

INSTRUCTIONS-PARTS LIST

This manual contains **IMPORTANT**
WARNINGS and INFORMATION
READ AND RETAIN FOR REFERENCE



308270

Rev B

DISPLACEMENT PUMP

Model 235706, Series A

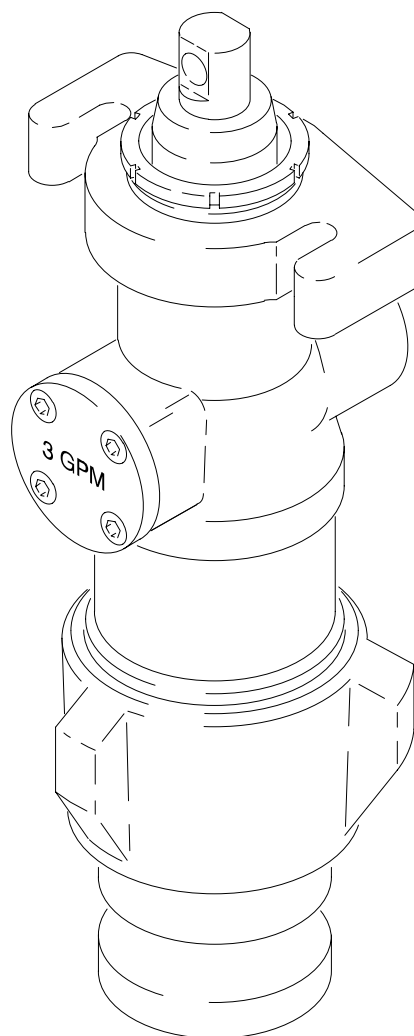
3 GPM pump for use with the GM1030 TexSpray Sprayer
1000 psi (70 bar) MAXIMUM WORKING PRESSURE

Model 235965, Series A

2 GPM pump for use with the GM1030 TexSpray Sprayer
1000 psi (70 bar) MAXIMUM WORKING PRESSURE

Table of Contents

Warnings	2
Remove/Install Pump	3
Repair	4
Parts (Model 235706)	6
Parts (Model 235965)	6
Technical Data	8
Graco Phone Numbers	8
Warranty	8



01900

Model 235706 shown

GRACO INC. P.O. BOX 1441 MINNEAPOLIS, MN 55440-1441

©COPYRIGHT 1993, GRACO INC.

WARNINGS

HIGH PRESSURE SPRAY CAN CAUSE SERIOUS INJURY. FOR PROFESSIONAL USE ONLY. OBSERVE ALL WARNINGS.

Read and understand all instruction manuals before operating the equipment.

PRESSURE RELIEF PROCEDURE

This procedure applies when the 3 GPM and 2 GPM pump is used with the GM1030 TexSpray Sprayer and Easy Spray Control. If you are using the pump in any other approved application, follow the Pressure Relief Procedure given in the system manuals supplied for your application.

Fluid pressure is relieved automatically when the gun trigger is released. However, to further reduce the risk of injury,

including injury from moving parts, always follow this procedure when not spraying and before checking or adjusting the system.

1. Turn the Easy Spray Control to OFF.
2. Turn the engine stop lever to OFF.

EQUIPMENT MISUSE HAZARD

General Safety

Misuse of the spray equipment or accessories, such as overpressurizing, modifying parts, using incompatible chemicals and fluids, or using worn or damaged parts, can cause them to rupture and result in fluid injection, splashing in the eyes or on the skin, or other serious bodily injury, or fire, explosion or property damage.

NEVER alter or modify any part of this equipment; doing so could cause it to malfunction.

CHECK all spray equipment regularly and repair or replace worn or damaged parts immediately.

Always wear protective eyewear, gloves, clothing and respirator as recommended by the fluid and solvent manufacturer.

System Pressure

The MAXIMUM WORKING PRESSURE of these pumps is *1000 psi (70 bar)*.

