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PBF-50 Instructions for Assembly

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Please read these instructions carefully prior to assembling the filter. If you have any questions please call us at (504) 837-5575 or E-mail us at Aquasys@BeadFilters.com for assistance.

Parts List:

- Filter hull
- Filter head
- 7/8" shaft with propellers installed
- 5 hp mixing motor
- (1) Love-Joy couplings (7/8") with key; installed on propeller shaft
- (1) Love-Joy couplings (1 1/8") with key; installed on motor shaft
- (1) Love-Joy rubber insert/spider; installed on motor shaft
- (2) neoprene gaskets (36" x 30"); one is installed between filter head and screen, second on filter hull flange.
- (1) 36" dia. perforated 316 ss screen
- (24) 1/2" x 3 1/2" 316 ss bolts for attaching the filter head to the filter hull. * These bolts **must** be treated with a light coating of an anti-seize lubricant to prevent galling.
- (4) 1/2" x 3" 316 ss althread bolts. These are to be used on either side of the discharge couplings in-lieu of standard bolts. See below for more details/
- (28) 1/2 inch 316 ss nuts for attaching the filter head to the filter hull
- (56) 1/2 inch 316 ss flat washers for attaching the filter head to the filter hull
- (4) 1/2 inch x 1 1/2 inch 316 ss bolts for attaching the motor to the motor bracket
- (4) 1/2 inch 316 ss lock washers for attaching the motor to the motor bracket
- (1) Expanded aluminum motor guard and spring; installed

Instructions for Assembly:

- step 1: Check to be sure that the rubber gaskets is still in place on the flange of the filter hull. Make sure the bolt holes in the gasket line up with those on the filter flange. Make sure there are no beads underneath the gasket or it may not provide a good seal. Check to be sure the second gasket is installed on the flange of the filter head, again make sure the bolt holes in the gasket line up with those on the filter flange and the screen. Using four (4) pinch clamps, secure the screen to the filter head so it cannot fall off.
- step 2: If the shaft is not installed refer to step 5. **Be careful not to apply any sideways force to the shaft as it can be easily bent.** All shafts are checked and straightened to five thousands of an inch before they leave the factory.

Assuming the beads are already installed in the filter (if not see step 4 below), raise the filter head so that the shaft end will clear the flange using a fork lift or overhead crane. **Again, do not put any pressure on the shaft when moving the filter head, as it is easily bent.** Place the filter head on the filter hull. The direction of the outlets on the filter head is left to your discretion. Use the (24) ½ inch bolts with washers and nuts to fasten the filter head to the filter hull. Make sure to put a washer on the top and the bottom of every bolt. After inserting the bolts, washers (two standard flat washers per bolt), and attaching the nuts, tighten the nuts by hand until they are snug. Establish a uniform pressure over the flange face by tightening the bolts in 5 ft. lbs. increments according to the standard 180 deg opposing sequence. **Torque all the bolts to 35 ft/lbs.** If seepage occurs tighten individual bolts as needed.

step 3: The motor should be mounted after the head is bolted to the filter hull. The rubber spider must be fitted into the Love-Joy coupling on the propeller shaft. The second Love-Joy coupling is already in place on the motor shaft. Then place the motor on the stand with the wiring box facing the direction of your power supply. Be sure not to crush the rubber spider when mounting the motor. Leave a 1/8" space between the two Love-Joy couplings. The motor can be bolted in any direction by lining up the holes in the motor with the holes in the motor stand. Use the ½ inch x 1 1/2 inch bolts with lock washers to fasten the motor to the stand.

step 4: Bead Installation. If you requested that your filter(s) be shipped to you without the beads installed, the following are the bead installation instructions. Fill the filter approximately one-half full with water. Pour 33 -50 lbs bags or 30 -55 lbs bags of beads into the filter hull. Return to step 3 and follow the instructions for filter assembly.

step 5: Suspend the filter head about five feet off the ground using a forklift and/or overhead crane. The unit can be lifted and hung by attaching a lifting strap through the motor bracket. Starting at the keyed end of the propeller shaft, apply a light coating of food grade grease approximately 12" down the length of the shaft. Make sure the two allen screws in the support bearing are loose, as well as the two 5/16" bolts holding the support bearing in place. Loosening the bolts in the support bearing allows proper alignment of the bearing, shaft and seals. **(Do not twist the shaft while pushing it into the head, the key on the shaft can cut the mechanical seals and cause them to leak).** Place the shaft (key end) in the pipe and gently push it through until the end extends 3 inches above the support bearing. It may be necessary to gently tap the end of the shaft with a rubber hammer or block of wood. Once the shaft extends through the bearing, tighten the two allen screws on the support bearing locking the shaft in place. Insert the key into the keyway cut into the shaft. Then place the 7/8" Love-Joy coupling (flat side down) on to the shaft. The Love-Joy should be pushed down the shaft so that the end of the shaft just protrudes from the coupling. Tighten the allen screw in the coupling. Adjust the shaft position by loosening the allen screws in the support bearing and slide the shaft up or down to meet the coupling of the motor. Tighten the bolts holding the support bearing in place.