

6.4.3. Pump Protection Screens

Removable bar screens handled through U- channel shall be provided for pump protection and shall be double layer type.

Screens shall be fitted in trash rack well or within chambers separate from wet well. In case of small wet well pumping stations with capacities in range from 10l/s to 30 l/s, screens can be installed within the wet well.

Maximum opening size of the bar screen shall be 50x50 mm. Final selection of the screens shall be based on the selected pump solid passing capacity.

6.4.4. Surge Suppression Systems

The Consultant shall determine whether surge suppression is required and where applicable employ one of the following permitted systems subject to approval of DMAT.

- Pressure vessel with bladder
- Dip-tube vessel
- Soft starters or variable frequency drives

Air valves as a method of surge control are not permitted.

6.5. Electric Design

The structure containing the electrical equipment shall be above ground and in a separate building. Due to client/special requirement, the structure can be below ground.

6.5.1. Electrical Room Air Conditioning

Minimum two split AC units working independently (mechanically and electrically) of each other should be used to air condition the room.

Each split AC should be rated at 50% above the required capacity (i.e. 150% total), so that should one unit fail, the other unit will provide 75% of the required air conditioning capacity.

6.5.2. Motors

The complete drive system must be matched to ensure compatibility.

The following items in Table 6-5 shall be considered by the Consultant:

Motor type	Squirrel cage induction suitable for operation with a 400V, 3-phase, 50Hz, supply
Continuous maximum rating	At least 10% above the calculated maximum power requirements under all conditions of operation
Vertical installation	Specifically designed for vertical installation only with adequately rated end thrust bearings
Protection	IP68 class F, as a minimum
Cooling systems	Designed to withstand the maximum load at most severe climatic conditions
Variable frequency drives	Designed to be applicable for particular requirement

Table 6-5 – Motor Specification