




Technical comparison between End Suction /Horizontal Split casing / Vertical Inline pump

		End suction pump (ES)	Horizontal Split casing pump (HSC)	Vertical inline pump (VIL)	
Sno	Description				Remarks
1	Vibrations in the system	Present	Present	Vibrationless pump	Mechanical design efficiency always depends on the system with least vibration
2	Life of mechanical seal	Average due to conventional design	Average	Best due to self lubrication design	Self lubrication design keeps the Mechanical seal cool and clean
3	Bearing life on pump side	Average Life due to stress on the bearing because of horizontal rotation of the pum/motor shaft	Good life due to robust design and Inline flow of water	Bearing less pump	Bearingless operation of Vertical Inline pump helps reducing number of moving parts in the pump assembly, hence reducing mechanical failure.
4	Floor space	Consumes floor space due to Motor placed horizontally	Very large foot print	60% space saver due to Vertical motor design	Space saving enables the proper use of the space in the plant room
5	Maintaince	High and tedious	Very High Maintaince cost and time consuming task	Virtually Zero maintainence	Low maintence cost of the Vertical inline pump makes it a choice for the plant room operator to opt for VIL pump
6	Base Plate	Required	Required	Not required	VIL pump avoids baseplate ,reducing the foot print of the equipment and avoids related bolting issues.
7	Mechanical seal replacement	Time consuming and includes shaft re alignment	Most time consuming and envlives high technical skills	Easy outside mechanical seal design offering quick replacement	Quick Mechanical seal replacement ensures least down time for the water circulation system.
8	Interated VFD for secondary pumping	Not Possible	Not Possible	Possible	Integrated VFD on the pump avoids cabling on site and reduce Harmonics generated in the system due to the reduction cable length between the VFD and the Motor load
9	Flexible connectors	Required	Required	Not required	System with vibration requires flexible connectors , VIL being a vibration less system , doesn't require Flexible connectors
10	Alignment of the pump and motor at site	Required	Required	Not required	Vertical design of the pumps discards the need of alignment of the pump at site.
11	Shaft alignment on change of mechanical seal	Required	Required	Not required	Split coupled design in the vertical inline pump confirms no disturbance to the alignment of the shaft during mechanical seal replacement
12	Concerete foundation	Required	Required	Not required	VIL pump is a pipe supported design hence doesn't requires any foundation to be made for insatllation