

Foam-Cat® Heated Hose

307544 Rev.M

3000 psi (21 MPa, 207 bar) Maximum Working Pressure

Model 218613, Series B

50 foot (15.2 m) Hose, 3/8 in. ID

Model 218614, Series B

15 foot (4.6 m) Whip Hose, 1/4 in. ID

The heated hose maintains proper fluid temperature between the heater and gun during spraying operations, and it raises the temperature of fluid left in the hose when the heater is turned on after a shutdown period.

The Series B Heated Hoses include a 75°C (167°F) high limit thermostat. This limits the maximum temperature to less than the 82°C (180°F) rating of the hoses, allowing use at a full 3000 psi (21 MPa, 207 bar) pressure rating.

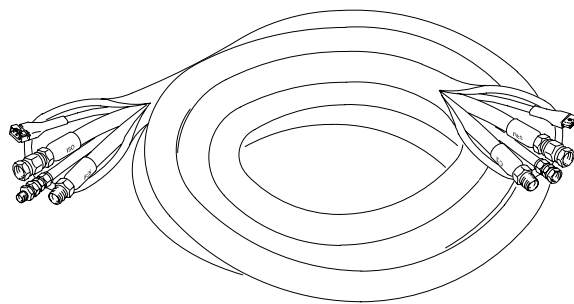
U.S. Patent No. 4,725,713
United Kingdom Patent No. 2,138,601
Brevete 1986 Canada



Read warnings and instructions.
See page 2 for table of contents.



CSA certified for use with Models
235259, Series B, 235839, Series B,
235260, Series B, and 235840, Series B
Foam-Cat Heaters.



Model 218613

WARNING

FIRE, EXPLOSION, AND ELECTRIC SHOCK HAZARD

The operating and safety features of these hoses are designed for use **only** with the Graco Foam-Cat® Heater and Heater Hose Controls: Models 235259, 235839, 235260, and 235840. To reduce the risk of serious injury, never connect these hoses to any other device.

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Introduction

Understanding how the Foam Cat® Heater functions and how to adjust it properly for your application conditions, is the key to easy operation and early detection of possible equipment problems.

Read this manual and the manuals for all of the components in your spray system thoroughly before installing or operating the equipment.

Reference letters and numbers

Reference numbers and letters in parentheses in the text refer to the illustrations or the parts drawings. Information on parts referenced with letters can usually be found in the separate instruction manuals accompanying those components.

Terms

RES and ISO refer to the foam chemicals Resin and Isocyanate, respectively.

Ambient Temperature is the surrounding air temperature.

ATC is the optional Ambient Temperature Compensator feature of the Foam-Cat Heater.

Symbols

Warning Symbol



This symbol alerts you to the possibility of serious injury or death if you do not follow the instructions.

Caution Symbol



This symbol alerts you to the possibility of damage to or destruction of equipment if you do not follow the instructions.

WARNING



INSTRUCTIONS

EQUIPMENT MISUSE HAZARD

Equipment misuse can cause the equipment to rupture or malfunction and result in serious injury.

- This equipment is for professional use only.
- Read all instruction manuals, tags, and labels before operating the equipment.
- Use the equipment only for its intended purpose. If you are uncertain about usage, call your Graco distributor.
- Use the hose **only** with the Graco Foam-Cat® Heater and Heater Hose Controls: Models 235259, 235839, 235260, and 235840.
- Do not alter or modify this equipment. Use only genuine Graco parts and accessories.
- Check equipment daily. Repair or replace worn or damaged parts immediately.
- Do not exceed the maximum working pressure of the lowest rated system component. This equipment has a **3000 psi (21 MPa, 207 bar) maximum working pressure**.
- Route hoses away from traffic areas, sharp edges, moving parts, and hot surfaces.
- To avoid excessive heat buildup, never operate the hose when it is coiled.
- Do not use the hoses to pull the equipment.
- Use fluids and solvents that are compatible with the equipment wetted parts. Refer to the **Technical Data** section of all equipment manuals. Read the fluid and solvent manufacturer's warnings.
- Comply with all applicable local, state, and national fire, electrical, and safety regulations.



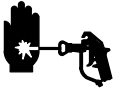
TOXIC FLUID HAZARD

Hazardous fluid or toxic fumes can cause serious injury or death if splashed in the eyes or on the skin, inhaled, or swallowed.

