G3[®] Dual-Line Lubrication Pump

For use in a dual line lubrication system. For professional use only.

Not approved for use in explosive atmospheres or hazardous (classified) locations.

See page 3 for model information, including maximum working pressure and approvals.



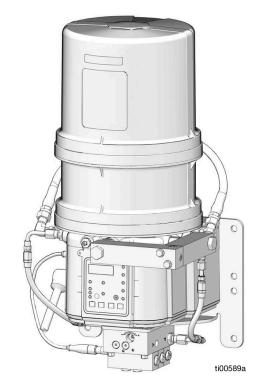
Important Safety Instructions

Read all warnings and instructions in this manual before using the equipment. Be familiar with the proper control and usage of the equipment. Save these instructions.

Related Manuals

Find English manuals and any available translations at www.graco.com.

English Manual Number	Description
332305	G3 Max Automatic Lubrication Pump
332291	G3 Standard Automatic Lubrication Pump
3A7031	GLC X [™] Lubrication Controller
3A9474	Dual-Line Reversing Valve





3A7830B

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Models

Part	Maximum Working Pressure psi (MPa, bar)	Description
2002240		G3 MAX (4 Liter) with an internal controller
2002241		G3 MAX (8 Liter) with an internal controller
2002243		G3 STD (4 Liter) with a GLC X controller
2002244	3500 psi (24.1 MPa, 241 bar)	G3 STD (8 Liter) with a GLC X controller
2002247	5500 psi (24.1 MFa, 241 bai)	G3 STD (4 Liter) 2 pump, with GLC X controller
2002248		G3 STD (8 Liter) 2 pump. with GLC X controller
2006886		G3 MAX (4 Liter) 2 pump, with an internal controller
2006887		G3 MAX (8 Liter) 2 pump, with an internal controller

Safety Symbols

The following safety symbols appear throughout this manual and on warning labels. Read the table below to understand what each symbol means.

Symbol	Meaning	Symbol	Meaning
	Cleaning Solvent Hazard		Splash Hazard
	Electric Shock Hazard		Do Not Place Hands or Other Body Parts Near Fluid Outlet
	Equipment Misuse Hazard		Do Not Stop Leaks with Hand, Body, Glove or Rag
	Moving Parts Hazard	MPa / bar / PSI	Follow Pressure Relief Procedure
	Skin Injection Hazard		Read Manual
	Skin Injection Hazard		Wear Personal Protective Equipment

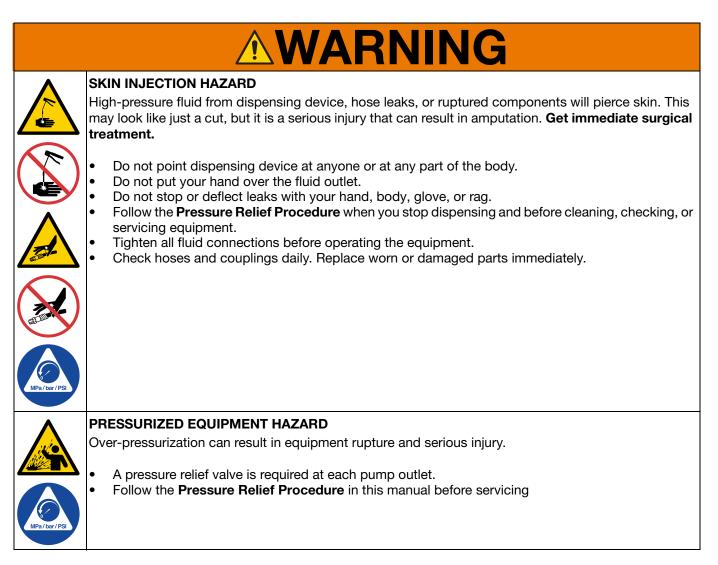


Safety Alert Symbol

This symbol indicates: Attention! Become Alert! Look for this symbol throughout the manual to indicate important safety messages.

General Warnings

The following warnings apply throughout this manual. Read, understand, and follow the warnings before using this equipment. Failure to follow these warnings can result in serious injury.



