

HEIGHT OF STACK IN FEET

For Sea Level and 60 deg. Fahr. Outside Temperature and 0.1 in. Friction Loss per 100 ft.

TOTAL DRAFT REQUIRED IN. FOR FURNACE BOILER AND BREECHING	PER CENT OF BOILER RATING				
	100	150	200	250	300
0.3	56	---	---	---	---
0.4	74	69	---	---	---
0.5	93	86	81	---	---
0.6	111	103	97	---	---
0.7	130	120	113	108	---
0.8	148	138	129	123	---
0.9	---	155	145	139	132
1.0	---	172	161	154	147
1.1	---	190	177	170	162
1.2	---	---	194	185	176
1.3	---	---	209	200	191
1.4	---	---	226	216	206
1.5	---	---	---	231	221
1.6	---	---	---	---	236
1.8	---	---	---	---	265
Assumed Flue Gas Temp.....	500	550	600	650	700

CORRECTION FOR ALTITUDE

HEIGHT ABOVE SEA LEVEL (FT.)	RATIO INCREASE IN DIAMETER	RATIO INCREASE IN HEIGHT
0	1.000	1.000
1,000	1.015	1.046
2,000	1.030	1.097
4,000	1.063	1.205
6,000	1.096	1.321
8,000	1.130	1.456
10,000	1.165	1.612

CHAPTER VIII

CODE FOR TESTING
LOW-PRESSURE STEAM-HEATING BOILERS

REVISION OF 1923

(Adopted by AMERICAN SOCIETY OF HEATING AND VENTILATING ENGINEERS, Jan., 1924)

OBJECT OF THE CODE

THE object of the Code for Testing Low-Pressure Steam-Heating Boilers is to provide a standard method for conducting and reporting tests to determine the heat efficiency at various rates of steaming.

ESSENTIALS NECESSARY TO
DETERMINE HEAT EFFICIENCY

The essentials necessary to determine the heat efficiency of a steam-heating boiler are:

- The total heat input.
(The total heat input is the total heat value of the fuel charged.)
- The total heat recovered at the boiler outlet.
(The total heat recovered at the boiler outlet is the total heat of the steam leaving the boiler less the total heat of the feed water entering the boiler.)

PREPARATIONS FOR TEST

The boiler shall be erected, covered and connected to conform to the directions and practice of the manufacturer. The piping shall be connected in such a way that the steam may be carried to a point away from the boiler and it shall be arranged so that the condensation cannot flow back to the boiler.

The moisture in the steam shall be determined by a steam separator, not less than 95 per cent efficient, placed in the steam delivery pipe as close to the boiler as possible. The piping between this separator and the boiler, also the separator itself, shall be thoroughly covered with insulating material. A pipe connected to the bottom of the steam separator shall be provided with a positive seal. The water shall be drained from the separator hourly and weighed immediately.

The steam connections between the boiler outlet and the separator shall be the same in size and arrangement as that to be used when the boiler is installed.

The water shall be fed to the boiler continuously from the feed tank through piping with all necessary valves, and all other water connections to the boiler shall be carefully blanked off. The temperature of the feed water shall be read from a thermometer inserted in a cup projecting well into the feed line near the boiler and filled with a heavy oil. All boiler water connections, including blow-off pipes, must be exposed to view, so that leakages may be observed, and either stopped or measured. The glands of the feed pump shall be carefully packed to prevent leakage.

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