

# Predator<sup>TM</sup> Proportioner

311326B

*For spraying polyurethane foam and polyurea coatings.  
Not for use in explosive atmospheres.*

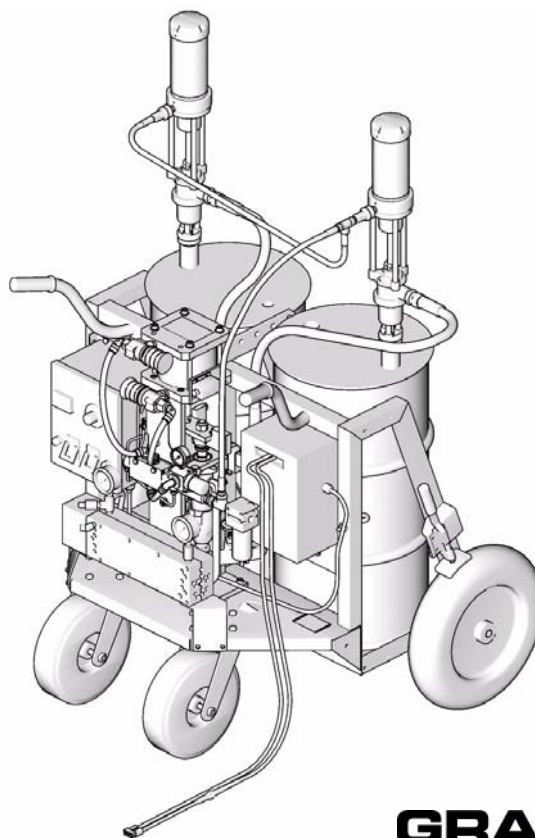
## Model 288400

1600 psi (11.0 MPa, 110 bar) Maximum Working Pressure.  
230 V, 60 Hz; 30 Amps; 5000 Total Heater Watts



### Important Safety Instructions

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



TI9514a

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## Related Manuals

311327	Predator Proportioner Repair and Parts
309577	Displacement Pump Instructions and Parts

# Warnings

The following general warnings are for the setup, use, grounding, maintenance, and repair of this equipment. Additional, more specific warnings may be found throughout the body of this manual where applicable. *Symbols appearing in the body of the manual refer to these general warnings. When these symbols appear throughout the manual, refer back to these pages for a description of the specific hazard.*




 <b>WARNING</b>	
	<p><b>ELECTRIC SHOCK HAZARD</b></p> <p>Improper grounding, setup, or usage of the system can cause electric shock.</p> <ul style="list-style-type: none"> <li>• Turn off and disconnect power cord before servicing equipment.</li> <li>• Use only grounded electrical outlets.</li> <li>• Use only 3-wire extension cords.</li> <li>• Ensure ground prongs are intact on sprayer and extension cords.</li> <li>• Do not expose to rain. Store indoors.</li> </ul>
	<p><b>TOXIC FLUID OR FUMES HAZARD</b></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"> <li>• Read MSDS's to know the specific hazards of the fluids you are using.</li> <li>• Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.</li> </ul>
	<p><b>PERSONAL PROTECTIVE EQUIPMENT</b></p> <p>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, inhalation of toxic fumes, burns, and hearing loss. This equipment includes but is not limited to:</p> <ul style="list-style-type: none"> <li>• Protective eyewear</li> <li>• Clothing and respirator as recommended by the fluid and solvent manufacturer</li> <li>• Gloves</li> <li>• Hearing protection</li> </ul>
	<p><b>SKIN INJECTION HAZARD</b></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. <b>Get immediate surgical treatment.</b></p> <ul style="list-style-type: none"> <li>• Do not point gun at anyone or at any part of the body.</li> <li>• Do not put your hand over the spray tip.</li> <li>• Do not stop or deflect leaks with your hand, body, glove, or rag.</li> <li>• Do not spray without tip guard and trigger guard installed.</li> <li>• Engage trigger lock when not spraying.</li> <li>• Follow <b>Pressure Relief Procedure</b> in this manual, when you stop spraying and before cleaning, checking, or servicing equipment.</li> </ul>

