

# Atwood<sup>®</sup> Furnaces

and Digital Thermostats



EFFECTIVE OCTOBER 2005





# EXCALIBUR XT™

REVOLUTIONARY NEW 2-STAGE FURNACES  
FORGED BY ATWOOD MOBILE PRODUCTS



ATWOOD FURNACES HAVE LONG BEEN THE MOST WIDELY USED FURNACES IN THE RECREATION VEHICLE INDUSTRY. HOWEVER, WE STILL CONTINUOUSLY RE-FORGE OUR PRODUCTS USING THE LATEST TECHNOLOGIES TO ADD OR IMPROVE PRODUCT FEATURES. TODAY, ATWOOD IS PROUD TO PRESENT A PATENT-PENDING SYSTEM WHICH COMBINES A REVOLUTIONARY NEW 2-STAGE FURNACE SYSTEM WITH THE CONTROL OF A DIGITAL THERMOSTAT-THE EXCALIBUR XT.™



**Unique 2-Stage System** Set the temperature, turn the thermostat on “automatic” and let the furnace take over! During cold start-ups, the furnace operates on High BTU, High Fan for quick, quiet warm up. Then, when the temperature is reached, the furnace automatically switches to Low BTU, Low Fan to maintain the comfortable environment you want. It’s quiet, efficient, and you conserve energy.

**Self Diagnostic Capability** The new Atwood 2-Stage Furnace is designed for long life but if you ever need service, it’s made easier with built in self-diagnostics. A flashing L.E.D. indicates a variety of troubleshooting diagnostics, including low or improper voltage input, ignition failure, open limit switch, stuck air proving switch, and module failure. Serviceability is made easier for possible time and money savings.



**Easy Installation** Installation requirements for the Atwood 2-Stage Furnace are the same as for all 8500 series furnaces. No special installation requirements mean that the Atwood 2-Stage Furnace can be installed as a replacement to Atwood’s popular 8500 Series in the aftermarket.



**New Advanced Digital Thermostat** Standard with the Atwood 2-Stage Furnace is an innovative digital thermostat that provides 13 heating/cooling functions. This advanced design can even control both the furnace and roof top air conditioner.

# New Standard RV Digital Thermostat

## For Standard Recreation Vehicle Furnaces



**38555** In retail package

Atwood's Digital Thermostat is designed to operate all standard furnaces and most standard roof top air conditioners on the market today.

### Easy-to-read display

The LCD display makes it easy to read the living space temperature or the thermostat set point.

### Residential Styling

The slim profile and smooth contoured corners blend beautifully with today's contemporary recreation vehicle designs. Designed in a neutral color, the new Atwood Digital Thermostat will compliment any living area.

### Ventilation Function

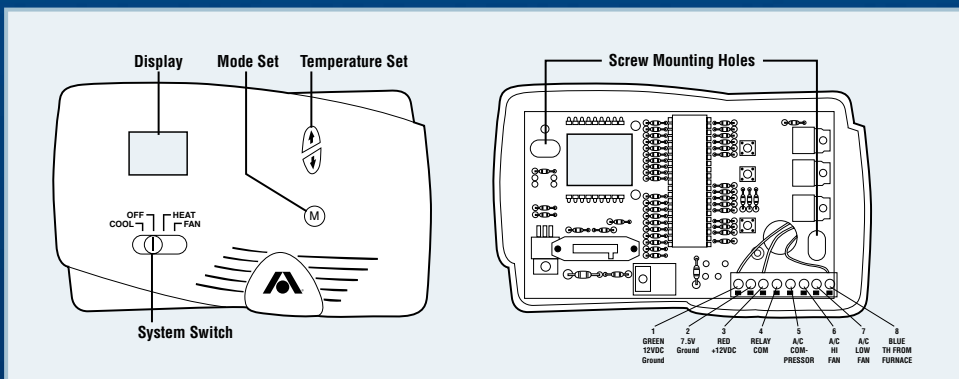
It is easy to circulate fresh air throughout the coach by utilizing the air conditioner fan.

