

GlasCraft Catalyst Pump

3A1218H

EN

For use with Graco polyester resin and gel coat systems. For professional use only.

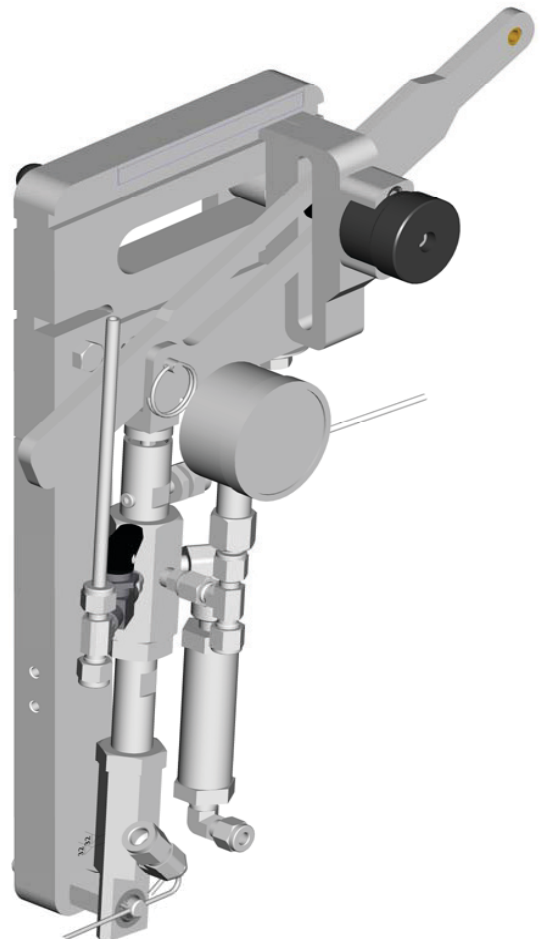
See page 2 for models.



Important Safety Instructions

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

See page 19 for model information, including maximum working pressure.



Contents


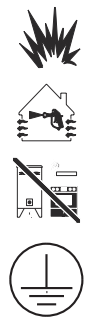


Models	2	Parts	10
Warnings	3	24G505 (Internal) and 24G506 (External) Catalyst Pump Mountings	10
Important Methyl Ethyl Ketone Peroxide (MEKP)		24G507 (Internal) and 24G508 (External) Catalyst Pump Mountings	12
Safety Information	5	24G501 (Internal) and 24G502 (External) Fluid Section	14
Grounding	7	24G503 (Internal) and 24G504 (External) Fluid Section	16
Installation	8	Repair Kits	18
Setup	9	Catalyst Pump Repair Kit	18
Flush Before Using Equipment	9	Catalyst Pump Seal Kit	18
Pressure Relief Procedure	9	Technical Data	19
		Graco Standard Warranty	20

Models

Model	Description
24G501	Internal Catalyst Pump
24G502	External Catalyst Pump
24G503	Internal Catalyst Pump; 17:1
24G504	External Catalyst Pump; 17:1
24G505	Mounting - Internal Catalyst Pump
24G506	Mounting - External Catalyst Pump
24G507	Mounting - 17:1 Internal Catalyst Pump
24G508	Mounting - 17:1 External Catalyst Pump

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 symbols refer to procedure-specific risks. When these symbols appear in the body of this manual, 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.

 WARNING	
	<p>FIRE AND EXPLOSION HAZARD</p> <p>Flammable fumes, such as solvent and paint fumes, in work area can ignite or explode. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> • Use equipment only in well ventilated area. • Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc). • Keep work area free of debris, including solvent, rags and gasoline. • Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present. • Ground all equipment in the work area. See Grounding instructions. • Use only grounded hoses. • Hold gun firmly to side of grounded pail when triggering into pail. • If there is static sparking or you feel a shock, stop operation immediately. Do not use equipment until you identify and correct the problem. • Keep a working fire extinguisher in the work area.
	<p>TOXIC FLUID OR FUMES HAZARD</p> <p>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"> • Read MSDSs to know the specific hazards of the fluids you are using. • Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.
	<p>SKIN INJECTION HAZARD</p> <p>High-pressure fluid from gun, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. Get immediate surgical treatment.</p> <ul style="list-style-type: none"> • Do not spray without trigger guard installed. • Engage trigger lock when not spraying. • Do not point gun at anyone or at any part of the body. • Do not put your hand over the spray tip. • Do not stop or deflect leaks with your hand, body, glove, or rag. • Follow the Pressure Relief Procedure when you stop spraying and before cleaning, checking, or servicing equipment. • Tighten all fluid connections before operating the equipment. • Check hoses and couplings daily. Replace worn or damaged parts immediately.

⚠️ WARNING



MOVING PARTS HAZARD

Moving parts can pinch, cut or amputate fingers and other body parts.



- Keep clear of moving parts.
- Do not operate equipment with protective guards or covers removed.
- Pressurized equipment can start without warning. Before checking, moving, or servicing equipment, follow the **Pressure Relief Procedure** and disconnect all power sources.



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.



PRESSURIZED ALUMINUM PARTS HAZARD

Use of fluids that are incompatible with aluminum in pressurized equipment can cause serious chemical reaction and equipment rupture. Failure to follow this warning can result in death, serious injury, or property damage.

- Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents.
- Many other fluids may contain chemicals that can react with aluminum. Contact your material supplier for compatibility.



PERSONAL PROTECTIVE EQUIPMENT

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:

- Protective eyewear, and hearing protection.
- Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.

