TABLE 38. CAPACITIES OF RETURN MAINS IN SQ. FT.

SIZE OF PIPE	1"	1¼"	1½"	2"	2½"	3"	3½"
*Length 300′	600	1,200	3,000	8,200	15,000	28,500	40,000
" 800′	375	750	1,875	5,200	9,700	17,000	25,000
" 1,750′	.....	600	1,300	3,750	6,700	12,000	18,000
" 2,500′	.....	.....	1,125	3,000	5,600	9,425	15,000

TABLE 39. CAPACITIES OF SUPPLY RISERS IN SQ. FT.

SIZE OF PIPE	1"	1¼"	1½"	2"	2½"	3"	3½"
**Length 200′	73	160	248	500	830	1,500	4,750
" 400′	52	114	177	357	592	1,040	3,240
" 600′	42	92	145	290	480	845	2,630
" 1,000′	33	72	112	225	374	657	2,045
" 2,000′	23	51	80	160	264	463	1,450

Horizontal branches to risers to be one size larger than riser.

TABLE 40. CAPACITIES OF RETURN RISERS IN SQ. FT.

SIZE OF PIPE	¾"	1"	1¼"				
*Length 200′	700	1,400	3,150	.....	.....	.....	.....
" 400′	560	1,120	2,480	.....	.....	.....	.....
" 600′	420	840	1,750	.....	.....	.....	.....
" 1,000′	350	700	1,470	.....	.....	.....	.....
" 2,000′	230	460	1,050	.....	.....	.....	.....

*Length equals measured distance from vacuum pump to end of riser.
**Length equals measured distance from boiler or pressure reducing valve to end of riser.
Capacities as given in Tables 38, 39, 40, include allowances for elbows, tees, etc.

TABLE 41. RADIATOR CONNECTIONS

CAPACITY IN SQ. FT. RADIATION	SUPPLY			RETURN		
	Size of Inlet Valve	Vertical Pipe to Inlet Valve	Horizontal Runout to Vertical Inlet Pipe	Size Trap	Stub to Trap	Horizontal Runout to Stub
1 to 100	¾"	¾"	1"	½"	½"	¾"
101 to 200	1"	1"	1¼"	½"	½"	¾"
201 to 300	1¼"	1¼"	1½"	¾"	¾"	¾"

Radiators to be water pattern tapped or bushed top and bottom opposite ends.
Steam pattern radiators can be used when tapped of bushed eccentric opposite ends with supply bushing turned up and return bushing turned down.

CHAPTER IV

PIPE SIZES FOR STEAM WITH COUNTER FLOW OF CONDENSATE

THE Research Laboratory of the AMERICAN SOCIETY OF HEATING AND VENTILATING ENGINEERS is making an investigation of the Flow of Steam in Pipes with the Counter Flow of Condensate. The object

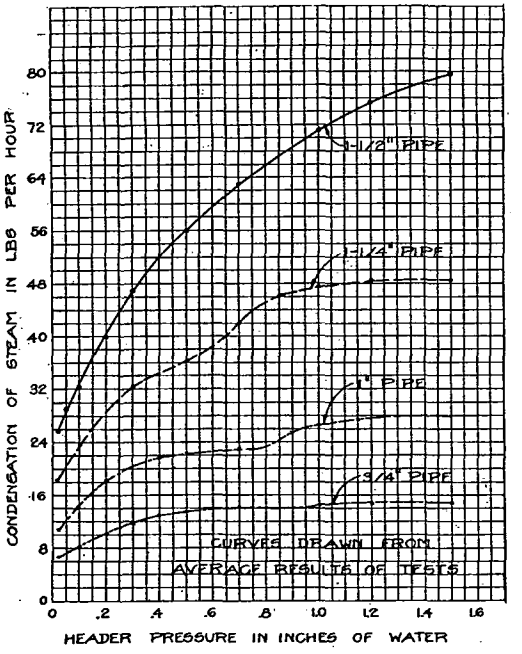

FIG. 14. CAPACITIES OF STEAM PIPES AS AFFECTED BY CRITICAL VELOCITY OF STEAM AND CONDENSATE MIXTURES

of the investigation is, first, to determine the fundamental phenomena taking place in such a pipe, and, second, to determine the capacity of various connections found in heating practice. In connection with this

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