

Article 183. Where the building is higher than 60m, connecting delivery pipe shall employ wet type, and the relay pump shall meet the following requirements:

1. The total head of the relay pump shall be more than the calculated value using the formula below:

Total head = water head loss by fire hose friction + water head loss by matching pipe friction + drop height + water discharging pressure

$$H = h_1 + h_2 + h_3 + 60m$$

2. The water output of the relay pump shall be more than 2,400 L/min.
3. Manual actuating device and red starting indicator lamp shall be equipped nearby the water outlet, unless remote controlled starting can be made by the disaster prevention center and communicator is equipped for communication between the water outlet and the center.
4. Water outlet, stop valve and pressure regulating valve shall be equipped at the primary side of the relay pump, and inverted valve, stop valve and water inlet or outlet at the secondary side.
5. Roof tank shall have a capacity of more than  $0.5m^3$ , and relay tank more than  $2.5m^3$ .
6. Bypass pipe equipped with inverted valve shall be installed between inlet side matching pipe and outlet side matching pipe.
7. When the sum of shutoff head and net positive suction head is more than 170m, additional pump shall be added to make serial connection and running.
8. Devices shall be installed in the machine room of relay pump and at the water inlet for connecting delivery pipe for communication with the disaster prevention center.
9. When testing the discharging of a relay pump, the water shall be sent from the water inlet at the design pressure, and an aimer with a caliber of 21mm shall be used at the top storey. The water discharging pressure shall be more than  $6kgf/cm^2$  or 0.6Mpa and water output more than 600 L/min. The design pressure for water delivery shall be obviously marked nearby the water inlet as shown in the figure below:

