

FIG. 37. LOOPING MAIN AROUND BEAM

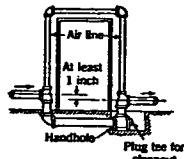


FIG. 38. LOOPING DRY RETURN MAIN AROUND OPENING

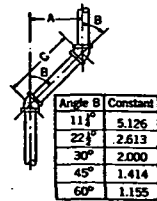


FIG. 39. CONSTANTS FOR DETERMINING LENGTH OF OFFSET PIPE

mostatic traps in radiators, convectors and pipe coils. These, in general, are attached directly to the units without strainers.

2. Whenever it is necessary to maintain in continuous service, apparatus which is to be drained, it is advisable to install a gate valve on each side of the trap, and a valved by-pass around the trap, so that the trap may be removed and repaired and condensate drained through the throttled by-pass valve.

3. Whenever it is necessary to install traps for lift service, as when the condensate must be discharged to a main located above the trap or where the trap must discharge against a definite back pressure, a check valve and a gate valve should be installed on the discharge side of the trap, the check valve to prevent continuous pressure on the discharge side of the valve, and the gate valve to shut off pressure in case the trap is removed for service or repair.

DRIPS

A steam main in any type of steam heating system may be dropped to a lower level without dripping if the pitch is downward with the direction of steam flow. Any steam main in any heating system can be elevated if dripped. Fig. 36 shows a connection where the steam main is raised and is drained to a wet-return. If the elevation of the low point is above a dry-return, it may be drained through a trap to the dry-return in two-pipe vapor, vacuum and sub-atmospheric systems. Horizontal steam pipes may also be run over obstructions without a change in level, if a small pipe is carried below the obstruction to care for the condensate (Fig. 37). Horizontal return pipes may be carried past doorways and other obstructions by using the scheme illustrated in Fig. 38. It will be noted that the large pipe, in this case, runs below the obstruction, and the smaller one over it.

Offsets in steam and return piping should preferably be made with 90-deg ells, but occasionally fittings of other angles are used, and in such cases the length of the diagonal offset will be found as shown in Fig. 39.

Dirt pockets, desirable on all systems employing thermostatic traps, should be so located as to protect the traps from scale and sludge which

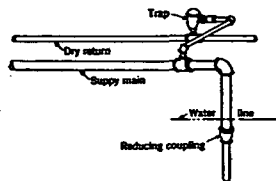


FIG. 40. DRIPPING END OF MAIN INTO WET RETURN

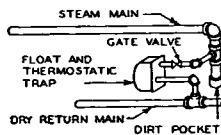


FIG. 41. DRIPPING END OF STEAM MAIN INTO DRY RETURN

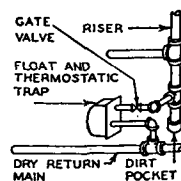


FIG. 42. DRIPPING HEEL OF RISER INTO DRY RETURN

will interfere with their operation. Dirt pockets are usually made 8 in. to 12 in. deep, and serve as receivers for foreign matter which otherwise would be carried into the trap.

On vapor systems where the end of the steam main is dripped down into the wet-return, the air venting at the end of the main is accomplished by an air vent passing through a thermostatic trap into the dry-return line as shown in Fig. 40. On low pressure or vacuum systems, the ends of the steam mains are dripped and vented into the return through drip traps opening into the return line. A float and thermostatic type trap is recommended for dripping steam mains and risers as indicated in Figs. 41 and 42.

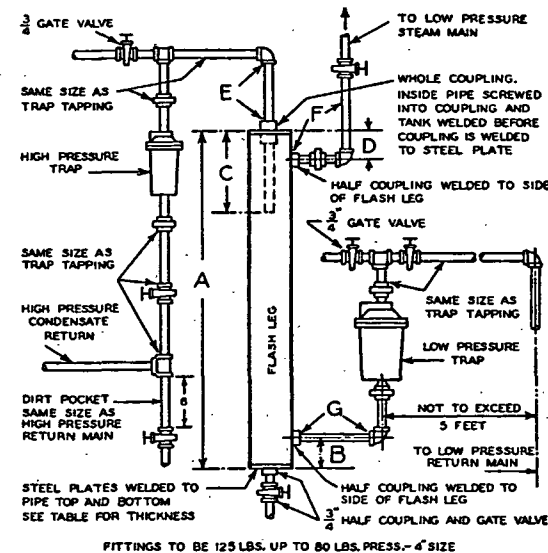


FIG. 43. FLASH LEG INSTALLATION FOR 80 PSI MAXIMUM STEAM WORKING PRESSURE

TABLE 13. DIMENSIONS APPLYING TO FIG. 43

CONDENSATE PER HR., LB AT 70 PSI	TRAPS						FLASH LEG, IPS	A FT.	B IN.	C IN.	D IN.	E IN.	F IN.	G IN.	PLATE THICK- NESS IN.
	HP SIDE			LP SIDE											
	Pipe Size	Orifice	Pres. Range, PSI	Pipe Size	Orifice	Pres. Range, PSI									
200	3/4	1/8	21-80	3/4	5/16	0-20	4	3	6	8	3	3/4	1 1/4	3/4	3/8
300	3/4	5/32	31-70	3/4	5/16	0-15	4	3	6	8	3	3/4	1 1/4	3/4	3/8
700	3/4	1/16	31-70	3/4	3/8	0-15	4	3	6	8	3	3/4	1 1/4	3/4	3/8
1500	3/4	3/32	61-80	1	1/2	0-15	5	4	6	10	4	3/4	1 1/2	1	3/8
2500	1	1/16	61-80	1 1/4	3/4	0-15	8	5	6	10	4	1	2	1 1/4	3/8
4000	1 1/4	1/8	61-80	2	1 1/4	0-15	10	6	6	12	5	1 1/4	2 1/2	1 1/2	5/8
8000	2	3/16	61-80	2 1/2	1 1/2	0-15	12	6	6	12	5	2	3	2	3/4
15000	2 1/2	1/4	61-80	3	1 3/4	0-15	16	6	8	14	6	3	3	3	7/8