

250HP Mobile Hot Water System

The mobile boiler room consists of the following:

One (1) Eclipse, Model 400 2 1/2 HCLTWPOLPRO, IRI 250 horsepower, 2-pass dryback automatic packaged serpentine boiler, 950 psi design at 650⁰F. hot water.

The boiler is capable of flowing 175 GPM with a maximum 80-psi pressure drop across the coil. Temperature range is 300⁰ inlet and 350⁰ outlet with controls capable of operating at a maximum of 600 degree F. The boiler is capable of firing No. 2 diesel fuel with a No. 2 diesel fuel pilot. The burner is complete with full modulation and a 2 1/2 to 1 turndown ratio.

The unit is complete with standard boiler trim as well as the following:

- IRI controls
- Relief valves set at 500 psi
- R4041L1014 flame safeguard control
- Two (2) neon indicating lights
- Stack thermometer
- Operating temperature control 100⁰ - 600⁰F.
- High limit temperature control 100⁰ - 1000⁰F.
- Pneumatic combustion controls
- Pneumatic operating controls
- 20 psi regulated control air

One (1) 60" x 96", 1050 gallon, ASME Code expansion tank, design pressure 300 psi at 650⁰F complete with the following:

- Saddles mounted on 6" I-beam
- Reflex level gauge
- Low level cut-off switch
- Level control switch
- 12" x 16" manway
- Nitrogen blanket controls with pressure reducer, inlet regulator, two (2) shut off cocks, pressure gauge, and back pressure regulator
- Inlet and outlet valves
- Relief valve, 500 psi, 11,280 lbs./hr capacity

Unit requires two (2) 100# bottles of nitrogen to be hooked up at all times.

One (1) Dean, Model R434, 1.5 x 3 10 circulating pump complete with:

- 9.25" impeller
- 25 horsepower, 3500 RPM, 230/460 volt motor
- #R-15100-A1 performance curve
- John Crane XF Sub 50 IDI-316 seal
- Base, coupling, and guard
- Suction strainer
- 3", 300# flanged stainless steel expansion joint, 8" long for pump suction
- 3", 300# flanged stainless steel expansion joint, 18" long for pump discharge

The pump is designed to meet the following conditions:

- 175 GPM

- Suction pressure 200 psi
- Discharge pressure 315 psi
- TDH 115 psi
- Specific gravity water at 385⁰F. - .8659
- TDH in ft. - 307
- Hot water

One (1) Speed Aire, Model 7Z501 Air Compressor for atomizing and control air, complete with:

- 34 CFM at 175 psi capacity compressor
- 10 horsepower, 230/460 volt motor
- 80 gallon air tank
- Motor starter
- Pressure controls

All three-phase components are wired for 240 volts. The unit may be supplied with 240 volt or 480 volt with motor wiring changes required to accommodate either voltage. Fuse protection is provided for all motors and control circuits.

All equipment is installed in a used Fruehauf trailer, Model No. FB9-FZ-45, tandem axle van with the following specifications:

- 45'L x 96" W x 13'6" H
- 36" king pin location with 47 1/2" coupler height
- Cross Sills: 4" I-beam steel on 16" centers
- Extruded aluminum top and bottom rails
- 14 gauge hi-ten steel posts, 24" O/C
- 16 gauge hi-ten steel roof bows on 24" centers
- Outer panels - .050 painted white aluminum
- Roof to be .040 aluminum
- Walls are finished inside with 22 gauge steel sheeting
- Floor is 1 3/8" laminated hardwood with 12 gauge steel tread plate covering
- Double swing rear doors and swing curb side door
- 5" tubular axles with Chicago rawhide seals
- 16" x 7" air brakes
- 20.0 tube spoke wheels with 900-20 tube type nylon tires
- ICC bumper and DOT min. marker lights
- Interior walls are primered and then finished white, floor is primered and then finished gray
- Spring suspension with sand shoe landing gear

One (1) 1000 gallon fuel storage tank with level indicator, drain, vent, fill cap, and flexible supply and return connections is mounted under trailer between landing gear and axles. The tank is mounted in spring loaded stirrups to reduce stress when trailer flexes during transportation. Tank is securely anchored to prevent movement during transportation. All metal surfaces, which may come in contact with tank, are covered with 1/2" thick rubber to cushion contact. There is a minimum 12" ground clearance under tank.

All equipment is installed as follows:

The expansion tank is placed 3" from the front and 23" from the roadside walls. Return is piped through the floor. Circulating pump is installed directly behind expansion tank

with room allowed for servicing. Air compressor is directly in front of side door on curb side of trailer.

The boiler is placed in rear of trailer with burner near side door. All controls are on front or road side of boiler.

Mounting brackets are installed 36" from front wall on curbside of trailer to hold three 100 lb. cylinders of nitrogen.

A minimum of 12" clearance has been left between boiler piping and roadside trailer wall to facilitate servicing. Fuel oil supply is piped to oil tank with ample filtering system to provide clean oil to burner. Hot water supply is terminated at roadside wall with 3", 300# flange. Stop valve is installed on interior line. Relief valve discharge piping is run through the roof of the trailer. Boiler stack is lift-off type and accessible from the roof of the trailer.

All piping in unit is Schedule 80 black pipe and all fittings extra heavy unless previously specified otherwise. All piping conforms to the latest ASME codes and unit has been inspected and certified by a National Board authorized inspector before delivery to destination point. All piping is securely anchored to equipment or floor with U-bolts. No piping has been supported from ceiling or walls to prevent stress during transportation.

Expansion tank has been covered with a minimum 3" of high temperature insulation. All hot water piping is covered with a minimum 2" of high temperature insulation with aluminum cover.

There are seven (7) light fixtures evenly spaced on ceiling of trailer complete with globes and guards. Switches at side and rear doors can control lights. All interconnecting conduits is heavy wall rigid pipe and fittings securely anchored to ceiling and walls with flexible seal tite connections at components. Main power supply is piped to entrance panel on front road side corner at exterior of trailer to provide single point connection.

There is a 16" x 72" louvered vent with bug screens in each side trailer at the rear. Two (2) 12" exhaust fans are installed in front of trailer, complete with louvers and rain hoods, and controlled by an adjustable thermostat. All wiring conforms to the latest National Electrical codes.

Feedwater chemical treatment is required and can be provided at \$23.50 per gallon, if needed.

Connection locations: Hot Water Return is located 13' from the front of the trailer, curb side, 3' off the ground. Hot Water Supply is located 3' from the rear of the trailer, road side, 12' off the ground. The City Water Makeup is located 14' from the front of the trailer, road side, 3' off the ground. Electrical connection is located on the front of the trailer, left side, 11' off the ground.