The GM1030 TexSpray Sprayer, Gun and Hose Set are designed to work together. This unique combination of components is possible because of the unit's Easy Spray Control which ensures that no fluid can be trapped under pressure in the gun or hose. When used according to the instructions, the fluid pressure will not exceed the working pressure rating of the components.

Fluid and Solvent Compatibility

All chemicals used in the sprayer must be chemically compatible with the wetted parts in the **TECHNICAL DATA** on page 8. Consult your chemical supplier to ensure compatibility.

HOSE SAFETY

Use only genuine Graco hoses and replacement hoses as shown on page in the GM1030 TexSpray manual. The hose used at the sprayer outlet must have a spring guard at that end.

Tighten all fluid connections securely before each use.

Do not use a damaged or repaired hose. Before each use, check the entire hose for cuts, leaks, abrasion, bulging cover, or damage or movement of the hose couplings. If any of these conditions exist, replace the hose immediately.

Handle and route hoses carefully. Do not pull on hoses to move equipment. Keep hoses clear of moving parts and hot surfaces of the pump and gas engine. Do not use fluids or solvents which are not compatible with the inner tube and cover of the hose. DO NOT expose Graco hoses to temperatures above 180° F (82° C) or below -40° F (-40° C).

If the hose develops a leak, split or rupture due to any kind of wear, damage or misuse, the spray coming from it can cause splashing on the eyes or skin or property damage.

FIRE OR EXPLOSION HAZARD

The GM 1030 TexSpray Sprayer is intended for use outside and with texture materials at low application pressures. If you are using the sprayer for any other approved application, you

must provide complete system grounding as explained in the system manual supplied for your application.

MOVING PARTS HAZARD

Moving parts can pinch or amputate fingers or other body parts. KEEP CLEAR of moving parts when starting or operating the sprayer. Follow the **Pressure Relief Procedure**

above before checking or servicing any part of the sprayer, to prevent it from starting accidentally.

IMPORTANT

United States Government safety standards have been adopted under the Occupational Safety and Health Act. These standards – particularly the General Standards, Part 1910, and the Construction Standards, Part 1926 – should be consulted.

REMOVING & INSTALLING A DISPLACEMENT PUMP

Removal

WARNING

To reduce the risk of serious bodily injury, always shut off the engine and disconnect the spark plug before performing any checks or service.

1. Flush the sprayer. Remove the suction hose. Remove the outlet hose.

WARNING

To reduce the risk of pinching or amputating a finger, keep fingers away from the connecting link and pin while jogging the engine.

2. Start the engine. Jog the Easy Spray Control (E) between PRIME and OFF until the connecting link stops near the bottom of the stroke and is fully exposed. See Fig 2. Shut off the engine.
3. Unscrew the collar (C) and disconnect the power supply cord from the control (E). See Fig 2.
4. Loosen the two mounting screws (D). See Fig 1.
5. Use a screwdriver to gently pry the retaining ring up (B) from the back of the connecting link (C). Then push the pin in so it falls out the back.
6. Remove the two mounting screws (D) while supporting the weight of the pump with your free hand.
7. Disconnect the cables (D) from the pressure drain valve. See Fig 3.
8. Unscrew the gauge, using a 1.062" wrench. Unscrew the pressure drain valve assembly from the pump.

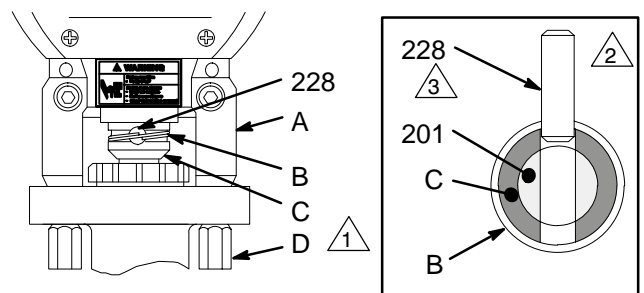
Installation

1. Screw the pressure drain valve into the pump. Install the gauge.
2. Push the pin (228) slightly into the connecting link (C), but not into the mating hole of the pump.
3. Pull the piston rod (201) out of the pump 2 to 3 in (50 to 75 mm).
4. Align the flats of the pump piston rod and the pump outlet. Lift the pump into position and gently push on the pin while moving the pump slightly until the pin slips into the hole. Be sure the retaining ring (B) snaps down over the end of the pin. Check the back of the bearing housing to be sure the parts are installed properly.

