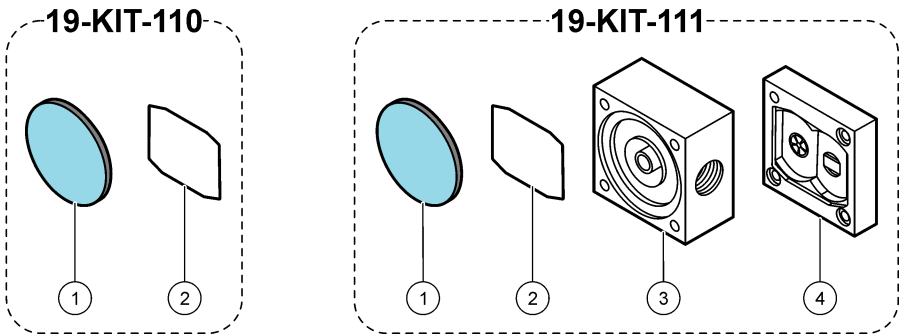


19-KIT-110 and 19-KIT-111

Product components

Make sure that all components have been received. Refer to [Figure 1](#). If any items are missing or damaged, contact the manufacturer or a sales representative immediately.

Figure 1 Product components

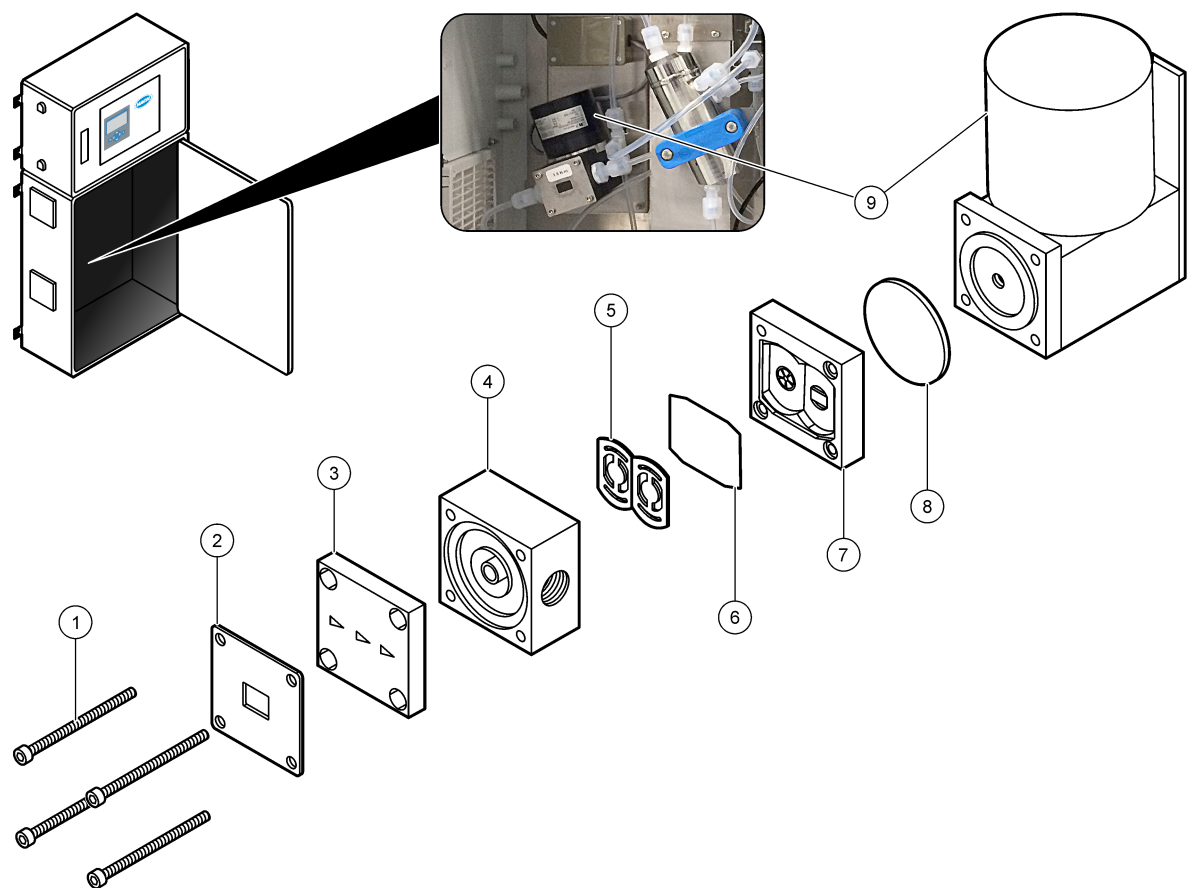


1 PTFE coated diaphragm, white (10-KNF-038)	3 Connection plate (10-KNF-047)
2 EPDM O-ring (10-KNF-009)	4 Intermediate plate (10-KNF-047)

Pump overview

Figure 2 shows components of the NF300 circulation pump.

Figure 2 Pump overview



1 Screws, Allen 3 mm, T20 or Phillips No. 2 (4x)	4 Connection plate	7 Intermediate plate
2 Metal cover plate	5 FFPM valves (2x)	8 PTFE coated diaphragm
3 Top plate (10-KNF-004)	6 EPDM O-ring	9 NF300 circulation pump

6-month maintenance (19-KIT-110)

NOTICE

A torque screwdriver is necessary for the correct maintenance of the pump. Do not continue without a torque screwdriver.

