

## EP3 and EP4 Hose Pumps

3A1939E  
EN

Electric-powered hose pump for use in fluid transfer and metering applications. For professional use only.

Not approved for use in explosive atmospheres or hazardous locations.

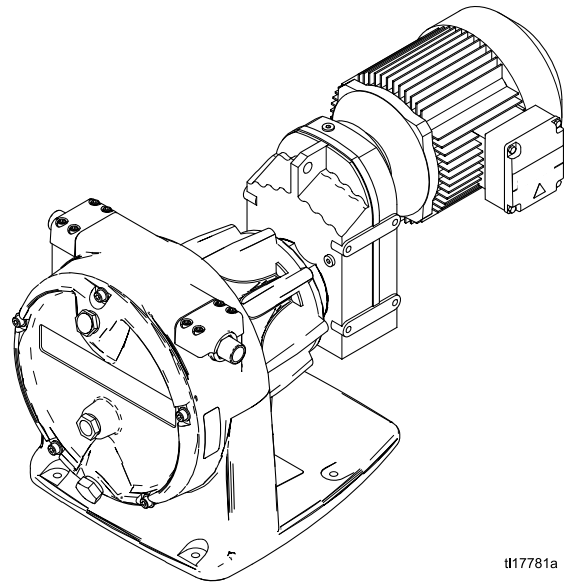


### Important Safety Instructions

Read all warnings and instructions in this manual. Save these instructions.

200 psi (1.4 MPa, 14 bar) Maximum  
Fluid Working Pressure

See page 3 for model part numbers  
and information.



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## Models

Pump Model	Hose ID Size (mm)	Reference
EP3016	16	See <a href="#">Model EP3016 Pumps, page 22</a> for a complete list of pump part numbers and descriptive information.
EP3019	19	See <a href="#">Model EP3019 Pumps, page 25</a> for a complete list of pump part numbers and descriptive information.
EP4025	25	See <a href="#">Model EP4025 Pumps, page 28</a> for a complete list of pump part numbers and descriptive information.
EP4029	29	See <a href="#">Model EP4029 Pumps, page 30</a> for a complete list of pump part numbers and descriptive information.

# Warnings

The following warnings are for the setup, use, grounding, maintenance and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbol refers to procedure-specific risks. When these symbols appear in the body of this manual or on warning labels, refer back to these Warnings. Product-specific hazard symbols and warnings not covered in this section may appear throughout the body of this manual where applicable.

 <h2 style="margin: 0;">WARNING</h2>	
	<p><b>FIRE AND EXPLOSION HAZARD</b></p> <p>Flammable fumes, such as solvent and paint fumes, in <b>work area</b> can ignite or explode. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> <li>• Use equipment only in well ventilated area.</li> <li>• Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc).</li> <li>• Keep work area free of debris, including solvent, rags and gasoline.</li> <li>• Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present.</li> <li>• Ground all equipment in the work area. See <b>Grounding</b> instructions.</li> <li>• Use only grounded hoses.</li> <li>• Hold gun firmly to side of grounded pail when triggering into pail.</li> <li>• If there is static sparking or you feel a shock, <b>stop operation immediately</b>. Do not use equipment until you identify and correct the problem.</li> <li>• Keep a working fire extinguisher in the work area.</li> </ul>
	<p><b>ELECTRIC SHOCK HAZARD</b></p> <p>This equipment must be grounded. Improper grounding, setup, or usage of the system can cause electric shock.</p> <ul style="list-style-type: none"> <li>• Turn off and disconnect power at main switch before disconnecting any cables and before servicing or installing equipment.</li> <li>• Connect only to grounded power source.</li> <li>• All electrical wiring must be done by a qualified electrician and comply with all local codes and regulations.</li> </ul>
	<p><b>MOVING PARTS HAZARD</b></p> <p>Moving parts can pinch, cut or amputate fingers and other body parts.</p> <ul style="list-style-type: none"> <li>• Keep clear of moving parts.</li> <li>• Do not operate equipment with protective guards or covers removed.</li> <li>• Pressurized equipment can start without warning. Before checking, moving, or servicing equipment, follow the <b>Pressure Relief Procedure</b> and disconnect all power sources.</li> </ul>

 <h1 style="margin: 0;">WARNING</h1>	
 	<p><b>ENTANGLEMENT HAZARD</b> Rotating parts can cause serious injury.</p> <ul style="list-style-type: none"> <li>• Keep clear of moving parts.</li> <li>• Do not operate equipment with protective guards or covers removed.</li> <li>• Do not wear loose clothing, jewelry or long hair while operating equipment.</li> <li>• Equipment can start without warning. Before checking, moving or servicing equipment, follow the <b>Pressure Relief Procedure</b> and disconnect all power sources.</li> </ul>
	<p><b>TOXIC FLUID OR FUMES</b> Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.</p> <ul style="list-style-type: none"> <li>• Read MSDSs to know the specific hazards of the fluids you are using.</li> <li>• Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.</li> </ul>
	<p><b>PERSONAL PROTECTIVE EQUIPMENT</b> You must wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect you from serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. This equipment includes but is not limited to:</p> <ul style="list-style-type: none"> <li>• Protective eyewear, and hearing protection.</li> <li>• Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.</li> </ul>
 	<p><b>PRESSURIZED EQUIPMENT HAZARD</b> Fluid from the equipment, leaks, or ruptured components can splash in the eyes or on skin and cause serious injury.</p> <ul style="list-style-type: none"> <li>• Follow the <b>Pressure Relief Procedure</b> when you stop spraying/dispensing and before cleaning, checking, or servicing equipment.</li> <li>• Tighten all fluid connections before operating the equipment.</li> <li>• Check hoses, tubes, and couplings daily. Replace worn or damaged parts immediately.</li> </ul>



# WARNING

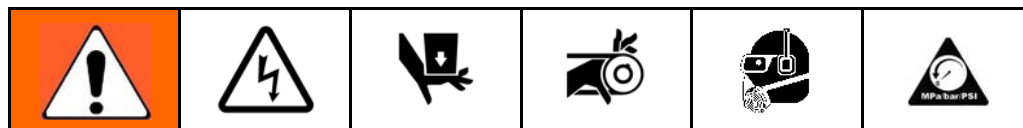


## EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See **Technical Data** in all equipment manuals.
- Use fluids and solvents that are compatible with equipment wetted parts. See **Technical Data** in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request MSDS from distributor or retailer.
- Do not leave the work area while equipment is energized or under pressure.
- Turn off all equipment and follow the **Pressure Relief Procedure** when equipment is not in use.
- Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.
- Do not alter or modify equipment.
- Use equipment only for its intended purpose. Call your distributor for information.
- Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not kink or over bend hoses or use hoses to pull equipment.
- Keep children and animals away from work area.
- Comply with all applicable safety regulations.

# Troubleshooting



**NOTE:** Check all possible remedies before disassembling the pump.

Problem	Cause	Solution
Hammering in piping.	Inlet or outlet pipe diameters too small.	Increase pipe size or add pulsation dampeners.
	High pump speed.	Reduce speed of pump.
	Inlet or outlet connections not properly anchored.	Secure piping.
	High Inlet or outlet pressures.	Add pulsation dampeners.
High pump temperature.	Low lubricant level.	Add hose lube to the proper level.
	Improper lubricant.	Use only Graco hose lube for low temperature operation.
	Pumped fluid temperature too high.	Consult your Graco distributor for maximum temperature limits of your pump.
	High pump speed/pump undersized.	Reduce the pump speed or switch to a larger pump.
High outlet pressure.	Blocked outlet line.	Clear any obstructions in the outlet line.
	Narrowed pipe diameter due to settled solids.	Determine if solids have settled in piping and flush/remove as required.
	Viscosity or specific gravity of pumped fluid too high.	Consult your Graco distributor for suitable operating conditions for your pump.
Low inlet pressure.	Failed hose.	Check to see if the hose has failed. If so, replace with a new hose and lubricant.
	Blocked inlet line.	Clear any obstructions in the inlet line.
	Inlet line too long or too small.	Try to locate the pump as near to the fluid source as possible. Oversize the inlet piping when possible.
	Viscosity or specific gravity of pumped fluid too high.	Consult your Graco distributor for suitable operating conditions for your pump.
Low flow.	Failed hose.	Check to see if the hose has failed. If so, replace with a new hose and lubricant.

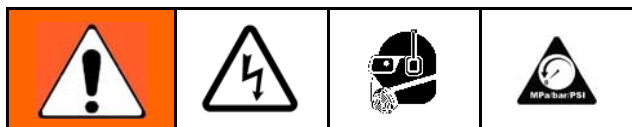
Troubleshooting

Problem	Cause	Solution
Poor hose life.	Chemical incompatibility.	Consult your Graco distributor to see if you have the correct hose for your application.
	Normal wear.	The hose may have failed due to normal wear. Replace as required.
	Failure due to pulsations.	If you pump is equipped with a pulsation dampener, adjust its pressure. If you do not have a dampener, consult your Graco distributor.
	Too high outlet pressure.	Check items listed in "High outlet pressure." Running the pump against a closed valve, even for a short amount of time, may damage hose.
	Settled solids in hose.	Flush the pump and hose prior to turning the pump off.
Lubricant leaks	Hose lube leaking from front cover.	Cover bolts over-tightened. Refer to torque specifications in <a href="#">Install the Front Cover, page 17</a> .
	Hose lube leaking from hose clamps.	Pump housing overfilled. Check hose lube level and adjust as necessary.
Hose failed because it wrapped around roller.	Pump was operated against a closed outlet valve or blocked line.	Replace hose. Check pressure relief system. Check that valves are open. Clear any blockages.



# Repair

## Before You Start

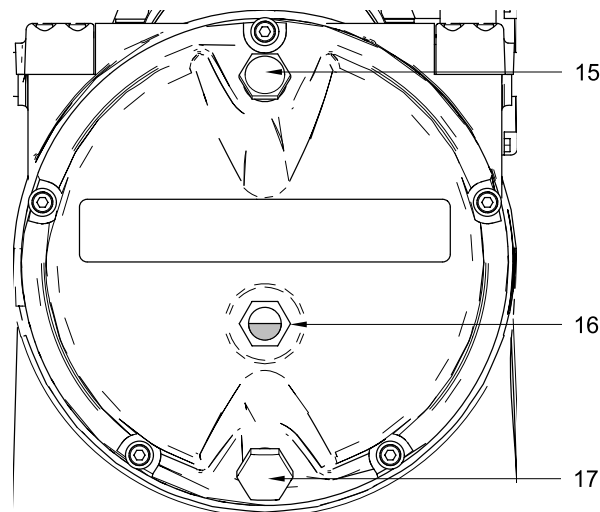


1. Flush the pump.
2. Relieve the pressure.
3. Disconnect power to the pump.
4. Make sure the pump is electrically isolated. Unexpected operation of the pump can cause serious injury. Remove the fan cover only after the motor has been locked out.

## Disassembly

### Drain the Oil

1. Hold a pail under the drain plug (17) and unscrew the plug to drain the lubricating oil. Dispose of the oil properly. Take care, as the oil may be contaminated by the pumped fluid.
2. Remove the vent plug (15) and flush the pump housing with a compatible solvent.



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Figure 1 Pump Drain and Vent

### Remove the Front Cover

1. Unscrew the socket head cap screws (14) and washers (13) that hold the front cover (12), removing the top screw and washer last. Take the cover off the pump. See Fig. 5, page 11.
2. Remove the front cover gasket (11).
3. Inspect and clean the sight glass (16) and cover (12), then set aside.

## Remove the Hose

1. See Fig 5, page 11. Remove the screws holding the motor fan cover (FC). Turn the fan by hand until the roller (102) stops at the bottom of the pump housing (1) in the 6 o'clock position.

**NOTE:** Low RPM pumps and high ratio gearboxes may require many turns of the motor fan to move the roller to the 6 o'clock position.

