

Instructions



Heated Hose

309160 rev.E

See page 2 for Models and Maximum Working Pressure.

WARNING

Fire, Explosion, and Electric Shock Hazard

The operating and safety features of these hoses are designed for use only with the Graco Therm-O-Flow Plus® Controls. To reduce the risk of serious injury, never connect these hoses to any other device.



Important Safety Instructions

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



PH00046

PROVEN QUALITY. LEADING TECHNOLOGY.

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List of Models

Part No.	Length	Hose Core Size	Maximum Fluid Working Pressure
115865	10 ft	No. 6 (0.312" ID)	1500 psi (10 MPa, 103 bar)
115866	12 ft	No. 6 (0.312" ID)	1500 psi (10 MPa, 103 bar)
115867	25 ft	No. 6 (0.312" ID)	1500 psi (10 MPa, 103 bar)
115868	6 ft	No. 102 (0.500" ID)	1500 psi (10 MPa, 103 bar)
115869	10 ft	No. 102 (0.500" ID)	1500 psi (10 MPa, 103 bar)
115870	15 ft	No. 102 (0.500" ID)	1500 psi (10 MPa, 103 bar)
115871	20 ft	No. 102 (0.500" ID)	1500 psi (10 MPa, 103 bar)
115872	25 ft	No. 102 (0.500" ID)	1500 psi (10 MPa, 103 bar)
115902	6 ft	No. 8 (0.401" ID)	3000 psi (21 MPa, 207 bar)
115873	10 ft	No. 8 (0.401" ID)	3000 psi (21 MPa, 207 bar)
115874	15 ft	No. 8 (0.401" ID)	3000 psi (21 MPa, 207 bar)
115875	6 ft	No. 10 (0.495" ID)	3000 psi (21 MPa, 207 bar)
115876	10 ft	No. 10 (0.495" ID)	3000 psi (21 MPa, 207 bar)
115877	15 ft	No. 10 (0.495" ID)	3000 psi (21 MPa, 207 bar)
115878	20 ft	No. 10 (0.495" ID)	3000 psi (21 MPa, 207 bar)
115879	25 ft	No. 10 (0.495" ID)	3000 psi (21 MPa, 207 bar)
115903	6 ft	No. 12 (0.617" ID)	3000 psi (21 MPa, 207 bar)
115880	10 ft	No. 12 (0.617" ID)	3000 psi (21 MPa, 207 bar)
115881	15 ft	No. 12 (0.617" ID)	3000 psi (21 MPa, 207 bar)
115882	20 ft	No. 12 (0.617" ID)	3000 psi (21 MPa, 207 bar)
115883	25 ft	No. 12 (0.617" ID)	3000 psi (21 MPa, 207 bar)
115884	6 ft	No. 16 (0.867" ID)	3000 psi (21 MPa, 207 bar)
115885	10 ft	No. 16 (0.867" ID)	3000 psi (21 MPa, 207 bar)
115886	15 ft	No. 16 (0.867" ID)	3000 psi (21 MPa, 207 bar)
115887	20 ft	No. 16 (0.867" ID)	3000 psi (21 MPa, 207 bar)
115888	25 ft	No. 16 (0.867" ID)	3000 psi (21 MPa, 207 bar)
119551	5.25 ft	No. 8 (0.401" ID)	3000 psi (21 MPa, 207 bar)
119552	43 in	No. 8 (0.401" ID)	3000 psi (21 MPa, 207 bar)
120555	2 ft	No. 8 (0.401" ID)	3000 psi (21 MPa, 207 bar)
120556	4 ft	No. 8 (0.401" ID)	3000 psi (21 MPa, 207 bar)
253281	10 ft	No. 8 (0.401" ID)	3000 psi (21 MPa, 207 bar)
253282	15 ft	No. 8 (0.401" ID)	3000 psi (21 MPa, 207 bar)

All hoses 50 Watts/hose foot (164 watts/meter) 240 VAC, 50/60 cycle

Minimum Bend Radius = 6"

Wetted Parts: PTFE core with stainless steel couplings

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 Therm-O-Flow® Systems Controls.
- 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.
- 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.

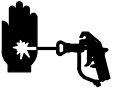


TOXIC FLUID HAZARD

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.