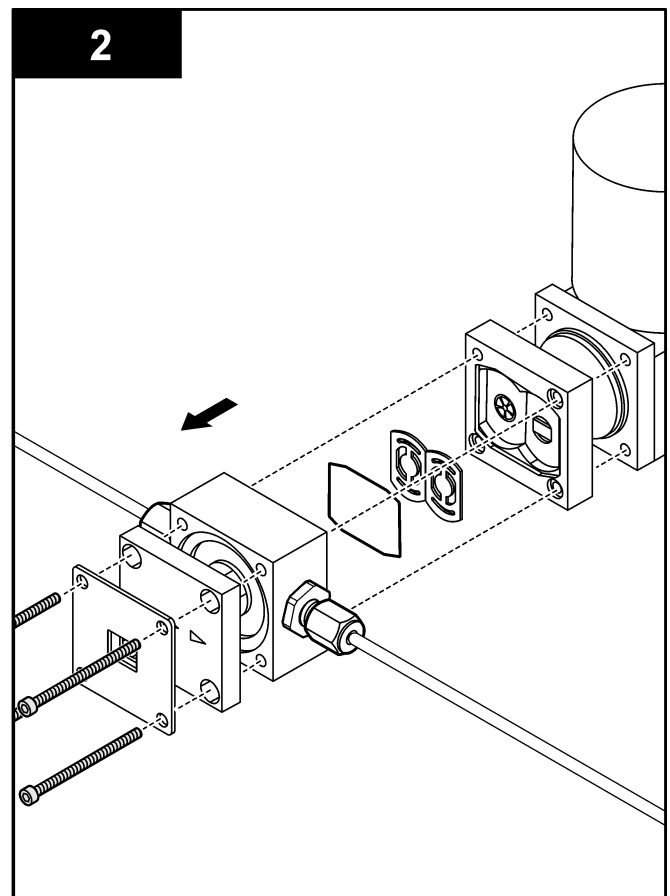
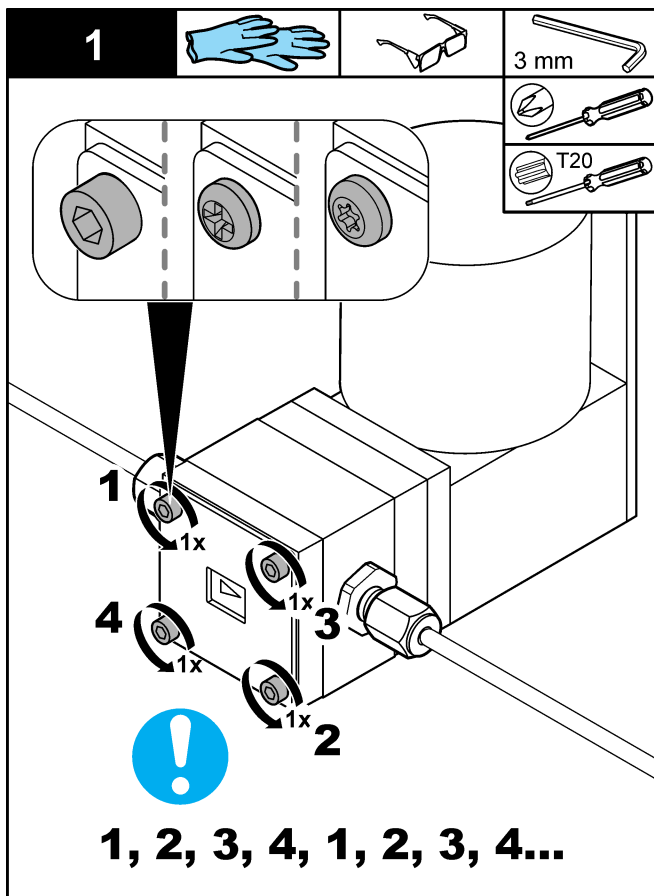
At 6-month intervals, replace the PTFE coated diaphragm and EPDM O-ring.

Put on protective gloves to prevent contamination. Put on safety glasses for personal protection.

Items to collect:

- Torque screwdriver calibrated to 1.4 Nm (or 1.5 Nm for pumps with a metal cover plate)
- 3 mm Allen bit, Torx 20 bit (newer pumps) or Phillips No. 2 bit (older pumps)
- Protective gloves
- Safety glasses
- Lint-free cloth
- Deionized water

1. Remove the four screws. Loosen the screws in the sequence shown to prevent damage to the threads. Loosen the screws in small steps on each screw before the next screw is loosened.
2. Disconnect the pump components.



