

# V8 SERIES



## RELIABLE OIL-FIRED HOT WATER OR STEAM HOME HEATING



# BURNHAM V8 SERIES CAST IRON OIL-FIRED WATER OR STEAM BOILER

## Not Your Typical Boiler

The Burnham Hydronics V8 Series boiler is American craftsmanship at its finest. It is engineered and manufactured to provide years of dependable and efficient home heating for your family.

At the heart of every V8 is Burnham's durable cast iron heat exchanger. Ensuring quality and availability, these cast iron sections are produced in Burnham's own state-of-the-art foundry, in Zanesville, OH, USA. Simply stated, the V8 Series boiler provides homeowners with a modern design, quiet operation, and superior performance for hot water or steam heating systems.

## State-of-the-Art Construction

- Cast Iron Dependability**  
 Cast iron has the unique ability to absorb and transfer heat quickly and efficiently while providing unmatched durability. The center cast iron sections of the Burnham V8 Series are as much as 40% larger than most competing boilers, allowing for quicker heat transfer.
- Made in the USA**  
 When you buy a V8 cast iron boiler, quality is always assured, because all castings are produced at our own foundry, and we assemble all of our boilers right here at our Lancaster, Pennsylvania assembly plant.



- Metal Couplings called Nipples**

The V8's cast iron boiler sections are assembled with steel couplings called nipples.



Metal nipples are impervious to petroleum based chemicals, including

anti-freeze, which can deteriorate the gaskets used in some competitors' boilers. Metal nipples expand and contract with the cast iron sections they join, ensuring the integrity of the entire section assembly.

## Easy Service Features

- The V8 provides both top and side access to the flueways for fast efficient servicing.
- Large easy to turn knobs thread into flange clips, eliminating washers, nuts, and hard to hold screws, making side panel removal simple.
- A full-size burner swing door and articulating hinge allow for easy access to the combustion chamber, and an ergonomically designed stud and nut door locking system makes for a simple airtight seal.
- Easily accessible fasteners allow for simple removal and replacement of the side flue cover-plates and top canopy.



- The burner reset button is located outside the burner cover for convenient access, and a burner disconnect allows for simple service and installation.

## Save on Fuel

The V8 boiler with an Annual Fuel Utilization Efficiency (AFUE) as high as 86.3% can save you as much as 30% on your heating bills and pay for itself in just a few years.

Use the formula below to compare the V8 to the 60% efficiency of a typical 20-year-old boiler.

## How to Determine Your Savings

Your Current Boiler's Efficiency Rating	X	Your Current Annual Fuel Bill	=	Your Estimated New Bill
86.3				

### Example:

Your present boiler's efficiency is rated at 60% and your annual fuel bill is \$1,500.

60	X	\$1,500	=	\$1,043
86.3				

**= \$457 Annual Savings**

## V8 Versatility

Burnham's V8 Series is one of the most versatile products on the market. It's available in several configurations for either water or steam applications, including:

- Packaged—Completely assembled and ready to install.
- Knocked-down—Assembled in your home, perfect for tight installation areas.
- With or without domestic hot water coil.
- Fresh air kit.

## One Source for Total Comfort

Burnham is dedicated to leading the hydronics heating industry through product development and design. With proven dependability and the broadest product line, Burnham is the one company you can depend on for your complete heating system.

- **System Controls**

Burnham supplies system controls to meet all of your home heating and domestic hot water needs. Controls are available for zoning, indirect water heaters, night set-backs, and outdoor resets. Increase your

level of comfort and save money by properly controlling and monitoring your boiler system.

- **Indirect Hot Water Heating**

For domestic hot water, the Alliance™ indirect water heater is the perfect companion to a Burnham boiler. It provides the volume of hot water needed for today's modern lifestyles more quickly and efficiently than



electric or direct-fired water heaters. Since it uses the same heat source as your home heating system, it's also an economical alternative.

- **Radiant Heating and Cast Iron Heat Distributors**

Burnham also offers a full line of radiant heating products, including PEXc pipe, cast iron Baseray® baseboard, and modern cast iron radiators. Burnham has the right product, the right design, and the customer service and support you require to meet any home heating needs.