Important Methyl Ethyl Ketone Peroxide (MEKP) Safety Information

MEKP is among the more hazardous materials found in commercial channels. Proper handling of the “unstable (reactive)” chemicals presents a serious challenge to the plastics industry. The highly reactive property which makes MEKP valuable to the plastics industry in producing the curing reaction of polyester resins and gel-coats also produces the hazards which require great care and caution in its storage, transportation, handling, processing and disposal.

Workers must be thoroughly informed of the hazards that may result from improper handling of MEKP, especially in regard to contamination and heat. They must be thoroughly instructed regarding the proper storage, use and disposal of MEKP and other hazardous materials used in the laminating operation.



MEKP is flammable and potentially explosive, as well as potentially damaging to the eyes and skin.

Read material manufacturer’s warnings and material MSDS to know specific hazards and precautions related to MEKP.

Contaminated MEKP can become explosive. Prevent contamination of MEKP with other materials, including but not limited to polyester overspray, polymerization accelerators and promoters, and non-stainless metals. Even small amounts of contaminants can make MEKP explosive. This reaction may start slowly, and gradually build-up heat, which can accelerate until fire or an explosion result. This process can take from seconds to days.



Continued

Heat applied to MEKP, or heat build-up from contamination reactions can cause it to reach what is called its Self-Accelerating Decomposition Temperature (SADT), which can cause fire or explosion. Spills should be promptly removed, so no residues remain. Spillage can heat up to the point of self-ignition. Dispose in accordance with manufacture’s recommendation.

Store MEKP in a cool, dry and well-ventilated area in the original containers away from direct sunlight and away from other chemicals. It is strongly recommended that the storage temperature remain below 86° F (30° C). Heat will increase the potential for explosive decomposition. Refer to NFPA 432. Keep MEKP away from heat, sparks and open flames.

Current catalysts are premixed and do not require any diluents. Graco strongly recommends that diluents not be used. Diluents add to the possibility of contaminants entering the catalyst system. Never dilute MEKP with acetone or any solvent since this can produce an extremely shock-sensitive compound which can explode.

Use only original equipment or equivalent parts from Graco in the catalyst system (i.e.: hoses, fittings, etc.) because a hazardous chemical reaction may result between substituted parts and MEKP.

To prevent contact with MEKP, appropriate personal protective equipment, including chemically impermeable gloves, boots, aprons and goggles are required for everyone in the work area.

Polyester Resins and Gel-Coats



Spraying materials containing polyester resin and gel-coats creates potentially harmful mist, vapors and atomized particulates. Prevent inhalation by providing sufficient ventilation and the use of respirators in the work area.

Read the material manufacturer's warnings and material MSDSs to know specific hazards and precautions related to polyester resins and gel-coats.

To prevent contact with polyester resins and gel-coats, appropriate personal protective equipment, including chemically impermeable gloves, boots, aprons and goggles are required for everyone in the work area.

Spraying and Lamination Operations






Remove all accumulations of overspray, FRP sandings, etc. from the building as they occur. If this waste is allowed to build up, spillage of catalyst is more likely to start a fire.

If cleaning solvents are required, read material manufacturer's warnings and material MSDS to know specific hazards and precautions. (Graco recommends that clean-up solvents be nonflammable.)

NOTE: Graco recommends that you consult OSHA Sections 1910.94, 1910.106, 1910.107 and NFPA No. 33, Chapter 16,17, and NFPA No. 91 for further guidance.

Grounding

						
<p>The equipment must be grounded. Grounding reduces the risk of static and electric shock by providing an escape wire for the electrical current due to static build up or in the event of a short circuit.</p>						

Pump: use ground wire and clamp (17440-00). Connect ground clamp to a true earth ground.

Air and fluid hoses: use only electrically conductive hoses.

Air compressor: follow manufacturer's recommendations.

Spray gun: ground through connection to a properly grounded fluid hose and pump.

Fluid supply container: follow local code.

Object being sprayed: follow local code.

Solvent pails used when flushing: follow local code. Use only conductive metal pails, placed on a grounded surface. Do not place the pail on a nonconductive surface, such as paper or cardboard, which interrupts grounding continuity.

To maintain grounding continuity when flushing or relieving pressure: hold metal part of the spray gun firmly to the side of a grounded metal pail, then trigger the gun.