2. Remove the four screws (21) from each barb clamp (20) on the inlet and outlet ports of the pump and lift off the clamps.
3. *On EP4 Pumps only:* Remove the top half of the barbed fitting positioning washer and keep for reuse. The bottom half of the washer is welded in place and cannot be removed.
4. If possible, ensure that the hose clamps (104) are positioned with the clamp portion at the top. Cut through the clamp with a hack saw or rotary tool. Be careful not to damage the hose (103) or the pump housing (1).



Figure 2 Cut the Clamp

5. Using a screwdriver, remove the clamp, then remove the band.



Figure 3 Remove the Clamp

6. The hose assembly is seated firmly in the pump housing (1). Place a smooth, small diameter metal rod into the barbed fittings (105) and lift the hose assembly to free it. Pull the hose so it extends about 2–3 in. (51–76 mm) out of the pump.
7. Remove one barbed fitting (105) from the hose (103).
8. Grasp the hose (103) from the inside of the pump housing (1) and pull it into the housing. The center of the hose will still be held by the roller in the 6 o'clock position.
9. Remove the second barb assembly as described above.
10. Turn the motor by hand until the roller (102) is not compressing the hose (103). This will be near the 9 o'clock or 3 o'clock position.

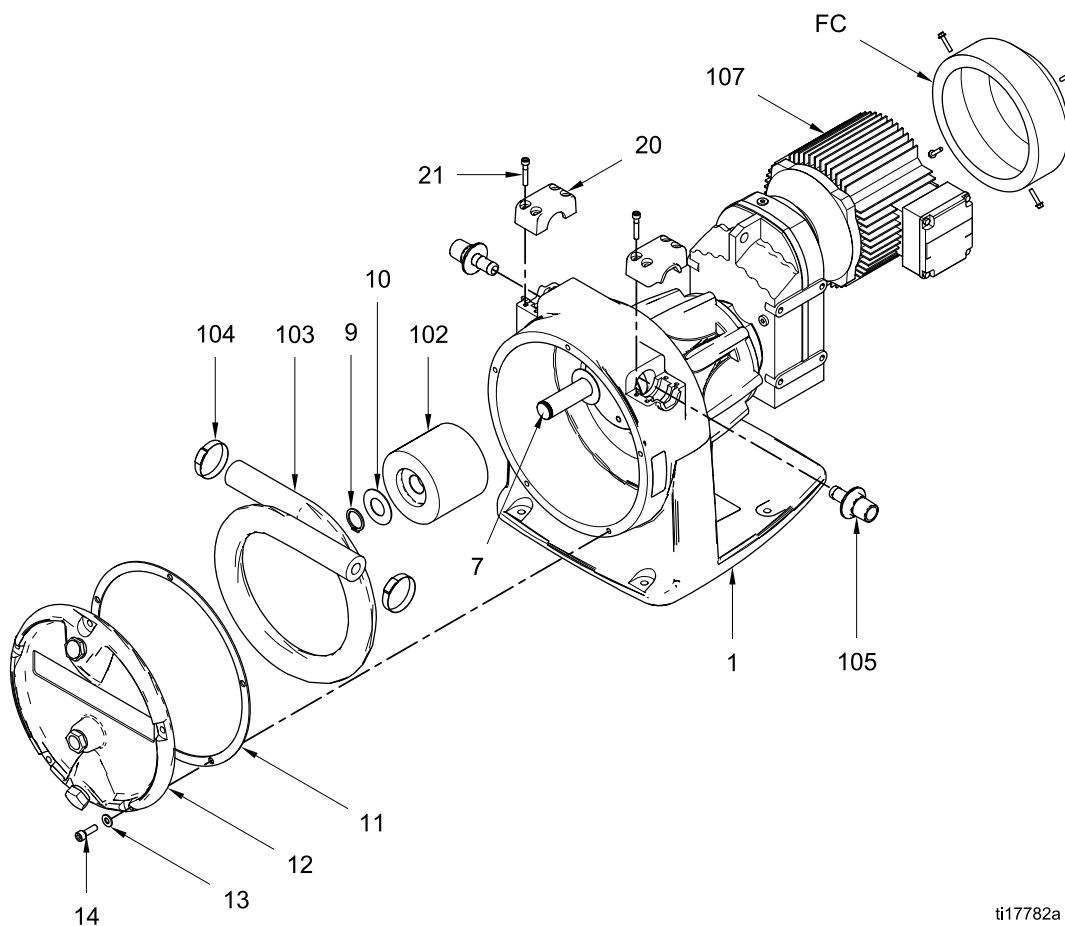


Figure 4 Roller in 3 O'Clock Position

11. Pull the other end of the hose into the pump housing (1).
12. Remove and safely discard the used hose, per your facility's waste disposal policy.

## Remove the Roller

1. Using external snap ring pliers, remove the roller retaining ring (9) from the front of the eccentric shaft (7). Slide the bushing (10) off the shaft.
2. Pull the roller (102) off the shaft. It should slide off easily.
3. *On EP3 Pumps only:* Slide the second bushing (10) off the shaft. Remove the second roller retaining ring (9).
4. Inspect the inside and outside diameter of the roller (102), and replace it if worn or damaged.



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Figure 5 Remove the Hose and Roller

### Remove the Eccentric Shaft

1. Using external snap ring pliers, remove the eccentric shaft retaining ring (8) from the motor output shaft (2). See Fig 6.
2. Remove the eccentric shaft (7) from the motor output shaft. **Be sure to retain the eccentric shaft key (6).**

**NOTE:** You may need to use a puller to disengage the eccentric shaft from the motor output shaft.

### Remove the Motor Output Shaft

**NOTE:** The motor output shaft is held in place with a retaining ring (3) located behind the outer u-cup seal (4). The outer seal must be removed before removing the retaining ring. This seal will likely be damaged when removed since it is held in place by a tight press fit.

1. Using a flat head screw driver, remove the outer u-cup seal (4).
2. Using internal snap ring pliers, remove the retaining ring (3) from the pump housing (1).
3. Remove the four screws (109) and washers (108) holding the gearbox and motor assembly (107) to the pump housing (1). Remove the gearbox and motor assembly to allow access to the inner u-cup seal (5). **Be sure to retain the motor output shaft key (106).**

**NOTE:** For motor and gearbox repair information, contact SEW-Eurodrive.

4. Remove the inner u-cup seal (5). This seal will likely be damaged when removed since it is held in place by a tight press fit.
5. Tap the gearbox end of the shaft (2) with a rubber mallet to drive the shaft out through the front of the pump housing (1).

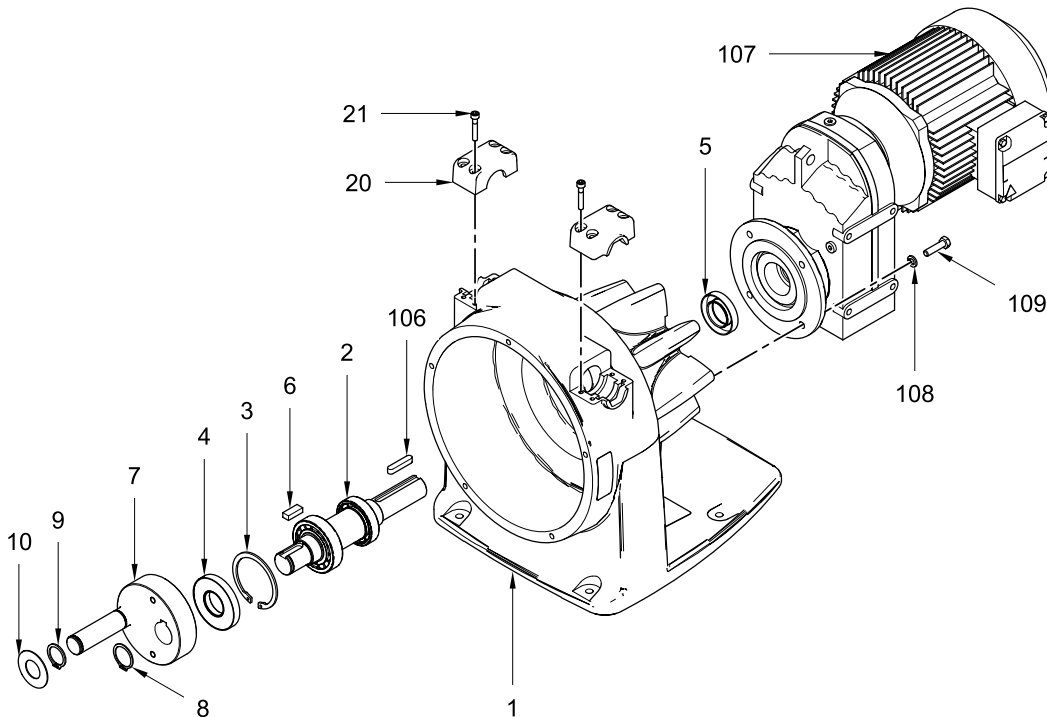


Figure 6 Remove the Eccentric Shaft and Motor Output Shaft

## Reassembly

### Clean and Inspect All Parts

#### **NOTICE**

Use only genuine Graco replacement parts. Non-standard parts will void your warranty and may damage your equipment.

- Discard all used seals, gaskets and worn parts.
- Ensure that all new and existing parts are clean and undamaged.
- Thoroughly clean all parts with a compatible solvent and inspect for damage or wear. Replace all gaskets, washers, worn parts and hardware as necessary.
- Inspect the inner diameter of the pump roller. If the surface has been worn, replace the roller.
- Inspect the bearings on the motor output shaft (2). If the bearings are worn, replace the shaft.
- Inspect the shaft and bearing bore in the pump housing (1). Ensure it is round, without grooves or other signs of wear, and free of dirt, filings, or other debris. A dirty or damaged bearing bore will greatly reduce the life of the bearings.
- Inspect all metal parts for signs of wear or cracks. Replace all worn parts.

#### **NOTICE**

The pump housing is aluminum. To help prevent galling, blow out the threads with compressed air before installing any fittings or fasteners.

### Install the Motor Output Shaft

1. Inspect the bearings and make sure that all rotate freely and are seated against the shoulder of the shaft (2). See Fig 7.

2. Coat the outer races of the shaft bearings and the inner diameter of the bearing bore with light lubricating oil. Make sure there is no dirt or debris on either the bearings or the bearing bore.
3. Insert the shaft (2) into the pump housing (1) from the front, making sure that the bearings engage the bearing bore flush and straight. Tap the roller end of the shaft with a rubber mallet until the shaft is firmly seated in the pump housing.

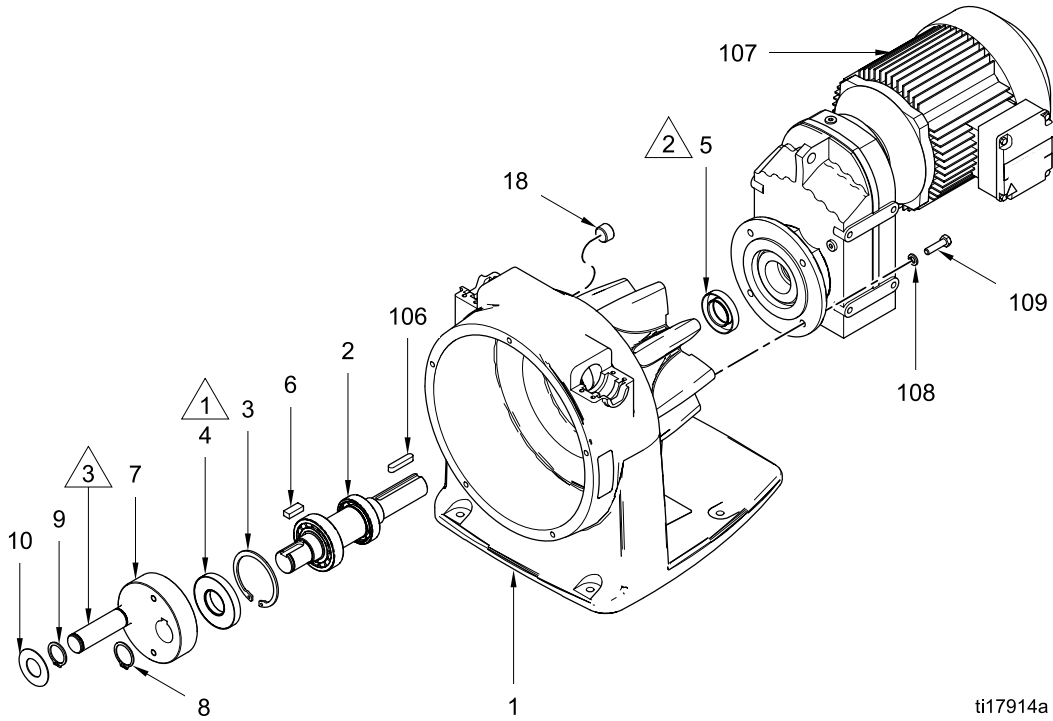
#### **NOTICE**

Do not force the shaft and bearings into the pump housing. This may cause damage to the bearings or the housing.