- Know the specific hazards of the fluid you are using.
- Store hazardous fluid in an approved container. Dispose of hazardous fluid according to all local, state and national guidelines.
- Always wear protective eyewear, gloves, clothing and respirator as recommended by the fluid and solvent manufacturer.
- Graco does not manufacture or supply any of the reactive chemical components that may be used in this equipment and is not responsible for their effects. Graco assumes no responsibility for loss, damage, expense or claims for personal injury or property damage, direct or consequential, arising from the use of such chemical components.

Continued on the next page.

WARNING



INJECTION HAZARD

Spray from the gun, hose leaks, or ruptured components can inject fluid into your body and cause extremely serious injury, including the need for amputation. Splashing fluid in the eyes or on the skin can also cause serious injury.



- Fluid injected into the skin might look like just a cut, but it is a serious injury. **Get immediate medical attention.**
- Do not point the spray gun at anyone or at any part of the body.
- Do not put your hand or fingers over the spray tip/nozzle.
- Do not stop or deflect leaks with your hand, body, glove or rag.
- Do not “blow back” fluid; this is not an air spray system.
- Always have the trigger guard on the spray gun when spraying.
- Be sure the gun trigger safety operates before spraying.
- Lock the gun trigger safety when you stop spraying.
- Follow the **Pressure Relief Procedure** on page 9 whenever you: are instructed to relieve pressure; stop spraying; clean, check, or service the equipment; and install or clean the spray tip/nozzle.
- Tighten all fluid connections before operating the equipment.
- Check the hoses, tubes, and couplings daily. Do not mend or repair any part of the hose assembly. If the hose is damaged, replace it immediately.



FIRE, EXPLOSION, AND ELECTRIC SHOCK HAZARD

Improper grounding, poor ventilation, open flames, or sparks can cause a hazardous condition and result in fire, explosion, electric shock or other serious injury.

- Ground the equipment and the object being sprayed according to the system component manuals and local code.
- All electrical wiring must be done by trained and qualified personnel and comply with all local codes and regulations.
- Do not use the hose until the couplings are properly insulated and the hose abrasion cover is in place.
- Do not expose the hose to rain.
- Provide fresh air ventilation to avoid the buildup of flammable fumes from solvents or the fluid being sprayed.
- Keep the spray area free of debris, including solvent, rags, and gasoline.
- If there is any static sparking while using the equipment, **stop spraying immediately**. Identify and correct the problem.

Installation

Each hose assembly is 50 feet (15 m) long. A maximum combined length of 300 feet (92 m) can be used, in addition to a 15 foot (4.6 m) whip hose assembly.

The whip hose assembly is smaller in diameter, which makes maneuvering the hose easier for the operator.

The fluid hoses are marked ISO or RES and are oppositely coupled to prevent incorrect connection, which can cause fluid crossover and permanently damage the hose. Refer to Fig. 1.

⚠ WARNING



ELECTRIC SHOCK HAZARD
Strain on the heat tape wires can pull them loose from the connectors when the hose is moved or coiled. To reduce the risk of an electric shock from loose or damaged wires, follow these precautions.

- Make the bend in the heat tape as instructed below.
- Do not wrap the heat tape around the hoses.

Connecting the 50 foot (15.2 m) Hoses

1. Connect the corresponding fluid hoses of each 50 foot (15.2 m) assembly. See Fig. 1.
2. Gently bend the slack in the heat tape on both sides of the tape connectors as shown in Fig. 1.
3. Couple the heat tape connectors.
4. Cut the uncoupled air hoses (B) to a length that will be easy to couple to the next air hose. See Fig. 2.
5. Attach a coupling to the air hose.

- a. Slide the male end of the sleeve (A) over the hose (B).
- b. Grease the barbed end of the stud (C) and push it into the hose until it seats properly.
- c. Tighten the sleeve until it bottoms on the fitting.
- d. Connect the air hose.