WARNING



SKIN 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 surgical treatment.**
- Do not put your hand or fingers over the dispense gun 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.
- Inspect hose before each use for cuts, cracks, worn spots, bulges, chemical attacks or any other damage.
- Never exceed the maximum working pressure indicated on the hose.
- Never operate the hose at temperatures above the maximum operating temperature indicated on the hose
- Be sure the gun trigger safety operates before dispensing.
- Lock the gun trigger safety when you stop dispensing.
- Follow the **Pressure Relief Procedure** on page 9 whenever you: are instructed to relieve pressure; stop dispensing; clean, check, or service the equipment; and install or clean the dispense 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.



PRESSURIZED FLUID HAZARD

To reduce the risk of serious injury or damage to equipment, wear eye protection and protective clothing whenever working with this system.

WARNING



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 or dispensed 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 material.
- Keep the spray area free of debris, including solvent, rags, and gasoline.
- If there is any static sparking while using the equipment, **stop dispensing immediately**. Identify and correct the problem.

Introduction

Each hose assembly must be controlled by a Graco Therm-O-Flow Plus zone controller. The amount of hose used depends on the zone controllers available for control.

The hose has two electrical connectors with cables, each extending from the end of the hose.

The large rectangular connector is the machine end and has 8 foot (2.42 m) of cable (see Fig. 1). The small square connector is the gun end and has 2 foot (0.6 m) of cable (see Fig. 2).



Fig. 1 _____



Fig. 2 _____ PH00051

Connect the machine end connector to the Graco Therm-O-Flow Plus temperature controller by pushing the connector on the mating receptacle of the Therm-O-Flow Plus temperature controller or accessory device and securing the latch.

Connect the gun end connector to any Graco Therm-O-Flow Plus accessory device. These include Graco manual and automatic hot melt dispense valves, pressure compensators, manifolds, headers, and pressure regulators.

Troubleshooting

1. Check the continuity of the hose components.

- a. Use an ohmmeter to check the electrical resistance at the heating element pins between pins A1 and A2 of the machine end connector (A) that attaches to the heated hose control. See Fig.1. The resistance of the heating element for the various lengths of coupled hose assemblies is given in the following coupled hose chart.

Length/ft	Pins A1 & A2 Resistance Values (ohms) at 230 VAC	
6	192	+/- 19
10	115	+/- 12
15	77	+/- 8
20	58	+/- 6
25	46	+/- 5

Any resistance reading outside the range may indicate a faulty hose

The resistance values of the RTD will vary with temperature. An approximation of hose temperature must be made to verify the resistance reading of the RTD across pin A4 and A5 is correct.

- b. Between pin A4 and A5 of the large machine end connector, the RTD resistance must be within the range of the following chart.

Approximate RTD resistance values at various temperatures.

Temperature		Pins A4 & A5 Approximate Resistance Values (ohms)
C	F	
16	60	106
27	80	110
38	100	115
49	120	119
60	140	123
71	160	128
82	180	132
93	200	136
104	220	140
116	240	144
127	260	149
138	280	153
149	300	160
160	320	161
171	340	165
182	360	170
193	380	174
204	400	177

2. **Check all hose connections** to be sure they are securely tightened.
3. **Ground the system.**

Troubleshooting

Make sure there is electrical continuity ($<10\Omega$) between the following pins of the large machine end connector and the small gun end connector

Lack of electrical continuity between any of these pins is a failure of the hose. Replace the hose assembly.

Continuity Between Connectors	
Machine End	Gun End
B1	1
B2	2
B4	3
B5	4
C1	5
C2	6
GND	GND

