

Pressure Relief Kits

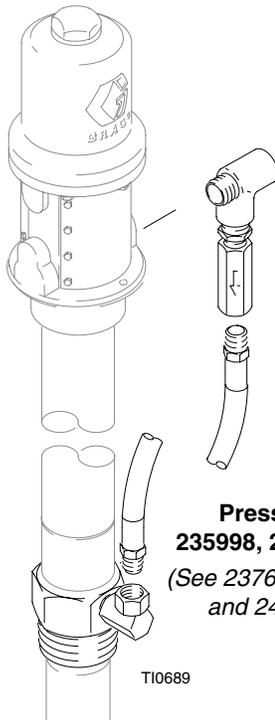
308403 rev.G

For preventing overpressurization due to thermal expansion of fluid.

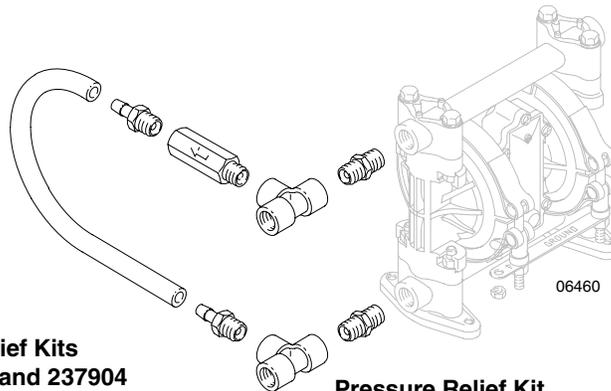


Important Safety instructions.

Read all warnings and instructions in this manual.
Save these instructions.
See page 2 for model numbers and maximum working pressures.



Pressure Relief Kits
235998, 237893, and 237904
(See 237601, 240429, 248296,
and 248324 on page 9.)



Pressure Relief Kit
238899

Bung Adapter Kit

For tank-mounting universal oil pumps with thermal relief requirements.

Model 238125, Series C

Bung Adapter Kit
238125

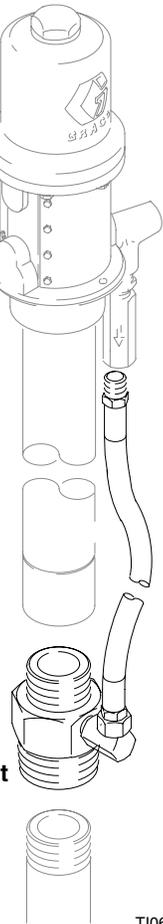


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List of Models

Pressure Relief Kits

NOTE: The thermal relief kits below are recommended based on Graco pump and component performance. You may need to change the thermal relief kit selection from application to application, depending on pump air operating pressure and fluid working pressures of system components. For example, there may be times when you wish to use a 900 psi thermal relief kit instead of the 1600 psi thermal relief kit for Fire-Ball 425, 6:1. The lower relief pressure may ensure other (non-Graco) inline components do not fail due to over-pressurization.

Model 235998, Series C

for Fire-Ball® 225, 3:1 and 1/4:1 Dyna-Star® pumps

600 psi (4.2 MPa, 42 bar) Fluid Relief Pressure

Model 237601, Series C

for Fire-Ball® 425, 3:1 pumps

600 psi (4.2 MPa, 42 bar) Fluid Relief Pressure

Model 237893, Series C

for Fire-Ball® 300, 5:1 pumps

900 psi (6.2 MPa, 62 bar) Fluid Relief Pressure

Model 237904, Series C

for 1:1 Dyna-Star® pumps

1600 psi (11 MPa, 110 bar) Fluid Relief Pressure

Model 238899, Series A

for Husky™ 307 pumps

150 psi (1 MPa, 10 bar) Fluid Relief Pressure

Model 240429, Series C

for Fire-Ball® 425 6:1 and 10:1 pumps

1600 psi (11 MPa, 110 bar) Fluid Relief Pressure

Model 248296, Series A

for 5:1 Fire-Ball® pumps

900 psi (6.2 MPa, 62 bar) Fluid Relief Pressure

Model 248324, Series A

for Fire-Ball® 425 6:1 and 10:1 pumps

1600 psi (11 MPa, 110 bar) Fluid Relief Pressure

Bung Adapter Kit

Model 238125, Series C

Pre-Installation

Thermal expansion of fluid in the outlet line can cause overpressurization. This can occur when using hard-plumbed fluid lines exposed to sunlight or ambient heat, or when pumping from a cool to a warm area (for example, from an underground tank to fluid lines along the ceiling).