 <b>WARNING</b>	
	<p><b>FIRE AND EXPLOSION HAZARD</b></p> <p>Flammable fumes, such as solvent and paint fumes, in <b>work area</b> can ignite or explode. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> <li>• Use equipment only in well ventilated area.</li> <li>• Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc).</li> <li>• Keep work area free of debris, including solvent, rags and gasoline.</li> <li>• Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present.</li> <li>• Ground all equipment in the work area. See <b>Grounding</b> instructions.</li> <li>• Use only grounded hoses.</li> <li>• Hold gun firmly to side of grounded pail when triggering into pail.</li> <li>• If there is static sparking or you feel a shock, <b>stop operation immediately</b>. Do not use equipment until you identify and correct the problem.</li> <li>• Keep a fire extinguisher in the work area.</li> </ul>
	<p><b>PRESSURIZED ALUMINUM PARTS HAZARD</b></p> <p>Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents in pressurized aluminum equipment. Such use can cause serious chemical reaction and equipment rupture, and result in death, serious injury, and property damage.</p>
	<p><b>EQUIPMENT MISUSE HAZARD</b></p> <p>Misuse can cause death or serious injury.</p> <ul style="list-style-type: none"> <li>• Do not operate the unit when fatigued or under the influence of drugs or alcohol.</li> <li>• Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See <b>Technical Data</b> in all equipment manuals.</li> <li>• Use fluids and solvents that are compatible with equipment wetted parts. See <b>Technical Data</b> in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request MSDS forms from distributor or retailer.</li> <li>• Check equipment daily. Repair or replace worn or damaged parts immediately with genuine Graco-Gusmer replacement parts only.</li> <li>• Do not alter or modify equipment.</li> <li>• Use equipment only for its intended purpose. Call your Graco distributor for information.</li> <li>• Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.</li> <li>• Do not kink or over bend hoses or use hoses to pull equipment.</li> <li>• Keep children and animals away from work area.</li> <li>• Comply with all applicable safety regulations.</li> </ul>
	<p><b>MOVING PARTS HAZARD</b></p> <p>Moving parts can pinch or amputate fingers and other body parts.</p> <ul style="list-style-type: none"> <li>• Keep clear of moving parts.</li> <li>• Do not operate equipment with protective guards or covers removed.</li> <li>• Pressurized equipment can start without warning. Before checking, moving, or servicing equipment, follow the <b>Pressure Relief Procedure</b> in this manual. Disconnect power or air supply.</li> </ul>
	<p><b>BURN HAZARD</b></p> <p>Equipment surfaces and fluid that's heated can become very hot during operation. To avoid severe burns, do not touch hot fluid or equipment. Wait until equipment/fluid has cooled completely.</p>





## Pressure Relief Procedure

1. Adjust air cylinder pressure regulator counterclockwise to minimum pressure setting.
2. Turn off feed pumps.
3. Trigger gun to relieve pressure.
4. Close gun inlet valves.
5. Close fluid supply inlet valves.

## Flushing

						
Flush equipment only in a well-ventilated area. Do not spray flammable fluids. Do not turn on heaters while flushing with flammable solvents.						

- Flush out old fluid with new fluid, or flush out old fluid with a compatible solvent, such as toluene, naphtha, or mineral spirits before introducing new fluid.
- Use lowest possible pressure when flushing.
- To flush entire system, circulate through gun fluid manifold (with manifold removed from gun).
- Always leave some type of fluid in system. Do not use water.

						
Only use flush solvents that are compatible with Fluoroelastomer seals. Non-compatible solvents will damage seals and cause hazardous conditions, such as high pressure leaks and pressure switch failure.						

