

***X*TREME™ Mix 185**

310665 rev.D

Plural Component Proportioner

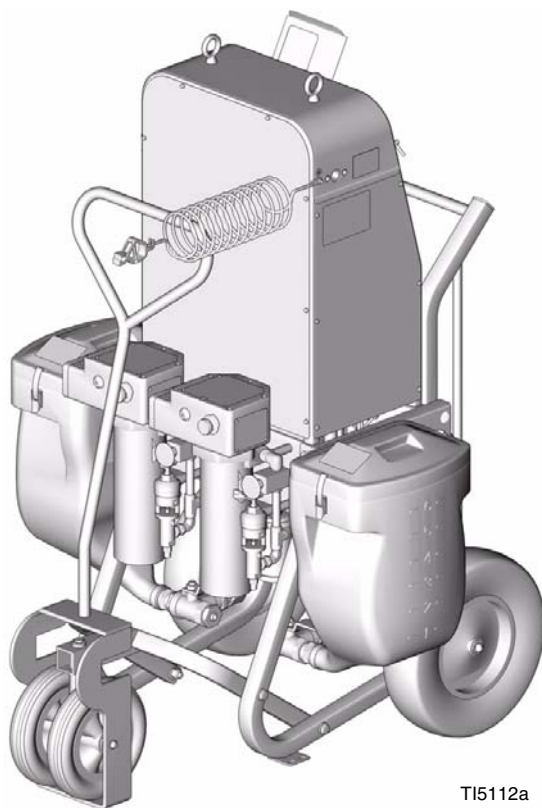


Read warnings and instructions.

See page 3 for model information, including maximum working pressure and approvals.

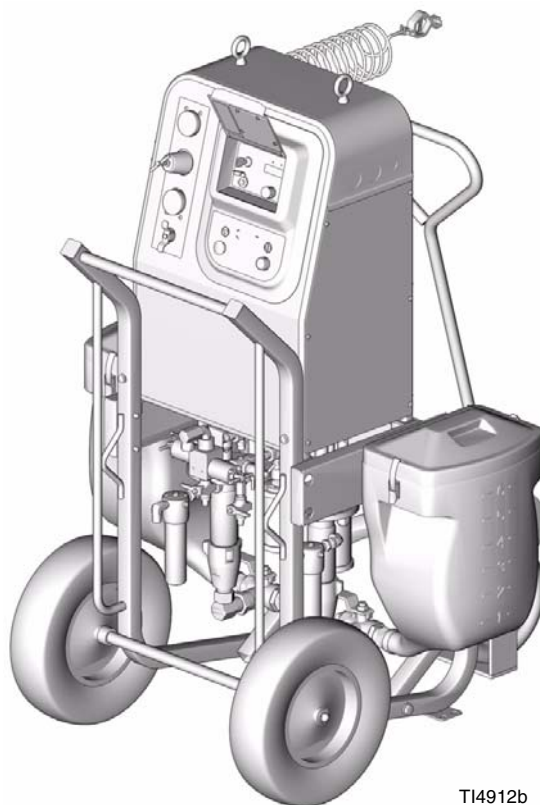
United States, Patent No. 6,896,152

Heated Units



TI5112a

Non-heated Units




TI4912b


PROVEN QUALITY. LEADING TECHNOLOGY.

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Manual Conventions

 **WARNING**




WARNING: a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION: a potentially hazardous situation which, if not avoided, may result in property damage or destruction of equipment.

Note:

 Additional helpful information.

Warnings in the instruction sections (such as “Installation”) generally include a symbol indicating the hazard. Follow the instructions and read the hazard section on the general warning pages 5-6 for additional information.

Example:

 **WARNING**





Your system must be grounded. Read warnings, page 5 and follow instructions below.









Xtreme Mix 185 Models





WARNING



Do not install equipment approved only for non-hazardous location in a hazardous area. Substitution of components may impair intrinsic safety and cause personal injury. Read page 5.

Approved for Hazardous Location Class I, Div 1, Group D (North America); Class I, Zones 1 and 2 (Europe)				
Non-heated Units				
Xtreme Mix 185 Part No.	Series	Description	Maximum Working Pressure psi (MPa, bar)	Approvals
234614	A	Wall mount, HydraMix 700 carbon steel Pumps, with hose and gun	4700 (32, 324)	<div> APPROVED Conforms to FM std 3600 & 3610 for use in Class I Div 1 Group D T3 Hazardous Locations</div> <div> II 2 G ISSeP 04 ATEX 020X EEx ia p IIA T3  CAN/CSA 22.2 No. 157-92 & No. 1010.1-92</div>
234616	A	Cart mount, HydraMix 700 carbon steel Pumps, with hose and gun	4700 (32, 324)	
Heated Units				
234838	A	Cart mount, HydraMix 700 carbon steel Pumps, 240V Heaters (16.2 A each, 32.4 A total), with hose and gun	4700 (32, 324)	<div> APPROVED Conforms to FM std 3600 & 3610 for use in Class I Div 1 Group D T2 Hazardous Locations</div> <div> II 2 G ISSeP04ATEX098X EEx ia p d IIA T2  CAN/CSA 22.2 No. 157-92 & No. 1010.1-92</div>
234840	A	Cart mount, HydraMix 700 carbon steel Pumps, 480V Heaters (8.3 A each, 16.6 A total), with hose and gun	4700 (32, 324)	

Continued on page 4.

Approved for Non-hazardous Location				
234615	A	Wall mount, HydraMix 700 carbon steel Pumps, Non-heated, with hose and gun	4700 (32, 324)	 Conforms to UL std 61010A-1 CSA std C22.2 No. 1010.1-92 
234617	A	Cart mount, HydraMix 700 carbon steel Pumps, Non-heated, with hose and gun	4700 (32, 324)	
234839	A	Cart mount, HydraMix 700 carbon steel Pumps, 240V Heaters (16.2 A each, 32.4 A total), with hose and gun	4700 (32, 324)	
234841	A	Cart mount, HydraMix 700 carbon steel Pumps, 480V Heaters (8.3 A each, 16.6 A total), with hose and gun	4700 (32, 324)	

Related Manuals

Component Manuals in English





Manual	Description
310665	Xtreme Mix 185 Operation
310666	Xtreme Mix 185 Repair-Parts
310654	Fluid Mix Manifold
310655	Dispense Valve
310662	Displacement Pumps
310672	HydraMix Pumps
310673	Circulation Kits
310675	AC Power Supply
310676	Remote Manifold Kit
310677	Heater Installation Kit
310678	TSL Pump Kits
309192	ISO Supply Kit
312145	XTR™ Airless Spray Gun
309524	VISCON HP Heater
309623	Data Download Kits
308034	Turbine Alternator Repair Kit







This manual available in the following languages:

Manual	Language
310665	English
310701	French
310703	Spanish
310705	German
310707	Korean
310709	Chinese
310711	Japanese

Warnings

The following warnings include general safety information for this equipment. More specific warnings are included in the text where applicable.

 WARNING	
	<p>FIRE AND EXPLOSION HAZARD</p> <p>Flammable fumes, such as solvent and paint fumes, in work area can ignite or explode. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> • Use equipment only in well ventilated area. • Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc). • Keep work area free of debris, including solvent, rags and gasoline. • Do not plug or unplug power cords or turn lights on or off when flammable fumes are present. • Ground equipment and conductive objects in work area. See Setup instructions. • Use only grounded hoses. • Hold gun firmly to side of grounded pail when triggering into pail. • If there is static sparking or you feel a shock, stop operation immediately. Do not use equipment until you identify and correct the problem.
	<p>SKIN INJECTION HAZARD</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. Get immediate surgical treatment.</p> <ul style="list-style-type: none"> • Do not point gun at anyone or at any part of the body. • Do not put your hand over the spray tip. • Do not stop or deflect leaks with your hand, body, glove, or rag. • Do not spray without tip guard and trigger guard installed. • Engage trigger lock when not spraying. • Follow Pressure Relief Procedure in this manual, when you stop spraying and before cleaning, checking, or servicing equipment.
	<p>MOVING PARTS HAZARD</p> <p>Moving parts can pinch or amputate fingers and other body parts.</p> <ul style="list-style-type: none"> • Keep clear of moving parts. • Do not operate equipment with protective guards or covers removed. • Pressurized equipment can start without warning. Before checking, moving, or servicing equipment, follow the Pressure Relief Procedure in this manual. Disconnect power or air supply.