In a properly functioning pressure-relieved system, when fluid pressure in the outlet line exceeds the rated relief pressure of your Pressure Relief Kit, the relief valve opens to relieve the fluid pressure.

⚠ CAUTION

If thermal expansion could occur in your system, you must install a Pressure Relief Kit at the pump outlet to prevent overpressurization and rupture of the pump or hose.

Before you install the Pressure Relief Kit on your system, you must follow the **Manual Pressure Relief Procedure**, at right.

Manual Pressure Relief Procedure

⚠ WARNING

To reduce the risk of serious bodily injury, including splashing in the eyes or on the skin or injury from moving parts, follow this procedure when you

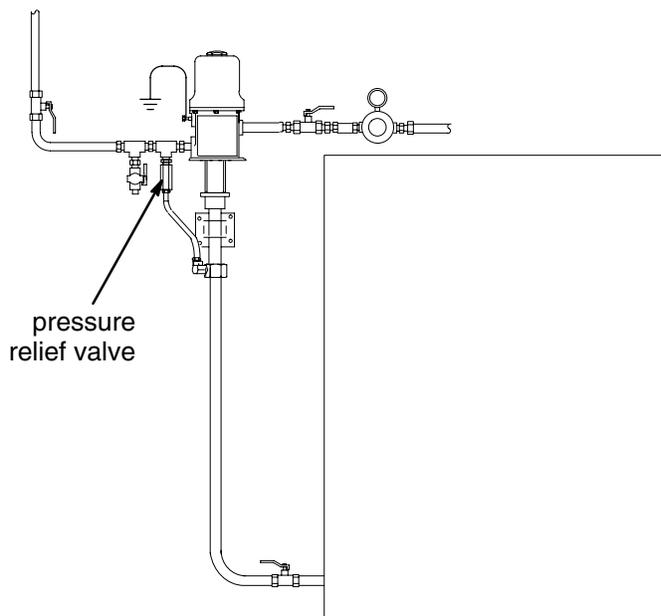
- Shut off the pump
- Check or service any part of the system
- Install, clean, or change dispensing devices
- Stop dispensing

1. Close the pump air regulator.
2. Close the bleed-type master air valve (required in your system).
3. Hold a metal part of the dispensing valve firmly to the side of a grounded metal container, and trigger the valve to relieve fluid pressure.

*If you suspect that the dispensing valve, extension, or nozzle is clogged, or that pressure has not been fully relieved after you have followed the steps above, **very slowly** loosen the coupler or hose end coupling, and relieve the pressure gradually. Then loosen it completely, then clear the clog.*

Installation Alternatives

The installations shown in Fig. 1 are only a guide to show alternatives to the bung-mounted drum installation. Contact your Graco distributor for assistance in designing a system to suit your particular needs.



Drum Cover-Mounted Pump Installation

NOTE: See Fig. 2 for a bung-mounted drum installation

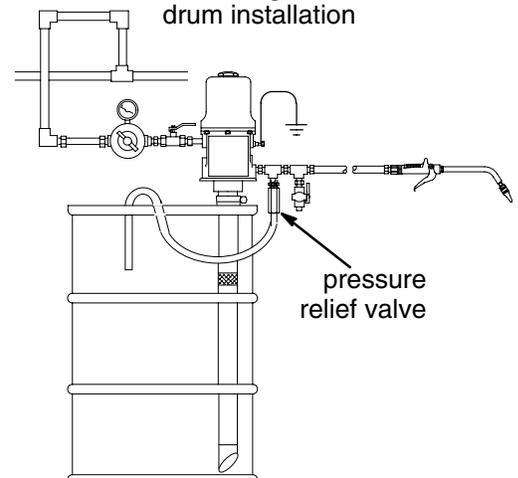


Fig. 1

Installation — Bung Adapter Kit

Bung Adapter Kit 238125

The bung adapter kit routes pressure-relieved fluid from the pressure relief valve, through the bung adapter, and back into the tank. Install as follows. See Fig. 2.

1. Relieve the pressure.

⚠ WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 3.