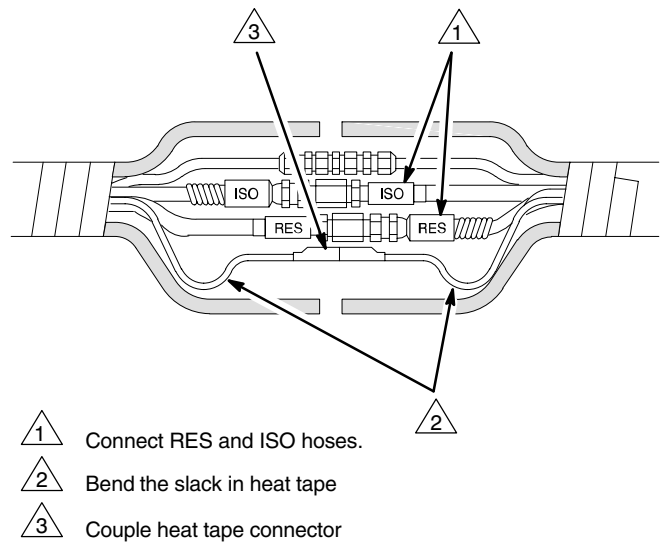


Fig. 1

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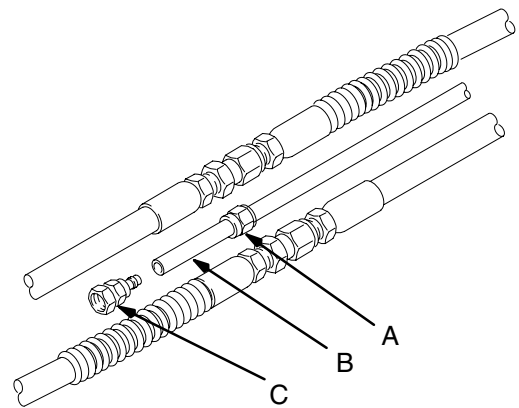


Fig. 2

04440

Installation

6. Check the continuity of the heat tapes.

- a. Use an ohmmeter to check the electrical resistance of the two outer prongs of the connector (D) that attaches to the heated hose control. See Fig. 3. The resistance for the various lengths of coupled hose assemblies is given in the following coupled hose chart.

Coupled Hose Length	Resistance Range
315 feet (96 m)	11–15 ohms
215 feet (66 m)	20–25 ohms
115 feet (35 m)	37–46 ohms
65 feet (20 m)	65–80 ohms
50 feet (15.2 m)	84–124 ohms

- b. Between the middle and outer prong of the connector, the resistance should be more than 1 megohm. If it is less, there is a fault in one of the connectors (D) or the heat tapes, which will cause the Ground Fault Interrupter of the Foam-Cat Heater hose control to shut off electric power to the hose. If there is a fault, check each 50 foot (15.2 m) hose section individually and replace the faulty section.
- c. Check the continuity of the middle prong of the connector (D) from one end of the coupled hoses to the other. The resistance should be less than 10 ohms.
- d. Check the continuity of the whip hose between the two outer prongs and then between the outer and middle prongs of the exposed connector as instructed in steps 6a. and 6b. The resistance between the outer prongs should be 300 to 400 ohms.

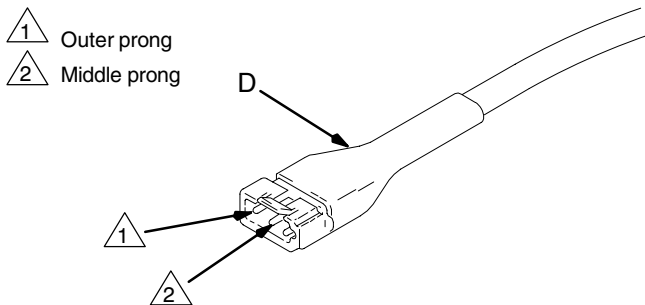


Fig. 3 04441

7. Connect the whip hose to the main hose assembly.

- a. Connect the corresponding fluid hoses.
- b. Connect the hose electrical connector to the control box cable.
- c. Connect the air hoses. Do not alter the air hose length at this connection. Loop it down from the gun as shown in Fig. 4.

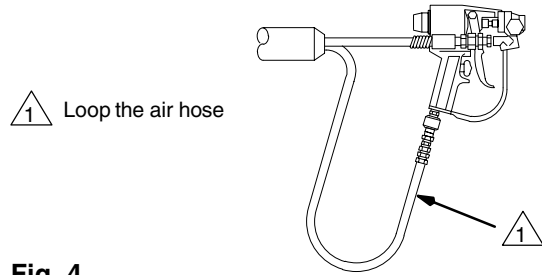


Fig. 4 06421

8. Check all hose connections to be sure they are securely tightened.
9. Connect the main hose(s) to the heater and the whip hose to the gun.
10. Ground the system.