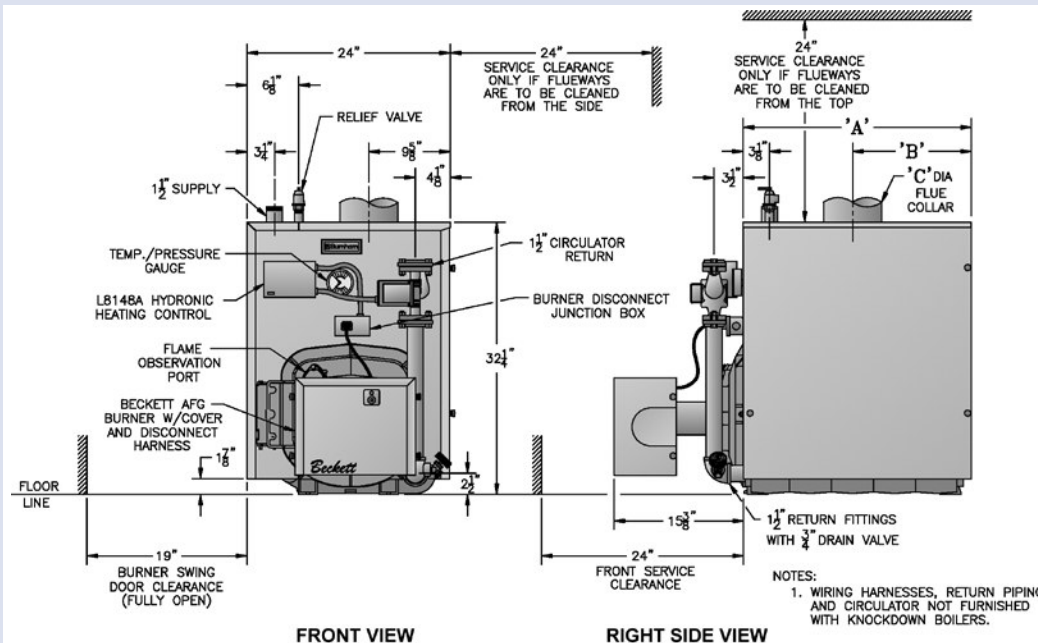
## Dimensions and Standard Equipment

BOILER MODEL	A	B	C
V82	12-1/8"	6-5/8"	5"
V83	17-1/8"	9-1/8"	6"
V84	22-1/8"	11-5/8"	6"
V85	27-1/8"	14-1/8"	7"
V86	32-1/8"	16-5/8"	7"
V87	37-1/8"	19-1/8"	8"
V88	42-1/8"	21-5/8"	8"
V89	47-1/8"	24-1/8"	8"

**Standard Equipment:**  
 Cast Iron Section Assembly  
 Deluxe Insulated Jacket  
 Full-size Burner Swing Door  
 Beckett Flame Retention Burner  
 Boiler Drain Valve  
 Barometric Draft Regulator  
 14,000 Volt Electric Ignitor  
 Solenoid Oil Valve  
 Pre & Post-purge and Cad Cell Relay

**Steam:**  
 2" Supply Connection  
 Safety Valve  
 Pressure Control  
 Probe Type Low Water Cut-Off Control  
 (Pkg'd only)  
 Pressure Control  
 Steam Gauge  
 Gauge Glass Set

**Water:**  
 1-1/2" Supply Connection  
 Relief Valve  
 Combination High Limit- Circulator  
 Relay Control  
 Pressure/Temperature Gauge  
 Circulator (Pkg'd only)



**Solutions For Tight Spaces**  
Top option cleaning allows for installation in tight spaces.

**Reduced Installation Costs**  
Mounted circulator reduces installation costs.

**Simple & Safe Servicing**  
Upfront controls with burner disconnect allows for simple and safe servicing.

**Quiet Operation**  
Covered burner reduces noise for extra quiet operation. Fresh air kit available.

**Easy Cleaning Access**  
Access to all flue areas reduces maintenance time.

**Strong, Durable Castings**  
Ferrosilicon inoculated grey iron castings are stronger and more durable.

**Poor Draft Is No Problem**  
A unique pin arrangement allows the V8 to work in marginal draft conditions, something many other boilers can't do.

### Lifetime Limited Warranty

The cast iron heat exchanger on the V8 is covered by Burnham's lifetime True Blue Limited Warranty on water and ten years on steam heat exchangers.



