Instructions

Pump Wet-cup Flush Kits

COMPLETE KITS CONVERT ELECTRIC REACTOR™ TO WET-CUP FLUSH DESIGN
Kits include reservoir, pump wet-cup, tubes, and fittings
Part No. 248061, for Reactor Models E-20 and E-XP1
Part No. 248062, for Reactor Model E-XP2
Part No. 248063, for Reactor Model E-30

RESERVOIR KIT MODIFIES ELECTRIC REACTOR TO USE WET-CUP FLUSH DESIGN
Kit includes reservoir, tubes, and fittings (pump not included)
Part No. 246928

PROVEN QUALITY. LEADING TECHNOLOGY.
Flush Pump Before Installing Kit

![Image](FIG. 1. Flush component A (ISO) side from pump A inlet (C) to PRESSURE RELIEF/SPRAY valve (SA) on Reactor fluid manifold. See Reactor operation manual for details.

**WARNING**

Read warnings in Reactor operation manual. Flush equipment only in a well-ventilated area. Do not spray flammable fluids. Do not turn on heaters while flushing with flammable solvents.

**Tools Required**

- 12 in. adjustable wrench
- 1/4 in. open end wrench
- 7/16 in. open end wrench
- 13/16 in. open end wrench
- 7/8 in. open end wrench
- non-sparking hammer
- channel locks
- dropcloth and rags
- vise with soft jaws
- thread sealant
Disassembly

Numbers and letters in parentheses refer to the figures and the parts list and drawing on page 9.

1. If pumps are not parked, press Trigger gun until pumps stop. After fluid pressure drops below 700 psi (4.9 MPa, 49 bar), motor will run until pumps are at bottom of strokes, then shut off. Pump rod pins will be showing.

2. Turn main power OFF. Disconnect power supply.

3. Shut off both feed pumps. Close both fluid inlet ball valves (B).

4. Turn both PRESSURE RELIEF/SPRAY valves (SA, SB) to PRESSURE RELIEF. Route fluid to waste containers or supply tanks. Ensure gauges drop to 0. Refer to Reactor operation manual.

WARNING

Pump rod and connecting rod move during operation. Moving parts can cause serious injury such as pinching or amputation. Keep hands and fingers away from connecting rod during operation. Read warnings in Reactor operation manual.

5. Disconnect swivel elbow from pump A fluid inlet (C).

Use dropcloth or rags to protect Reactor and surrounding area from spills.
6. See Fig. 2. Disconnect outlet tube (D) from pump A outlet and from heater inlet.

7. Push retaining wire clip (S) up. Push pin (P) out. Loosen star-shaped locknut (G) by hitting firmly with a non-sparking hammer. Unscrew pump from bearing housing (H).
Installation

1. Place pump in vise with soft jaws. Remove brass packing nut assembly.

2. Install new wet-cup assembly (10). Screw it all the way down, so external o-ring (R) seats on top of pump housing. Wrap base of wet-cup with a rag and tighten securely with channel locks.

3. Screw pump (A) into bearing housing (H) until top threads are level with bearing face (N). Rotate pump to align pump outlet fitting to outlet tube (D).

4. Wet-cup (10) has four 1/8 npt ports. Two will be obstructed by bearing housing (H) when pump is installed. Note or mark these ports. Remove pump. Apply thread sealant and install plugs (3) in the two obstructed ports. Torque plugs to 10-15 ft-lb (14-20 N•m). Do not overtighten.

5. Ensure star-shaped locknut (G) is screwed on pump with flat side up. Carefully twist and extend the rod (R) 2 in. (51 mm) above the wet-cup assembly (10).

6. Start threading pump (A) into bearing housing (H). Place finger guard (9) over rod when it is accessible through window of bearing housing (H). When pin holes align, insert pin. Pull retaining wire clip down.

7. Seat finger guard on wet-cup (10). Continue threading pump into bearing housing (H) until top threads are +/- 1/16 in. (2 mm) of bearing face (N).

Finger guard is not used on Model E-30.
8. Apply thread sealant and screw barbed fitting (2) into motor side of wet-cup (10). Torque to 10-15 ft-lb (14-20 N·m). *Do not overtighten.*

9. Apply thread sealant and screw elbow (8) into remaining wet-cup port. Torque to 10-15 ft-lb (14-20 N·m). *Do not overtighten.*

10. Apply thread sealant and screw barbed fitting (2) into elbow (8). Torque to 10-15 ft-lb (14-20 N·m). *Do not overtighten.*

11. Connect component A outlet tube (D) loosely at pump and at heater. Line up tube, then tighten fittings securely.

12. Tighten star-shaped locknut (G) by hitting firmly with a non-sparking hammer.

13. Position holder (4) on Reactor frame upright and secure with two spring clips (5).


15. Apply thin film of TSL to barbed fittings (2). Using two hands, support tubing (1a) while pushing it straight onto barbed fittings (2). *Do not let tubing kink or buckle.* Secure each tube with a wire tie (7) between two barbs.

