

# Fluid Mix Manifold

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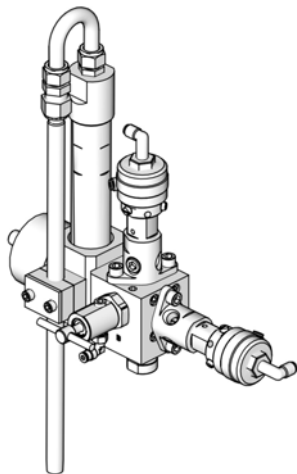
**For proportional mixing of plural component coatings with a ProMix<sup>®</sup> proportioner. For professional use only.**

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

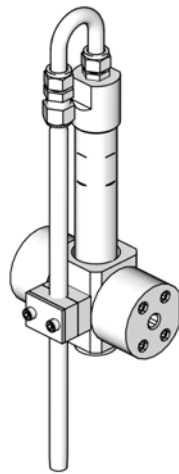


## Important Safety Instructions

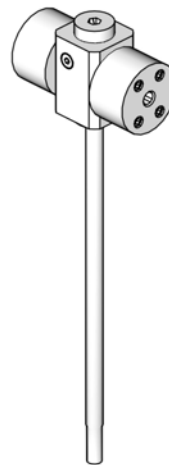
Read all warnings and instructions in this manual and in your proportioning system manual before using the equipment. Save all instructions.



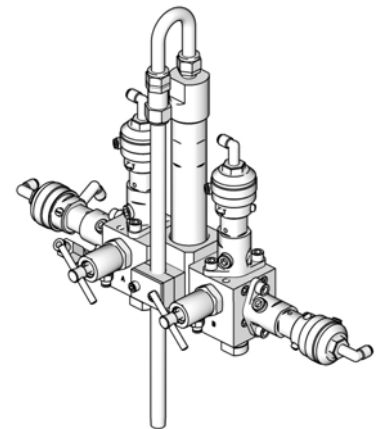
**Part No. 256875**



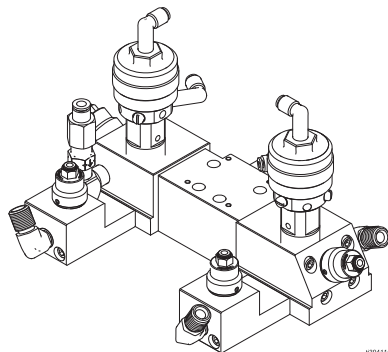
**Part No. 262398,  
24Y546 Acid**



**Part No. 262399,  
24Y547 Acid**



**Part No. 289695,  
24Y548 Acid**



**Part No. FXMM (IniFlex™)**

039411a

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# Related Manuals

See the following manuals for additional information on the fluid mix manifold.

Manual	Description
312775	ProMix® 2KS Manual System, Installation
312776	ProMix 2KS Manual System, Operation
312777	ProMix 2KS Manual System, Repair-Parts
312778	ProMix 2KS Automatic System, Installation
312779	ProMix 2KS Automatic System, Operation
312780	ProMix 2KS Automatic System, Repair-Parts
313881	ProMix 3KS Manual and Automatic System, Installation
313882	ProMix 3KS Manual System, Operation
313883	ProMix 3KS Manual and Automatic System, Repair-Parts
313885	ProMix 3KS Automatic System, Operation
3A0868	ProMix 2KE Pump-Based, Operation
3A0869	ProMix 2KE Meter-Based, Operation
3A0870	ProMix 2KE, Repair-Parts
312782	Air Actuated Dispense Valve, Instructions-Parts
3A8637	IniFlex™, Instructions-Parts

# Models

<b>Part No.</b>	<b>Maximum Working Pressure psi (MPa, bar)</b>	<b>Description</b>	<b>Standard Integrator Size</b>
289695	4000 (28, 280)	For ProMix 2KS Proportioner	50 cc
24Y548	4000 (28, 280)	For ProMix 2KS Proportioner (acid)	50 cc
256875	4000 (28, 280)	For ProMix 3KS Proportioner	50 cc
262398	4000 (28, 280)	For ProMix 2KE Proportioner, sequential dosing	50 cc
24Y546	4000 (28, 280)	For ProMix 2KE Proportioner, sequential dosing (acid)	50 cc
262399	4500 (31, 310)	For ProMix 2KE Proportioner, dynamic dosing	0 cc
24Y547	4500 (31, 310)	For ProMix 2KE Proportioner, dynamic dosing (acid)	0 cc
FXMMXX	300 (2.1, 21)	IniFlex for ProMix 2KE Proportioner, no dump	10 cc
FXMMAB	300 (2.1, 21)	IniFlex for ProMix 2KE Proportioner, A/B dump	10 cc
FXMMAX	300 (2.1, 21)	IniFlex for ProMix 2KE Proportioner, A dump only	10 cc
FXMMXB	300 (2.1, 21)	IniFlex for ProMix 2KE Proportioner, B dump only	10 cc

# Installation

## Air Connections

See FIG. 1, FIG. 2, or FIG. 3.

