LAKOS®
Separators and Filtration Solutions

SUB-PAK SUBMERSIBLE PUMP PROTECTION SEPARATORS

INSTALLATION INSTRUCTIONS

APPLICATION

LAKOS SUB-PAK Series Separators are engineered for the removal of sand and other heavy, suspended particles from domestic and private water well systems with flow rates of 3 - 16 U.S. gpm (.7 - 3.5 m^3/hr) and well I.D.'s of 4 inches *only*.

OPERATION

When the pump is operating, sandy water is drawn first through the SUB-PAK Separator's inlet slots. Centrifugal action separates the sand, causing the particles to gently fall to the bottom of the separator. The SUB-PAK's "flapper valve" remains closed while the pump is in operation. The sand-free water spirals upward, through the center vortex/outlet, into the seal area surrounding the pump and to the pump's suction. When the pump shuts off, the SUB-PAK's flapper valve will open, allowing accumulated sand to discharge deep into the well. NOTE: To assure adequate purging of separated particles, SUB-PAK Separators must be installed on water systems that operate at least somewhat intermittently, typically for no more than two continuous hours. This time may vary, depending on the concentration of sand in the well.

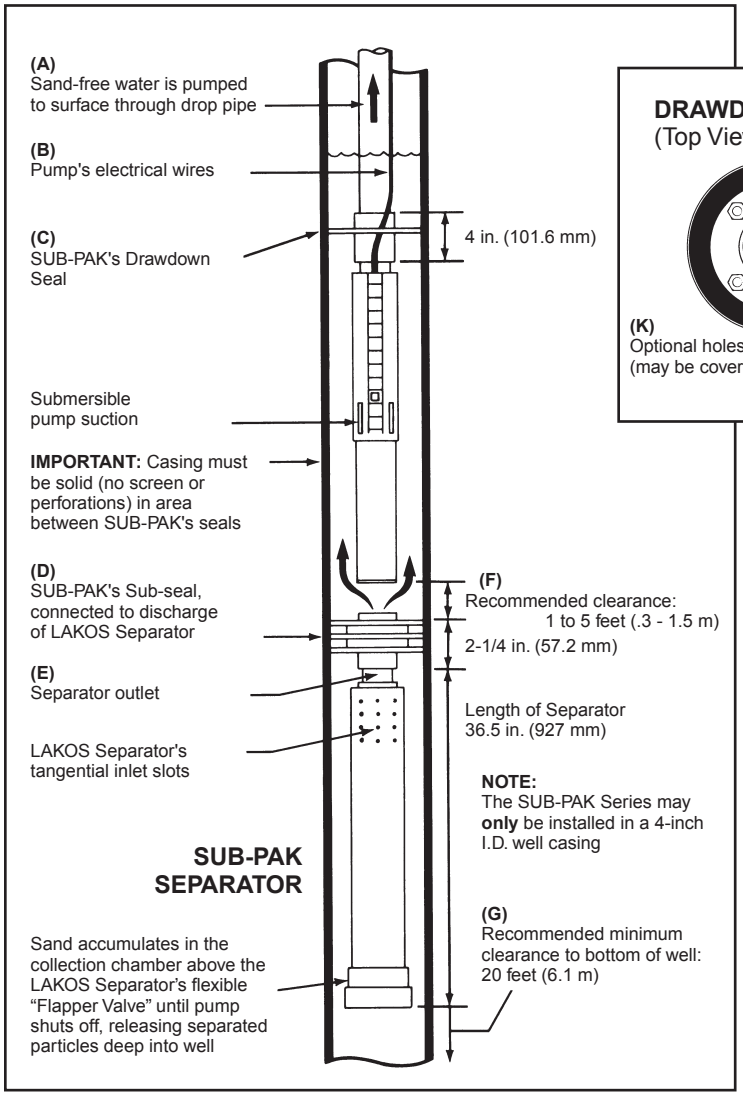
IMPORTANT NOTES

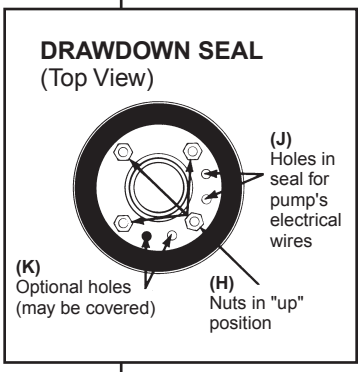
- The pump must be placed at a setting/depth where no perforations, slots or cracks are present in the well casing.
- Water must enter the well from below the setting of the LAKOS Separator.
- The water system's flow rate must be within the flow range of the Separator.
- The inner diameter of the well **must be** 4 inches.
- The SUB-PAK Series cannot be used in water wells where entrapped air may be a problem.
- The SUB-PAK Separator must be removed prior to employing any type of acid or chlorine treatment.
- Maximum particle concentration: 500 ppm.

(illustration on reverse)

INSTALLATION

1. Attach the LAKOS Separator's outlet **(E)** to the SUB-PAK's Sub-Seal **(D)**, using the 2-inch NPT threads (2½-inch NPT threads for the SUB-28-4-PAK) on each part. (Pipe dope is not needed for this connection, but if it is applied, the dope must be compatible with P.V.C. plastic to avoid degrading the plastic.)
2. Lower the Separator and Sub-Seal into the well to a depth that will allow them to clear the bottom of the pump's motor (once it is set in place) by 1 to 5 feet (.3 - 1.5 m) **(F)** and where the Separator will rest at least 20 feet (6.1 m) above the bottom of the well **(G)**.
3. Attach the SUB-PAK's Drawdown Seal **(C)** to the pump's discharge, as close to the pump as possible, with nuts in the "up" position **(H)**. The Drawdown Seal has a 1¼-inch (N.P.T.) pipe thread, so two pieces of galvanized 1¼-inch x 1-inch (N.P.T.) reducing bushings are furnished to provide a compatible fit with 1-inch (N.P.T.) drop pipes.





4. To insert the pump's electrical wires **(B)** through the Drawdown Seal, loosen the seal's nuts and insert motor lead wires through the holes provided in the top of the seal **(J)**. Retighten the nuts to hold the wires and Drawdown Seal firmly in place. (Note: On two-wire pumps, rotate the Drawdown Seal ¼ turn clockwise so that only two holes are exposed **(K)**.
5. Attach the drop pipe **(A)** to the top side of the Drawdown Seal.
6. Lower the drop pipe, Drawdown Seal and pump into the well to a depth that allows the pump's motor to remain 1 to 5 feet (.3 - 1.5 m) above the SUB-PAK's Sub Seal **(F)**.
7. Run water system in the normal manner. The LAKOS SUB-PAK Separator will operate from the flow of the water and will require no routine maintenance.

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