! WARNING



FIRE, EXPLOSION, AND ELECTRIC SHOCK HAZARD

Before operating the system, ground it as explained in your separate component manuals and local code. Also read the section **FIRE, EXPLOSION, AND ELECTRIC SHOCK HAZARD**, page 4.

The Foam-Cat Heated Hose is grounded through connection to a properly grounded Foam-Cat Heater. In a mobile installation, be sure the truck or trailer is grounded to a true earth ground.

In Europe, the hose continuity must comply with VDE 0100.

Installation

! WARNING



INJECTION HAZARD

To reduce the risk of serious injury, follow the **Pressure Relief Procedure** on page 9 whenever you are instructed to relieve pressure.

11. Pressure check the hose assemblies. Refer to the heater manual 308219 for priming and pressurizing the fluid hoses. Check carefully for leaks at the hose connections. If there are leaks, relieve the pressure as instructed on page 9. Tighten the connections, then pressurize the sprayer and hoses again to make sure the leaks have stopped. Shut off the sprayer and relieve the pressure.
12. Insulate the hose connections.
 - a. Wrap electrical tape securely around the fluid and air hose connectors only, so the sharp metal edges of the connectors cannot damage the plastic connectors of the heat tapes. See Fig. 5.
 - b. Tape the heat tape connectors together separately to help prevent the connectors from pulling apart. Then tape the heat tape connectors to the air and fluid hose connectors; leave the wires free to move slightly to prevent strain on the wires at the connectors. See Fig. 6.
 - c. Wrap the insulation tubing (E) around the hose connections, overlapping at the seam. See Fig. 7. Wrap the tape (F) continuously around the tubing, beginning and ending about 2 inches (51 mm) past the slit in the insulation.

NOTE: Standard black electrical tape can be used if additional tape is needed to secure the tubing.

! WARNING

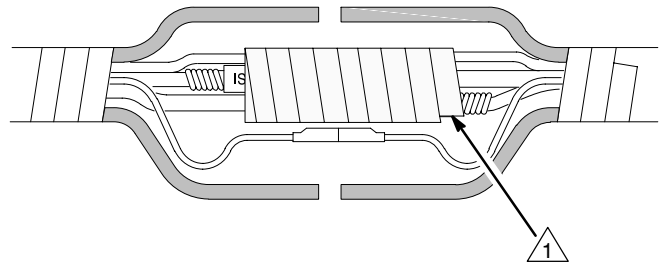
To reduce the risk of serious injury, including fluid injection or electric shock:



- Do not use the heated hoses for spraying without the insulation tubing in place (see Step 12) and the abrasion cover installed (see Step 13).



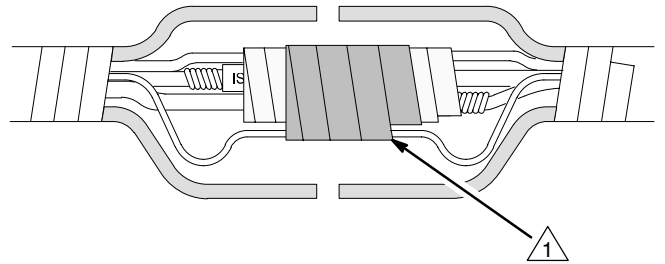
- Replace the insulation immediately if any portions of it are worn away.



1 Wrap hose connections with electrical tape

Fig. 5

04453A



1 Tape heat tape connectors to hose connections with electrical tape

Fig. 6

04454A

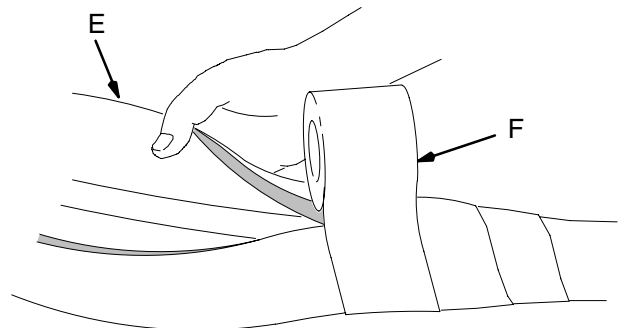


Fig. 7

Installation

13. To install the cover:

- a. Lay the abrasion cover (G) and assembled heated hose (H) end to end. Refer to Fig. 8.
- b. With the gun disconnected from the gun manifold (J) and the air hose disconnected from the gun, pull a couple of inches of the cover (G) over the manifold and hoses and tape the cover to the hoses.
- c. Push the cover (G) onto the hoses. See Fig. 8. The cover will double over itself and be turned inside out as it slides over the hoses.
- d. Secure the other end of the cover (G) with tape.