WARNING

To reduce the risk of serious injury or property damage, be sure the retaining spring is firmly and completely in the groove of the connecting link to prevent it from working loose due to vibration. See Fig 1.

5. Lift the pump to align the mounting holes and install the mounting screws. **IMPORTANT** – torque the screws to 20 ft-lb (27 N.m). See Fig 1.
6. Connect all cables to the pressure drain valve. See Fig 3. Plug in the power cord so the notch (F) in the collar (G) and the tab (H) in the socket align. Screw on the collar. See Fig 2.



- 1 Torque to 20 ft-lb (27 N.m)
- 2 Back of pump
- 3 Cutaway view shows how pin (228) goes through connecting rod

Fig 1

0407

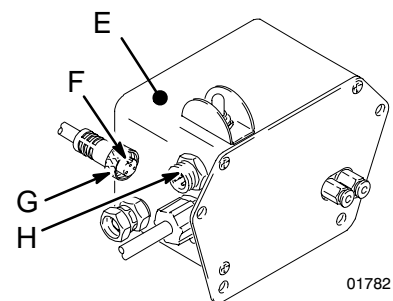


Fig 2

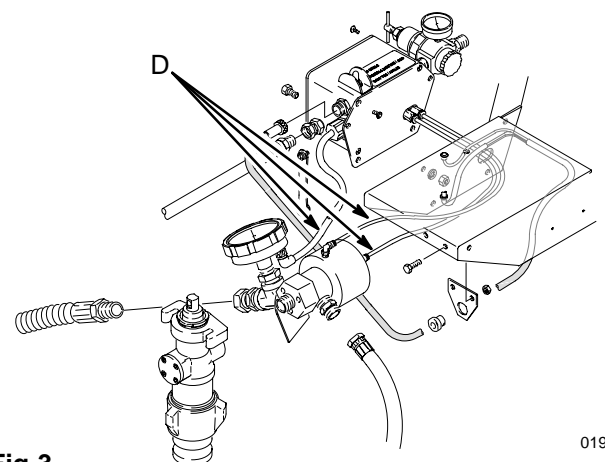


Fig 3

01901

WARNING

To reduce the risk of serious bodily injury, always shut off the engine and disconnect the spark plug before performing any checks or service.

Disassemble the pump

1. See page 3 for how to remove the pump.
2. Use a hammer on the tabs of the lug nut (214) to loosen the foot valve housing.
3. Disassemble the pump, but do not disassemble the piston rod (201) from the piston housing (206) unless one of those parts needs to be replaced. Due to the high-strength (red) Loctite® used at the joint of these two parts, the joint must be heated before disassembly. Refer to Fig 4.

Clean and inspect all parts

1. Use a compatible solvent to thoroughly clean all parts and remove all traces of sealant.
2. Inspect the parts, including the seats, for nicks and scratches. Replace worn or damaged parts as they cause the packings to wear more quickly and may result in poor pump performance.

Repair Kit

A Packing Repair Kit is available. See page 6 or 7 to order. Use all the parts in the kit for the best results. Change the pressure drain valve u-cup packing (included in kit) when you repack the pump.

Parts included in the kit are marked with an asterisk in the text and drawings. For example, 208*.

Reassemble the pump

NOTE: Refer to Fig 4.