Installation

1. Attach the catalyst pump assembly to the fluid section plate using the supplied bolts and washers.

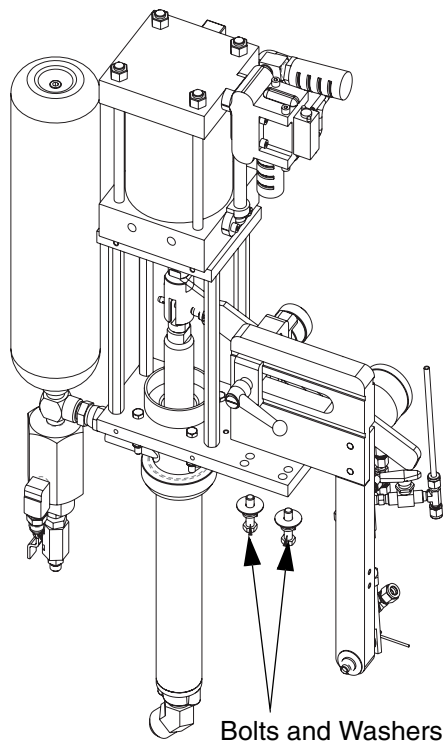


FIG. 1

2. Attach the catalyst pump drive arm to the pump shaft.

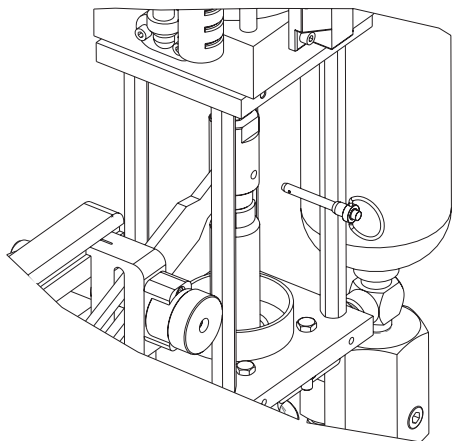


FIG. 2

3. Install tubing from the catalyst bottle to the inlet fitting on the catalyst pump. Push the tubing into the catalyst bottle supply fitting until it stops. Use two wrenches to carefully tighten the compression nut to lock down the tubing.

NOTE: Cut the tubing so that it provides a natural gravity feed to the catalyst pump.

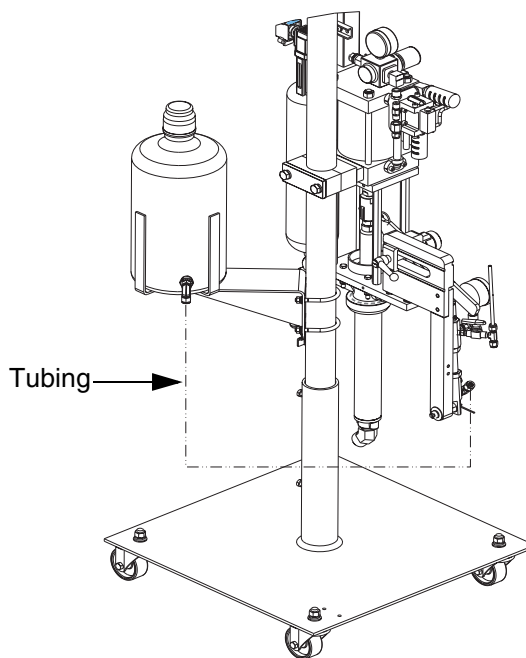


FIG. 3

4. Install the catalyst and bypass tubing into the catalyst bottle cap. Ensure the filter screen is in place under the cap.

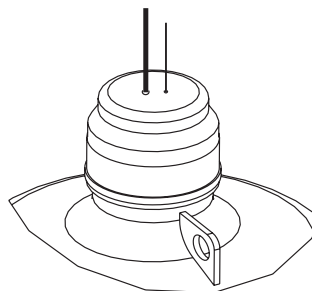







FIG. 4

Setup

Flush Before Using Equipment

The equipment was tested with lightweight oil, which is left in the fluid passages to protect parts. To avoid contaminating your fluid with oil, flush the equipment with a compatible solvent before using the equipment. See your system manual for flushing instructions.

Pressure Relief Procedure

						
<p>Trapped air can cause the pump to cycle unexpectedly, which could result in serious injury from splashing or moving parts.</p>						

1. Engage trigger lock.
2. Close the yellow slide valve to bleed off air to the system.

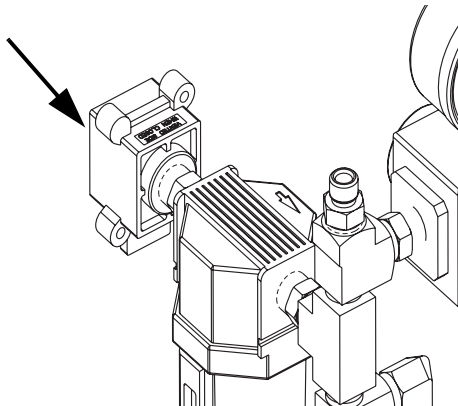


FIG. 5: Close Yellow Slide Valve

3. Disengage the trigger lock.
4. Hold a metal part of the gun firmly to a grounded metal pail. Trigger the gun to relieve pressure.
5. Engage the trigger lock.