 WARNING	
	<p>EQUIPMENT MISUSE HAZARD</p> <p>Misuse can cause death or serious injury.</p> <ul style="list-style-type: none"> • Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See Technical Data in all equipment manuals. • Use fluids and solvents that are compatible with equipment wetted parts. See Technical Data in all equipment manuals. Read fluid and solvent manufacturer's warnings. • Check equipment daily. Repair or replace worn or damaged parts immediately. • Do not alter or modify equipment. • For professional use only. • Use equipment only for its intended purpose. Call your Graco distributor for information. • Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces. • Do not use hoses to pull equipment. • Comply with all applicable safety regulations.
	<p>TOXIC FLUID OR FUMES HAZARD</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"> • Read MSDS's to know the specific hazards of the fluids you are using. • Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.
	<p>BURN HAZARD</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>
	<p>PERSONAL PROTECTIVE EQUIPMENT</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"> • Protective eyewear • Clothing and respirator as recommended by the fluid and solvent manufacturer • Gloves • Hearing protection
	<p>RECOIL HAZARD</p> <p>Brace yourself; gun may recoil when triggered and cause you to fall, which could cause serious injury.</p>

Overview

Usage









The Xtreme Mix 185 can mix most two-component paints. It is not for use with “quick-setting” paints (those with a pot life of less than 5 minutes) without modification. Contact your distributor for information.

The Xtreme Mix 185 is operated with the User Interface, Air Controls and Fluid Controls, described below and on page 8. Refer to FIG. 1 and FIG. 4.

User Interface

The User Interface has 6 main interfaces.

1. Function Knob to select desired function:

Icon	Function
	<i>Spray</i> : proportion and spray material.
	<i>Run A</i> : operate A independent of B (priming, flushing) for 12 cycles.
	<i>Run B</i> : operate B independent of A (priming, flushing) for 12 cycles.
	<i>Batch Dispense</i> : dispense proportioned amounts of A and B (1 pint/500 cc).
	<i>Pump Test</i> : dispense predetermined amount of A and B to verify pump operation.
	<i>Recirculation</i> : circulate fluid A and/or B up to the mix manifold.
	<i>Pot Life Timer</i> : display potlife time left.
	<i>Pressure Relief/Park</i> : allows pressure relief and runs pumps to the bottom of stroke. See page 14.



- System totalizers count in Spray and Batch Dispense functions only.
- A and B Indicators (LT) show which dispense valve(s) is open.

2. Start button  to initiate functions.

3. Stop button  to terminate functions.

- 4. Key switch** to change ratio, pot life time, pot life volume, or calibration data.
- 5. Display** (five digits) to view:
 - Software revision level at startup
 - Ratio
 - Pot life time and reset volume
 - Alarm codes
 - Sensor calibration factor.
- 6. Data port** allows for connection to a PC serial port to download volume totalizer, operation, ratio setting, and error alarm data, and to change internal settings.


WARNING

To avoid impairing intrinsic safety and reduce the risk of fire and explosion, the PC must be in a non-hazardous location and a safety barrier must be installed between the PC and Xtreme Mix 185 unit. See Xtreme Mix 185 data download manual 309623.



FIG. 1. User Interface

 You must recalibrate the circuit board whenever the main circuit board, software, or sensor is replaced, or when Alarm 8 occurs. See **Recalibrate System**, page 32.

Installation

The Typical Installation shown in FIG. 2 is not an actual system design. Contact your Graco distributor for assistance in designing your system. Be sure all accessories are adequately sized and pressure-rated to meet system requirements.

Reference numbers and letters in the text refer to numbers and letters in the figures.

Icons in the text refer to icons on the User Interface.

Wall Mounting

Part Nos. 234614 and 234615 are wall mount units.

1. Ensure that the wall and mounting hardware are strong enough to support the weight of the equipment, fluid, hoses, and stress caused during operation.
2. Using the equipment as a template, mark the mounting holes on the wall at a convenient height for the operator and so equipment is easily accessible for maintenance. Ensure that the equipment is level. See **Wall Mounting Diagram**, page 37.
3. Drill mounting holes in the wall. Install anchors as needed.
4. Bolt equipment securely to the wall.

Heated Units

Part Nos. 234838, 234839, 234840, and 234841 include two VISCON HP Fluid Heaters.

1. Ensure that the electrical power supply meets the following requirements.

Xtreme Mix 185 Part No.	Heater Voltage	Heater Amperage
234838	240V	16.2 A each, 32.4 A total
234839	240V	16.2 A each, 32.4 A total
234840	480V	8.3 A each, 16.6 A total
234841	480V	8.3 A each, 16.6 A total

2. Read and follow all heater wiring instructions in the heater manual, 309524.

Air Controls

See FIG. 2.

- **Bleed-type main air shutoff valve (D)**, to shutoff all air to Xtreme Mix 185 (including controller power).
- **Supply air pressure gauge (E)**, to monitor air pressure to Xtreme Mix 185.



A minimum air pressure supply of 70 psi (483 kPa, 4.8 bar) must be maintained for the Xtreme Mix 185 to operate properly.

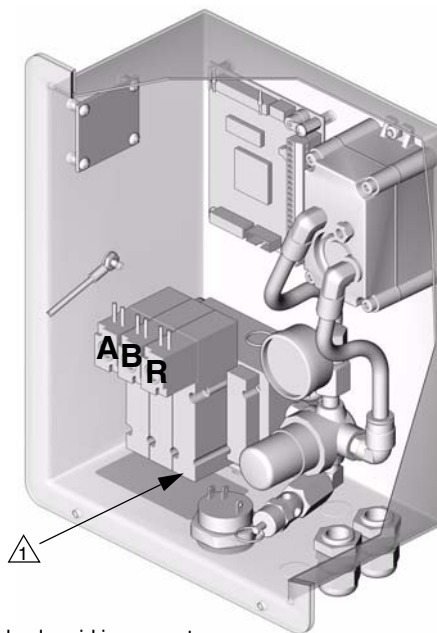
- **Pump air pressure regulator (F) with gauge (G)**, to adjust and monitor pump air pressure.

Solenoid Module

There are two solenoids inside the pneumatic control box, one to actuate dispense valve A, one to actuate dispense valve B.



Heated units include a third solenoid (R), for the circulation valves.



Third solenoid is present on heated units only.

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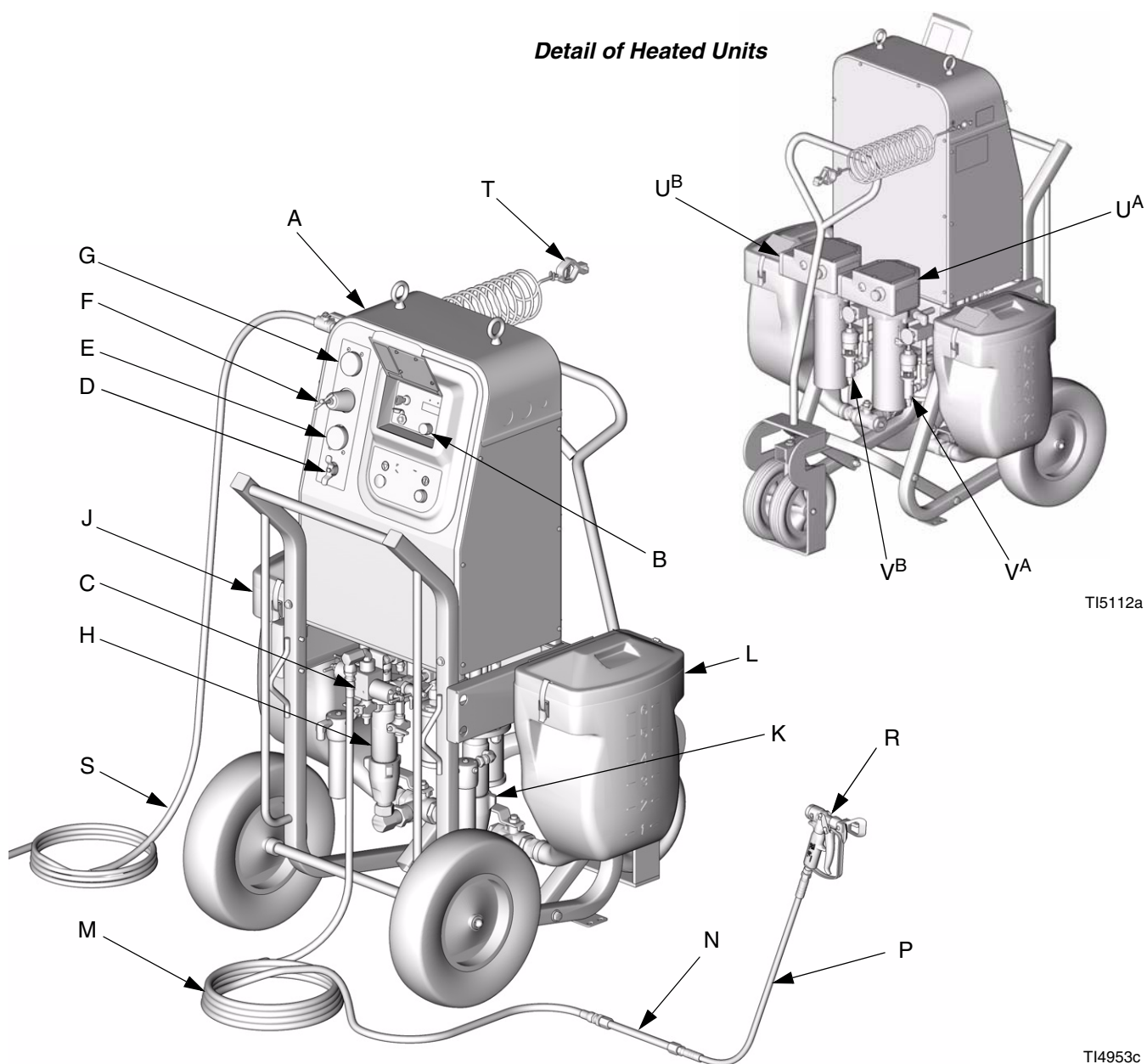