# Component Identification

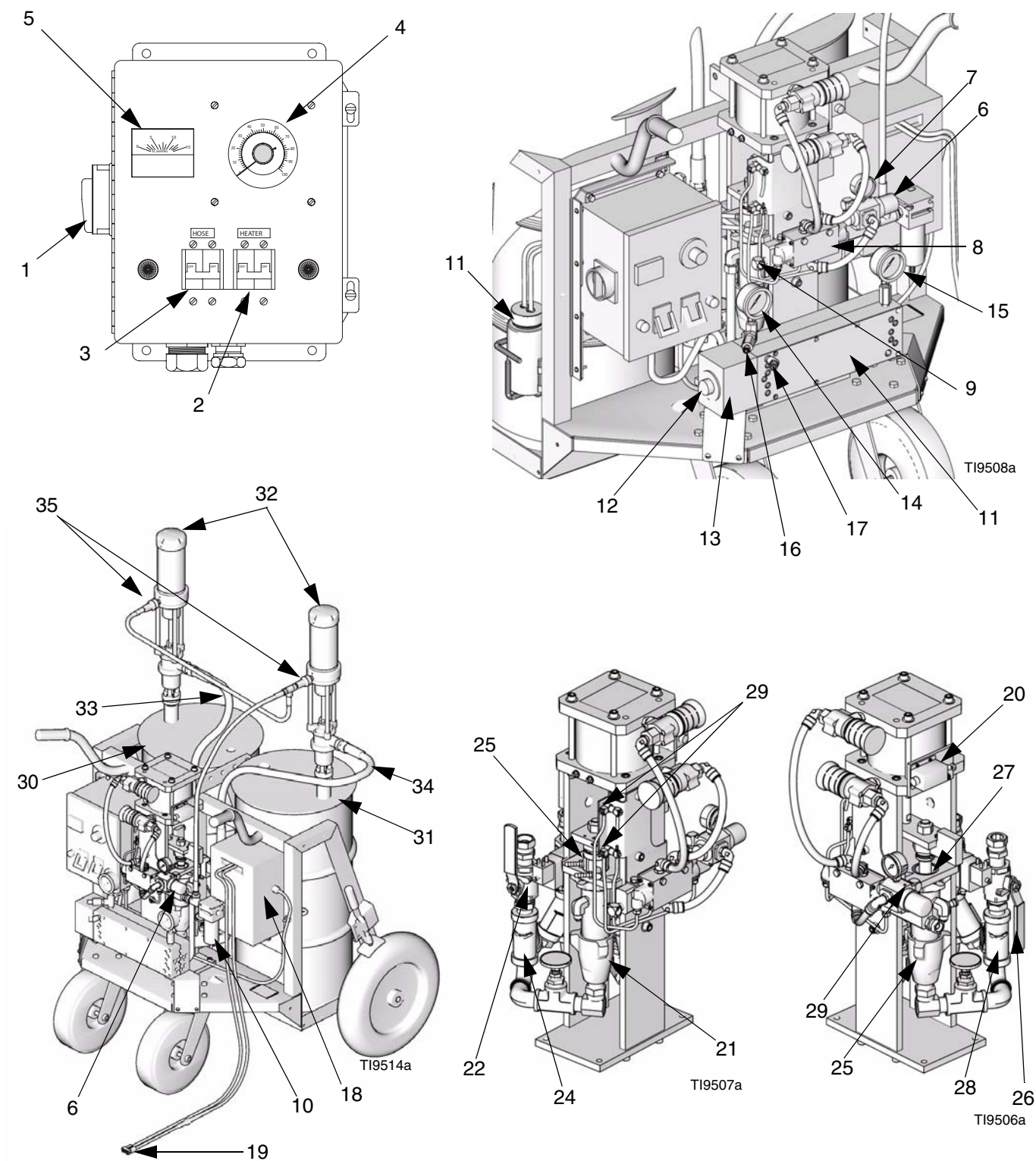


FIG. 1: Models 297461 and 297462 Main Components

- 1 **Main Power Disconnect**  
Controls power to all circuits. Must be ON for any function of unit to operate. Disconnect can be locked in OFF position for OSHA-required lockout/tagout during machine maintenance.

**CAUTION**

Incoming power leads from main electrical source remain energized when main power switch is OFF. To fully de-energize electrical console, switch OFF and lock out incoming power at source.

- 2 **Primary Heater Circuit Breaker**  
Controls and protects power to primary heater; must be ON for primary heater to operate.  
*Amber Pilot Light:* controlled by thermostat. When illuminated, indicates primary heater is in a heating cycle.
- 3 **Hose Heater Circuit Breaker**  
Controls and protects low-voltage power pack; must be ON for hose heater to operate.  
*Amber Pilot Light:* indicates hose heater circuit breaker is ON.
- 4 **Hose Heater Power Control**  
Controls amount of power delivered to heated hoses. Adjust as required to maintain desired hose temperature as shown on hose thermometer.
- 5 **Hose Heater Ammeter**  
Indicates amount of electrical current in amperes (amps) is delivered to hose heater.
- 6 **Air Pressure Regulator**  
Controls inlet air pressure available to air motor on the up and down stroke. Turn clockwise to increase; turn counterclockwise to decrease.
- 7 **Air Pressure Gauge**  
Displays air pressure in air drive system during the up and down stroke.
- 8 **Directional Control Valve**  
Controls direction of proportioning pump.
- 9 **Gun Air Outlet**  
1/4 FPT elbow fitting
- 10 **Moisture Separator**  
Traps moisture in main air supply. Check daily to prevent moisture contamination of all air system components, including transfer pumps and gun. (3/8 FPT)