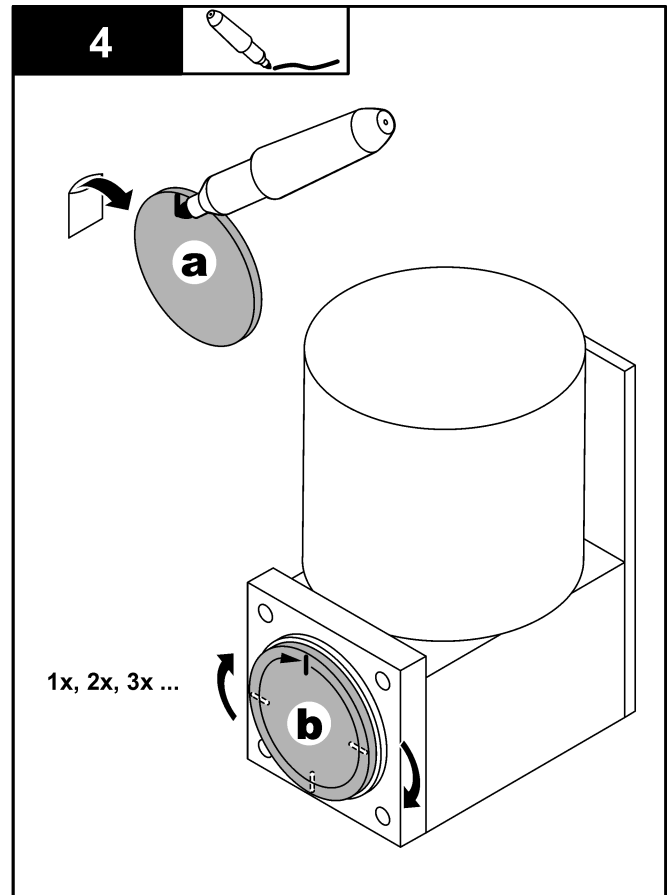
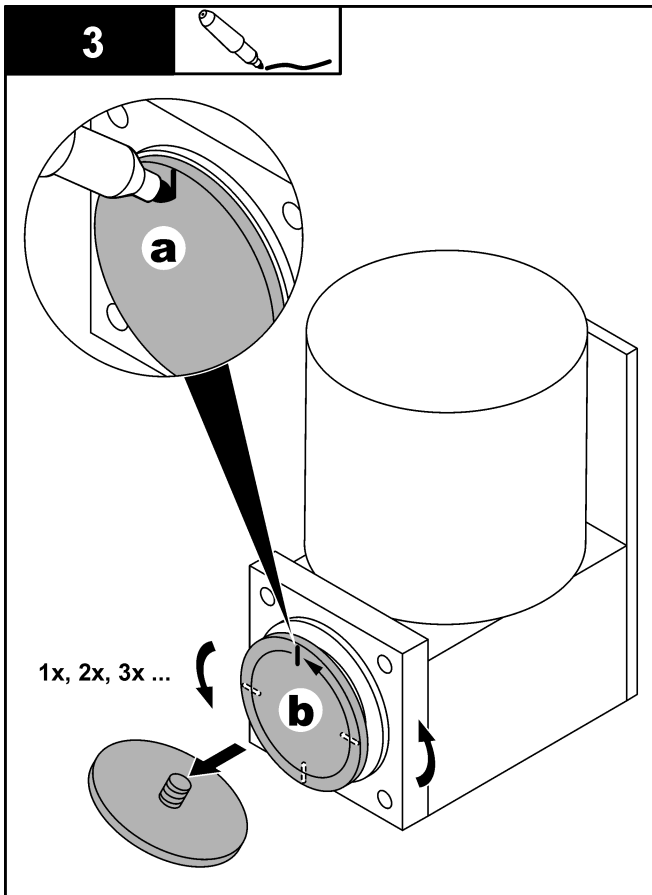
3. Remove the diaphragm as follows:

- a.** Put a small mark on the edge of the diaphragm.
- b.** Use two hands to carefully turn the diaphragm. Count the number of rotations until the diaphragm is removed.

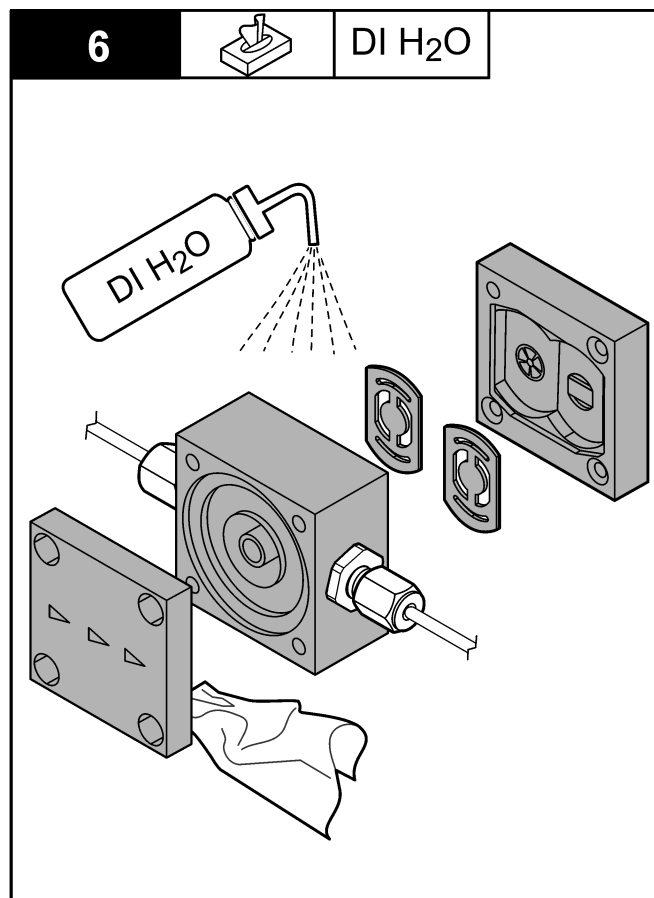
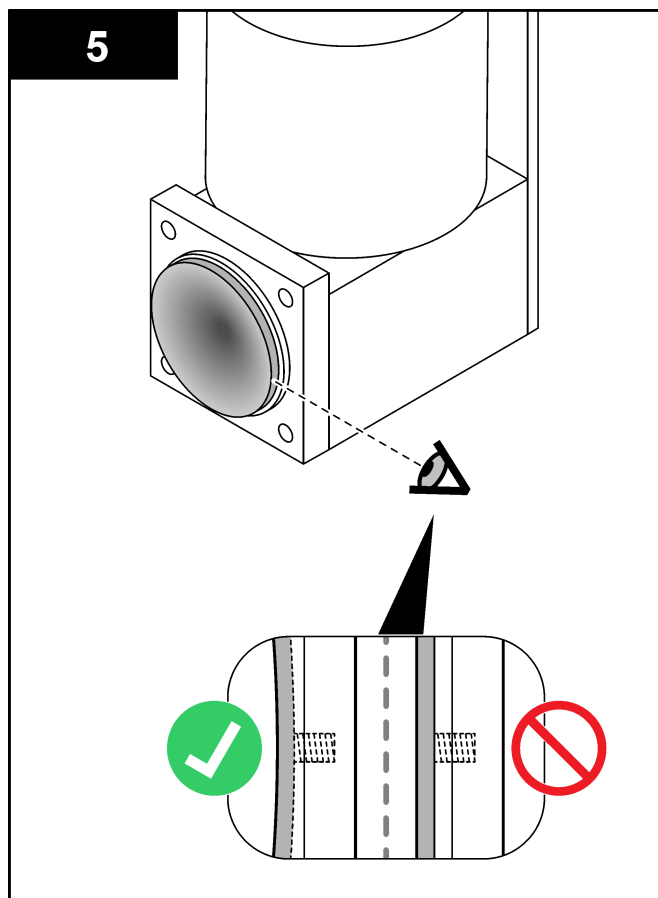
4. Install the new diaphragm as follows:

- a.** Put a small mark on the edge of the diaphragm.
- b.** Use two hands to carefully turn the diaphragm. Count the number of rotations until the diaphragm is installed.

The usual number of turns is 7 to 8.5. If the number of turns is less than 7 or less than the number of turns to remove the old diaphragm, remove the diaphragm and try again.



5. Push the edge of the diaphragm down. Make sure that the diaphragm center is concave as shown.
6. Clean the top plate, connection plate, intermediate plate and the two FFPM valves with deionized water and a lint-free cloth. If the valves have wear or damage, replace the valves (10-KNF-006).



7. Install the two FFPM valves in the intermediate plate. Look at the compression marks¹ on the valves for the correct orientation.

Install the new EPDM O-ring in the intermediate plate. Assemble the pump. Use the positioning forms at the screw holes to identify the correct orientation of the parts.

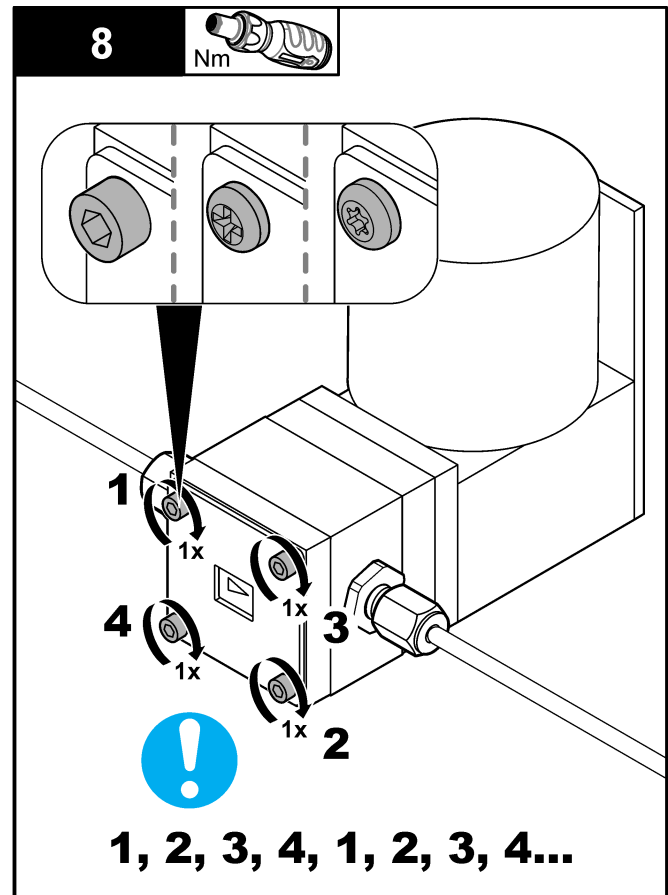
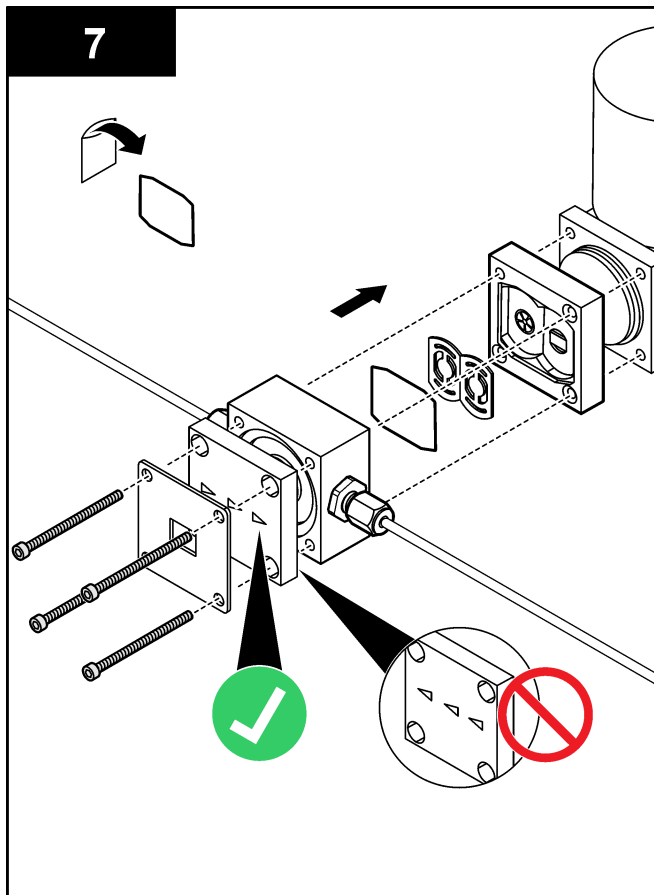
Note: If the orientation of the arrows on the top plate is changed, the pumping direction changes.