FIG. 2. Typical Installation

Key for FIG. 2

- A Xtreme Mix 185 Plural Component Proportioner
- B User Interface (see page 7)
- C Mix Manifold
- D Bleed-Type Main Air Shutoff Valve
- E Air Supply Pressure Gauge
- F Pump Air Regulator
- G Pump Air Pressure Gauge
- H Component A Pump
- J Component A Fluid Supply

- K Component B Pump
- L Component B Fluid Supply
- M Gun Fluid Hose
- N Static Mixer
- P Fluid Whip Hose
- R Airless Spray Gun
- S Proportioner Air Supply Line
- T Ground Wire
- U Fluid Heaters (heated units only)
- V Circulation Valves (heated units only)

Fluid Controls

The Xtreme Mix 185 mix manifold includes the following fluid controls. See manual 310654 for complete information about the mix manifold. See FIG. 4.

- **Dispense valves (F^A , F^B)** dispense component A and component B. Solenoids A and B turn the dispense valves ON and OFF.
- **Shutoff valves (G^A , G^B)** shutoff fluid A or B from entering the fluid manifold.
- **Sampling valves (H^A , H^B)**, to batch dispense or test pumps/meters.
- **Solvent purge valves (J^A , J^B)** allow solvent to enter the fluid manifold.
- **Circulation valves (V^A , V^B)** circulate component A and component B back to the supply containers. Solenoid R turns the valves ON and OFF. Included with heated units. See FIG. 2 detail.

Component A Dispense

Solenoid A opens dispense valve A. The correct dose of component A flows into the mix manifold. Solenoid A closes dispense valve A. See FIG. 4.

Component B Dispense

Solenoid B opens dispense valve B. The correct dose of component B flows into the mix manifold. Solenoid B closes dispense valve B. Components A and B are mixed in the 50 ft (15.2 m) fluid hose (M), then uniformly blended in the static mixer (N).

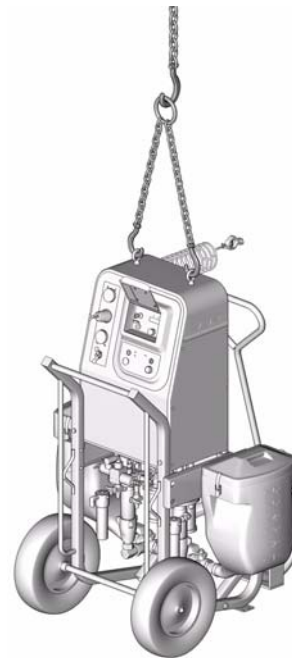
Proper Lifting of Unit

WARNING



Follow instructions below to avoid dropping or swinging unit or being struck by the cart handle, which can cause serious injury or damage to equipment.

Either remove the cart handle or secure it to the cart before lifting the unit. Connect a bridle swing, hooking an end to each of the Xtreme Mix 185 lift rings. Hook the center ring on a hoist. See FIG. 3. Carefully lift the Xtreme Mix 185 unit; make sure it balances evenly.



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FIG. 3

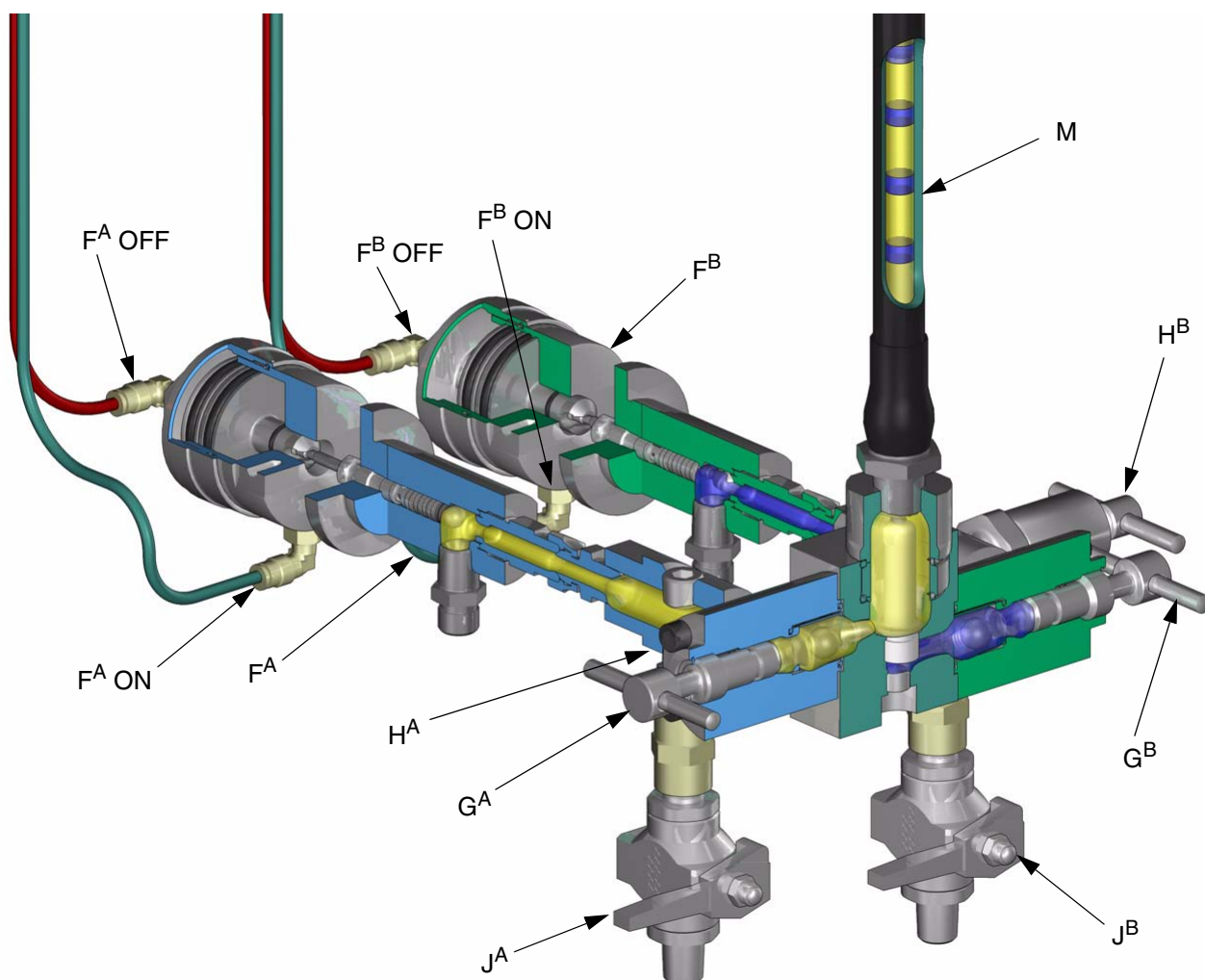


FIG. 4. Fluid Mix Manifold

Setup

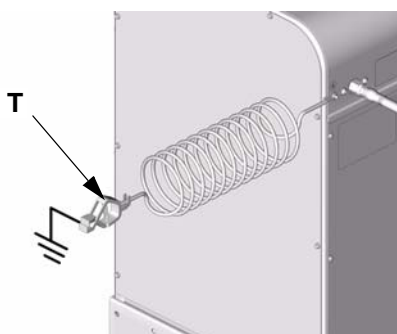


WARNING



Do not install equipment approved only for non-hazardous location in a hazardous area. Substitution of components may impair intrinsic safety and cause personal injury. Read warnings, page 5. Ground equipment as instructed below.