	AWARNING
Δ	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 Specifications in all equipment manuals. Use fluids and solvents that are compatible with equipment wetted parts. See Technical Specifications in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request Safety Data Sheets (SDSs) from distributor or retailer. 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. Alterations or modifications may void agency approvals and create safety hazards. Make sure all equipment is rated and approved for the environment in which you are using it. 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.
Λ	PLASTIC PARTS CLEANING SOLVENT HAZARD
	Many cleaning solvents can degrade plastic parts and cause them to fail, which could cause serious injury or property damage.
	 Use only compatible solvents to clean plastic structural or pressure-containing parts. See Technical Specifications in all equipment manuals for materials of construction. Consult the solvent manufacturer for information and recommendations about compatibility.
•	MOVING PARTS HAZARD
	Moving parts can pinch, cut or amputate fingers and other body parts.
MPa/bar/PSI	 Keep clear of moving parts. Do not operate equipment with protective guards or covers removed. Equipment can start without warning. Before checking, moving, or servicing equipment, follow the Pressure Relief Procedure and disconnect all power sources.
	PERSONAL PROTECTIVE EQUIPMENT
	Wear appropriate protective equipment when in the work area to help prevent serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. Protective equipment includes but is not limited to:
	 Protective eyewear, and hearing protection. Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.

Typical Installation

The installation shown in Fig. 1 is only a guide for selecting and installing system components and accessories. Contact your Graco distributor for assistance in designing a system to meet your needs.

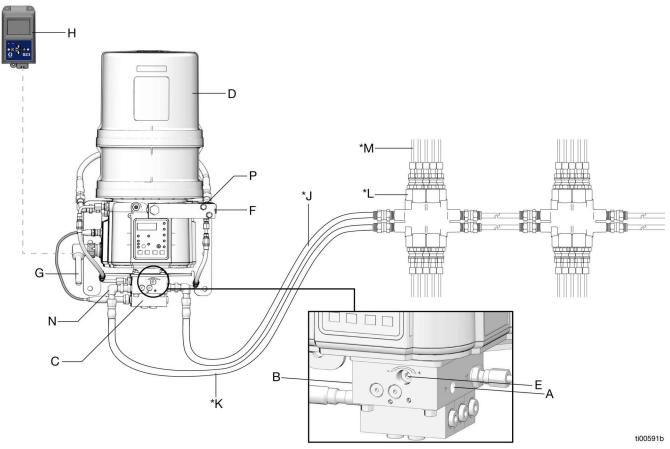


FIG. 1: Typical Installation

Key:

- A A Side
- B B Side
- C Dual-Line Reversing Valve
- D G3 Dual-Line Lubrication Pump
- E Pressure Adjusting Screw
- F Pump Union (integrated Pressure Relief Valve)
- G Power Cord
- H GLC X Controller
- J Main Grease Line A*
- K Main Grease Line B*
- L Metering Device*
- M Lube Point Ends*
- N Fitting 1/4 NPT to M10 tube (2004626)*
- P Gauge Port 1/4 NPT*

*User supplied

All connections beyond the A side and B side of the reversing valve are supplied by and completed by the user.

Installation



AUTOMATIC SYSTEM ACTIVATION HAZARD

If the system is equipped with an automatic timer (user supplied) that activates the pump lubrication system when power is connected or when exiting the programming function, unexpected activation of the system could result in serious injury, including skin injection and amputation.

Before you install or remove the lubrication pump from the system, disconnect and isolate all power supplies and relieve all pressure.

For information regarding set up and installation instructions, see your supplied pump manual, see **Related Manuals**, page 1.

For mounting hole dimensions, see **Mounting Hole Dimensions**, page 19. No other installation configuration should be used.

System Configuration and Wiring

Wiring for G3 MAX Pump Systems

For more information on wiring instructions, reference your pump manual, see **Related Manuals**, page 1.