6. Open the ball valve on the catalyst pump to the recirculation position.

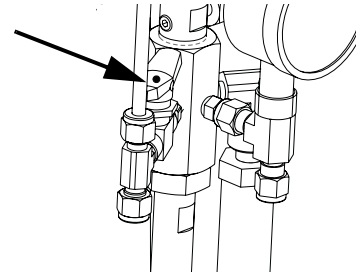


FIG. 6: Open Catalyst Pump Ball Valve

7. Open the ball valve on the bottom of the material pump.

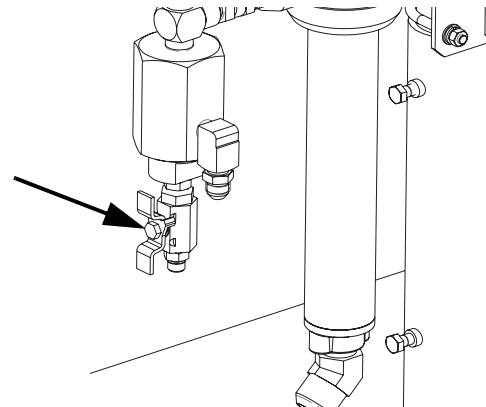
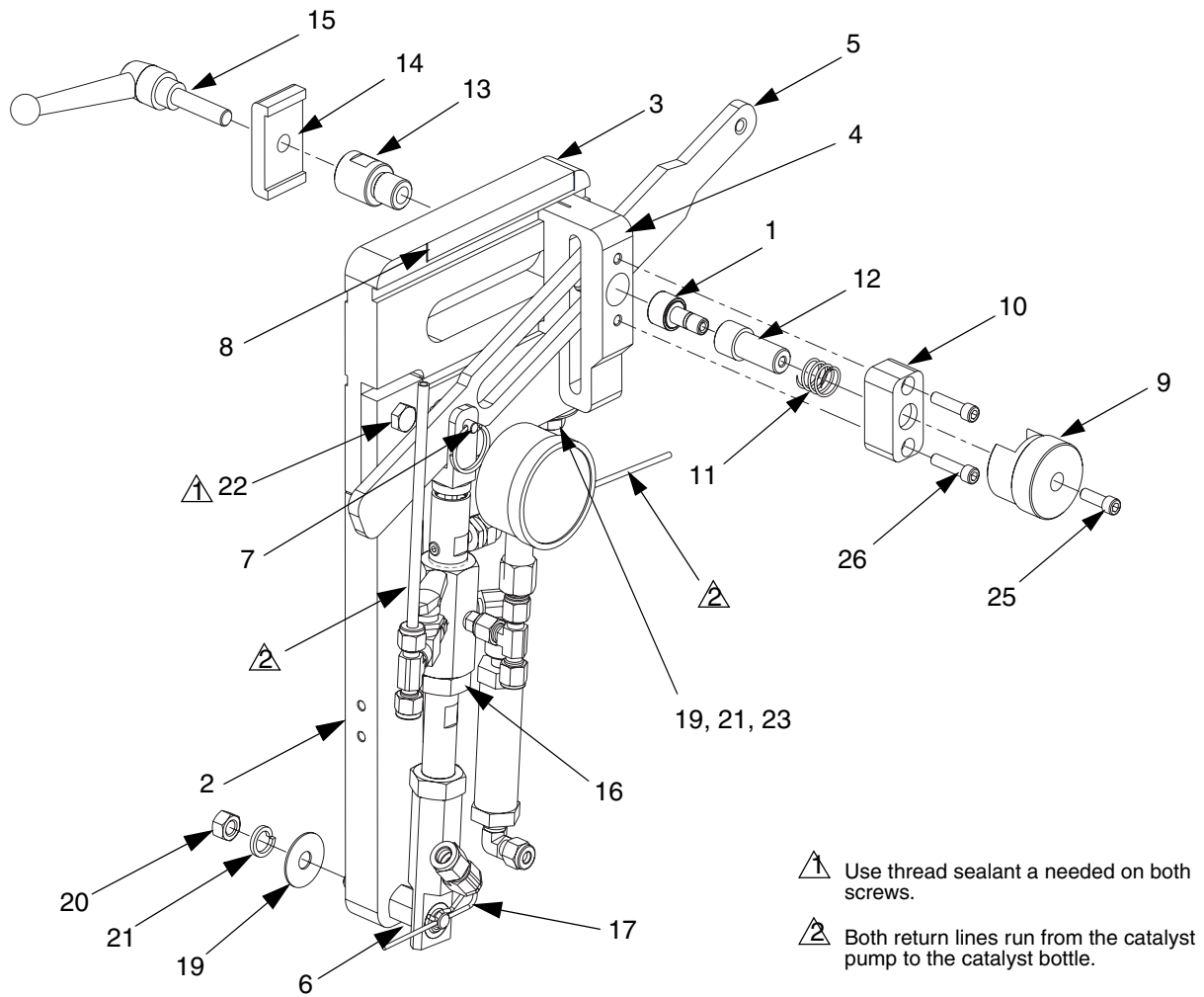


FIG. 7: Open Pump Ball Valve

8. Have a waste container ready to catch drainage. Leave the ball valves open until you are ready to spray again.
9. If you suspect the spray tip or hose is clogged or that pressure has not been fully relieved after following the steps above, **VERY SLOWLY** loosen tip guard retaining nut or hose end coupling to relieve pressure gradually, then loosen completely. Clear hose or tip obstruction.

