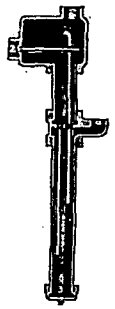
HOFFMAN DIFFERENTIAL LOOP



Hoffman Differential Loop

The Differential Loop is the safety device for maintaining a steady water line in vapor and vapor vacuum systems. It is entirely automatic, non-adjustable and has no moving parts to stick at a critical moment.

In operation the water rises in the return main **only** to a certain predetermined height. The loop then functions, blowing over a small quantity of steam which closes the No. 15 Valve used for venting the system and then compresses the air which is "bottled up" in the return main and builds up a pressure which prevents further rise of water in the vertical part of the return beyond the predetermined amount. As soon as this is accomplished, and the action is almost instantaneous, the loop reseals and no more steam is blown over until the differential pressure is slightly reduced. It will be readily seen that, by the alternate blowing over and resealing of the loop, a constant differential pressure will be maintained between the steam main and return main. Also by the maintenance of this differential no matter how high the boiler pressure goes, circulation will start in a radiator as soon as the inlet valve is opened even though the return main vent is closed through loop action.

Standard Differential Loops are made in four sizes, to handle systems up to 15,000 sq. ft. of radiation. For larger systems the No. 04 Loops can be installed in a battery.

No. 01 and No. 02 Loops should not be used where the low point in the dry return is less than 24 in. above boiler water line; with the No. 03 and No. 04 Loops this distance must be at least 30 in.

HOFFMAN DAMPER REGULATOR



Hoffman Damper Regulator

One of the most important features of the Hoffman Damper Regulator is the accurate pressure control and resultant fuel economy.

It is extremely sensitive in its action and controls so efficiently that when inlet valves are turned on or off, the fire is accelerated or retarded to meet the change in demand for vapor. A low constant pressure is always maintained so that vapor enters the radiator as soon as a valve is turned on.

The compensating or balancing plate is like a pair of scales. It is practically frictionless, remarkably sensitive and operates on slight changes in pressure.

It has an additional feature for the convenience of the installing fitter, in that the fulcrum on which the lever is suspended may be turned at different angles, permitting a straight chain connection with the dampers instead of at an angle, which might cause the dampers to bind.

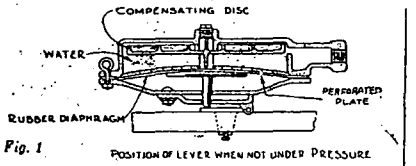


Fig. 1

Fig. 1 shows Damper Regulator under no pressure. Compensating disc is in its uppermost position, the bottom of the disc being in line with bottom of inlet. The space above diaphragm is filled with water up to the inlet. Weights on lever are to be so placed that they will hold the diaphragm against the perforated plate. Drafts are held open until the predetermined pressure is generated, when through diaphragm action which in turn is transmitted to the lever, drafts are closed.

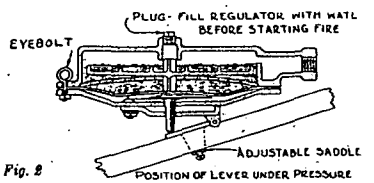


Fig. 2

Fig. 2 shows position of Damper Regulator when drafts are closed. Vapor pressure has overcome upward force exerted by the weights on lever arm and forced diaphragm downward. The water on the diaphragm lowers with it and likewise the compensating disc until top of the disc is level with the bottom of the inlet, thus preventing any addition to the water above the diaphragm. With a slight drop in vapor the weights force the diaphragm upward and drafts are opened.

Write for Descriptive Circular—Hoffman "Controlled Heat"



Hoffman Kompo-Gage

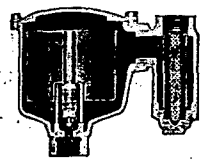
HOFFMAN KOMPO-GAGE

Measures pressure up to 30 lb., vacuum to 30 in. Pressure is registered in ounces up to 5 lb. Vacuum is shown in half inches up to 10 in.

Used in Hoffman "Controlled Heat" installations or in one-pipe gravity vacuum systems equipped with No. 2 valves; indicates efficiency of the apparatus when a warm house is maintained with vapor at temperatures considerably below 212 deg.

The No. 12 Hoffman Blast Trap is adapted for draining condensation from Indirect Radiators, Dryers, Drums, Blast Coils, Unit Heaters, Hot Water Generators and Ends of Long Steam Mains or Risers.

The Trap embodies the desirable feature of open bucket or float traps because it relieves condensation immediately upon its arrival at the trap regardless of the water temperature. Coupled with the float is a thermostatic member which positively overcomes the chief difficulty with float traps by automatically relieving air as well as condensation from the system.



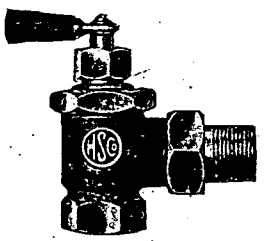
No. 12 Hoffman Blast Trap

Table of Nominal Capacities, No. 12 Hoffman Blast Trap

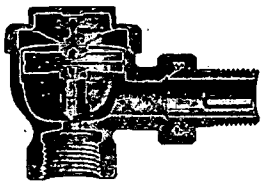
Pressure, Pounds per Square Inch..	½	1	2	3	4	5
Capacity, Pounds per Hour.....	800	1000	1500	1800	2000	2500
*Capacity, Square Feet Radiation..	3200	4000	6000	7200	8000	10000

Maximum Operating Pressure, 30 lb. Capacities for over 5 lb. pressure, furnished on application.
With Strainer: inlet connection, 1 in.; outlet, 1 in.
*On the basis of ¼ lb. of condensation per square foot per hour.

No. 19 Quick Opening Hoffman Radiator Valve is of the semi-packless type for vacuum pump installations or for vapor systems where modulation is not required. Made in ¾ in. size only, capacity up to 200 sq. ft. C. I. Radiation. Regularly furnished in Lever Handle pattern. Wood Wheels or Lock Shields furnished on special order without extra charge. Extension stems supplied at an extra charge.



No. 19 Hoffman Radiator Valve



No. 18 Hoffman Radiator Trap

No. 18 Hoffman Return Line Valve or Radiator Trap is similar in principle to the No. 8 Valve. It is intended for pressures up to 15 lb. and radiators up to 100 sq. ft. Thermostats are interchangeable and made of special Hoffman Diaphragm Metal that will not soften, stretch or crack under repeated action. Made with ½ in. connections in Angle, Straightway, Right- and Left-hand Offset Patterns. For roughing measurements see page (821).

Write for Descriptive Circulars