

- Shut-off Pressure Value: The Shut-off Pressure value of the pump (maximum pump pressure at zero flow rate) should not exceed 125% of the nominal value.
- Maximum load: The pump should be able to operate with a capacity of 140% of the nominal flow rate, if required. When the fire pump operates with a capacity of 140% of the nominal value, the pressure should not be under 70% of the nominal value.
- Under positive pressure suction head conditions, the suction kit's suction tube diameter may not be less than DN 65. Furthermore, the tube's diameter should not exceed 1.8 m/s water flow rate when the pump is run at the maximum desired flow rate.
- Under negative pressure suction head conditions, the suction kit's suction pipe diameter may not be less than DN 80. Furthermore, the pipes diameter should be designed as not exceed 1.5 m/s water flow rate when the pump is run at the maximum desired flow rate.
- Suction pipes may not be connected to each other where multiple pump sets are installed.
- The pumps must be run with an electric motor or diesel engine which supplies the minimum power according to the following data.
- It should be able to automatically run the pump when signal is received from the pressure switch,
- The motor should run when manually operated. It should only be stopped manually after being started.
- The main starter should be a 3 position switch (0 - AUTO. - MAN.), and it should be key-locked; the Key should only be removable in AUTO position.
- 2 pressure switches shall be available to operate each pump set. The pressure switches must be connected in series to operate the pump with normally closed connections after one of the switches is opened.
- Both pressure switches shall be adjusted to the same value.
- The connections of the pressure switches must be minimum 15 mm.
- The required equipments to test each pump running with the pressure switch shall be provided.
- There will be a separation valve between the pressure manifold and it shall be installed in parallel to a non-return valve separation valve which would transfer the pressure loss to the pressure switch even when the valve is closed.
- The following circumstances must be monitored; (See the Alarms Section)
- Three phase alternating current (AC) power supply for the engine
- - The pump desired to operate
- - Pump failure
- - Start error
- Each monitored circumstance should be separately and visibly defined in the pump room. Each monitored circumstance should be indicated visibly at a place continuously checked by the responsible personnel.
- Pump operation and failure alarms should also be displayed vocally at the same place.
- Visible failure notification should be yellow.
- Acoustic signals should be of at least 75 dB strength and able to be muted.
- Diesel engine should be able to operate at full power continuously at a high place with a constant power output in line with ISO 3046.
- The pump must reach full capacity 15 sec. after it starts to operate.
- Horizontal pumps should be available for direct drive.
- Automatic start and operation of the pump set should not depend on any power sources other than the motor and the power supplies connected to the motor.
- **NEGATIVE SUCTION PUMPS;**
- The pumps will intake individually and in order to reduce and eliminate the risk of cavitation, an **ECCENTRIC SUCTION KIT** according to the standard shall be provided for each pump.
- On negative intake pumps; a 300 lt or 500 lt capacity operation tank shall be used for each pump.
- These tanks should prevent dry running and damaging of pumps if the lock lever leaks during the following operations.