2. Thread the 2–11 1/2 npt(m) threads of the bung adapter (4) into the bung of the tank cover. See Fig. 2.

3. Thread the pump onto the 1 1/2–11 1/2 npt(m) threads of the bung adapter (4).

4. Thread the 90° swivel adapter (6) into the 3/8 – 18 npt(f) threads of the bung adapter (4) with female adapter nut pointing up.

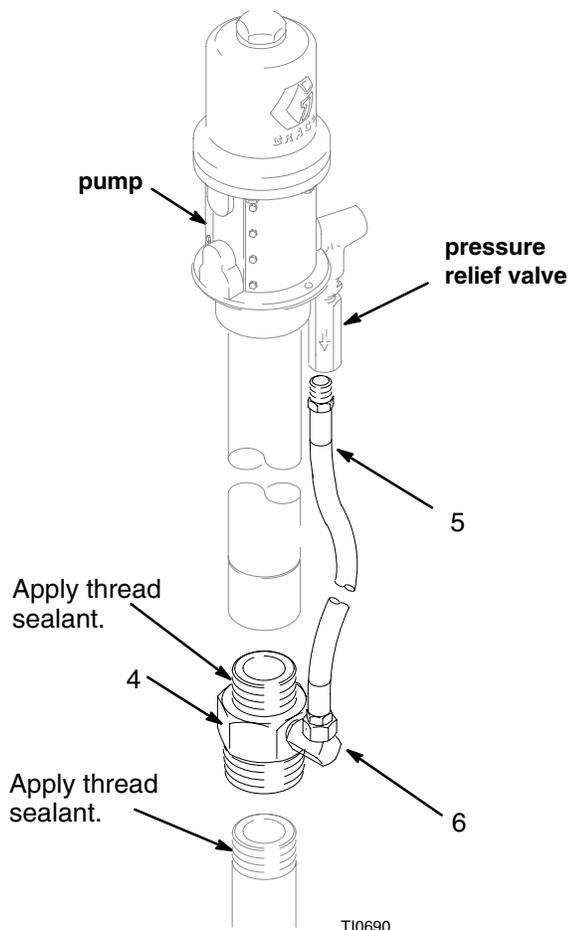
5. Thread the coupled hose (5) into the female threads of the pressure relief valve using thread sealant.

6. Rotate the pump and/or the bung adapter so that the two hose connections are on the same side of the pump lower. This prevents you from having to wrap the hose around the pump lower in step 7.

7. Connect the bottom end of the coupled hose (5) into the 90° swivel adapter (6) and tighten the adapter nut. No thread sealant is required.

8. Resume using the pump.

Parts — Bung Adapter Kit



Bung Adapter Kit 238125

Ref. No.	Part No.	Description	Qty.
4	191075	BUNG ADAPTER; 2–11 1/2 npt(m) x 1 1/2–11 1/2 npt(m)	1
5	238370	HOSE Coupled; 3/8 – 18 npt(mbe) x 12" LG	1
6	155494	ADAPTER, 90° swivel; 3/8–18 npt(m) x 3/8-18 npsm(f)	1

Fig. 2

Installation — Pressure Relief Kits

Pressure Relief Kits

235998, 237601, 237893, 237904, 240429, 248296, and 248324

Install the kit at the pump fluid outlet (A).

NOTE: Kits 235998, 237601, 237893, 237904, and 240429, follow steps 1–8, and 10 below. Kits 248296 and 248324, follow steps 1–3, 7, 9, and 10 only. See Fig. 3.

1. Relieve the pressure.

⚠ WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 3.