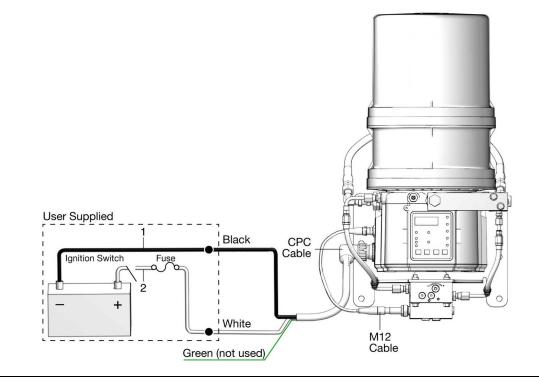
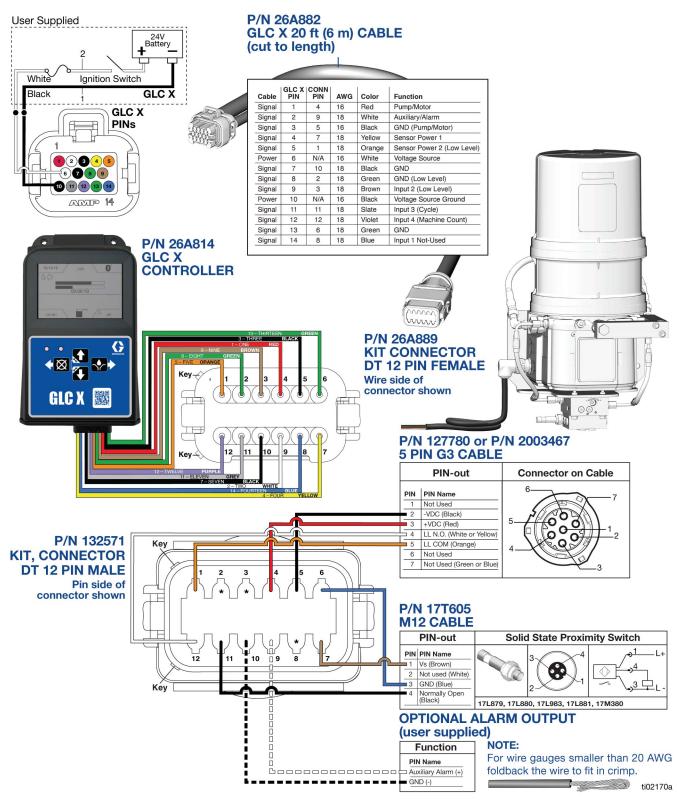


FIG. 2

Wiring for G3 STD pump with GLC X Controller Systems





Operation

Operation

The reference letters in the following sections refer to **Typical Installation**, page 7.

Overview

The * in this section refers to user supplied equipment.

The pump assembly is for use in a dual line lubrication system.

The grease dispenses from the A side (A) through the main grease line^{*} (J) to the metering device^{*} (L), then out to the lube point ends^{*} (M).

After the dispense of the metering device^{*} (L) is complete, the pressure increases in the main grease line A^* (J) to the pressure set by the pressure adjusting screw (E).

The reversing valve (C) shifts between supplying pressure on the A side (A), while allowing the B side (B) to vent pressure back to the reservoir, and supplying pressure on the B side (B) while allowing the A side (A) to vent pressure back to the reservoir (FIG. 4).

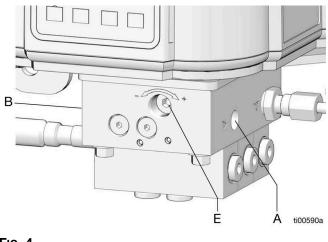


FIG. 4

A typical lubrication event begins when the pump (D) dispenses grease from the A side (A) or the B side (B).

In this example, after the reversing valve (C) shifts between the A side (A) and the B side (B) then back to the A side (A), the controller counts this as one cycle and ends the lubrication event. For an example of when the cycle starts on the B side (B), after the reversing valve (C) shifts between the B side (B) and the A side (A) then back to the B side (B), the controller counts this as one cycle and ends the lubrication event.

Pressure Relief Procedure



Follow the Pressure Relief Procedure whenever you see this symbol.



This equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from pressurized fluid, such as skin injection, splashing fluid and moving parts, follow the Pressure Relief Procedure when you stop dispensing and before cleaning, checking, or servicing the equipment.

Relieve pressure at the pump (D) on the hose between the pump union (F) and the reversing valve (C) by slowly loosening the hose end fitting until no lubricant or air leaks from the hose end fitting (FIG. 5).

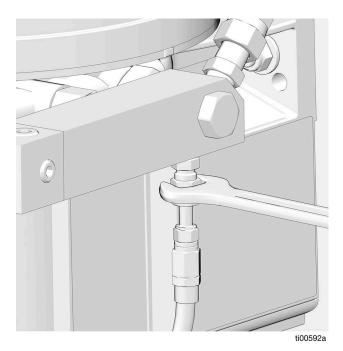


FIG. 5

Controller

For more detailed programming of the controller, use the information found in your controller manual, see **Related Manuals**, page 1.

Begin programming the controller by setting the cycle count to 1.

Setting the system off time defines the time between lube events.

If more lubrication is needed, reduce the system off time to increase the amount of grease. If more grease is still needed, increase the number of cycles.