1. Connect 5/32 in. (4 mm) OD air tubes from the valve solenoids to the air inlets of each valve.
2. *ProMix 2KS and ProMix 3KS systems only:* Connect an air supply line to air purge valve (APV) inlet (1/4 in. ID tube is supplied, with tag).
3. Pressurize the system with air, and check for leaks, then relieve air pressure.




## Fluid Connections

See FIG. 1, FIG. 2, or FIG. 3.

1. Connect the solvent supply line to the 1/4 npt(f) solvent purge valve (SPV) inlet.
2. Connect the component A supply line to the meter A (MA) 1/4 npt(f) inlet. (See IniFlex manual for IniFlex connections.)
3. Connect the component B supply line to the meter B (MB) 1/4 npt(f) inlet. (See IniFlex manual for IniFlex connections.)
4. *ProMix 3KS systems only:* Connect the component C supply line to the meter C (MC) 1/4 npt(f) inlet.
5. Connect the gun fluid supply line between the static mixer tube (SM) and the gun fluid inlet. (If an IniFlex regulator is used, connect between the regulator outlet and the gun fluid inlet.)

**NOTE:** *On ProMix 3KS systems only,* connect the fluid hose (supplied with your system) between the ProMix 2KS static mixer and the fluid inlet of the ProMix 3KS. Then connect the gun hose to the static mixer of the ProMix 3KS.

## Grounding

 <b>WARNING</b>				
				
The equipment must be grounded to reduce the risk of static sparking. Static sparking can cause fumes to ignite or explode. Grounding provides an escape wire for the electric current.				

Connect a ground wire from a true earth ground to the mix manifold or the mix manifold mounting surface if there is electrical continuity between it and the mix manifold.

Follow the specific grounding instructions in the system and individual component manuals. The system may have special grounding requirements for the mix manifold.

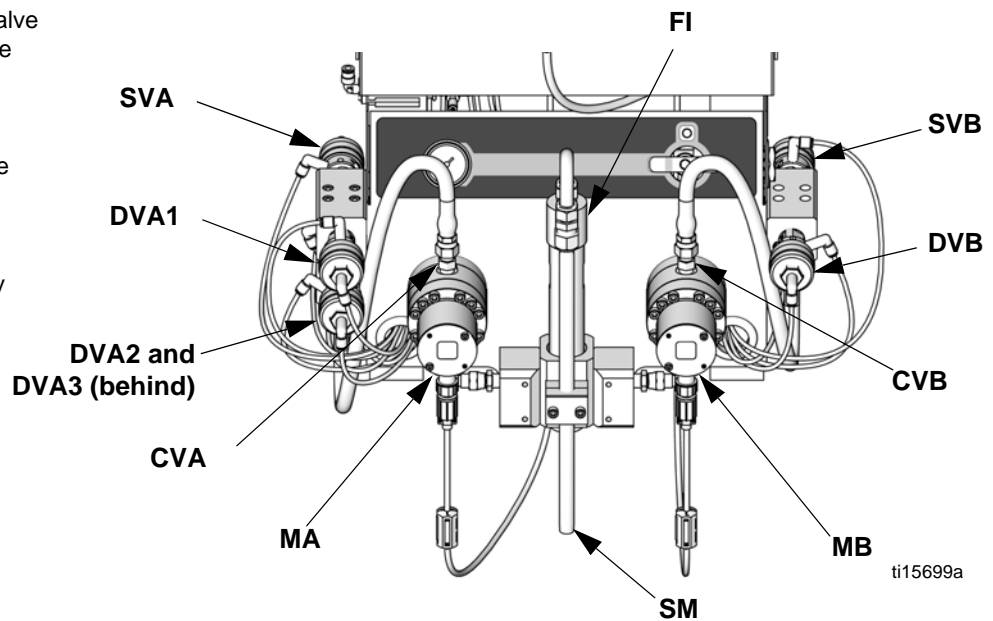
A ground wire and clamp, part no. 223547, is available from Graco.