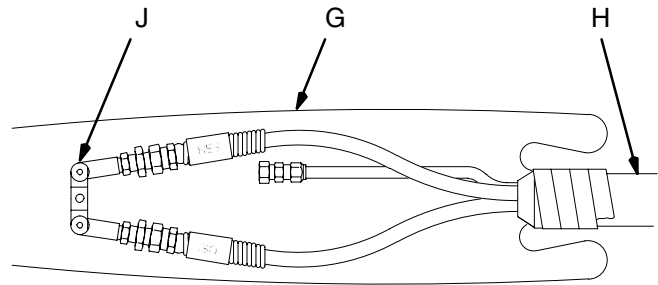


Fig. 8

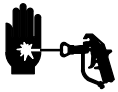
04456

14. Install hose abrasion cover before spraying. The abrasion cover protects the heated hose from damage caused by rough surfaces. It also minimizes heat loss and protects the couplings from damage. Order part no. 070411 and specify the total length of your hose times 1.25.

Operation and Maintenance

Pressure Relief Procedure

WARNING



INJECTION HAZARD

The system pressure must be manually relieved to prevent the system from starting or spraying accidentally. Fluid under high pressure can be injected through the skin and cause serious injury. To reduce the risk of an injury from injection, splashing fluid, or moving parts, follow the **Pressure Relief Procedure** whenever you:

- are instructed to relieve the pressure,
- stop spraying,
- check or service any of the system equipment,
- or install or clean the spray tip/nozzle.

1. Lock the gun trigger safety.
2. Shut off the air to the feed pumps.
3. Turn off the power (air or electric motor switch) to the proportioning pump.
4. Close the gun manifold fluid valves.
5. Unlock the spray gun trigger safety.
6. Hold a metal part of the gun firmly to the side of a grounded metal pail, then trigger the gun to relieve pressure.
7. Lock the trigger safety again.
8. Open both fluid filter drain valves; have a container ready to catch the draining fluid.

9. *If you suspect that the spray tip/nozzle or hose is completely clogged, or that pressure has not been fully relieved after following the steps above, very slowly loosen the tip/nozzle retaining nut or hose end coupling to relieve pressure gradually, then loosen completely. Wear protective gloves to avoid skin injection or burns. Now clear the tip/nozzle or hose.*
10. Be sure the fluid is cool before disconnecting the hoses.

Operation

WARNING



INJECTION HAZARD

Never operate the hose when it is coiled. A coiled hose creates excessive heat buildup which can result in hose rupture and cause serious injury, including injection. The high heat can also cause poor foam development.

Refer to your system manual for complete startup and operating instructions.

Maintenance

WARNING



INJECTION HAZARD

Do not mend or repair any part of a hose assembly. If the hose is damaged, replace it immediately to avoid serious injury from fluid injection and electric shock.

