

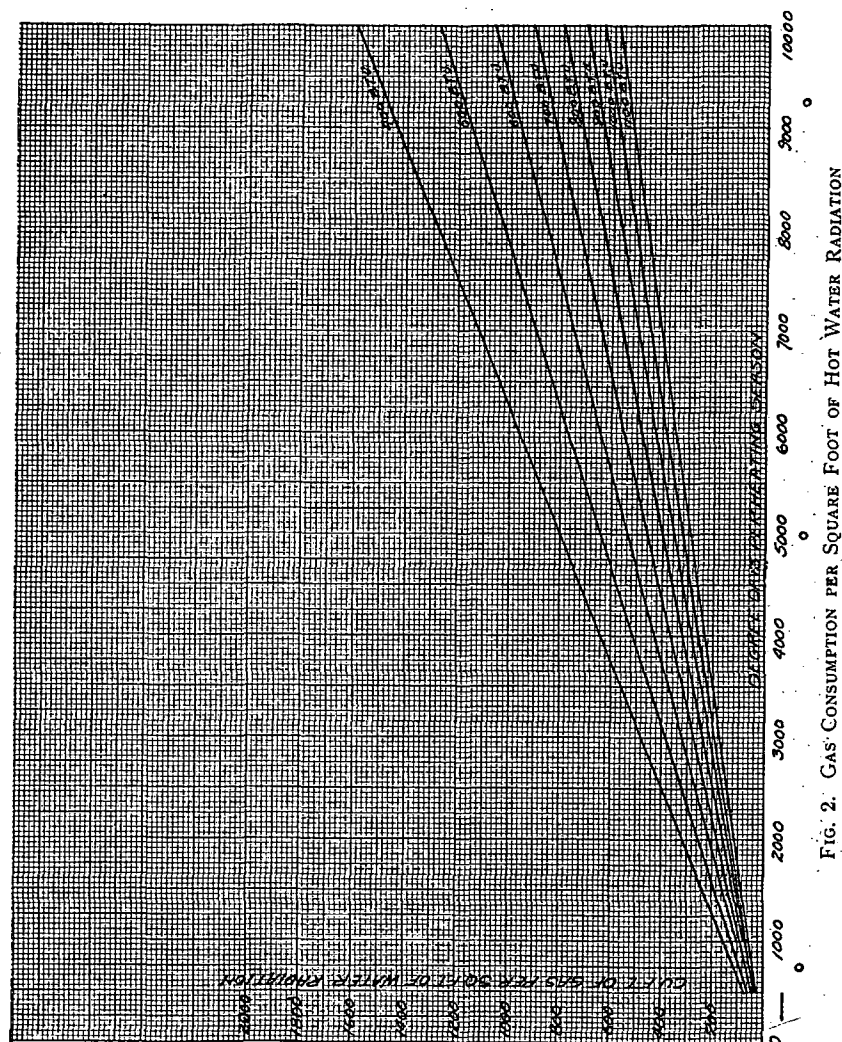


FIG. 2. GAS CONSUMPTION PER SQUARE FOOT OF HOT WATER RADIATION

possible to eliminate on even the smallest job three engineers and coal-passers, substituting therefor about a half-hour's supervision of a building supervisor or porter. Gas companies generally provide necessary engineering attention to the installations, such as periodic inspections; which include cleaning, washing down and adjustment of controls and burners.

Gas-fired installations for larger building heating are controlled by the usual methods, or by the application of distinctive gas methods designed to prevent sudden large demands on the gas services at the instant when the boilers are called upon for heat. Where a battery of boilers are installed, magnetic valves bleeding gas from the tops of unbalanced snap-action diaphragm valves may be employed under the control of an intermittent timing device or of a conventional type of thermostat. By drilling the bleed orifice on each of the boilers of a different size, the boilers will come on at intervals, depending on the size of the bleed orifice. In this way the full demand is not allowed to come on the meters or gas service instantaneously and full line pressure is available for each of the boilers as it starts. In the same way, when the boilers are shut down, the demand is taken off in steps, eliminating fluctuations in the service pressure.

The steam pressure controls on each one of a battery of several boilers may be set to cut off at different steam pressures. By this means, one boiler can be allowed to carry the base load and the other boilers can be allowed to come on at different pressure intervals, and thus carry the peak-loads.

GAS REQUIREMENTS FOR LARGE BUILDINGS

It has been found by analysis of a number of installations that the values given in Table 4 represent the gas requirements of large commercial building heating installations under thermostatic control, expressed in B.t.u.'s per square foot of steam radiation per degree-day.

TABLE 4. GAS REQUIREMENTS FOR LARGE BUILDINGS

Steam Radiation	B.t.u. per Square Foot, per Degree—Day
1000	114.5
2000	110.0
3000	107.0
4000	105.0
5000	104.0
6000	102.0
7000	100.5
8000	99.0
9000	97.5
10000	96.0
11000	94.5
12000	92.7
13000	91.0
14000	89.5
15000	88.0
20000	80.5

These values can be converted into annual gas consumptions by the method outlined on a preceding page.