G3 Max Pump

The G3 Max pump uses an internal controller. Refer to your pump manual to program and operate the pump.

G3 Standard Pump

The G3 Standard pump has an external GLC X controller. Refer to your pump manual and your controller manual for wiring information, and refer to your controller manual for pump operation.

Maintenance

Frequency	Component	Required Maintenance
Daily and at refill	Zerk Fittings	Keep all fittings clean using a clean dry cloth. Dirt and debris can damage the pump and lubrication system.
Daily	G3 Pump Unit and Reservoir	Keep pump unit and reservoir clean using a clean dry cloth.
Daily	Display	Keep display clean using a clean dry cloth.
Monthly	External Wiring Harness	Verify external harnesses are secure.

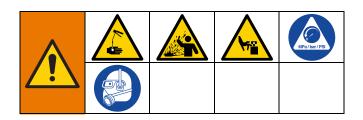
Recycling and Disposal

End of Product Life

At the end of the product's useful life, dismantle and recycle it in a responsible manner.

- Perform the Pressure Relief Procedure, page 11.
- Drain and dispose of fluids according to applicable regulations. Refer to the material manufacturer's Safety Data Sheet.
- Remove motors, batteries, circuit boards, LCDs (liquid crystal displays), and other electronic components. Recycle according to applicable regulations.
- Do not dispose of batteries or electronic components with household or commercial waste.
- Deliver remaining product to a recycling facility.

Troubleshooting



For troubleshooting problems with your pump, see your pump manual, **Related Manuals**, page 1.

The reference letters in the following instructions refer to **Typical Installation**, page 7.

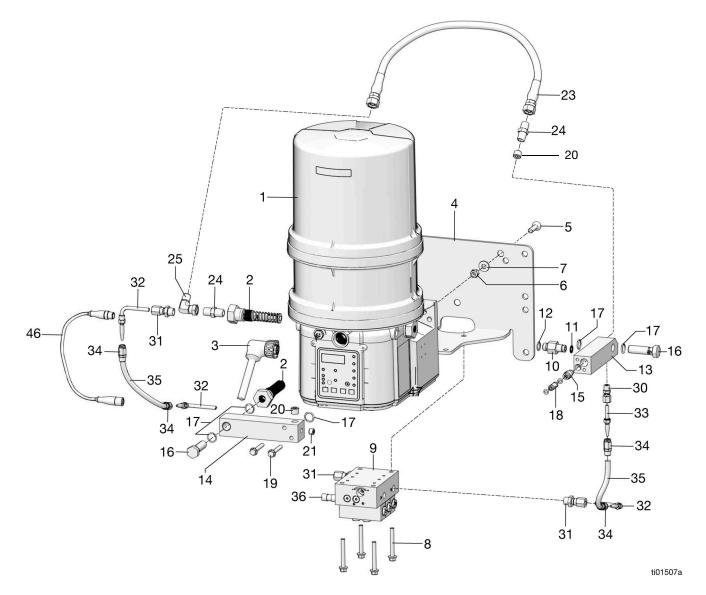
Follow **Pressure Relief Procedure**, page 11, before checking or repairing the equipment.

NOTE: Check all possible problems and causes before disassembling the equipment.

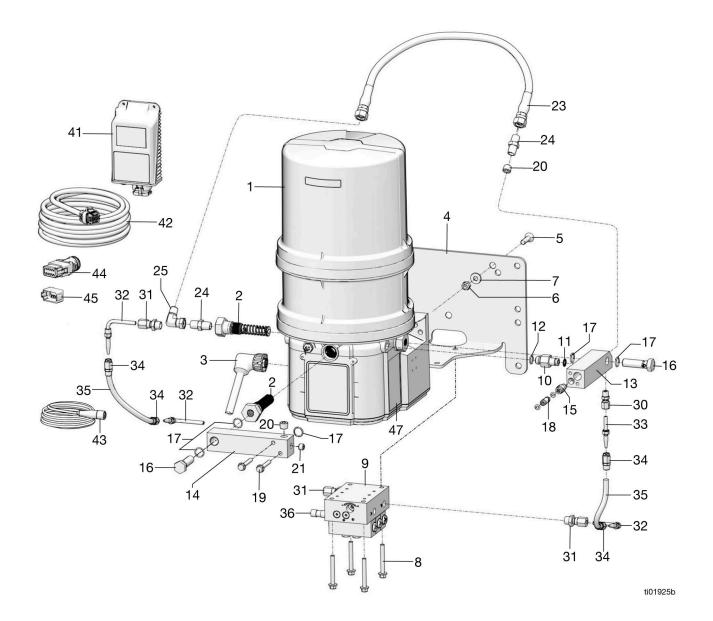
Problem	Cause	Solution
The reversing valve (C) shifts before the distributors dispense.	The shifting pressure set by the pressure adjusting screw (E) is set too low.	Increase pressure by turning the pressure adjusting screw (E) clockwise.
The system does not build pressure.	The pressure adjusting screw (E) is out too far.	Turn the pressure adjusting screw (E) clockwise to increase pressure.
The system continues to build pressure longer than desired after the distributors have dispensed.	The shifting pressure is set too high.	Decrease pressure by turning the pressure adjusting screw (E) counter-clockwise.
The reversing valve does not cycle and the system builds excessive	The set up or maintenance of the system causes the valves to not be	Reduce the system switching pressure until the valve cycles.
pressure.	in sequence.	Allow the system to cycle at least two cycles.
		Adjust the system to the desired switching pressure.

