



Xtreme Mix™ OEM

Plural Component Mixer, OEM Unit

309521J



Important Safety Instructions

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

See page 4 for model information, including maximum working pressure and approvals.




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Manual Conventions


Warning

 WARNING
 
<p>A warning alerts you to possible serious injury or death if you do not follow instructions.</p> <p>Symbols, such as fire and explosion (shown), alert you to a specific hazard and direct you to read the indicated hazard warnings (pages 5-6).</p>

Caution

 CAUTION
<p>A caution alerts you to possible equipment damage or destruction if you do not follow instructions.</p>

Note

 A note indicates additional helpful information.

Related Manuals

Refer to the following manuals for detailed component information.

Component Manuals

Manual	Description
309535	Xtreme Mix Operation
309518	Xtreme Mix Repair
311762	Xtreme Displacement Pump
309347 or 309348	King Air Motor King Quiet Air Motor
312145	XTR Spray Gun
309524	VISCON HP Heater
309525	Heated Hose Kit
308981	Husky 716 Diaphragm Pump
309615	Heater Bracket Kit
309568	Remote Manifold Kit

This manual available in following languages:

Manual	Language	Manual	Language
309521	English	309540	German
309538	French	309546	Swedish
309539	Spanish	309604	Japanese







Xtreme Mix OEM Models

WARNING

















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

Approved for Hazardous Location Class I, Div 1, Group D					
Xtreme Mix Part No.	Series	Pump Part No.	Pump Description	Maximum Working Pressure psi (MPa, bar)	Approvals
233871	A	249274	45:1 King	4500 (31, 310)	  <p>APPROVED Conforms to FM std 3600 & 3610 for use in Class I Div 1 Group D T3 Hazardous locations</p>   <p>CAN/CSA 22.2 No. 157-92 & No. 1010.1-92</p>
233872	A	249275	56:1 King	5600 (38.6, 386)	
233873	A	249276	68:1 King	6800 (46.9, 469)	
233874	A	249277	80:1 King	7250 (50, 500)	
233875	A	249278	45:1 Quiet King	4500 (31, 310)	
233876	A	249279	56:1 Quiet King	5600 (38.6, 386)	
233877	A	249280	68:1 Quiet King	6800 (46.9, 469)	
233878	A	249281	80:1 Quiet King	7250 (50, 500)	
234024	A	none			
Approved for Non-hazardous Location					
233879	A	249274	45:1 King	4500 (31, 310)	 <p>Conforms to UL std 61010A-1 CSA std C22.2 No 1010.1-92</p> 
233880	A	249275	56:1 King	5600 (38.6, 386)	
233881	A	249276	68:1 King	6800 (46.9, 469)	
233882	A	249277	80:1 King	7250 (50, 500)	
233883	A	249278	45:1 Quiet King	4500 (31, 310)	
233884	A	249279	56:1 Quiet King	5600 (38.6, 386)	
233885	A	249280	68:1 Quiet King	6800 (46.9, 469)	
233886	A	249281	80:1 Quiet King	7250 (50, 500)	
234025	A	none			


 **Warning**

 	<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 the gun at anyone or at any part of the body. • Do not put your hand or fingers over the gun fluid 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. • Follow Pressure Relief Procedure, page 7, when you stop spraying and before cleaning, checking, or servicing equipment. • Use lowest possible pressure when flushing, priming, or troubleshooting. • Never spray without tip guard and trigger guard installed. • Engage trigger lock when not spraying. • Tighten all fluid connections before operating the equipment. • Check hoses, tubes, and couplings daily. Replace worn or damaged parts immediately. High pressure hose cannot be recoupled; replace the entire hose.
 	<p>Fire and Explosion Hazard</p> <p>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 and plastic drop cloths (potential static arc). • Do not plug or unplug power cords or turn lights on or off when flammable fumes are present. • Keep the work area free of debris, including solvent, rags, and gasoline. • Ground equipment and conductive objects. See Grounding, page 11. • Hold gun firmly to side of grounded pail when triggering into pail. • Use only grounded hoses. • If there is static sparking or you feel an electric shock, stop operation immediately. Do not use equipment until you identify and correct the problem. • If connecting PC for data download, PC must be in non-hazardous location and a safety barrier must be installed. See Xtreme Mix software documentation. • Keep a fire extinguisher in the work area.
	<p>Electric Shock Hazard</p> <p>Improper grounding, wiring, or usage of the system can cause electric shock.</p> <ul style="list-style-type: none"> • All electrical wiring must be done by a qualified electrician and comply with all local codes and regulations. • Connect only to grounded power source. • Turn off and disconnect power at the main switch before disconnecting any cables and before servicing equipment.

 Warning	
	<p>Moving parts hazard</p> <p>Moving parts can pinch or amputate fingers and other body parts. Pressurized equipment can start accidentally and cause serious injury.</p> <ul style="list-style-type: none"> • Keep clear of moving parts. • Do not operate equipment with protective guards or covers removed. • Before checking or servicing equipment, follow Pressure Relief Procedure, page 7. Disconnect power or air supply. • Do not move or lift pressurized equipment.
	<p>Equipment Misuse Hazard</p> <p>Misuse can cause serious injury or death.</p> <ul style="list-style-type: none"> • For professional use only. • Use equipment only for its intended purpose. Call your Graco distributor for information. • Read manuals, warnings, tags, and labels before operating equipment. Follow instructions. • Check equipment daily. Repair or replace worn or damaged parts immediately. • Do not alter or modify equipment. Use only Graco parts and accessories. • 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. • Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces. • Do not kink or overbend hoses or use hoses to pull equipment. • To lift equipment, follow instruction, page 15. • Comply with all applicable approval requirements and safety regulations.
	<p>Burn Hazard</p> <p>This equipment is used with heated fluid, which can cause equipment surfaces to become very hot. To avoid severe burns:</p> <ul style="list-style-type: none"> • Do not touch hot fluid or equipment. • Allow equipment to cool completely before touching it. • Wear gloves if fluid temperature exceeds 110° F (43° C).
	<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 Material Safety Data Sheet (MSDS) 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>Personal Protective Equipment</p> <p>You must wear proper 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; and hearing loss. This equipment includes but is not limited to:</p> <ul style="list-style-type: none"> • Protective eyewear • Gloves, clothing, and respirator as recommended by the fluid and solvent manufacturer • Hearing protection
	<p>Recoil Hazard</p> <p>The gun can recoil when triggered at a very high pressure. If unprepared, this could force your hand back or cause you to fall and injure yourself. Be sure you have firm footing and hold the gun securely.</p>

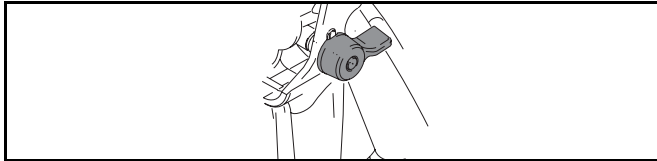
Pressure Relief Procedure


WARNING



Follow **Pressure Relief Procedure** when you stop spraying and before cleaning, checking, servicing, or transporting equipment. Read warnings, page 5.

1. Engage trigger lock.

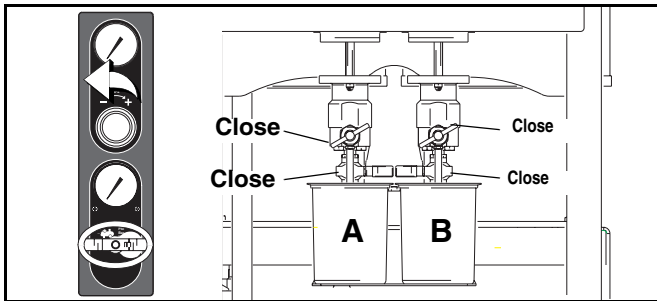


2. Press Stop .

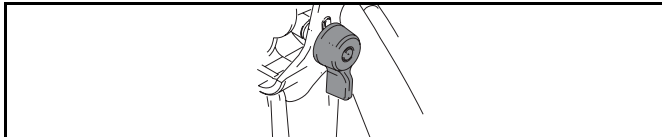


3. Close main air shutoff valve on air supply line and on unit. Turn off air regulator.

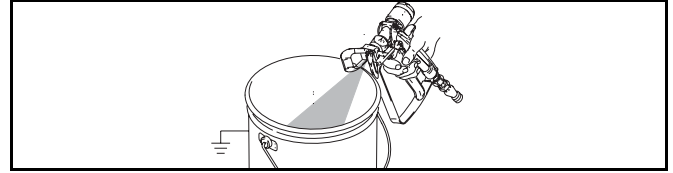
4. Close fluid sampling and shutoff valves A and B.



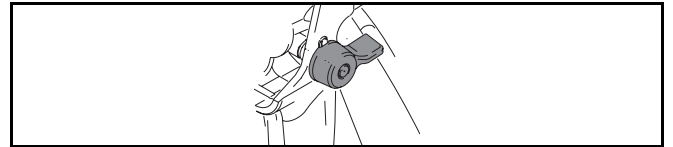
5. Disengage trigger lock.



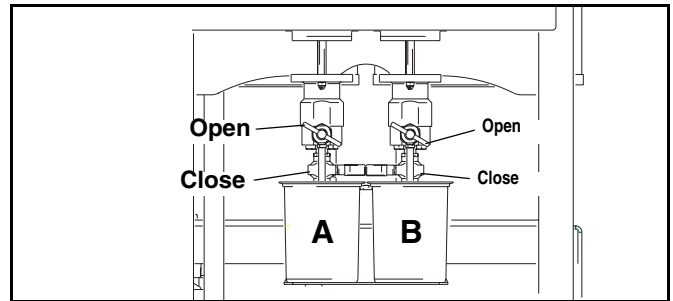
6. Hold a metal part of the gun firmly to a grounded metal pail. Trigger gun to relieve pressure.



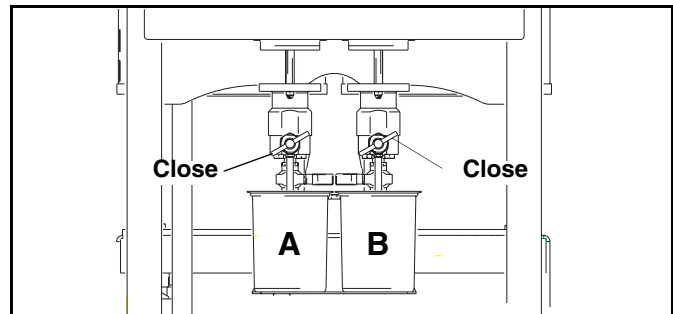
7. Engage trigger lock.



8. Place waste container under sampling valves, then open valves A and B slowly to relieve pressure between pump and metering valves.



9. Close sampling valves A and B.



Assemble

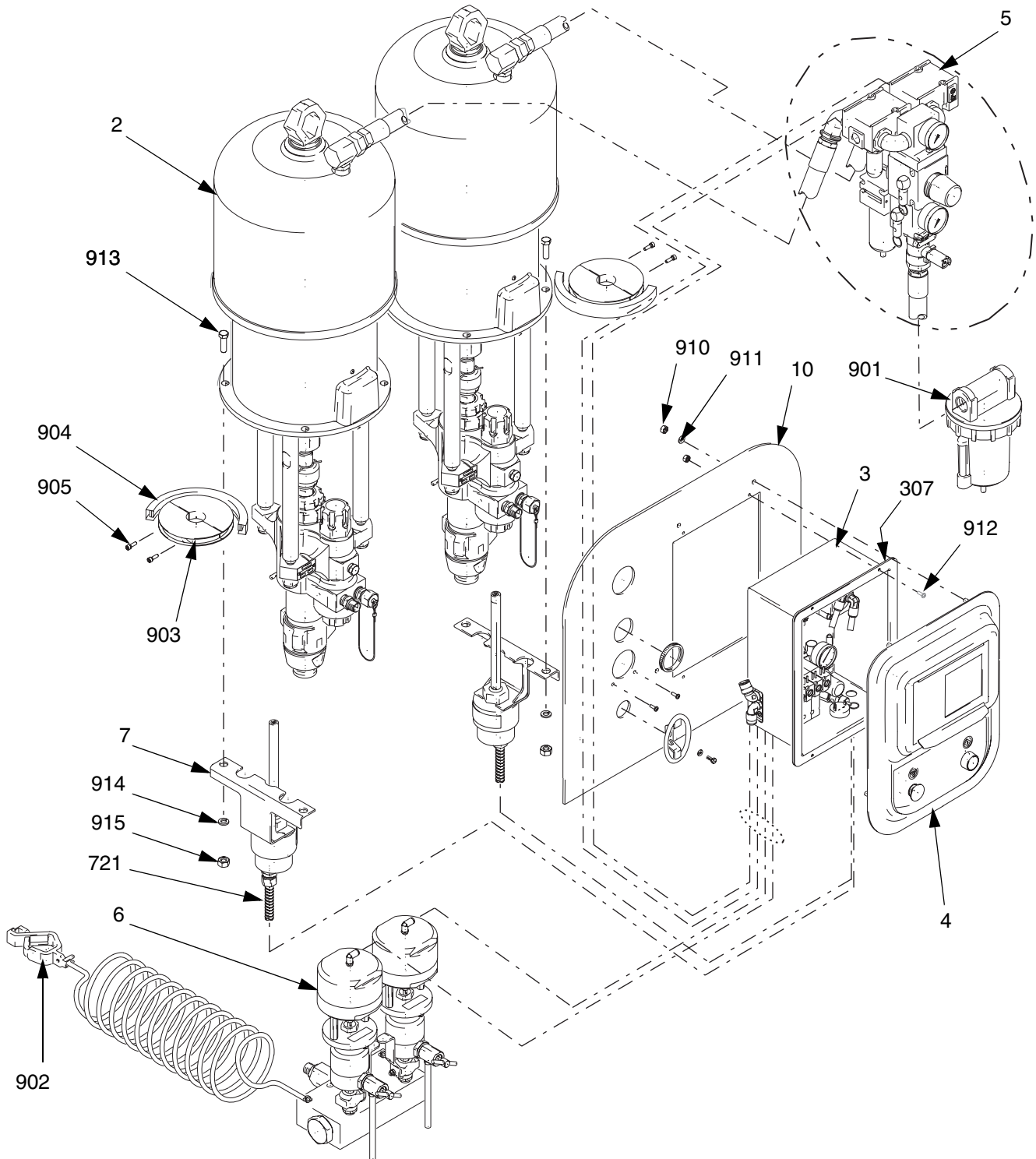


FIG. 1

Pumps and Sensors

- If using feed pumps, do not allow feed pressure to exceed 25% of spray pressure.
- For accurate ratios, pump lowers must be same size.
- If installing 234024 or 234025, the pump size has not been set in the software. To set pump A and B size and A and B sensor calibration factors, you need Xtreme Mix Data Download software, part no. 246322 for proportioners located in a non-hazardous area, or part no. 246397 for proportioners located in a hazardous area.

Calibration values are on pump A and B sensors.

Pump Size Values

Pump	Size Value (cc/cycle)
45:1	250
56:1	220
68:1	180
80:1	145

1. Secure magnet holders (903) to the pump (2) motor displacement rods with screws (905). FIG. 1.
2. Install a short magnet strip then a long one (904) on each magnet holder (903). Secure with tape supplied.
3. Secure pumps (2) on mounting brackets with two 3/8 x 1-1/4" screws (913), lockwashers (914), and nuts (915).
4. Secure sensors (7) on pumps and pump mounting brackets with two screws (913), lockwashers (914), and nuts (915).

Control Box

1. Mount control box (3) to mounting plate (10). FIG. 1.
 - a. Slide gasket (307) over back of pneumatic control box (3), against lip. Insert box through mounting plate (10).
 - b. Secure box (3) to plate (10) with 8-32 UNC screws (912).

Mount box (3) vertically for optimum alternator and component life.

2. Secure mounting plate (10) to cart/stand. Install fasteners (provided by installer) through six 0.3" (7.62 mm) mounting plate holes.
3. Connect conduit (721) from two sensors (7) to pneumatic control box (3).

Conduit must be used. Approximately 62" (1575 mm) of cable and conduit provided; do not lengthen.

4. Wire two sensors (7) to control box 18-pin connector. Connect sensor A, then sensor B wires in pairs sequentially – black/green, black/red, black/white – to pins 2-13. See **Electrical Schematic**, page 16.
5. Connect 18-pin connector to main control board connector (F). FIG. 2.

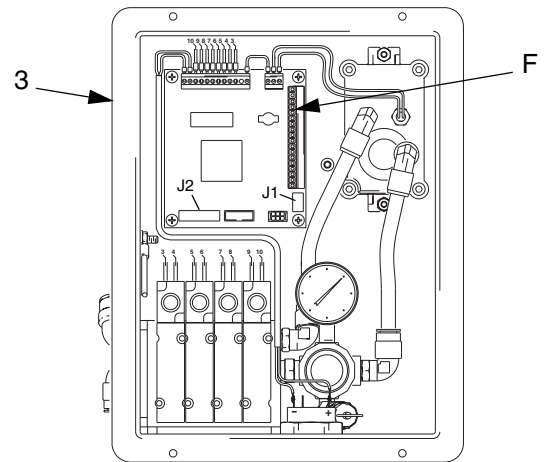
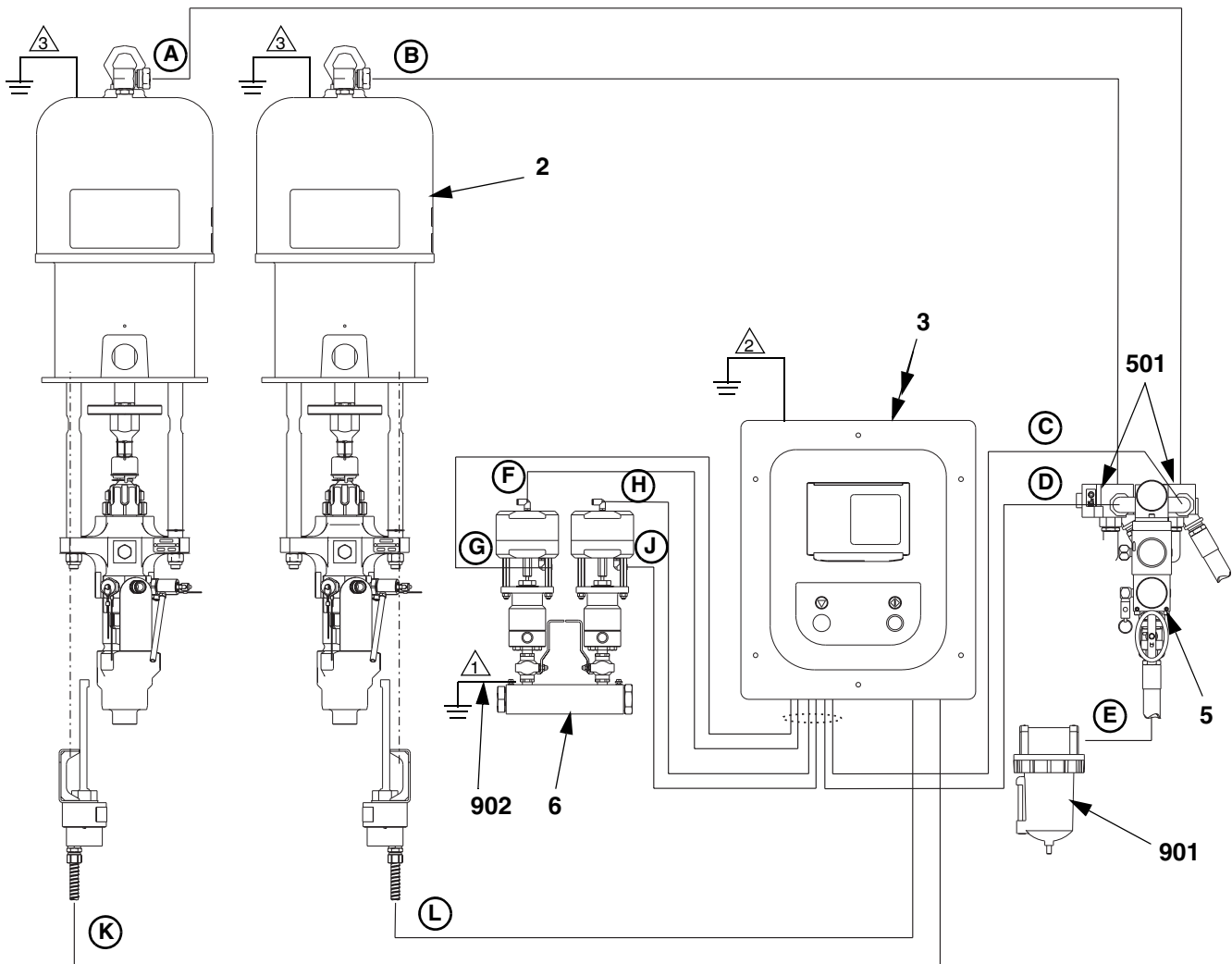


FIG. 2 Control Box



Key:

- A Pump A Air
- B Pump B Air
- C Pump A Pilot Air
- D Pump B Pilot Air
- E Air Supply
- F Metering Valve A - CLOSE
- G Metering Valve A - OPEN
- H Metering Valve B- CLOSE
- J Metering Valve B- OPEN
- K Sensor A Cable
- L Sensor B Cable
- 2 Pump

- 3 Pneumatic Control
- 6 Metering Valve Manifold
- 501 Pneumatic Valve
- 901 Air Filter
- 902 Ground Wire Assembly

- ⚠ Ground manifold to true earth ground.
- ⚡ Ground by connecting ground wire from control box (3) to manifold (6).
- ⚡ Ground by connecting ground wire from pumps (2) to manifold (6).