1. If you disassembled the piston rod (201) and piston housing (206), clean the threads thoroughly. Apply Loctite primer and then red Loctite to the threads and torque to 80 to 100 ft-lb (110 to 135 N.m). Allow to dry at least one hour.
2. Assemble onto the piston seat (213): washer (212); u-cup seal (218*) with lips toward ring; female gland (211*) and then alternate the white (210*) and purple packings (219*), all with lips facing up; male gland (209*).
3. Install the nut (208*) on the piston seat (213). Hand tighten the nut very firmly.
4. Install the ball (220*) in the piston housing (206).

5. Apply blue Loctite® (supplied in kit) to the piston seat (213) threads and screw the assembly onto the rod, hand tight.

TIP: Use a felt tip marker to draw a line across the male gland, nut and piston housing to use as a visual reference when tightening the piston and nut.

6. Place the piston seat (213) in a vise. Hold the packing nut (208) steady with one wrench and use a torque wrench to tighten the rod assembly to 90–125 ft-lb (122–170 N.m). Make sure the line you made in step 5 is still aligned.
 7. Grease the throat of the intake housing (227). Assemble into the throat: male gland (204*), flat side first; alternate white packings (225*) and purple packings (203*) and then the female gland, all with lips facing down. Install the packing nut (202) and tighten firmly by hand.
 8. Grease the piston packings and inside the throat packings.
 9. Grease the new o-rings (205*) and install on the cylinder (221). Slide the cylinder into the bottom of the intake housing (227) until you hear it snap.
 10. Guide the piston rod assembly into the cylinder so the piston rod flats are aligned with the opening in the front of the pump. Push down until you hear another snap. Turn the pump over and push the assembly the rest of the way in.
 11. If the rod hole is not aligned with the front of the pump, use a screw driver through the rod hole to turn it into place.
 12. Grease the o-ring (223*), install on the plug (224), install the plug and the screws (222) loosely. Torque the screws to 50–70 in-lb (5.6–8 N.m) in a crosswise pattern.
 13. Install the ball (216*) and ball guide (217) into the foot valve. Place the pump assembly on the foot valve and push into place.
 14. Screw on the lug nut (214). Use a hammer to tighten the lug nut securely.
- TIP:** The lug nut must be very tight or the pump will not prime. Use a felt tip marker to draw a line between the intake housing and the lug nut to use as a visual alignment reference during operation.
15. Install the pump and prime it. Check the packing nut (202) and tighten it just enough to prevent leakage.

DISPLACEMENT PUMP

- △1 Grease inside of throat before installing packings
- △2 Lips of v-packings in throat must face down
- △3 Grease inside of packings after installing
- △4 Torque 50–70 in-lb (5.6–8 N.m) in crosswise pattern
- △5 Torque piston housing to piston seat (213) to 90–125 ft-lb (122–170 N.m) without changing alignment of packing nut
- △6 Lips of v-packings on piston must face up
- △7 Grease outside of packings before installing
- △8 Lips of U-cup seal on piston must face down
- △9 If piston seat and rod were separated, apply Loctite primer, then red Loctite, and torque to 80–100 ft-lb (110–135 N.m)
- △10 Tighten with hammer

