

VAPOR HEATING

The Imico System

A minimum of special appliances marks the Imico System of vapor vacuum heating, typical piping diagram of which is shown in Fig. 1. There is no air valve at the radiators in this system and no trap on the return end of the individual radiator. Vacuum is maintained in this system by the Dewey tri-duty air and vacuum trap, which is a combination of the Dewey quick vent air valve and the Dewey vacuum valve.

The principle on which the Dewey tri-duty air and vacuum trap eliminates air is very simple. There is a connection from the supply pipe, or pressure side of the boiler, to the diaphragm and under normal conditions this diaphragm is closed. When the fire is started and the air in the boiler is expanded, the diaphragm is inflated and opens the vacuum valve, making a direct opening through the trap to the atmosphere. This valve remains open as long as there is a fraction of an ounce pressure on the boiler, unless the vapor having passed through the entire system is forced into the float chamber, which instantly closes against vapor. If water should be forced up the return pipe, the float rises in the chamber and closes it, keeping it closed until water recedes, when it opens again and commences venting air. With this trap installed there is no chance for back-pressure in the radiators, since it will close against either steam or water and will prevent the return of air to the system.

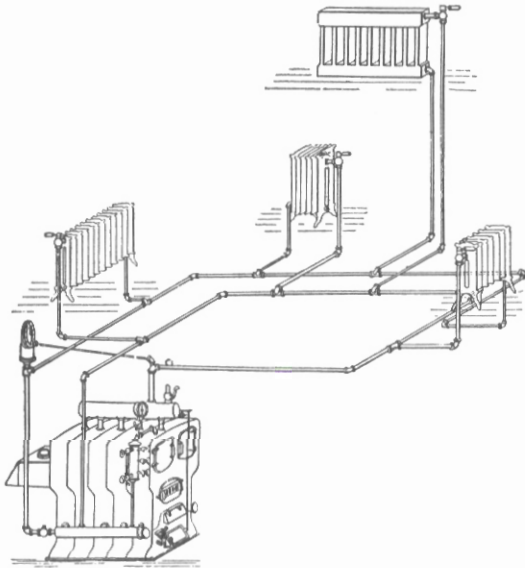


FIG. 1

Radiators for the Imico System of vapor vacuum heating may be the same size as for steam, but an increase of 10% over the radiation as computed for the ordinary steam job, is recommended by the manufacturers, the Illinois Malleable Iron Company, Chicago, Ill., to promote economy in coal consumption. Either steam or water radiation may be used, tapped at the top, and the supply valves at the radiators should be of the graduated type.

The boiler should be provided with a regular safety valve and controlled by a well balanced damper regulator.

(Concluded on Data Sheet No. 132-CC)

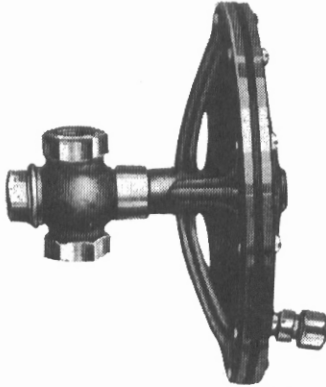
VAPOR HEATING.

The Imico System.

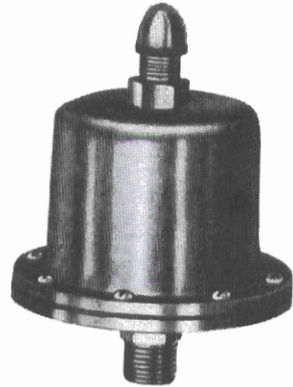
(Concluded from Data Sheet No. 132-BB)

Supply Main Sizes

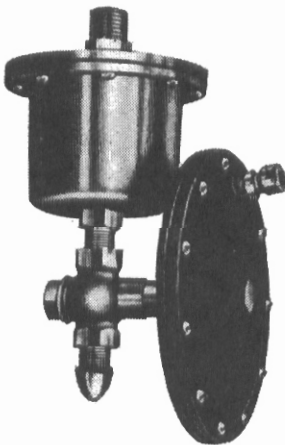
Supply Main Size	will supply	200 feet to	400 feet	Radiation
1½-inch		200 feet	to 400 feet	
2	"	400	"	700
2½	"	700	"	1100
3	"	1100	"	1500
3½	"	1500	"	2000
4	"	2100	"	3000
5	"	3000	"	5000



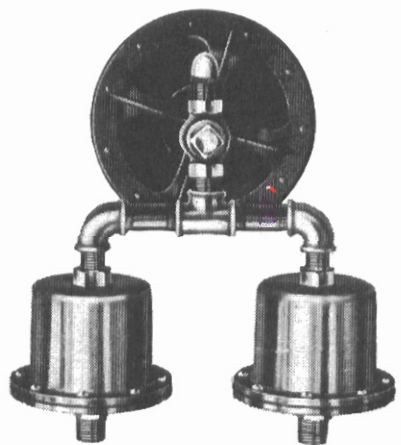
DEWEY VACUUM VALVE



DEWEY QUICK VENT AIR VALVE



DEWEY TRI-DUTY AIR AND VACUUM TRAP.



DEWEY DUPLEX TRI-DUTY AIR AND VACUUM TRAP

Return Pipe Sizes

Return Pipe Size	at boiler	will return	200 feet to	700 feet	Radiation
1-inch		200 feet	to 700 feet		
1¼	"	700	"	1110	"
1½	"	1100	"	2100	"
2	"	2100	"	5000	"

Tapping Size for Radiation

Size of pipe supply:	Radiation	90 square feet or less	90 feet to 150 feet	150 " " 300 square feet	¾-inch pipe and	¾-inch graduated valve.
					1	¾
					1¼	1