1. Connect Xtreme Mix 185 ground wire (T) to a true earth ground.

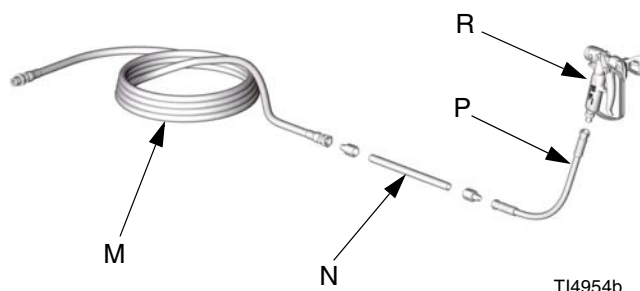


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2. The 50 ft. (15 m) fluid hose (M), static mixer (N), and whip hose (P) come assembled. Note the order of connection.

CAUTION

Do not assemble static mixer (N) directly to fluid manifold. Install static mixer after first 50 ft. (15 m) of hose to ensure material is completely mixed. Spraying unmixed material could necessitate rework of part sprayed.



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3. Connect the fluid hose (M) to the fluid manifold outlet. Do not install gun spray tip yet.
4. Tighten all fittings on unit.
5. Fill pump A and B packing nuts with throat seal liquid (TSL).



6. Connect air supply line (S) to air inlet.





Air supply requirement: 110 psi (0.8 MPa, 8 bar) maximum, 70 psi (483 kPa, 4.8 bar) minimum.

Flow volume required: 20 scfm minimum; 125 scfm maximum.


7. Set air regulator to 0.



8. Open main air shutoff valve. When starting up, display will show “88888”, then software revision, then current ratio (if set to  or ).



9. Setup ratio.

- Turn function knob to .
- Current ratio displays.
- To change ratio, turn key to + or – until desired ratio is displayed, then turn key back to neutral.



10. Flush and prime system. See pages 16 and 22. Run **Pump Test**, page 24 to check ratio accuracy.

Pressure Relief Procedure



WARNING



Relieve pressure from fluid manifold to gun whenever you stop spraying and before servicing gun or removing spray tip.

In addition, relieve pressure from pump to fluid manifold at end of day and before cleaning, checking, or servicing pump, manifold, or fluid line accessories or transporting equipment.

Read warnings, page 5.

Fluid Manifold to Gun

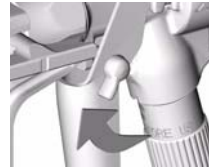
1. Engage trigger lock.



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2. Press .

3. Disengage trigger lock.



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4. Hold a metal part of the gun firmly to a grounded metal pail. Trigger gun to relieve pressure.



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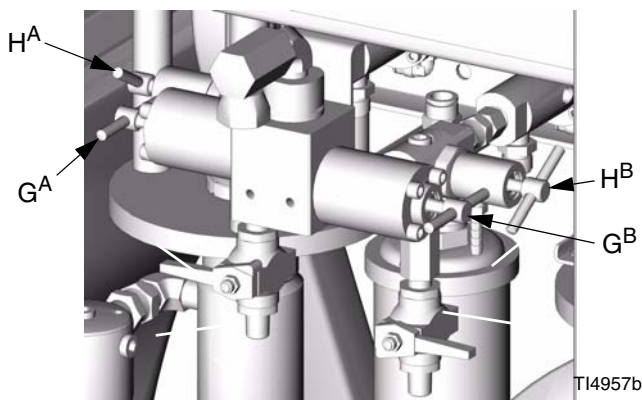
5. Engage trigger lock.



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Pump to Fluid Manifold

1. Close shutoff valves G^A and G^B .
2. Place waste container under sampling valves H^A and H^B .



3. Turn function knob to pressure relief/park



4. Press . Indicator A comes on, and Pump A pressurizes.

5. Open sampling valve A slowly to bleed off pressure. Indicator A will stay on for 5 sec after Pump A reaches Park position, then go off.

Pump air supply pressure must be sufficient to cause pumps to stroke to bottom-most position when function knob to is set to pressure relief/park



6. Indicator B comes on and Pump B pressurizes.
7. Open sampling valve B slowly to bleed off pressure. Indicator B will stay on for 5 sec after Pump B reaches Park position, then go off.



If both pumps are not parked after 1 min, Alarm 26 will sound.

8. Close sampling valves A and B before restarting system.

Flushing

There are times when you only want to flush the fluid manifold, such as:

- breaks in spraying
- overnight shutdown
- end of potlife

In this manual, that procedure is referred to as **Fluid Manifold Flushing**. You can flush the fluid manifold by connecting a solvent pump to the fluid manifold.

Other times, you need to flush the entire system:

- first time material is loaded into equipment*
- color change
- servicing
- shutting down equipment for more than 3-1/2 hours (depends on material)
- putting equipment into storage

* Some **Full System Flushing** steps are not necessary for initial flushing, as no material has been loaded into the system yet.

To flush the entire system, you first follow the **Fluid Manifold Flushing** procedure, at right, then the **Full System Flushing** procedure, page 20.

⚠ WARNING





Read warnings, page 5.

- Use the lowest possible pressure when flushing to avoid splashing.
- Before color change or shutdown for storage, flush at a higher flow rate and for a longer time.
- A circulation setting is available. Consult your distributor. Refer to page 30.

Fluid Manifold Flushing

Using Solvent Pump

1. Follow **Pressure Relief Procedure**, page 14. Engage trigger lock. Remove spray tip.

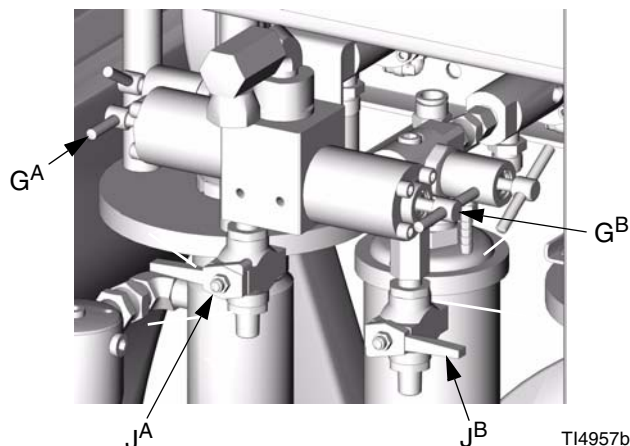


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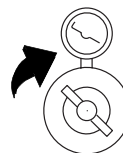
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2. Ensure that shutoff valves G^A and G^B are open. Connect solvent pump line to solvent purge valve J^A and J^B . Turn on solvent pump and open solvent purge valve J^A .

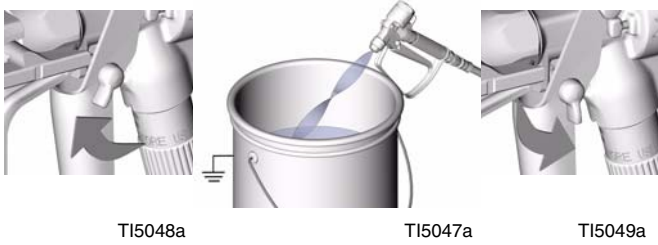


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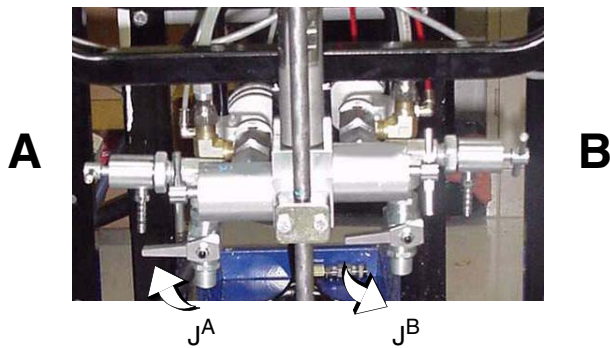
3. Adjust solvent pump regulator to desired pressure; use lowest pressure possible.



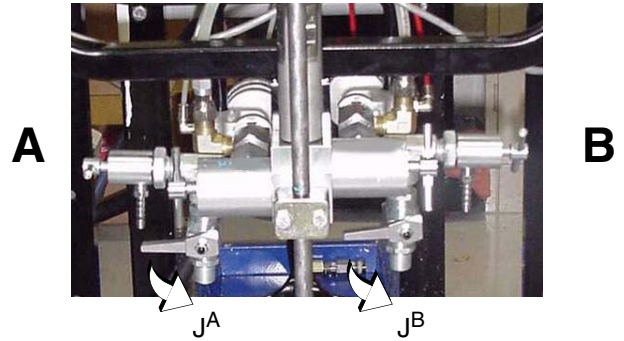
4. Disengage trigger lock and trigger gun into a grounded pail. Flush out about 1 pint (500 cc) of mixed material. Engage trigger lock.