## Flush Before Using Equipment

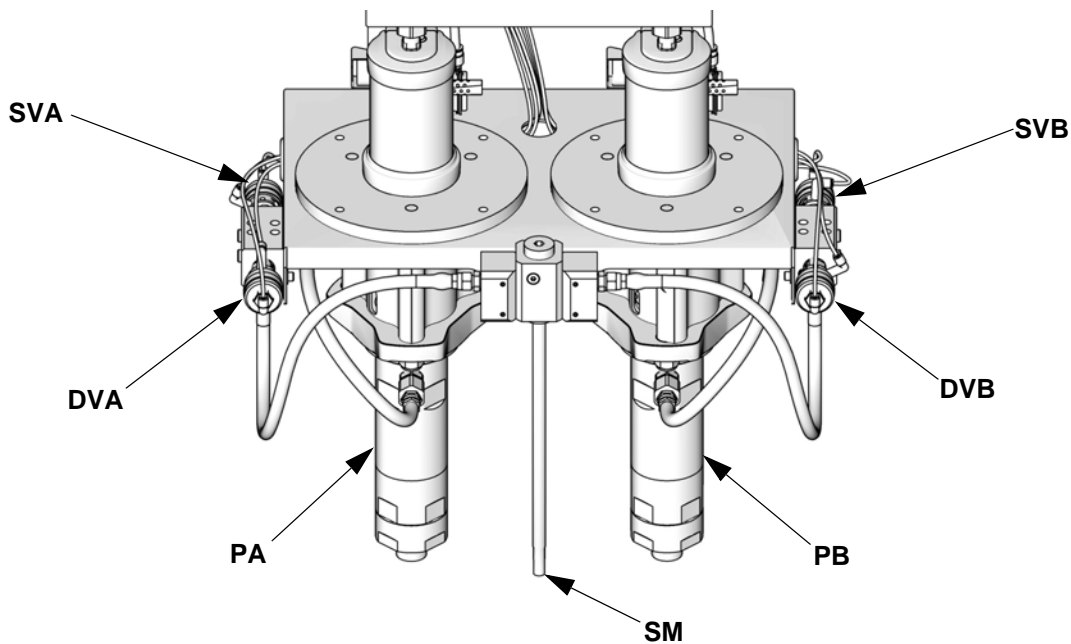
The equipment was tested with lightweight oil, which is left in the fluid passages to protect parts. To avoid contaminating your fluid with oil, flush the equipment with a compatible solvent before using the equipment. See **Purging**, page 8.

**Key:**

- MA Component A Meter
- DVA1 Component A Dose Valve
- DVA2 Second Color/Catalyst Valve
- DVA3 Third Color/Catalyst Valve
- SVA Solvent Valve A
- CVA Meter A Check Valve
- MB Component B Meter
- DVB Component B Dose Valve
- SVB Solvent Valve B
- CVB Meter B Check Valve
- SM Static Mixer
- FI Fluid Integrator Assembly



**FIG. 2. ProMix 2KE Fluid Controls, Sequential Dosing**




**Key:**






- |                            |                            |
|----------------------------|----------------------------|
| PA Component A Pump        | PB Component B Pump        |
| DVA Component A Dose Valve | DVB Component B Dose Valve |
| SVA Solvent Valve A        | SVB Solvent Valve B        |
|                            | SM Static Mixer            |

**FIG. 3. ProMix 2KE Fluid Controls, Dynamic Dosing**

# Operation








## Pressure Relief Procedure

 Follow the Pressure Relief Procedure whenever you see this symbol.

 <b>WARNING</b>				
				
<p>This equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from pressurized fluid, such as skin injection and splashing fluid, wear the appropriate protective equipment and follow your proportioner's Pressure Relief Procedure when you stop spraying and before cleaning, checking, or servicing the equipment.</p>				

To relieve pressure in your manifold, follow the pressure relief procedure in your ProMix Proportioner Operation manual

## Purging

 <b>WARNING</b>				
				
				
<p><b>FIRE AND EXPLOSION HAZARD</b>                      Flammable fumes, such as solvent and paint fumes, in <b>work area</b> can ignite or explode. Paint or solvent flowing through equipment can cause static sparking. To help prevent fire and explosion: use equipment only in a well-ventilated area, eliminate all ignition sources, ground all equipment in the work area, use only grounded hoses, hold the gun firmly to the side of a grounded pail when triggering into a pail, <b>stop operation immediately</b> if static sparking occurs or you feel a shock, and keep a fire extinguisher in the work area.</p> <p><b>SKIN INJECTION HAZARD</b>                      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> To help prevent serious injury: do not point the dispensing device at anyone or any part of your body; do not put your hand over the fluid outlet or try to stop or deflect leaks; follow the <b>Pressure Relief Procedure</b>, page 8, when you stop dispensing and before cleaning, checking, or servicing equipment; tighten all fluid connections; and check hoses and couplings daily, and replace immediately as necessary.</p> <p><b>PERSONAL PROTECTIVE EQUIPMENT</b>                      Wear appropriate protective equipment when in the work area to help prevent serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and chemical burns.</p>				

Follow the purging procedure in the proportioner system manual.