FIG. 3

Grounding


WARNING






Read warnings, page 5, and follow instructions below.

1. Connect 12 gauge ground wire (provided by installer) from pneumatic control box (3) ground screw (312, page 22) to metering valve manifold (6). Refer to FIG. 3.
2. Connect ground wire from each pump (2) to metering valve manifold (6).
3. Connect ground wire assembly (902) to fluid manifold (6). Connect clamp end to a true earth ground before starting unit.


Air Controls

 Do not use air supply hose smaller than 3/4" (19 mm) ID. Smaller hose could restrict air flow and cause alternator, solenoids, or Mac valves to malfunction. Check air supply gauge at pump changeover; air pressure should not drop.


Standard Setup

FIG. 1 and FIG. 3

1. Mount pneumatic control assembly (3) to mounting plate (10). FIG. 1.
2. Connect an air line (A and B) between each pneumatic valve (501) and pump air motor inlet. FIG. 3.

 36" (914 mm) hoses provided. Installer may provide different lengths.

3. Connect air supply from air manifold's 5 micron air filter (518) to control box air inlet (not shown).

 The alternator requires 12-15 scfm of air to function correctly.

- Do not use 3/8" (9.5 mm) ID air supply tubing longer than 24" (610 mm) from air filter to control box air inlet.
- Do not restrict control box exhaust air.

Increased back pressure can cause a drop in alternator power output, resulting in delayed valve action and processor shutdown and reboot.

4. Connect tubing (C and D) from solenoids to each pneumatic valve (501).
5. Mount air supply filter (901) to cart/stand and connect air supply (E) to air manifold (5) air inlet.

User Interface

FIG. 4 and FIG. 5

1. Connect display board (410) communication cable (416) to J1 on main circuit board (301).
2. Connect data cable (406 - 7-pin connector) to J2.

WARNING



The user interface must be grounded. Read warnings, page 5.

3. Connect ground wire (315) to ground stud on back of cover with nut (311).
4. Secure cover (4) to mounting plate (10) with lock-washers (911) and nuts (910). FIG. 1.

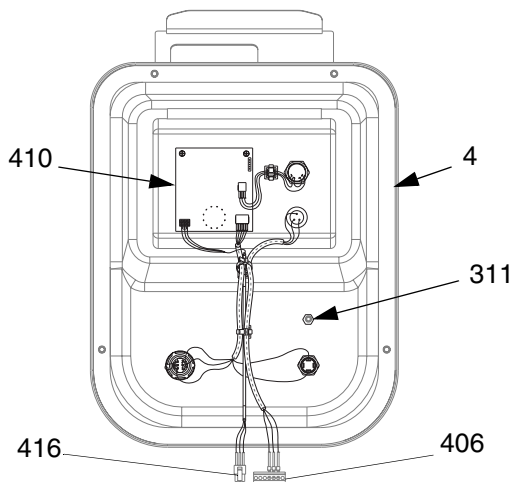


FIG. 4: Cover - back view

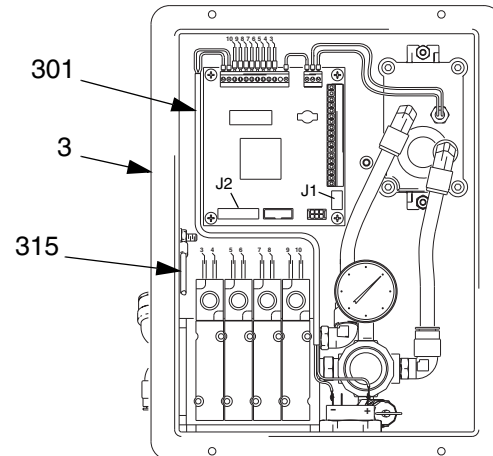


FIG. 5 Control Box

Fluid Manifold

CAUTION

Do not assemble static mixer 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. See **Setup** in Xtreme Mix Operation manual.

Install Sampling Valves 244683

Install sampling valves (918) into the metering valves (601). Install barb fitting (919) and tubing (920) into each sampling valve. FIG. 7.

Cart-mounted

1. Secure metering valve assembly (6) to cart/stand with screws (913), washer (914), and nuts (915). FIG. 1, page 8.
2. Connect fluid lines (provided by installer) between pumps and metering valves.
3. Cut air line tubing (included) to length needed to connect between metering valves (601) and solenoid outlets. FIG. 3, page 10, and FIG. 6.

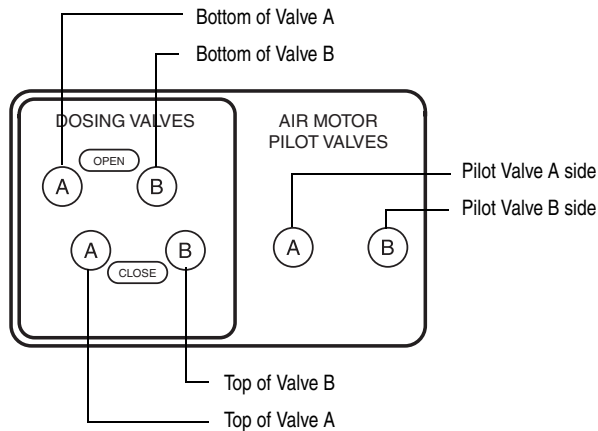


FIG. 6: Control Box - bottom

Remote Fluid Manifold

To install remote fluid manifold, order part no. 15A898. All other parts referred to in the following procedure are parts you remove from the standard manifold and reuse or parts the installer must supply.

1. Remove metering valves (601) and shutoff valves (606, 611) from fluid manifold (607). FIG. 7.
2. Install metering valves (601) and shutoff valves (606, 611) onto fluid metering manifold 15A898. FIG. 8.

- Maximum length of tubing is 36" (914 mm). Locate fluid manifold as close as possible.

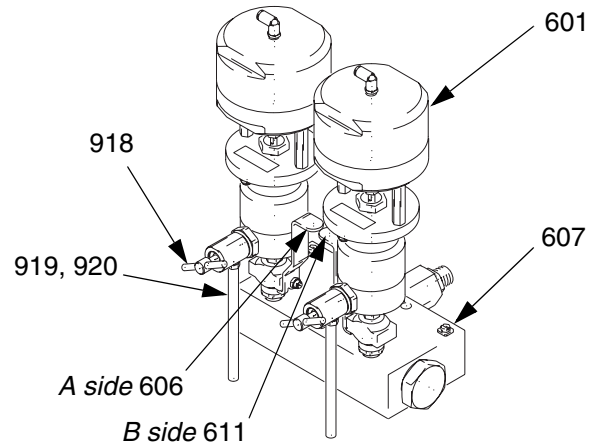


FIG. 7

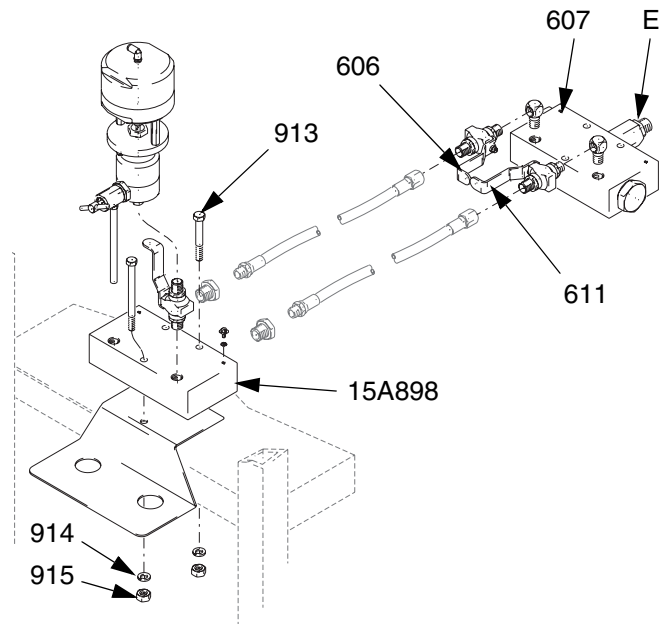



FIG. 8

CAUTION

Do not assemble static mixer 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. See **Setup** in Xtreme Mix Operation manual.


3. Secure fluid metering manifold 15A898 on the cart/stand with 2 screws (913), washers (914) and nuts (915).

4. Screw ball valves (606, 611 - purchased separately) into fluid mix manifold (607).
5. Select appropriate fittings and fluid hose sizes and lengths to connect between fluid metering manifold 15A898 and mix manifold (607).

 Balance pressure drops in the 2 lines as instructed below to assure an accurate mix ratio.

6. Connect fluid lines (provided by installer) between pumps and metering valves (601).
7. Connect mixed material hose to fluid mix manifold (607) outlet (E).
8. Cut air line tubing (included) to length needed to connect between metering valves (601) and solenoid outlets. FIG. 3, page 10, and FIG. 6, page 13.
9. Cut air line tubing, included, (F, G, H, J - FIG. 3, page 10) to length needed to connect between metering valves (601) and solenoid outlets.
10. Connect ground wires.

Balancing Back Pressure

 This procedure is for the remote fluid manifold only.

Flow rates and/or viscosity differences between component materials can create different pressure drops from the proportioner to the manifold, causing unequal back pressure. This will effect mix ratio accuracy.

