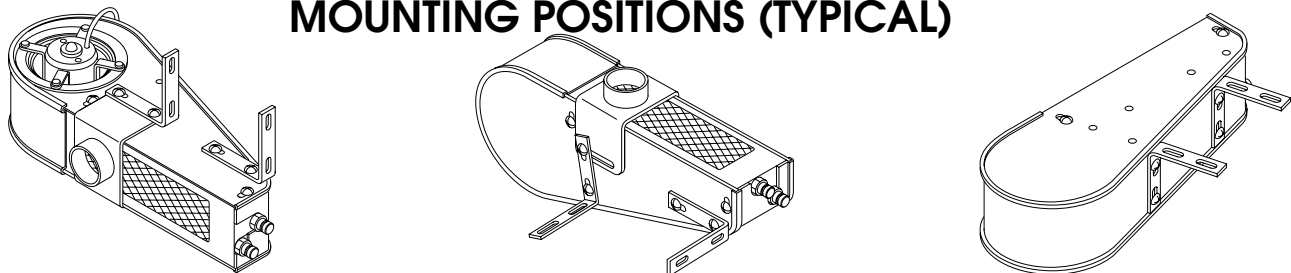
NOTE: - RD-3200-1 Control Assembly May Also Be Used.
This Control Cycles Fan To Maintain Pre Set Temperature.

SCHEMATICS

PLUMBING SCHEMATIC



MOUNTING POSITIONS (TYPICAL)



APPLICATION

R-2020 Is A Universal Unit That May Be Mounted In Any Position With Defrost Only, Defrost & Heater Or Heater Only Modes, And Straight Or 90 Degree "O" Ring & Hose Fittings. Unit May Be Installed On Air Cooled Engine Heated Oil Systems.

Construction & Industrial Cabs

Marine

This Unit Was Designed As A Versatile Package To Meet Increasing Demands For Heating And Defrosting In The Above Captioned Equipment, Also For Additional Source Of Heat To Compliment Existing Heaters And Defrosters.

R-3500 HEATER

Auxiliary Heater

CRASH/FIRE/RESCUE • CREW CABS

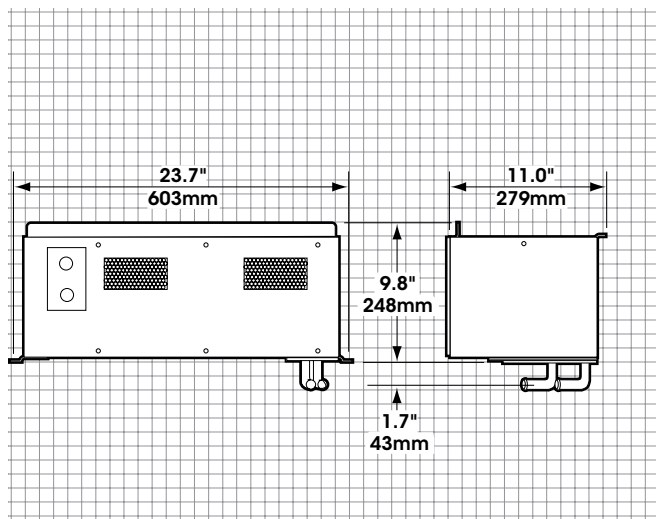
The R-3500 crew cab heater was designed with high performance to be able to heat larger cabs in extreme conditions. Its low profile and heavy duty construction allows this heater to be used in various applications.

R-3500 SPECIFICATIONS

BTUs	Heating – 49,000 BTU/Hr @ 180°F (kw 14.35 @ 82.2°C) temp. rise
AIR FLOW	480 CFM (816 m ³ /h)
WEIGHT	28 lbs. (13 kg)
CURRENT DRAW	15.9 amps @ 13.6 VDC
UNITS	R-3500-1P (12 VDC)