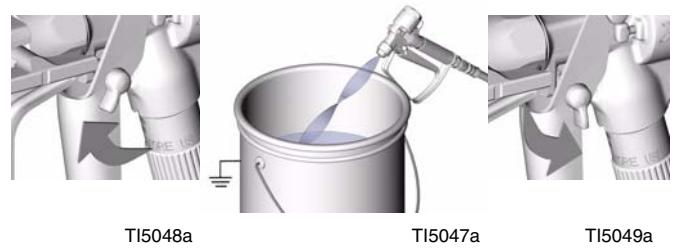
5. Close solvent purge valve J^A.
6. Open solvent purge valve J^B. Flush out about 1 pint (500 cc) of mixed material. Engage trigger lock.



7. Re-open solvent purge valve J^A.



8. Disengage trigger lock, and flush through gun until clean solvent flows. Engage trigger lock.




9. Close solvent purge valves J^A and J^B.
10. Trigger gun to relieve solvent pressure. Engage trigger lock.



Handwriting practice lines consisting of multiple horizontal lines for writing.

Using Solvent Siphon Tube

1. Press . Follow **Pressure Relief Procedure**, page 14. Engage trigger lock. Remove spray tip.

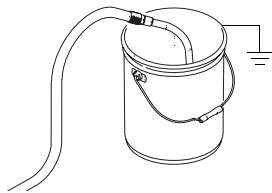


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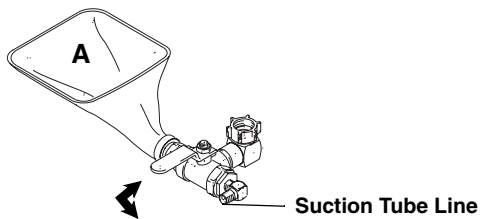


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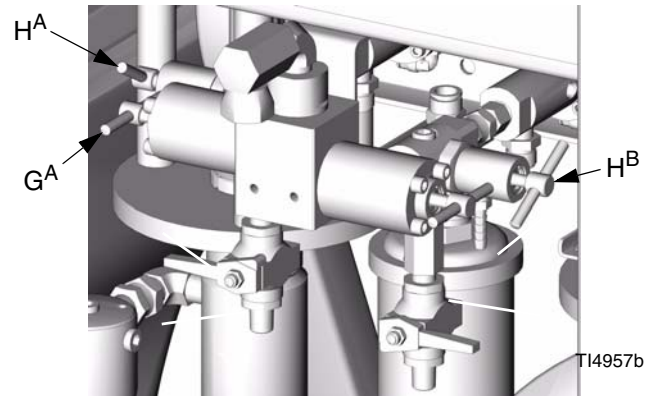
2. Connect fluid hose with solvent siphon tube to pump A 3-way ball valve. Put solvent siphon tube into a grounded solvent pail.





3. Turn pump A 3-way ball valve to open suction tube line, as shown below. Arrow on handle shows direction of flow.

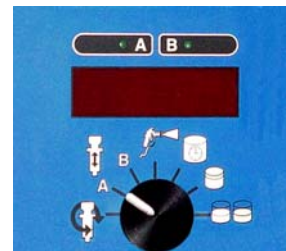


4. Open main air shutoff valve. Open fluid shutoff valve G^A. Close sampling valves H^A and H^B.



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5. Turn function knob to A . Press . Turn up air regulator slowly until pump A starts.



6. Disengage trigger lock and trigger gun into a grounded pail until clean solvent dispenses. Engage trigger lock.




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7. Press  to turn off proportioner.
8. Follow **Pressure Relief Procedure**, page 14.

Full System Flushing

1. Follow **Pressure Relief Procedure**, page 14. Engage trigger lock. Set air regulator to 0, and close main air shutoff valve. Remove spray tip and soak in solvent.





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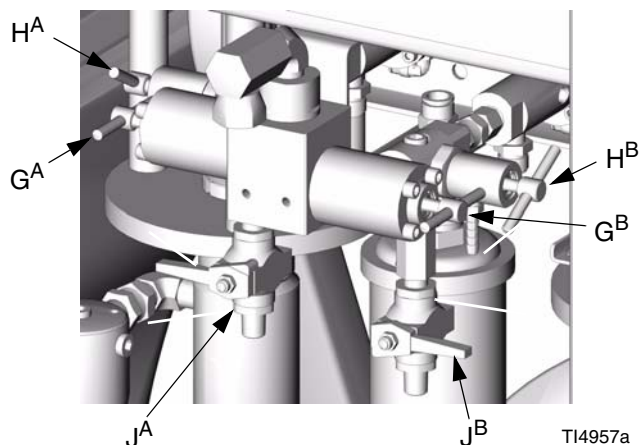


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2. Replace component A and B supply with solvent.
3. Set air regulator to 50 psi (345 kPa, 3.4 bar).


4. Turn function knob to A  Press .


5. Ensure shutoff valve G^A is open. Open sampling valve H^A slowly. Pump A will run for 12 cycles, then stop. Restart as needed. When clean solvent flows from sampling valve H^A , close valve.



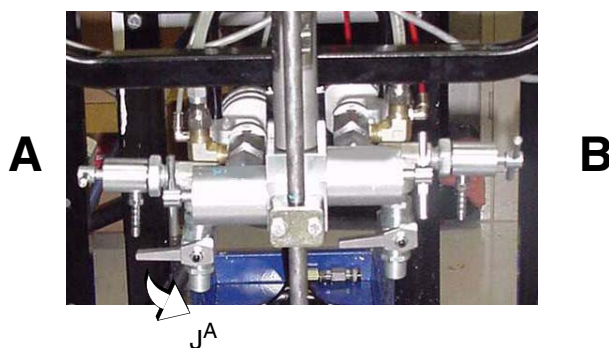
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6. Trigger gun into grounded pail. Dispense about 1 pint (500 cc) of material, then press .

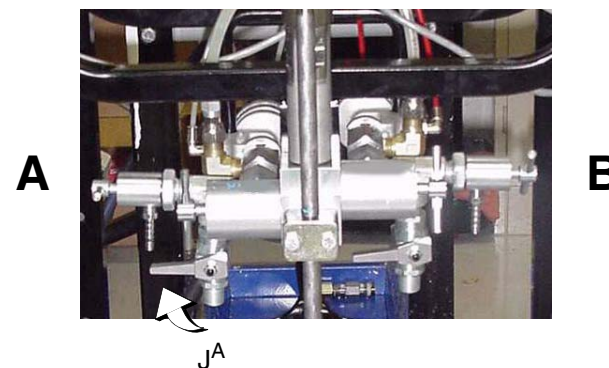
 If the pump does not start when you trigger the gun, increase the air pressure by 10 psi (69 kPa, 0.7 bar) increments; to avoid splashing, do not exceed 70 psi (483 kPa, 4.8 bar). If the pump still does not start, the solvent may have caused your packings to swell and it is recommended you use Tuff Stack™ Packing Kit.



7. Open solvent purge valve J^A . Turn on solvent pump.



8. Trigger gun into a grounded pail. Dispense about 1 quart (1000 cc) of material.


9. Close solvent purge valve J^A .



10. Turn function knob to B . Press .

11. Ensure shutoff valve G^B is open. Open sampling valve H^B slowly. Pump B will run for 12 cycles, then stop. Restart as needed. When clean solvent flows from sampling valve H^B , close valve.

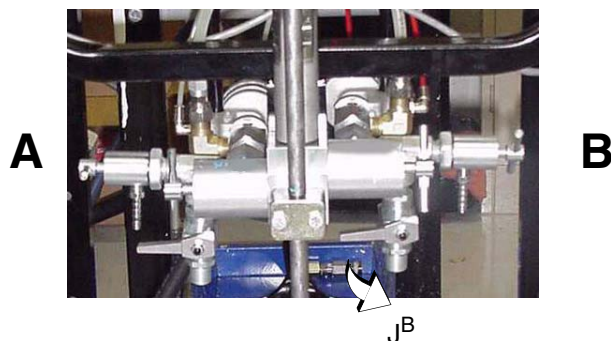


12. Trigger gun into grounded pail. Dispense about 1 pint (500 cc) of material, then press .



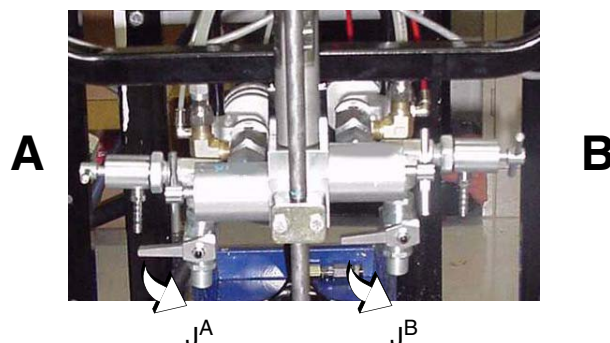
If the pump does not start when you trigger the gun, increase the air pressure by 10 psi (69 kPa, 0.7 bar) increments; to avoid splashing, do not exceed 70 psi (483 kPa, 4.8 bar). If the pump still does not start, the solvent may have caused your packings to swell and it is recommended you use Tuff Stack™ Packing Kit.