To calculate pressure loss:

$$\text{Pressure Loss} = \frac{0.000273 \times Q \times V \times L}{D^4}$$

- Q = Flow (GPM)
- V = Viscosity in centipoise
- L = Length of pipe in feet
- D⁴ = Pipe diameter to the 4th power

Example: If you need to pump 1 gpm of high solids paint (40 seconds in a Zahn #2 cup = 100 cp) 100 ft. in a system using 1/4" pipe:

$$\text{Pressure Loss} = \frac{0.000273 \times 1 \text{ gpm} \times 100 \text{ cp} \times 100 \text{ ft.}}{(.364 \text{ ID}) .018 D^4 \text{ factor}}$$

$$\text{Pressure Loss} = 152 \text{ psi}$$

Reduce pressure loss by using:

- Large diameter pipe or tubing
- Constant tubing or pipe size
- Long runs without bends
- Long radius elbows

You can balance differences in component back pressure by adjusting hose diameter and length.

$$D^4 = \begin{array}{l} .018 \text{ for } 1/4" \text{ pipe} \\ .06 \text{ for } 3/8" \text{ pipe} \\ .15 \text{ for } 1/2" \text{ pipe} \end{array}$$

Using the previous example (.000273 x 1 x 100 x 100 = 2.73):

$$\text{Pressure drop: } \begin{array}{l} 1/4" \text{ pipe} = 152 \text{ psi} \\ 3/8" \text{ pipe} = 46 \text{ psi} \\ 1/2" \text{ pipe} = 18 \text{ psi} \end{array}$$

Proper Lifting

⚠ 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 air motor rings. Hook the center ring on a hoist. See FIG. 9. Carefully lift the Xtreme Mix unit; make sure it balances evenly.

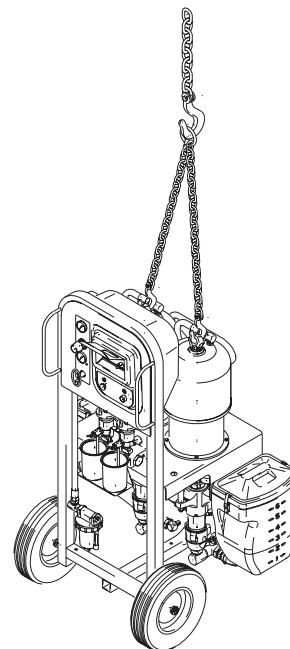


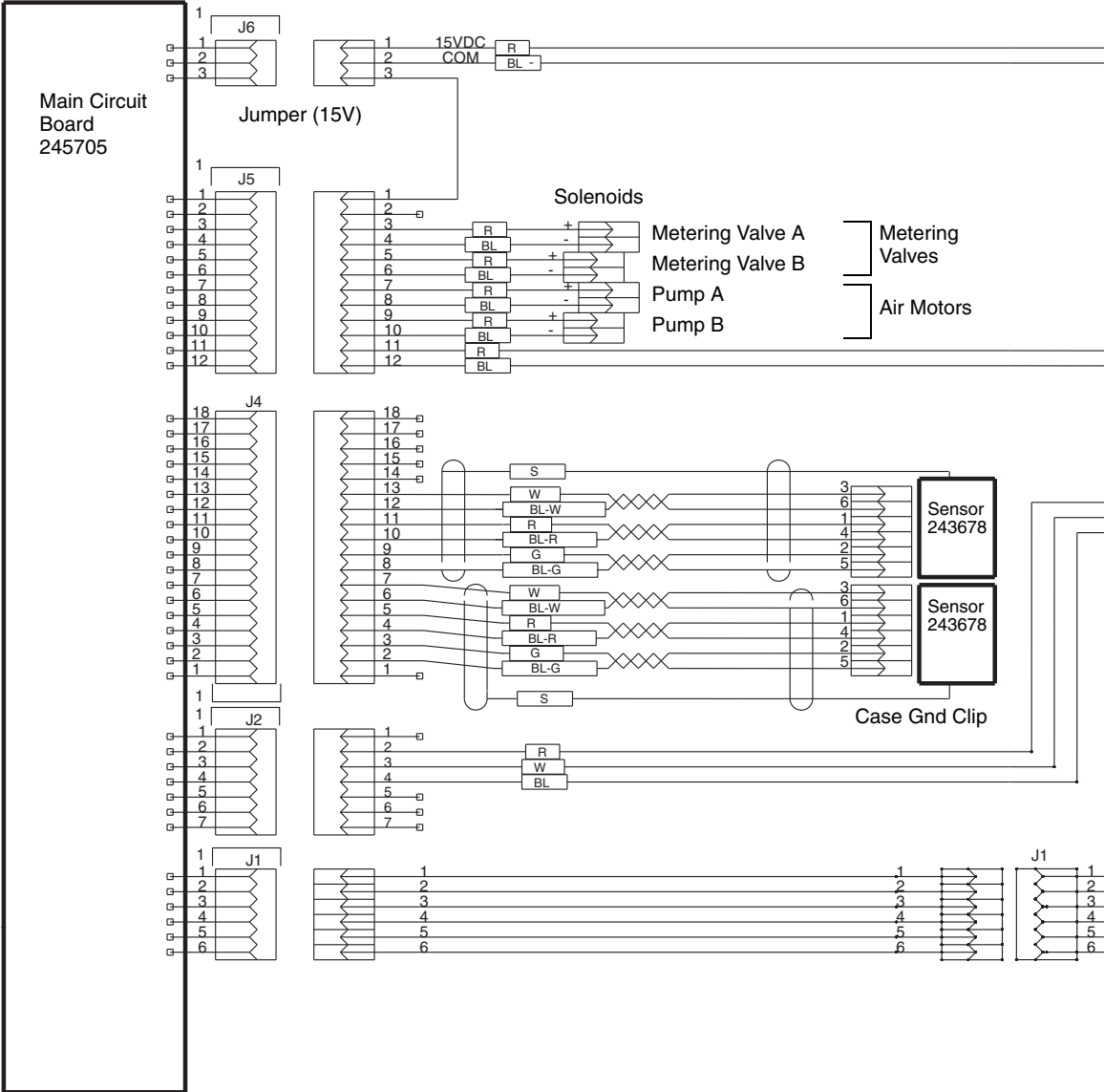
FIG. 9

Operation and Repair

For operating instructions, including data collection, see Xtreme Mix Operation manual.

For troubleshooting, alarm information, and repair instructions, see Xtreme Mix Repair manual.

