

THALAMUS

**MARINE SECTIONAL HEADER BOILER UNIT, TYPE SM**

**FOR USMC DESIGN T2-SE-A1 TANKERS—MANUFACTURED BY**

**COMBUSTION ENGINEERING COMPANY, INC., NEW YORK**



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Foundation



**Swash Plates:** — The swash plates are placed across the drum below the water level to hold down surging of the water in the drum when the vessel is rolling.

**Internal Feed Pipe:** — The feed pipe is a perforated 2 in. pipe running nearly the full length of the drum, below the water level and connected to both the main and auxiliary feed nozzles. Its purpose is to distribute the feedwater uniformly across the boiler. The perforations in the pipe are turned upward to cause the incoming feedwater to mix with the boiler water.

**Chemical Feed Pipe:** — A  $\frac{3}{4}$  in. chemical feed pipe is fitted in the steam drum below the normal water level and is connected internally to the chemical feed nozzle. The pipe is drilled with a row of holes to distribute the boiler water chemical across the drum.

**Surface Blowpipe:** — A  $\frac{3}{4}$  in. pipe is placed in

front of the curtain baffle. The top of the pipe is drilled with  $\frac{1}{4}$  in. holes and is at the normal water level. This perforated pipe is the surface blow collecting pipe and is connected to the surface blow nozzle.

**Desuperheater:** — A desuperheater is placed below the water level in the steam drum. It is formed of tubular elements connected at the ends to the desuperheater inlet and outlet nozzles in the steam drum.

Steam for auxiliaries is taken from the superheater outlet header, passed through the desuperheater tubes, where it gives up its superheat to the boiler water, and is then passed on to the desuperheated steam line. This arrangement protects the superheater elements from overheating, since all steam generated must pass through the superheater elements regardless of the proportion of the total steam used in auxiliaries.

## THALAMUS

## Principal Parts

- 1—Steam Drum
- 2—Main Steam Nozzle
- 3—Superheater Outlet
- 4—Superheater Inlet
- 5—Superheater Headers
- 6—Superheater Elements

- 7—Water Wall Tubes
- 8—2 in. Tubes
- 9— $1\frac{1}{4}$  in. Tubes
- 10—Air Heater Tubes
- 11—Downtake Nipples
- 12—Downtake Headers

- 13—Junction Header
- 14—Uptake Headers
- 15—Circulators
- 16—Side Water Wall Header
- 17—Rear Water Wall Supply Tube

- 18—Water Wall Risers
- 19—Bottom Blow
- 20—Rear Water Wall Header
- 21—Side Water Wall Supply Tube
- 22—Air Heater By-Pass Damper

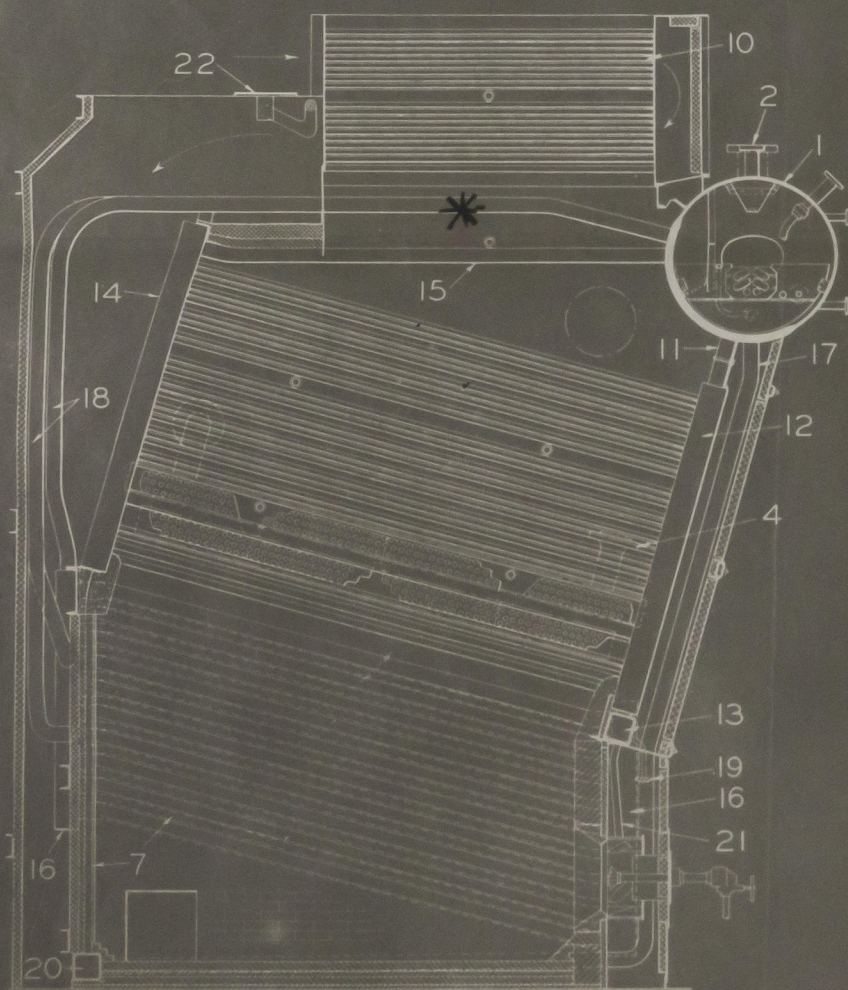


Fig. 2—Side Sectional Elevation.

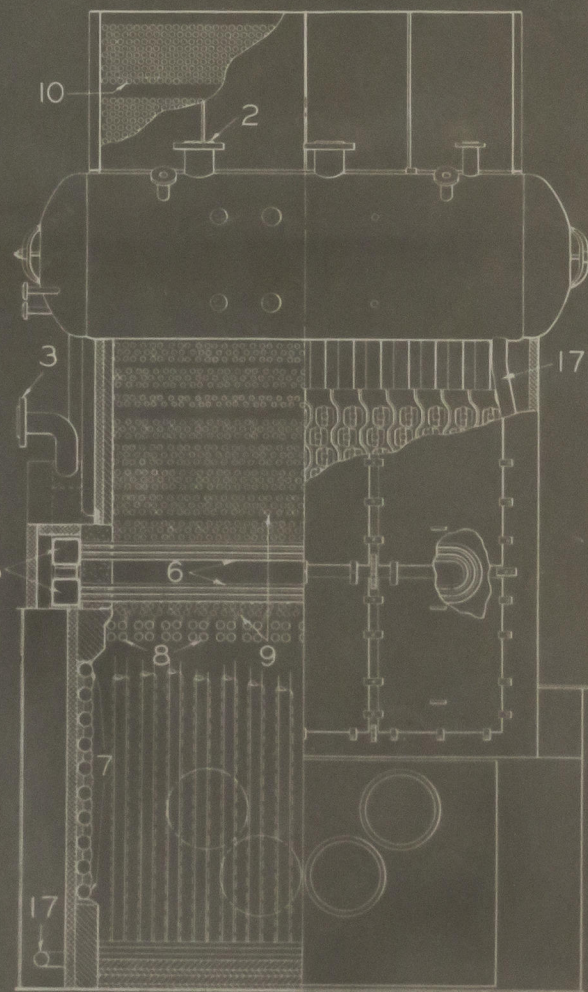


Fig. 3—Half Sectional Front Elevation.

For External Connections refer to Fig. 6, page 7.