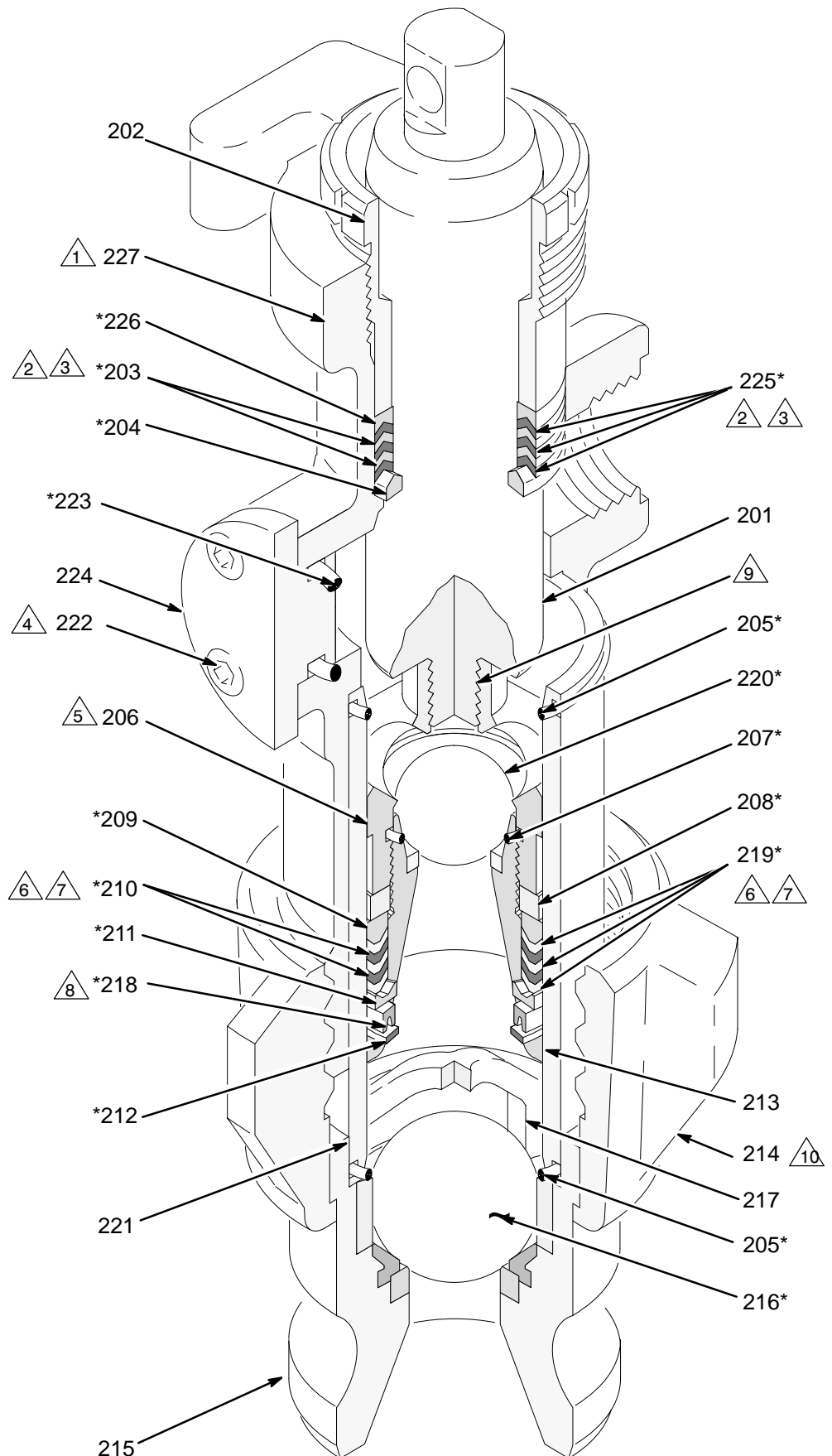


Fig 4

01785

PARTS LIST & DRAWING – 3 GPM PUMP

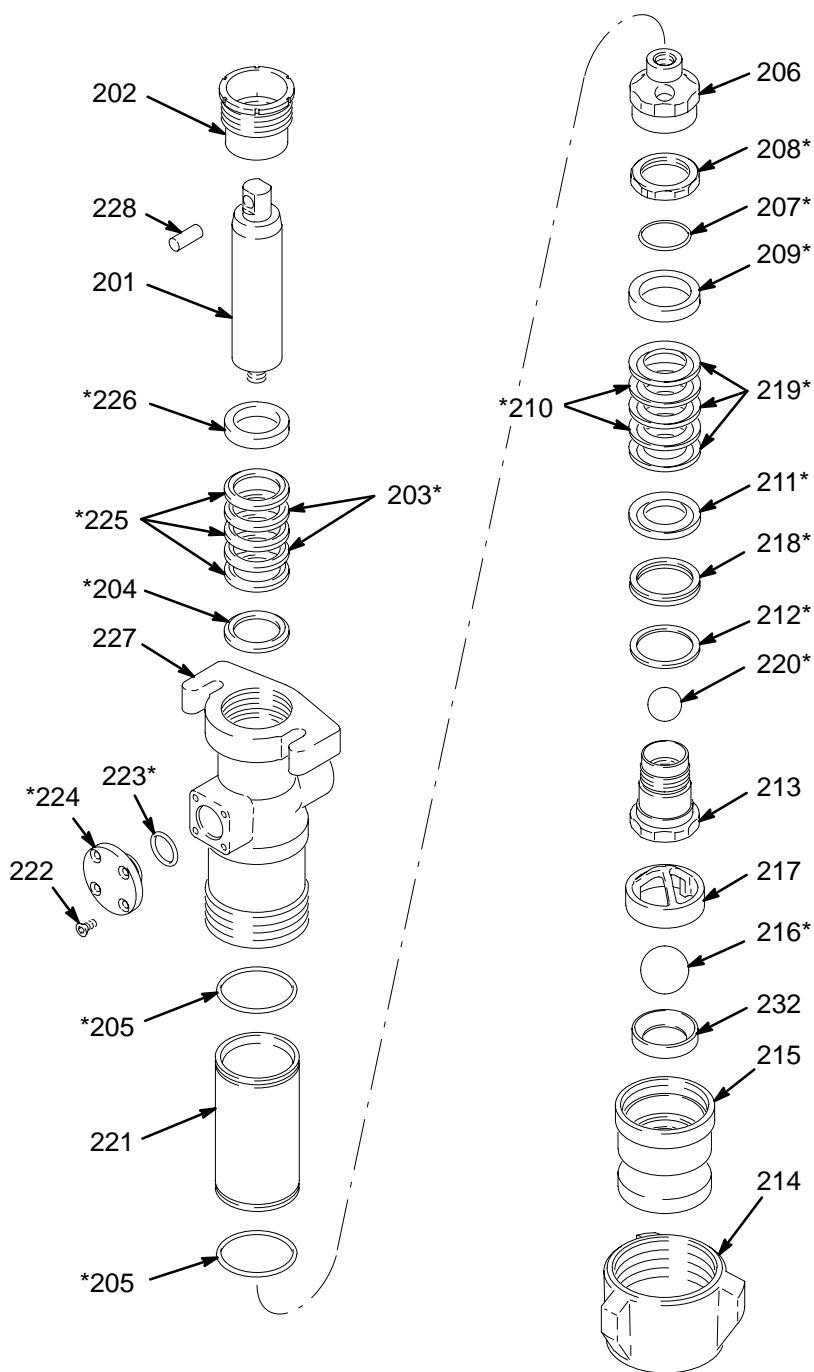
Model 235706, Series A

Includes items 201228

Ref No.	Part No.	Description	Qty
201	188437	PISTON ROD	1
202	187068	PACKING NUT	1
203	188560*	V-PACKING, poly	2
204	187939*	GLAND, male	1
205	188557*	O-RING	2
206	187934	PISTON HOUSING	1
207	188559*	O-RING, Viton [®]	1
208	188434*	NUT	1
209	188432*	GLAND, male	1
210	188561*	V-PACKING, poly	2
211	188433*	GLAND, female	1
212	188627*	BACKUP WASHER, nylon	1
213	235165	PISTON SEAT	1
214	187929	LUG NUT	1
215	235732	INTAKE HOUSING	1
216	102973*	BALL, intake, 1.25" OD	1
217	187064	BALL GUIDE	1
218	188558*	U-CUP SEAL, poly/Viton [®]	1
219	187072*	V-PACKING, poly	3
220	102972*	BALL, piston, 0.875" ID	1
221	187066	CYLINDER	1
222	111729	SCREW, No. 10-32 x 5/8"	4
223	188554*	O-RING	1
224	188629	PLUG, "3 GPM"	1
225	187071*	V-PACKING, poly	3
226	187070*	GLAND, female	1
227	187933	HOUSING, outlet	1
228	183210	PIN	1
232	235962	SEAL, foot valve	1

*These parts also included in
Packing Repair Kit 235186.
 Keep a kit on hand to reduce down time.

