

# WAY-WOLFF™ Ship Heaters

*Designed for operation with forced air circulation hot water heating systems, WAY-WOLFF ship heaters are fully-automatic, oil fired, central heating units used to supply hot water by means of a circulating pump to radiators, convectors, or other heating elements. They can also be used to supply steam.*



## How It Works

### Boiler

Standard boiler units have a vertical, fire tube, two pass top-fired design. The combustion chamber comprises the first pass and the return tubes fire the second pass. The base of the boiler is insulated from the deck by air space and a wet bottom section. The boilers are made with marine welded construction with full penetration welding techniques as used in high pressure boilers. Designed for marine heating operation at 30 PSI hot water or 15 PSI steam. The top cover is insulated and easily removable for periodic cleaning, a clean-out opening in base of boiler is included, and observation ports in top and base. WAY-WOLFF steam boilers have U.S. Coast Guard certification, and the hot water boilers are built in accordance with U.S. Coast Guard requirements complying with A.S.M.E. Boiler Code.

### Oil Burner

WAY-WOLFF oil-burners are specially integrated fully automatic, high pressure atomizing type. A self-priming fuel pump draws oil from the storage tank. In addition to a mechanical shut-off valve in the fuel pump, an electric oil shut-off is provided for extra safety. Oil pressure and vacuum gauges are also provided. The ignition is automatic electric spark, which is on DC application fed from a special AC take off on the burner motor-inverter. The safety stack control shuts the burner off in case of ignition or flame failure. Burner operation is controlled by an adjustable limit control on the boiler.

### Fuel Oil

- Reference domestic fuel oil per Commercial Spec. CS12-48 grade 2
- Diesel fuel oil per Military Spec. MIL-F-16884. A.P.I
- Gravity - 26° to 33°
- Viscosity - 40 S.S.U. at 100° F max

### Electrical

- Direct current 115 volts.
- Alternating 110 or 220 volts, 60 cycles, single phase

### Standard Equipment

#### Boiler complete with:

- Combustion chamber in place
- Insulated steel jacket
- Oil burner assembly
- Combustion safety control
- Adjustable limit control
- Safety relief valve

#### Hot water boiler furnished with:

- Pressure-temperature gauge

#### Steam boiler furnished with:

- Steam pressure gauge, low water cutoff
- Gauge and fittings



## WAY-WOLFF™ Boiler Ship Heater Dimensions (Inches or I.P.S.)

Model	A	B	C	D	E	F	G	H	I
3434-10E	24	12 <sup>1/2</sup>	8	12 <sup>3/4</sup>	61	22 <sup>1/2</sup>	21 <sup>3/4</sup>	44 <sup>3/8</sup>	37 <sup>1/4</sup>
5848-14E	32	12 <sup>1/2</sup>	8	12 <sup>3/4</sup>	77 <sup>3/4</sup>	22 <sup>1/2</sup>	21 <sup>3/4</sup>	53 <sup>5/8</sup>	51 <sup>3/8</sup>

## Specifications

Way-Wolff Ship-Heater Size	3434-10E	5848-14E
Firing Rate (G.P.H.)	4.00 Max 2.00 Normal	8.00 Max 4.00 Normal
BTU/Hr. Output Rating	420,000 Max 210,000 Normal	840,000 Max 420,000 Normal
Water Radiation Sq. Ft.	2800 Max 1400 Normal	5600 Max 2800 Normal
Steam Radiation Sq. Ft.	1750 Max 875 Normal	3500 Max 1750 Normal
Gallons/Hr. 100°F Rise	495 Max 248 Normal	990 Max 495 Normal
Gross Heating Surface Sq. Ft.	63.8	147
Dia. Firing Tube I.P.S.	10	14
No. of Boiler Tubes	34	58
Length of Boiler Tubes	34	48
Dia. Of Boiler Tubes O.D.	2	2
Net Dry Wt. incl. Burner and Jacket Lbs.	885	1885
Water Content Hot Water Service	241 Lbs. 29 Gal.	658 Lbs. 79 Gal.
Water Content Steam Service	183 Lbs. 22 Gal.	335 Lbs. 64 Gal.
Burner Motor H.P.	0.5	0.5
Shipping Wt. incl. Burner and Jacket Lbs.	950	1950

\*Capacities based on Fuel Oil of 140,000 BTU/Gal. and minimum efficiency of 75%

\*Steam Radiation 240 BTU/Hr.

\*Hot Water Radiation 150 BTU/Sq. Ft.

\*H<sub>2</sub>O 30 PSI Max

\*Steam 15 PSI Max



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