Parts

24G505 (Internal) and 24G506 (External) Catalyst Pump Mountings



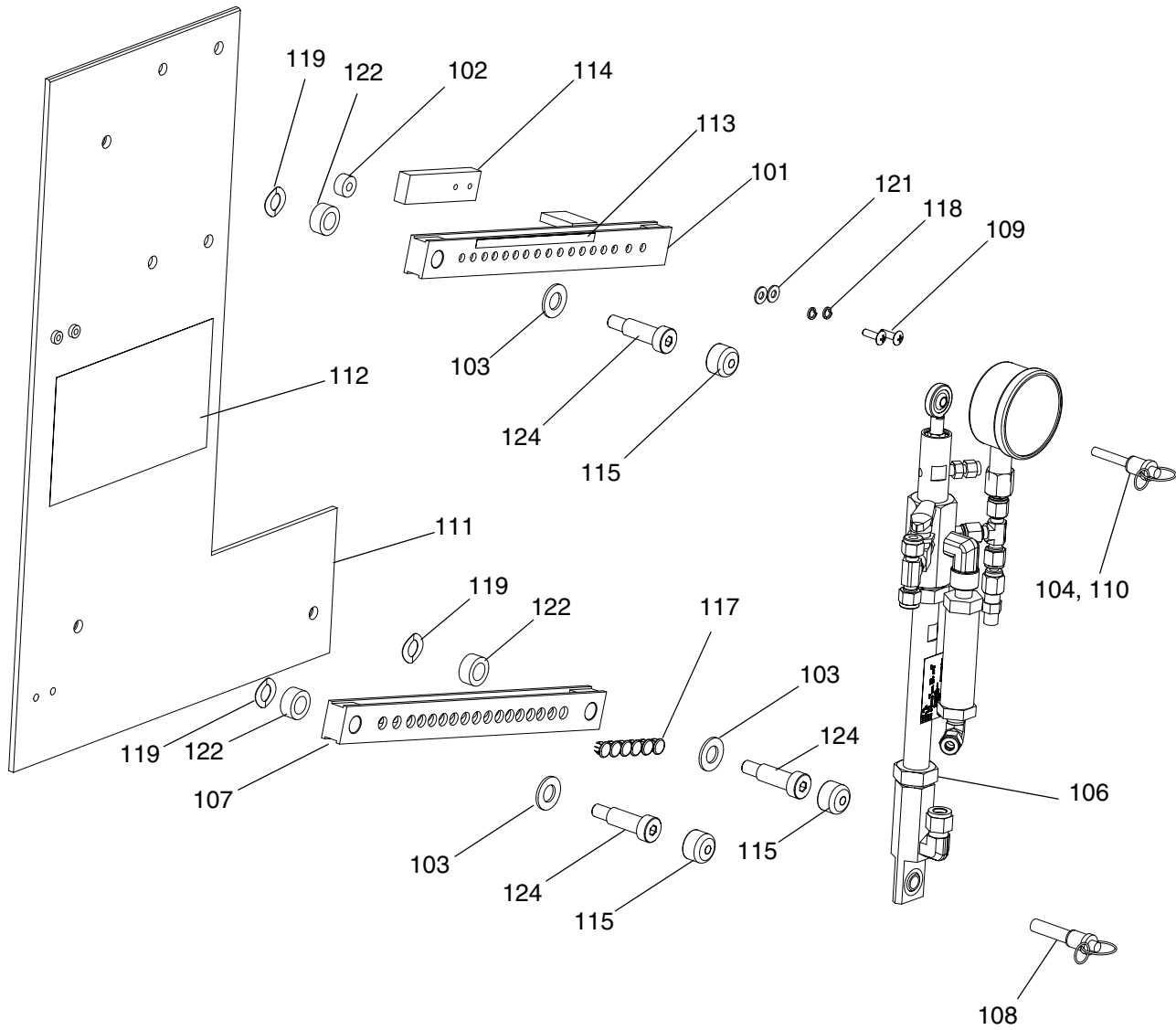
Parts 24G505 and 24G506

Ref. Part	Description	Qty.
1	LPA-163 CAM, follower	1
2	SSP-112 EXTENSION, plate	1
3	SSP-113 ADAPTER, plate	1
4	SSP-114 GUIDE, slider	1
5	SSP-115 ARM, drive, pump	1
6	SSP-116 ADAPTER, hex	1
7	SSP-148 PIN, release; 1/4 in. dia.	1
8	SSP-157-01 LABEL, calibration	1
9	SSP-159 KNOB, pivot	1
10	SSP-161 LOCK, pump	1
11	SSP-162 SPRING, compression	1
12	SSP-163 HANDLE, pivot	1
13	SSP-164 INSERT, slider	1
14	SSP-165 LOCK, slider	1
15	SSP-166 HANDLE, clamping	1
16	PUMP, catalyst	1
	† 24G501	
	◆ 24G502	
17	16028-03 PIN, hitch	1
19	7486-08 WASHER, flat	3
20	7733-17 NUT, hex, std; 3/8-16, unc	1
21	7734-12 WASHER, lock, spring; 3/8 in.	3
22	7957-32C SCREW, hex head; CS	2
23	7957-48C SCREW, hex head; CS	2
25	9944-24C SCREW, socket head; AS	1
26	9944-32C SCREW, socket head; SS	2

† Included in 24G505 only.

◆ Included in 24G506 only.