NOTE: Gasket on front



R-3540 HEATERS

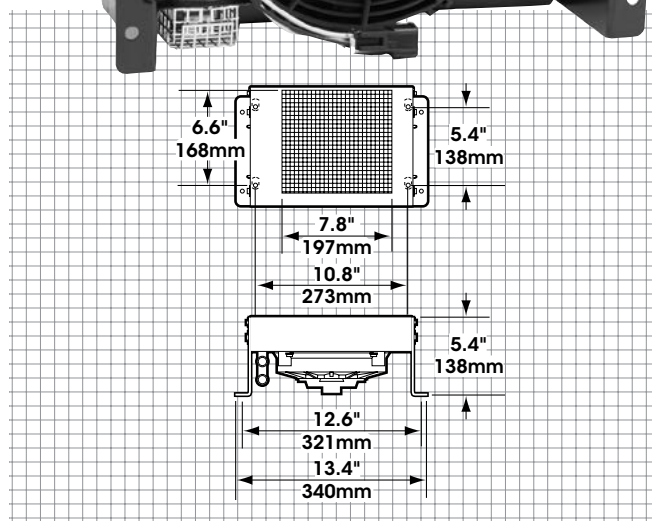
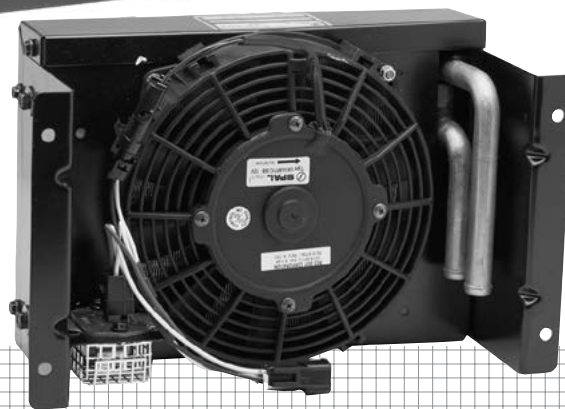
Auxiliary Heater

CRASH/FIRE/RESCUE • VAN • BUS

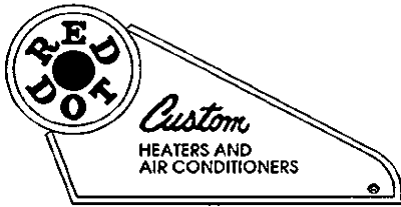
Designed for small spaces, the R-3540 delivers high capacity for its size. With a pancake fan design, this unit is quiet and moves close to 200 CFM of air. It has versatile mounting (flat or horizontal) and a resistor for variable speed control.

R-3540 SPECIFICATIONS

BTUs	22,970 BTU/Hr @ 180°F (kw 6.73 @ 82.6°C) air temp. rise
AIR FLOW	194 CFM (330 m ³ /h)
WEIGHT	10 lbs. (4.5 kg)
CURRENT DRAW	4.8 amps @ 13.6 VDC
UNITS	R-3540-2P (12 VDC)