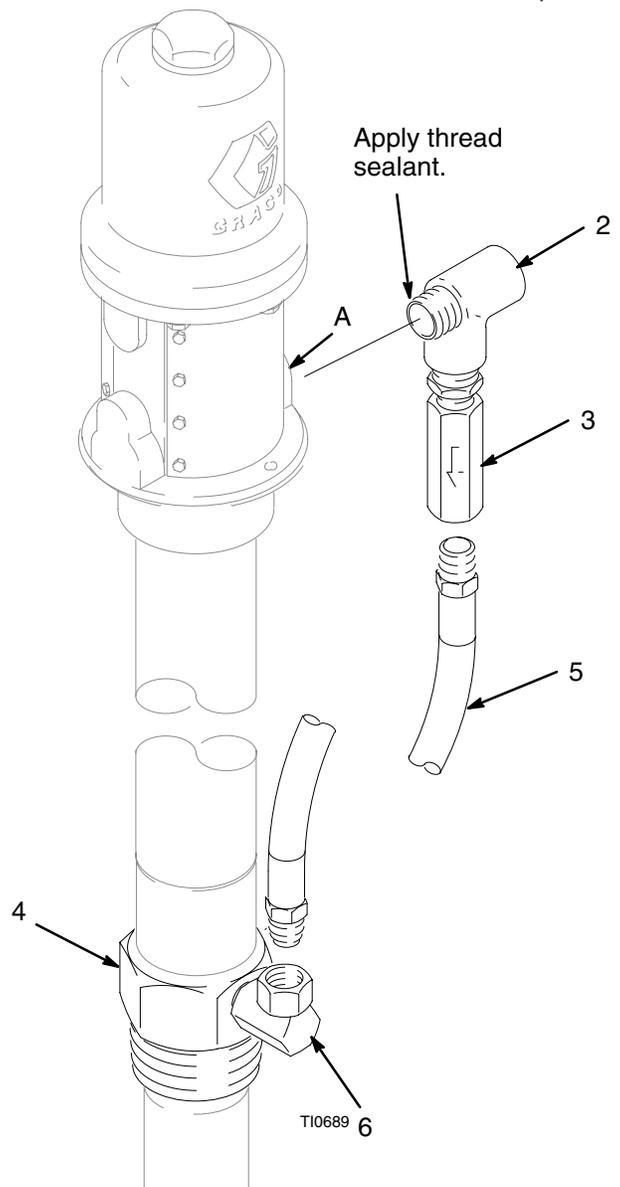
2. Disconnect the fluid outlet line from the pump fluid outlet (A).
3. *Pressure Relief Kits 235998, 237893, 237904, and 248296:*
Apply thread sealant to the male threads of the tee (2), and screw the tee firmly into the pump fluid outlet (A).

Pressure Relief Kits 237601, 240429, and 248324:
Apply thread sealant to all of the threads of the nipple (7), and use the nipple to thread the tee (2) to the pump fluid outlet. See the **Parts Drawing** on page 9.

4. Thread the 2–11 1/2 npt(m) threads of the bung adapter (4) into the bung of the tank cover. See Fig. 2.
5. Thread the pump onto the 1 1/2–11 1/2 npt(m) threads of the bung adapter (4).
6. Thread the 90° swivel adapter (6) into the 3/8 – 18 npt(f) threads of the bung adapter (4) with female adapter nut pointing up.
7. Thread the coupled hose (5) into the female threads of the pressure relief valve (3) using thread sealant.
8. Connect the bottom end of coupled hose (5) into the 90° swivel adapter (6) and tighten the adapter nut. No thread sealant is required.

9. *Pressure Relief Kits 248296 and 248324 only:*
Route the free end of the hose (5) into the supply drum or tank.
10. Connect the fluid outlet line to the tee (2), and resume using the pump.

NOTE: Kit is shown being installed on a Falcon Oil Pump.



Pressure Relief Kits
235998, 237893, 237904
shown.

Fig. 3

Installation — Pressure Relief Kits

Pressure Relief Kit 238899

Install the kit at the pump fluid inlet (A) and the pump fluid outlet (B), as follows. See Fig. 4.

1. Relieve the pressure.

WARNING

To reduce the risk of serious injury whenever you are instructed to relieve pressure, always follow the **Pressure Relief Procedure** on page 3.

