DESIGN ENVELOPE SERIES 4200H & 4280 | HORIZONTAL END-SUCTION PUMPING UNITS | **FAQ**

File No: 100.2021
Date: APRIL 28, 2016
Supersedes: NEW
Date: NEW

Q1 When base mounted pumps are specified should we offer Horizontal End-Suction Design Envelope units as an alternate?

A1 As we have been doing for some years now, the best customer value should be offered as an alternate; thus we should continue to offer the Vertical In-Line Design Envelope pumping units as the alternate quote for base mounted pump specifications.

Q2 Why did Armstrong Fluid Technology decide to offer Horizontal Design Envelope units when they already supply the best offering on the planet?

A2 Particular consulting engineers or owners/operators still haven't grasped the value of the Vertical In-Line installation concept and insist on base mounted pumps for their facilities. These people can't enjoy the added Design Envelope values on current base mounted pumps and it is Armstrong's strategy to introduce the VIL naysayers to Design Envelope pumping in this manner and, as the idea of better value equipment takes hold, the switch to Vertical In-Line units should not prove too difficult for Armstrong Fluid Technology sales partner.

Q3 How were the particular pump sizes chosen for the Horizontal Design Envelope offering?

A3 The Horizontal End Suction Base Mounted Design Envelope units utilize the same general rotating assembly as the single stage VIL Design Envelope Series 4300*. In this manner the same size and values, other than installation savings, can still be offered to customers insisting on base mounted pump only.

* The 1-inch discharge Design Envelope 4200H & Design Envelope 4280 pumping units only, differ in impeller part number from the Design Envelope 4300 & Design Envelope 4380 units.

Q4 Why use split-couplings on base mounted units? Isn't this more expensive?

A4 Two major customer [Contractor, owner & operator] pain points concerning base mounted pumps are: Alignment and down-time and cost of seal replacements. In split-coupled pumps, alignment concern and cost is **eliminated** from installation and post-seal service consideration. Split-coupling units are generally offered with upgraded outside-balanced seals, with sintered silicon carbide seat material as a standard offering. Not only does this seal arrangement last longer; it only takes minutes to change out the seal when it does start showing signs of failure. The minor added costs for this arrangement is far outshone by the value it brings for the customer.

Q5 Why does the Horizontal Design Envelope range stop at 125hp/90kW?

A5 Armstrong Fluid Technology IVS102 controllers are not designed for and cannot be used for horizontal operation above the controller chassis size used for 125hp/90kW motors.

Q6 How does the first [Installed] cost for Horizontal Design Envelope compare with the current contractor's pricing for a flexible coupled base mounted pump, in a sensored system, with a general purpose enclosure VFD mounted on the wall?

A6 Such a comparison is quite favorable for the Horizontal Design Envelope. The Design Envelope pumping unit is more expensive and the installation labor, for the pump itself, is about the same; however the estimated value for savings of VFD wiring, 5% AC filter, sensor + installation, commissioning time and alignment, averages* out at about 9% [Low 3%; High 18%] lower installed cost for the Design Envelope 4200H units.

This does **not** include a monitory value for the standard Design Envelope values that are inherent in the Horizontal Design Envelope units such as:

- Smaller motors 25% of the time
- Sensorless demand-based controls
- Parallel sensorless pump control available for best efficiency staging of multi-pumps
- Single duty pump & standby alternation control with a set-up

2

- Express delivery on popular sizes
- Easy selection with operating cost data against a 50% load profile
- Built-in RFI & harmonic mitigation
- Soft start
- Flow readings
- Energy metering
- Auto-motor adaptation
- Special application availability
- 2-year warranty

* Average based on [12] random USD selections for 1hp through 125hp (1,3,5[2],10,15,20,25,50,60,100,125) with average contractor discount + VertiCalc installation estimation - $ for installation values detailed above.

TORONTO
+1 416 755 2291

BUFFALO
+1 716 693 8813

BIRMINGHAM
+44 (0) 8444 145 145

MANCHESTER
+44 (0) 8444 145 145

BANGALORE
+91 (0) 80 4906 3555

SHANGHAI
+86 21 3756 6696

SÃO PAULO
+55 11 4781 5500