- 11 **Primary Heater**  
Heats materials to required dispensing temperature.
- 12 **Primary Heater Thermostat**  
Controls temperature of primary heater. Turn clockwise to increase temperature; turn counterclockwise to decrease temperature.  
*Amber Pilot Light:* located on console. ON when thermostat calls for heat; OFF when it does not.
- 13 **Thermal Limit Switch**  
(Located under cover; not shown.) Interrupts power to primary heater when surface temperature approaches designed operating temperature limit.
- 14 **A-(Isocyanate) Pressure Gauge**  
Displays isocyanate outlet pressure.
- 15 **B-(Resin) Pressure Gauge**  
Displays resin outlet pressure.
- 16 **A-(Isocyanate) Outlet**  
1/2-20 JIC male fitting
- 17 **B-(Resin) Outlet**  
9/16-18 JIC male fitting
- 18 **Hose Heat Power Pack**  
Provides power to hose heat system. Step-down isolation transformer features a range of selectable voltage settings to match various hose lengths.
- 19 **Power-Lock™ Hose Heat Connection**  
Connects power from transformer to heated hoses.
- 20 **Counter**  
Records cycle counts of proportioning pumps; one cycle count equals two strokes (one in each direction).
- 21 **A-(Isocyanate) Proportioning Pump**  
Draws in and dispenses a fixed volume of isocyanate for deliver to gun or pour head.
- 22 **A-(Isocyanate) Inlet Supply Ball Valve**  
1/2 FPT swivel fitting

- |   |   |
|---|---|
| <p>23 <b>A-Lubricant Pump</b><br/>(Part of Iso pump lubrication system.) Continuously circulates lubricant between the isocyanate proportioning pump and reservoir to prevent crystallization of isocyanate on pump shaft.</p> <p>24 <b>A-Inlet Filter Screen</b><br/>Traps solid contaminants in chemical supply.</p> <p>25 <b>B-(Resin) Proportioning Pump</b><br/>Draws in and dispenses a fixed volume of resin for delivery to gun or pour head.</p> <p>26 <b>B-(Resin) Inlet Supply Ball Valve</b><br/>3/4 FPT swivel fitting</p> <p>27 <b>B-Packing Nut</b><br/>Retains pump throat seals.</p> <p>28 <b>B-Inlet Filter Screen</b><br/>Traps solid contaminants in chemical supply.</p> | <p>29 <b>Pilot Valves</b><br/>Reverse direction of pumps.</p> <p>30 <b>A-Supply Drum</b><br/>15-gallon capacity</p> <p>31 <b>B-Supply Drum</b><br/>15-gallon capacity</p> <p>32 <b>Transfer Pumps</b><br/>2:1 ratio. Part of Predator Material Supply Package 260652.</p> <p>33 <b>A-Supply Hose</b><br/>Part of Predator Material Supply Package 260652.</p> <p>34 <b>B-Supply Hose</b><br/>Part of Predator Material Supply Package 260652.</p> <p>35 <b>Transfer Pump Air Hose Assembly</b><br/>Part of Predator Material Supply Package 260652.</p> |
|---|---|



# Initial Set-up

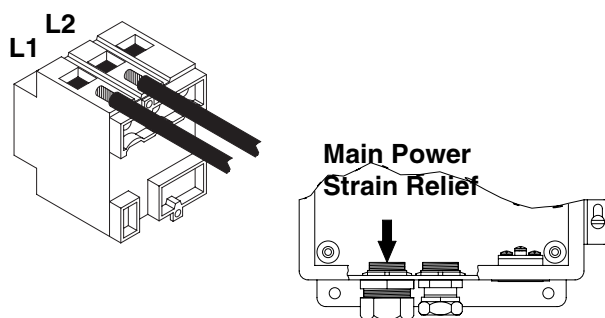
## Main Power Installation

<p>Installing this equipment requires access to parts that may cause electric shock or other serious injury if work is not performed properly. Have a qualified electrician connect power and ground to main power switch terminals. Ensure your installation complies with all National, State, and Local safety and fire codes.</p>						

### CAUTION

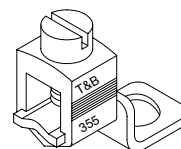
Ensure main power source meets all electrical requirements specified on nameplate of proportioning unit. Also ensure main power source has a dedicated fuse disconnect. Power cord is not supplied.

1. Open electrical console and connect main power cord as follows:
  - a. Feed power cord through strain relief in bottom of console. Connect power leads to terminals L1 and L2 of main disconnect. See FIG. 2.