**NOTES:**

- Purge before using equipment, which was tested with lightweight oil that could contaminate your material.
- Purge before changing colors, before fluid can dry in the equipment, at the end of the day, before storing, and before repairing equipment.
- Purge at the lowest pressure possible. Check connectors for leaks and tighten as necessary.
- Use a cleaning fluid that is compatible with the fluid being dispensed and the equipment wetted parts.

**NOTICE**

Purge the sampling valves with solvent immediately after using them to keep material from hardening inside fluid passages and damaging the sampling tube (52). (Refer to the parts diagrams on pages 16, 18, and 22.)

**Operation Guidelines**

Manifold operation is dependent on the system it is connected to. Follow the system operation instructions.

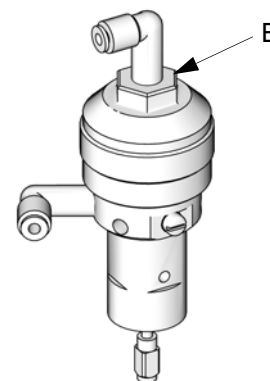
**NOTE:** After the system has been shut down for a period of time, it is normal for component solenoids and valves to cycle rapidly until system pressure is built back up when restarted.

- **Purge air from fluid lines** when components are loaded.
- **Adjust fluid supply pressure** if the fluid output is too low or too high.
- **Adjust flow rate** with fluid supply pressure regulators (optional) or dispense valves. Flow rate should be the same at the spray gun regardless of whether component dispense valves are open. Pressure adjustments of each component will vary with fluid viscosity. Start with the same fluid pressures, then adjust as needed. See **Mix Manifold Valve Settings**, page 9.
- **Adjust gun atomizing air pressure** as needed.

**NOTE:** Do not use the first 4-5 oz. (120-150 cc) of material as it may not be thoroughly mixed due to alarms while priming the system.

**Mix Manifold Valve Settings**

To open dose or purge valves, turn hex nut (E) *counterclockwise*. To close, turn *clockwise*. FIG. 5.



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**FIG. 5. Dispense Valve Adjustment**

**Table 2: : Mix Manifold Valve Settings**

Valve	Setting	Function
Dose	Hex nut (E) 1-1/4 turns out from fully closed	Limits maximum fluid flow rate into integrator and minimizes valve response time.
Purge		
Shutoff	Fully open during Run/Mix operation	Closes component ports to integrator during ratio check or meter calibration. Open ports during Run/Mix operation.
Sampling	Fully closed during Run/Mix operation	Open to dispense components while calibrating meters. Do not open sampling valves unless fluid shutoff valves are closed.

# Maintenance

## Daily

- Purge the mixing system at the end of production.
- Visually check and refill fluid supplies for all components and solvent.
- Visually inspect the manifold and fluid line components for leaks.
- Make sure meter cables and air pilot lines are securely connected.
- Visually check that there is no fluid in the air purge line.

## Weekly

- Clean and inspect the integrator mixer assembly. Follow **Remove the Integrator Mixer**, page 12. Ensure that the mixer (46) holes are not clogged. The cleaning frequency required depends on the fluid being mixed.
- Clean and inspect fluid and air filters.

## Preventive Maintenance Schedule

At least once a year, take apart the mix manifold and dose/purge valves and sampling valves. Clean and inspect them. Replace o-rings and seals. Repair kits are available from Graco. See **Repair**, page 12.



# Troubleshooting

## Isolate a Mixing Problem

A mixing problem can be caused by a problem with the controller, meters, and solenoid valves, as well as the mix manifold.

1. To isolate the problem, check for any visible faults or errors:
  - a. Are all air and fluid tubes, hoses, and electrical cables properly connected?
  - b. Are valves and controls properly set?
  - c. Do the fluid supplies, solenoids, and spray gun have sufficient air pressure?
  - d. Do the fluid supplies need refilling?
2. If there is a process control problem, refer to your controller manual.

## Common Causes

- The flow rate is too high.
- Highly unbalanced pressures from the fluid supply system.
- Slow actuation of component A or B dispense valves.
- System leaks.

