TABLE 72. RECIPROCATING VACUUM PUMPS—Continued

Gross Capacity in Gallons of Pump Cylinders per Foot Piston Speed

DIA. CYLINDER IN.	GAL. PER FOOT G	DIA. CYLINDER IN.	GAL. PER FOOT G	DIA. CYLINDER IN.	GAL. PER FOOT G
2	.1632	6½	1.724	13	6.895
2½	.2550	6¾	1.859	13½	7.436
3	.3672	7	1.999	14	7.996
3¼	.4309	7¼	2.145	14½	8.578
3½	.4998	7½	2.295	15	9.180
3¾	.5738	7¾	2.450	15½	9.801
4	.6528	8	2.611	16	10.44
4¼	.7369	8½	2.948	17	11.79
4½	.8263	9	3.305	18	13.32
4¾	.9206	9½	3.682	19	14.73
5	1.020	10	4.080	20	16.32
5¼	1.125	10½	4.498	21	17.99
5½	1.234	11	4.937	22	19.75
5¾	1.349	11½	5.396	23	21.58
6	1.469	12	5.875	24	23.50
6¼	1.594	12½	6.375	25	25.50

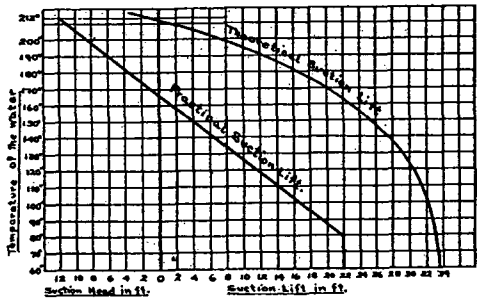
Empirical Formula

$G \times S \times W$ = capacity sq. ft. direct radiation

G = capacity water cylinder in gal. per ft. length.
S = piston speed in ft. per min.
W = constant—105 for 6 in. and less—120 for over 6-in. cylinder

TABLE 73. PUMP DATA

ALTITUDE	BAROMETRIC PRESSURE	EQUIVALENT HEAD OF WATER IN FT.	PRACTICAL SUCTION LIFT
Sea level	14.70 lb. to sq. in.	33.95	22′
¼ mile above	14.02 " " "	32.38	21′
½ " "	33.33 " " "	30.79	20′
¾ " "	12.66 " " "	29.24	18′
1 " "	12.02 " " "	27.76	17′
1¼ " "	11.42 " " "	26.38	16′
1½ " "	10.88 " " "	25.13	15′
2 " "	9.88 " " "	22.82	14′



SUCTION LIFT OF PUMPS WITH BAROMETRIC PRESSURE AT DIFFERENT ALTITUDES AND EQUIVALENT HEAD OF WATER IN FEET.

TABLE 74. PROPERTIES OF SATURATED STEAM

VACUUM IN IN. OF MERCURY OR GAGE PRESSURE IN LB.	ABSOLUTE PRESSURE IN LB. PER SQ. IN.	TEMPERATURE IN DEG. FAHR.	TOTAL HEAT ABOVE 32 DEG. FAHR.		LATENT HEAT OF THE STEAM IN B.T.U.	VOLUME IN CU. FT. OF 1 LB. OF STEAM
			B.t.u. in the Water	B.t.u. in the Steam		
27.88	1.	101.83	69.8	1104.4	1034.6	33.0
25.85	2.	126.15	94.0	1115.0	1021.0	173.5
23.81	3.	141.52	109.4	1121.6	1012.3	118.5
21.78	4.	153.01	120.9	1126.5	1005.7	90.5
19.74	5.	162.28	130.1	1130.5	1000.3	73.33
17.70	6.	170.06	137.9	1133.7	995.8	61.89
15.67	7.	176.85	144.7	1136.5	991.8	53.56
13.63	8.	182.86	150.8	1139.0	988.2	47.27
11.60	9.	188.27	156.2	1141.1	985.0	42.36
9.56	10.	193.22	161.1	1143.1	982.0	38.38
7.52	11.	197.75	165.7	1144.9	979.2	35.10
5.49	12.	201.96	169.9	1146.5	976.6	32.36
3.45	13.	205.87	173.8	1148.0	974.2	30.03
1.42	14.	209.55	177.5	1149.4	971.9	28.02
0.00	14.70	212.00	180.0	1150.4	970.4	26.79
0.3	15.	213.00	181.0	1150.7	969.7	26.27
1.3	16.	216.3	184.4	1152.0	967.6	24.79
2.3	17.	219.4	187.5	1153.1	965.6	23.38
3.3	18.	222.4	190.5	1154.2	963.7	22.16
4.3	19.	225.2	193.4	1155.2	961.8	21.07
5.3	20.	228.0	196.1	1156.2	960.0	20.08
6.3	21.	230.6	198.8	1157.1	958.3	19.18
7.3	22.	233.1	201.3	1158.0	956.7	18.37
8.3	23.	235.5	203.8	1158.8	955.1	17.62
9.3	24.	237.8	206.1	1159.6	953.5	16.93
10.3	25.	240.1	208.4	1160.4	952.0	16.30
15.3	30.	250.3	218.8	1163.9	945.1	13.74
20.3	35.	259.3	227.3	1166.8	938.9	11.89
25.3	40.	267.3	236.1	1169.4	933.3	10.49
31.3	46.	275.8	244.8	1172.0	927.2	9.20
35.3	50.	281.0	250.1	1173.6	923.5	8.51
41.3	56.	288.2	257.5	1175.7	918.2	7.65
45.3	60.	292.7	262.1	1177.0	914.9	7.17
51.3	66.	299.0	268.5	1178.8	910.2	6.56
61.3	76.	308.5	278.3	1181.4	903.0	5.74
71.3	86.	317.1	287.2	1183.6	896.4	5.10
81.3	96.	324.9	295.3	1185.6	890.3	4.60
90.3	105.	331.4	302.0	1187.2	885.2	4.23
100.3	115.	338.1	309.0	1188.8	879.8	3.88
125.3	140.	353.1	324.6	1192.2	867.6	3.219
140.3	155.	361.1	332.9	1194.0	861.0	2.920
150.3	165.	366.1	338.2	1195.0	856.8	2.753
165.3	180.	373.1	345.6	1196.4	850.8	2.533
175.3	190.	377.6	350.4	1197.3	846.9	2.406
200.3	215.	388.0	361.4	1199.2	837.9	2.138