



*Heat in Boys Locker Room + Shower ?
Circuit to Ladies Locker from Terrace ?
... .. ?*

SPECIFICATIONS
FOR
THE MOUAT VAPOR HEATING SYSTEM
TO BE INSTALLED IN

WOMEN'S CLUB HOUSE FOR PEPPER PIKE COUNTRY CLUB

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CLEVELAND....OHIO

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THE MOUAT VAPOR HEATING COMPANY
1246-1254 WEST FOURTH STREET
CLEVELAND, OHIO

GENERAL:-

These specifications are intended to provide an apparatus of first class construction in every particular, and all appliances necessary for operation shall be furnished by the Heating Contractor as specified.

All materials are to be the best of their several kinds in quality as herein specified; all labor is to be performed in the best manner by skilled Mechanics, and both are to be subject to the approval of the Architect, or his representative.

These specifications and the accompanying plans are intended to be complete, anything called for in the specifications and not shown on the plans or shown on the plans and not called for in the specifications must be furnished by the Heating Contractor as though appearing in both plans and specifications. The plans are intended only as a guide and it may be necessary to make changes in order to meet conditions as found at the Building, these changes to be made by the Heating Contractor without expense to the Owners, providing such changes do not require more labor or material than the true intent and meaning of the plans and specifications demand. It is understood that the plans are to be followed as closely as circumstances will permit, and the Heating Contractor is held responsible for the installation of the apparatus according to the true intent and meaning of the plans and specifications. Anything not entirely clear in the plans and specifications will be explained if application is made to The Mouat Vapor Heating Company, or the Architects.

The work is to be done in accordance with the Rules and Regulations of the Board of Fire Underwriters, and the Building Laws in force in the locality where the Building is to stand, anything hereinafter specified to the contrary notwithstanding.

BOILER:-

This contractor shall furnish and set in Basement where shown on plans or where directed, a Steam Heating Boiler, of make approved by the Architects, having a rated capacity of supplying not less than 1600 square feet of radiating surface, with a grate area of not less than 6 square feet, or equal.

If the boiler is used to heat a domestic tank add sufficient boiler capacity to accommodate same.

The Boiler shall be complete with all castings, doors, shaking grates, balanced ash pit draft door and smoke hood provided with hand damper and balanced check draft damper.

All doors shall be well fitted. All openings around the boiler, between the flues, and between the base and the floor shall be well cemented so that there will be no leakage of air.

The Boiler shall be set on a suitable brick or concrete foundation, and provided with the following fixtures and trimmings:

Water Column, trimmed complete with
water gauge and try cocks,
MOUAT Damper Regulator,
MOUAT Vapor Pressure Gauge,
1½" Vapor Safety Valve, set at 9 ounces,
1" Surface Blow-off for skimming grease
and oil off the surface of the water
in the boiler,
Firing and cleaning tools consisting of
poker, hoe, slice bar and flue cleaner.

Furnish and erect No. 20 gauge galv. iron smoke pipe between the boiler and the chimney; same to be of proper area, practically tight fitting, substantially supported; and provided with a check draft door (not a damper) 8" in diameter, arranged for hand operation.

An independent flue of required size and height, of proper construction, and of sufficient draft, shall be furnished for the boiler by the Owner.

Provide water supply and connect into bleeder line outside of swing check valve. If an automatic boiler water feeder is used the water supply shall be connected into the bleeder line between the swing check valve and the boiler.

Provide a draw-off connection from the boiler.

The MOUAT Damper Regulator shall be properly connected to check draft by means of cable cord over ball bearing pulleys, and to ash pit draft door with brass chain, in accordance with details and instructions furnished by The Mouat Vapor Heating Company.

The boiler shall have suitable openings for MOUAT Vapor Regulator (1 1/4"), MOUAT Vapor Pressure Gauge (3/4"), Surface Blow-off (1") and Vapor Safety Valve (see page 2 for size). The vapor safety valve shall have a separate and independent connection to the boiler, no other connections to be made to the safety valve connection.

The boiler shall be set in a pit, if necessary, to bring the water level the required distance below the horizontal supply and dry return piping.

RADIATING SURFACE:-

The Building is to be warmed by means of direct cast iron radiation, "American Radiator Co's" make.

Radiators shall be standard hot water type; of sizes, heights and patterns ~~in accordance with Schedule of Radiation~~, and distributed as shown on plans.

Radiators under seats, etc., may have bottom supply tapping; all others shall be tapped top supply. All radiator return tappings shall be one half inch ($\frac{1}{2}$ ") eccentric at the bottom, and shall be at the opposite end from supply or at the same end, as indicated on plans. All radiator air vent openings shall be plugged.

The radiators shall be free from core sand, dirt, scale, etc.

A total of 743 $\frac{2}{3}$ square feet of radiating surface, divided into 16 radiators, is required.

Wall radiator shall be securely supported on suitable brackets.

VALVES:-

Each radiator shall be provided with a MOUAT Packless Fractional Radiator Supply Valve, of size as marked on plans. The return end of each direct radiator shall be provided with a one half inch ($\frac{1}{2}$ ") MOUAT Vapor Thermostatic Radiator Trap.

