Table 4.

Low Pressure Gravity Vapor

WITHOUT USE OF THERMOSTATIC TRAPS

CAPACITY IN PIPES IN SQ. FT. OF RADIATION

A	B	C	D		E	F				G	
	Supply Main Up-Feed Risers Branches to Risers (dripped) Steam and water flowing same direction	Branches to Risers Steam and water flowing opposite direction	Branches to Radiators			DRY RETURN MAINS Grade in Inches				Allowance in ft. of pipe for	
Commercial Pipe Sizes			5 ft. in length or less	5 ft. to 10 ft. in length	Wet Return Main	Vertical or 1 inch in 5 ft.	1 inch in 10 ft.	1 inch in 20 ft.	1 inch in 30 ft.	Ells	Globe Valves
¾	...	...	...	...	...	180	140	100	80	0.8	1.2
1	40	40	24	...	830	420	300	210	170	1.3	1.9
1¼	75	75	60	24	1800	900	650	450	370	2.1	3.2
1½	150	100	100	60	3000	1500	1000	700	600	2.8	4.2
2	300	170	200	100	6000	3000	2100	1500	1200	4.3	6.5
2½	500	220	...	...	10000	4900	3500	2500	1800	6.	9.
3	900	340	...	...	18000	9000	6400	4500	3700	8.	12.
3½	1500	460	...	...	26000	...	9800	6800	5600	10.	15.
4	2000	600	...	...	37000	...	14000	9700	8000	12.	19.
4½	2800	...	...			DRIPS FOR RISERS				15.	22.
5	3600	...	...	Steam	Drips to Returns		Steam	Drips to Returns		18.	26.
6	6000	...	...	Risers	Wet	Dry	Risers	Wet	Dry	22.	34.
7	9000	...	...	1	¾	¾	2½	1	1¼	27.	41.
8	13000	...	...	1¼	¾	¾	3	1	1¼	33.	48.
10	23000	...	...	1½	¾	1	3½	1¼	1½	45.	68.
12	37000	...	...	2	1	1	4	1¼	1½	57.	86.

NOTES

Length Factor. For supply mains where steam and water are flowing in the same direction and for wet returns where lengths are other than 100 ft. multiply the factor here given by the sq. ft. of radiation to obtain the carrying capacity of the pipe.

Length in Feet	200	300	400	500	1000	2000	3000
Factors	0.710	0.576	0.500	0.447	0.316	0.223	0.182

Supply mains to be sized according to Column B.

Where branches to risers are taken from the top of the main, the main should be dripped at the end either by a separate drip line or into the main dry return line through a trap. The end of steam mains, if reduced, to be one size larger than the table calls for.

Where the main changes size branch connections should be taken from the bottom of the main and either connected into separate drip main or into main dry return line through a trap. If this is not done eccentric couplings should be used for making reductions.

The bottom of risers should be carried down to the basement and connected to separate drip main or into dry return main through a trap.

In buildings where risers are 100 ft. in length or over, horizontal run-outs, to take care of expansion, or where necessary, due to the design of the building, should have separate drips, carried down to basement into separate drip main or into the dry return through a trap.

Table 5.

Capacities of Steam and Return Mains for Vacuum Systems—Capacities in Radiation, Square Feet.

A	B	C	D		
			Branch Returns		
Pipe Size, Inches	Steam Rating	Main Return	Return Risers	Radiator Connections	Drips Inches
½	.....	.....	.....	100	...
¾	20	600	400	200	...
1	40	1,200	600	400	...
1¼	75	2,400	1,200	600	...
1½	150	4,800	2,400	...	¾
2	300	9,000	4,800	...	¾
2½	500	15,000	.....	...	¾
3	900	23,000	.....	...	1
3½	1,500	37,000	.....	...	...
4	2,000	55,000	.....	...	1
4½	2,800	78,000	.....	...	1¼
5	3,600	.....	.....	...	1¼
6	6,000	.....	.....	...	1¼
7	9,000	.....	.....	...	...
8	13,000	.....	.....	...	...
9	18,000	.....	.....	...	...
10	23,000	.....	.....	...	...
12	37,000	.....	.....	...	...
14	55,000	.....	.....	...	...
16	78,000	.....	.....	...	...

Length Factors—For supply mains where steam and water are flowing in the same direction and for wet returns where lengths are other than 100 ft., multiply the factor here given by the sq. ft. of radiation to obtain the carrying capacity of the pipe.

Length in Feet....	200	300	400	500	1000	2000	3000
Factor 0.710	0.576	0.500	0.447	0.316	0.223	0.182	

Supply mains to be sized according to Column B.

Where branches to risers are taken from the top of the main, the main should be dripped at the end either by separate drip line or into the main dry return line through a trap. The end of steam mains, if reduced, to be one size larger than the table calls for.

Where the main changes size branch connections should be taken from the bottom of the main and either connected into separate drip main or into main dry return line through a trap. If this is not done eccentric couplings should be used for making reductions.

The bottom of risers should be carried down to the basement level and connected to separate drip main or into dry return main through a trap.

In buildings where risers are 100 ft. in length or over, horizontal run-outs, to take care of expansion, or where necessary due to the design of the building, should have separate drips carried down to basement into separate drip main or into the dry return through a trap.