8. Tighten the four screws. Tighten the screws in the sequence shown to prevent damage to the threads.

Note: If there is not a metal cover plate, put a washer below the head of each screw.

Use a torque screwdriver calibrated to 1.4 Nm (or 1.5 Nm for pumps with a metal cover plate).

Tighten the screws in small steps on each screw before the next screw is tightened.



¹ To remove compression marks on the valves, put the valves in boiling water for approximately 10 minutes. Wait 10 minutes for the valves to become cool before installation.

12-month maintenance (19-KIT-111)

NOTICE

A torque screwdriver is necessary for the correct maintenance of the pump. Do not continue without a torque screwdriver.

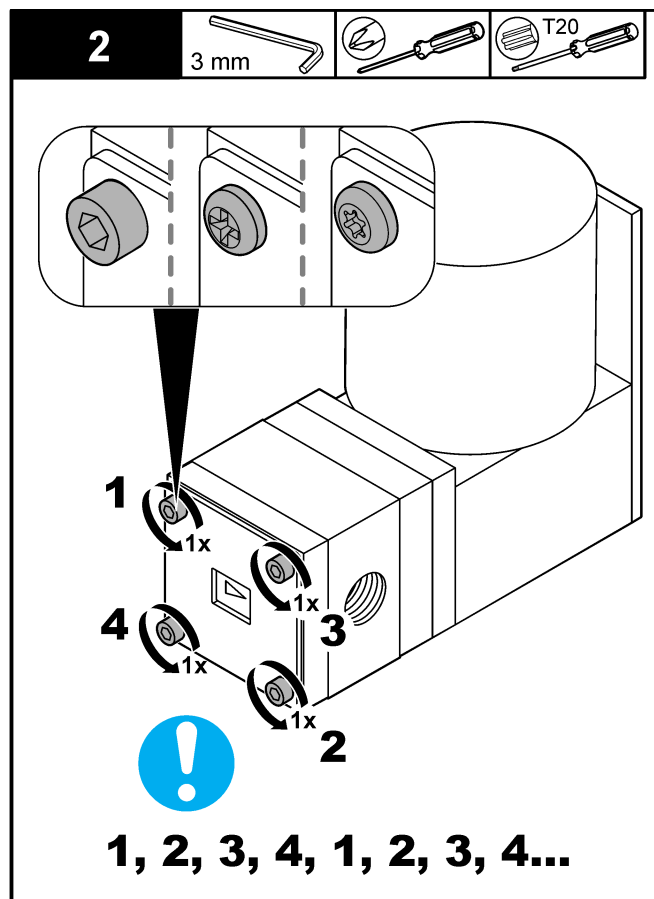
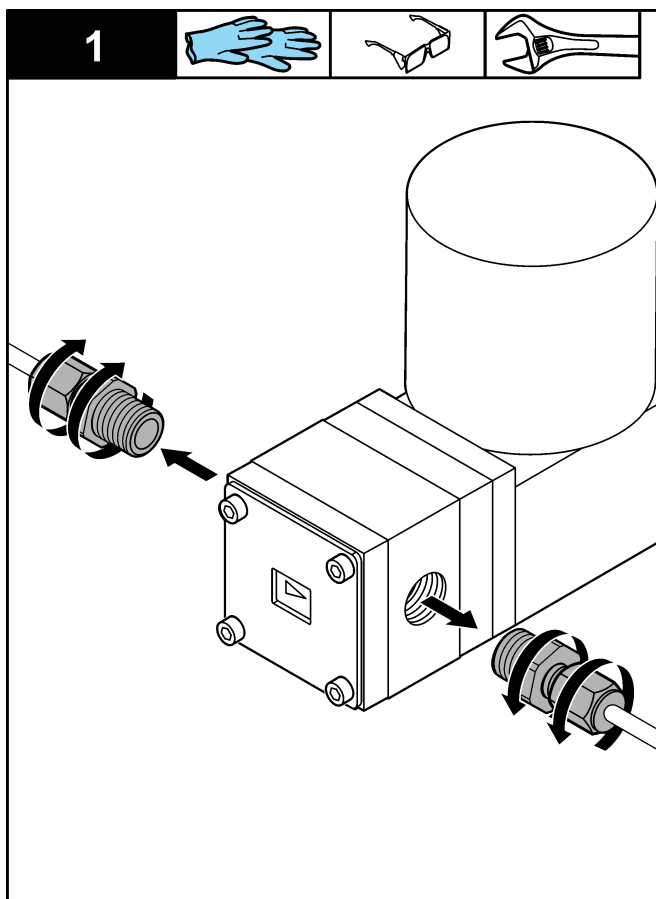
At 12-month intervals, replace the PTFE coated diaphragm, EDPM O-ring, connection plate and intermediate plate.

Put on protective gloves to prevent contamination. Put on safety glasses for personal protection.