2. Disconnect the fluid lines from the pump fluid inlet (A) and the pump fluid outlet (B).

3. Apply thread sealant to **all** male threads in the kit.

4. Screw the nipples (1) firmly into the pump fluid inlet (A) and pump fluid outlet (B).

5. Screw the tees (2) firmly onto the nipples (1).

6. Screw the pressure relief valve (3) firmly into the tee that is on the fluid outlet (B) nipple.

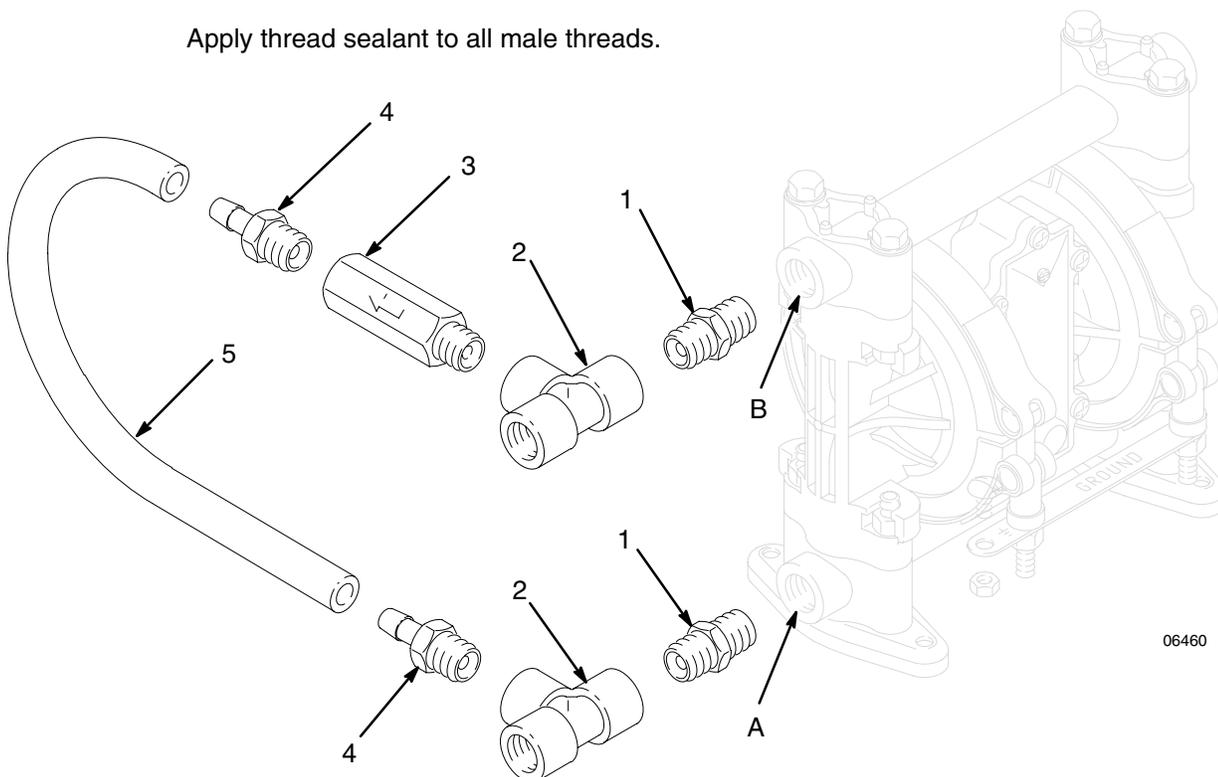
7. Screw one hose adapter (4) firmly into the pressure relief valve (3) and the other hose adapter firmly into the fluid (A) inlet tee.

8. Push the ends of the flexible hose (5) onto the tubing connections of the hose adapters (4).

9. Connect the fluid lines to the pump fluid inlet (A) tee and the pump fluid outlet (B) tee, and resume using the pump.

NOTE: Kit is shown being installed on a Husky 307 diaphragm pump.

Apply thread sealant to all male threads.



06460

Fig. 4

Parts Lists — Pressure Relief Kits

235998 Pressure Relief Kit

600 psi (4.2 MPa, 42 bar) Fluid Relief Pressure

Ref. No.	Part No.	Description	Qty.
1	100081	BUSHING, pipe; 1/2 npt(m) x 3/8 npt(f); carbon steel	1
2	107128	TEE; 1/2 npt(m) x 1/2 npt(f) run; 1/2 npt(f) branch; carbon steel	1
3	112174	RELIEF VALVE; 3/8 npt(m) inlet; 3/8 npt(f) outlet; carbon steel; 600 psi (4.2 MPa, 42 bar) fixed fluid relief pressure	1
4	191075	BUNG ADAPTER; 2–11 1/2 npt(m) x 1 1/2–11 1/2 npt(m)	1
5	238370	HOSE, Coupled; 3/8 – 18 npt (mbe) x 12" LG	1
6	155494	ADAPTER, 90° swivel; 3/8–18 npt(m) x 3/8-18 npsm(f)	1