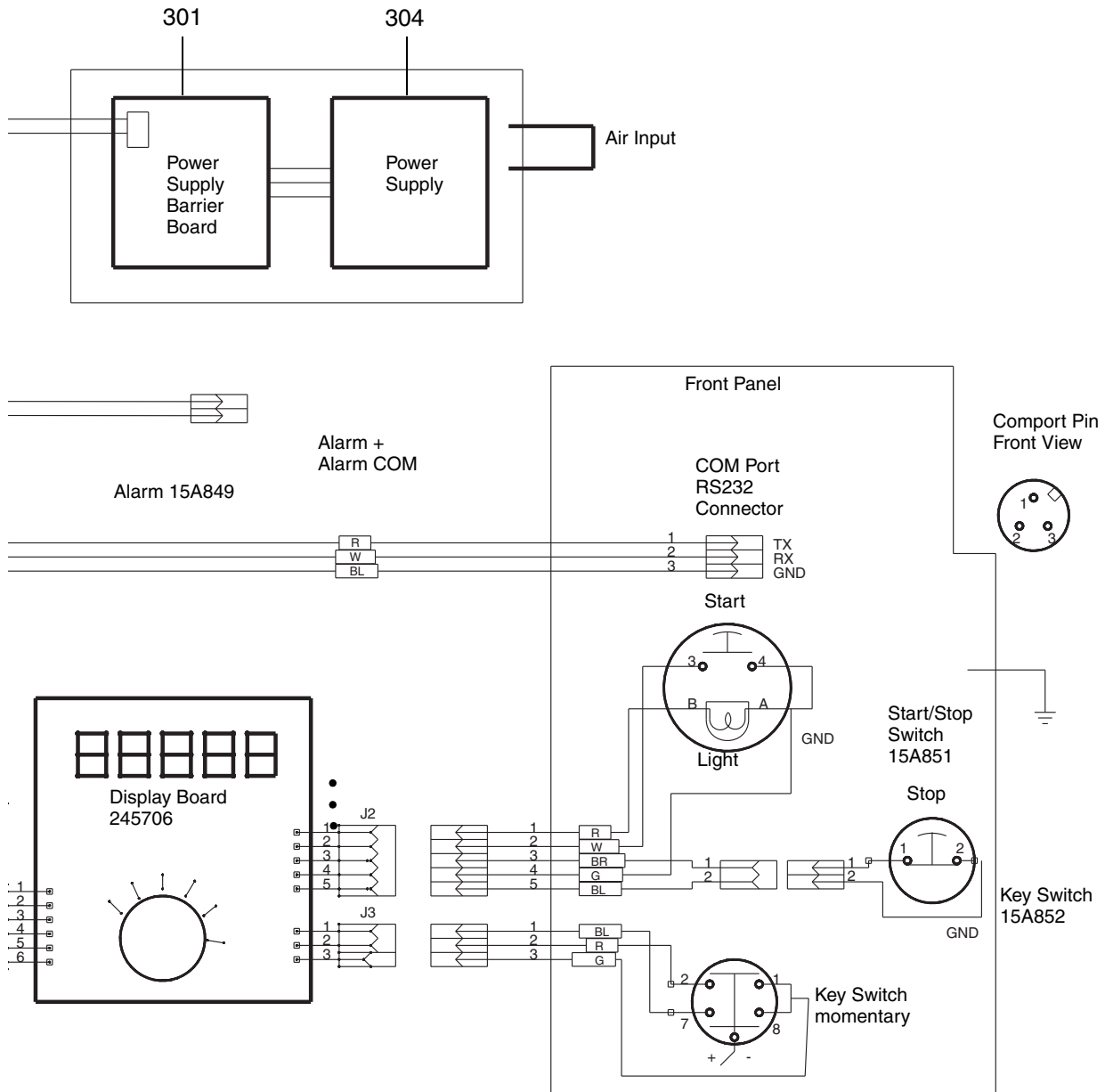
Electrical Schematic



Key:
BL Black
BR Brown
BL-G Black with green
BL-R Black with red

BL-W Black with white
G Green
GND Ground
R Red

S Shield
W White



Pneumatic Schematic

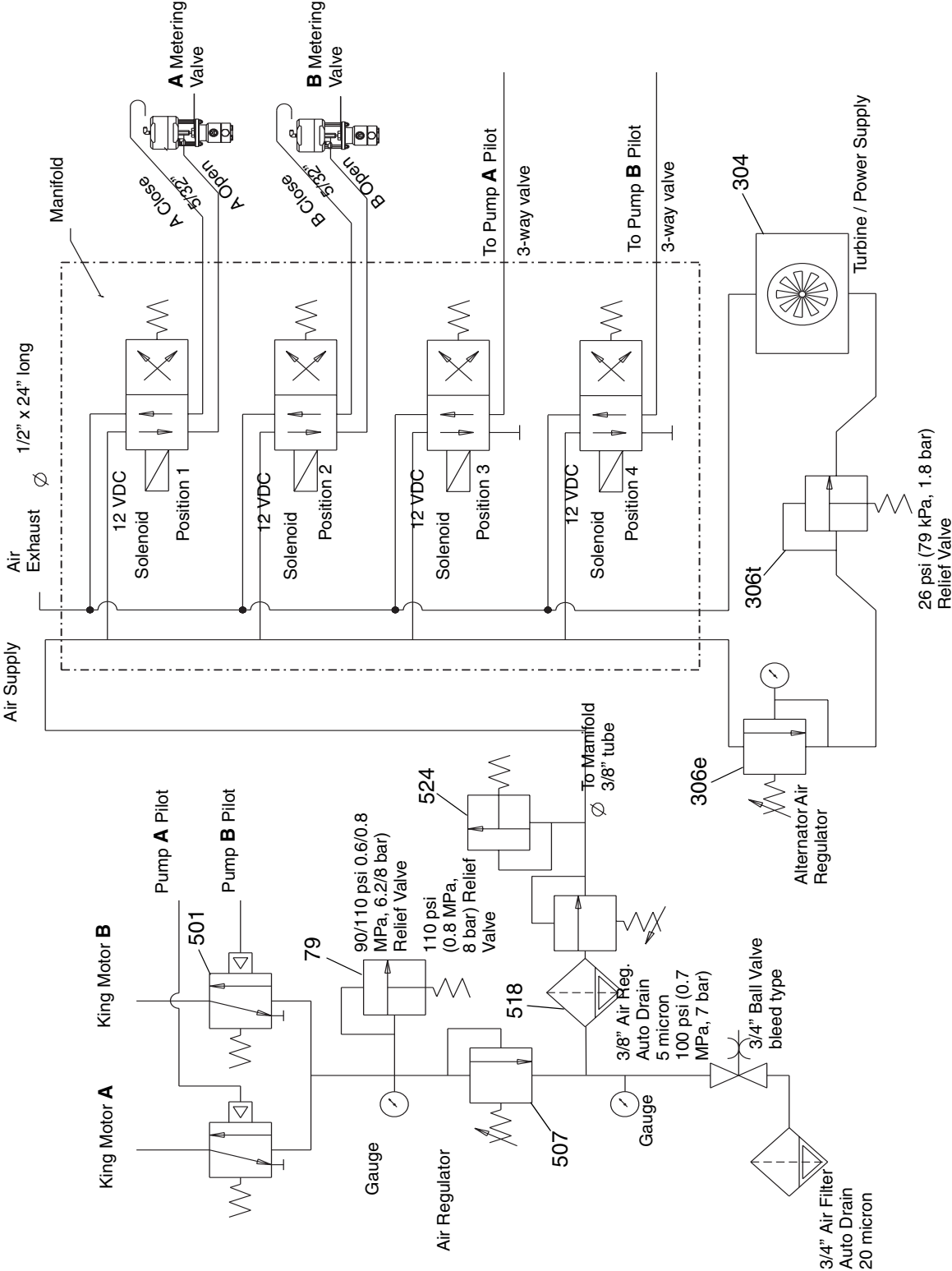


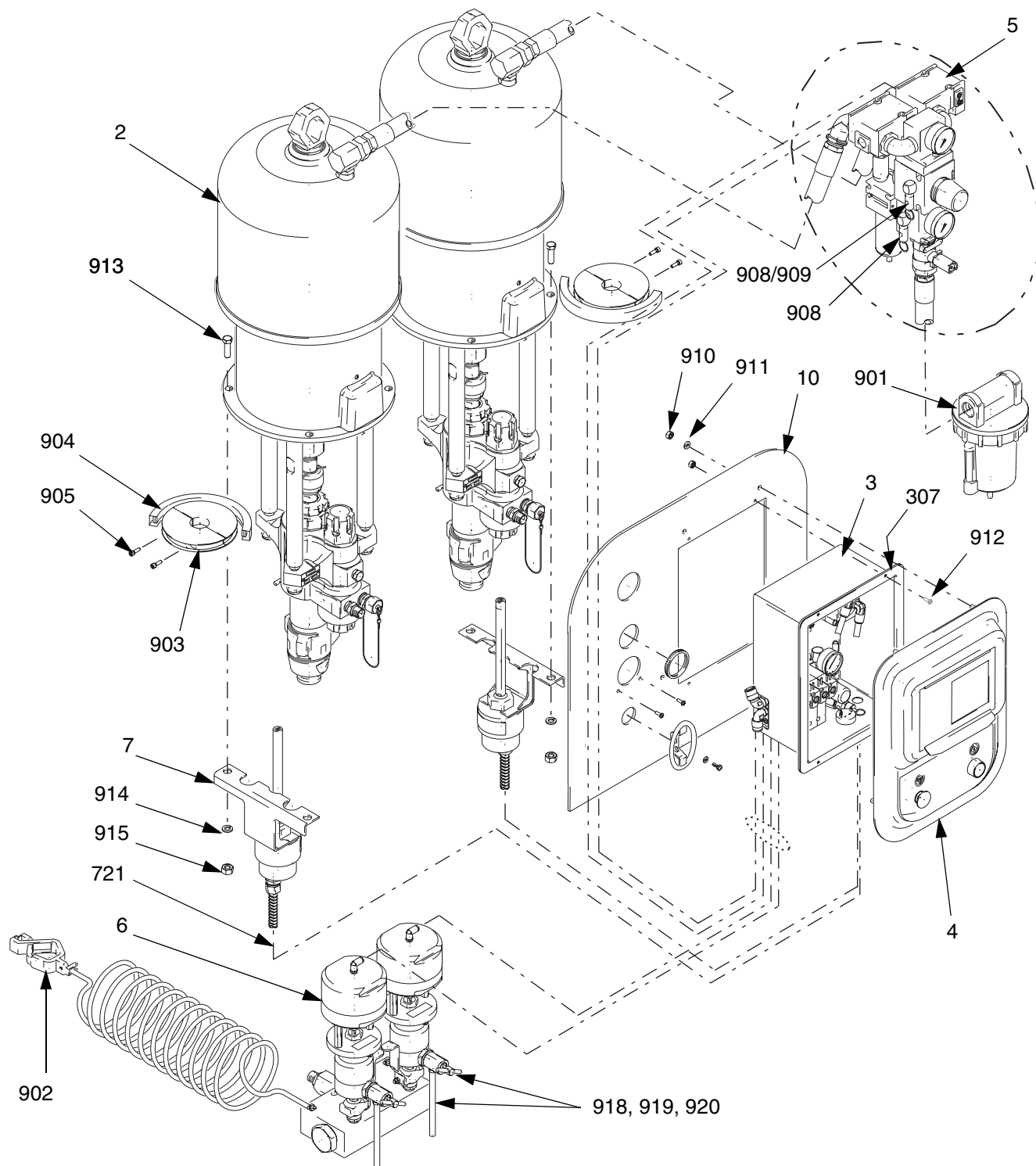
FIG. 10



A series of horizontal lines for drawing or writing, consisting of 20 parallel lines spaced evenly down the page.

Parts

Xtreme Mix Proportioner



Xtreme Mix Proportioner

Part Numbers

Approved for Hazardous Location (Class 1, Div 1, Group D)		
Xtreme Mix	Pump (2)	Plate (10)
233871	249274 (45:1)	246332
233872	249275 (56:1)	246334
233873	249276 (68:1)	246336
233874	249277 (80:1)	246338
233875	249278 (45:1)	246332
233876	249279 (56:1)	246334
233877	249280 (68:1)	246336
233878	249281 (80:1)	246338
234024	none	246338

Approved for Non-hazardous Location		
Xtreme Mix	Pump (2)	Plate (10)
233879	249274 (45:1)	246333
233880	249275 (56:1)	246335
233881	249276 (68:1)	246337
233882	249277 (80:1)	246339
233883	249278 (45:1)	246333
233884	249279 (56:1)	246335
233885	249280 (68:1)	246337
233886	249281 (80:1)	246339
234025	none	246339



Refer to page 4 for additional model information.

Includes:

Ref. No.	Part No.	Description	Qty.
2		PUMP; see table above; see pump manual for parts	2
3	245803	PNEUMATIC CONTROL; page 22	1
4	245804	USER INTERFACE; page 24	1
5	245802	PUMP AIR MANIFOLD	1
6	245824	METERING VALVE MANIFOLD; page 26	1
7	245825	SENSOR; page 29	2
9	246149	KIT; includes 901-917	1
10		PLATE; see table above	1
918	245143	SAMPLING VALVE; parts page 26	2
919	116746	FITTING; 1/8 npt x 1/4" (6.4 mm) tube; see page 26	2
920	116750	TUBE, nylon; 5 in. (12.7 cm); see page 26	2