4. Install the bearing retaining ring (3) in front of the outer bearing.

### Install the Seals

1. Press a new inner u-cup seal (5) onto the gearbox end of the shaft (2) and into the bore at the rear of the pump housing (1). The lips of the u-cup must face into the pump housing. See Fig 7.
2. Grease the pump with NLGI #2 type grease. Remove the plug (18) from the pump housing and replace with a zerk fitting. Add grease until it passes through the outer bearing of the shaft. This provides a visual reference of the proper amount of grease. Do not over-grease. Remove the zerk fitting and reinstall the plug (18).
3. Press a new outer u-cup seal (4) onto the pump end of the shaft (2) and into the bore at the front of the pump housing (1). The lips of the u-cup must face toward the shaft bearings.
4. Make sure that the shaft rotates smoothly.



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Figure 7 Install the Motor Output Shaft and Eccentric Shaft

Key for Figure 7	
Note	Description
1	Lips of the u-cup (4) must face toward the shaft bearings.
2	Lips of the u-cup (5) must face into the pump housing.
3	Lubricate with hose lube.

### Install the Motor and Gearbox

1. Lubricate the motor output shaft (2) and the keyway with an anti-seize compound.
2. The gearbox is manufactured with a hollow bore. Remove the plastic cap on the back of the gearbox to help with alignment of the shaft.
3. Slide the motor and gearbox assembly (107) onto the shaft (2). Install the key (106). Secure to the pump housing (1) with the four screws (109) and washers (108).

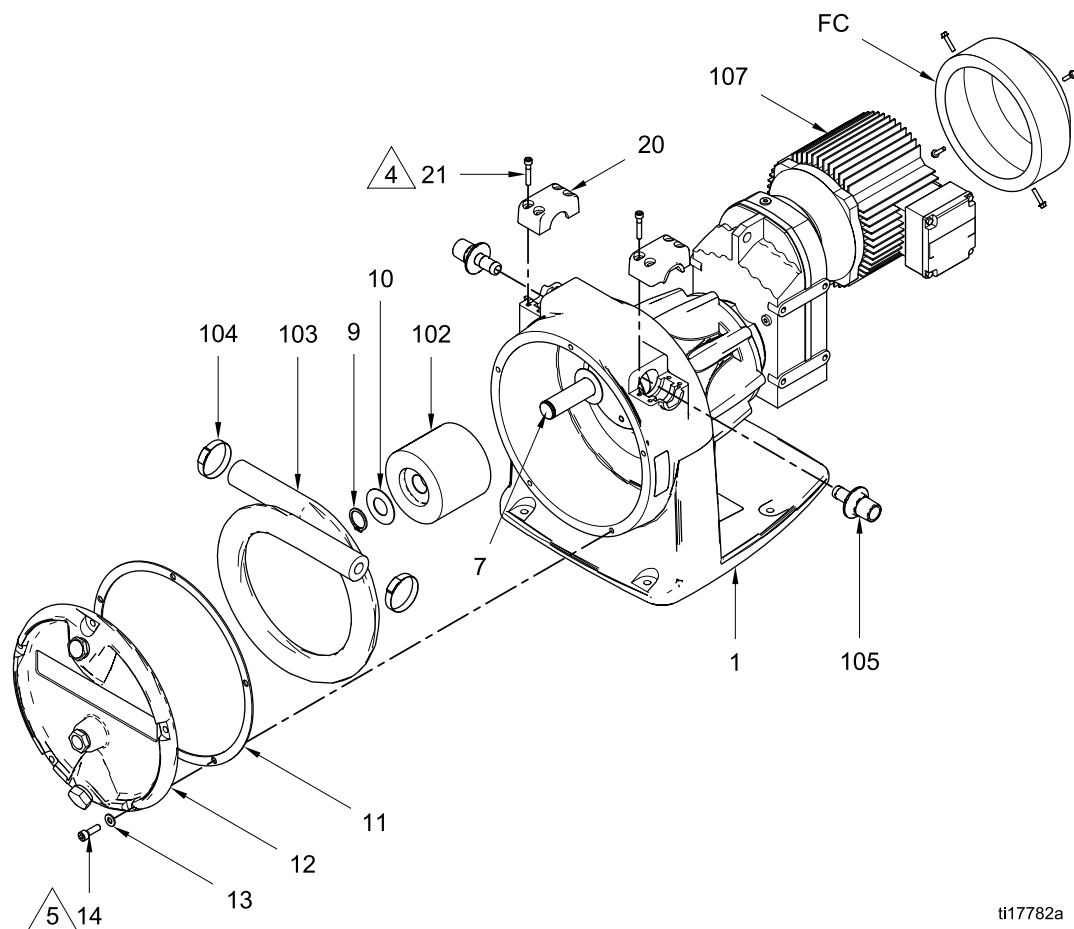
### Install the Eccentric Shaft

1. Ensure that the keyway on the motor output shaft (2) is facing up. It may be necessary to turn the motor fan by hand to position the shaft.
2. Slide the eccentric shaft (7) over the end of the motor output shaft (2). Install the key (6). The eccentric and the key should slide easily together.
3. Secure the eccentric shaft (7) with the eccentric shaft retaining ring (8).

### Install the Roller

**NOTE:** The roller size is typically marked on the roller. Verify that you have the correctly sized roller.

1. *On EP3 Pumps only:* Install a roller retaining ring (9) using external snap ring pliers. Make sure that the ring is fully seated in the groove on the eccentric shaft (7). Install a bushing (10). See Fig 8.
2. Lubricate the eccentric shaft (7) with hose lube. Slide the roller (102) onto the shaft. The roller should fit onto the shaft snugly with minimal radial movement.
3. Install a bushing (10) and a roller retaining ring (9). Verify that the roller (102) turns freely on the shaft (7).



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Figure 8 Install the Roller, Hose, and Front Cover

Key for Figure 8	
Note	Description
△ 4	EP3016 and EP3019: Torque to 115 in-lb (13.0 N•m). EP4025 and EP4029: Torque to 140 in-lb (16.0 N•m).
△ 5	EP3016 and EP3019: Torque to 25 in-lb (2.8 N•m). EP4025 and EP4029: Torque to 35 in-lb (4.0 N•m).

## Install the Hose

1. Move the roller (102) by turning the motor fan until the roller reaches the 6 o'clock position.



Figure 9 Roller in 6 O'Clock Position

2. Install one end of the hose (103) through the rear port of the pump housing on the left hand side when looking at it from the front. Extend the hose 2-3 in. (51-76 mm) beyond the pump housing (1).
3. Slide the hose clamp (104) over the hose and install the barbed fitting (105).
4. Position the hose clamp about 1/4 in. (6 mm) from the end of the hose. Ensure that the band will fit into the recesses of the barb clamp (20) and pump housing (1). Using the 24L497 Clamping Tool, tighten the clamp to secure the hose onto the barbed fitting.



Figure 10 Tighten the Clamp

5. Cut the excess band, then flatten the end with a rubber mallet.



Figure 11 Seat the Barbed Fitting

6. Push the assembled hose end into the barb clamp recess, using a smooth metal rod to hold the barb in place. The fit may be tight; use a rubber mallet to seat the barbed fitting assembly.

**NOTE:** Verify that the barbed fitting (105) is correctly positioned. The hex on the barbed fitting (105) must be aligned with the corresponding hex on the pump housing. This will hold the barbed fitting firmly in place.

7. *On EP4 Pumps only:* Install the top half of the barbed fitting positioning washer. The bottom half of the washer is welded in place.
8. Install the clamp (20) and screws (21). Torque the screws to 115 in-lb (13 N•m) for the EP3 Pumps and to 140 in-lb (16.0 N•m) for the EP4 Pumps.
9. Loop the hose (103) 360 degrees and pass the other end through the front port on the right hand side of the pump housing (1). Assemble the barbed fitting (105) and clamp (104) as explained in steps 3-8.
10. Turn the roller (102) to the 12 o'clock position to compress the hose, then push the hose into the pump housing. Use a rubber mallet if the hose is difficult to seat.
11. Return the roller (102) to the 6 o'clock position. It is critical that the roller is at the bottom of the pump to ensure the correct capacity of hose lube. Reinstall the motor fan cover.

### NOTICE

The roller must be returned to the 6 o'clock position before installing the front cover. Failure to do so will result in overfilling of the pump with hose lube.



### Install the Front Cover

1. Scrape all debris from the gasket mating surfaces on the front cover (12) and the pump housing (1), then clean with acetone or brake cleaner to remove any residue. This is critical to ensure a leak-free assembly.

**NOTE:** The pump housing and front cover must be free of dirt, debris and residue to ensure a leak-free seal.

**NOTE:** The hole pattern of the front cover (12), gasket (11), and housing are asymmetric. This ensures that the gasket and cover go on in only one direction.

2. Line up the holes in the gasket (11) with the holes in the cover (12). Place the gasket on the cover.
3. Line up the front cover (12) and gasket (11) with the pump housing (1) by placing a socket head cap screw (14) and washer (13) in the top hole and screwing it into the pump housing.
4. Install the remaining front cover screws (14) and washers (13). Torque the screws oppositely to 25 in-lb (2.8 N•m) for the E3 Pumps and to 35 in-lb (4.0 N•m) for the E4 Pumps.

**NOTE:** Do not over-tighten the front cover screws. This will cause the gasket to deform and the pump to leak.

### Lubricate the Pump

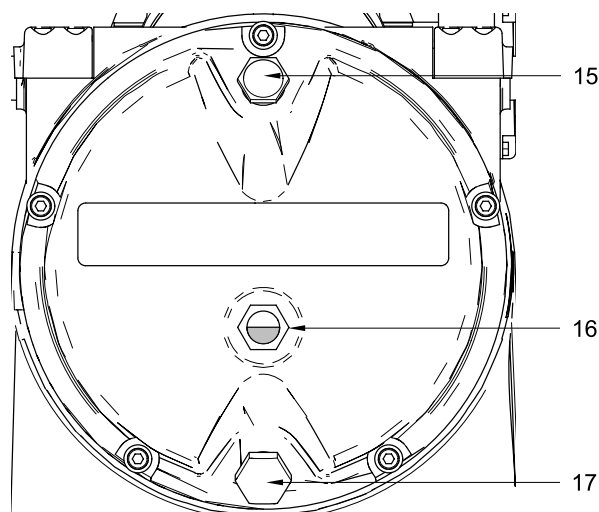
<b>NOTICE</b>
The pump housing is aluminum. To help prevent galling, blow out the threads with compressed air before installing any fittings or fasteners.

1. Wrap the drain plug (17) threads with PTFE tape and install the plug.
2. Wrap the sightglass (16) threads with PTFE tape and install.
3. Using a funnel, add hose lube through the vent port until the oil becomes visible through the sightglass. The oil level must not rise above the halfway point on the roller.