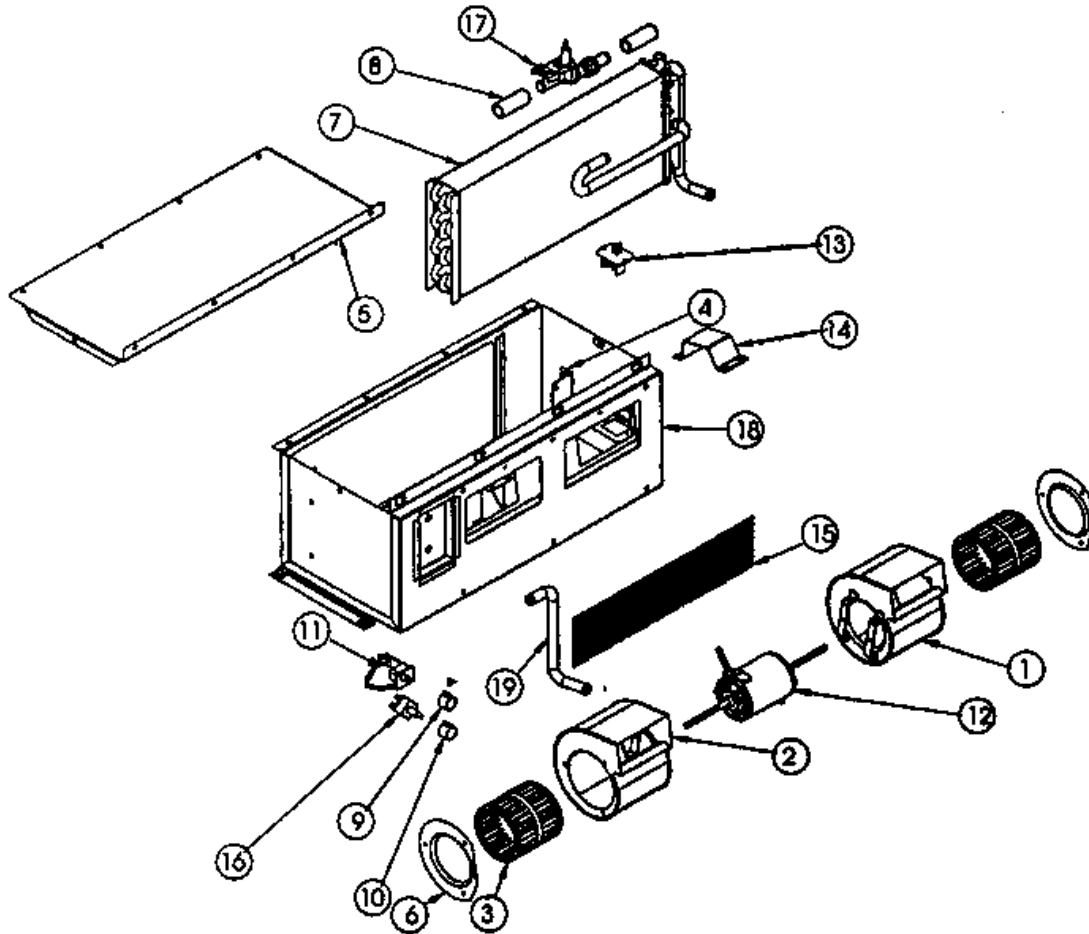


HEATER ONLY



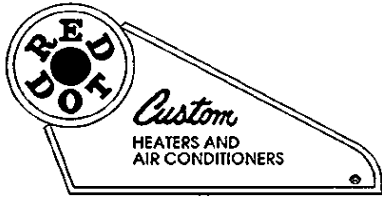
Heater – Model R-3500 Series

SERVICE PARTS LIST



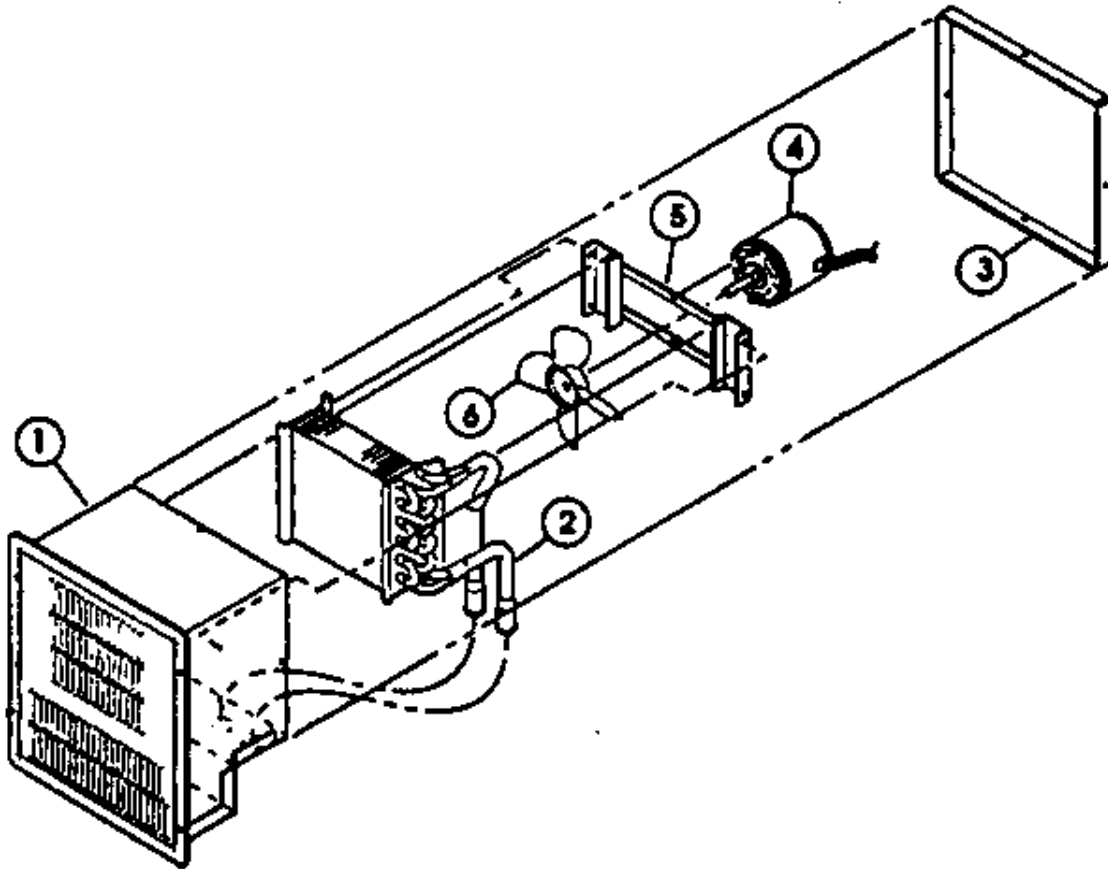
ITEM	NOTE	PART NO.	DESCRIPTION	ITEM	NOTE	PART NO.	DESCRIPTION
1		RD-2-2701-0	BLOWER ASSY	11		RD-5-8043-11.25	CONVERTER-CBL CNTRL
2		RD-2-2701-1	BLOWER ASSY	12		RD-5-8032-0	MOTOR 12 VOL
3		RD-6-3933-0	BLOWER WHEEL (2)	15		RD-5-3647-0	RESISTOR-SPEED CNTRL
4		RD-1-1276-1	BRACKET-INLET TUBE	14		RD-3-3174-0	RETAINER-MOTOR
5		RD-1-1274-1	COVER ASSY	15		RD-1-1293-1	SCREEN-FRONT
6		RD-2-2746-0	ENTRY RING (2)	16		RD-5-3646-0	.SWITCH-ROTARY 3 SPD
7		RD-1-1281-0	HEATER CORE ASSY	17		RD-5-7760-3	VALVE-WTR, CBL OPER.
8		RD-1-0387-2.25	HOSE-5/8 ID SILICONE (2).	18		RD-1-1264-0	HOUSING ASSY
9		RD-5-5928-0	KNOB-CONTROL	19		RD-1-1284-0	TUBE-INLET
10		RD-5-8127-0	KNOB CONTROLA. NOT SHOWN				