### Easy Installation

Similar in mounting and wiring, the new Atwood Digital Thermostat is quicker and easier to install because it is designed to be compatible with existing mechanical and analog-type thermostats, including standard roof-top air conditioners from Dometic,<sup>®</sup> RVP,<sup>®</sup> and Carrier.<sup>®</sup>

## Digital Thermostat Functions for Standard RV Furnaces (1H2C)

System Slide Switch		SCROLL ORDER OF DISPLAYED MODES				OPERATION
LEFT	RIGHT					
COOL	OFF	HEAT	FAN	Scroll Order of Displayed Modes		<b>Furnace Operation</b>
		●			HI	Furnace cycles to satisfy set point.
<b>COOL</b>	OFF	HEAT	FAN	Scroll Order of Displayed Modes		<b>Air Conditioner Operation</b>
●				AU		Air conditioner automatically switches compressor and high and low speed fan when cycling to satisfy set point.
●					HI	Air conditioner compressor and high speed fan cycle to satisfy set point.
●					LO	Air conditioner compressor and low speed fan cycle to satisfy set point.
COOL	OFF	HEAT	<b>FAN</b>	Scroll Order of Displayed Modes		<b>Fan Operation</b>
			●		HI	Air conditioner fan runs at high speed to circulate air.
			●		LO	Air conditioner fan runs at low speed to circulate air.
COOL	<b>OFF</b>	HEAT	FAN	Scroll Order of Displayed Modes		<b>Off</b>
	●			OF		No operation occurs



### Specifications

Operating Voltage	9VDC to 18VDC	Room Temperature Range	+55F to +90F
Power Consumption	100mA	Room Temperature Display Range	+35F to +99F
Operating Temperature	-40F to +185F	Thermostat Accuracy	+/- 1F

# Atwood Furnace Selection Guides

EXCALIBUR® 8500 IV SERIES										FURNACE SIZE SPECIFICATION*					
Model	Input BTU/hr	Gas Type		Electronic Ignition	Electrical D.C.	Amp Draw	Unit Weight		Shipping Weight		Dimension	Furnace Size		Cutout Size	
		LP	NAT				lbs	kg	lbs	kg		in	mm	in	mm
8516-IV	16,000	●		●	12 volts	4.6	28	12.7	30	13.6	Width	16 1/2	419	17	432
8520-IV	20,000	●		●	12 volts	4.6	28	12.7	30	13.6	Height	7 3/8	187	7 1/2	190.5
8525-IV	25,000	●		●	12 volts	7.6	30	13.6	32	14.5	Length	18	457	—	—
8531-IV	30,000	●		●	12 volts	7.6	30	13.6	32	14.5	Return Air	65 in <sup>2</sup>		419 cm <sup>2</sup>	
8535-IV	34,000	●		●	12 volts	9.8	30	13.6	32	14.5					

EXCALIBUR® 8900 III SERIES										FURNACE SIZE SPECIFICATION*							
Model	Input BTU/hr	Gas Type		Electronic Ignition	Air Discharge		Electrical		Unit Weight		Shipping Weight		Dimension	Furnace Size		Cutout Size	
		LP	NAT		Side	Bottom	D.C.	A.C.	lbs	kg	lbs	kg		in	mm	in	mm
8935DCLP	35,000	●		●	●	●	12		38	17.2	45	20.4	Width	16 1/2	419	19 1/2	495
8940DCLP	40,000	●		●	●	●	12		38	17.2	45	20.4	Height	9 1/8	232	9 7/8	251
8935ACLC	35,000	▲	●	●	●	●		120	38	17.2	45	20.4	Length	23 1/2	597	—	—
8940ACLC	40,000	▲	●	●	●	●		120	38	17.2	45	20.4	Return Air	80 in <sup>2</sup>		516 cm <sup>2</sup>	

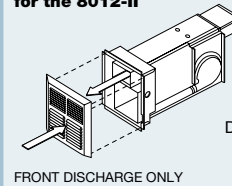
▲ Set LP at factory only

EVEREST STAR® III 7900 SERIES										FURNACE SIZE SPECIFICATION*							
Model	Input BTU/hr	Gas Type		Electronic Ignition	Electrical D.C.	Amp Draw	Unit Weight		Shipping Weight		Dimension	Furnace Size		Cutout Size		Vent Cutout Size	
		LP	NAT				lbs	kg	lbs	kg		in	mm	in	mm	in	mm
8012-II	12,000	●		●	12 volts	1.8	23	10.4	25	11.3	Width	8 3/8	213	8 3/8	213	4 7/8	124
7912-II	12,000	●		●	12 volts	3.4	23	10.4	25	11.3	Height	11 3/8	289	11 1/4	286	2 1/2	63
7916-II	16,000	●		●	12 volts	3.4	23	10.4	25	11.3	Length	20 1/2	524	—	—	—	—
7920-II	18,000	●		●	12 volts	3.4	23	10.4	25	11.3	Return Air	35 in <sup>2</sup>		226 cm <sup>2</sup>		—	