13. Open solvent purge valve J^B . Turn on solvent pump.

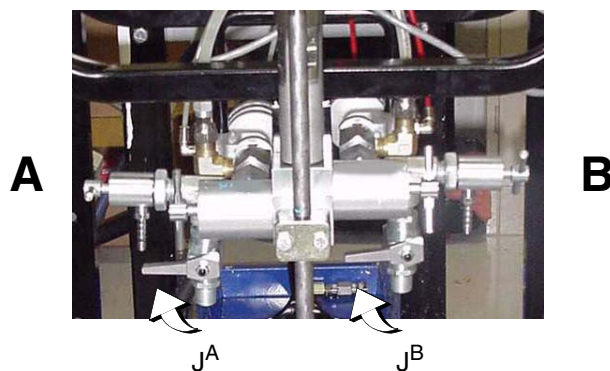


14. Trigger gun into a grounded pail. Dispense about 1 quart (1000 cc) of material.

15. Open solvent purge valve J^A . Trigger gun into grounded pail and flush until clean solvent flows from gun.



16. Close solvent purge valves J^A and J^B .



17. Follow **Pressure Relief Procedure**, page 14, and remove gun from hose. See gun manual to further clean gun.



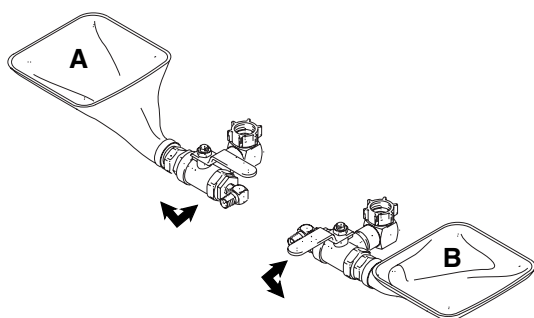
Some materials require additional cleaning. You may need to circulate solvent through the system.

Priming



Do not install the gun spray tip yet. Use the lowest possible pressure while priming, to avoid splashing.

1. Fill A (blue) and B (green) fluid reservoirs with proper materials.
2. Turn both 3-way ball valves to open reservoir lines, as shown below. Arrow on handle shows direction of flow.



3. Set air regulator to 0.





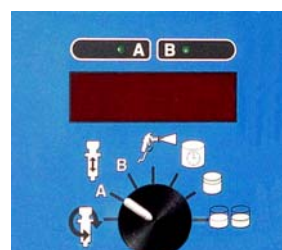
4. Close fluid shutoff valves G^A and G^B .






5. Place a container under each sampling valve. Open sampling valve H^A slowly.





6. Turn function knob to A . Press . Turn up air regulator slowly until pump A starts.

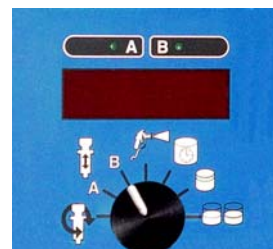



When run independently (set to A or B), the pump runs for 12 cycles, then stops. Press  and  as needed to prime. Monitor containers to avoid overflowing.

7. When side A is primed, set air regulator to 0. Press . Close sampling valve H^A . Open sampling valve H^B slowly.



8. Turn function knob to B . Press . Turn up air regulator slowly until pump B starts.



9. When side B is primed, press . Close sampling valve H^B .
10. Flush sampling valves H^A and H^B with solvent. Open solvent purge valves J^A and J^B . Turn on solvent pump. Open sampling valve H^A until clean solvent flows from valve. Close valve H^A and open valve H^B until clean solvent flows from valve. Close valve H^B .

Pump Test


Follow this procedure the first time system is operated (after flushing and priming) and whenever you need to check whether pumps are on ratio.

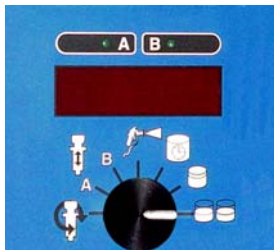
The following table shows the volume dispensed during the pump test, based on pump ratio. Dispense into a container with adequate graduations.

Pump	Volume Dispensed/5 cycles
HydraMix	460 cc




For accurate ratios, pump lowers must be same size on both sides.

1. Turn function knob to . Set air regulator to 0. Open main air shutoff valve. Adjust air pressure to 50 psi (0.35 MPa, 3.5 bar).



2. Dispense fluid A:

- a. Close fluid shutoff valves (G^A and G^B) and sampling valves (H^A and H^B).
- b. Place a clean 1 quart (1000 cc) container under sampling valve H^A .

- c. Press . Indicator A comes on.

- d. Slowly open and adjust sampling valve H^A to achieve desired flow. The pump stops automatically after 5 cycles. During the last cycle the pump will stop once on the upstroke and once on the downstroke to perform a pump stall test. Indicator A turns off, indicator B comes on.



3. Close sampling valve H^A .

4. Dispense fluid B as follows:
 - a. Place a clean 1 quart (1000 cc) container under sampling valve H^B.
 - b. Slowly open and adjust sampling valve H^B to achieve desired flow. The pump stops automatically after 5 cycles. Indicator B turns off.



5. Close sampling valve H^B.
6. Compare fluid amounts in the containers; they should be about equal. Repeat test if fluids are not equal. If problem persists, see Troubleshooting in Xtreme Mix 185 Repair Manual.



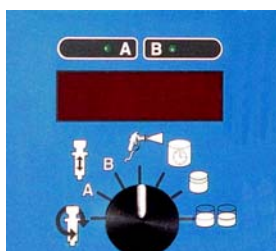
If pump fails any of pump stall tests, alarm will display (see alarms 15-20, page 34).

Spraying

1. If heaters are used, turn them on. Operate heaters as instructed in their manual 309524.
2. Close sampling valves H^A and H^B. Open shutoff valves G^A and G^B.



3. Turn function knob to . Press .



4. Trigger gun into a pail and slowly increase air regulator pressure until pump is running and consistently mixed material is dispensed.



TI5047a

5. Engage trigger lock. Press .



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6. Follow **Pressure Relief Procedure**, page 14.

7. Engage trigger lock. Install tip on gun.



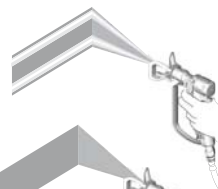
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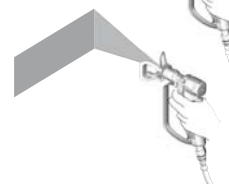
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8. Adjust air regulator to the necessary spraying pressure. Press to proportion and spray.

Bad pattern



Good pattern



9. Follow **Fluid Manifold Flushing**, page 16, or **Shut-down**, page 31, when you are done spraying or before potlife expires.




Mixed material potlife or working time decreases with increased temperature.

Mix and Integration Tests

Use the following tests to check for proper mix and integration.

Butterfly Test

**WARNING**



Follow **Pressure Relief Procedure**, page 14, before removing spray tip. Read warnings, page 5.

At low pressure, normal flow rate, and without a spray tip installed, dispense a 1/2" (12.7 mm) bead of material onto foil until multiple changeovers of each pump have occurred. Place a second sheet of foil over the first then peel it back and look for unmixed material (appears marble-like).

Curing Test

Spray a single continuous pattern on foil at typical pressure setting, flow rate, and tip size until multiple changeovers of each pump have occurred. Trigger and de-trigger at typical intervals for the application. Do not overlap or cross over your spray pattern.

Check curing at various time intervals, listed on the material data sheet. For example, check for dry to touch by running your finger along the test pattern's entire length at the time listed on the data sheet.

Appearance Test


Spray material onto metal substrate. Look for variations in color, gloss, or texture that may indicate improperly catalyzed material.

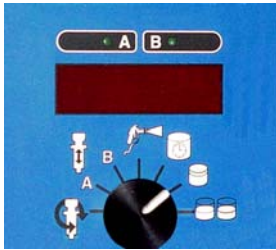
Batch Dispense or Ratio Check




Batch dispense is always 1 pint (500 cc) of total volume, regardless of ratio setting.