237601 Pressure Relief Kit

600 psi (4.2 MPa, 42 bar) Fluid Relief Pressure

Ref. No.	Part No.	Description	Qty.
1	100505	BUSHING, pipe; 3/4 npt(m) x 3/8 npt(f); carbon steel	1
2	801787	TEE; 3/4 npt(f) x 3/4 npt(f) run; 3/4 npt(f) branch; brass	1
3	112174	RELIEF VALVE; 3/8 npt(m) inlet; 3/8 npt(f) outlet; carbon steel; 600 psi (4.2 MPa, 42 bar) fixed fluid relief pressure	1
4	191075	BUNG ADAPTER; 2–11 1/2 npt(m) x 1 1/2–11 1/2 npt(m)	1
5	238370	HOSE, Coupled; 3/8 – 18 npt (mbe) x 12" LG	1
6	155494	ADAPTER, 90° swivel; 3/8–18 npt(m) x 3/8-18 npsm(f)	1
7	100350	NIPPLE, pipe; 3/4 npt; zinc plate	1

237893 Pressure Relief Kit

900 psi (6.2 MPa, 62 bar) Fluid Relief Pressure

Ref. No.	Part No.	Description	Qty.
1	100081	BUSHING, pipe; 1/2 npt(m) x 3/8 npt(f); carbon steel	1
2	107128	TEE; 1/2 npt(m) x 1/2 npt(f) run; 1/2 npt(f) branch; carbon steel	1
3	102527	RELIEF VALVE; 3/8 npt(m) inlet; 3/8 npt(f) outlet; carbon steel; 900 psi (6.2 MPa, 62 bar) fixed fluid relief pressure	1
4	191075	BUNG ADAPTER; 2–11 1/2 npt(m) x 1 1/2–11 1/2 npt(m)	1
5	238370	HOSE, Coupled; 3/8 – 18 npt (mbe) x 12" LG	1
6	155494	ADAPTER, 90° swivel; 3/8–18 npt(m) x 3/8-18 npsm(f)	1

237904 Pressure Relief Kit

1600 psi (11 MPa, 110 bar) Fluid Relief Pressure

Ref. No.	Part No.	Description	Qty.
1	100081	BUSHING, pipe; 1/2 npt(m) x 3/8 npt(f); carbon steel	1
2	107128	TEE; 1/2 npt(m) x 1/2 npt(f) run; 1/2 npt(f) branch; carbon steel	1
3	113053	RELIEF VALVE; 3/8 npt(m) inlet; 3/8 npt(f) outlet; carbon steel; 1600 psi (11 MPa, 110 bar) fixed fluid relief pressure	1
4	191075	BUNG ADAPTER; 2–11 1/2 npt(m) x 1 1/2–11 1/2 npt(m)	1
5	238370	HOSE, Coupled; 3/8 – 18 npt (mbe) x 12" LG	1
6	155494	ADAPTER, 90° swivel; 3/8–18 npt(m) x 3/8-18 npsm(f)	1

238899 Pressure Relief Kit

150 psi (1 MPa, 10 bar) Fluid Relief Pressure

Ref. No.	Part No.	Description	Qty.
1	156849	NIPPLE, pipe; 3/8 npt zinc plate	2
2	113718	TEE; 3/8 npt(f) x 3/8 npt(f) run; 3/8 npt(f) branch; polypropylene	2
3	113497	RELIEF VALVE; 3/8 npt(m) inlet; 3/8 npt(f) outlet; steel; 150 psi (1 MPa, 10 bar) fixed fluid relief pressure	1
4	113424	HOSE ADAPTER; 3/8–18 npt(m) x 3/8-in I.D. tube	2
5	191796	FLEXIBLE TUBE, clear PVC; 3/8" I.D. x 5/8" O.D.	1