## Unbalanced Pressure






1. Check all component fluid supply pressures.
2. *If the fluid supply pressures are not about equal, adjust their fluid pressure regulators, until the pressures are about the same.*
3. *If the pressures are already about equal, verify that the dose valves are operating properly.*

## Dose Valve Operation

Manually operate the dose valves by actuating their solenoids. The valves should snap open and shut quickly. If the valves move slowly, it could be caused by:

- Air pressure to the valve actuators is too low.  
*Minimum: 75 psi (0.52 MPa, 5.2 bar)*  
*Recommended: 85 psi (0.6 MPa, 6.0 bar).*
- Valve actuating air constricted by dirt or water in the air supply.
- Solenoid or tubing restricted.
- Dose valve seals need lubrication (see manual 312782).
- Air piston o-rings and packings are not lubricated (see manual 312782),
- Valve setting is turned out too far. See **Mix Manifold Valve Settings**, page 9.

# Repair

 <h2 style="margin: 0;">WARNING</h2>			
			
<p><b>SKIN INJECTION HAZARD</b></p> <p>High-pressure fluid from 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> To help prevent serious injury: do not put your hand over the fluid outlet or try to stop or deflect leaks; follow the <b>Pressure Relief Procedure</b>, page 8, when you stop dispensing and before cleaning, checking, or servicing equipment; tighten all fluid connections; and check hoses and couplings daily, and replace immediately as necessary.</p> <p><b>PERSONAL PROTECTIVE EQUIPMENT</b></p> <p>Wear appropriate protective equipment when in the work area to help prevent serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and chemical burns.</p>			

**NOTE:** Purge the mix manifold with solvent after repair to remove any excess grease that is used for lubricating parts.

## Remove the Integrator Mixer

See the **Parts** drawings on pages 16-27. Clean and inspect all parts. Apply pipe sealant to all pipe threads when reassembling.

Items 31, 39, and 40 are included in Manifold Rebuild Kit 15U931 (see page 17, 23, 24, or 26), and in Acid Manifold Rebuild Kit 26A170 (see page 19, 25, or 27,). Parts included in the kit are marked with a symbol, for example (31\*).

### Remove from the bottom:

1. Follow the **Pressure Relief Procedure**, page 8.
2. Remove the screw seal (37) and o-ring (39) from the manifold body (1).
3. Unscrew the manifold plug (3). Pull the integrator mixer assembly (35, 46, and 48) out the bottom of the manifold. Remove the o-rings (31, 40).
4. Inspect the integrator mixer (46). Check that the holes are not clogged; see page 10.
5. Reassemble.

### Remove from the top:

1. Follow the **Pressure Relief Procedure**, page 8.
2. Remove the outlet tube (21), the integrator cap (49), and the integrator housing (47). Remove the o-ring (31).
3. Unscrew the integrator mixer (46). The integrator mix cap (48) will remain attached.
4. Inspect the integrator mixer (46). Check that the holes are not clogged; see page 10.
5. Reassemble.

To clean or replace the static mixer element (25), remove the hose and any fittings from the bottom of the static mixer tube (24). Pull the element out through the bottom.

## Remove the Restrictor (ProMix 2KE, Dynamic Dosing only)

See the **Parts** drawing on page 24, 25, 26, or 27. Clean and inspect all parts. Apply pipe sealant to all pipe threads when reassembling.

Restrictor Kit 15U955 is available, including the housing (54), six injector restrictors (55) of different sizes, and necessary o-rings.

### Remove from the bottom:

1. Follow the **Pressure Relief Procedure**, page 8.
2. Unscrew the static mixer tube (24) and the injector housing (54). Remove the o-ring (31).
3. Pull restrictor (55) out through the bottom of the manifold body.
4. Reassemble with new restrictor and o-ring.

### Remove from the top:

1. Follow the **Pressure Relief Procedure**, page 8.
2. Remove the screw seal (37) and o-ring (39) from the manifold body (1).
3. Unscrew the manifold plug (3). Pull the integrator base (35) and the restrictor (55) out through the top. Remove the o-rings (31 and 40).
4. Reassemble with new restrictor and o-rings.

## Repair the Valves and Seats (ProMix 2KS and ProMix 3KS only)

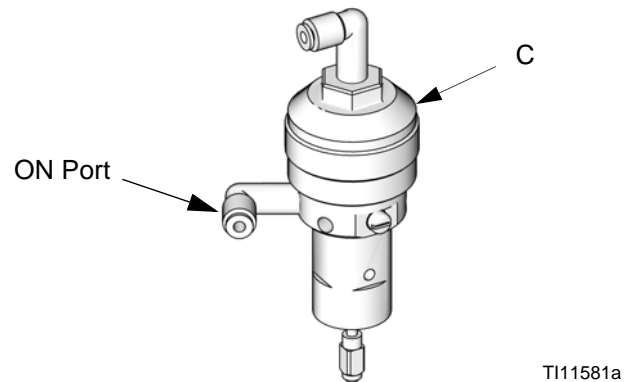
Valve Seat Kit 24A861 (see page 17 or 23), and Acid Valve Seat Kit 26A169 (see page 19) are available. Parts included in the kit are marked with a symbol, for example (16‡). For best results, use all parts included in the kit.

