



FIRE SECURITY

SCHEMATIC DIAGRAM

FOR A FIRE PUMP

INSTALLATION

CONTROL OF THE ELECTRICAL AND DIESEL DRIVEN

FIRE FIGHTING PUMPS

The pumps shall be capable of operating in both manual and automatic modes, but under no circumstances must they be able to start up or run simultaneously. In both manual and automatic modes the pumps shall be protected from running without water by means of a low level float switch or electrode in the water storage reservoir.

In the manual mode starting and stopping of both pumps shall occur by means of pushbutton type switches mounted on the pump control panel in the pump house, with the necessary "no-water" protection as mentioned above.

In the automatic mode AUTO 2 or AUTO 3 may be selected (see schematic layout of control switches).

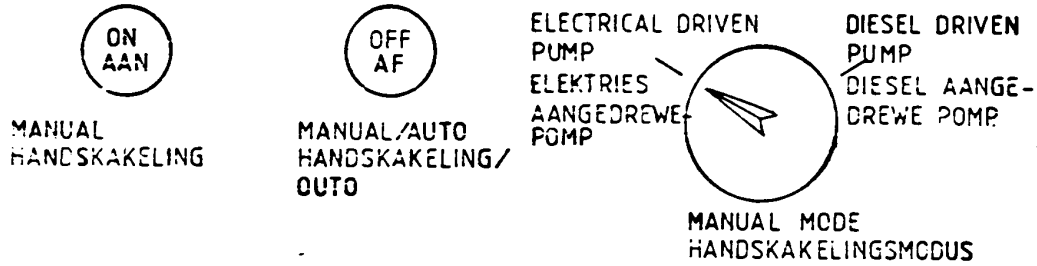
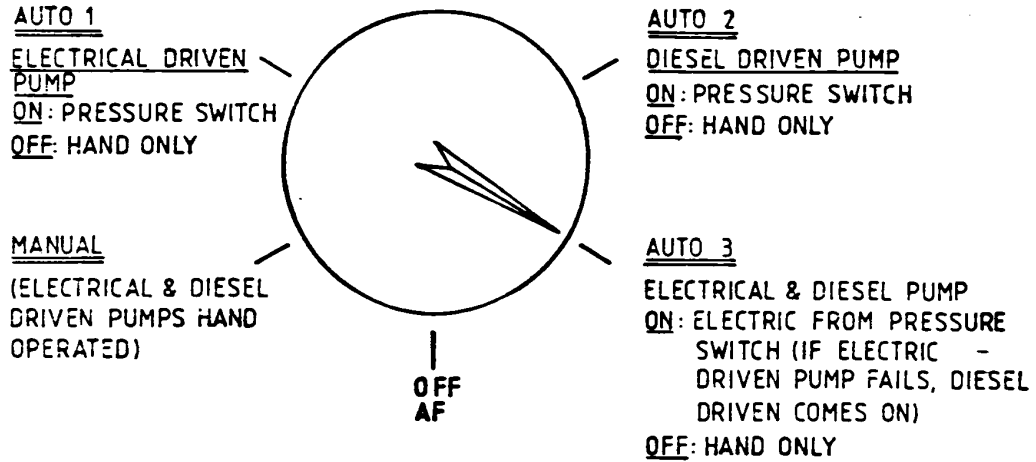
In the AUTO 3 position the electrical pump shall be activated by means of a pressure switch, incorporating an adjustable (between 0 and 30 seconds) time delay. However, in the case of the pump failing to operate or in case of a power failure or any other reason, the diesel driven pump must automatically start up. In die AUTO 1 or AUTO 2 position either the electrical pump or the diesel pump only, shall be activated by means of the pressure switch as mentioned above, also incorporating the "low-water" protection as mentioned above. In all three "AUTO" positions the pumps shall be stopped by hand only.

As it will be common practice to run the diesel and electrical fire pump at least once a week for a couple of minutes, and to prevent any damage to the pumps, a return pipe to the reservoir (sized for approximately 35% of the pump's duty-point flow) is to be provided. This return pipe is to be fitted with a hand operated valve, which will only be opened when running the pumps for testing purpose.

Under certain circumstances an automatic hydraulically controlled pressure relief valve (PRV) may be fitted in the return pipe as per attached DETAIL SHEET no F1001. If the flow in the line decreases due to a very low or no demand, this valve with a spring loaded pilot control will open, causing pressure relief and thus preventing damage to the pumps. The water will then circulate back to the reservoir. As soon as the flow increases and the pressure drops, the valve will close or partly close again and full flow or the required flow will be pumped into the reticulation.

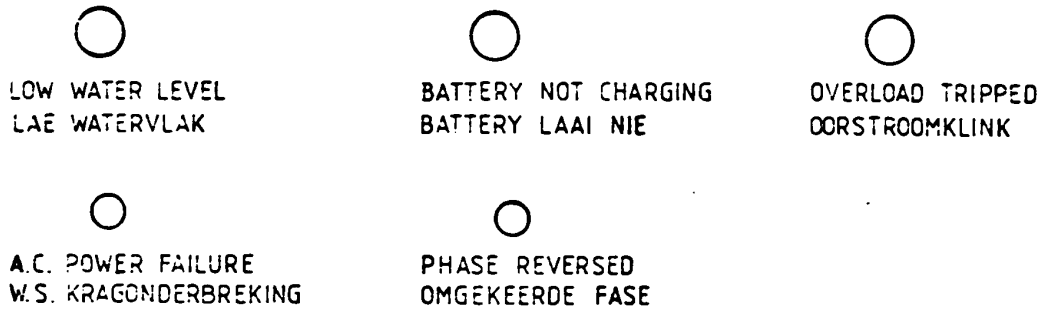
Whenever the fire pumps are in operation, an alarm and a red rotating light mounted in a convenient position should be activated.

CONTROL SWITCHES FOR PUMPS



EXTRA'S DISPLAYED ON SWITCHBOARD

LIGHTS - LIGTE



NOTE: THE WORDING ON THE SCHEMATIC LAYOUT MUST BE DISPLAYED ON THE SWITCH BOARD.