Kit also includes one U-Cup packing,
 111829, for the pressure drain valve.



01899

PARTS LIST & DRAWING – 2 GPM PUMP

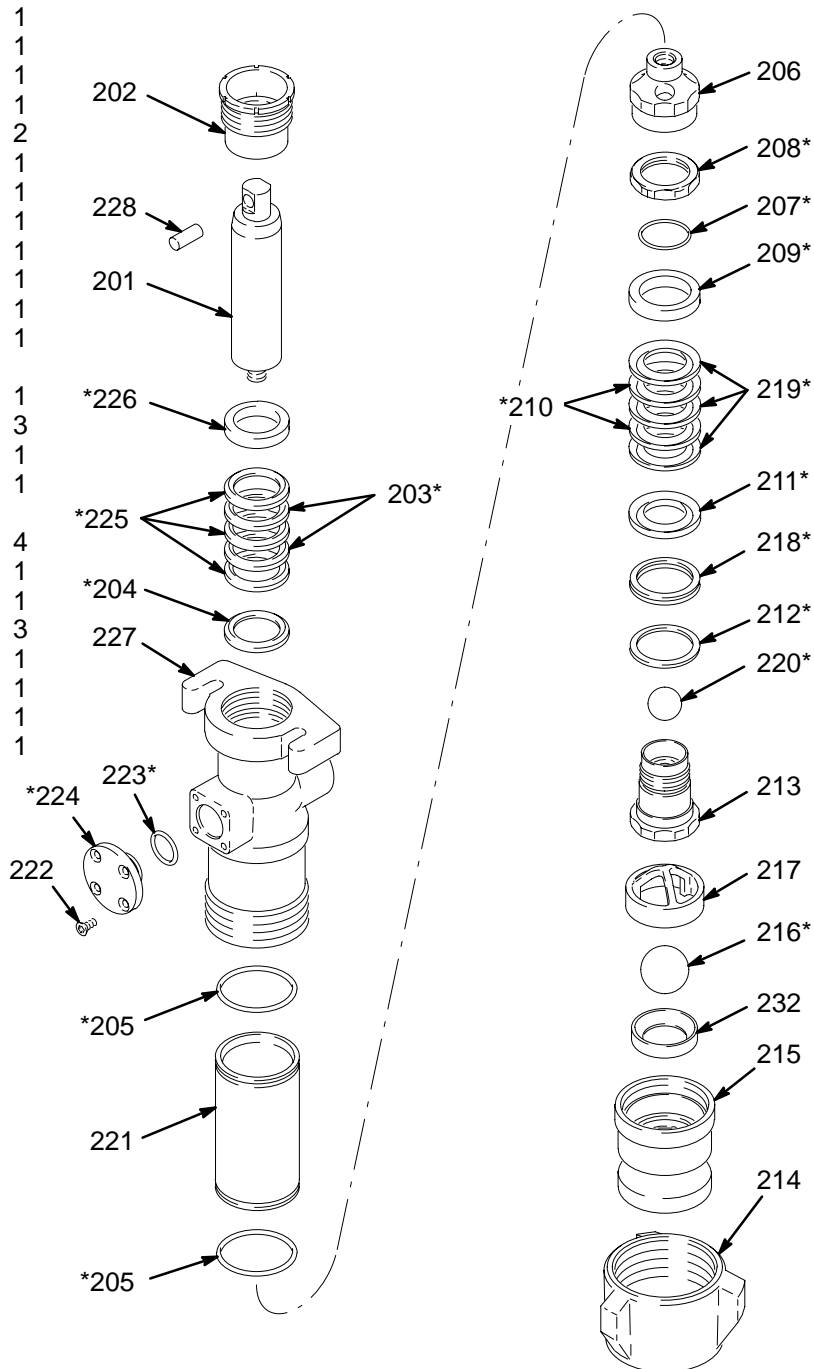
Model 235965, Series A

Includes items 201232

Ref No.	Part No.	Description	Qty
201	188580	PISTON ROD	1
202	187068	PACKING NUT	1
203	188656*	V-PACKING, leather	2
204	188568*	GLAND, male	1
205	188557*	O-RING	2
206	188625	PISTON HOUSING	1
207	188555*	O-RING, Viton [®]	1
208	188578*	NUT	1
209	188566*	GLAND, male	1
210	188657*	V-PACKING, leather	2
211	188565*	GLAND, female	1
212	188626*	BACKUP WASHER, nylon	1
213	235733	PISTON SEAT	1
214	187929	LUG NUT	1
215	235963	INTAKE HOUSING	1
216	102973*	BALL, intake, 1.25" OD	1
217	187064	BALL GUIDE	1
218	188556*	U-CUP SEAL, poly/Viton [®]	1
219	188553*	V-PACKING, poly	3
220	101859*	BALL, piston, 0.75" OD	1
221	188624	CYLINDER	1
222	111729	SCREW, No. 10-32 x 5/8"	4
223	188554*	O-RING	1
224	188628	PLUG, "2 GPM"	1
225	188550*	V-PACKING, poly	3
226	188567*	GLAND, female	1
227	187933	HOUSING, outlet	1
228	183210	PIN	1
232	235962	SEAL, foot valve	1

*These parts also included in
Packing Repair Kit 235973.
Keep a kit on hand to reduce down time.

Kit also includes one U-Cup packing,
111829, for the pressure drain valve.



TECHNICAL DATA

Maximum Working Pressure 1000 psi (70 bar)

Cycles/Gallon (liter) *Model 235706:* 42 (11)
Model 235965: 66 (18)

Maximum Delivery *Model 235706:*
3 GPM (11 liter/min)
Model 235965:
2 GPM (7.6 liter/min)

Pump Inlet Size 2" quick disconnect

Fluid Outlet Size 3/4 npt(f)

Wetted Parts Nickel-Plated Carbon Steel,
Stainless Steel, Chrome-Plated Stainless Steel,
Poly, Tungsten Carbide, Viton®

Viton is a registered trademark of the DuPont Co.

GRACO PHONE NUMBER

TO PLACE AN ORDER, contact your Graco distributor, or call this number to identify the distributor closest to you: **1-800-690-2894 Toll Free**