**FIG. 2: Main Power Connection**

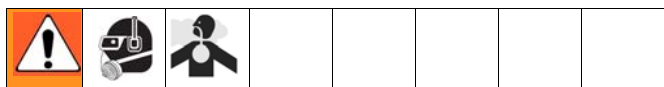
- b. Connect ground wire to Ground Lug located inside console near strain relief opening. See FIG. 3.



**FIG. 3: Ground Lug**

2. Set up chemical supply, air supply, and moisture control systems as required. See **Material Supply Connections**, page 10 for proper set-up and operating procedures.
3. Properly ground all auxiliary equipment. If not grounded, high velocity flow of fluid can create a static charge, which may spark and cause fire and explosion. Certain solvents commonly used with this equipment are flammable and may present a flash danger to operator. Ground equipment as follows:
  - a. Ground material supply (transfer pumps/day tanks).
  - b. The 2:1 transfer pump has a ground lug. Ground pump in accordance with the instructions provided with pump.
  - c. Ensure that proportioning unit ground at main electrical source is installed in accordance with the National Electrical Code. If generator will be powering unit, consult a certified electrician about additional grounding measures that may be required.

## Material Supply Connections



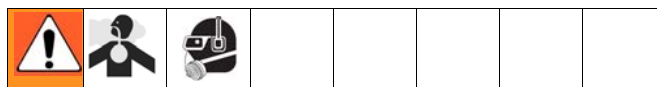
Connect material supply to inlets of proportioning/spray unit:

1. Ensure A- and B- inlet ball valves on proportioning/spray units are closed.
2. Connect and tighten B- (resin) supply hose (47) to 3/4 FPT swivel fitting on B-inlet ball valve, and to resin transfer pump.
3. Connect and tighten A- (isocyanate) supply hose to 1/2 FPT swivel fitting on A-inlet ball valve, and to isocyanate transfer pump.
4. Connect female couplings of air supply hose on each transfer pump. Then connect hose to 1/4 MPT fitting on unit air inlet.
5. Connect main air supply to proportioning unit. The main air inlet at air filter requires a 3/8 npt fitting.

### CAUTION

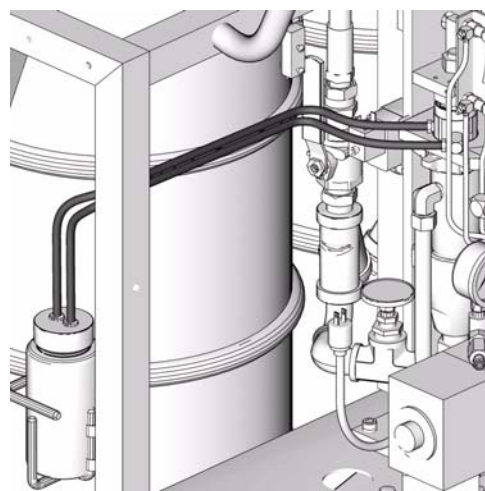
Main air supply must be clean and free of contaminants. Use a minimum of 3/8 in. ID air line (not supplied) to deliver air supply to proportioning unit. A main air shutoff valve to proportioning unit is recommended.

## Lubrication System Set-up




Prepare isocyanate pump lubrication system as follows:

1. Fill lubricant reservoir with pump lubricant.
2. Thread reservoir onto reservoir cap assembly and place it into bracket.



**FIG. 4: Lubricant Reservoir Installation**

3. Push larger diameter supply tube approximately 1/3 of the way down into reservoir.
4. Push smaller diameter return tube down into reservoir until it reaches the bottom.

 The larger diameter supply tube must be at upper level of reservoir and the return tube must be at lower level of reservoir. This ensures that any isocyanate crystals will settle to bottom of reservoir and not return to isocyanate pump shaft.

The lubrication system is now ready for operation. No priming is required.


## Hose Heat Power Pack

### CAUTION

The hose heat transformer voltage must be set to match the hose length in use. Too much power will cause hose heat circuit fuse to fail. Too little power will result in insufficient hose heating.