Parts

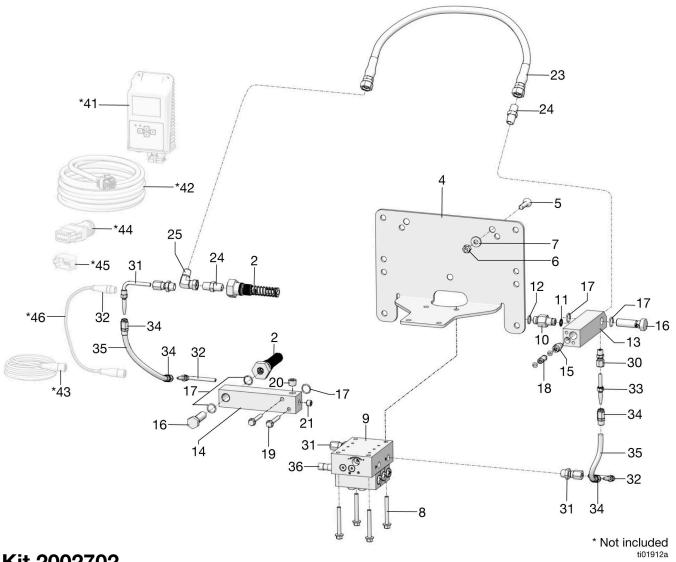
Part Nos: 2002240, 2002241, 2006886, and 2006887



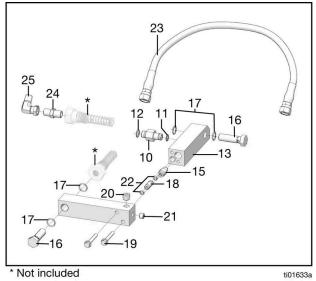
Part Nos: 2002243, 2002244, 2002247, and 2002248