24G507 (Internal) and 24G508 (External) Catalyst Pump Mountings



r_24G507_3A1218_1a

Parts 24G507 and 24G508

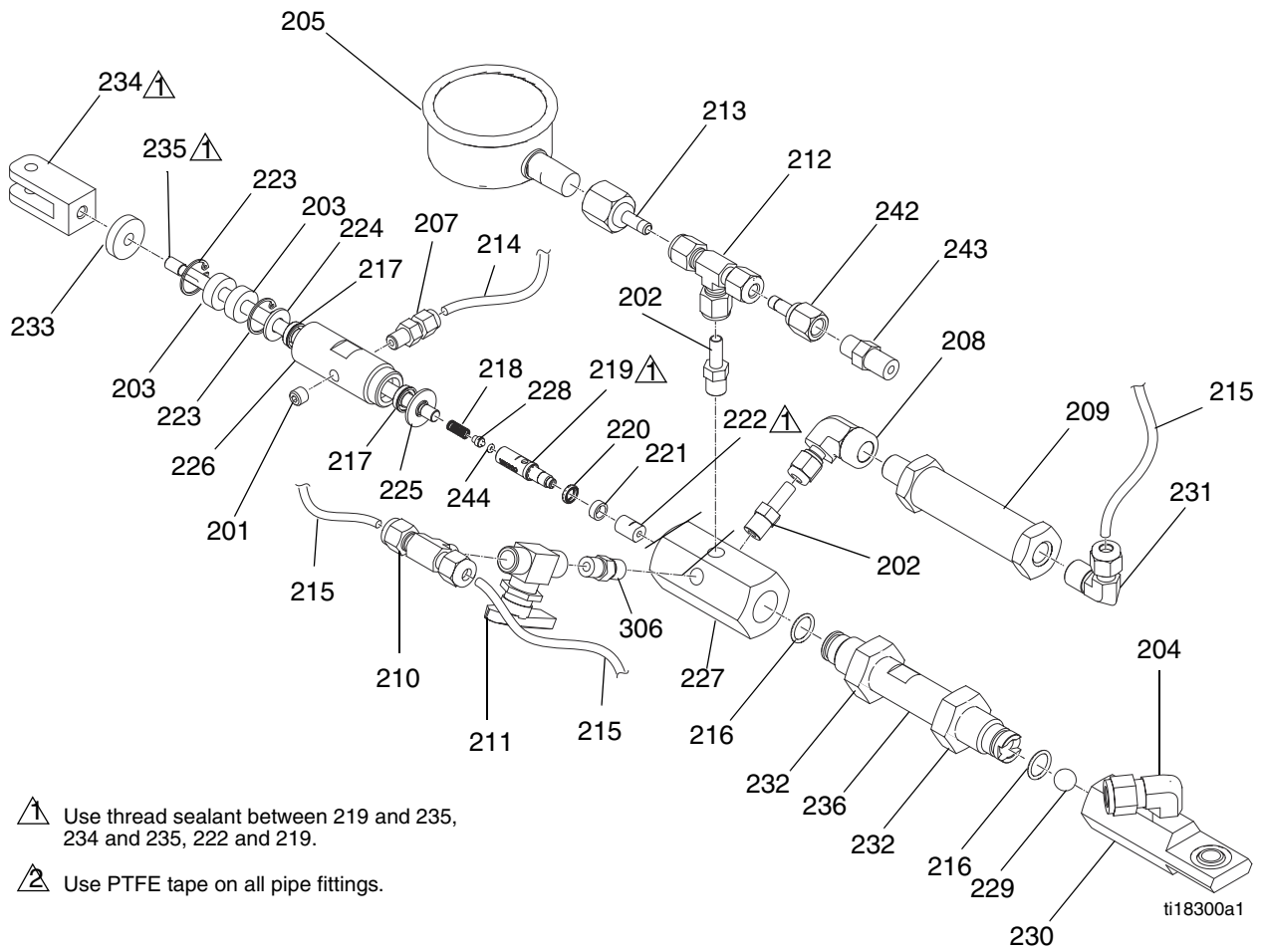
Ref.	Part	Description	Qty.
101	LPA-115	ARM, calibration	1
102	LPA-119-02	SPACER; nylon	3
103	LPA-119-03	SPACER; nylon	3
104	LPA-148	PIN, detent; 1/4 in x 1 in.	1
105★	LPA-183-02	WASHER, wave; 1/2	3
106	❖ 24G503	PUMP, catalyst	1
	✓ 24G504	PUMP, catalyst	1
107	20392-00	ARM, calibration, lower	1
108	20393-00	PIN, detent; 3/8 in. x 1 in.	1
109	21359-20F	SCREW; SS, 190-32 x 0.625	2
110	21749-00	SPACER, pin, detent	1
111	21783-00	PLATE, mounting	1
112	21787-00	LABEL, decal, pump	1
113	21791-00	LABEL, decal, calibration	2
114	21793-00	BRACKET, lockout, position, calibration	1
115	22284-01	CAP; 3/4 in., black	3
116	623-RC	HOSE, tubing; polyethylene, 1/8 in. dia., 5 in.	-
117	7279-09	PLUG, plug, hole, retainer	6
118	7486-03	WASHER, flat, std; #10	2
119	7486-10	WASHER, flat, std; 3/8 in.	3
120★	7733-17	NUT, hex, std; 3/8-16, unc	3
121❖	7734-04	WASHER, lock, spring; #10	2
122	7734-12	WASHER, lock, spring; 3/8 in.	3
123	9704-03	HOSE, tubing; polyethylene, 1/4 in. dia., 5 in.	-
124	9869-08	SCREW, shoulder; 1/2 x 3 /8-16	3
126★✓	LPA-118	HOSE, tubing; impolene, 1/4 in. dia., 2.5 in.	-