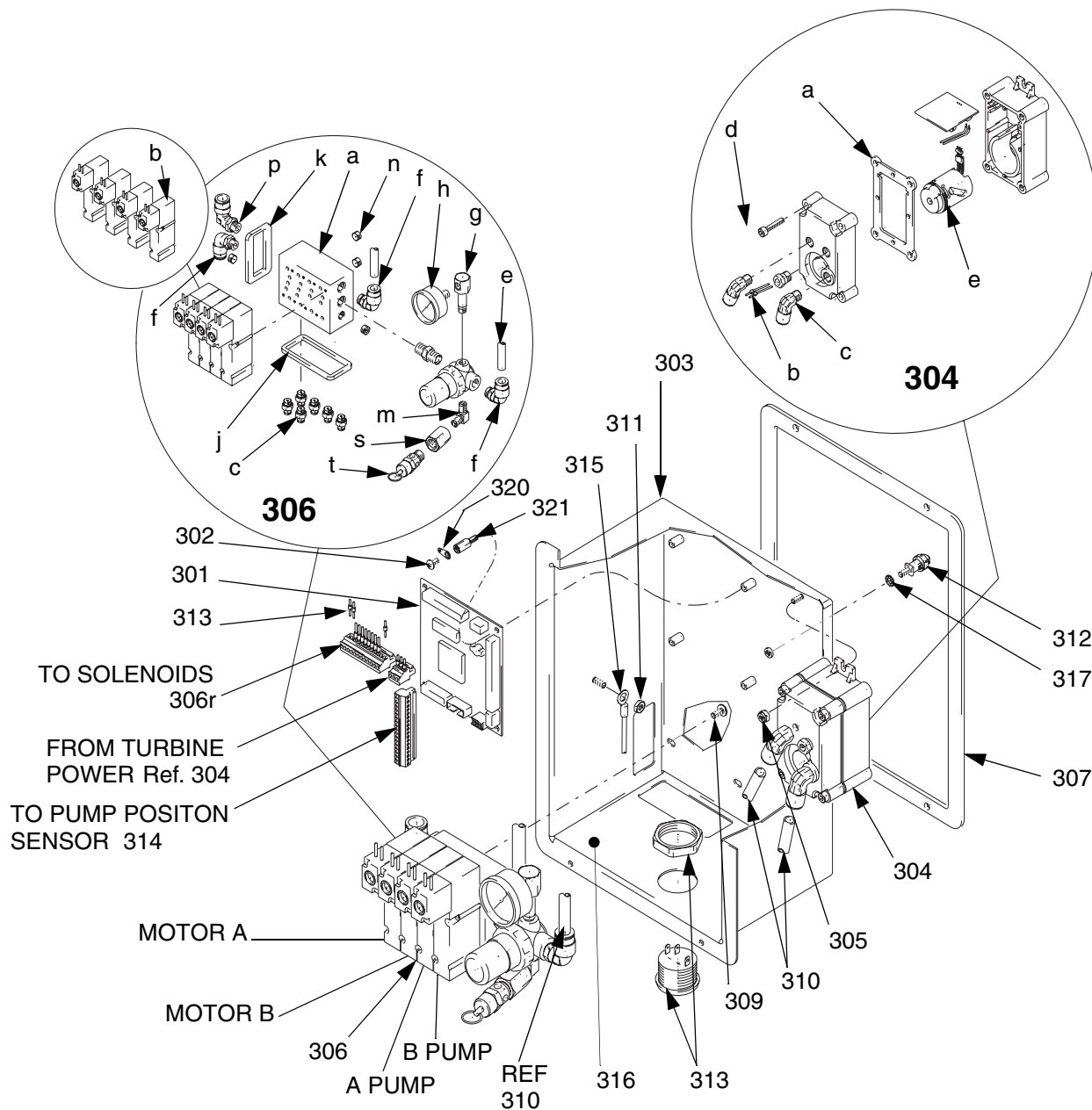
Kit 246149, Item 9

Ref. No.	Part No.	Description	Qty.
901	117628	AIR FILTER; 3/4 npt	1
902	244524	GROUND WIRE, with clamp	1
903	15A847	MAGNET HOLDER	2
904	15A814	MAGNET STRIP	2
905	104092	SCREW; 10-24 UNC	4
906	511352	STATIC MIXER, not shown	1
907	054753	TUBING, nylon, black; 0.156" (4 mm), 10 ft. (3 m), not shown	1
908	113498	SAFETY RELIEF VALVE; 110 psi (0.8 MPa, 8 bar)	1
909	116643	SAFETY RELIEF VALVE; 90 psi (621 kPa, 6.2 bar)	1
910	100015	NUT; 1/4-20 UNC	4
911	100016	LOCKWASHER	4
912	103196	SCREW; 8/32 UNC	6
913	100004	SCREW; 3/8 UNC	8
914	100133	LOCKWASHER	8
915	100131	NUT; 3/8-16 UNC	8
916	054139	TUBING, nylon; 0.5" (13 mm); 3 ft. (0.9 m), not shown	★
917	C12508	TUBING, nylon; 0.375" (9.5 mm); 3 ft. (0.9 m), not shown	★

★ Order length needed from distributor.

Pneumatic Control 245803

Item 3, page 21



Pneumatic Control 245803

Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.
301	245705	CIRCUIT BOARD	1	306n‡		• PLUG, pipe; 1/8-27 ptf	5
301a	15C318	FUSE, circuit board	1	306p	114128	• ELBOW; 1/4 npt x 1/2" (13 mm) tube	1
302‡		SCREW; 8-32 UNC	4	306q†	112512	• WIRE FERRULE, orange, not shown	8
303‡		COVER	1	306r	117369	• CONNECTOR, 12 position	1
304**	245854	ALTERNATOR MODULE; includes items 304a-304e	1	306s	150278	• ADAPTER, 1/4 x 1/8 npt	1
304a	193154	• GASKET	1	306t	117480	• SAFETY RELIEF VALVE, 26 psi (179 kPa, 1.8 bar)	1
304b	15A853	• WIRE HARNESS	1	307	15A800	GASKET, neoprene	1
304c	111225	• TUBE FITTING; 90°	2	309‡		SCREW; M5 x 10	2
304d	114380	• SCREW; M5 x 25	4	310	590385	TUBE, poly-flo; 3/8" OD; 1 ft. (3 m)	★
304e	249254	• TURBINE ALTERNATOR	1	311‡		NUT, KEPS; #10-24	1
305‡		LOCKNUT; 8-32 UNC	2	312	104029	GROUNDING STUD	1
306‡		SOLENOID MODULE, IS; includes items 306a-306t	1	313	15A849	WIRE HARNESS, alarm	1
306a	15A822	• MANIFOLD	1	314	117442	CONNECTOR, 18 position	1
306b	117356	• VALVE, 12 VDC, IS	4	315	15B090	GROUNDING WIRE, door	1
306c	114263	• FITTING; 1/8 npt x 5/32" (4 mm) tube	6	316	15B056	LABEL, air connections	1
306d‡		• NIPPLE; 1/4 npt	1	317	111307	LOCKWASHER	1
306e	115243	• AIR REGULATOR; 1/4 npt	1	320	118132	LOCKWASHER, terminal	1
306f	115841	• ELBOW, swivel; 1/4 npt x 3/8" (9.5 mm) tube	3	321	118129	SPACER, 8-32 UNC x 5" (127 mm)	1
306g	160701	• ELBOW, street; 1/8 npt(m x f)	1				
306h	108190	• GAUGE,	1				
306j‡		• GASKET, neoprene	1				
306k‡		• GASKET, neoprene	1				

IS = intrinsically safe

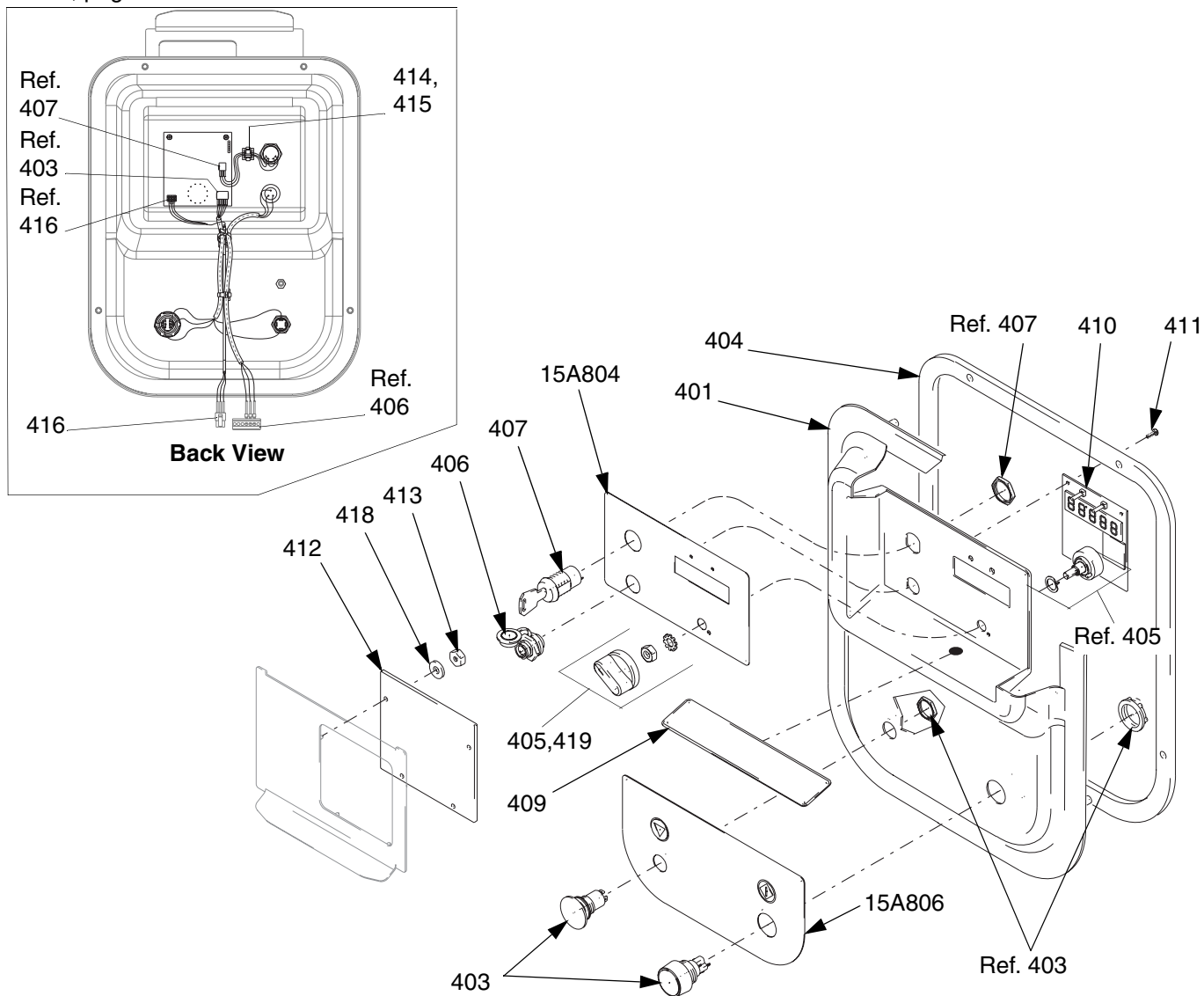
** Alternator bearing repair kit 223688 available.

‡ Not available for order from Graco.

★ Order length needed from distributor.

User Interface 245804

Item 4, page 21



Ref. No.	Part No.	Description	Qty.
401‡		COVER	1
403	15A851	WIRE HARNESS, start/stop	1
404	15A801	GASKET	1
405	15C335	KNOB	1
406	15A850	WIRE HARNESS, data port	1
407	15A852	WIRE HARNESS, key switch	1
409*		LABEL, alarm code	1
410	245706	CIRCUIT BOARD	1
411‡		SCREW; 4-40	2
412	15A856	DISPLAY PANEL	1
413‡		NUT; 4-40	4

Ref. No.	Part No.	Description	Qty.
414‡		MOUNT	3
415‡		STRAP	3
416	15A854	WIRE HARNESS, display	1
418‡		WASHER	4
419	107232	SET SCREW	1

‡ Not available for order from Graco.

