

**SHELBY COUNTY SCHOOLS SPECIFICATIONS /  
REQUIREMENTS FOR NEW HOT WATER BOILER WITH TRAILER**

**Hot Water Boiler with trailer shall consist of the following...**

**BOILERS:** Two (2) Hot Water Boilers natural gas fired with 2,000,000 Btu/hour input, 1,680,000 Btu/Hr output. Designed with 85% AHRI Thermal Efficiency, 5:1 Turndown, ASME Copper-Finned Tube Heat Exchanger, ASME pressure relief valve, Category IV SS Venting, Control, Sidewall Vent Terminals, Built in Cascading Sequencer for up to 8 boilers, Low NOx operation. 10 year limited warranty.

**Pumps/Accessories :** Two (2) inline centrifugal pumps for 85 gpm at 28 TDH, with 1 hp, 208-230/460/60/3 TEFC Premium Efficient Motors , 2" ball valves for pump suction and discharge isolation • FDI WS0250 flow regulator ; Two Flow Conditioning Hydronic Indicators with trumpet valves tubed with 400 psi rated nylon tubing

**Air/Pressurization Control :** 200 gallon ASME system efficiency buffer tank with 4" flanged connections

**Controls/Electrical :** NEMA 1 control and power distribution panel with:

- Door operated main disconnect
- Single point 208V and 460V connections
- Fused 460/120 9kVA transformer for boiler power
- Two 10A circuit breakers for boiler power Wiring from power distribution panel to and from transformer in flexible conduit Wiring from leader boiler to loop temperature sensor Cascade wiring from leader to follower boiler Instrumentation

**Outdoor Enclosure :** Insulated fiberglass enclosure, approximately 14' long x 8'-6" wide x 10'-0" tall. Structural 1.25" urethane foam filled wall made up of the following: ¼" glass fiber reinforced laminate under 20 mils of gel coat, 1" of 1.9-pound density urethane foam insulation and an interior laminate of ¼" glass fiber reinforced layers. All exposed surfaces will be smooth with a beige 20 mil polyester based gel coat. Door(s) One set of double FRP doors and two single doors. Nominal thickness to be 1 1/4". Exterior finish to match the exterior of the building. Aluminum door sweep to be mounted to exterior bottom of door. Door size to be 36" wide x 84" high. Captive door to have stainless Steel Slide Bolt at top of interior side of door. Piano hinges, pad-lockable door knob, 3-point latch to be stainless steel. Building Door frame to have weather resistant vinyl edge-grip with EPDM seal with 3/8" diameter bulb for gasket. Drip edge to be installed over door. Heat 500 watt, 120V stainless steel electric unit heater with integral thermostat Ventilation 585 CFM exhaust fan with thermostat and gravity louver FRP vent hoods with bug screens

**PIPE Headers** • One 4" hot water supply header • One 4" hot water return header

**General Construction**

- Structural steel base/frame of A-36 shapes and plates with lifting lugs near corners
- Hydrostatic testing of entire unit for two hours at 150 psig.
- Priming of entire unit with universal metal primer after thorough cleaning
- Painting of entire unit with acrylic alkyd industrial enamel
- 3D model of package with submittal Water Service Piping
- Pipe, 2" and smaller ASTM A53, Type E, Grade B, Schedule 40, steel pipe, with ASTM 197 class 150, malleable-iron fittings, and threaded joints.
- Pipe, 2.5" – 12" piping, ASTM A53, Type E, Grade B, Schedule 40 (STD), steel pipe, ASTM A234 wrought-steel fittings and ASTM A105 forged-steel flanges and fittings, and welded and flanged joints.
- Isolation valves, 2" and smaller, Red White 5044AB ball valves • Isolation valves, 2.5" and larger, Bonomi N501N lug pattern, 150 psi or better, butterfly valves for water service. Lever operated to 6", 8" and larger, gear operated
- Gaskets, compressed fiber
- Flange bolts and nuts, grade 5 Exclusions/Notes
- Fixed on heavy-duty, dual axle trailer
- Provide four (4) 6" to 4" reducer fittings for temporary equipment taps