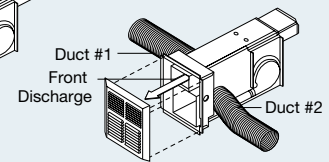
**Installation Option:** The Everest Star II furnace installation offers great flexibility in cabinet depths, varying from 20 1/2" to 31 1/8". This range is accomplished through the selection of one of three possible exhaust vents for the furnace.

Installation Option	Vent Length Measurement				Cabinet Depth			
	Minimum		Maximum		Minimum		Maximum	
	in	mm	in	mm	in	mm	in	mm
A	0	0	3 5/8	92	20 1/2	521	24	610
B	3 5/8	92	7 1/8	181	24	610	27 5/8	702
C	7 1/8	181	10 5/8	270	27 5/8	702	31 1/8	791

Ducting Configurations for the 8012-II



Ducting Configurations for the 79-II Series



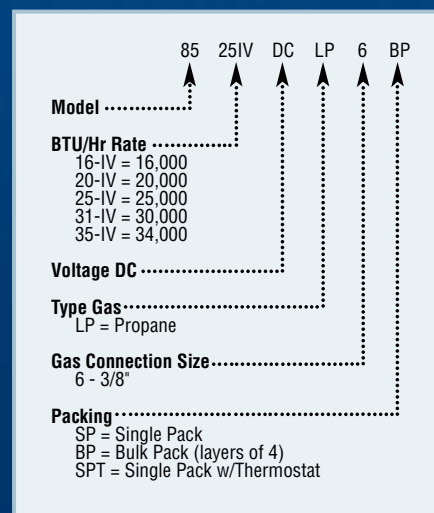
## Required Clearance

Minimum Required Clearance to Floorboards* Walls & Similar Combustible Building Materials						
	8500 IV		8900 III		7900 II	
	in	mm	in	mm	in	mm
Top & Sides	1/2	12.7	5/8	12.7	0	0
Rear	1	25.4	1/2	12.7	0	0
Bottom	3/16	4.76	3/16	4.76	0	0
Side	—	—	1	25.4	—	—
Ducts**	1/4	6.35	1/4	6.35	1/4	6.35
Extension Box	—	—	—	—	0	0

\* See I.O.M. packaged with the furnace for installation instructions.

\*\* Within 3' (914.4mm) of furnace, except that UL listed vinyl vinyl air ducts may have 0" clearance.

## How to Order



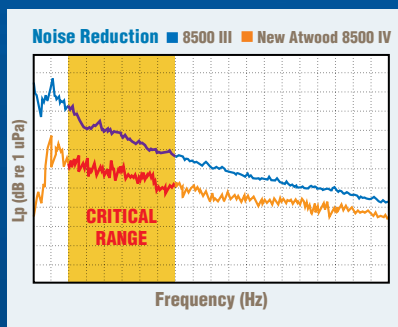


# Atwood Furnaces



## Excalibur™ 8500 IV Series

The Excalibur 8500 IV series furnace has been redesigned to be more efficient and quieter with a new burner and blower assembly. The new design has minimized the turbulence in the blower housing. This removed the annoying frequency spikes, (see graph below) and the overall noise with an increase in the airflow.



## Ease of Installation

The compact size, low profile, lightweight construction and vertical installation option enhance the space utilization possibilities and furnace placement flexibility of 8500 furnaces. A flexible adapter kit makes bottom discharge installation easy for both new and replacement applications.

## Accessories



**Access covers** Available in flush or recess style doors in all standard RV colors. The recess style is shown here.

## Excalibur™ 8900 III Series

The Excalibur 8900 III furnaces have mass appeal for manufacturers, service technicians, and owners alike. The compact size, especially its low profile requiring only 9 1/8" (232mm) of vertical space, provides greater flexibility in furnace location, which increases valuable storage space, provides better floor plan flexibility and optimum furnace/ducting location.

## Multiple Duct Outlet

Standardization of one compact framing dimension allows the option of installing either a 35,000 or 40,000 BTU furnace. It also offers six different side duct outlets and a bottom discharge outlet providing even greater installation flexibility and the freedom to design more efficient ducting systems.