Red Dot Corporation PO Box 88790, Seattle, WA 98138 (425) 251-6897 Fax (425) 251-3934



Red Dot Stepwell Heater R-7550 Series

SERVICE PARTS LIST



ITEM	NOTE	PART NO.	DESCRIPTION
1		RD-1-1399	HOUSING ASSY.
2		RD-1-1401-0	CORE ASSY.-HEATER
3		RD- 1-1392-0	COVER ASSY.-BACK
4		RD-3133-4	MOTOR
5		RD-1-1402-0	MOTOR ASSY.
6		RD-3133-9	FAN
	A	RD-4272-0	GROMMET
	A	RD-5-7052-0	GROMMET

Note: A = Not Shown

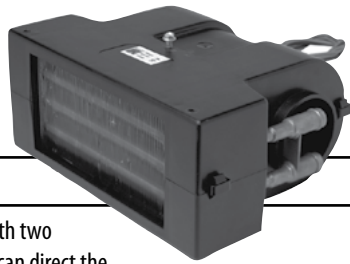
Red Dot Corporation PO Box 88790, Seattle, WA 98138 (425) 251-6897 Fax (425) 251-3934

R-270

Auxiliary Heater

RV • TRUCKS

The R-270 is a compact heater with two optional "snap-in" outlets so you can direct the air to where you need it.



R-270 SPECIFICATIONS

BTUs	Heating – 15,000 BTU/Hr @ 100°F air temp. rise (4.4 kW @ 34.8°C)
AIR FLOW	140 CFM (237 m ³ /h)
WEIGHT	7 lbs. (3 kg)
MOTORS	One 12 VDC (2-speed)
CURRENT DRAW	7.7 amps @ 13.6 VDC 3.8 amps @ 27.2 VDC
UNITS	R-270-0P (12 VDC) R-270-0-24P (24 VDC)

OPTIONS:

Snap In Outlets

Straight 2 ¼" Hose Outlet
72R4532



Louvered Outlet
72R3157



Installation Kit

RD-1-1654-0P 12VDC

Control Panel

71R5819
Heater control -
Two-speed motor switch with manual
water valve control

R-273

Auxiliary Heater

RV • TRUCKS

The R-273 is a compact heater with optional "snap-in" outlet so you can direct the air to where you need it.