240429 Pressure Relief Kit

1600 psi (11 MPa, 110 bar) Fluid Relief Pressure

Ref. No.	Part No.	Description	Qty.
1	100505	BUSHING, pipe; 3/4 npt(m) x 3/8 npt(f); carbon steel	1
2	801787	TEE; 3/4 npt(f) x 3/4 npt(f) run; 3/4 npt(f) branch; brass	1
3	113053	RELIEF VALVE; 3/8 npt(m) inlet; 3/8 npt(f) outlet; carbon steel; 1600 psi (11 MPa, 110 bar) fixed fluid relief pressure	1
4	191075	BUNG ADAPTER; 2–11 1/2 npt(m) x 1 1/2–11 1/2 npt(m)	1
5	238370	HOSE, Coupled; 3/8 – 18 npt (mbe) x 12" LG	1
6	155494	ADAPTER, 90° swivel; 3/8–18 npt(m) x 3/8-18 npsm(f)	1
7	100350	NIPPLE, pipe; 3/4 npt; zinc plate	1

248296 Pressure Relief Kit*900 psi (6.2 MPa, 62 bar) Fluid Relief Pressure*

Ref. No.	Part No.	Description	Qty.
1	100081	BUSHING, pipe; 1/2 npt(m) x 3/8 npt(f); carbon steel	1
2	107128	TEE; 1/2 npt(m) x 1/2 npt(f) run; 1/2 npt(f) branch; carbon steel	1
3	102527	RELIEF VALVE; 3/8 npt(m) inlet; 3/8 npt(f) outlet; carbon steel; 900 psi (6.2 MPa, 62 bar) fixed fluid relief pressure	1
5	109163	HOSE, coupled; 3/8 – 18 npt (mbe) x 6' LG	1

248324 Pressure Relief Kit*1600 psi (11 MPa, 110 bar) Fluid Relief Pressure*

Ref. No.	Part No.	Description	Qty.
1	100505	BUSHING, pipe; 3/4 npt(m) x 3/8 npt(f); carbon steel	1
2	801787	TEE; 3/4 npt(f) x 3/4 npt(f) run; 3/4 npt(f) branch; brass	1
3	113053	RELIEF VALVE; 3/8 npt(m) inlet; 3/8 npt(f) outlet; carbon steel; 1600 psi (11 MPa, 110 bar) fixed fluid relief pressure	1
5	109163	HOSE, coupled; 3/8 – 18 npt (mbe) x 6' LG	1
7	100350	NIPPLE, pipe; 3/4 npt; zinc plate	1