See the **Parts** drawings on pages 16, 18, or 22. Clean and inspect all parts. Apply pipe sealant to all pipe threads when reassembling.

1. Follow the **Pressure Relief Procedure**, page 8.
2. Disconnect the fluid line from the valve adapter (17).

3. Disconnect the air lines from the valve (19).
4. Unscrew the cap (C) to remove spring pressure on the valve. See FIG. 6.

**NOTE:** Another method of removing spring pressure is by applying air to the ON port, to lift the valve needle off the seat.



**Fig. 6. Dispense Valve Cap**

5. Remove the screws (20). Lift the adapter (17) and valve (19) off the shutoff valve manifold (11 or 36).
6. Remove the seat (16) and o-rings (15).
7. Unscrew the valve (19) from the adapter (17). Remove the o-ring (18).

**NOTE:** See manual 312782 to repair the valve (19).

8. Install the new seat (16‡) and o-rings (15‡).
9. Reinstall the adapter (17) and screws (20).
10. Before performing step 11, install the new o-ring (18\*) and screw the valve (19) securely into the adapter (17).
11. Install the spring and valve cap (C). See manual 312782 to adjust the spring tension and needle travel.
12. Reconnect the fluid and air lines.

## Rebuild the Mix Manifold

Manifold Rebuild Kit 15U931 (see page 17, 23, 24, or 26), and Acid Manifold Rebuild Kit 26A170 (see page 19, 25, or 27) are available. Parts included in the kit are marked with a symbol, for example (3\*). For best results, use all parts included in the kit.

See the **Parts** drawings on pages 16-27. Clean and inspect all parts. Apply pipe sealant to all pipe threads when reassembling.

1. Follow the **Pressure Relief Procedure**, page 8.
2. *ProMix 2KS and ProMix 3KS only:* Follow steps 2-6 under **Repair the Valves and Seats (ProMix 2KS and ProMix 3KS only)**, page 13. Do this for each of the valves.
3. *ProMix 2KS and ProMix 3KS only:* Remove the retaining ring (22) from the manifold block. Unscrew the shutoff valve handle (12). Remove the backup (14) and o-ring (13). Repeat for each side.
4. Remove the screws (23) and the manifolds (11, 8, or 36).
5. Note the orientation of the check valves (45). Remove the check valves and o-rings (5).
6. Install the new o-ring (5\*) and check valve (45\*). Reinstall the manifolds (11, 8, or 36).
7. Follow steps 2-5 under **Remove the Integrator Mixer**, page 12.

**NOTE:** To replace the outlet tube (21) and the static mixer tube (24), see **Replace the Outlet Tube and Static Mixer Tube**, on page 14.

8. *ProMix 2KS and ProMix 3KS only:* Install the o-ring (13\*), backup (14\*), shutoff valve handle (12), and retaining ring (22) on each side.
9. *ProMix 2KS and ProMix 3KS only:* Install the o-rings (15\*) and seats (16) for each of the valves (19).
10. *ProMix 2KS and ProMix 3KS only:* Reinstall the valves (19) and adapters (17) with the screws (20).
11. Reconnect the fluid and air lines.

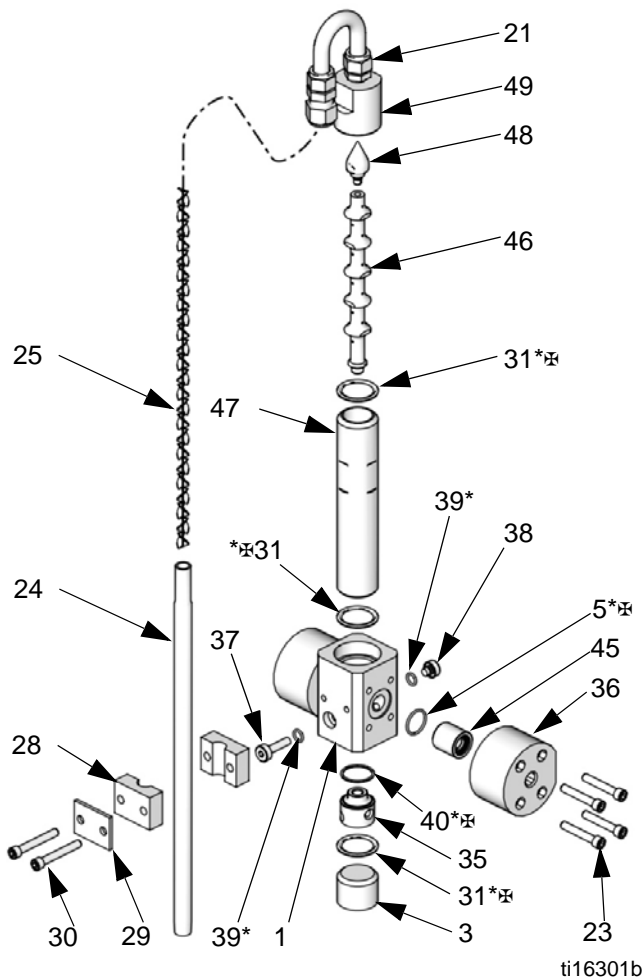
## Replace the Outlet Tube and Static Mixer Tube

