

Hoffman Controlled Heat

The ideal heating system is one in which heat is instantly available when required and where the heat output of each radiator can be controlled to meet the individual needs of the occupant of each room.

This requirement is important in preventing fuel waste due to overheating, as it is customary to proportion radiation for extreme temperature conditions (0 or minus 10 degrees outside, 70 degrees inside) notwithstanding the fact that in most localities minimum temperatures are reached on but ten or twelve days during the winter.

Therefore, during most of the heating season only 55 to 70 per cent of the total radiation is required to maintain 70 degrees inside.

In addition, the modern heating system should be economical to operate, require minimum attention and give trouble-proof service over a long period of time.

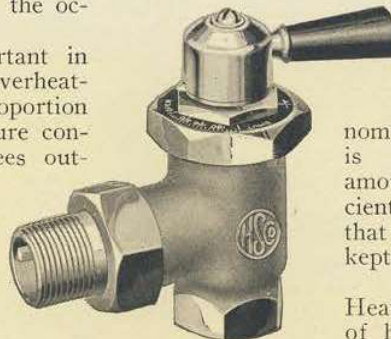
Hoffman Controlled Heat fulfills every requirement of the ideal heating system. It gives quick and uniform heating throughout the entire

house or building—or it may be adjusted so as to provide rapid heating and high temperatures for certain rooms and lower temperatures for others.

It requires very little attention, being the most nearly automatic system of its type on the market. It is economical, because fuel consumption is accurately regulated by the amount of heat needed. And so efficient is Hoffman Controlled Heat that the amount of radiation can be kept at a minimum.

Finally, Hoffman Controlled Heat makes possible the regulation of heat output from a radiator in the same way that the flow of water from a faucet is controlled. By a touch of the finger, the valve lever may be set to turn the steam fully on, completely off or at any intermediate point desired. No other heating system offers the flexibility of Hoffman Controlled Heat.

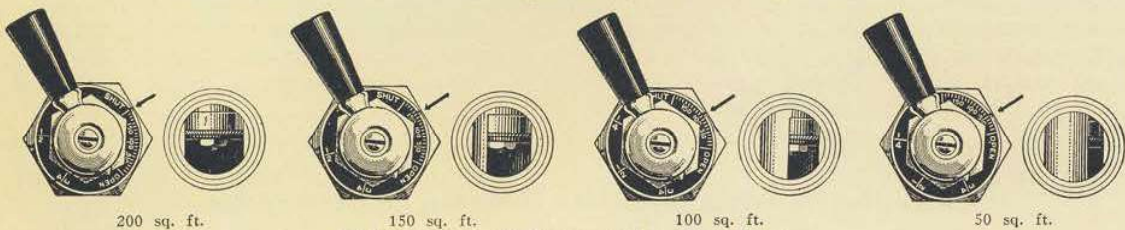
Hoffman Controlled Heat is equally suitable for residences, apartment houses, schools, hotels, hospitals, office buildings or other structures.



No. 7 Modulating Valve.

Regularly supplied with lever handle. On special orders, it can be furnished with wood wheels, lock shields or closed top. Also obtainable with extension stem and handle or chain pull.

How the No. 7 Valve Is Adjusted by the Heating Contractor



Dial Settings and Corresponding Port Areas

One of the outstanding advantages of Hoffman Controlled Heat is that the heating contractor can secure a perfect "balancing up" of the system. This is accomplished by the adjustment of a dial on the top of the valve which in turn regulates a port built into the valve.

The dial has a range of adjustments from 10 to 200 square feet of direct cast iron radiation, each graduation representing 10 feet with 2 ounces pressure at the radiator. When set at 200 feet the valve port is wide open and for smaller radiators it is cut down to the proper area for each individual radiator.

When the system is installed the dial is ordinarily set to correspond with the size of the radiator. Thus for an 80 foot radiator it is set at 80, for a 50 foot radiator at 50, etc. This setting is made by loosening the lock nut on top of the valve which permits turning the dial to the proper position.

With this done the system is ready to be balanced. The valve lever (which makes a secondary adjustment described on page 10) is set at the $\frac{1}{2}$ mark. Steam is raised to the maximum pressure under which the system is intended to operate. Each radiator is inspected. Those one-half hot are O.K.

But some may be more than one-half hot due to oversizing the piping while others are less than half hot due to unreamed pipes or similar conditions. With other valves it would be necessary to let the radiators cool and take the valves apart to correct the adjustment.

Not so with the Hoffman No. 7. As the adjustment is *external and visible*, the valve may be set in a few moments *while the system is in operation*.

It is done in this way. If the radiator is less than half hot, the lock nut is loosened and the dial is set up a few graduations higher. On radiators that are more than half hot the dial is turned down a number of graduations. The lock nuts are then tightened to make the adjustment permanently correct.