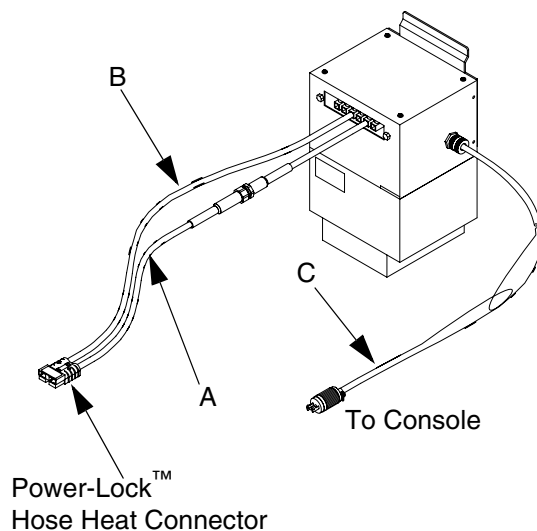
To select correct tap settings, proceed as follows:

1. Turn hose heater power control fully counterclockwise.

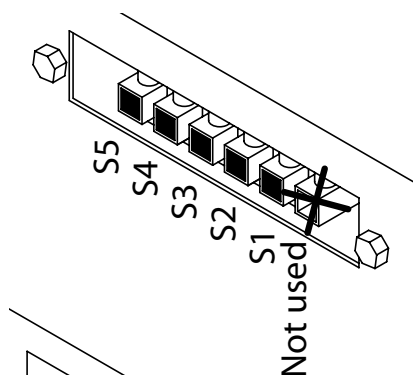
 With hose heater control turned fully clockwise, secondary amperage should not exceed 50 amps.

2. Turn off hose heater and primary heater circuit breakers.
3. Turn off and lock out main power disconnect.
4. Use FIG. 5 and FIG. 6 and the following chart to connect tap wires (A) and (B) to transformer taps that match hose length to be used.

Hose Length	Tap Wire A	Tap Wire B
25 ft. (7.6 m.)	S1	S2
35 ft. (10.6 m.)	S2	S3
60 ft. (18.2 m.)	S1	S3
110 ft. (33.3 m.)	S1	S4
160 ft. (48.5 m.)	S4	S5
210 ft. (63.6 m.)	S3	S5
260 ft. (78.8 m.)	S1	S5
310 ft. (94 m.)	S1	S5



**FIG. 5: Transformer Connections**



**FIG. 6: Manual Tap Settings**

5. Connect power cord (C) from power pack to electric console. Twist plug to lock it into receptacle.

## Heated Hose Installation

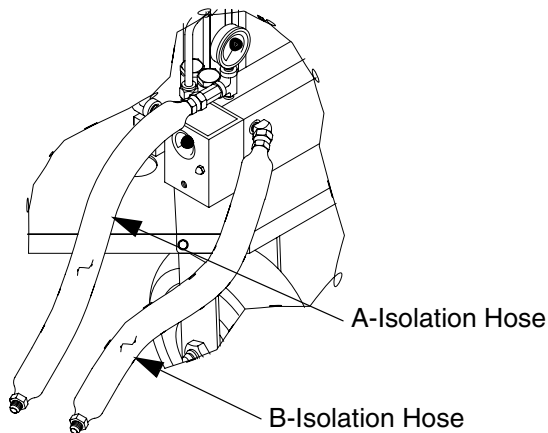
### CAUTION

Hose connection points are a potential source of chemical and air leaks. These areas are also most exposed to damage due to scuffing and snagging. It is strongly recommended to install a scuff jacket to protect hoses and a TSU extension harness to protect from damage.

Isocyanate hoses are color-coded red and resin hoses are color-coded blue. In addition, isocyanate and resin hose fittings have different thread sizes.

1. Connect isolation hoses to respective primary heater outlet fittings.

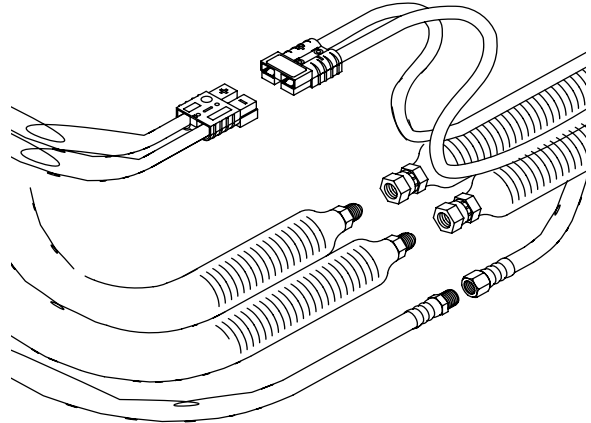
Heated hose assemblies are connected end to end when shipped to protect them from moisture. Do not separate hoses until you are ready to connect them to proportioning unit.