See the **Parts** drawings on pages 16-26. If the outlet tube (21) or the static mixer tube (24) need replacement, both must be replaced.

1. Follow the **Pressure Relief Procedure**, page 8.
2. Unscrew the nut of the outlet tube (21) from the static mixer tube (24).
3. Remove the screws (30), cover (29), and clamp (28). Remove the static mixer tube (24). Remove the static mixer (25) from the tube.
4. Remove the outlet tube (21) from the integrator cap (49). Install the new outlet tube in the cap.
5. Install the static mixer (25) in the new tube (24).
6. Screw the outlet tube (21) nut and ferrule onto the static mixer tube (24) 1.25 turns past hand tight. This securely seats the ferrule on the tube.
7. Unscrew the nut from the tube (24). The ferrule will remain in place.
8. Screw the nut back onto the tube (24) 1.25 turns past hand tight.
9. Reassemble the clamp (28), cover (29), and screws (30) to hold the tube (24) in place.



# Part No. 262398, for ProMix 2KE Proportioner, Sequential Dosing



Ref.	Part	Description	Qty.
1	15T571	BODY, integrator manifold	1
3	15T592	PLUG, integrator manifold	1
5*	110135	O-RING	2
21	118823	TUBE, outlet	1
23	15B588	SCREW, cap, socket hd	8
24	15D430	TUBE, static mixer	1
25	118822	ELEMENT, static mixer	2
28	118830	CLAMP, body, integrator tube	2
29	118831	COVER, clamp, integrator tube	1
30	101885	SCREW, cap, socket hd	2
31*	110966	O-RING	3
35	15T943	BASE, integrator	1
36	----	MANIFOLD, end	2
37	15T748	SEAL, screw	1
38	15T749	SEAL, screw	1
39*	110004	O-RING	2
40*	----	O-RING	1
45*	16D658	VALVE, check	2
46	15V021	MIXER, integrator, 50cc, includes parts 47-49	1
47	----	HOUSING, integrator, 50cc	1
48	----	CAP, mix, integrator	1
49	----	CAP, integrator	1

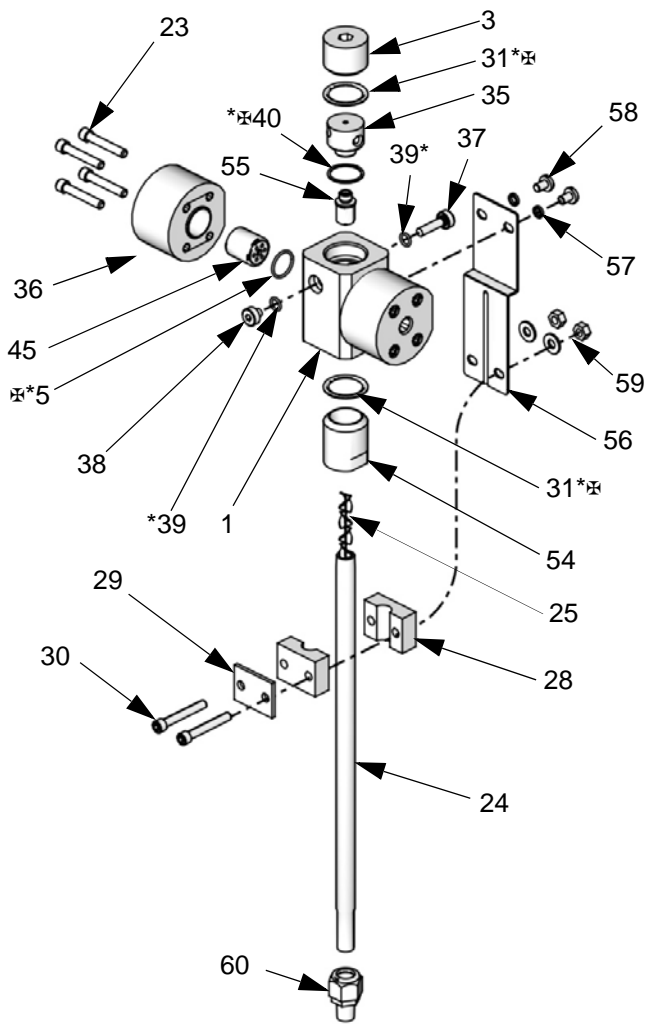
\* Parts included in Manifold Rebuild Kit 15U931 (purchase separately). Note: the kit contains parts used to rebuild the check valve (45), and has additional parts not needed to rebuild this manifold.