**NOTE: Do not overfill.** Overfilling the pump housing with hose lube will increase pressure in the pump housing, causing hose lube to leak

from the cover or the clamp area. See the table below for the correct amount of hose lube for your pump. Pre-measuring the correct amount will help prevent overfilling.

Pump Model	Amount of Hose Lube (approximate)
EP3016, EP3019	0.25 gal. (1 liter)
EP4025, EP4029	0.5 gal. (2 liters)



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Figure 12 Hose Lube Level in Sightglass

**NOTE:** Higher operating speeds provide more vigorous lubrication, which may cause splashing of oil. When operating at a speed of 85 RPM or greater, reduce the amount of hose lube as shown in the table below.

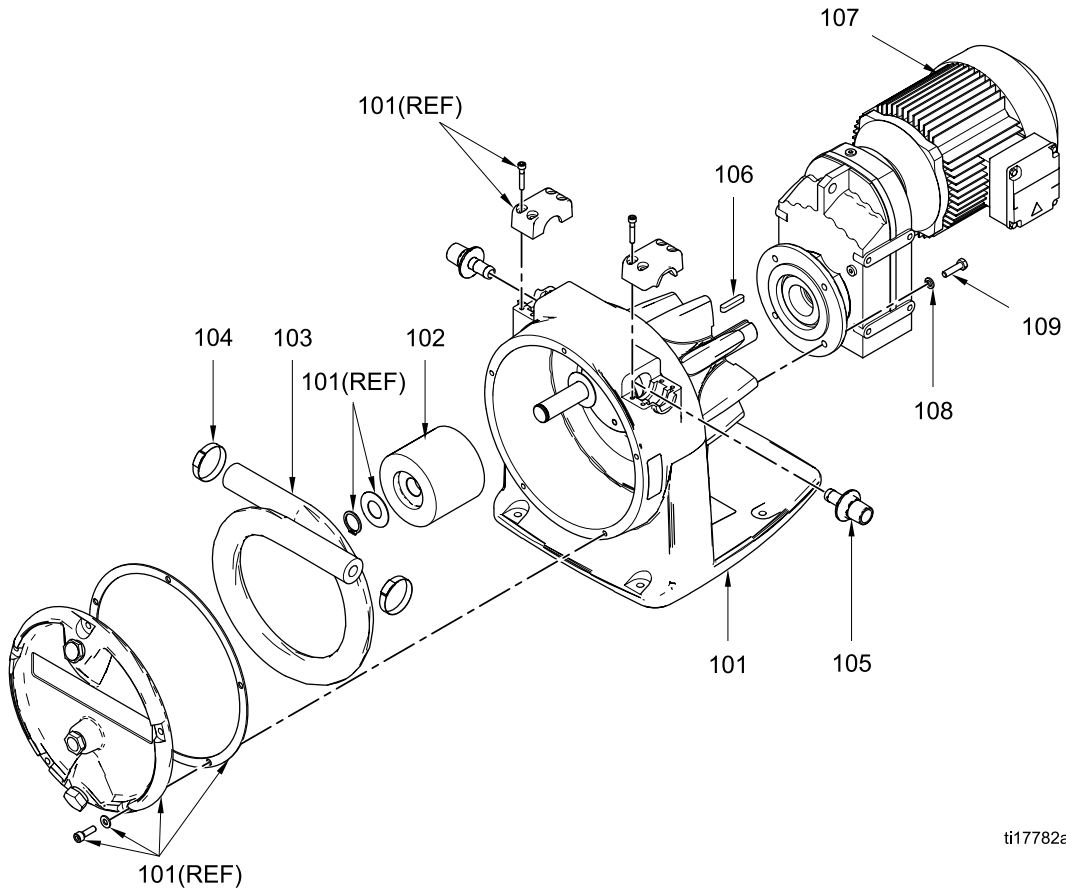
Operating Speed (RPM)	Amount of Hose Lube
0-84	As recommended in the table above.
85-104	70% of recommended quantity
105-114	60% of recommended quantity
115 and above	50% of recommended quantity

4. Wrap the vent plug (15) threads with PTFE tape and screw it into the vent port carefully.

# Parts

## EP3 and EP4 Hose Pump Assembly

EP3016, EP3019, EP4025, and EP4029 Pumps, Series A  
Includes items 101-119



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Ref. No.	Part No.	Description	Qty
101	24L888	ASSEMBLY, pump; EP3016 and EP3019; see <a href="#">Bare Pump Assembly, page 20</a>	1
	24L889	ASSEMBLY, pump; EP4025 and EP4029; see <a href="#">Bare Pump Assembly, page 20</a>	1
102	24K588	ROLLER KIT; for EP3016; includes items 9 and 10 (page 20)	1
	24K589	ROLLER KIT; for EP3019; includes items 9 and 10 (page 20)	1
	24K613	ROLLER KIT; for EP4025; includes items 9 and 10 (page 20)	1
	24K614	ROLLER KIT; for EP4029; includes items 9 and 10 (page 20)	1
103	See <a href="#">Pump Matrix, page 22</a>	HOSE KIT; includes two hose clamps (104)	1
104	24M117	KIT, hose clamp; package of 10	1
105	See <a href="#">Pump Matrix, page 22</a>	BARBED FITTING KIT; for EP3016 and EP3019; kit includes one barbed fitting and one clamp (104)	2
		BARBED FITTING KIT; for EP4025 and EP4029; kit includes one barbed fitting, one clamp (104), and one half-washer	2

◆ Hose lube is also available in a 1 quart (0.95 liter) bottle. Order Part No. 24K692.

Ref. No.	Part No.	Description	Qty
106	---	KEY, motor shaft; EP3016 and EP3019	1
	---	KEY, motor shaft; EP4025 and EP4029	1
107		MOTOR and GEARBOX (see <a href="#">Pump Matrix, page 22</a> for the motor and gearbox used on your pump)	1
	24L986	1.5 HP; 20.57 gear ratio; EP3016 and EP3019	
	24L987	1.5 HP; 35.91 gear ratio; EP3016 and EP3019	
	24L988	1.0 HP; 100.36 gear ratio; EP3016 and EP3019	
	24L989	2.0 HP; 19.70 gear ratio; EP4025 and EP4029	
	24L990	2.0 HP; 34.29 gear ratio; EP4025 and EP4029	
	24L991	2.0 HP; 79.72 gear ratio; EP4025 and EP4029	
108	---	WASHER, split lock; M8; EP3016 and EP3019	4
	---	WASHER, split lock; M10; EP4025 and EP4029	4
109	---	SCREW, cap, hex hd; M8 x 25 mm; EP3016 and EP3019	4
	---	SCREW, cap, hex hd; M10 x 30 mm; EP4025 and EP4029	4
119 ◆	24K694	HOSE LUBE, glycerin; 1 gallon (3.8 liter); not shown	1

Parts labeled --- are not available separately.

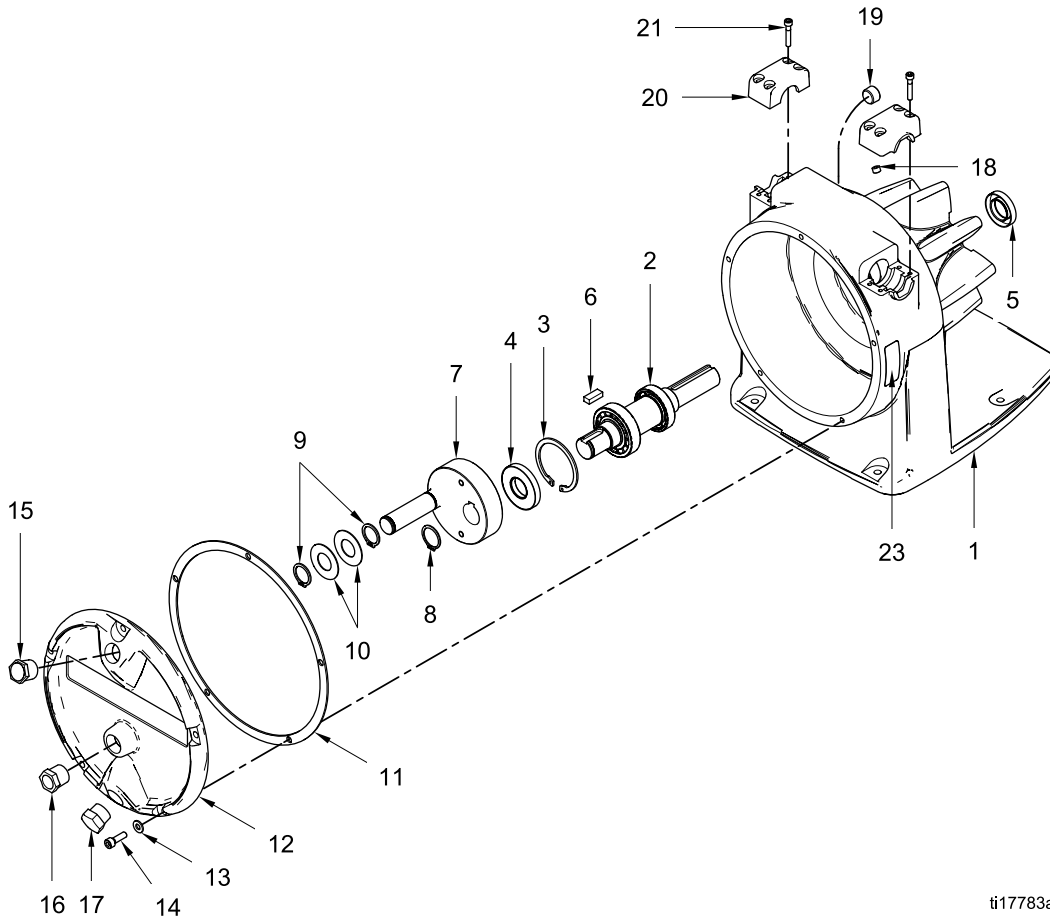
## Bare Pump Assembly

**Model 24L888 Pump Assembly, Series A, for EP3016 and EP3019 Pumps**

Includes items 1–23

**Model 24L889 Pump Assembly, Series A, for EP4025 and EP4029 Pumps**

Includes items 1–23



ti17783a

Ref. No.	Part No.	Description	Qty
1	---	HOUSING, pump; for Pump 24L888	1
	---	HOUSING, pump; for Pump 24L889	1

Ref. No.	Part No.	Description	Qty
2	24K597	SHAFT KIT, output, motor; for Pump 24L888; includes items 3, 4, 5, 6, 8, 18, and grease zerk fitting	1
	24K914	SHAFT KIT, output, motor; for Pump 24L889; includes items 3, 4, 5, 6, 8, 18, and grease zerk fitting	1

Ref. No.	Part No.	Description	Qty
3	---	RING, retaining, bearing; for Pump 24L888	1
	---	RING, retaining, bearing; for Pump 24L889	1
4	---	SEAL, u-cup, outer; for Pump 24L888	1
	---	SEAL, u-cup, outer; for Pump 24L889	1
5	---	SEAL, u-cup, inner; for Pump 24L888	1
	---	SEAL, u-cup, inner; for Pump 24L889	1
6	---	KEY, eccentric shaft; for Pump 24L888	1
	---	KEY, eccentric shaft; for Pump 24L889	1
7	24K596	ECCENTRIC SHAFT KIT; for Pump 24L888; includes items 6 and 8	1
	24K913	ECCENTRIC SHAFT KIT; for Pump 24L889; includes items 6 and 8	1
8	---	RING, retaining, eccentric shaft; for Pump 24L888	1
	---	RING, retaining, eccentric shaft; for Pump 24L889	1
9	---	RING, retaining, roller; for Pump 24L888	2
	---	RING, retaining, roller; for Pump 24L889	1
10	---	BUSHING; for Pump 24L888	2
	---	BUSHING; for Pump 24L889	1
11	24K595	GASKET KIT; for Pump 24L888	1
	24K912	GASKET KIT; for Pump 24L889	1

Ref. No.	Part No.	Description	Qty
12	24K594	COVER KIT; for Pump 24L888; includes items 11, 13, 14, 15, 16, and 17	1
	24K911	COVER KIT; for Pump 24L889; includes items 11, 13, 14, 15, 16, and 17	1
13	---	WASHER, flat; M8; for Pump 24L888	5
	---	WASHER, flat; M8; for Pump 24L889	7
14	---	SCREW, cap, socket hd; M8 x 25 mm; for Pump 24L888	5
	---	SCREW, cap, socket hd; M8 x 25 mm; for Pump 24L889	7
15	---	VENT, breather plug; all pumps	1
16	---	SIGHTGLASS; for Pump 24L888	1
	---	SIGHTGLASS; for Pump 24L889	1
17	---	PLUG, drain; 3/4 npt; all models	1
18	---	PLUG, pipe, headless; 1/8 npt; all models	1
19	---	PLUG, pipe, headless; 1/2 npt; all models	1
20	24K598	CLAMP KIT, barb; for Pump 24L888; includes item 21 (4)	2
	24K915	CLAMP KIT, barb; for Pump 24L889; includes item 21 (4)	2
21	---	SCREW, cap, socket hd; M6 x 35 mm; for Pump 24L888	8
	---	SCREW, cap, socket hd; M8 x 50 mm; for Pump 24L889	8
23 ▲	16K630	LABEL, warning; all models	1

Parts labeled --- are not available separately.