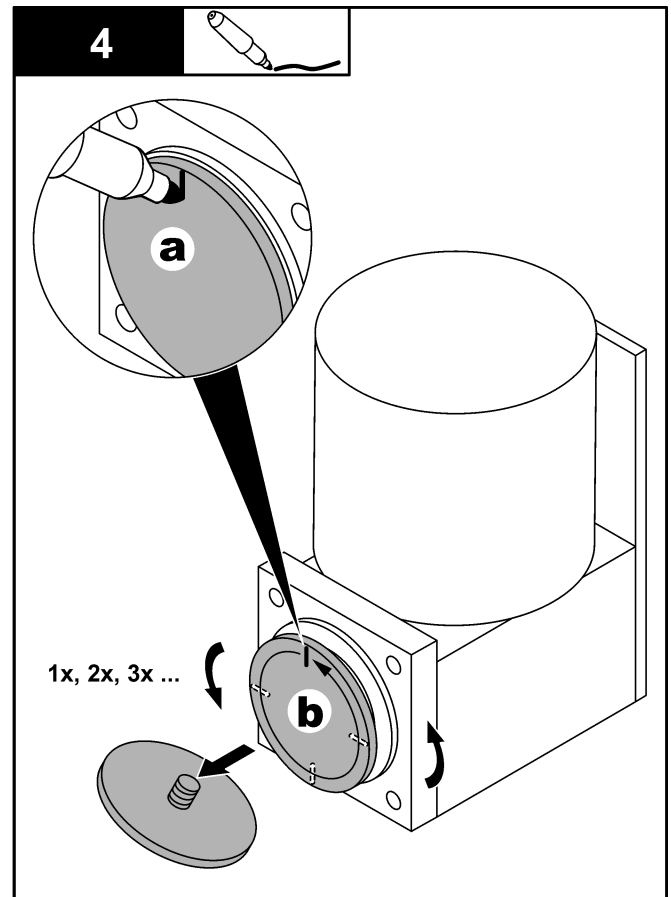
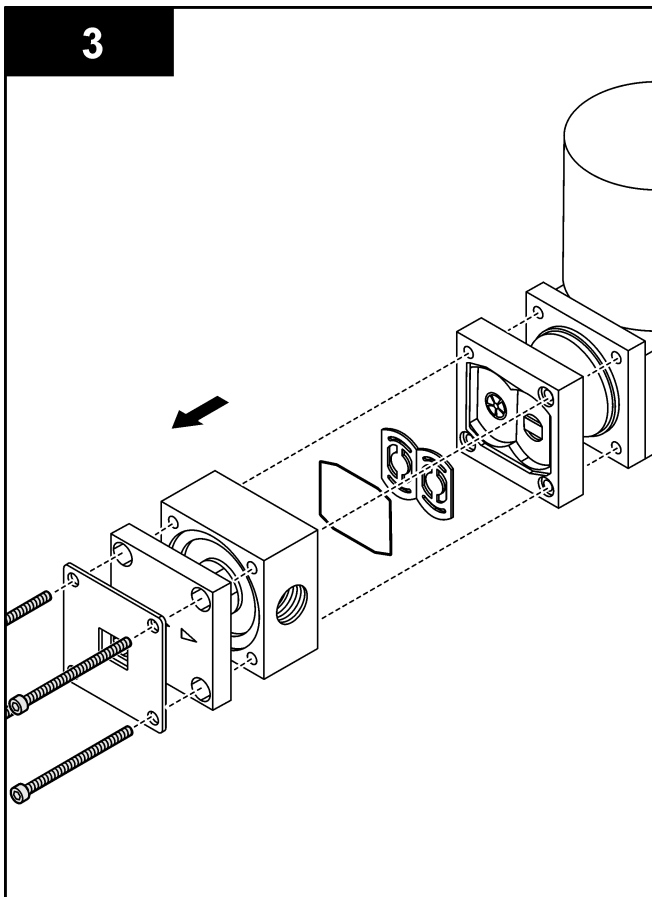
Items to collect:

- Torque screwdriver calibrated to 1.4 Nm (or 1.5 Nm for pumps with a metal cover plate)
- 3 mm Allen bit, Torx 20 bit (newer pumps) or Phillips No. 2 bit (older pumps)
- Protective gloves
- Safety glasses
- Lint-free cloth
- Deionized water

1. Remove the tube fittings from the pump.
2. Remove the four screws. Loosen the screws in the sequence shown to prevent damage to the threads.
Loosen the screws in small steps on each screw before the next screw is loosened.



3. Disconnect the pump components.
4. Remove the diaphragm as follows:
 - a. Put a small mark on the edge of the diaphragm.
 - b. Use two hands to carefully turn the diaphragm. Count the number of rotations until the diaphragm is removed.