## Serviceability

Because of the superior design and the Exterior Access Door of the 8900 and 8500 furnaces, all controls and crucial components are easily accessible from outside of the vehicle eliminating the need to remove the furnace. These features include the external wiring connector and the external circuit breaker. In addition, unlike competitive units, there is no carbon buildup maintenance required.

## Everest Star 7900 II Series

The dependable Everest Star II series builds on the 20-year success story of its predecessor with improvements such as: an electric shut-off on the gas valve, the new blower assembly that increases air delivery by 60%, and electronic ignition (no standing pilot).

## Lightweight

Weighing in at just 23 pounds (10.4kg) and using only 1.10 ft<sup>3</sup> (31.11) of space, the Everest Star II can produce 12,000, 16,000 and 18,000 BTU's per hour of input heat. The compactness of the furnace optimizes space utilization and furnace placement flexibility.

## Flexibility

Atwood furnaces are known for their flexibility and the new Everest Star II is no exception. It offers three different vent kits for cabinet depths ranging from 20 1/2" (524mm) up to 31 1/8" (813mm). It can be configured for front discharge only, discharge from both side ducts, or a combination of front and side ducts.

38452



38453



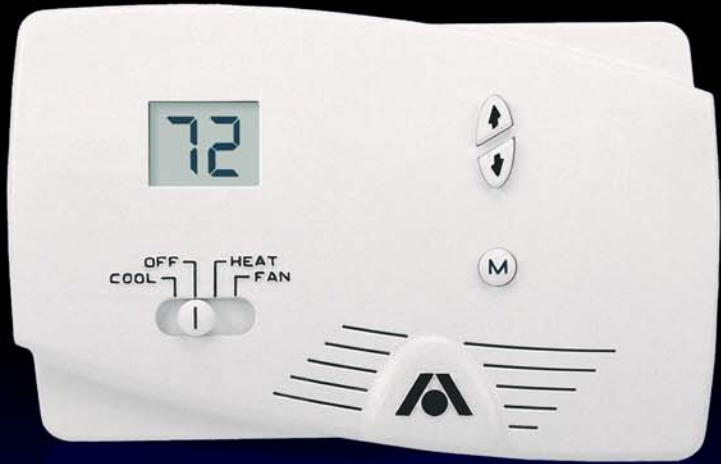
## Mechanical (heat only) Thermostats

Available in either white or brown.

# Excalibur XT™ Digital Thermostat

## For Atwood 2-Stage Furnace

ATWOOD'S NEW, PATENT-PENDING, 2-STAGE FURNACE SYSTEM IS CONTROLLED BY A REVOLUTIONARY NEW DIGITAL THERMOSTAT, WHICH PROVIDES THIRTEEN HEATING AND COOLING FUNCTIONS BY SIMULTANEOUSLY CONTROLLING THE FURNACE AND A ROOF TOP AIR CONDITIONER. THE LCD DISPLAY MAKES IT EASY TO READ THE LIVING SPACE TEMPERATURE OR THE THERMOSTAT SET POINT, WHILE THE RESIDENTIAL STYLING BLENDS WELL WITH TODAY'S UPSCALE RECREATION VEHICLE INTERIOR DESIGNS.



For Use with Atwood's 2-Stage Furnace Only. Part # 38535

### 13 Heating/Cooling Functions

The new Atwood Digital Thermostat is programmed to perform 13 individual functions making it one of the easiest, most accurate, thermostats to use in the market today.