## Pump Matrix

### Model EP3016 Pumps

With 16 mm ID Hose and Roller Installed

Pump Part No.	Pump Series	Hose Kit (Ref. 103)	Hose Inner Material	Hose Stripe Color	Barbed Fitting Kit (Ref. 105)	Barbed Fitting Material	Motor and Gearbox (Ref. 107)
24L500	B	24K523	EPDM	Blue	24K590	SST	24L988
24L501	B	24K523	EPDM	Blue	24K591	Hastelloy	24L988
24L502	B	24K525	Food Grade EPDM*	Blue	24K590	SST	24L988
24L503	B	24K525	Food Grade EPDM*	Blue	24K591	Hastelloy	24L988
24L504	B	24K522	Natural Rubber	None	24K590	SST	24L988
24L505	B	24K527	CSM	Orange	24K590	SST	24L988
24L506	B	24K527	CSM	Orange	24K591	Hastelloy	24L988
24L507	B	24K524	Nitrile	Yellow	24K590	SST	24L988
24L508	B	24K524	Nitrile	Yellow	24K591	Hastelloy	24L988
24L509	B	24K526	Food Grade Nitrile*	Yellow	24K590	SST	24L988
24L510	B	24K526	Food Grade Nitrile*	Yellow	24K591	Hastelloy	24L988
24L511	B	24K529	Neoprene	Green	24K590	SST	24L988
24L512	B	24K528	UHMWPE	White	24K590	SST	24L988
24L513	B	24K528	UHMWPE	White	24K591	Hastelloy	24L988
24L514	B	24K523	EPDM	Blue	24K590	SST	24L987
24L515	B	24K523	EPDM	Blue	24K591	Hastelloy	24L987
24L516	B	24K525	Food Grade EPDM*	Blue	24K590	SST	24L987
24L517	B	24K525	Food Grade EPDM*	Blue	24K591	Hastelloy	24L987
24L518	B	24K522	Natural Rubber	None	24K590	SST	24L987
24L519	B	24K527	CSM	Orange	24K590	SST	24L987
24L520	B	24K527	CSM	Orange	24K591	Hastelloy	24L987
24L521	B	24K524	Nitrile	Yellow	24K590	SST	24L987
24L522	B	24K524	Nitrile	Yellow	24K591	Hastelloy	24L987
24L523	B	24K526	Food Grade Nitrile*	Yellow	24K590	SST	24L987

Pump Part No.	Pump Series	Hose Kit (Ref. 103)	Hose Inner Material	Hose Stripe Color	Barbed Fitting Kit (Ref. 105)	Barbed Fitting Material	Motor and Gearbox (Ref. 107)
24L524	B	24K526	Food Grade Nitrile*	Yellow	24K591	Hastelloy	24L987
24L525	B	24K529	Neoprene	Green	24K590	SST	24L987
24L526	B	24K528	UHMWPE	White	24K590	SST	24L987
24L527	B	24K528	UHMWPE	White	24K591	Hastelloy	24L987
24L528	B	24K523	EPDM	Blue	24K590	SST	24L986
24L529	B	24K523	EPDM	Blue	24K591	Hastelloy	24L986
24L530	B	24K525	Food Grade EPDM*	Blue	24K590	SST	24L986
24L531	B	24K525	Food Grade EPDM*	Blue	24K591	Hastelloy	24L986
24L532	B	24K522	Natural Rubber	None	24K590	SST	24L986
24L533	B	24K527	CSM	Orange	24K590	SST	24L986
24L534	B	24K527	CSM	Orange	24K591	Hastelloy	24L986
24L535	B	24K524	Nitrile	Yellow	24K590	SST	24L986
24L536	B	24K524	Nitrile	Yellow	24K591	Hastelloy	24L986
24L537	B	24K526	Food Grade Nitrile*	Yellow	24K590	SST	24L986
24L538	B	24K526	Food Grade Nitrile*	Yellow	24K591	Hastelloy	24L986
24L539	B	24K529	Neoprene	Green	24K590	SST	24L986
24L540	B	24K528	UHMWPE	White	24K590	SST	24L986
24L541	B	24K528	UHMWPE	White	24K591	Hastelloy	24L986
24M777	A	24K523	EPDM	Blue	24K590	SST	None
24M778	A	24K523	EPDM	Blue	24K591	Hastelloy	None
24M779	A	24K525	Food Grade EPDM	Blue	24K590	SST	None
24M780	A	24K525	Food Grade EPDM	Blue	24K591	Hastelloy	None
24M781	A	24K522	Natural Rubber	None	24K590	SST	None
24M782	A	24K527	CSM	Orange	24K590	SST	None
24M783	A	24K527	CSM	Orange	24K591	Hastelloy	None
24M784	A	24K524	Nitrile	Yellow	24K590	SST	None
24M785	A	24K524	Nitrile	Yellow	24K591	Hastelloy	None
24M786	A	24K526	Food Grade Nitrile	Yellow	24K590	SST	None

Parts

Pump Part No.	Pump Series	Hose Kit (Ref. 103)	Hose Inner Material	Hose Stripe Color	Barbed Fitting Kit (Ref. 105)	Barbed Fitting Material	Motor and Gearbox (Ref. 107)
24M787	A	24K526	Food Grade Nitrile	Yellow	24K591	Hastelloy	None
24M788	A	24K529	Neoprene	Green	24K590	SST	None
24M789	A	24K528	UHMWPE	White	24K590	SST	None
24M790	A	24K528	UHMWPE	White	24K591	Hastelloy	None

\* Food grade hose inner material is white in color.



## Model EP3019 Pumps

With 19 mm ID Hose and Roller Installed

Pump Part No.	Pump Series	Hose Kit (Ref. 103)	Hose Inner Material	Hose Stripe Color	Barbed Fitting Kit (Ref. 105)	Barbed Fitting Material	Motor and Gearbox (Ref. 107)
24L542	B	24K533	EPDM	Blue	24K592	SST	24L988
24L543	B	24K533	EPDM	Blue	24K593	Hastelloy	24L988
24L544	B	24K535	Food Grade EPDM*	Blue	24K592	SST	24L988
24L545	B	24K535	Food Grade EPDM*	Blue	24K593	Hastelloy	24L988
24L546	B	24K532	Natural Rubber	None	24K592	SST	24L988
24L547	B	24K537	CSM	Orange	24K592	SST	24L988
24L548	B	24K537	CSM	Orange	24K593	Hastelloy	24L988
24L549	B	24K534	Nitrile	Yellow	24K592	SST	24L988
24L550	B	24K534	Nitrile	Yellow	24K593	Hastelloy	24L988
24L551	B	24K536	Food Grade Nitrile*	Yellow	24K592	SST	24L988
24L552	B	24K536	Food Grade Nitrile*	Yellow	24K593	Hastelloy	24L988
24L553	B	24K539	Neoprene	Green	24K592	SST	24L988
24L554	B	24K538	UHMWPE	White	24K592	SST	24L988
24L555	B	24K538	UHMWPE	White	24K593	Hastelloy	24L988
24L556	B	24K533	EPDM	Blue	24K592	SST	24L987
24L557	B	24K533	EPDM	Blue	24K593	Hastelloy	24L987
24L558	B	24K535	Food Grade EPDM*	Blue	24K592	SST	24L987
24L559	B	24K535	Food Grade EPDM*	Blue	24K593	Hastelloy	24L987
24L560	B	24K532	Natural Rubber	None	24K592	SST	24L987
24L561	B	24K537	CSM	Orange	24K592	SST	24L987
24L562	B	24K537	CSM	Orange	24K593	Hastelloy	24L987
24L563	B	24K534	Nitrile	Yellow	24K592	SST	24L987
24L564	B	24K534	Nitrile	Yellow	24K593	Hastelloy	24L987
24L565	B	24K536	Food Grade Nitrile*	Yellow	24K592	SST	24L987
24L566	B	24K536	Food Grade Nitrile*	Yellow	24K593	Hastelloy	24L987
24L567	B	24K539	Neoprene	Green	24K592	SST	24L987

Parts

Pump Part No.	Pump Series	Hose Kit (Ref. 103)	Hose Inner Material	Hose Stripe Color	Barbed Fitting Kit (Ref. 105)	Barbed Fitting Material	Motor and Gearbox (Ref. 107)
24L568	B	24K538	UHMWPE	White	24K592	SST	24L987
24L569	B	24K538	UHMWPE	White	24K593	Hastelloy	24L987
24L570	B	24K533	EPDM	Blue	24K592	SST	24L986
24L571	B	24K533	EPDM	Blue	24K593	Hastelloy	24L986
24L572	B	24K535	Food Grade EPDM*	Blue	24K592	SST	24L986
24L573	B	24K535	Food Grade EPDM*	Blue	24K593	Hastelloy	24L986
24L574	B	24K532	Natural Rubber	None	24K592	SST	24L986
24L575	B	24K537	CSM	Orange	24K592	SST	24L986
24L576	B	24K537	CSM	Orange	24K593	Hastelloy	24L986
24L577	B	24K534	Nitrile	Yellow	24K592	SST	24L986
24L578	B	24K534	Nitrile	Yellow	24K593	Hastelloy	24L986
24L579	B	24K536	Food Grade Nitrile*	Yellow	24K592	SST	24L986
24L580	B	24K536	Food Grade Nitrile*	Yellow	24K593	Hastelloy	24L986
24L581	B	24K539	Neoprene	Green	24K592	SST	24L986
24L582	B	24K538	UHMWPE	White	24K592	SST	24L986
24L583	B	24K538	UHMWPE	White	24K593	Hastelloy	24L986
24M791	A	24K533	EPDM	Blue	24K592	SST	None
24M792	A	24K533	EPDM	Blue	24K593	Hastelloy	None
24M793	A	24K535	Food Grade EPDM	Blue	24K592	SST	None
24M794	A	24K535	Food Grade EPDM	Blue	24K593	Hastelloy	None
24M795	A	24K532	Natural Rubber	None	24K592	SST	None
24M796	A	24K537	CSM	Orange	24K592	SST	None
24M797	A	24K537	CSM	Orange	24K593	Hastelloy	None
24M798	A	24K534	Nitrile	Yellow	24K592	SST	None
24M799	A	24K534	Nitrile	Yellow	24K593	Hastelloy	None
24M800	A	24K536	Food Grade Nitrile	Yellow	24K592	SST	None
24M801	A	24K536	Food Grade Nitrile	Yellow	24K593	Hastelloy	None
24M802	A	24K539	Neoprene	Green	24K592	SST	None

Pump Part No.	Pump Series	Hose Kit (Ref. 103)	Hose Inner Material	Hose Stripe Color	Barbed Fitting Kit (Ref. 105)	Barbed Fitting Material	Motor and Gearbox (Ref. 107)
24M803	A	24K538	UHMWPE	White	24K592	SST	None
24M804	A	24K538	UHMWPE	White	24K593	Hastelloy	None
24P087	A	24K527	CSM	Orange	24K590	SST	24L988

\* Food grade hose inner material is white in color.