Near the boiler, at point indicated on plans, the bleeder or wet return shall be fitted with a vertical seat brass swing check valve. A swing check valve shall be placed in the water supply connection to the boiler. All swing check valves shall open towards the boiler.

The water supply connection to the boiler, also the draw-off connection, shall be fitted with suitable shut-off valves.

Quick Vents shall be connected to the ends of the supply mains where indicated.

PIPING:

This Contractor shall furnish and install a system of piping connecting the boiler and all radiators; piping to be of sizes and run in general as shown on plans prepared for this building.

Boiler supply openings are to be connected full size.

Vertical Piping to be run plumb and true. Horizontal piping to pitch so that the water of condensation will flow in direction as indicated by arrows on plans. Down-hill supply mains, return mains and bleeders to pitch at least one half inch to ten feet ($\frac{1}{2}$ " to 10'); up-hill supply mains, supply and return branches from the mains to the risers and radiators, and supply and return branches from the risers to the radiators shall pitch at least two inches to ten feet (2" to 10').

Branches should be taken off the top of supply and return mains at an angle of forty five degrees (45°). At points where mains are too close to overhead construction the branches may be taken off the side of mains, with fittings pitched so as to give the proper grade to the branches. Pitched elbows should be used in all lateral supply and return branches to the radiators.

Piping to be installed with swing joints so as to properly take care of expansion and contraction without causing leaks.

Horizontal supply and dry return mains must be the required distance above the boiler water line as shown on drawings.

At all low points of bleeder or wet return piping provide means for cleaning and draining. Bleeders or returns are not to be run below the Basement floor except where absolutely necessary.

The piping to be substantially supported on expansion pipe hangers spaced not more than ten feet (10') apart.

All air is to be vented from the system through MOUAT Main Vent Valves connected to Dry Return Mains as per details and instructions.

The MOUAT Damper Regulator to be provided with a one and a quarter inch ($1\frac{1}{4}$ ") connection to the steam space of the boiler, and three quarter inch ($\frac{3}{4}$ ") overflow connection discharging into boiler.

Short threads must be cut on the pipes entering the supply valves so as not to interfere with the operation of the valves.

All concealed piping shall be thoroughly tested before the Building is lathed and plastered.

LININGS:

The tops, backs and ends of radiator enclosures shall be neatly lined with heavy asbestos air cell board and No.26 gauge galvanized iron, securely fastened into position.

PLATES AND SLEEVES:

Where pipes pass through floors, ceilings, walls or partitions the openings are to be protected by tin or galvanized iron sleeves, and the holes around the pipes covered with plates of plain neat pattern.

Where pipes pass through masonry walls provide pipe sleeves, flush with the face of the wall at each end and cemented into place.

MATERIAL:

All pipe used shall be straight and shall be wrought iron or mild steel black pipe of standard weight and dimensions with clear cut tapered threads. Burrs must be reamed from the ends of all pipes.

Fittings shall be of the best gray cast iron, heavily beaded.

TEMPORARY HEAT:

A sufficient number of radiators shall be connected for temporary heat. These are to be set about two feet (2') from the walls, connected without valves or traps, and located where directed.

COVERING:

All concealed supply and return risers and branches shall be covered with three ply asbestos air cell sectional pipe covering not less than three quarter inch ($\frac{3}{4}$ ") thick.

All supply piping in Basement shall be covered with three ply asbestos air cell sectional pipe covering not less than three quarter inch ($\frac{3}{4}$ ") thick. (Pipes In Boy's Locker Room, Boy's Shower Room and Storage to be left uncovered.)

All return and bleeder pipes in unexcavated portions of Basement, in "Fruit" or "Vegetable" Rooms, also in any location where they are liable to freeze to be covered with three ply asbestos air cell sectional pipe covering not less than three quarter inch ($\frac{3}{4}$ ") thick. All other return and bleeder piping to be left uncovered.

Fittings in covered lines to be covered with asbestos plastic and neatly canvassed.

The Boiler shall be covered with asbestos not less than one and a half inches ($1\frac{1}{2}$ ") thick, securely fastened into place and provided with canvas jacket.

BRONZING & PAINTING:

All radiators and all exposed piping and hangers in finished rooms shall be thoroughly cleaned and neatly bronzed.

All other uncovered pipes, hangers and exposed metal work on boiler to be painted black.

NOTE:

After the apparatus has been in operation for several days the system is to be thoroughly blown out, as often as is necessary, to remove all oil, grease, dirt, etc.

GUARANTEE:

When the herein specified apparatus is wholly completed the Heating Contractor shall guarantee same, for a period of one year after date of completion, that the work is installed in accordance with the plans and the specifications, that vapor will circulate freely to all radiators at a pressure of five (5) ounces at the boiler, and that the plant is free from leaks or defective material.

ADDENDA:

Bidders shall state additional price for furnishing and installing a No.77 A. C. Minneapolis Heat Regulator, arranged to operate in connection with a MOUAT Damper Regulator. Thermostat to be located where directed. (The Heat Regulator to be installed by the manufacturers' representative.)