## 13 Function Digital Thermostat for Excalibur XT™ Furnaces (2H2C)

System Slide Switch				SCROLL ORDER OF DISPLAYED MODES	OPERATION
LEFT	RIGHT				
COOL	OFF	HEAT	FAN	Scroll Order of Displayed Modes	<b>Furnace Operation</b>
		●		AU	Furnace automatically switches between high and low BTU valve and high and low speed fan when cycling to satisfy set point.
		●		HI	Furnace high BTU valve and high speed furnace fan cycle to satisfy set point.
		●		LO	Furnace low BTU valve and low speed furnace fan cycle to satisfy set point.
		●		HF	Furnace fan runs at high speed to circulate air. Air conditioner fan does not run.
		●		LF	Furnace fan runs at low speed to circulate air. Air conditioner fan does not run.
COOL	OFF	HEAT	FAN	Scroll Order of Displayed Modes	<b>Air Conditioner Operation</b>
●				AU	Air conditioner automatically switches compressor and high and low speed fan when cycling to satisfy set point.
●				HI	Air conditioner compressor and high speed fan cycle to satisfy set point.
●				LO	Air conditioner compressor and low speed fan cycle to satisfy set point.
●				HF	Air conditioner fan runs at high speed to circulate air. Furnace fan does not run.
●				LF	Air conditioner fan runs at low speed to circulate air. Furnace fan does not run.
COOL	OFF	HEAT	FAN	Scroll Order of Displayed Modes	<b>Fan Operation</b>
			●	HI	Air conditioner fan and furnace fan run at high speed to circulate air.
			●	LO	Air conditioner fan and furnace fan run at low speed to circulate air.
COOL	OFF	HEAT	FAN	Scroll Order of Displayed Modes	<b>Off</b>
	●			OF	No operation occurs



# Excalibur XT™ Furnaces

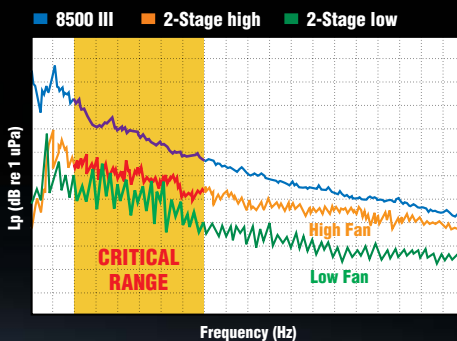
## 2-Stage Heating Conserves Fuel and Reduces Noise for Quieter Nights!

The New Atwood 2-Stage, Excalibur series furnace has been designed to be more efficient and quieter with a new burner and blower assembly. The new design has minimized the air turbulence in the blower housing. This removed the annoying frequency spikes, (see graph) and the overall noise with an increase in the airflow.

## Excalibur XT™ Furnace Selection Guides

EXCALIBUR XT™ 2-STAGE FURNACE											
Model	Input BTU hr		Gas Type	Electronic Ignition	Electrical D.C.	Amp Draw		Unit Weight		Shipping Weight	
	low	high				low	high	lbs	kg	lbs	kg
1522	15,000	22,000	LP	●	12 volts	3.0	6.5	30	13.6	33	14.97
2334	23,000	34,000	LP	●	12 volts	5.0	11.2	30	13.6	33	14.97
2540	25,000	40,000	LP	●	12 volts	7.2	15.7	39	17.69	46	20.86

### Noise Reduction



### Model Description

Model	23	34	DC	LP	6
BTU/Hr Rate	Low 23 = 23,000	High 34 = 34,000			
Voltage	DC = 12V				
Type Gas	LP = Propane				
Gas Connection Size	6 3/8"				

Furnace Size Specification 2334 & 1522				
Dimension	Furnace Size		Cutout Size	
	in	mm	in	mm
Width	16 1/2	419	17	432
Height	7 3/8	187	7 1/2	190.5
Length	18	457	—	—
Return Air	65 in <sup>2</sup>		419 cm <sup>2</sup>	

Furnace Size Specification 2540				
Dimension	Furnace Size		Cutout Size	
	in	mm	in	mm
Width	16 1/2	419	19 1/2	495
Height	9 1/8	232	9 7/8	251
Length	23 1/2	597	—	—
Return Air	80 in <sup>2</sup>		516 cm <sup>2</sup>	

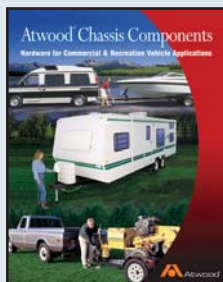
### Required Clearance

	Minimum Required Clearance to Floorboards Walls & Similar Combustible Building Materials			
	2334 & 1522		2540	
	in	mm	in	mm
Top & Sides	1/2	12.7	5/8	12.7
Rear	1	25.4	1/2	12.7
Bottom	3/16	4.76	3/16	4.76
Side	—	—	1	25.4
Ducts**	1/4	6.35	1/4	6.35



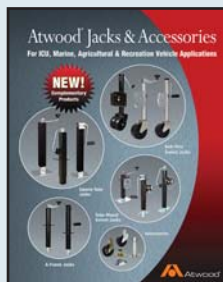
# Atwood® Products

Atwood Mobile Products offers a wide range of products for many markets including, but not limited to, the Recreation Vehicle, Agricultural, Commercial, Industrial, and Marine industries. Product literature is available by calling 574-264-2131 or asking your regional salesperson.