## Model EP4025 Pumps

With 25 mm ID Hose and Roller Installed

Pump Part No.	Pump Series	Hose Kit (Ref. 103)	Hose Inner Material	Hose Stripe Color	Barbed Fitting Kit (Ref. 105)	Barbed Fitting Material	Motor and Gearbox (Ref. 107)
25L000	B	24K543	EPDM	Blue	24K615	SST	24L991
25L001	B	24K545	Food Grade EPDM*	Blue	24K615	SST	24L991
25L002	B	24K542	Natural Rubber	None	24K615	SST	24L991
25L003	B	24K547	CSM	Orange	24K615	SST	24L991
25L004	B	24K544	Nitrile	Yellow	24K615	SST	24L991
25L005	B	24K546	Food Grade Nitrile*	Yellow	24K615	SST	24L991
25L006	B	24K549	Neoprene	Green	24K615	SST	24L991
25L007	B	24K548	UHMWPE	White	24K615	SST	24L991
25L008	B	24K543	EPDM	Blue	24K615	SST	24L990
25L009	B	24K545	Food Grade EPDM*	Blue	24K615	SST	24L990
25L010	B	24K542	Natural Rubber	None	24K615	SST	24L990
25L011	B	24K547	CSM	Orange	24K615	SST	24L990
25L012	B	24K544	Nitrile	Yellow	24K615	SST	24L990
25L013	B	24K546	Food Grade Nitrile*	Yellow	24K615	SST	24L990
25L014	B	24K549	Neoprene	Green	24K615	SST	24L990
25L015	B	24K548	UHMWPE	White	24K615	SST	24L990

Pump Part No.	Pump Series	Hose Kit (Ref. 103)	Hose Inner Material	Hose Stripe Color	Barbed Fitting Kit (Ref. 105)	Barbed Fitting Material	Motor and Gearbox (Ref. 107)
25L016	B	24K543	EPDM	Blue	24K615	SST	24L989
25L017	B	24K545	Food Grade EPDM*	Blue	24K615	SST	24L989
25L018	B	24K542	Natural Rubber	None	24K615	SST	24L989
25L019	B	24K547	CSM	Orange	24K615	SST	24L989
25L020	B	24K544	Nitrile	Yellow	24K615	SST	24L989
25L021	B	24K546	Food Grade Nitrile*	Yellow	24K615	SST	24L989
25L022	B	24K549	Neoprene	Green	24K615	SST	24L989
25L023	B	24K548	UHMWPE	White	24K615	SST	24L989
24M808	A	24K543	EPDM	Blue	24K615	SST	None
24M809	A	24K545	Food Grade EPDM	Blue	24K615	SST	None
24M810	A	24K542	Natural Rubber	None	24K615	SST	None
24M811	A	24K547	CSM	Orange	24K615	SST	None
24M812	A	24K544	Nitrile	Yellow	24K615	SST	None
24M813	A	24K546	Food Grade Nitrile	Yellow	24K615	SST	None
24M814	A	24K549	Neoprene	Green	24K615	SST	None
24M815	A	24K548	UHMWPE	White	24K615	SST	None

\* Food grade hose inner material is white in color.

## Model EP4029 Pumps

With 29 mm ID Hose and Roller Installed

Pump Part No.	Pump Series	Hose Kit (Ref. 103)	Hose Inner Material	Hose Stripe Color	Barbed Fitting Kit (Ref. 105)	Barbed Fitting Material	Motor and Gearbox (Ref. 107)
25L024	B	24K553	EPDM	Blue	24K617	SST	24L991
25L025	B	24K553	EPDM	Blue	24K910	Hastelloy	24L991
25L026	B	24K555	Food Grade EPDM*	Blue	24K617	SST	24L991
25L027	B	24K555	Food Grade EPDM*	Blue	24K910	Hastelloy	24L991
25L028	B	24K552	Natural Rubber	None	24K617	SST	24L991
25L029	B	24K557	CSM	Orange	24K617	SST	24L991
25L030	B	24K557	CSM	Orange	24K910	Hastelloy	24L991
25L031	B	24K554	Nitrile	Yellow	24K617	SST	24L991
25L032	B	24K554	Nitrile	Yellow	24K910	Hastelloy	24L991
25L033	B	24K556	Food Grade Nitrile*	Yellow	24K617	SST	24L991
25L034	B	24K556	Food Grade Nitrile*	Yellow	24K910	Hastelloy	24L991
25L035	B	24K559	Neoprene	Green	24K617	SST	24L991
25L036	B	24K558	UHMWPE	White	24K617	SST	24L991
25L037	B	24K558	UHMWPE	White	24K910	Hastelloy	24L991
25L038	B	24K553	EPDM	Blue	24K617	SST	24L990
25L039	B	24K553	EPDM	Blue	24K910	Hastelloy	24L990
25L040	B	24K555	Food Grade EPDM*	Blue	24K617	SST	24L990
25L041	B	24K555	Food Grade EPDM*	Blue	24K910	Hastelloy	24L990
25L042	B	24K552	Natural Rubber	None	24K617	SST	24L990
25L043	B	24K557	CSM	Orange	24K617	SST	24L990
25L044	B	24K557	CSM	Orange	24K910	Hastelloy	24L990
25L045	B	24K554	Nitrile	Yellow	24K617	SST	24L990
25L046	B	24K554	Nitrile	Yellow	24K910	Hastelloy	24L990
25L047	B	24K556	Food Grade Nitrile*	Yellow	24K617	SST	24L990
25L048	B	24K556	Food Grade Nitrile*	Yellow	24K910	Hastelloy	24L990
25L049	B	24K559	Neoprene	Green	24K617	SST	24L990

Pump Part No.	Pump Series	Hose Kit (Ref. 103)	Hose Inner Material	Hose Stripe Color	Barbed Fitting Kit (Ref. 105)	Barbed Fitting Material	Motor and Gearbox (Ref. 107)
25L050	B	24K558	UHMWPE	White	24K617	SST	24L990
25L051	B	24K558	UHMWPE	White	24K910	Hastelloy	24L990
25L052	B	24K553	EPDM	Blue	24K617	SST	24L989
25L053	B	24K553	EPDM	Blue	24K910	Hastelloy	24L989
25L054	B	24K555	Food Grade EPDM*	Blue	24K617	SST	24L989
25L055	B	24K555	Food Grade EPDM*	Blue	24K910	Hastelloy	24L989
25L056	B	24K552	Natural Rubber	None	24K617	SST	24L989
25L057	B	24K557	CSM	Orange	24K617	SST	24L989
25L058	B	24K557	CSM	Orange	24K910	Hastelloy	24L989
25L059	B	24K554	Nitrile	Yellow	24K617	SST	24L989
25L060	B	24K554	Nitrile	Yellow	24K910	Hastelloy	24L989
25L061	B	24K556	Food Grade Nitrile*	Yellow	24K617	SST	24L989
25L062	B	24K556	Food Grade Nitrile*	Yellow	24K910	Hastelloy	24L989
25L063	B	24K559	Neoprene	Green	24K617	SST	24L989
25L064	B	24K558	UHMWPE	White	24K617	SST	24L989
25L065	B	24K558	UHMWPE	White	24K910	Hastelloy	24L989
24M816	A	24K553	EPDM	Blue	24K617	SST	None
24M817	A	24K553	EPDM	Blue	24K910	Hastelloy	None
24M818	A	24K555	Food Grade EPDM	Blue	24K617	SST	None
24M819	A	24K555	Food Grade EPDM	Blue	24K910	Hastelloy	None
24M820	A	24K552	Natural Rubber	None	24K617	SST	None
24M821	A	24K557	CSM	Orange	24K617	SST	None
24M822	A	24K557	CSM	Orange	24K910	Hastelloy	None
24M823	A	24K554	Nitrile	Yellow	24K617	SST	None
24M824	A	24K554	Nitrile	Yellow	24K910	Hastelloy	None
24M825	A	24K556	Food Grade Nitrile	Yellow	24K617	SST	None
24M826	A	24K556	Food Grade Nitrile	Yellow	24K910	Hastelloy	None
24M827	A	24K559	Neoprene	Green	24K617	SST	None

Parts

Pump Part No.	Pump Series	Hose Kit (Ref. 103)	Hose Inner Material	Hose Stripe Color	Barbed Fitting Kit (Ref. 105)	Barbed Fitting Material	Motor and Gearbox (Ref. 107)
24M828	A	24K558	UHMWPE	White	24K617	SST	None
24M829	A	24K558	UHMWPE	White	24K910	Hastelloy	None

\* Food grade hose inner material is white in color.



## Pump Kit Matrix

### Model EP3016 Pump Kits

With 16 mm ID Hose (installed) and Roller (not installed)

Pump Kit Part No.	Roller Kit (Ref. 102)	Hose Kit (Ref. 103)	Hose Inner Material	Hose Stripe Color	Barbed Fitting Kit (Ref. 105)	Barbed Fitting Material	Motor and Gearbox (Ref. 107)
24L584	24K588	24K523	EPDM	Blue	24K590	SST	24L988
24L585	24K588	24K523	EPDM	Blue	24K591	Hastelloy	24L988
24L586	24K588	24K525	Food Grade EPDM*	Blue	24K590	SST	24L988
24L587	24K588	24K525	Food Grade EPDM*	Blue	24K591	Hastelloy	24L988
24L588	24K588	24K522	Natural Rubber	None	24K590	SST	24L988
24L589	24K588	24K527	CSM	Orange	24K590	SST	24L988
24L590	24K588	24K527	CSM	Orange	24K591	Hastelloy	24L988
24L591	24K588	24K524	Nitrile	Yellow	24K590	SST	24L988
24L592	24K588	24K524	Nitrile	Yellow	24K591	Hastelloy	24L988
24L593	24K588	24K526	Food Grade Nitrile*	Yellow	24K590	SST	24L988
24L594	24K588	24K526	Food Grade Nitrile*	Yellow	24K591	Hastelloy	24L988
24L595	24K588	24K529	Neoprene	Green	24K590	SST	24L988
24L596	24K588	24K528	UHMWPE	White	24K590	SST	24L988
24L597	24K588	24K528	UHMWPE	White	24K591	Hastelloy	24L988
24L598	24K588	24K523	EPDM	Blue	24K590	SST	24L987
24L599	24K588	24K523	EPDM	Blue	24K591	Hastelloy	24L987
24L600	24K588	24K525	Food Grade EPDM*	Blue	24K590	SST	24L987
24L601	24K588	24K525	Food Grade EPDM*	Blue	24K591	Hastelloy	24L987
24L602	24K588	24K522	Natural Rubber	None	24K590	SST	24L987
24L603	24K588	24K527	CSM	Orange	24K590	SST	24L987
24L604	24K588	24K527	CSM	Orange	24K591	Hastelloy	24L987
24L605	24K588	24K524	Nitrile	Yellow	24K590	SST	24L987
24L606	24K588	24K524	Nitrile	Yellow	24K591	Hastelloy	24L987
24L607	24K588	24K526	Food Grade Nitrile*	Yellow	24K590	SST	24L987