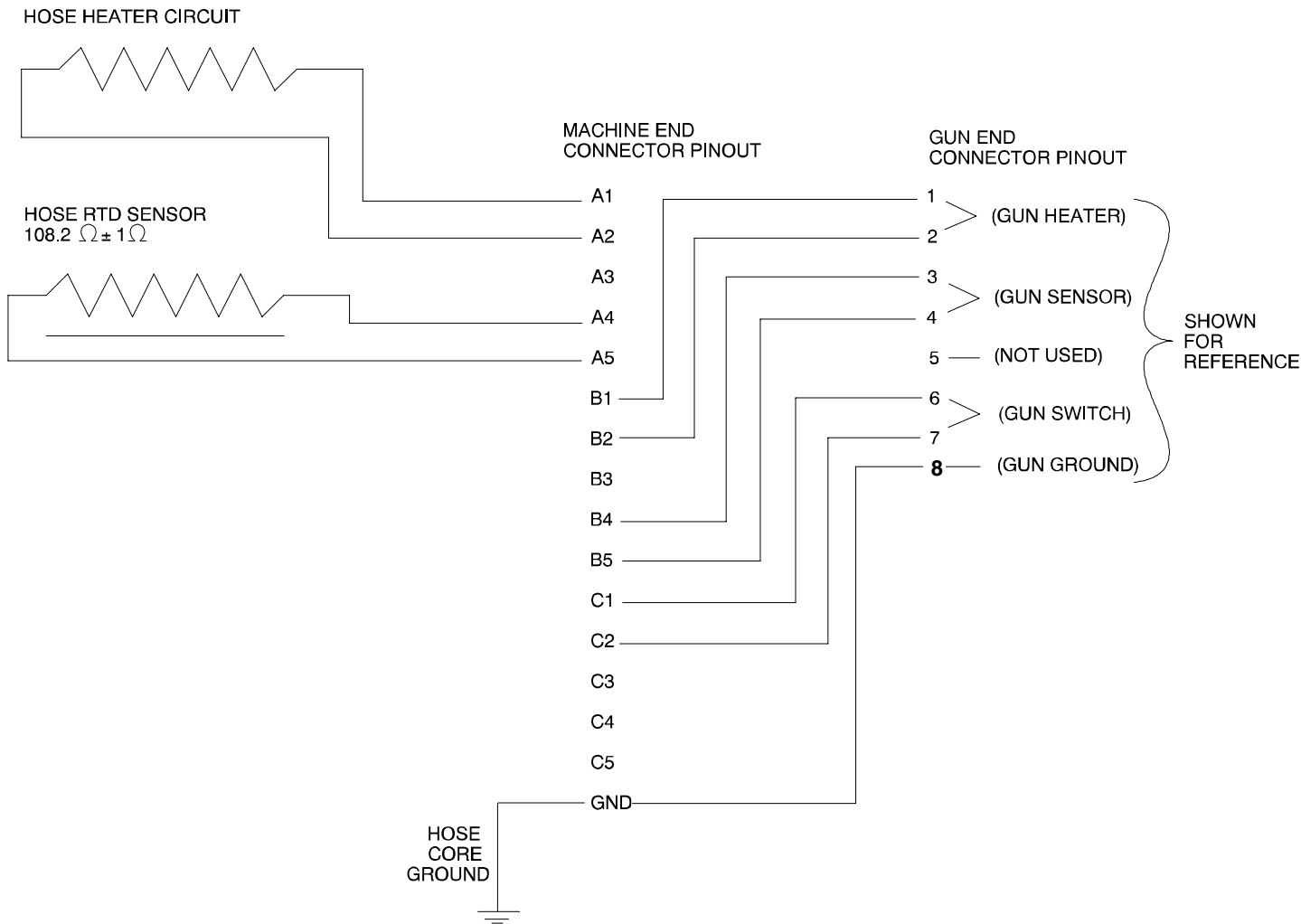


Fig. 3

TI0314

Installation

WARNING



SKIN INJECTION HAZARD

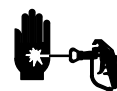
To reduce the risk of serious injury, follow the **Pressure Relief Procedure** on page 9 whenever you are instructed to relieve pressure.

1. **Pressure check the hose assemblies.** Refer to the Therm-O-Flow Plus Manual 309085 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.

Operation and Maintenance

Pressure Relief Procedure

WARNING



SKIN INJECTION HAZARD

The system pressure must be manually relieved to prevent the system from starting or dispensing 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 dispensing,
- check or service any of the system equipment,
- or install a new or clean the dispense gun tip/nozzle.

1. Lock the gun trigger safety.
2. Shut off the air to the supply pumps.
3. Turn off the power (air) to the proportioning pump.
4. Unlock the spray gun trigger safety.
5. Hold a metal part of the gun firmly to the side of a grounded metal pail, then trigger the gun to relieve pressure.
6. Lock the trigger safety again.

7. *If you suspect that the dispense valve or hose is completely clogged, or that pressure has not been fully relieved after following the steps above, very slowly loosen the tip 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.*
8. Be sure the fluid is cool before disconnecting the hoses.

Operation

Refer to your Therm-O-Flow system manual for complete startup and operating instructions.

Maintenance

WARNING



SKIN 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 the 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 pump and hoses, as instructed at left. If the hose is faulty or the problem not corrected, replace the hose. See Troubleshooting on page 7 for electrical measurements.

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.

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Graco Information

TO PLACE AN ORDER, contact your Graco distributor, or call this number to identify the distributor closest to you:

1-800-328-0211 Toll Free

612-623-6921

612-378-3505 Fax

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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