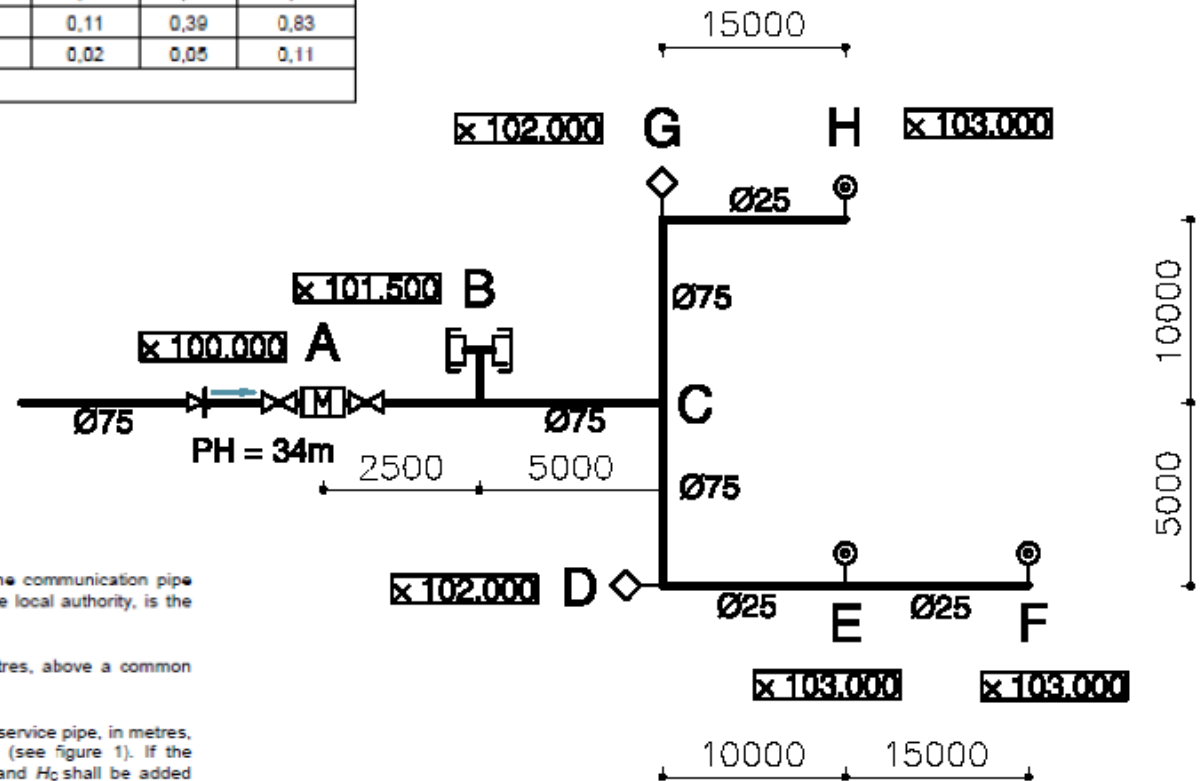


Nominal diameter of pipe mm	Friction factor for service pipes								
	Number of hose reels served by a service pipe						Number of fire hydrants served by a service pipe		
	1	2	3	4	5	6	1	2	3
25	0,11	0,41	0,88	1,47	2,21	3,11	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>
32	0,05	0,18	0,38	0,65	0,98	1,38	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>
40	0,02	0,05	0,10	0,18	0,27	0,37	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>
50	0,01	0,02	0,04	0,06	0,10	0,13	<sup>a</sup>	<sup>a</sup>	<sup>a</sup>
75	0	0	0	0	0,01	0,02	0,53	1,91	4,05
100	0	0	0	0	0	0	0,11	0,39	0,83
150	0	0	0	0	0	0	0,02	0,05	0,11

<sup>a</sup> Not permitted



$$P_F \geq P_M - (H_F - H_C) - P_L$$

where

$P_M$  is the static pressure head, in metres, at the juncture between the communication pipe and the service pipe, and which, unless otherwise directed by the local authority, is the minimum head measured at a point in time;

$H_F$  is the elevation of the fire pump connection or hose reel, in metres, above a common datum (see figure 1);

$H_C$  is the elevation of the communication pipe at the juncture with the service pipe, in metres, above or below, or on the same level as the common datum (see figure 1). If the elevation is below the common datum, the volume between  $H_F$  and  $H_C$  shall be added and not subtracted;

$P_L$  is the sum, in metres, of all the products of the length of service pipe of a particular diameter serving the fire pump connection or hose reel, and the friction factor obtained from table 1 based on the following:

- fire hydrants: the simultaneous use of all hydrants within a division; or
- fire hose reels: the simultaneous use of all fire hose reels within a division.

At Booster Pump:

$$\begin{aligned} PF &\geq PM - (HF - HC) - PL \\ &34 - (101,500 - 100,00) - (2,5 \times 1,91) \\ &34 - 1,5 - 4,755 \\ &27,745 > 5\text{m therefore OK} \end{aligned}$$

At E:

$$\begin{aligned} PF &\geq PM - (HF - HC) - PL \text{ (25mm)} \\ &34 - (103,00 - 100,00) - (10 \times 0,41) \\ &34 - 3 - 4,1 \\ &26,9 < 30\text{m therefore NOT OK} \end{aligned}$$

$$\begin{aligned} PF &\geq PM - (HF - HC) - PL \text{ (32mm)} \\ &34 - (103,00 - 100,00) - (10 \times 0,18) \\ &34 - 3 - 1,8 \\ &29,2 < 30\text{m therefore NOT OK} \end{aligned}$$

$$\begin{aligned} PF &\geq PM - (HF - HC) - PL \text{ (40mm)} \\ &34 - (103,00 - 100,00) - (10 \times 0,05) \\ &34 - 3 - 0,5 \\ &30,5 > 30\text{m therefore OK} \end{aligned}$$

At F:

$$\begin{aligned} PF &\geq PM - (HF - HC) - PL \text{ (25mm)} \\ &34 - (103,00 - 100,00) - [(10 \times 0,05) + (15 \times 0,11)] \\ &34 - 3 - (0,5 + 1,65) \\ &28,85 < 30\text{m therefore NOT OK} \end{aligned}$$

$$\begin{aligned} PF &\geq PM - (HF - HC) - PL \text{ (32mm)} \\ &34 - (103,00 - 100,00) - [(10 \times 0,05) + (15 \times 0,05)] \\ &34 - 3 - (0,5 + 0,75) \\ &29,75 < 30\text{m therefore NOT OK} \end{aligned}$$

$$\begin{aligned} PF &\geq PM - (HF - HC) - PL \text{ (40mm)} \\ &34 - (103,00 - 100,00) - [(10 \times 0,05) + (15 \times 0,02)] \\ &34 - 3 - (0,5 + 0,3) \\ &30,2 > 30\text{m therefore OK} \end{aligned}$$

At H:

$$\begin{aligned} PF &\geq PM - (HF - HC) - PL \text{ (25mm)} \\ &34 - (103,00 - 100,00) - (15 \times 0,11) \\ &34 - 3 - 1,65 \\ &29,35 < 30\text{m therefore NOT OK} \end{aligned}$$

$$\begin{aligned} PF &\geq PM - (HF - HC) - PL \text{ (32mm)} \\ &34 - (103,00 - 100,00) - (15 \times 0,05) \\ &34 - 3 - 0,75 \\ &30,25 > 30\text{m therefore OK} \end{aligned}$$