Parts Kit 2006225



Kit 2002702



Parts List

			2002240	2002241	2002243	2002244	2002247	2002248	2006886	2006887
Ref.	Part	Description	Qty							
	96G143	Pump, 4 Liter, G3 Max	1	-	-	-	-	-	1	-
4	96G144			1	-	-	-	-	-	1
1	96G238 Pump, 4 Liter, G3 Std		-	-	1	-	1	-	-	-
	96G198	Pump, 8 Liter, G3 Std	-	-	-	1	-	1	-	-
2†	571041	Kit, Accessory Pump Element	3	3	3	3	2	2	2	2
3	127780 or 2003467	Cable 15 ft, 7 pos, 5 pin RA	-	-	1	1	1	1	-	-
3	127783	Cable, 15 ft, S00W, 7 pos, 2 pin RA	1	1	-	-	-	-	1	1
4†		Bracket, reverser valve mount bottom	1	1	1	1	1	1	1	1
5†		Screw, cap, flat head	3	3	3	3	3	3	3	3
6†	111040	NUT, lock, insert, nylock, 5/16	3	3	3	3	3	3	3	3
7†		Washer, plain	3	3	3	3	3	3	3	3
8†	129705	BOLT, flange HD, serrated, 1/4, CS	4	4	4	4	4	4	4	4
9†	2002258	VALVE, twin line, reversing	1	1	1	1	1	1	1	1
10★†		Bolt, vent valve, alignment	1	1	1	1	1	1	1	1
11★†	122277	O-ring, 2-012 V75	1	1	1	1	1	1	1	1
12★†	103610	Packing, o-ring	1	1	1	1	1	1	1	1
13★†		Manifold, union, right, with PRV	1	1	1	1	1	1	1	1
14★†		Manifold, union, front	1	1	1	1	1	1	1	1
15★†		Valve, cartridge check PRV 4000	1	1	1	1	1	1	1	1
16★†		Fitting, 1/4 NPSM bolt	2	2	2	2	2	2	2	2
17 ★ †		Packing, o-ring	5	5	5	5	5	5	5	5
18★†		Sleeve, union, pressure transfer	1	1	1	1	1	1	1	1
19★†		Screw, hex flange HD	2	2	2	2	2	2	2	2
20*†	100721	Plug, pipe	1	1	1	1	2	2	2	2
21*†		Plug, pipe, SOC HD 1/8 NPTF	1	1	1	1	1	1	1	1
22★†		O-ring, 3/16 id x 3/8 D	2	2	2	2	2	2	2	2
23*†	134394	Hose, coupled, 3600 psi	1	1	1	1	-	-	-	-
24*†	15F942	Fitting	2	2	2	2	-	-	-	-
25*†	155541	Fitting, swivel, 90 degree	1	1	1	1	-	-	-	-
30	17T780	Fitting, compression	1	1	1	1	1	1	1	1
31	17T782	Fitting, compression	3	3	3	3	3	3	3	3
32	17R566	Stud, elbow, 6mm, comp.	3	3	3	3	3	3	3	3
33	17R565	Stud, straight, 6mm, comp.	1	1	1	1	1	1	1	1
34	17L648	Sleeve, hose	4	4	4	4	4	4	4	4
35†	133279	Hose, 8.6mm, (Sold in 10m length, amount listed is needed length)	1.5 ft							
36†	17L983	Switch, proximity adapt, 7/16-20	1	1	1	1	1	1	1	1
41†	26A814	Control, GLC X	-	-	1	1	1	1	-	-
42†	26A882	Harness, GLC X, kit	-	-	1	1	1	1	-	-
43†	25M605	Cable, M12, w/lead, LED, strt, PNP	-	-	1	1	1	1	-	-
44	26A889	Kit, connector	-	-	1	1	1	1	-	-
45	132571	Kit, connector	-	-	1	1	1	1	-	-
46	17R703	Cable, GCA, M12-sp, m/f, 0.3 m	1	1	-	-	-	-	1	1
47▲	16A579	G3 safety label	1	1	1	1	1	1	1	1

▲ Replacement safety labels, tags, and cards are available at no cost.

★ Parts included in Kit 2002702 (purchase separately).

[†] Parts included in Kit 2006225 (purchase separately).

Kits and Accessories

3 Pump Union Kit

with Pressure Relief Valve

Kit N	Kit No. 2002702			
Ref.	Part	Description	Qty	
10		Bolt, vent valve, alignment	1	
11	122277	O-ring, 2-012 V75	1	
12	103610	Packing, o-ring	1	
13		Manifold, union, right, with PRV	1	
14		Manifold, union, front	1	
15		Valve, cartridge check PRV	1	
15		4000	•	
16		Fitting, 1/4 NPSM bolt	2	
17		Packing, o-ring	5	
18		Sleeve, union, pressure transfer 1		
19		Screw, hex flange HD	2	
20	100721	Plug, pipe	1	
21		Plug, pipe, SOC HD 1/8 NPTF	1	
22		O-ring, 3/16 id x 3/8 D	2	
23	134394	Hose, coupled, 3600 psi	1	
24	15F942	Fitting	2	
24	155541	Fitting, swivel, 90 degree	1	

Optional Fittings

Available to connect to existing hoses on equipment

Part	Description
2004626	Fitting 1/4 NPT to M10 tube

Dual-Line Conversion Kit

Converts G3 Pump to a Dual-Line Pump (G3 Standard or G3 Max)

