

SECTION 23 52 00
HEATING BOILERS AND ACCESSORIES
Design Standard

PART 1 GENERAL

1.1 PURPOSE

The boiler systems are an essential element of the mechanical space heating systems. This design standard has the purpose of creating a consistent application of boiler requirements throughout the San Mateo County Community College District therefore achieving a standard of quality for maintenance, energy efficiency, and reliability throughout all renovation and new building projects.

PART 2 PRODUCTS

2.1 Design and specify work to include materials, installation, and testing of hot water boilers for building heating, and associated accessories for a complete and operable system.

- A. Boilers shall be located under cover for protection from tree debris and rain. It is preferable for all boilers to be located indoors.
- B. Boilers shall be located at grade level at a point accessible by hand truck from a service vehicle.
- C. Condensing boilers may be considered upon completion of the Life Cycle Cost analysis..
- D. Furnish with trim per California Fired Pressure Vessel Safety Order (Title 17) including dual low water cut outs, dual gas valves.
- E. Automatic reset low water cut out shall include automatic feed for increased safety (McDonald-Miller or equal).
- F. Provide line pressure manual quick fill valve.
- G. Provide all necessary control interfaces to allow communication between the boiler and the BMS.
- H. Boilers 100,000 BTUH and smaller:
 - 1. Cast iron or steel tube with atmospheric burners.
 - 2. 92%minimum thermal efficiency
- I. Boilers 100,000 BTUH to 2,000,000 BTUH:
 - 1. Copper fin or steel tube with atmospheric burners
 - 2. 92% minimum thermal efficiency
 - 3. Access required to fire box, control panel, Low Water Cut Outs.
- J. Boilers 2,000,000 BTUH and Greater:
 - 1. Boiler permit required from air pollution control district as required.
 - 2. Provide Powered Burners If low NOX is required.
 - 3. Provide Best Available Control Technology (BACT) for NOX emissions.

4. Steel or fire tube design acceptable.
5. ~~80%~~ 92% minimum thermal efficiency

2.2 APPROVED MANUFACTURERS

A. Boilers

1. Clever Brooks
2. Kawahnee
3. Ajax
4. Rite
5. Lochinvar
6. Raypack

PART 3 EXECUTION

3.1 SUBSTITUTES ALLOWED?

Yes, if performance and quality equivalency can be evidenced.

3.2 ASSOCIATED DESIGN STANDARDS AND CONSTRUCTION SPECIFICATIONS

23 05 10 – HVAC Piping Design Standard

23 05 53 - Identification for HVAC Piping and Equipment Design Standard

23 21 05 - Hydronic Piping Systems Design Standard

25 55 00 – Building Management and Control System (BMS)

END OF SECTION