The additional purchase of Burnham's Winter Warmth Assurance plan extends the True Blue Warranty protection of the heat exchanger to 5 or 10-year blanket coverage. The program pays 100% for parts and labor on qualified repairs for 5 or 10-years from the date of installation. See your Burnham Home Heating Team member for more information.

### V8 Burner Options

Burnham offers the V8 with three burner options. The Beckett burner is standard.



V8 Series Steam Boiler with Carlin Burner



V8 Series Steam Boiler with Riello Burner



V8 Series Water Boiler

# SPECIFICATIONS



## V8 RATINGS



BOILER MODEL	BURNER CAPACITY GPH (3)	DOE HEATING CAPACITY MBH (4)	I = B = R NET RATINGS			FLUE COLLAR Dia. (In.) (8)	MINIMUM CHIMNEY REQUIREMENTS			AFUE %		APPROX. SHIPPING WEIGHT (Lbs.)
			WATER MBH (5)	STEAM MBH (6)	STEAM Sq. Ft.		ROUND IN Dia.	RECTANGLE In. x In.	HEIGHT Ft.	STEAM	WATER	
V82	0.60	70	61	—	—	5	6	8 x 8	15	—	82.1	450
V83	0.75	91	79	68	283	6	6	8 x 8	15	85.1	86.0	542
	1.05	123	107	—	—					—	82.6	
V84	1.05	127	110	95	396	6	6	8 x 8	15	85.3	86.1	634
	1.35	159	138	—	—		7			—	83.2	
V85	1.35	164	143	123	512	7	7	8 x 8	15	85.4	86.2	726
	1.65	196	170	—	—					—	83.9	
V86	1.65	201	175	151	629	7	7	8 x 8	15	85.7	86.3	818
	1.90	227	197	—	—		8			—	84.6	
V87	2.10	252	219	189	787	8	8	8 x 8	15	84.7	85.0	910
V88	2.35	275*	239	—	—	8	8	8 x 12	15	—	—	1002
	2.35	266*	—	200	833							
V89	2.60	299*	260	—	—	9	9	8 x 12	15	—	—	1094
	2.60	298*	—	224	933							

\*I=B=R Gross Outputs

### NOTES:

- V82 is available as a packaged water boiler only and is not available with tankless heater.
- Packaged water boilers are shipped with the higher capacity nozzle installed. All components necessary to fire at the lower rate are included with boiler. Steam boilers fire only at the lower rate.
- The I=B=R Burner Capacity is based on oil having a heating value of 140,000 BTU/GAL.
- DOE Heating Capacity and Annual Fuel Utilization Efficiency (AFUE) are based on U.S. Government tests at 13.0% CO<sub>2</sub> with No. 1 maximum smoke and 0.02 inches water column over fire draft on standard equipment package.
- Net I=B=R Ratings are based upon a pick-up allowance of 1.15. Consult manufacturer with unusual piping and pickup requirements before selecting boiler.
- Net I=B=R Ratings are based upon a pick-up allowance of 1.333. Consult manufacturer with unusual piping and pickup requirements before selecting boiler.
- As an ENERGY STAR® partner, Burnham has determined that those models with an AFUE of 85% and higher meet the ENERGY STAR® guidelines for energy efficiency.
- Used for sizing flue connection materials.  
Maximum Working Pressure: 15 PSI steam; 30 PSI water, standard; 40 psi water optional; 50 psi water optional— USA only.

## OPTIONAL TANKLESS HEATERS<sup>(1)</sup>

BOILER MODEL	HEATER MODEL NUMBER (2)			
	HOT WATER			STEAM
	V1-2	222A	A54	V1-2
V83	—	3.0	—	2.75
V84	—	3.5	—	3
V85	—	4.0	—	3.25
V86	—	4.5	—	3.75
V87	—	4.75	5.5	3.75
V88	—	4.75	6.0	4
V89	4.5	4.75	6.0	4

### Notes:

- Tankless Heater Rating G.P.M. based on 100°F rise with 40°F inlet water (intermittent draw) with boiler water temperature of 200°F (Water) or 190°F (Steam).
- V1-2 is rear mounted. Tankless coil 222A and A54 are front mounted. Steam models are only available with V1-2 rear mounted tankless coils.

### Other Optional Equipment:

Float type low water cut-off  
Two-stage fuel unit



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