Follow this procedure to dispense a batch (into one container) or verify a ratio setting (use separate container for fluid A and B). Dispense into a container with graduations no greater than 5% of each component.

1. Turn function knob to . Set air regulator to 0. Open main air shutoff valve. Adjust air pressure to 50 psi (0.35 MPa, 3.5 bar).



2. Dispense fluid A:
 - a. Close fluid shutoff valves G^A and G^B , and sampling valves H^A and H^B .
 - b. Place a clean 1 quart (1000 cc) container under sampling valve H^A .

- c. Press . Indicator A comes on.

- d. Slowly open and adjust sampling valve H^A to achieve desired flow. The pump stops automatically when dispense is complete. Indicator A turns off, indicator B comes on.



3. Close sampling valve H^A .

4. Dispense fluid B:

- a. *Batch dispense:* move the 1 quart (1000 cc) container under sampling valve H^B .

Ratio check: place clean 1 quart (1000 cc) container under sampling valve H^B .



On higher ratio settings, use a smaller container for more accurate readings.

- b. Slowly open and adjust sampling valve H^B to achieve desired flow. The pump stops automatically when dispense is complete. Indicator B turns off.



5. *Batch dispense:* stir material until mixed.

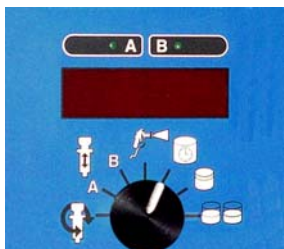
Ratio check: compare A and B fluid dispense.

6. To resume **Spraying**, see page 26.

Pot Life Timer


To Display Pot Life Time Left (in minutes)

Turn the function knob to .




How Pot Life Timer Works

Pot life timer starts to countdown at the start of

Spray  mode. Once the pot life timer is active, it will continue to time down, regardless of which mode the system is in.

When the timer reaches zero, the system closes all dispense valves and a pot life (code 21) alarm occurs (audible alarm sounds). Refer to page 33.

To Change Pot Life Time

Hold down . Turn the key to increase/decrease pot life time (minutes).



Recommend setting pot life time to 1/2 of material pot life.

Approximate Pot Life Volume

Use the following information to determine approximate pot life volume (PLV) in cc:

Hose ID (inches)	Volume* (cc/foot)
3/16	5.43
1/4	9.648
3/8	21.71


Integrator manifold and mixer volume = 75 cc

Spray Gun Volume = 20 cc


$(\text{Hose Volume} \times \text{Feet of Hose}) + 75 + 20 = \text{PLV}$


Pot Life Reset Volume

The timer resets when the total spray volume exceeds the pot life reset volume.

To change reset value, hold down . Turn the key to increase/decrease pot life reset volume (cc).


When an Alarm Occurs

Press  to clear alarm, then flush system (page 16),


or press  and spray until fresh material is loaded into system.

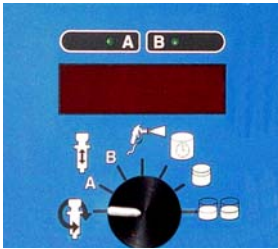
Recirculation Setting

Fluid can be circulated up to the mix manifold with the addition of Graco's Circulation Kit (included on heated units). Consult your distributor.


 During recirculation only the pump runs; A and B dispense valves do not operate. Material pumped in recirculation mode is not counted by the totalizer.


To set the Xtreme Mix 185 to circulate:


1. Decrease the pump air pressure supply to the minimum required to maintain the desired circulation volume.
2. Turn function knob to .



3. Press .

To terminate circulation, press .

To begin circulating again, press .

To begin spraying, turn function knob to , reset system to desired ratio, and adjust pump to spray pressure.

CAUTION

Be sure recirculation valve does not leak material back to fluid supply while spraying.

Shutdown

Follow this procedure before prolonged shutdown or servicing equipment.

1. Follow **Pressure Relief Procedure**, page 14. Engage trigger lock, set air regulator to 0, and close main air shutoff valve. Remove spray tip.



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2. Follow **Flushing**, page 16.
3. Follow **Pressure Relief Procedure**, pages 14 and 15. Engage trigger lock.
4. *Before prolonged shutdown:* cap fluid outlets to keep solvent in the lines. Fill pump A and B packing nuts and dispense valve A and B wet cups with throat seal liquid (TSL).



Recalibrate System

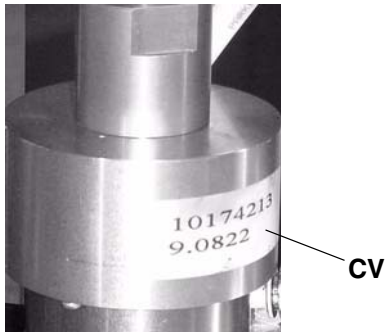
Follow steps 1-9 whenever the main circuit board, software, or sensor is replaced, or when Alarm 8 occurs (refer to page 33). If sensor only needs recalibration, follow steps 7-9.





If data download is used, set date and time after calibrating, using Xtreme Mix 185 software.


Set Pump Calibration Value

1. Note calibration value (CV) on pump sensor.




2. Open main air valve to start unit. Allow time for system to boot up and display ratio setting.

3. Turn function knob to A  or B .

4. Hold down  (continue to hold until calibration value is set in step 6). After 5 seconds, the default calibration value (between 85000 - 95000) displays.

5. Turn key to change default to calibration value noted in step 1 (left to decrease, right to increase).

6. Release  after entering calibration value.


Calibrate Pump Sensor




7. Trigger gun into a pail or open sampling valve H^A or H^B.



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8. Hold down  (continue to hold until told to release). The current calibration value displays.

9. Press . Release  first, then release . The pump will move up (cycle to the board end of sensor) first, then down, and stop. If pump fails to move up and down within 5 sec, Alarm 27 or 28 occurs (see page 33).

Alarms



- An alarm condition will shutdown equipment.
- See Xtreme Mix 185 Repair manual for troubleshooting and repair.

* Indicates error where audible alarm sounds once briefly.

** Indicates error where audible alarm sound pulses.

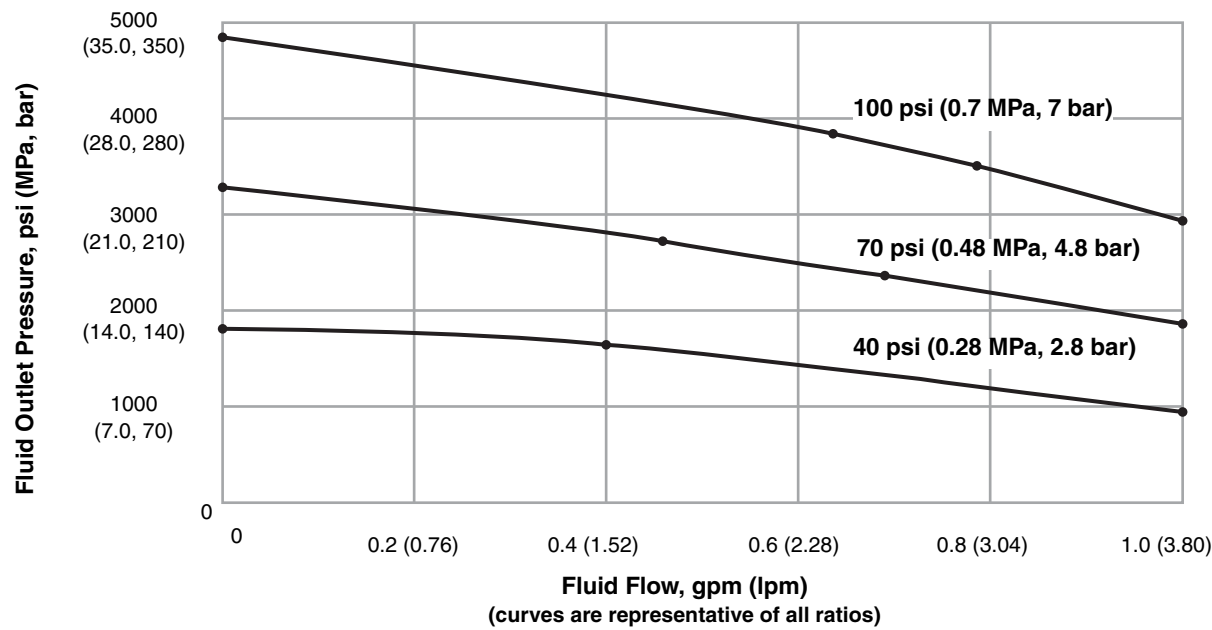
Code	Alarm	Active	Problem	Cause
Startup Errors				
01	Sensor Error A*	Always	No signal from pump A sensor	Loose cable, failed sensor or cable
02	Sensor Error B*	Always	No signal from pump B sensor	Loose cable, failed sensor or cable
03	Communication Error*	Always	Loss of communication between main and display boards	Loose cable, failed board
Operating Errors				
04	not used			
05	not used			
06	Pump Error A**	Spray Test Batch	Pump does not stall after top change over Pump cavitating excessively	Intake valve leak Air in lines caused by loose fitting or use of agitator Empty fluid supply
07	Pump Error B**			
08	Sensor Code Error	Always	Sensor values reverted to default	Sensor value data corrupt; board needs replacement and /or recalibration
09	Metering Error A**	Spray	A dose too great	Dispense valve A leak Empty B fluid supply
10	Metering Error B**	Spray	B dose too great	Dispense valve B leak Empty A fluid supply
11	Sensor Reading Low A*	Spray Test Batch	Pump stroke travels beyond sensor range at top change over	Sensor or bracket loose Sensor magnet dirty
12	Sensor Reading Low B*			
13	Sensor Reading High A*	Spray Test Batch	Pump stroke travels beyond sensor range at bottom change over	Sensor or bracket loose Sensor magnet dirty
14	Sensor Reading High B*			
21	Pot Life Error	Spray first, then Always	Pot life timer timed out	Not enough material sprayed after last reset
22	not used			
23	not used			
24	not used			
25	not used			
26	Park Timeout	Park	Pumps not at bottom of stroke	Sampling valves closed, or gun not triggered.