★ *Not shown.*

❖ *Included in 24G507 only.*

✓ *Included in 24G508 only.*

24G501 (Internal) and 24G502 (External) Fluid Section



Parts 24G501 and 24G502

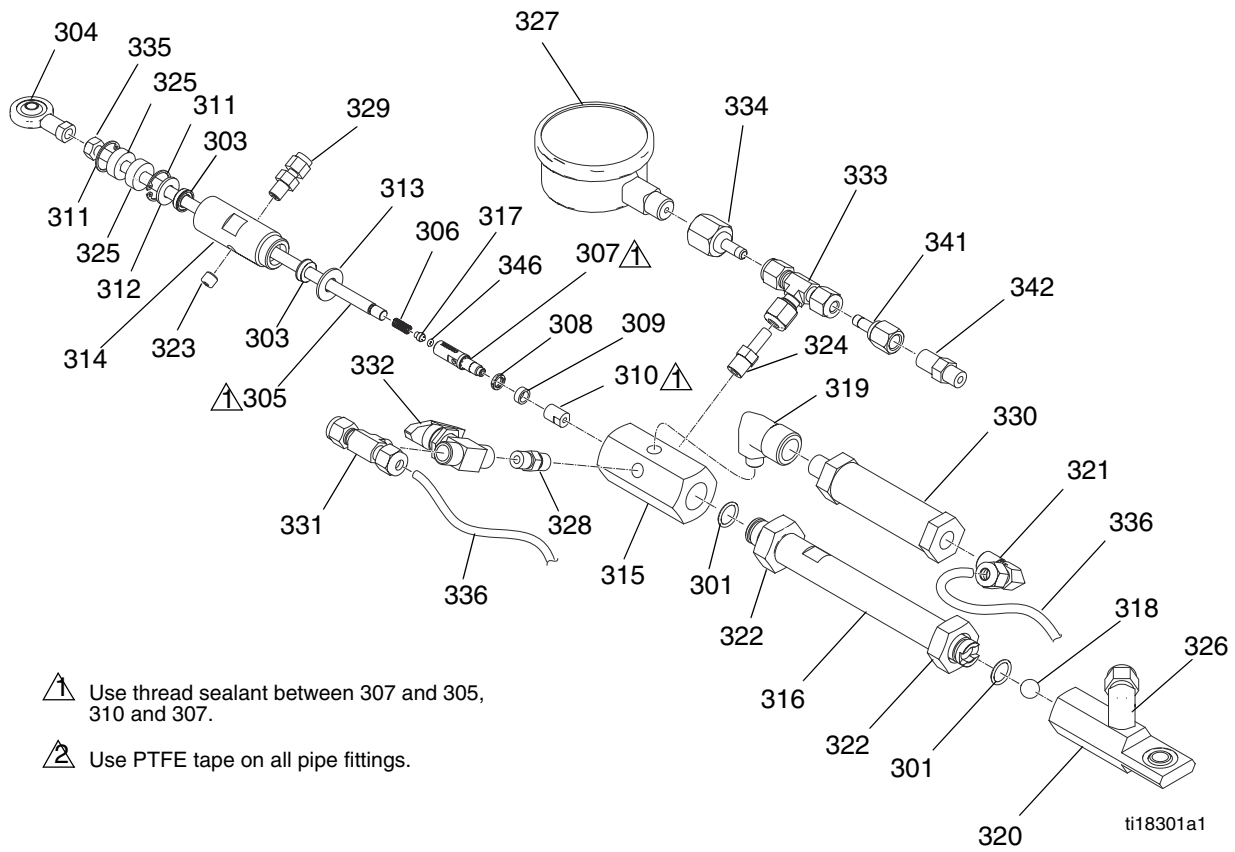
Ref.	Part	Description	Qty.
201	11021-41	PLUG, pipe; 1/16, sst	1
202	15902-00	FITTING; 1/8 nptm x 1/4 tube	2
203	20126-00	WIPER, felt	2
204	20170-00	ELBOW; 1/4 nptm x 3/8 tube sst	1
205	‡125224	GAUGE, pressure, 0-1500 psi	1
	✿20639-01	GAUGE, pressure, 0-100 psi	1
206	20378-01	FITTING, pipe, nipple, hex, sst	1
207	20390-00	FITTING, connector	1
208	21194-00	ELBOW; 1/4 nptf x 1/4 tube sst	1
209	‡125225	VALVE, relief, high pressure; 1/4 npt	1
	✿21197-00	VALVE, relief, inline; 1/4 npt	1
210	21198-00	FITTING, tee; 1/8 nptm x 1/4t sst	1
211	21228-00	VALVE, ball, 2-way; 1/8 npt, sst	1
212	21960-01	FITTING, tee, union; 1/4t, sst	1
213	22017-03	ADAPTER, tube; 1/4 in. x 1/4 in. nptf	1
214	623-RC	HOSE, tubing; polyethylene, 1/8 OD	5
215	9704-03	HOSE, tubing; polyethylene, 1/4 OD, 5.5 in.	-
216	CJ-143	O-RING; silicone	2
217	LPA-117	SEAL, radial	2
218	LPA-123	SPRING, compression	1
219	16K960	HOUSING, transfer	1
220	LPA-126	SEAL, radial	1
221	LPA-127	GUIDE, piston	1
222	LPA-128	SUPPORT, guide	1
223	LPA-129	RING, retainer	2
224	LPA-130-01	WASHER, crush; poly, 0.310 ID	1
225	LPA-130-04	WASHER, crush; poly, 0.343 ID	1
226	LPA-131	HOUSING, seal	1
227	LPA-132	HEAD, pump	1
228	16K928	POPPET, valve	1
229	LPA-134-02	BALL	1
230	LPA-139	PUMP, assy, cap, pump	1
231	LPA-141	ELBOW; 1/4 nptm x 1/4 tube, sst	1
232	LPA-144	NUT, lock	1
233	SSP-119	PUMP, bumper	1
234	SSP-120	BRACKET	1
235	SSP-122	SHAFT, pump	1
236	SSP-133	CYLINDER, pump	1
239★	15X406	LABEL, identification	1
242	22017-01	ADAPTER, tube; 1/4 in. x 1/8 in. nptf	1
243	123628	ADAPTER; 1/8 npt - #4 jic	1
244	123934	O-RING,003	1

★ Not shown.

‡ Included in 24G501 only.

✿ Included in 24G502 only.