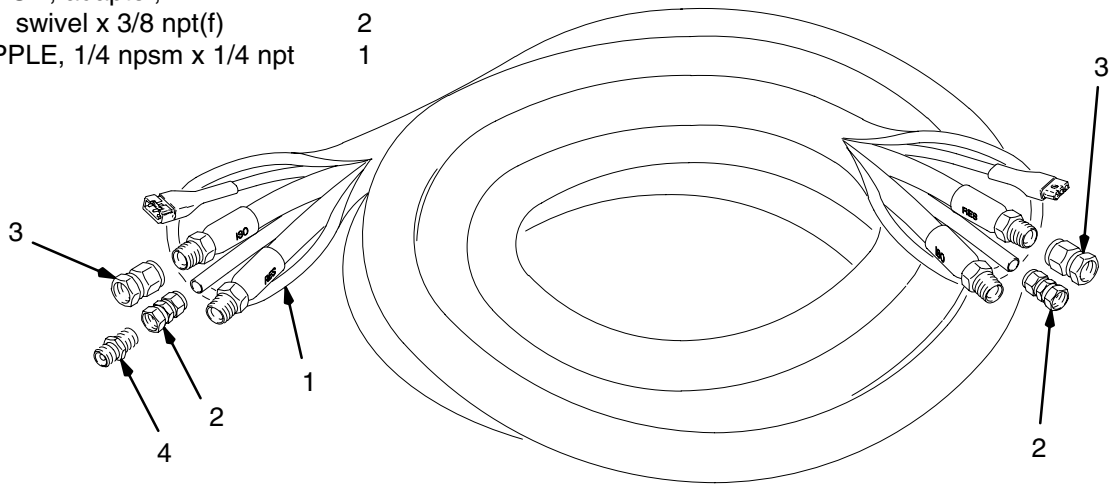
If a section of hose is not heating, be sure the connector at the hose control box is firmly plugged in. If that does not correct the problem, relieve the fluid pressure in the sprayer and hoses, as instructed at left. Remove the abrasion cover and the insulation tubing on each end of the hose in question. Make sure the heat tape connections are secure and repeat the continuity check in Step 6, page 6. If the hose is faulty or the problem not corrected, replace the hose.

Parts

Model 218613, Series B

50 foot (15.2 m) Hose.
Replaceable parts include items 1–4 only.

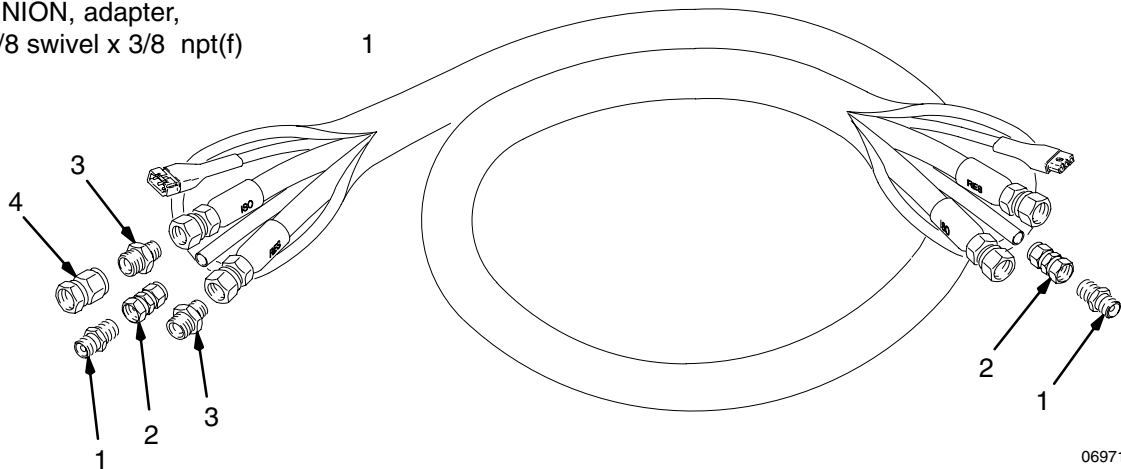
Ref. No.	Part No.	Description	Qty.
1	178540	TUBE, insulation, 50 ft. (15.2 m)	1
2	205447	COUPLING, 1/4 npt(m x f)	2
3	156173	UNION, adapter, 3/8 swivel x 3/8 npt(f)	2
4	162453	NIPPLE, 1/4 npsm x 1/4 npt	1



Model 218614, Series B

15 foot (4.6 m) Hose.
Replaceable parts include items 1–4 only.

Ref. No.	Part No.	Description	Qty.
1	162453	NIPPLE, 1/4 npsm x 1/4 npt	2
2	104415	COUPLER, hose	2
3	157350	NIPPLE, reducing, 3/8 x 1/4 npt(mbe)	2
4	156173	UNION, adapter, 3/8 swivel x 3/8 npt(f)	1



06971

Technical Data

Maximum Working Pressure 3000 psi
(210 MPa, 207 bar)
Wattage 12 Watts/foot (39.4 Watts/meter)
at 240 VAC, 50/60 cycle
Wetted Parts Nylon; Steel, zinc or
cadmium plated; Carbon Steel, zinc plated

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

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

Graco Information

TO PLACE AN ORDER, contact your Graco distributor, or call this number to identify the distributor closest to you:
1-800-367-4023 Toll Free

*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.*

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