

DESIGN ENVELOPE PUMP FLUSH LINE | INSTALLATION AND OPERATING INSTRUCTIONS

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CAUTION



Always disconnect power supply from motor before beginning service work.

WARNING:



Whenever any service work is to be performed on a pumping unit, disconnect the power source to the driver, **LOCK** it **OFF** and tag with the reason. Any possibility of the unit starting while being serviced must be eliminated.

WARNING

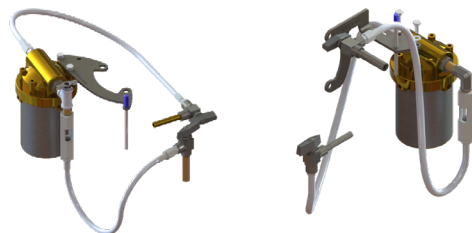


Hydronic system components may be pressurized which, if suddenly released, can cause serious injury or death. When performing any kind of service to the pump, the pressure must be released in the system and the unit should be properly drained before starting any service work.

STANDARD FLUSH LINE



FLUSH LINE WITH SEDIMENT FILTER & FLOW INDICATOR

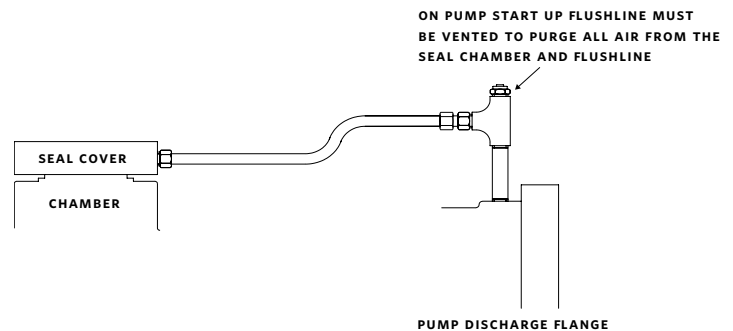


FLUSH LINE WITH CYCLONE SEPARATOR & FLOW INDICATOR



Design Envelope close-coupled units are fitted with seal flush/vent lines piped to the pump suction area. When these units operate, residual air is drawn out of the pump towards the suction piping.

FLUSH LINE INSTRUCTION



Bump or energize the motor momentarily and check that the rotation corresponds with the directional arrow on the pump casing (clockwise when viewed from non-drive end of motor).

Start the pump with the discharge valve closed and the suction valve open, then gradually open the discharge valve when the motor is at operating speed. The discharge valve may be **cracked** or open slightly at start up to help eliminate trapped air.

When stopping the pump: Close the discharge valve and de-energize the motor.

Do not run the pump against a closed discharge valve at full speed for an extended period of time (a few minutes maximum.)

Should the pump be noisy or vibrate on start-up a common reason is overstated system head. Check this by calculating the pump operating head by deducting the suction pressure gauge value from the discharge gauge reading. Convert the result into the units of the pump head as stated on the pump nameplate and compare the values. The system designer or operator should be made aware of this soon as some adjustment may be required to the drive settings to make the pump suitable for the system as installed.



Check rotation arrow prior to operating the unit. The rotation of all Armstrong 4300 & 4380 Vertical In-Line units is clockwise when viewed from behind the motor (NDE).

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The Design Envelope 4300 pump is flushed from the pump discharge because the mechanical seal chamber is isolated from the liquid in the pump by a throttle bushing. Because the seal chamber is isolated, seal environmental controls such as filters and separators, when installed in the Design Envelope 4300 flush line are very effective, as only the seal chamber needs cleansing, and will prolong seal life in HVAC systems.

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