Parts

Pump Kit Part No.	Roller Kit (Ref. 102)	Hose Kit (Ref. 103)	Hose Inner Material	Hose Stripe Color	Barbed Fitting Kit (Ref. 105)	Barbed Fitting Material	Motor and Gearbox (Ref. 107)
24L608	24K588	24K526	Food Grade Nitrile*	Yellow	24K591	Hastelloy	24L987
24L609	24K588	24K529	Neoprene	Green	24K590	SST	24L987
24L610	24K588	24K528	UHMWPE	White	24K590	SST	24L987
24L611	24K588	24K528	UHMWPE	White	24K591	Hastelloy	24L987
24L612	24K588	24K523	EPDM	Blue	24K590	SST	24L986
24L613	24K588	24K523	EPDM	Blue	24K591	Hastelloy	24L986
24L614	24K588	24K525	Food Grade EPDM*	Blue	24K590	SST	24L986
24L615	24K588	24K525	Food Grade EPDM*	Blue	24K591	Hastelloy	24L986
24L616	24K588	24K522	Natural Rubber	None	24K590	SST	24L986
24L617	24K588	24K527	CSM	Orange	24K590	SST	24L986
24L618	24K588	24K527	CSM	Orange	24K591	Hastelloy	24L986
24L619	24K588	24K524	Nitrile	Yellow	24K590	SST	24L986
24L620	24K588	24K524	Nitrile	Yellow	24K591	Hastelloy	24L986
24L621	24K588	24K526	Food Grade Nitrile*	Yellow	24K590	SST	24L986
24L622	24K588	24K526	Food Grade Nitrile*	Yellow	24K591	Hastelloy	24L986
24L623	24K588	24K529	Neoprene	Green	24K590	SST	24L986
24L624	24K588	24K528	UHMWPE	White	24K590	SST	24L986
24L625	24K588	24K528	UHMWPE	White	24K591	Hastelloy	24L986
24N065	24K588	24K523	EPDM	Blue	24K590	SST	None
24N066	24K588	24K523	EPDM	Blue	24K591	Hastelloy	None
24N067	24K588	24K525	Food Grade EPDM	Blue	24K590	SST	None
24N068	24K588	24K525	Food Grade EPDM	Blue	24K591	Hastelloy	None
24N069	24K588	24K522	Natural Rubber	None	24K590	SST	None
24N070	24K588	24K527	CSM	Orange	24K590	SST	None
24N071	24K588	24K527	CSM	Orange	24K591	Hastelloy	None
24N072	24K588	24K524	Nitrile	Yellow	24K590	SST	None
24N073	24K588	24K524	Nitrile	Yellow	24K591	Hastelloy	None
24N074	24K588	24K526	Food Grade Nitrile	Yellow	24K590	SST	None

Pump Kit Part No.	Roller Kit (Ref. 102)	Hose Kit (Ref. 103)	Hose Inner Material	Hose Stripe Color	Barbed Fitting Kit (Ref. 105)	Barbed Fitting Material	Motor and Gearbox (Ref. 107)
24N075	24K588	24K526	Food Grade Nitrile	Yellow	24K591	Hastelloy	None
24N076	24K588	24K529	Neoprene	Green	24K590	SST	None
24N077	24K588	24K528	UHMWPE	White	24K590	SST	None
24N078	24K588	24K528	UHMWPE	White	24K591	Hastelloy	None

\* Food grade hose inner material is white in color.

## Model EP3019 Pump Kits

With 19 mm ID Hose (installed ) and Roller (not installed)

Pump Part No.	Roller Kit (Ref. 102)	Hose Kit (Ref. 103)	Hose Inner Material	Hose Stripe Color	Barbed Fitting Kit (Ref. 105)	Barbed Fitting Material	Motor and Gearbox (Ref. 107)
24L626	24K589	24K533	EPDM	Blue	24K592	SST	24L988
24L627	24K589	24K533	EPDM	Blue	24K593	Hastelloy	24L988
24L628	24K589	24K535	Food Grade EPDM*	Blue	24K592	SST	24L988
24L629	24K589	24K535	Food Grade EPDM*	Blue	24K593	Hastelloy	24L988
24L630	24K589	24K532	Natural Rubber	None	24K592	SST	24L988
24L631	24K589	24K537	CSM	Orange	24K592	SST	24L988
24L632	24K589	24K537	CSM	Orange	24K593	Hastelloy	24L988
24L633	24K589	24K534	Nitrile	Yellow	24K592	SST	24L988
24L634	24K589	24K534	Nitrile	Yellow	24K593	Hastelloy	24L988
24L635	24K589	24K536	Food Grade Nitrile*	Yellow	24K592	SST	24L988
24L636	24K589	24K536	Food Grade Nitrile*	Yellow	24K593	Hastelloy	24L988
24L637	24K589	24K539	Neoprene	Green	24K592	SST	24L988
24L638	24K589	24K538	UHMWPE	White	24K592	SST	24L988
24L639	24K589	24K538	UHMWPE	White	24K593	Hastelloy	24L988
24L640	24K589	24K533	EPDM	Blue	24K592	SST	24L987
24L641	24K589	24K533	EPDM	Blue	24K593	Hastelloy	24L987
24L642	24K589	24K535	Food Grade EPDM*	Blue	24K592	SST	24L987
24L643	24K589	24K535	Food Grade EPDM*	Blue	24K593	Hastelloy	24L987
24L644	24K589	24K532	Natural Rubber	None	24K592	SST	24L987
24L645	24K589	24K537	CSM	Orange	24K592	SST	24L987
24L646	24K589	24K537	CSM	Orange	24K593	Hastelloy	24L987
24L647	24K589	24K534	Nitrile	Yellow	24K592	SST	24L987
24L648	24K589	24K534	Nitrile	Yellow	24K593	Hastelloy	24L987
24L649	24K589	24K536	Food Grade Nitrile*	Yellow	24K592	SST	24L987
24L650	24K589	24K536	Food Grade Nitrile*	Yellow	24K593	Hastelloy	24L987
24L651	24K589	24K539	Neoprene	Green	24K592	SST	24L987

Pump Part No.	Roller Kit (Ref. 102)	Hose Kit (Ref. 103)	Hose Inner Material	Hose Stripe Color	Barbed Fitting Kit (Ref. 105)	Barbed Fitting Material	Motor and Gearbox (Ref. 107)
24L652	24K589	24K538	UHMWPE	White	24K592	SST	24L987
24L653	24K589	24K538	UHMWPE	White	24K593	Hastelloy	24L987
24L654	24K589	24K533	EPDM	Blue	24K592	SST	24L986
24L655	24K589	24K533	EPDM	Blue	24K593	Hastelloy	24L986
24L656	24K589	24K535	Food Grade EPDM*	Blue	24K592	SST	24L986
24L657	24K589	24K535	Food Grade EPDM*	Blue	24K593	Hastelloy	24L986
24L658	24K589	24K532	Natural Rubber	None	24K592	SST	24L986
24L659	24K589	24K537	CSM	Orange	24K592	SST	24L986
24L660	24K589	24K537	CSM	Orange	24K593	Hastelloy	24L986
24L661	24K589	24K534	Nitrile	Yellow	24K592	SST	24L986
24L662	24K589	24K534	Nitrile	Yellow	24K593	Hastelloy	24L986
24L663	24K589	24K536	Food Grade Nitrile*	Yellow	24K592	SST	24L986
24L664	24K589	24K536	Food Grade Nitrile*	Yellow	24K593	Hastelloy	24L986
24L665	24K589	24K539	Neoprene	Green	24K592	SST	24L986
24L666	24K589	24K538	UHMWPE	White	24K592	SST	24L986
24L667	24K589	24K538	UHMWPE	White	24K593	Hastelloy	24L986
24N079	24K589	24K533	EPDM	Blue	24K592	SST	None
24N080	24K589	24K533	EPDM	Blue	24K593	Hastelloy	None
24N081	24K589	24K535	Food Grade EPDM	Blue	24K592	SST	None
24N082	24K589	24K535	Food Grade EPDM	Blue	24K593	Hastelloy	None
24N083	24K589	24K532	Natural Rubber	None	24K592	SST	None
24N084	24K589	24K537	CSM	Orange	24K592	SST	None
24N085	24K589	24K537	CSM	Orange	24K593	Hastelloy	None
24N086	24K589	24K534	Nitrile	Yellow	24K592	SST	None
24N087	24K589	24K534	Nitrile	Yellow	24K593	Hastelloy	None
24N088	24K589	24K536	Food Grade Nitrile	Yellow	24K592	SST	None
24N089	24K589	24K536	Food Grade Nitrile	Yellow	24K593	Hastelloy	None
24N090	24K589	24K539	Neoprene	Green	24K592	SST	None

*Parts*

<b>Pump Part No.</b>	<b>Roller Kit (Ref. 102)</b>	<b>Hose Kit (Ref. 103)</b>	<b>Hose Inner Material</b>	<b>Hose Stripe Color</b>	<b>Barbed Fitting Kit (Ref. 105)</b>	<b>Barbed Fitting Material</b>	<b>Motor and Gearbox (Ref. 107)</b>
<b>24N091</b>	24K589	24K538	UHMWPE	White	24K592	SST	None
<b>24N092</b>	24K589	24K538	UHMWPE	White	24K593	Hastelloy	None

*\* Food grade hose inner material is white in color.*

## Model EP4025 Pump Kits

With 25 mm ID Hose (installed) and Roller (not installed)

Pump Part No.	Roller Kit (Ref. 102)	Hose Kit (Ref. 103)	Hose Inner Material	Hose Stripe Color	Barbed Fitting Kit (Ref. 105)	Barbed Fitting Material	Motor and Gearbox (Ref. 107)
25L066	24K613	24K543	EPDM	Blue	24K615	SST	24L991
25L067	24K613	24K545	Food Grade EPDM*	Blue	24K615	SST	24L991
25L068	24K613	24K542	Natural Rubber	None	24K615	SST	24L991
25L069	24K613	24K547	CSM	Orange	24K615	SST	24L991
25L070	24K613	24K544	Nitrile	Yellow	24K615	SST	24L991
25L071	24K613	24K546	Food Grade Nitrile*	Yellow	24K615	SST	24L991
25L072	24K613	24K549	Neoprene	Green	24K615	SST	24L991
25L073	24K613	24K548	UHMWPE	White	24K615	SST	24L991
25L074	24K613	24K543	EPDM	Blue	24K615	SST	24L990
25L075	24K613	24K545	Food Grade EPDM*	Blue	24K615	SST	24L990
25L076	24K613	24K542	Natural Rubber	None	24K615	SST	24L990
25L077	24K613	24K547	CSM	Orange	24K615	SST	24L990
25L078	24K613	24K544	Nitrile	Yellow	24K615	SST	24L990
25L079	24K613	24K546	Food Grade Nitrile*	Yellow	24K615	SST	24L990
25L080	24K613	24K549	Neoprene	Green	24K615	SST	24L990
25L081	24K613	24K548	UHMWPE	White	24K615	SST	24L990

Parts

Pump Part No.	Roller Kit (Ref. 102)	Hose Kit (Ref. 103)	Hose Inner Material	Hose Stripe Color	Barbed Fitting Kit (Ref. 105)	Barbed Fitting Material	Motor and Gearbox (Ref. 107)
25L082	24K613	24K543	EPDM	Blue	24K615	SST	24L989
25L083	24K613	24K545	Food Grade EPDM*	Blue	24K615	SST	24L989
25L084	24K613	24K542	Natural Rubber	None	24K615	SST	24L989
25L085	24K613	24K547	CSM	Orange	24K615	SST	24L989
25L086	24K613	24K544	Nitrile	Yellow	24K615	SST	24L989
25L087	24K613	24K546	Food Grade Nitrile*	Yellow	24K615	SST	24L989
25L088	24K613	24K549	Neoprene	Green	24K615	SST	24L989
25L089	24K613	24K548	UHMWPE	White	24K615	SST	24L989
24N115	24K613	24K543	EPDM	Blue	24K615	SST	None
24N116	24K613	24K545	Food Grade EPDM	Blue	24K615	SST	None
24N117	24K613	24K542	Natural Rubber	None	24K615	SST	None
24N118	24K613	24K547	CSM	Orange	24K615	SST	None
24N119	24K613	24K544	Nitrile	Yellow	24K615	SST	None
24N120	24K613	24K546	Food Grade Nitrile	Yellow	24K615	SST	None
24N121	24K613	24K549	Neoprene	Green	24K615	SST	None
24N122	24K613	24K548	UHMWPE	White	24K615	SST	None

\* Food grade hose inner material is white in color.