16. Connect swivel elbow (C) to pump fluid inlet.

Purge Air and Prime Flush Kit

1. Open fluid inlet ball valves (B).

2. Turn on feed pumps.

3. Secure bleed lines (L) in grounded, sealed waste containers.

4. Slowly turn both PRESSURE RELIEF/SPRAY valves (SA, SB) to SPRAY.

5. Run motor in jog mode.

6. Each time pump A rod reaches bottom of stroke, check that some TSL is pumped from reservoir (1), through wet-cup (10), and back to reservoir.

7. When system is fully loaded, check that reservoir is 3/4 full of TSL. Be sure all air is purged from pumps, lines, and heaters through PRESSURE RELIEF/SPRAY valves (SA, SB). Trapped air can cause mix problems at gun.

8. Return Reactor to service.
Maintenance

Changing the TSL

Part No. 206995 Throat Seal Liquid (TSL) carries isocyanate from the pump rod into the reservoir. After some time the TSL will thicken and darken, and must be replaced. Thick, dirty TSL will not pump through the lines and will harden in the pump wet-cup.

How long TSL lasts depends on which chemicals are used, how much is used, what pressure, and condition of the pump seal and rod. Check the condition of the TSL every week, minimum, and change when needed.

To change TSL:

1. Turn main power OFF. Disconnect power supply.
2. Relieve pressure, see Reactor operation manual.
4. Clean screen (V) of inlet check valve (1c). If check valves are not sealing and dirty TSL is getting into the wet-cup, replace the check valves (1b, 1c).
5. Fill reservoir 3/4 full with TSL (6).
6. Run pump. Each time pump A rod reaches bottom of stroke, check that some TSL is pumped from reservoir (1), through wet-cup (10), and back to reservoir.

Converting to a New Component A (ISO) Pump

Part No. 246928 includes reservoir, tubing, and fittings necessary to modify the Reactor to use the wet-cup flush design. Order the pump separately, see below. Refer to displacement pump manual 309577 for further information.

<table>
<thead>
<tr>
<th>Reactor Model</th>
<th>Order Pump No.</th>
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<tbody>
<tr>
<td>E-20, E-XP1</td>
<td>246830</td>
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<tr>
<td>E-XP2</td>
<td>246831</td>
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<tr>
<td>E-30</td>
<td>246832</td>
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</table>
# Parts

248061 Complete Kit, Models E-20 and E-XP1; includes items 1-10  
248062 Complete Kit, Model E-XP2; includes items 1-10  
248063 Complete Kit, Model E-30; includes items 1-8, 10  
246928 Reservoir Kit, All Models; includes items 1-8

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![Detail of Check Valves](image)

> ▶️ Torque to 10-15 ft-lb (14-20 N·m).
> ▶️ Out of view.
> ▶️ Not used on Model E-30.

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<table>
<thead>
<tr>
<th>Ref. No.</th>
<th>Part No.</th>
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<tr>
<td>1</td>
<td>246995</td>
<td>ASSEMBLY, reservoir; includes 1a-1c</td>
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<tr>
<td>1a</td>
<td>054826</td>
<td>TUBE; PTFE; 1/4 in. (6 mm) ID; 2 ft (0.6 m)</td>
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<td>1b</td>
<td>118433</td>
<td>VALVE, check, outlet</td>
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<tr>
<td>1c</td>
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<td>VALVE, check, inlet</td>
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<td>2</td>
<td>116746</td>
<td>FITTING, barbed</td>
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<td>3</td>
<td>C19263</td>
<td>PLUG, pipe; 1/8 npt</td>
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<td>4</td>
<td>15C568</td>
<td>HOLDER, reservoir</td>
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<td>5</td>
<td>186494</td>
<td>CLIP, spring</td>
<td>2</td>
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<td>6</td>
<td>206995</td>
<td>THROAT SEAL LIQUID; 1 qt (1 liter)</td>
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<td>7</td>
<td>103473</td>
<td>WIRE TIE</td>
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