24G503 (Internal) and 24G504 (External) Fluid Section



Parts 24G503 and 24G504

Ref.	Part	Description	Qty.	Ref.	Part	Description	Qty.
				342	123628	ADAPTER; 1/8 npt - #4 jic	1
301	CJ-143	O-RING; silicone, 2-014	2	343*	21199-00	ADAPTER, reducing; 1/4 npt x 1/8 n	1
303	LPA-117	SEAL, radial	2	344*★	20379-00	FITTING, tee, branch; 1/8	1
304	LPA-120	BEARING, rod end	1	345*★	LPA-145	ACCUMULATOR	1
305	LPA-122	SHAFT, pump	1	346	123934	O-RING, 003	1
306	LPA-123	SPRING, compression	1				
307	16K960	HOUSING, transfer	1				
308	LPA-126	SEAL, radial	1	★	<i>Not Shown.</i>		
309	LPA-127	GUIDE, piston	1	⊗	<i>Included in 24G503 only.</i>		
310	LPA-128	SUPPORT, guide	1	*	<i>Included in 24G504 only.</i>		
311	LPA-129	RING, retainer	2				
312	LPA-130-01	WASHER, crush; poly, 0.310 ID	1				
313	LPA-130-04	WASHER, crush; poly, 0.343 ID	1				
314	LPA-131	HOUSING, seal	1				
315	LPA-132	HEAD, pump	1				
316	LPA-133	CYLINDER, pump; 3/8	1				
317	16K928	POPPET, valve	1				
318	LPA-134-02	BALL	1				
319**	LPA-135	ELBOW; 1/8 nptm x 1/4 nptf, sst	1				
320	LPA-139	PUMP, assy., cap	1				
321	LPA-141	ELBOW; 1/4 nptm x 1/4 tube, sst	1				
322	LPA-144	NUT, lock	2				
323	11021-41	PLUG, pipe; 1/16, sst	1				
324	15902-00	FITTING; 1/8 nptm x 1/4 tube	1				
325	20126-00	WIPER, felt	2				
326	20170-00	ELBOW; 1/4 nptm x 3/8 tube, sst	1				
327	⊗20639-03	GAUGE, pressure, 0-2000 psi	1				
	*20639-02	GAUGE, pressure, 0-200 psi					
328	20378-01	FITTING, pipe, nipple, hex; sst	1				
329	20390-00	FITTING, connector	1				
330	⊗21195-01	VALVE, relief, high press; 1/4 npt	1				
	*21197-00	VALVE, relief, inline; 1/4 npt	1				
331	21198-00	FITTING, tee; 1/8 nptm x 1/4t; sst	1				
332	21228-00	VALVE, ball,2-way; 1/8 npt, sst	1				
333	21960-01	FITTING, tee, union; 1/4t, sst	1				
334	22017-03	ADAPTER, tube, 1/4 in. x 1/4 in. nptf	1				
335	7733-11	NUT, hex, std; 1/4-28, unf	1				
336	9704-03	HOSE, tubing, p.e., 0.250 OD	-				
339★	293537	LABEL, identification	1				
341	22017-01	ADAPTER, tube; 1/4 in. x 1/8 in. nptf	1				

Repair Kits

Catalyst Pump Repair Kit

LPA-190-RK includes:

Part	Description	Qty.
CJ-143	O-RING; silicone, 2-014	2
LPA-134-02	BALL	1
CJ-154	O-RING; silicone, 2-110	1
LPA-157	LABEL, calibration	1
17653-01	FERRULE, front; sst, 1/4 tube	1
D-123-10	O-RING; silicone, 2-010	1
17653-26	FERRULE, back; sst, 1/4 tube	1
LPA-117	SEAL, radial	2
20126-00	WIPER, felt	2
LPA-118	HOSE, tubing; impolene, 1/4 OD, 1.75	-
9704-03	HOSE, tubing; P.E., 0.250 OD	1
LPA-123	SPRING, compression	1
9704-11	HOSE, tubing; P.E., 0.375 OD; 5	-
LPA-126	SEAL, radial	1
LPA-127	guide, piston	1
LPA-130-04	WASHER, crush; poly, 0.343 ID	1
123934	O-RING,003	1

Catalyst Pump Seal Kit

LPA-190-SK includes:

Part	Description	Qty.
CJ-143	O-RING, silicone, 2-014	2
CJ-154	O-RING, silicone, 2-110	1
D-123-10	O-RING, silicone, 2-010	1
LPA-117	SEAL, radial	2
LPA-126	SEAL, radial	1
LPA-127	GUIDE, piston	1
LPA-130-04	WASHER, crush; poly, 0.343 ID	1
LPA-139-01	SEAT, ball; 7/16 dia.	1
20126-00	WIPER, felt	2
123934	O-RING,003	1

Technical Data

Maximum fluid working pressure	
Part 24G501	1400 psi (9.0 MPa, 90 bar)
Part 24G502	85 psi (60.0 kPa, 6.0 bar)
Part 24G503	1950 psi (14 MPa, 137 bar)
Part 24G504	85 psi (60.0 kPa, 6.0 bar)
Maximum fluid temperature	100° F (38° C)
Dimensions	13.82 in. L x 8.0 in. W x 16.3 in. H (351.03 mm L x 203.2 mm W x 414.02 mm H)
Weight	13.6 lbs (6.17 kg)
Wetted parts	Catalyst: chemically coated aluminum, stainless steel, chemically resistant o-rings

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.

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 3A1218

Graco Headquarters: Minneapolis

International Offices: Belgium, China, Japan, Korea

GRACO INC. AND SUBSIDIARIES • P.O. BOX 1441 • MINNEAPOLIS MN 55440-1441 • USA

Copyright 2010, Graco Inc. All Graco manufacturing locations are registered to ISO 9001.

www.graco.com
Revised 12/2011