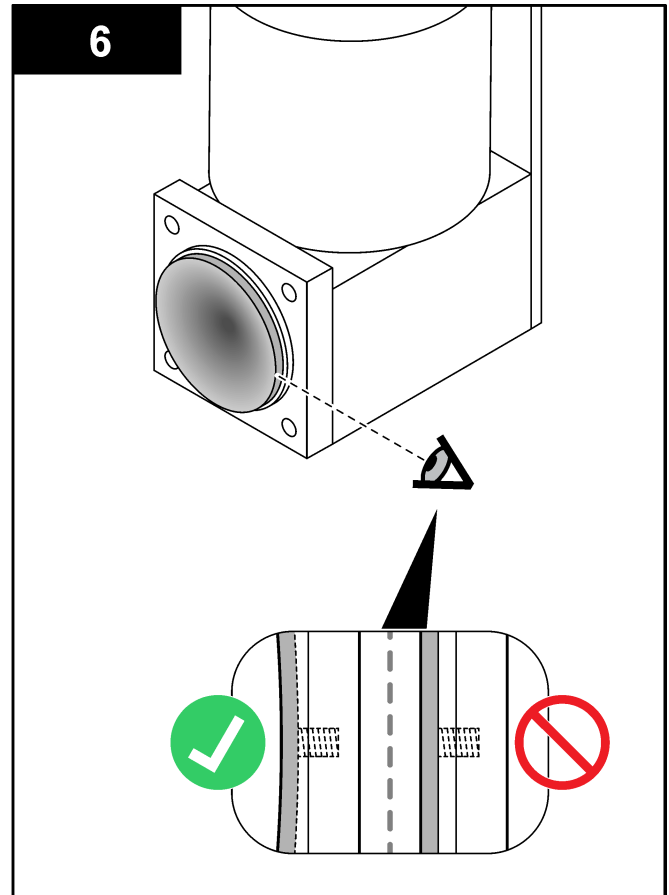
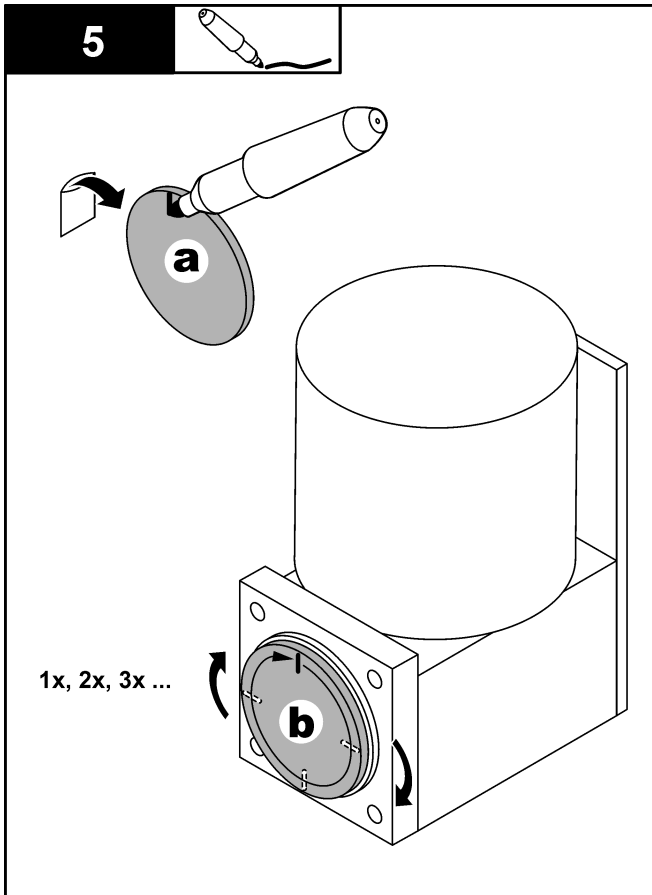


5. Install the new diaphragm as follows:

- a.** Put a small mark on the edge of the diaphragm.
- b.** Use two hands to carefully turn the diaphragm. Count the number of rotations until the diaphragm is installed.

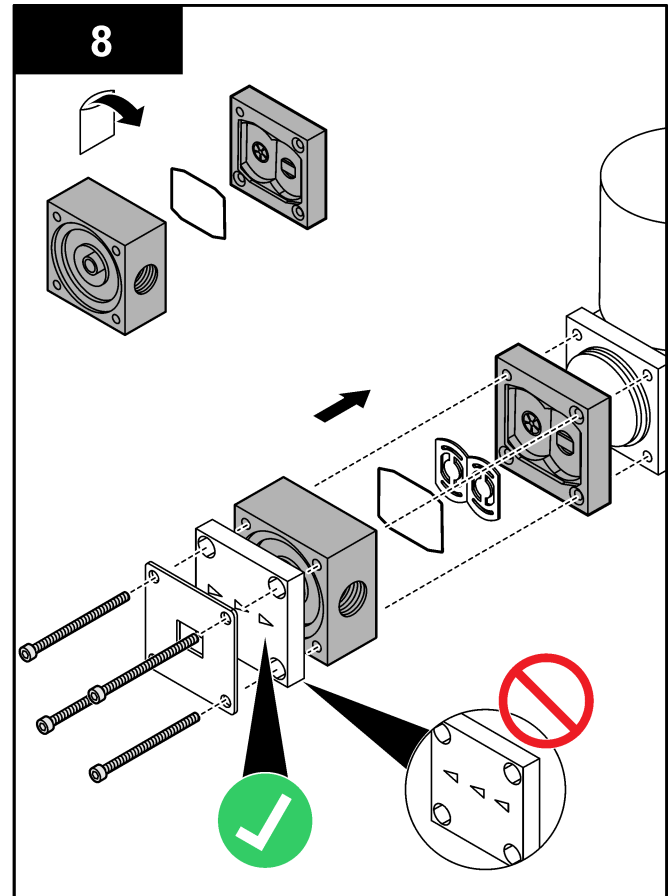
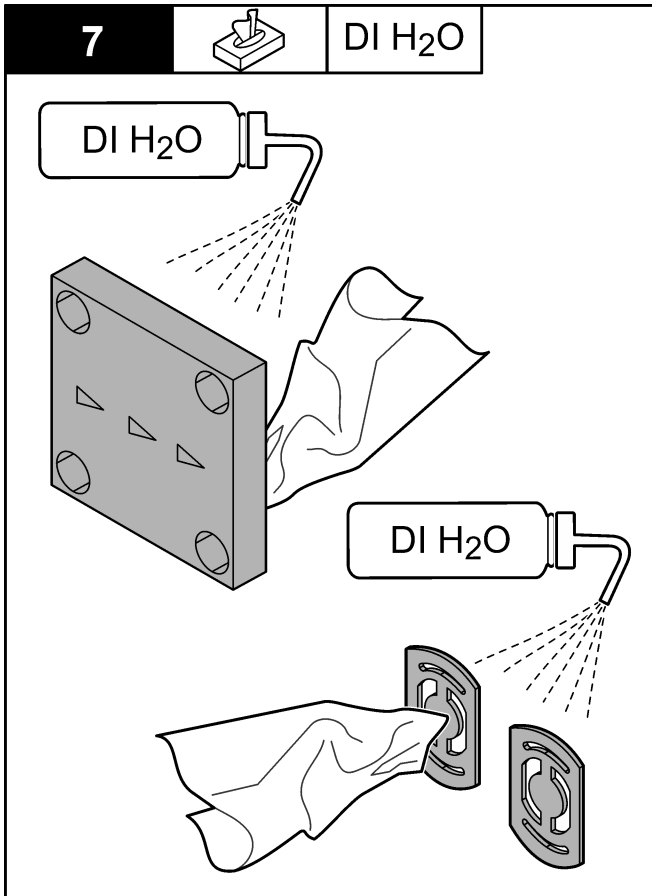
The usual number of turns is 7 to 8.5. If the number of turns is less than 7 or less than the number of turns to remove the old diaphragm, remove the diaphragm and try again.

