

A better option of Vertical Submerged Pumps for Industrial Paint Shop Application

Over the years, a conventional method of pre-treatment process in industrial paint shops is being followed. The pretreatment process is important as it improves the surface preparation of the component and increases the corrosion resistance of that component. In the phosphating line of a typical industrial paint shop, conventional end suction horizontal process pumps are being used.

The disadvantages of going for end suction horizontal pumps are as under:

- 1) Being a horizontal pump, mechanical seal is mandatory which leads to leakages and thereby causing environmental hazards.
- 2) Due to inclusion of mechanical seals, API Plans are required which leads to more space and maintaining the API Plans leads to high cost. Especially for phosphating application, double mechanical seal with API PLAN 54 is required.
- 3) If proper flushing plans are not operative, it will damage the mechanical seal and thereby leading to pump breakdown.
- 4) When the pump stops, paint will remain at the bottom most portion of the pump casing due to which sludge formation takes place. During the restart of the pump, this sludge will lead to high starting torque due to which MTBPM will increase.
- 5) The suction and the discharge piping unnecessarily gets increased thereby leading to the losses in the pipeline.

Now as everyone is going for green technology, a new process called as “Nano line” will be implemented for which the system is well designed for Vertical Submerged Pumps.

The advantages of going for Vertical Pumps are as under:

- 1) As there is no possibility of liquid reaching the support plate, glandless pumps can be used (No gland packing / mechanical seal / API PLAN required).
- 2) In case of any leakage, it will again fall inside the tank hence there will be no environmental hazards.
- 3) As it can be mounted on the tank, the heavy concrete foundation gets eliminated. This will avoid the pump-motor alignment issues.
- 4) No suction piping required which avoids hydraulic losses
- 5) Being a vertical pump, it has got the self draining function hence liquid will not get accumulated in the pump casing.
- 6) As the impeller is always submerged in the liquid, priming gets eliminated.
- 7) There is immense floor space saving compared to conventional horizontal pumps.