Kit No	Kit No. 2006225			
Ref.	Part	Description	Qty	
2	571041	Kit, Accessory Pump Element	2	
4		Bracket, reverser valve mount bottom	1	
5		Screw, cap, flat head	3	
6	111040	NUT, lock, insert, nylock, 5/16		
7		Washer, plain	3	
8	129705	BOLT, flange HD, serrated, 1/4, CS	4	
9	2002258	VALVE, twin line, reversing	1	
10		Bolt, vent valve, alignment	1	
11	122277	O-ring, 2-012 V75	1	
12	103610	Packing, o-ring	1	
13		Manifold, union, right, with PRV	1	
14		Manifold, union, front	1	
15		Valve, cartridge check PRV 4000	1	
16		Fitting, 1/4 NPSM bolt	2	
17		Packing, o-ring	5	
18		Sleeve, union, pressure transfer	1	
19		Screw, hex flange HD		
20	100721	Plug, pipe	1	
21		Plug, pipe, SOC HD 1/8 NPTF	1	
22		O-ring, 3/16 id x 3/8 D	2	
23	134394	Hose, coupled, 3600 psi	1	
24	15F942	Fitting	2	
25	155541	Fitting, swivel, 90 degree	1	
35	133279	Hose, 8.6mm, (Sold in 10m length, amount listed is needed length)	1.5 ft	
36	17L983	Switch, proximity adapt, 7/16-20	1	
41	26A814	Control, GLC X	1	
42	26A882	Harness, GLC X, kit	1	
43	25M605	Cable, M12, w/lead, LED, strt, PNP	1	

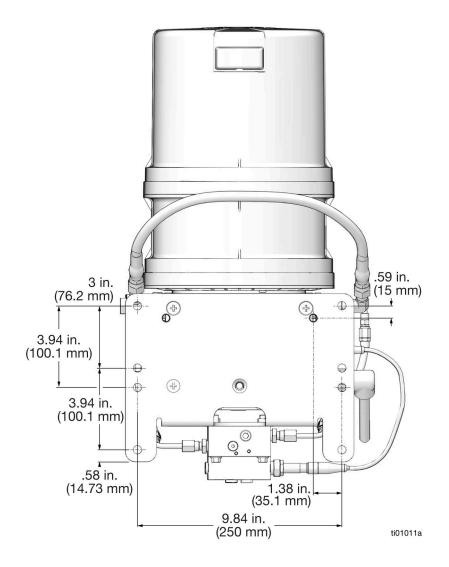
NOTE:

For G3 STD Pump - Ref. 41, 42, and 43 are needed, and Ref. 44 and 45 are recommended, but not required, see **Parts List**, page 17.

For G3 MAX - Ref. 46 is needed, see **Parts List**, page 17.

Dimensions

Mounting Hole Dimensions



Technical Specifications

For information on the technical specification of your pump, see Related Manuals, page 1.

	US	M	etric			
Pump output pressure	3500 psi	24	l.1 MPa, 241 bar			
Power						
24 VDC	18-30 VDC; 2.5 A current, 6	0 W, inrush/locke	ed rotor 6 A			
Fluid						
Grease Models	Grease NLGI #000 - #2	·				
Pumps	Up to 3					
Pump Output	0.12 in. ³ (2 cm ³) / minute pe	er outlet - 2 space	ers			
	0.18 in. ³ (3 cm ³) / minute pe	er outlet - 1 space	er			
	ers					
Pump Outlet	1/4 -18 NPSF. Mates with 1	1/4 -18 NPSF. Mates with 1/4 - 18 NPT male fittings				
Reservoir Size	2, 4, 8, 16 Liters	2, 4, 8, 16 Liters				
IP Rating	IP69K					
Sensor Inputs	1 cycle					
Ambient Temperatures	-40°F to 158°F	-40°F to 158°F -40°C to 70°C				
Noise (dBa)		· ·				
Maximum sound pressure	<70dBa					
Materials of Construction						
Wetted Parts	nylon 6/6 (PA), amorphous polyamide, zinc plated steel, carbon steel, alloy steel, stainless steel, nitrile rubber (buna-N), bronze, nickel plated alnico, chemically lubricated acetal, PTFE					

Pump Maximum Weight Ib (kg)	
Model	With follower plate
4L	17.3 (7.8)
8L	28.8 (13.1)
16L	31.9 (14.5)

California Proposition 65

CALIFORNIA RESIDENTS

MARNING: Cancer and reproductive harm – www.P65warnings.ca.gov.

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

For the latest information about Graco products, visit www.graco.com.

For patent information, see www.graco.com/patents.

TO PLACE AN ORDER, contact your Graco distributor or call to identify the nearest distributor.

Phone: 612-623-6928 or Toll Free: 1-800-533-9655, Fax: 612-378-3590

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 3A7830

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

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