## Comparision - Vertical In Line & Base Mounted Pumps

Comparison Criteria	Feature	Benefit	Pictures	Detriment
	Vertical Inline Pump - Armstrong Series 4300			Base Mounted Pumps -End Suction/Horizontal Split Case
Mounting	Direct on piping	Installs like a standard gate valve. Can be installed quickly. Ease of installation, reduced equipment space, no base plate, no site base grouting and alignment is necessary. Requires 1/3rd the space of a Base Mounted Pump		Mounted on base plate. Inertia base required. Site base grouting and alignment is necessary. Increased installation space, cost and time.
Mechanical Seal	Seal Change	Mechanical seal can be replaced without disturbing the pump OR MOTOR. A seal change on the largest pump can typically be completed in an hour.		The pumps are of back pull-out type. Mechanical seal replacement necessiates removal of motor. Longer time for seal change - over 3 hours
	Outside balanced mechanical seal	The balanced seal design prevents the high pumping pressure from exerting excess pressure on the seal faces, thereby ensuring the seal runs at design pressure, independent of the pumping pressure. Longer seal life.		Unbalanced Mechanical Seal. Seal life considerably reduced.

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Alignment	Self Aligning	With the well machined components and rigid coupling, the pump is back to factory alignment after service with no special treatment. Hence, no requirement for re-alignment on installation or after seal change maintenance. Saves time and cost.		Complete re-assembly of pump and motor necessary after seal change maintenance.
Ease of installation	Install pump after system is flushed	Pump not required to be installed during piping. Install spool piece where pump is and flush system. Keeps pump clean and free from dirt		Pump has to be installed during piping. Increased chances of pump getting contiminated with dirt leading to reduction in mechanical seal life.
Inertia bases, Flexible coupling/ Expansion joint.	Not required	Lowers installation cost		Inertia bases, Flexible coupling / Expansion joints necessary. Increased installation cost
Pump bearings		No Pump bearings to wear out		Supported by bearings. These need to be replaced.
Trained manpower / Company represen tative requirement	Not required	Simple pump installation and maintenance procedure.		Relatively complicated pump installation and maintenance. Requires presence of trained manpower / Company service engineer