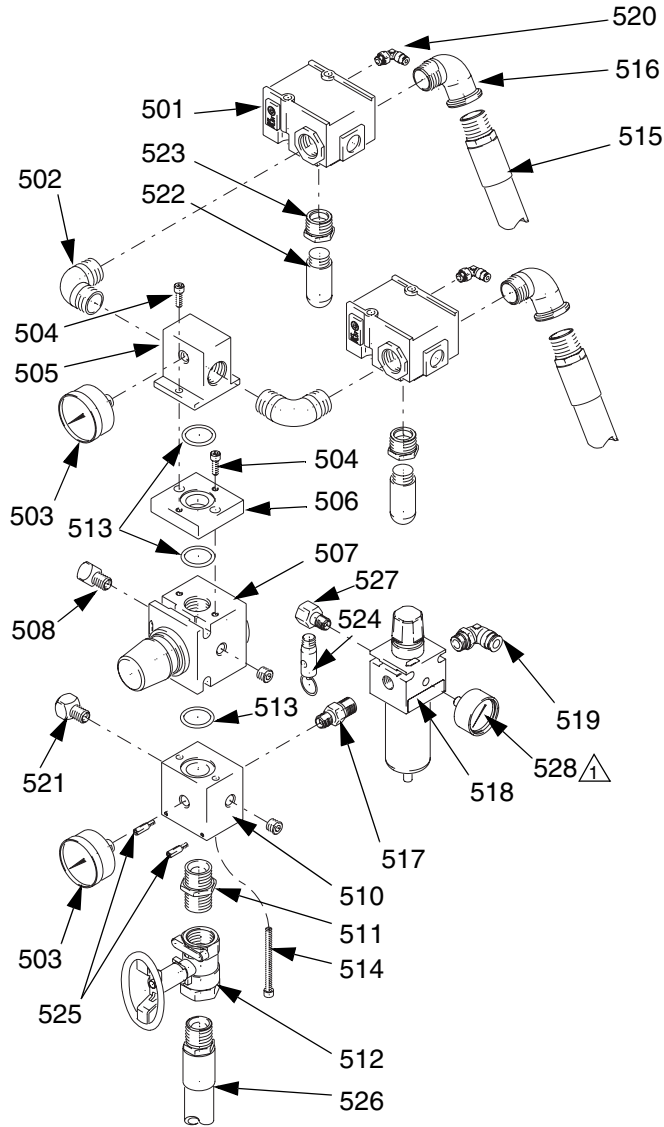
* Alarm Code Labels

Item 409, English provided. To order other languages:

Part No.	Languages
15B843	Chinese, Finnish, Portuguese, Greek, Swedish, Italian
15B844	English, Spanish, French, German, Korean, Japanese

Pump Air Manifold 245802

Item 5, page 21



T12295B

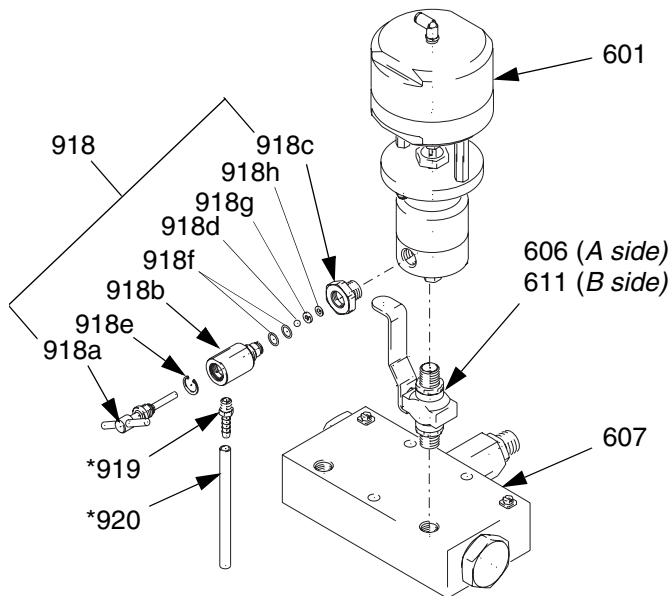
 100 psi (0.7 MPa, 7 bar) setting.

Ref. No.	Part No.	Description	Qty.
501	C59752	VALVE, 3-way	2
502	108307	ELBOW; 3/4 npt	2
503	101689	PRESSURE GAUGE	2
504	112166	SCREW; 1/4-20 UNC	4
505	15A820	MANIFOLD	1
506	15A821	PLATE, direction	1
507	117332	REGULATOR	1
508	100840	ELBOW; 1/4 npt	1
510	15A819	MANIFOLD BLOCK	1
511	160032	NIPPLE; 3/4 npt	1
512	117346	SHUTOFF VALVE, vented	1
513	117364	O-RING, nitrile	3
514	108849	SCREW; 1/4-20 UNC	2
515	15B554	HOSE; 3/4 npt; 4 ft. (1.2 m)	2
516	100549	ELBOW, 90°; 3/4 npt	2
517	165198	NIPPLE; 1/4 x 3/8 npt	1
518	119644	FILTER; 3/8 npt; 5 micron	1
519	114316	ELBOW, swivel; 3/8 npt	1
520	114151	ELBOW, swivel; 1/8 npt x 5/32" (4 mm) tube	2
521	100721	PLUG; 1/4-18 nptf	3
522	512912	MUFFLER; 1/2 npt	2
523	100896	BUSHING; 3/4 x 1/2 npt	2
524	113498	SAFETY RELIEF VALVE; 110 psi (0.8 MPa, 8 bar)	1
525	117443	STANDOFF, aluminum, 8-32 UNC	2
526	240900	HOSE; 3/4 npt; 2.5 ft. (0.76 m)	1
527	158962	ELBOW, 1/8 (m) x 1/4 (f)	1
528	113911	GUAGE, 1/8, air	1

Metering Valve Manifold 245824

Item 6, page 21

Ref. No.	Part No.	Description	Qty.
601	245846	METERING VALVE; page 27	2
606	245861	SHUTOFF VALVE; see manual 306861	1
607	245833	FLUID MANIFOLD; page 28	1
611	245860	SHUTOFF VALVE; see manual 306861	1



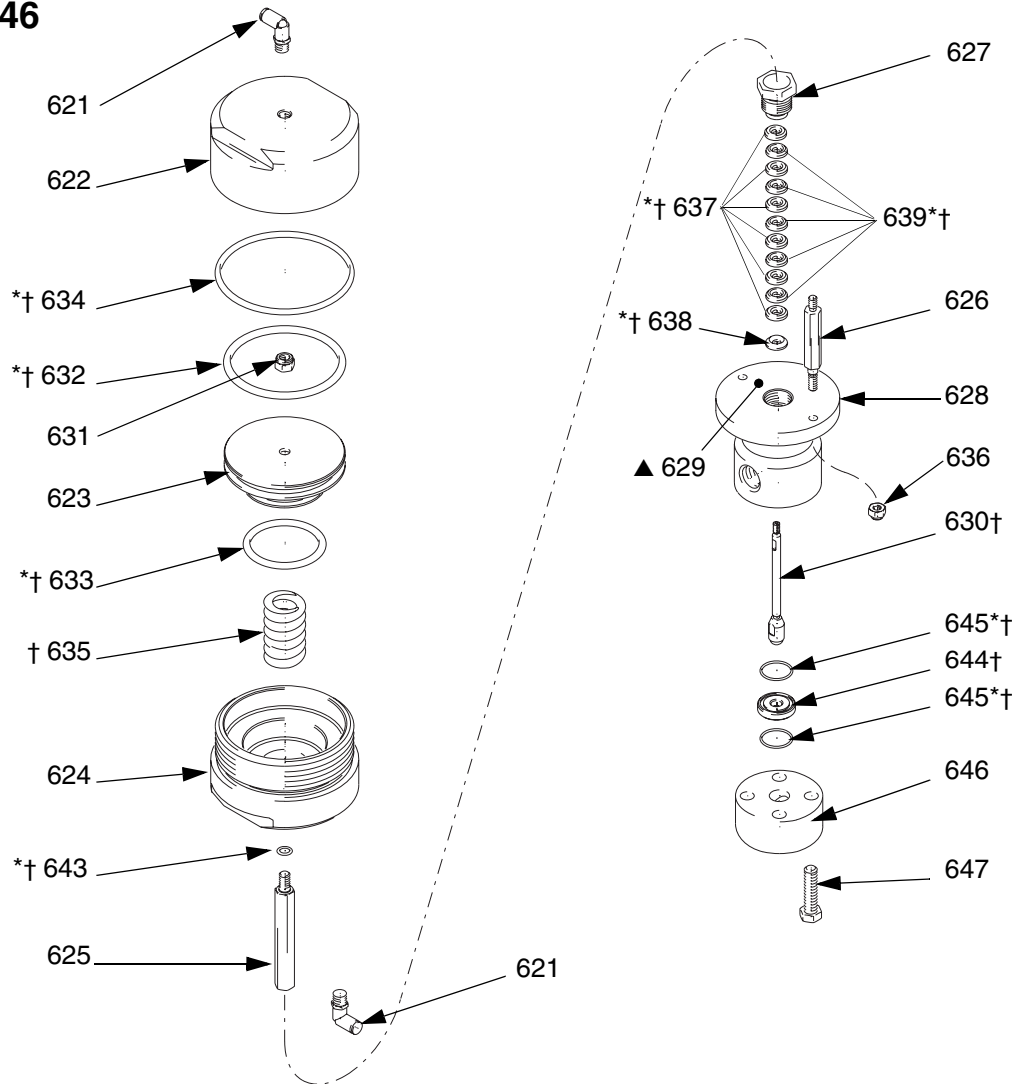
Sampling Valve 245143

Item 918

Ref. No.	Part No.	Description	Qty.
918a	245110	KNOB	1
918b	197681	HOUSING	1
918c	197332	SEAT	1
918d	107536	BALL, carbide	1
918e	110082	RETAINING RING	1
918f	111457	O-RING, PTFE	2
918h	187060	GASKET	1

* See page 21 for part no. and description.