## Model EP4029 Pump Kits

With 29 mm ID Hose (installed) and Roller (not installed)

Pump Part No.	Roller Kit (Ref. 102)	Hose Kit (Ref. 103)	Hose Inner Material	Hose Stripe Color	Barbed Fitting Kit (Ref. 105)	Barbed Fitting Material	Motor and Gearbox (Ref. 107)
25L090	24K614	24K553	EPDM	Blue	24K617	SST	24L991
25L091	24K614	24K553	EPDM	Blue	24K910	Hastelloy	24L991
25L092	24K614	24K555	Food Grade EPDM*	Blue	24K617	SST	24L991
25L093	24K614	24K555	Food Grade EPDM*	Blue	24K910	Hastelloy	24L991
25L094	24K614	24K552	Natural Rubber	None	24K617	SST	24L991
25L095	24K614	24K557	CSM	Orange	24K617	SST	24L991
25L096	24K614	24K557	CSM	Orange	24K910	Hastelloy	24L991
25L097	24K614	24K554	Nitrile	Yellow	24K617	SST	24L991
25L098	24K614	24K554	Nitrile	Yellow	24K910	Hastelloy	24L991
25L099	24K614	24K556	Food Grade Nitrile*	Yellow	24K617	SST	24L991
25L100	24K614	24K556	Food Grade Nitrile*	Yellow	24K910	Hastelloy	24L991
25L101	24K614	24K559	Neoprene	Green	24K617	SST	24L991
25L102	24K614	24K558	UHMWPE	White	24K617	SST	24L991
25L103	24K614	24K558	UHMWPE	White	24K910	Hastelloy	24L991
25L104	24K614	24K553	EPDM	Blue	24K617	SST	24L990
25L105	24K614	24K553	EPDM	Blue	24K910	Hastelloy	24L990
25L106	24K614	24K555	Food Grade EPDM*	Blue	24K617	SST	24L990
25L107	24K614	24K555	Food Grade EPDM*	Blue	24K910	Hastelloy	24L990
25L108	24K614	24K552	Natural Rubber	None	24K617	SST	24L990
25L109	24K614	24K557	CSM	Orange	24K617	SST	24L990
25L110	24K614	24K557	CSM	Orange	24K910	Hastelloy	24L990
25L111	24K614	24K554	Nitrile	Yellow	24K617	SST	24L990
25L112	24K614	24K554	Nitrile	Yellow	24K910	Hastelloy	24L990
25L113	24K614	24K556	Food Grade Nitrile*	Yellow	24K617	SST	24L990
25L114	24K614	24K556	Food Grade Nitrile*	Yellow	24K910	Hastelloy	24L990

Parts

Pump Part No.	Roller Kit (Ref. 102)	Hose Kit (Ref. 103)	Hose Inner Material	Hose Stripe Color	Barbed Fitting Kit (Ref. 105)	Barbed Fitting Material	Motor and Gearbox (Ref. 107)
25L115	24K614	24K559	Neoprene	Green	24K617	SST	24L990
25L116	24K614	24K558	UHMWPE	White	24K617	SST	24L990
25L117	24K614	24K558	UHMWPE	White	24K910	Hastelloy	24L990
25L118	24K614	24K553	EPDM	Blue	24K617	SST	24L989
25L119	24K614	24K553	EPDM	Blue	24K910	Hastelloy	24L989
25L120	24K614	24K555	Food Grade EPDM*	Blue	24K617	SST	24L989
25L121	24K614	24K555	Food Grade EPDM*	Blue	24K910	Hastelloy	24L989
25L122	24K614	24K552	Natural Rubber	None	24K617	SST	24L989
25L123	24K614	24K557	CSM	Orange	24K617	SST	24L989
25L124	24K614	24K557	CSM	Orange	24K910	Hastelloy	24L989
25L125	24K614	24K554	Nitrile	Yellow	24K617	SST	24L989
25L126	24K614	24K554	Nitrile	Yellow	24K910	Hastelloy	24L989
25L127	24K614	24K556	Food Grade Nitrile*	Yellow	24K617	SST	24L989
25L128	24K614	24K556	Food Grade Nitrile*	Yellow	24K910	Hastelloy	24L989
25L129	24K614	24K559	Neoprene	Green	24K617	SST	24L989
25L130	24K614	24K558	UHMWPE	White	24K617	SST	24L989
25L131	24K614	24K558	UHMWPE	White	24K910	Hastelloy	24L989
24N123	24K614	24K553	EPDM	Blue	24K617	SST	None
24N124	24K614	24K553	EPDM	Blue	24K910	Hastelloy	None
24N125	24K614	24K555	Food Grade EPDM	Blue	24K617	SST	None
24N126	24K614	24K555	Food Grade EPDM	Blue	24K910	Hastelloy	None
24N127	24K614	24K552	Natural Rubber	None	24K617	SST	None
24N128	24K614	24K557	CSM	Orange	24K617	SST	None
24N129	24K614	24K557	CSM	Orange	24K910	Hastelloy	None
24N130	24K614	24K554	Nitrile	Yellow	24K617	SST	None
24N131	24K614	24K554	Nitrile	Yellow	24K910	Hastelloy	None
24N132	24K614	24K556	Food Grade Nitrile	Yellow	24K617	SST	None
24N133	24K614	24K556	Food Grade Nitrile	Yellow	24K910	Hastelloy	None

Pump Part No.	Roller Kit (Ref. 102)	Hose Kit (Ref. 103)	Hose Inner Material	Hose Stripe Color	Barbed Fitting Kit (Ref. 105)	Barbed Fitting Material	Motor and Gearbox (Ref. 107)
24N134	24K614	24K559	Neoprene	Green	24K617	SST	None
24N135	24K614	24K558	UHMWPE	White	24K617	SST	None
24N136	24K614	24K558	UHMWPE	White	24K910	Hastelloy	None

\* Food grade hose inner material is white in color.

## Variable Frequency Drives (VFD)

VFD Part No.	Used With Pump	Horsepower	Input Voltage	Output Voltage
16K909	EP3016, EP3019	1.5	120 or 240 Vac (1 phase)	240 Vac (3 phase)
16K910	EP3016, EP3019	1.5	208–240 Vac (1 or 3 phase)	208–240 Vac (3 phase)
16K911	EP4025, EP4029	2.0	208–240 Vac (1 or 3 phase)	208–240 Vac (3 phase)
16K912	EP4025, EP4029	2.0	400–480 Vac (3 phase)	400–480 Vac (3 phase)

## Technical Data

<b>EP3 Pumps</b>		
	<b>U.S.</b>	<b>Metric</b>
Maximum Fluid Working Pressure	200 psi	1.4 MPa, 14 bar
Motor Horsepower/Gear Ratio	See the <a href="#">Pump Matrix, page 22</a> for the motor/gear ratio used on your pump: 1.5/20.57 1.5/35.91 1.0/100.36	
Maximum Pump Speed	130 RPM	
Maximum Environmental Temperature	122°F	50°C
Minimum Environmental Temperature	14°F	-10°C
<b>Maximum Flow</b>		
EP3016 Pump	4.6 gpm	17.2 lpm
EP3019 Pump	6.2 gpm	23.6 lpm
<b>Fluid Capacity per Revolution</b>		
EP3016 Pump	0.035 gal.	0.13 liters
EP3019 Pump	0.048 gal.	0.18 liters
<b>Hose Inner Diameter</b>		
EP3016 Pump	16 mm	
EP3019 Pump	19 mm	
<b>Noise</b>		
Sound Pressure	Less than 80 dB(A)	
<b>Dimensions</b>		
Height	16.65 in.	423 mm
Width with hose installed	13.52 in.	344 mm
Width without hose installed	11.81 in.	300 mm
Length	27.39 in.	696 mm
Weight	142.7 lb	64.9 kg
Fluid Inlet and Outlet Size	3/4 npt(m)	
<b>Wetted Parts</b>		
Pump	Powder coated aluminum.	
Hose	See the <a href="#">Pump Matrix, page 22</a> .	
Barbed Fitting	Stainless steel or Hastelloy. See the <a href="#">Pump Matrix, page 22</a> .	

<b>EP4 Pumps</b>		
	<b>U.S.</b>	<b>Metric</b>
Maximum Fluid Working Pressure	200 psi	1.4 MPa, 14 bar
Motor Horsepower/Gear Ratio	See the <a href="#">Pump Matrix, page 22</a> for the motor/gear ratio used on your pump: 2.0/19.70 2.0/34.29 2.0/79.72	
Maximum Pump Speed	130 RPM	
Maximum Environmental Temperature	122°F	50°C
Minimum Environmental Temperature	14°F	-10°C
<b>Maximum Flow</b>		
EP4025 Pump	14.3 gpm	54.1 lpm
EP4029 Pump	19.5 gpm	73.8 lpm
<b>Fluid Capacity per Revolution</b>		
EP4025 Pump	0.11 gal.	0.42 liters
EP4029 Pump	0.15 gal.	0.56 liters
<b>Hose Inner Diameter</b>		
EP4025 Pump	25 mm	
EP4029 Pump	29 mm	
<b>Noise</b>		
Sound Pressure	Less than 80 dB(A)	
<b>Dimensions</b>		
Height	19.35 in.	492 mm
Width with hose installed	16.86 in.	428 mm
Width without hose installed	15.91 in.	404 mm
Length	34.15 in.	868 mm
Weight	252 lb	114.5 kg
Fluid Inlet and Outlet Size	1-1/4 npt(m)	
<b>Wetted Parts</b>		
Pump	Powder coated aluminum.	
Hose	See the <a href="#">Pump Matrix, page 22</a> .	
Barbed Fitting	Stainless steel or Hastelloy. See the <a href="#">Pump Matrix, page 22</a> .	

# Graco Standard Warranty

Graco warrants all equipment referenced in this document which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

**THIS WARRANTY IS EXCLUSIVE, AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.**

Graco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

**GRACO MAKES NO WARRANTY, AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, IN CONNECTION WITH ACCESSORIES, EQUIPMENT, MATERIALS OR COMPONENTS SOLD BUT NOT MANUFACTURED BY GRACO.** These items sold, but not manufactured by Graco (such as electric motors, switches, hose, etc.), are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

In no event will Graco be liable for indirect, incidental, special or consequential damages resulting from Graco supplying equipment hereunder, or the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of Graco, or otherwise.

## FOR GRACO CANADA CUSTOMERS

The Parties acknowledge that they have required that the present document, as well as all documents, notices and legal proceedings entered into, given or instituted pursuant hereto or relating directly or indirectly hereto, be drawn up in English. Les parties reconnaissent avoir convenu que la rédaction du présente document sera en Anglais, ainsi que tous documents, avis et procédures judiciaires exécutés, donnés ou intentés, à la suite de ou en rapport, directement ou indirectement, avec les procédures concernées.

## Graco Information

To place an order, contact your Graco Distributor or call to identify the nearest distributor.

**Phone:** 612-623-6921 or **Toll Free:** 1-800-328-0211 **Fax:** 612-378-3505

All written and visual data contained in this document reflects the latest product information available at the time of publication. Graco reserves the right to make changes at any time without notice.

Original Instructions. This manual contains English, MM 3A1939  
For patent information, see [www.graco.com/patents](http://www.graco.com/patents).

**Graco Headquarters:** Minneapolis  
**International Offices:** Belgium, China, Japan, Korea

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Revised September 2012