

TABLE 34. PRESSURE LOSSES WITH LOW PRESSURE STEAM
No allowance for condensation in pipe or restriction due to scale or corrosion or other factors

PRESSURE LOSS IN OUNCES PER 100 FT.	PIPE SIZE									
	ACTUAL					NOMINAL				
	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"	4 1/2"	5"
1	54	122	187	386	635	1163	1737	2407	3338	4545
2	75	173	268	546	898	1644	2456	3475	4742	6428
3	94	212	328	668	1100	2033	3078	4256	5781	7872
4	109	245	379	771	1271	2355	3474	4914	6676	9091
5	121	268	424	892	1420	2599	3883	5492	7462	10162
6	131	286	458	982	1546	2782	4233	6019	8276	11139
7	144	304	491	1070	1681	3023	4513	6390	8876	12028
8	153	326	535	1169	1826	3283	4913	6950	9645	13027
10	172	387	600	1217	2007	3673	5490	7768	10555	14371
12	188	424	657	1335	2199	4026	6013	8509	11559	15741
14	203	460	710	1443	2377	4349	6497	9191	12486	17042
16	217	490	759	1542	2541	4650	6948	9829	13352	18181
20	243	547	848	1725	2841	5199	7768	10988	14917	20327
24	265	600	929	1889	3112	5695	8509	12037	16352	22267

TABLE 35. PRESSURE LOSSES WITH LOW PRESSURE STEAM

Twenty per cent allowed for condensation in pipe, variation in size of pipe due to restrictions, scale corrosion and other factors

1	43	97	149	309	508	930	1389	1926	2670	3636	5800	8966	12504	22555	36396	76964
2	60	138	214	437	718	1315	1965	2780	3793	5142	8200	12393	17684	31900	51473	108856
3	76	169	262	534	880	1610	2460	3405	4624	6297	10045	15177	21656	39065	63039	133304
4	87	196	303	617	1017	1860	2779	3931	5341	7272	11599	17527	25008	45112	72793	153928
5	96	219	339	690	1136	2079	3105	4393	5969	8129	12965	19589	27952	50423	81366	172136
6	106	240	371	756	1244	2278	3404	4815	6540	8911	14206	21466	30631	55254	89160	188536
7	115	259	400	816	1345	2460	3676	5200	7064	9621	15343	23183	33080	59672	96288	203608
8	122	276	428	871	1437	2630	3930	5560	7556	10286	16404	24787	35368	63800	102960	217700
10	137	309	480	973	1605	2940	4392	6214	8441	11496	18336	27703	39530	71308	115058	243318
12	150	339	523	1068	1759	3221	4812	6807	9247	12592	20085	30347	43303	78112	126040	266536
14	162	368	568	1154	1902	3479	5197	7352	9989	13601	21701	32779	46772	84372	136149	287968
16	174	397	613	1235	2053	3759	5558	7863	10681	14544	23199	34952	50017	90232	145528	307864
20	194	437	678	1380	2253	4159	6214	8700	11813	16261	25937	39191	55921	100872	162576	344200
24	212	480	743	1511	2489	4556	6807	9629	13081	17813	28412	42928	61256	110504	178304	377040

Capacities of pipes for various pressure losses in ounces per 100 ft. straight pipe or its equivalent, and 1 lb. initial pressure, steam and condensation flowing in same direction, given in terms of square feet of direct radiation based on $\frac{1}{2}$ lb. condensation per sq. ft. per hr. For capacities of pipes other than 100 ft. long, multiply the capacities given by the factor for required length as given in Table 33, Column No. 4. To determine the pressure loss in a pipe of given size, length and capacity: Multiply pressure loss in ounces per 100 ft. by length of pipe divided by 100. For capacity with initial pressures other than 1 lb. multiply the capacities given in this table by factor for required pressure in Table 37, Column 2.

TABLE 36. LENGTH IN FEET OF PIPE TO BE ADDED TO ACTUAL LENGTH OF RUN TO OBTAIN EQUIVALENT LENGTH

SIZE OF PIPE	ST'D. ELBOW	SIDE OUTLET TEE	GATE VALVE	GLOBE VALVE	ANGLE VALVE
	Length in Feet to be Added in Run				
2"	5	16	2	18	9
2 1/2"	7	20	3	25	12
3"	10	26	4	33	16
3 1/2"	12	31	3	39	19
4"	14	35	5	45	22
5"	18	44	7	57	28
6"	22	50	9	70	32
7"	26	55	10	82	37
8"	31	63	12	94	42
9"	35	69	13	105	47
10"	39	76	15	118	52
12"	47	90	18	140	63
14"	53	105	20	160	72

Example of length in feet of pipe to be added to actual length of run.

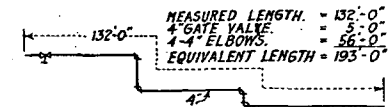


TABLE 37. CONSTANTS FOR VARIOUS INITIAL PRESSURES AND LENGTHS

STEAM PRESSURE GAGE LBS.	CONSTANT BY WHICH TO MULTIPLY CAPACITY OF ANY PIPE FOR 1 LB. GAGE STEAM PRESSURE TO OBTAIN CAPACITY OF SAME PIPE FOR PRESSURE IN COL. 1	LENGTH OF PIPE FT.	CONSTANT BY WHICH TO MULTIPLY CAPACITY OF 100 FT. PIPE TO OBTAIN CAPACITY OF SAME SIZED PIPE WITH SAME PRESSURE, AND LENGTH AS GIVEN IN COL. 3
Col. 1	Col. 2	Col. 3	Col. 4
0	0.92	20	2.240
1	1.00	40	1.580
2	1.03	60	1.290
5	1.11	80	1.120
10	1.24	100	1.000
15	1.35	120	0.912
20	1.45	140	0.841
30	1.63	160	0.793
40	1.79	180	0.741
50	1.94	200	0.710
60	2.08	250	0.632
75	2.26	300	0.578
100	2.54	350	0.538
125	2.79	400	0.500
150	3.02	450	0.477
175	3.23	500	0.447
200	3.44	600	0.407
...	...	700	0.378
...	...	800	0.354
...	...	900	0.333
...	...	1000	0.316
...	...	1400	0.267