⊗ Parts included in Integrator Seal Kit 15U930.

## Integrator Kits

Part No.	Size	Description
15V021 (standard)	50 cc	Includes housing, mixer, o-rings, and caps
24B618 (optional)	100cc	Includes housing, mixer, o-rings, and cap
15U955 (optional)	0 cc	For dynamic dosing; includes housing, 6 injector restrictors, and o-rings

## Part No. 262399, for ProMix 2KE Proportioner, Dynamic Dosing



Ref.	Part	Description	Qty.
1	15T571	BODY, integrator manifold	1
3	15T592	PLUG, integrator manifold	1
5*⌘	110135	O-RING	2
23	15B588	SCREW, cap, socket hd	8
24	15D430	TUBE, static mixer	1
25	118822	ELEMENT, static mixer	2
28	118830	CLAMP, body, integrator tube	2
29	118831	COVER, clamp, integrator tube	1
30	101885	SCREW, cap, socket hd	2
31*⌘	110966	O-RING	2
35	15T943	BASE, integrator	1
36	----	MANIFOLD, end	2
37	15T748	SEAL, screw	1
38	15T749	SEAL, screw	1
39*	110004	O-RING	2
40*⌘	----	O-RING	1
45*	16D658	VALVE, check	2
54	15U955	KIT, injection, 0cc, includes part 55	1
55	----	RESTRICTOR, injection, 0.070	1
56	16G872	BRACKET, mounting	1
57	105510	WASHER, lock	2
58	100609	SCREW, machine, pan head	2
59	112223	NUT, hex	2
60	16G636	FITTING, outlet	1

\* Parts included in Manifold Rebuild Kit 15U931 (purchase separately). Note: the kit contains parts used to rebuild the check valve (45), and has additional parts not needed to rebuild this manifold.

⌘ Parts included in Integrator Seal Kit 15U930.

ti29368b

### Restrictor Kit

Part No.	Size	Description
15U955	0 cc	For dynamic dosing; includes housing, 6 injector restrictors, and o-rings





# Technical Specifications

<b>Fluid Mix Manifold</b>		
	<b>US</b>	<b>Metric</b>
Maximum fluid working pressure		
Models 289695, 256875, 262398, 24Y548, and 24Y546	4000 psi	28.0 MPa, 280 bar
Models 262399 and 24Y547	4500 psi	31.0 MPa, 310 bar
Model IniFlex FXMM	300 psi	2.1 MPa, 21 bar
<b>Inlet/Outlet Sizes</b>		
Dispense valve fluid inlet size	1/4 in. npt(f); 1/4 in. npt(m) (IniFlex FXMM)	
Dispense valve air inlet size	5/32 in. (4 mm) OD tube	
<b>Materials of Construction</b>		
Wetted materials on all models	303 SST, 316 SST, 17-4 SST, Tungsten Carbide, PTFE, PEEK Dispense Valves: see manual 312782	
<b>Weight (by Model)</b>		
289695 and 24Y548	18.15 lb.	8.23 kg
256875	14.00 lb.	6.35 kg
262398 and 24Y546	10.00 lb.	4.54 kg
262399 and 24Y547	8.50 lb.	3.86 kg
FXMMXX	10.50 lb.	4.76 kg
FXMMAX and FXMMXB	11.00 lb.	4.99 kg
FXMMAB	11.50 lb.	5.22 kg
<b>Notes</b>		
All trademarks or registered trademarks are the property of their respective owners.		

## California Proposition 65

### CALIFORNIA RESIDENTS

 **WARNING:** Cancer and reproductive harm – [www.P65warnings.ca.gov](http://www.P65warnings.ca.gov).

# 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.

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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

For the latest information about Graco products, visit [www.graco.com](http://www.graco.com).

For patent information, see [www.graco.com/patents](http://www.graco.com/patents).

**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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Original instructions. This manual contains English. MM 312781

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