The system is now "balanced up" and heat will be uniformly distributed to all parts of the system. But if it is desired to make some radiators heat first, it can be done by giving them a larger port opening than would be normally required. This valve is *truly modulating*. The port area may be varied with extreme accuracy, which means that an absolutely accurate control of steam admitted to the radiator is always readily obtained.

HOFFMAN CONTROLLED HEAT

Operating Principle of Controlled Heat

Hoffman Controlled Heat is a simple two-pipe vapor vacuum system. Because steam is generated at low pressure and a partial vacuum created in the system, fuel consumption is low, and the heating up period is remarkably short.

The specialties comprising Hoffman Controlled Heat and that make it a distinctly superior system are the following:

No. 7 Adjustable Modulating Valve

The most important feature of Hoffman Controlled Heat is the No. 7 Adjustable Modulating Valve. This valve is made in one size only ($\frac{3}{4}$ in.) and is adaptable for radiators up to 200 square feet of heating surface. An externally adjustable port permits the heating contractor to proportion the port area of each valve to meet the requirements of the radiator. The accuracy of the adjustment is controlled by means of a graduated dial plate and the adjustment can be made whether steam is present in the system or not.

The adjustment is very simple. By loosening a lock nut and turning the valve handle an adjustable sleeve varies the port diameter in accordance with the position of the dial plate, after which the lock nut is tightened and graduated control of the adjusted port is obtained through the use of a secondary set of gradua-

tions, which permit the entrance of sufficient steam to heat one-quarter, one-half, three-quarters or the entire radiator.

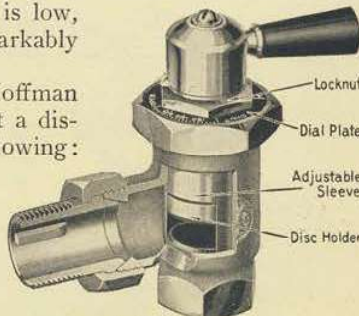
By means of this adjustable port the distribution of steam throughout the entire system can be so balanced that all radiators will heat uniformly, or if desired certain radiators can be favored and permitted to receive their supply of steam before the other radiators are completely heated.

In systems where oil or gas is used and the burner thermostatically controlled, the No. 7 Valve permits the proper

distribution of steam and prevents the thermostat from closing down the burner before all radiators are uniformly heated.

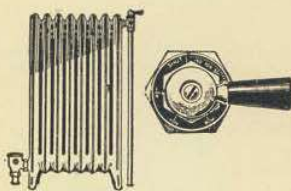
The valve is ruggedly constructed, having a cast body of steam metal heavily nickel-plated. Bonnet and tail piece are hot brass forgings, which have a tensile strength considerably greater than castings of the same composition.

The action of the valve is very free; a touch of the finger being sufficient to change the position of the lever handle. The stem stuffing box is packed with a special laminated packing which lasts indefinitely without requiring attention or tightening of the stuffing nut. This feature practically places the valve in the so-called "packless class."



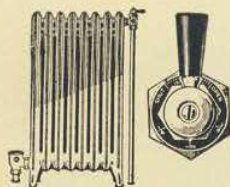
No. 7 Modulating Valve
Sectional View

How the User Can Regulate Hoffman Controlled Heat



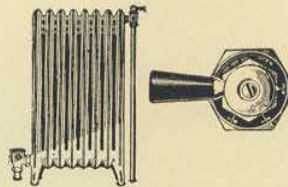
Mild Days

Open the valve so that the pointer is at the $\frac{1}{4}$ mark. Then there will be just enough heat in the radiator to take the chill off the room.



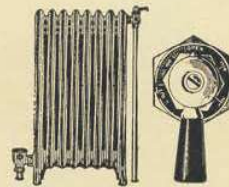
Average Days

If the valve is opened to the $\frac{1}{2}$ mark, the radiator will give plenty of heat for the ordinary winter day.



Cold Days

On a really cold day more heat will be needed. Turn the valve to the $\frac{3}{4}$ mark.



Bitter Cold Days

On raw, biting cold days when the thermometer hangs around zero, open the valve all the way.

While the ability to furnish quick and uniform heat throughout the entire house or building is an essential requirement of a modern heating system, it is likewise desirable that the user be able to cut heat off quickly. Also, there are many times when for one reason or another the user may want to maintain temperatures above or below average in certain rooms. For example, a temperature of 72 degrees may be desired for a nursery

—a temperature of 60 degrees for an unoccupied guest room, etc.

Hoffman Controlled Heat enables the user to control the temperature of each room in accordance with his needs. By a touch of the finger the lever on the top of the No. 7 valve may be turned full open, half open, closed or at any intermediate point.

Hoffman Controlled Heat offers perfect flexibility.