Metering Valve 245846

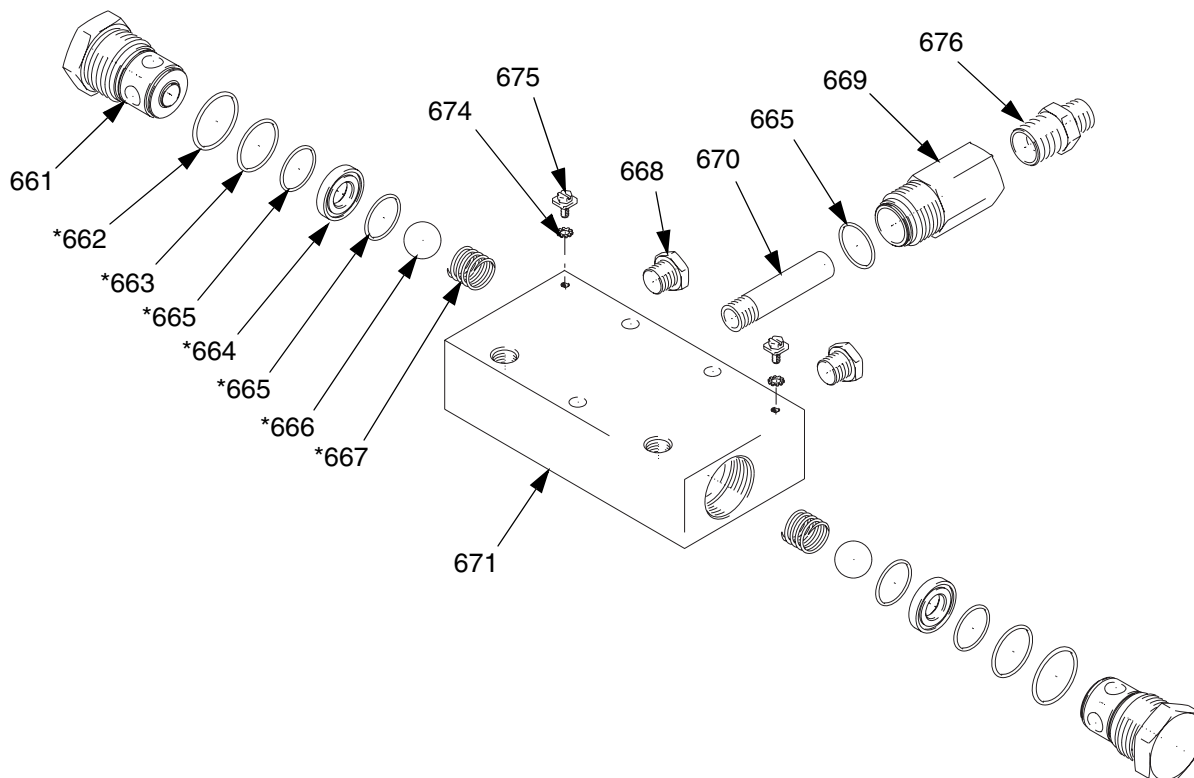


Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.
621	598140	ELBOW, 1/8 npt(m) x 5/32" (4 mm) tube	2	635†	109141	SPRING	1
622‡		VALVE CAP	1	636	102040	LOCKNUT; 1/4 UNC	2
623‡		PISTON	1	637*†		V-PACKING, UHMWPE	6
624‡		CYLINDER	1	638*†	189901	GLAND, male	1
625	15B545	PISTON ROD	1	639*†		V-PACKING, leather	5
626	15A834	TIE ROD	2	643*†		O-RING, buna-n	1
627	15A835	PACKING NUT	1	644†	15A830	SEAT	1
628	15A833	INLET HOUSING	1	645*†	107079	O-RING, PTFE	2
629▲	180233	WARNING LABEL	1	646	15A832	SEAT HOUSING	1
630†	245850	FLUID NEEDLE	1	647	102637	SCREW; 3/8 UNC-2A	4
631	111040	LOCKNUT, nylon; 5/16 UNC-3B	1				
632*†		O-RING, nitrile	1				
633*†		O-RING, nitrile	1				
634*†		O-RING, nitrile	1				

* Parts included in kit 234098.
 † Parts included in kit 234131.
 ‡ Not available for order from Graco.
 ▲ Replacement Warning labels available at no cost.

Fluid Manifold 245833

Item 607, page 26

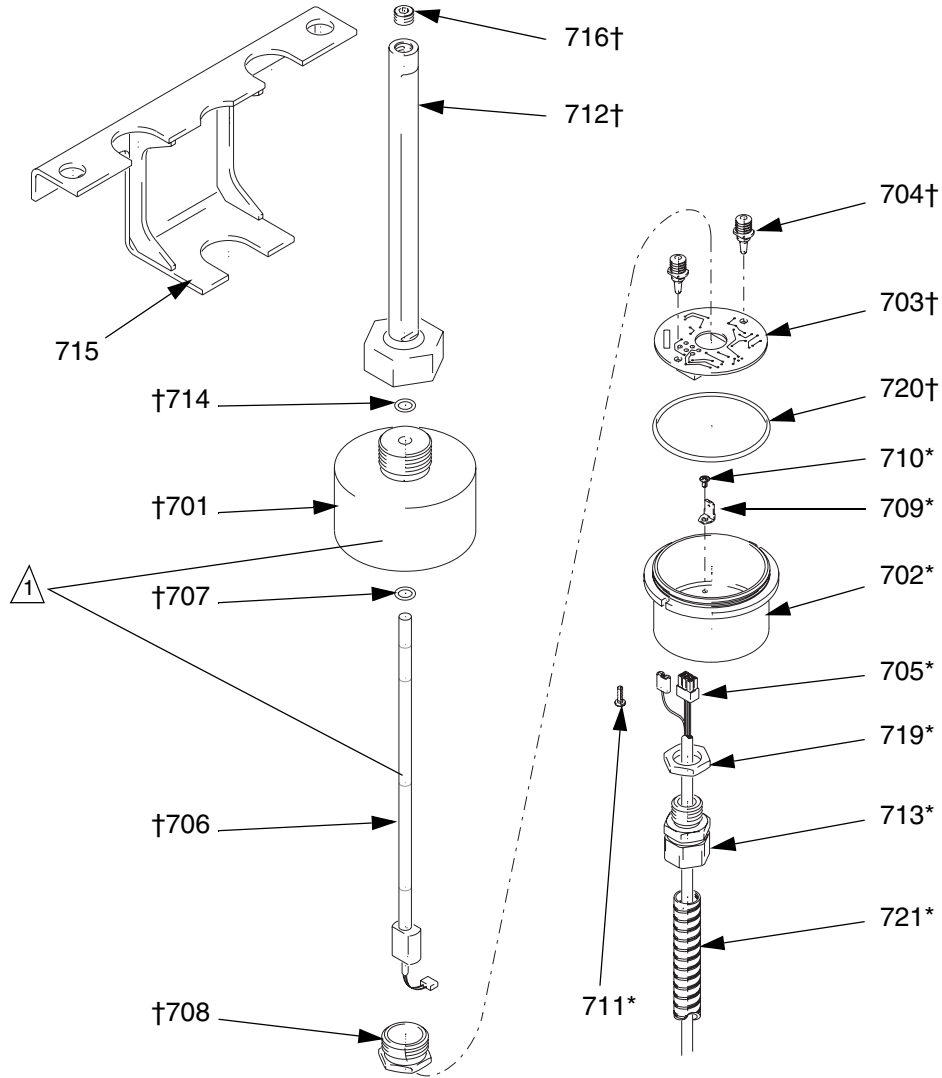


Ref. No.	Part No.	Description	Qty.	Ref. No.	Part No.	Description	Qty.
661	15A823	PLUG	2	669	15A825	PIPE, outlet	1
662*	107098	O-RING, PTFE	2	670	192977	PIPE, center	1
663*	107313	O-RING, PTFE	2	671‡		HOUSING	1
664*		SEAT	2	674	111307	LOCKWASHER	2
665*	103341	O-RING, PTFE	5	675	116343	GROUND SCREW,; M5 x 0.8	2
666*		BALL, metallic	2	676	159239	NIPPLE; 3/8 x 1/2 npt	1
667*	117333	SPRING	2				
668		PLUG; 3/8 npt	4				

* Parts included in kit 234100.
‡ Not available for order from Graco.

Sensor 245825

Item 7, page 21



Ref. No.	Part No.	Description	Qty.
701†	196280	CAP	1
702*	15A818	COVER	1
703†	243500	BOARD	1
704†	115925	SPACER	2
705*	117331	CABLE	1
706†	115917	SENSOR	1
707†	110004	O-RING, PTFE	1
708†	196289	CAP	1
709*	116024	TAB TERMINAL	1
710*	101855	SCREW; 4-24 UNC	1
711*	112546	SCREW; 4-40 taptite	2

Ref. No.	Part No.	Description	Qty.
712†	15A817	NUT; 1/8 npt	1
713*	117569	FITTING; 3/8 npt x 5/16" conduit	2
714†	154741	O-RING, buna-n	1
715	245831	BRACKET	1
716†	104765	PLUG; 18-27 ptf	1
719*	117586	LOCKNUT; 3/8-18 npt	2
720†	C20272	O-RING; fluoroelastomer	1
721*	117582	CONDUIT, 5 ft. (1.5 m)	★

* Parts included in kit 246345.

† Parts included in kit 246344.

★ Order length needed from distributor.

△ Calibration label.

Technical Data

Mix ratio range	0.0:1-10:1 (in 0.1 increments)
Ratio tolerance range	+/- 5%
Flow rates	
Minimum	1 qt./min. (0.95 liter/min.)*
Maximum	3 gal./min. (11.4 liter/min.)
Fluid viscosity range	200-20,000 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	
45:1	4500 psi (31 MPa, 310 bar)
56:1	5600 psi (38.6 MPa, 386 bar)
68:1	6800 psi (46.9 MPa, 469 bar)
80:1	7250 psi (50 MPa, 500 bar)
Air supply pressure range	50-110 psi (345-800 kPa, 3.5-8 bar)
Maximum air consumption at 100 psi (0.7 MPa, 7 bar) in cfm (m ³ /min.)	
45:1	110 (3.1)
56:1	125 (3.5)
68:1	155 (4.4)
80:1	180 (5.1)
Ambient temperature range	
Operating	32-130° F (0-54° C)
Storage	30-160° F (-1-71° C)
Environmental Conditions Rating	
	Indoor/outdoor use
	Altitude up to 4000 meters
	Maximum relative humidity to 99% up to 54° C
	Pollution degree (11)
	Installation category (2)
Sound pressure	98 dBA at 100 psi (0.7 MPa, 7 bar)
Wetted parts	
Suction tubes	aluminum
Pumps	carbon steel, alloy steel, 303, 440 & 17-4ph grades stainless steel, zinc and nickel plating, ductile iron, tungsten carbide, PTFE, leather
Metering Valves	carbon steel, zinc plating, carbide, polyethylene, leather
Manifold	carbon steel, zinc plating, carbide, 302 stainless steel
Mixer	stainless steel
Spray gun	See gun manual
PC Communications	RS-232

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



A series of 25 horizontal lines spanning the width of the page, providing a template for technical data entry.

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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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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This manual contains English. MM 309521

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