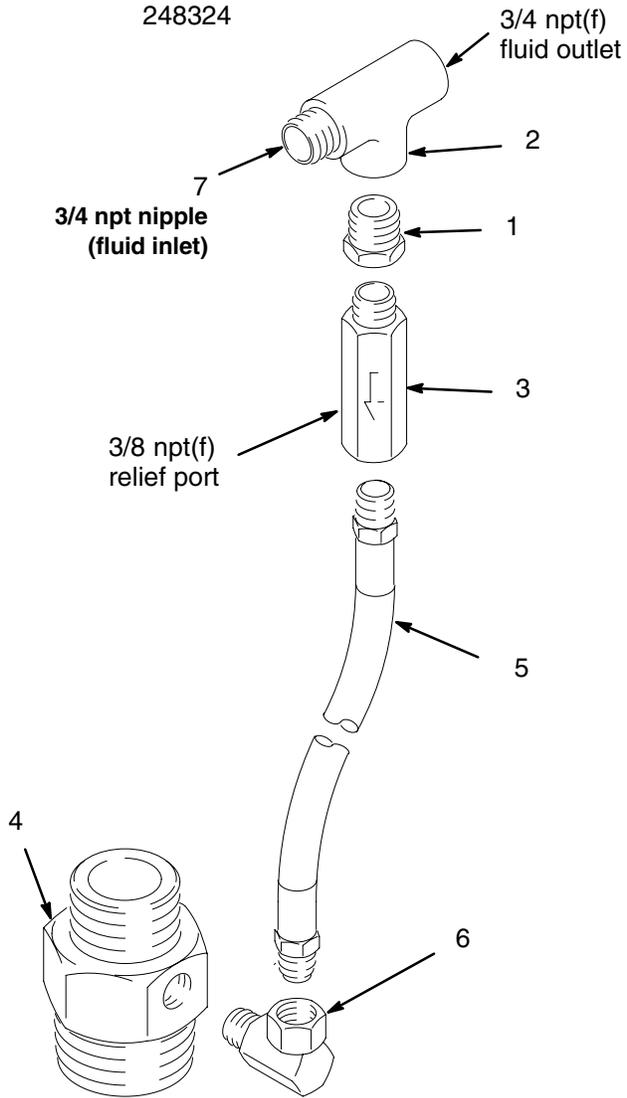
Parts Drawings — Pressure Relief Kits

Pressure Relief Kits

237601

240429

248324



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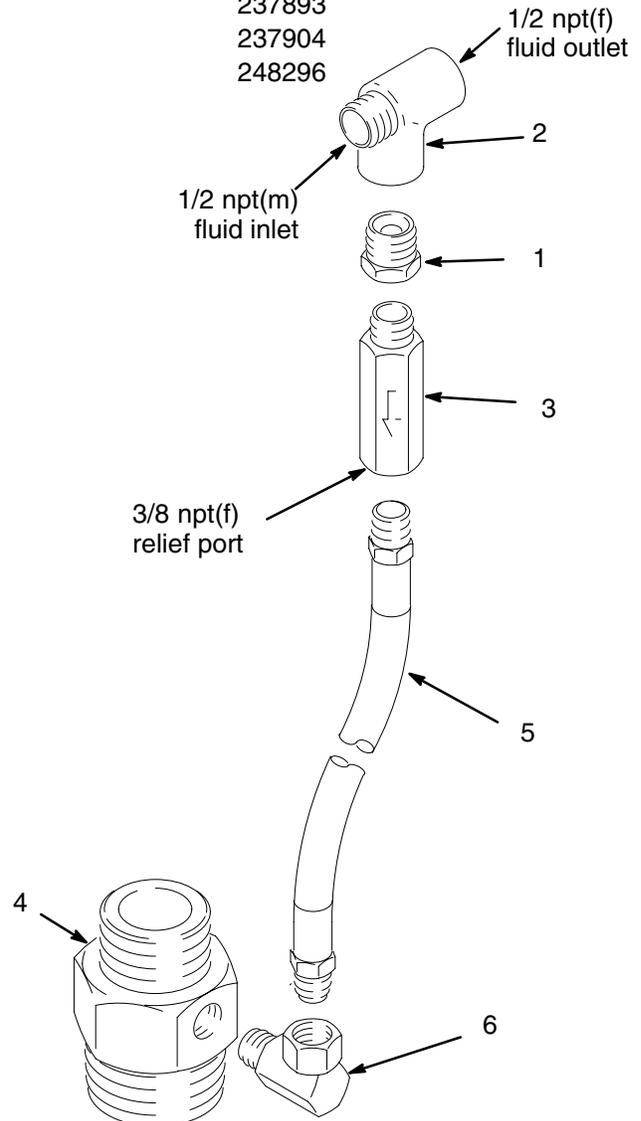
Pressure Relief Kits

235998

237893

237904

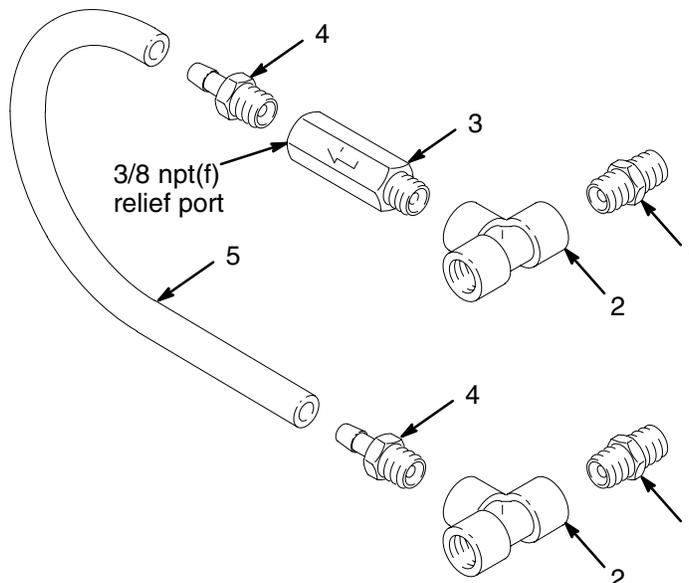
248296



TI0692

Pressure Relief Kit

238899



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Graco Standard Warranty

Graco warrants all equipment 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

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Graco Information

TO PLACE AN ORDER, contact your Graco distributor, or call one of the following numbers to identify the distributor closest to you:

1-800-533-9655 Toll Free

612-623-6928

612-378-3590 Fax

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