GRACO WARRANTY and DISCLAIMERS

WARRANTY

Graco warrants all equipment manufactured by it and bearing its name to be free from defects in material and workmanship on the date of sale by an authorized Graco distributor to the original purchaser for use. As purchaser's sole remedy for breach of this warranty, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment proven 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, 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 with Graco equipment of 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 claim. 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.

DISCLAIMERS AND LIMITATIONS

The terms of this warranty constitute purchaser's sole and exclusive remedy and are in lieu of any other warranties (express or implied), **including warranty of merchantability or warranty of fitness for a particular purpose**, and of any non-contractual liabilities, including product liabilities, based on negligence or strict liability. Every form of liability for direct, special or consequential damages or loss is expressly excluded and denied. In no case shall Graco's liability exceed the amount of the purchase price. Any action for breach of warranty must be brought within two (2) years of the date of sale.

EQUIPMENT NOT COVERED BY GRACO WARRANTY

Graco makes no warranty, and disclaims all implied **warranties of merchantability and fitness for a particular purpose**, with respect to accessories, equipment, materials, or components sold but not manufactured by Graco. These items sold, but not manufactured by Graco (such as electric motor, 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.

Sales Offices: Minneapolis, Detroit
International Offices: China; Korea; Hong Kong; Japan

GRACO INC. P.O. BOX 1441 MINNEAPOLIS, MN 55440-1441

PRINTED IN U.S.A. 308270 2/93, Revised 08/2000