

INSTALLATION AND OPERATING INSTRUCTIONS IN LINE CIRCULATING PUMPS

MODELS S-25 to S-69, H-32 to H-68, and Series 1050 & 1060

CAUTION: ALWAYS DISCONNECT POWER SUPPLY FROM MOTOR BEFORE SERVICING.

INSTALLATION For convenience, Armstrong Circulators generally are installed in vertical pipelines, but may be changed easily on the job for horizontal pipelines or for opposite flow directions. To make the change, remove the body capscrews, taking care body gasket is kept in position, and rotate body to desired direction at 90° or 180° from the original position.

With arrow on body pointing in direction of flow, insert body capscrews and tighten evenly. (On Models S-25 to S-57, H-32 to H-54 and Series 1050 (1B to 2B), a gap between bearing bracket and pump body (volute) is normal. Do not overtighten body capscrews!) Turn pump shaft manually at coupler to make sure shaft turns freely and impeller does not rub in body. Always install with motor shaft in a horizontal position with pump oil cups or oil well cover on top.

Models S-25 to S-46 and H-32 to H-41 are shipped for down-discharge. All other models are shipped for up-discharge as pumps of this size usually are installed to pump upward on hydronic systems, so the point of zero pressure change - namely, the compression tank connection - can be made easily to the system on the suction side of the circulator.

The pump should be installed in a position to permit proper lubrication and servicing. Motor and bearing bracket are to be kept free of insulation. Pump and motor unit are designed to be supported by the *inline piping only*. Do not support in any other manner. A height of approximately 4 feet above floor is recommended. When placing pump between flanges, tighten flange bolts evenly and do not tighten excessively.

Gate valves should be installed on discharge and suction side of pump to facilitate service. On larger pump sizes, a check valve should be located on discharge side of pump between pump body and gate valve to prevent damage due to water hammer.

SYSTEM CLEANLINESS Before starting the pump, the system must be thoroughly cleaned, flushed and drained, then replenished with clean liquid. Welding slag and other foreign materials, "stopleak" and cleaning compounds, excessive or improper water treatment - all are detrimental to the pump internals. Guarantee will be void if any of these conditions are allowed to exist. (Refer to File No. 6090.645 - Design and Care of Closed Hydronic Systems.)

STARTING UP The pump must be fully primed on start-up. Fill system piping and pump body with liquid and vent complete system, turning pump by hand to dislodge air from body. Make sure fittings and drain valves are airtight, then add any additional fill required.

Check motor electrics against available supply, then start pump making sure rotation is correct. When viewed from motor end, rotation is counter-clockwise on Models S-25 to S-46 and H-32 to H-41. On all other models, rotation is clockwise. If pressure does not develop, stop pump, re-check, vent and fill. Never attempt to fill system when pump is running.

LUBRICATION

CAUTION: STOP MOTOR BEFORE LUBRICATION, DO NOT OVER-OIL OR SPILL ON RESILIENT MOTOR RINGS. DO NOT FORCE OIL INTO CUPS, AND STOP IF CUP FILLS BEFORE ADDITION OF SPECIFIED AMOUNT.

PUMP LUBRICATION Immediately after pump is installed and before running, slowly add the oil (SAE 30 non-detergent regular, supplied with pump) to pump oil cup, located on top of bearing bracket:

S-25 to S-57, H-32 to H-54
and Series 1050 (1B to 2B) 1/2 oz.

S-69, H-63 to H-58,
Series 1050 (1-1/2D, 2D)
and Series 1060 (3D) 3-3/4 oz.

At the start of each following heating season, lubricate with SAE 30 oil. For Models S-25 to S-57, H-32 to H-54 and Series 1050 (1B to 2B), add approximately 1/2 oz. (Lubricate every 6 months for high temperature or constant operation.) On Models S-69, H-63 to H-68, Series 1050 (1-1/2D, 2D) and Series 1060 (3D), be sure oil is visible at the top and center of window on side of bracket and maintain this level at all times.

MOTOR LUBRICATION

CAUTION: STOP MOTOR BEFORE LUBRICATING. DO NOT OVER-OIL OR SPILL ON RESILIENT MOTOR RINGS.

This motor has been lubricated properly at the factory. At the start of each following heating season, however, on *motors with oil cups*, and 15 drops SAE 30 non-detergent oil to each motor cup.

If motor is fitted with grease fittings, follow the motor manufacturer's recommended procedure. Motors without oil cups or grease fittings are custom-greased for several years operation and require little or no attention.

SEAL REPLACEMENT Remove pump bracket from body. Remove the impeller, damaged seal assembly, ceramic insert and rubber cup. Clean the recess in bearing bracket coverplate and install a new retainer cup and ceramic. Check the condition of the shaft sleeve. If scored, replace the shaft assembly. Otherwise, clean shaft extension and polish sleeve with fine crocus cloth, using a rotating motion, if required.

Press against coupler end of shaft to take up and play while pressing new seal firmly against the stationary face. A slight amount of clean vaseline may be put on shaft sleeve to assist installation. Press down firmly and evenly, using 2 screwdrivers and pushing against the 4 ears of driving band (the metal ring around rubber bellows), or around top outer edge of driving band on Models S-25 to S-57, H-32 to H-54 and Series 1050 (1B to 2B).

Do not use spring washer on Models S-25, S-35 and H-32 current style circulators, where recess to locate spring is provided on impeller hub.

Continue pressing against coupler end of shaft, re-mount impeller and re-assemble the seal bearing assembly into body. If necessary, install a new body gasket and clean gasket surface of both volute and bracket.

CAUTION: Before operating pump, carefully check:

1. IS THE PUMP PRIMED?
2. IS ROTATION CORRECT?
3. IS PUMP PROPERLY LUBRICATED?
4. DOES THE POWER SUPPLY AGREE WITH DATA ON MOTOR NAMEPLATE?
5. IS OVERLOAD PROTECTION PROVIDED?
6. IS THE SYSTEM CLEAN?

FOR DOMESTIC WATER SYSTEMS USE
BRONZE BODY PUMPS.