

TABLE 2. UNIT STEAM CONSUMPTION OF PROCESS EQUIPMENT*

KITCHEN APPLIANCES (EXCLUSIVE OF WATER HEATING)	CONSUMPTION, LB PER HR	PRESSURE, PSIG
Stock and vegetable kettles (per 5 gal)	20.0	7-20
Vegetable steamers (per compartment)	40.0	7-20
Steam tables (per sq ft)	1.7	7-20
Bain-Maries (per sq ft)	3.4	7-20
Coffee urns (per gal)	3.4	7-20
Water urns (per gal)	5.0	7-20
Soup warmers (30 X 30 X 28 in.)	100.0	7-20
Egg boilers (3 compartments)	18.0	7-20
Clam, lobster, and potato steamers (per compartment)	40.0	7-20
Oyster pots	18.0	7-20
Plate and cup warmers (per 20 cu ft)	35.0	7-20
Food-warming ovens (per 20 cu ft)	35.0	7-20
Silver burnisher and washers	60.0	7-20
Dishwashers (per tray)	60.0	7-20
LAUNDRY EQUIPMENT		
Tumblers	360	100
40 X 94 in.	225	100
30 X 36 in.	1	15-100
Washers, (per gal water heated)		
Flatwork ironers,	60	100
100 to 120 in. chest type (per roll)	60-120	100
50 to 100 in. cylinder type (per machine)		
Standard presses	105	100
Large shirt body presses	190	100
Cuff and neckband presses	15	100
Sleevers	12	100
Steam-electric irons	8	100
Woolen pressing machines		
Large—electric vacuum	25	65
Small—electric vacuum	12	65
Large—steam vacuum	35	65
Small—steam vacuum	20	65
Feather cleaning and sterilizing		
15 pillows per hr	175	100
HOSPITAL EQUIPMENT		
Sterilizers, for bottles or pasteurization (per bottle)	1	40
Sterilizers, for water, (per gal)	12	40
Sterilizers, for instruments and utensils,		
8 X 9 X 18 in., water depth 3½ in.	27	40
9 X 10 X 20 in., water depth 3½ in.	30	40
10 X 12 X 22 in., water depth 4 in.	39	40
12 X 16 X 24 in., water depth 4 in.	60	40
10 X 12 X 36 in., water depth 4 in.	66	40
16 X 15 X 20 in., water depth 10 in.	92	40
20 X 20 X 24 in., water depth 24 in.	144	40
Sterilizers, for instruments @ 240-250 F,		
12 X 20 in.	48	40
14 X 22 in.	60	40
16 X 24 in.	72	40

TABLE 2. UNIT STEAM CONSUMPTION OF PROCESS EQUIPMENT (CONCLUDED).

HOSPITAL EQUIPMENT (CONTINUED)	CONSUMPTION, LB PER HR	PRESSURE, PSIG
Sterilizers, for surgical supplies		
10 X 20 in.	10	40
12 X 20 in.	22	40
14 X 22 in.	28	40
16 X 24 in.	38	40
16 X 36 in.	54	40
20 X 28 in.	60	40
20 X 36 in.	78	40
20 X 48 in.	98	40
20 X 60 in.	124	40
Sterilizers, (autoclave) (240-250 F)		
15.5 X 24 in.	24	40
17.5 X 26 in.	32	40
21.5 X 30 in.	40	40
24 X 36 in.	42	40
Disinfectant, mattress		
30 X 42 X 84 in.	42	35-60
60 X 66 X 108 in.	318	35-60
Blanket warmers		
18 X 24 X 72 in.	4	35-60

* From District Heating Handbook (National District Heating Association, Third Edition, 1951).

b The above figures represent approximate operating conditions after warm-up period.

upon the value of the service to the consumer, and it must be between these two limits. District heating rates should be designed to produce a sufficient return on the investment regardless of weather conditions, although existing rate schedules do not always conform to this principle. Lastly, the rate schedule must be reasonably simple and understandable.

Glossary of Rate Terms

Load Factor. The ratio, in percent, of the average hourly load to the maximum hourly load. This is usually based on a one-year period, but may be applied to any specified period.

Demand Factor. The relation between the connected radiator surface, or required radiator surface, and the demand of the particular installation. It varies from 0.25 to 0.3 lb per (hr) (sq ft of surface).

Diversity Factor. The ratio of the sum of the individual demands of a number of buildings to the actual composite demand of the group.

Types of Rates

The various types of rates to be found in use in district heating systems are:

1. **Straight-Line Meter Rate.** The price charged per unit is constant, and the consumer pays in direct proportion to his consumption without considering the difference in costs of supplying the individual customers.

2. **Block Meter Rate.** The pounds of steam consumed by a customer are divided into blocks of thousands of pounds each, and lower rates are charged for each successive block consumed. This type of charge predominates in steam heating rate schedules, having the advantage of proportioning the bill according to the consumption and the cost of service. It has the disadvantage of not discriminating between