**FIG. 7: Isolation Hose Connections**

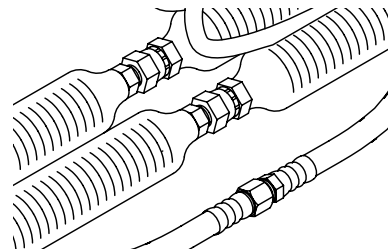
2. Connect heated hose assembly to isolation hoses:

- a. Lay out hose assemblies end-to-end as shown in FIG. 8.



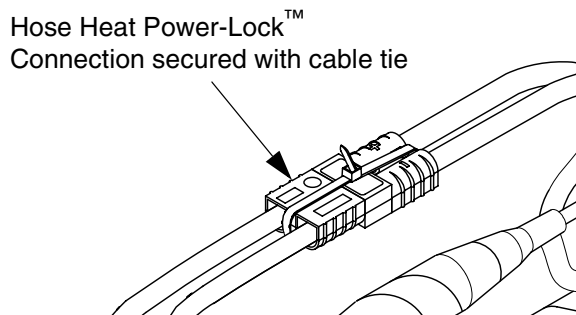
**FIG. 8: Hose Connection (step a)**

- b. Connect heated hoses to isolation hoses and tighten. To ensure a leak-proof chemical connection, do not cross-thread or over-tighten fittings. See FIG. 9.
- c. Connect air hoses and tighten fittings. See FIG. 9.



**FIG. 9: Hose Connection (steps b and c)**

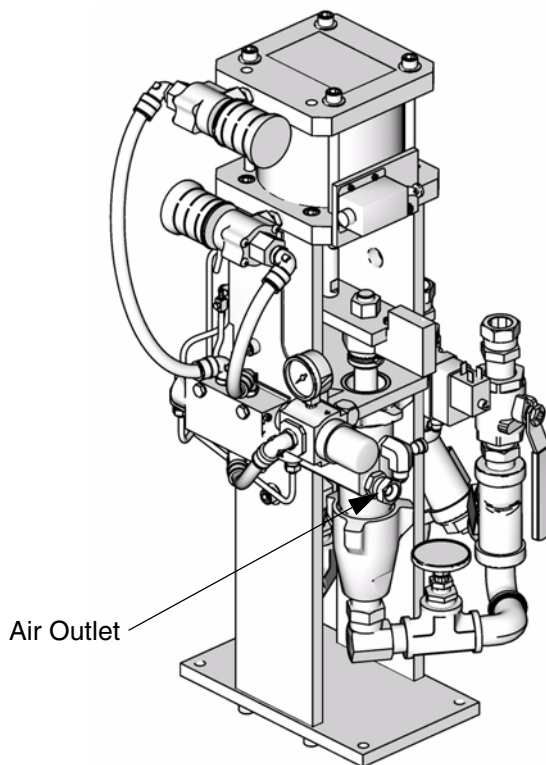
- d. Plug in Power-Lock™ hose heat connectors. Secure connection with cable tie provided; failure to do so will disrupt hose heat system if connectors separate. See FIG. 10



**FIG. 10: Hose Connection (step d)**

3. Repeat Step 2 to add additional hose assemblies, including the gun whip hose.
4. Connect air hose included with heated hose assemblies to air outlet fitting on proportioning unit, see FIG. 11.
5. Install optional hose scuff jacket, if used, over hose lengths.
6. Connect coupling block to gun whip hose and ensure that manual valves are closed. See Spray Gun Operation Manual.
7. Carefully insert thermometer through outer sponge in the 10 ft. gun hose so that stem follows twist of

hoses and lies between butyl inner hose and outer insulation. Choose a location where thermometer is easily inserted through sponge without excessive force. Position thermometer close to spray gun so it can easily be read by operator while spraying, and secure with electrical tape.



**FIG. 11: Air Hose Connection Locations**

## Air Purge



Prior to using equipment, purge chemical system of air and test oil residual from functional testing at factory.

1. Turn on main air supply to transfer pumps and drums/day tanks.
2. Open A- and B-inlet supply valves. Check for chemical leaks.
3. Adjust air cylinder pressure regulator clockwise until pumps begin to move (approximately 15-psi air pressure).
4. Hold coupling clock with A- and B- ports over separate containers and open both manual valves. Allow material to flow out of coupling block until spitting of

air stops and all traces of residual material have disappeared, leaving a solid flow of each material.



Properly dispose of waste chemicals in accordance with applicable local, state, and federal codes.