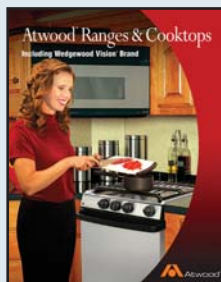
## Atwood® Chassis Components

- Agricultural
- Commercial
- Industrial
- Marine
- Recreation Vehicles



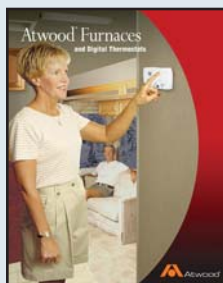
## Atwood® Jacks & Accessories

- Agricultural
- Commercial
- Industrial
- Marine
- Recreation Vehicles



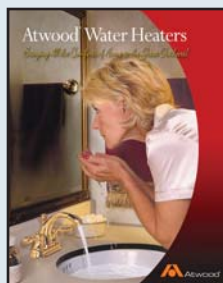
## Atwood® Ranges & Cooktops

- Recreation Vehicles



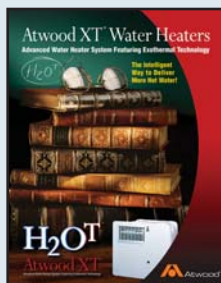
## Atwood® Furnaces

- Recreation Vehicles
- Marine



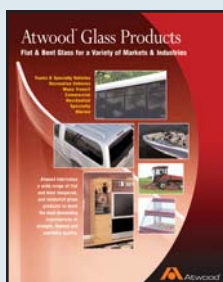
## Atwood® Water Heaters

- Recreation Vehicles
- Marine



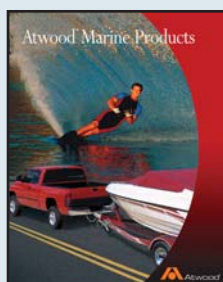
## Atwood XT® Water Heaters

- Recreation Vehicles



## Atwood® Glass Products

- Trucks/Specialty Vehicles
- Commercial/Residential
- Recreation Vehicles
- Specialty/Marine
- Mass Transit



## Atwood® Marine Products

- Marine



## Atwood® CO & LP Gas Alarms

- Recreation Vehicle

## Atwood® Plants

### Atwood Center

*Sales/Marketing, Engineering, Warranty/Service*

1120 North Main Street • Elkhart, IN 46514  
Ph: 574-264-2131 • FAX: 574-262-2550

### Greenbrier Operations

*Ranges, Cooktops, Water Heaters*

6320 Kelly Willis Road • Greenbrier, TN 37073  
Ph: 615-643-4556 • FAX: 615-643-4616

### West Union Operations - Hardware, RV Windows

800 Highway 150 S • West Union, IA 52175  
Ph: 563-422-5641 • FAX: 563-422-5875

### Elkhart Operations - Seating Systems & Hardware

57912 Charlotte Avenue • Elkhart, IN 46517  
Ph: 574-522-7891 • FAX: 574-522-4188

### Creation Group Plant 4 - Windows

23950 County Road 6 • Elkhart, IN 46514  
Ph: 574-206-8566 • FAX: 574-206-8356

### Creation Group Plant 5 - Doors

54347 Highland Blvd. • Elkhart, IN 46514  
Ph: 574-262-9998 • FAX: 574-262-1180

### Antwerp Operations - Glass

5406 U.S. 24 East • Antwerp, OH 45813  
Ph: 419-258-5531 • FAX: 419-258-9411

### Salt Lake Operations

*Furnaces, Gas Alarms, Electronics*

1874 Pioneer Road • Salt Lake City, UT 84104  
Ph: 801-972-4621 • FAX: 801-973-9836

### Kemberly

*Aluminum Extrusions*

201 East Simonton • Elkhart, IN 46514  
Ph: 574-264-4144 • FAX: 574-262-2194

Note: In most cases, dimensions are rounded to 1/8". Drawings and dimensions subject to change without notice. For pricing, contact your Distributor or Atwood Sales Representative. All specifications and illustrations are based on the latest information at the time of publication. Atwood assumes no responsibility for any error in type or print reproduction of specifications in this literature. Due to our policy of continuous improvement, Atwood reserves the right to make changes in price, color, materials, equipment and specifications and to discontinue models at any time without notice.



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