ARMSTRONG DESIGN ENVELOPE PUMPING UNITS GENERATION 3 (IEC) | FAQ

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Q1 What are the major changes in generation 3 over generations 2?

A1 There are a number of changes and enhancements to the product line in this release, specifically:

I Model changes.
As a result of detailed analysis, a number of 4380 /4300 Design Envelope pump sizes have been removed. These are:

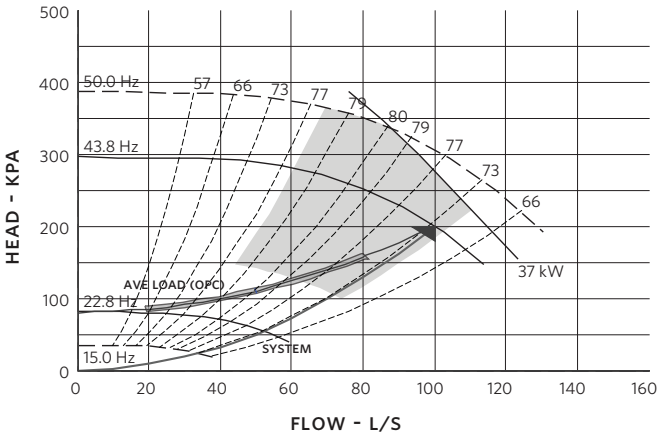
- 40-150 - 4POLE
- 40-200 - 2POLE
- 50-200 - 2POLE
- 80-250 - 2 & 4POLE
- 100-150 - 2 & 4POLE
- 250-375 - 4POLE

Twin and DualArm sizes remain as generation 2 (with envelope changes – see II below).

II Envelope changes.
A number of changes have been made to selection envelopes. Firstly, impeller trim diameters and operating speeds have changed with the most notable difference being that many envelopes that were 60Hz nominal speed now have a lower maximum speed but albeit with a larger impeller, thereby improving hydraulic efficiency. The second noticeable change is that the yellow selection envelope has changed as can be seen in the following AOL output:

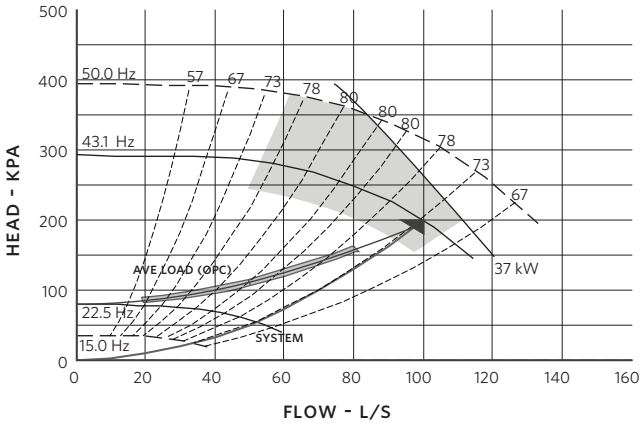
Generation 2 model:

Series 4300
Design Envelope: 2037-037.0
Integrated intelligent variable speed with Sensorless control



Generation 3 model:

Series 4300
Design Envelope: 2037-037.0
Integrated intelligent variable speed with Sensorless control



Key differences are the flow at which max motor power is reached is now model dependant and the bottom of the selection envelope has changed to prevent selections being made that are too low in the operating range which could result in minimum speed being reached before the minimum head on the control curve. The yellow selection envelope does not represent the operating limits of the pump, merely the optimised selection envelope.

III Sensorless capability
Experience from generation 2 has shown that sensorless accuracy varies dependent on the selection point for any given pump model. Some extreme selections (left or right) can magnify this problem. In generation 3, the Sensorless capability has been more accurately defined with each individual pump model having its own limits embedded in the selection software. Taking this dynamic approach opens up the ability to incorporate more Sensorless capable models in the range.

IV Express offering
Generation 3 sees the introduction of a number of Express models on shorter lead time than previous generation 2 product.

Q2 What is the 'Express Offering'?

A2 This is a range of 33 Design Envelope 4300/4380 models that have been specifically selected based on coverage and historically sales/quotations. These models are available on a 2 – 10 day lead time (further details in the shipment indicator) and are identified in AOL and ADEPT ranking grids.

Q3 What is the default feature set for the Express line?

A3 Models that are designated 'Express' have the following feature set:

- 400V Supply voltage (380V for 60Hz)
- TEFC motors as standard
- No fused disconnect
- BACnet Native BMS Protocol
- L1 Controls orientation

Q4 What changes have been made to the products capabilities and feature set?

A4 Generation 3 sees the introduction of a number of application features that will be selectable in AOL/ADEPT for factory configuration. These include:

- 2 Way bypass valve control
- 2 zone differential pressure control (with remote sensors)
- Minimum flow control
- Maximum flow control

Each of the above will feature a special application paper describing the use of the particular feature.

Another capability enhancement new to generation 3 of Design Envelope Pumping units is Special Seismic Certification Pre-approval to OSHPD (California Office of Statewide Health Planning and Development). This demonstrates the robust nature of the products design and can be leveraged in any territory where Seismic resilience is required.

Q5 If I make a selection where 'Sensorless accuracy is reduced', how much is it reduced?

A5 This is highly dependent on how far the selection is away from the optimum selection envelope of the pump. This is typically the area between 30% and 110% BEP flow and between max speed and 27Hz where the accuracy is ±5% of BEP flow or head. The further away the design duty is from these limits the less accurate the control.

Q6 If my selection is made outside the Sensorless area of a pump model does this mean that the pump is not mapped for Sensorless?

A6 No, the mapping is still completed but Sensorless control is turned off by default such that the product will be controlled by some other means (BMS, external sensor, IPS etc).

Q7 How will the changes affect my existing ACE-Online quotations?

A7 Existing quotations (prior to launch) will be honoured for a period of 3 months. If a design duty change is made to an existing selection within a quotation then the revised selection will be a generation 3 model.

Q8 How long will the obsoleted models remain available if I already have them in an existing quotation and I receive an order?

A8 Three months from the launch of generation 3. After this period generation 2 models will no longer be available.

Q9 How long will parts for generation 2 units remain available?

A9 Availability of generation 2 parts will continue for the foreseeable future.

Q10 Will I still be able to access drawings and submittals for older generation models?

A10 Yes. Generation 2 drawings will remain available in PACDOR for a period of 12 months after the launch of generation 3. Generation 2 submittals will continue to be available on the armstrongfluidtechnology.com website for the same period.