5. Slowly increase hydraulic pressure and check all fittings for signs of hydraulic chemical leaks. Tighten fittings as required.
6. Close both manual valves and wipe off any residual material from outside of coupling block.
7. Mount spray gun to coupling block. (See Spray Gun Operation Manual.)



After proportioning unit is at operating pressure and hose connections are tight and free of leaks, use duct tape to wrap hoses and electrical wires around rubber isolators forming a compact bundle. If using a scuff jacket, pull it over bundle and secure with duct tape.

# Operation

## Daily Start-up Procedure



1. Check condition of isocyanate lubrication systems and service as required. Change pump lubricant when it shows signs of color change.
2. Adjust pump packings, if required. The packing nuts are adjustable and will require tightening when the pump lubricant is changed.
3. Ensure supply system is at correct temperature as recommended by chemical system supplier. Also ensure individual chemicals are correctly mixed within their drums/day tanks, and moisture protection system is properly set for operation.
4. Check inlet screens and service as required.
5. Turn on main air supply to transfer pumps (and spray unit), or on units equipped with day tanks adjust air pressure to 60 psi.
6. Open A- and B-inlet supply valves.
7. Set air cylinder pressure regulator as required.
8. Switch ON main power disconnect switch.
9. Uncoil heated hose assemblies.

### CAUTION

Uncoil heated hoses before turning on hose heater switch to prevent overheating and hot spots within hose.

10. Turn hose heat power control fully clockwise.
11. Switch ON hose heat circuit breaker. Amber pilot light should be on.



To ensure personal safety, closely monitor hose temperature during operation of hose heat system. Hose temperature, as indicated by a properly installed hose thermometer (see **Heated Hose Installation**, page 12), cannot exceed 170° F (76° C).

12. Adjust hose heater power control clockwise until ammeter reads 15 amps. Do not exceed 15 amps.
13. Using a clamp style ammeter on hose lead, set hose current to 35-40 amps for optimum temperature control. Do not exceed 50 amps.
14. Check hose thermometer for proper spray temperature and readjust power control as necessary to maintain temperature.
15. Switch ON primary heater circuit breaker. Amber pilot light should be on.
16. Set heater thermostat to desired temperature (clockwise to increase, counterclockwise to decrease) and allow heater to stabilize.
17. Adjust air pressure regulator as required.
18. Connect air to gun, open manual valves, and test spray while observing chemical pressure gauges on both the up and down strokes. Readjust regulator as required.

The unit is now ready for operation.

## Daily Shutdown Procedure

1. Turn hose heater power control fully counterclockwise.
2. Switch OFF hose heater and primary heater circuit breakers if equipped.
3. Disconnect air from transfer pumps, or on units with day tanks bleed off all air in system.
4. Adjust air cylinder pressure regulator counterclockwise to zero or to its minimum pressure setting.
5. Switch OFF main power disconnect) if equipped.
6. Trigger spray gun off target until isocyanate and resin gauges read zero. Close both manual valves on gun.
7. Turn OFF both inlet supply valves.
8. Remove hose thermometer from hose if equipped.
9. Coil and store or secure heated hose in manner that prevents damage.
10. Turn OFF main air supply to transfer pumps.
11. Shut down and store chemical supply as required.
12. Shut down and service spray gun as required. See Spray Gun Operation Manual.



## Technical Data

Maximum working pressure . . . . .	1600 psi (11.0 MPa, 110 bar)
Maximum fluid temperature . . . . .	190°F (88°C)
Maximum output (may vary due to operating conditions) . . . . .	16 lb/min (7.25 kg/min)
Viscosity range . . . . .	250-1500 centipoise
Maximum material inlet pressure . . . . .	400 psi (2.7 MPa, 27 bar)
Voltage requirement +/- 10% . . . . .	230V, 60 Hz
Amperage requirement . . . . .	30 Amps
Total heater watts . . . . .	5000 W
Inlet filter size . . . . .	80 mesh standard (optional - 60/40 mesh)
Component B (resin) inlet . . . . .	3/4 npt(f)
Component A (isocyanate) inlet . . . . .	1/2 npt(f)
Maximum heated hose length . . . . .	310 ft. (95 m)
Height . . . . .	50 in. (127 cm)
Width . . . . .	41 in. (104 cm)
Depth . . . . .	28 in. (71 cm)
Weight . . . . .	225 lbs. (102 kg)
Wetted parts . . . . .	Carbon steel, stainless steel, chrome, aluminum, Fluoroelastomer, PTFE, nylon

# 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

**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.  
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