



PUMP HEAD REPLACEMENT INSTRUCTIONS FOR SSI SERIES-I, SERIES-II/III and STANDARD DUAL-HEAD PUMPS

Removing the Pump Head

As a guide to pump head assembly, the standard pump heads are shown in Figures 1 and 2. All pump heads have a similar arrangement. Note that the self-flush housing for Series-I differs from that shown. The Series-I pump uses a rubber diaphragm and there is no self-flush seal. Refer to your Series-I manual for further details.

1. Turn OFF the power to the pump and unplug the power cord.
2. Remove the inlet line and filter from the mobile phase reservoir. Be careful not to damage the inlet filter or crimp the Teflon tubing.
3. Remove the inlet line from the inlet check valve.
4. Remove the outlet line from the outlet check valve.
5. Remove inlet and outlet flushing check valves.
6. Carefully remove the two knurled thumb screws or Allen nuts at the front of the pump head using a suitable tool.

CAUTION: Be careful not to break the piston when removing the pump head. Twisting the pump head can cause the piston to break.

7. Carefully separate the pump head from the pump. Move the pump head straight out from the pump and remove it from the piston. Be careful not to break or damage the piston. Also remove the seal and seal backup washer from the piston if they did not stay in the pump head.
8. Carefully separate the flush housing from the pump. Move the flush housing straight out from the pump and remove it from the piston. Be careful not to break or damage the piston. Also remove the self-flush seal/guide bushing from the piston if it did not stay in the flush housing.

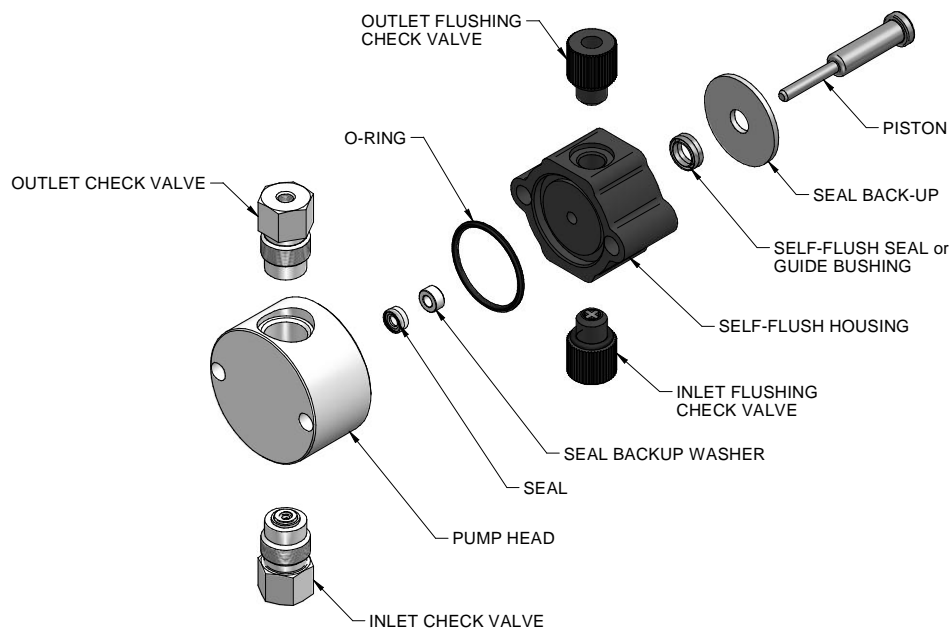


Figure 1: Stainless Steel Self-Flushing Pump Head Assembly

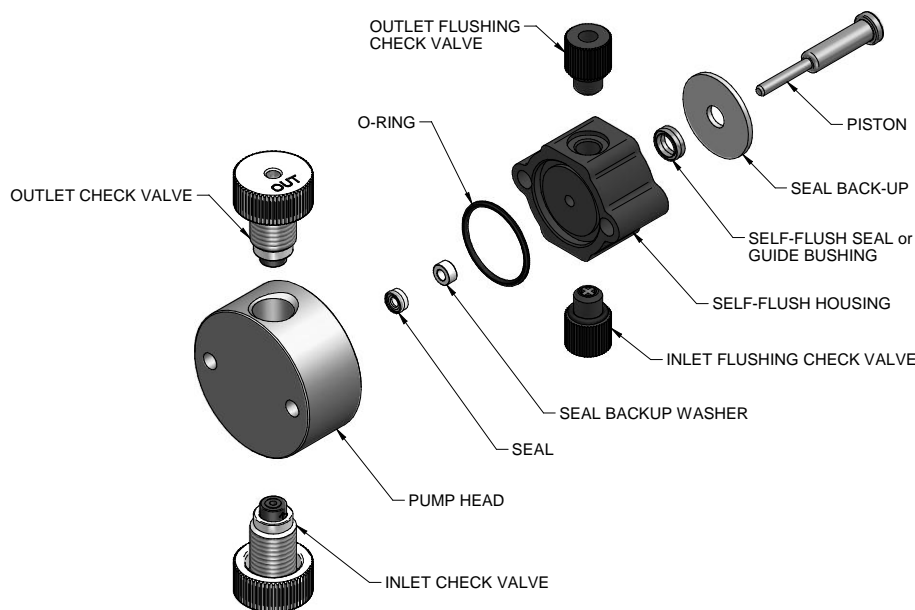


Figure 2: PEEK Self-Flushing Pump Head Assembly

Replacing the Pump Head

1. Carefully align the flush housing and gently slide it into place on the pump. Make sure that the Inlet flush valve is on the bottom and the Outlet flush valve is on the top. If misalignment with the piston occurs, gently push up on the piston holder.
2. Line up the pump head and carefully slide it into place. Be sure that the Inlet valve (1/4-28 for 1/8 tubing) is on the bottom and the Outlet valve (#10-32 CPI for 1/16 tubing) is on the top. Do not force the pump head into place.
3. Finger tighten both knurled thumb screws or Allen nuts into place. Then tighten firmly by turning fasteners about 1/4 turn (alternating side-to-side) while gently wiggling the pump head to center it, using a suitable tool.
4. Reattach the inlet and outlet lines. Reattach the self-flush check valves. Change the flushing solution.
NOTE: For pumps with existing 1/4" O.D. tygon tubing for self flush, hose barbs supplied with the pump head replacement kit are required.

Conditioning New Seals

New seals should be conditioned prior to use. Conditioning is the process of running the seals wet under controlled conditions to allow surfaces to seat and to break-in the function of the seal.

Note: Use only organic solvents to condition new seals. Buffer solutions and salt solutions should never be used to condition new seals. Recommended solvents are HPLC-grade methanol and isopropanol, and water mixtures of either.

Suggested Conditioning Parameters: Using a restrictor coil or a suitable column, run the pump with a 50:50 solution of isopropanol (or methanol) and water for 30 minutes at the back pressure and flow rate listed under PHASE 1 below according to the pump head type. Then run the pump for 15 minutes at a back pressure and flow rate listed under PHASE 2 below.

PHASE 1

Pump Type	Pressure	Flow Rate
5, 10, 12 or 24 ml/min pump	2,000 psi	<3 mL/min
40 ml/min or higher pump	1,000 psi	<3 ml/min

PHASE 2

Pump Type	Pressure	Flow Rate
5, 10, 12 or 24 ml/min pump	3,000 – 4,000 psi	3 - 4 mL/min
40 ml/min or higher pump	1,500 psi	<6 ml/min