R-273 SPECIFICATIONS

BTUs	Heating – 14,000 BTU/Hr @ 100°F air temp. rise (4.1 kW @ 34.8°C)
AIR FLOW	129 CFM (220 m ³ /h)
WEIGHT	3 lbs. (1.35 kg)
MOTORS	One 12 VDC (3-speed)
CURRENT DRAW	4.6 amps @ 13.6 VDC 2.3 amps @ 27.2 VDC
UNITS	R-273-0P (12 VDC) R-273-0-24P (24 VDC)

OPTIONS:

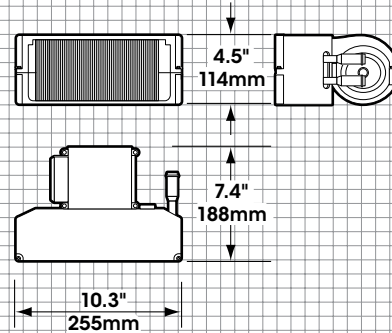
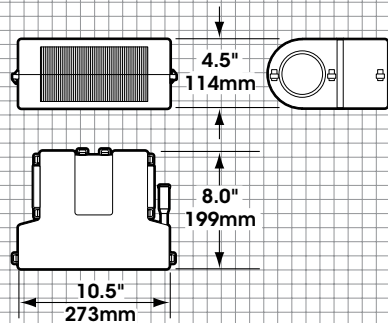
Louvers

RD-5-14071-0P



Installation Kit

RD-1-1654-0P



R-4013H

Heater/Defroster

**CONSTRUCTION •
MINING •
AGRICULTURE •
INDUSTRIAL**



The R-4013H is a compact, versatile, and high-output heater/defroster. Like other Red Dot heaters, the tube and fin coil design allows mounting in any position. A diversion door can be manually or cable-actuated to control defrost and heat output. An optional adapter to the heat outlet turns the R-4013 into a dual defroster or multi-compartment heater.

R-4013H SPECIFICATIONS

BTUs	Heating – 20,000 BTU/Hr @ 100°F (5.7 kW @ 37.8°C) air temp. rise
AIR FLOW	185 CFM (314 m ³ /h)
WEIGHT	15.7 lbs. (7.1 kg)
CURRENT DRAW	11 amps @ 13.6 VDC, 5.5 amps @ 27.2 VDC
UNITS	R-4013HP (12 VDC) For 24 volt see R-6130 (right)

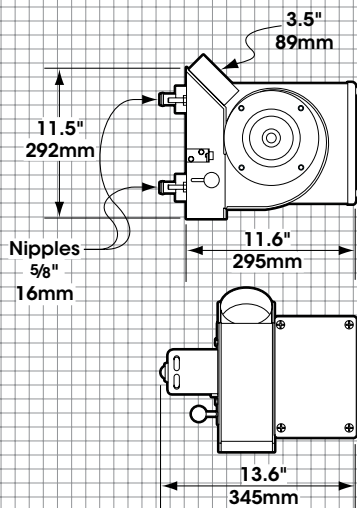
OPTIONS:

Heater Hose **3 1/2" Defrost Adapter**
5/8" – 50' 72R3550
78R0100



Control Panel

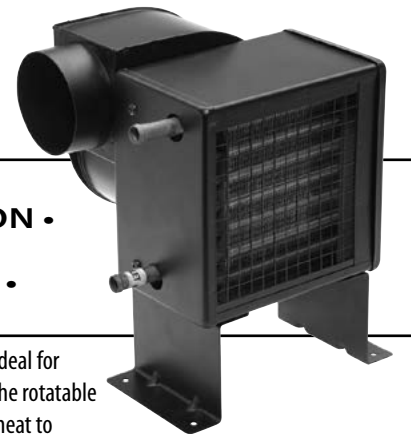
71R5819 Heater control - Two-speed motor switch with manual water valve control



R-6130

Box Heater

**BUS •
CONSTRUCTION •
MINING •
AGRICULTURE •
INDUSTRIAL**



The R-6130's compact size is ideal for mounting in tight areas and the rotatable blower makes it easy to duct heat to where you need it.

R-6130 SPECIFICATIONS

BTUs	Heating – 28,100 BTU/Hr @ 180°F (8.2 kW @ 37.8°C) air temp. rise
AIR FLOW	283 CFM (481 m ³)
UNITS	R-6130-1P (12 VDC) R-6130-0P (24 VDC)

OPTIONS:

Control Panel

71R5819 Heater control - Two-speed motor switch with manual water valve control