Code	Alarm	Active	Problem	Cause
	Testing Error			
15	Piston packing/ball A*	Test	Pump does not completely stall in up stroke	Piston packing or ball check failure
16	Piston packing/ball B*			
17	Inlet Ball A*	Test	Pump does not completely stall in downstroke	Intake valve ball check failure
18	Inlet Ball B*			
19	Dispense Valve A*	Test	Pump does not completely stall in both up and down strokes	Throat packing or dispense valve failure
20	Dispense Valve B*			
27	Pump Calibration Timeout A	Run A	Pump doesn't run through calibration.	Sampling valves closed.
28	Pump Calibration Timeout B	Run B		

Performance Charts

47:1 Ratio HydraMix Pump

Tested with 10W oil



Technical Data

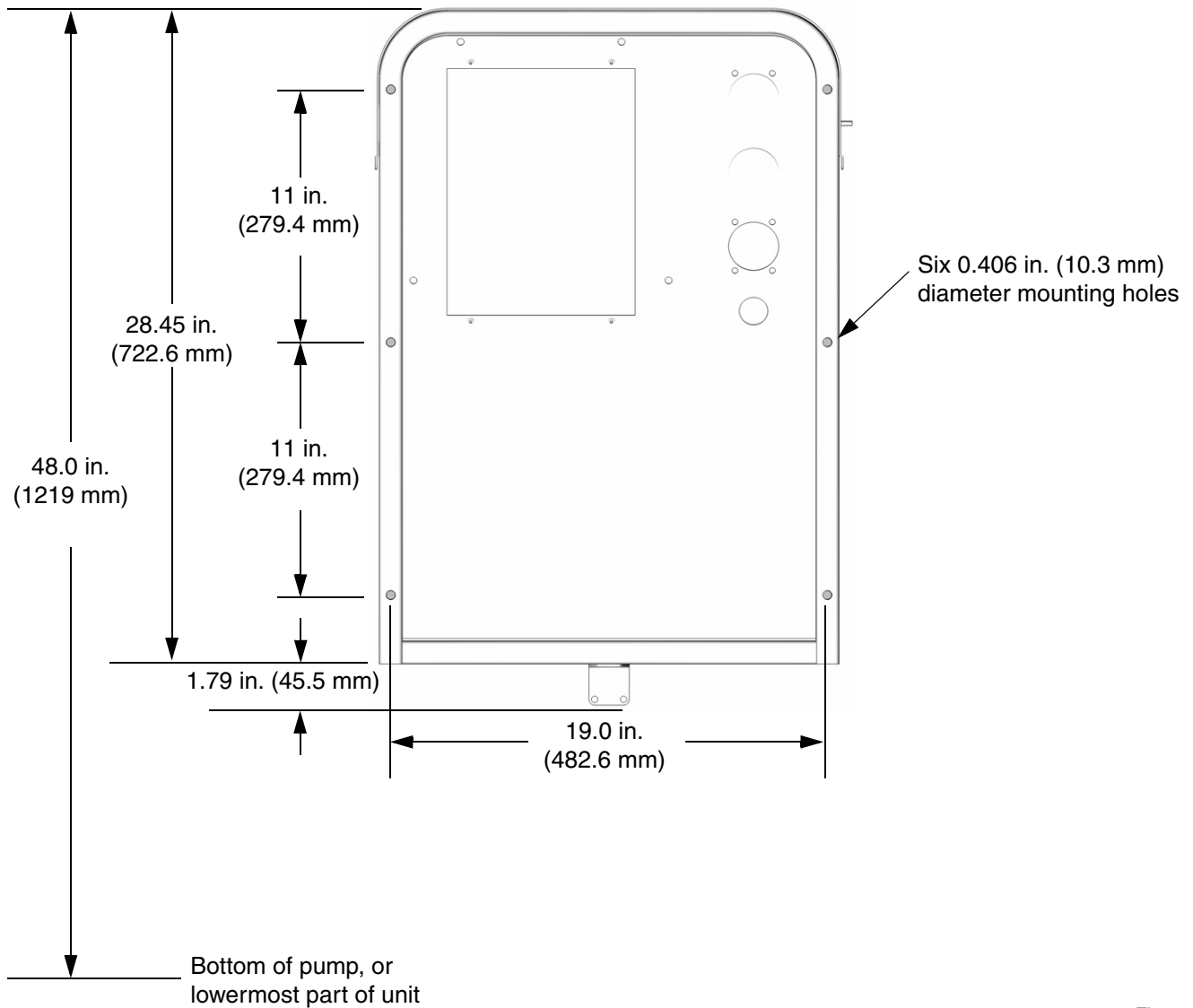
Mix ratio range	0.1:1-10:1 (in 0.1 increments),
Ratio tolerance range	up to +/- 1%
Flow rates	
Minimum	0.02 qt/min (0.02 lpm)*
Maximum	1 gpm (3.8 lpm)
Pump size	92 cc/cycle
Pump cycle length	
(one cycle = one upstroke and one downstroke)	7.6 in. (193 mm)/cycle
Fluid viscosity range	50-20,000 cps (heavier viscosities can be mixed with use of optional heaters, heated hoses, and hardware)
Fluid filtration	60 mesh (238 micron) standard
Maximum fluid working pressure	4700 psi (32 MPa, 324 bar)
Air supply pressure range	60-110 psi (420-800 kPa, 4.2-8 bar)
Maximum air consumption at 100 psi (0.7 MPa, 7 bar) ..	63.0 scfm at 1 gpm (1.76 m ³ /min at 3.8 lpm)
Ambient temperature range	
Operating	32-104° F (0-40° C)
Storage	30-160° F (-1-71° C)
External Power Supply Requirements	85-250 Vac, 50/60 Hz, 2 amps maximum draw 15 amp maximum circuit breaker required 14 AWG power supply wire gauge
Heater Power Requirements	240 Vac Heater: 16.2 A each heater, 32.4 A total 480 Vac Heater: 8.3 A each heater, 16.6 A total
Environmental Conditions Rating	Indoor/outdoor Altitude up to 4000 meters Maximum relative humidity to 99% up to 40° C Pollution degree (1) Installation category (2)
Sound pressure	98 dBA at 100 psi (0.7 MPa, 7 bar)
Wetted parts	
Pumps	See 310662
Dispense Valves	See 310655
Mix Manifold	See 310654
PC Communications	RS-232

* Minimum flow rate is dependent on the material being sprayed and mixing capability. Test your material for specific flow rate.

Dimensions

Cart model (width x height x depth)	31 x 56 x 29 in. (787 x 1422 x 737 mm)
Air inlet size	1/2 npt(f)
Fluid inlet size	1 in. npsm(m)
Fluid outlet size (mix manifold)	3/8 npt(f)
Weight	Non-heated: 240 lb (108 kg)
	Heated: 330 lb (149 kg)

Wall Mounting Diagram



TI4809a

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.

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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 to identify the nearest distributor.

Phone: 612-623-6921 **or Toll Free:** 1-800-328-0211, **Fax:** 612-378-3505

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Graco reserves the right to make changes at any time without notice.*

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