6. Push the edge of the diaphragm down. Make sure that the diaphragm center is concave as shown.



7. Clean the top plate and the two FFPM valves with deionized water and a lint-free cloth. If the valves have wear or damage, replace the valves (10-KNF-006).
 8. Install the two FFPM valves in the new intermediate plate. Look at the compression marks² on the valves for the correct orientation.
- Install the new EPDM O-ring in the new intermediate plate. Assemble the pump. Use the positioning forms at the screw holes to identify the correct orientation of the parts.

Note: If the orientation of the arrows on the top plate is changed, the pumping direction changes.



² To remove compression marks on the valves, put the valves in boiling water for approximately 10 minutes. Wait 10 minutes for the valves to become cool before installation.

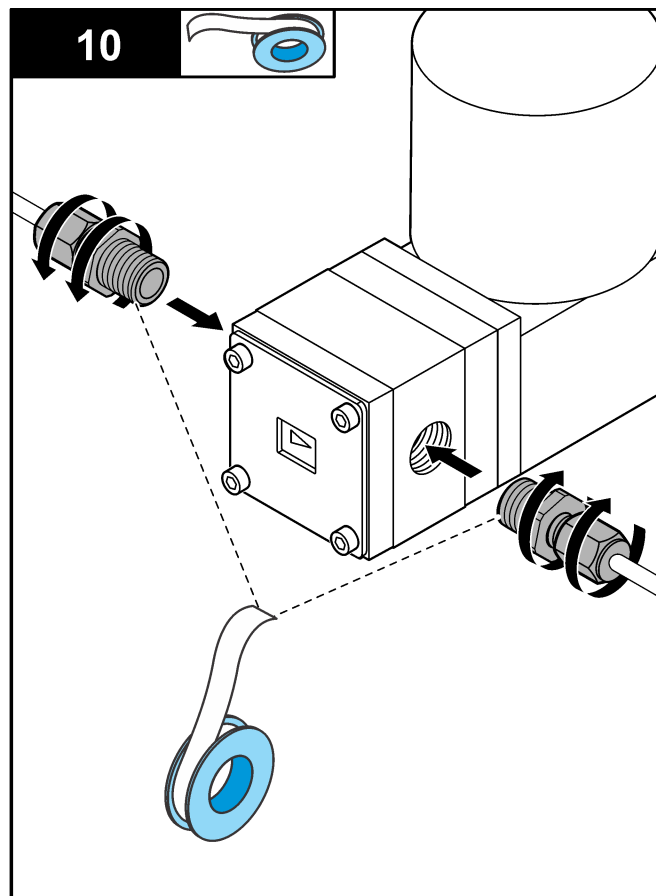
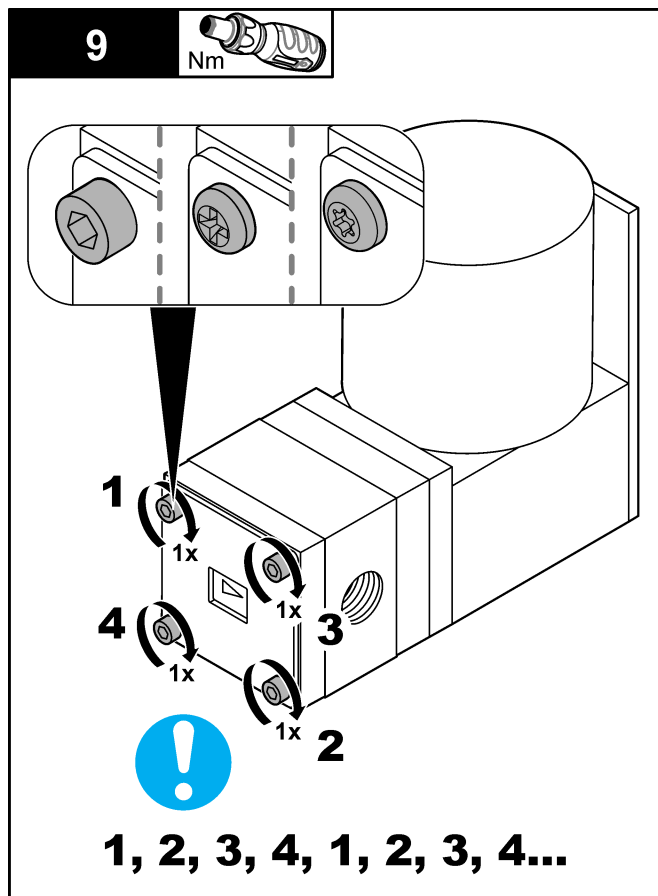
9. Tighten the four screws. Tighten the screws in the sequence shown to prevent damage to the threads.

Note: If there is not a metal cover plate, put a washer below the head of each screw.

Use a torque screwdriver calibrated to 1.4 Nm (or 1.5 Nm for pumps with a metal cover plate).

Tighten the screws in small steps on each screw before the next screw is tightened.

10. Put PTFE tape on the tube fittings. Then, install the tube fittings.



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