

Fluid Mix Manifold

312781H

EN

For proportional mixing of plural component coatings. For professional use only.

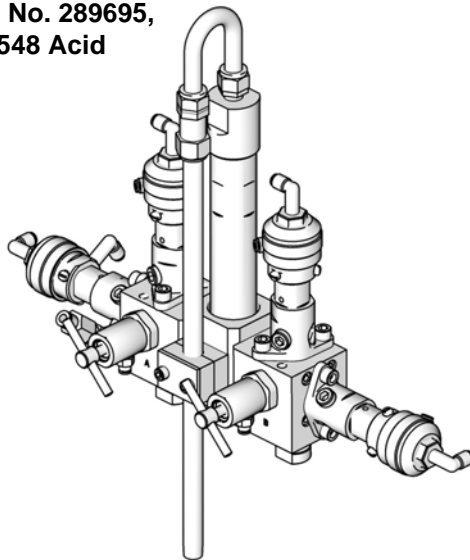
See page 2 for model information, including maximum working pressure.



Important Safety Instructions

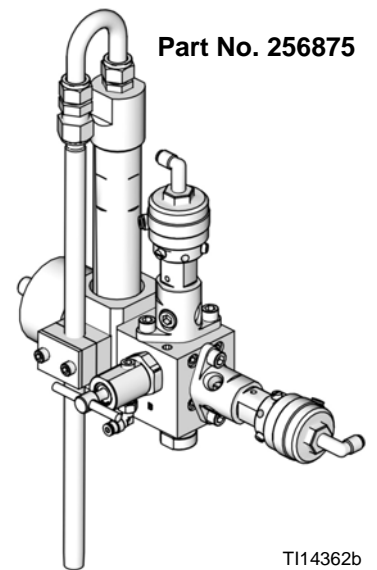
Read all warnings and instructions in this manual. For complete warnings and instructions see your proportioning system manual. Hazard symbols refer to specific procedure risks. Save all instructions.

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

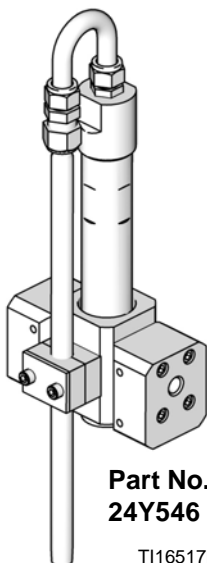


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Part No. 256875

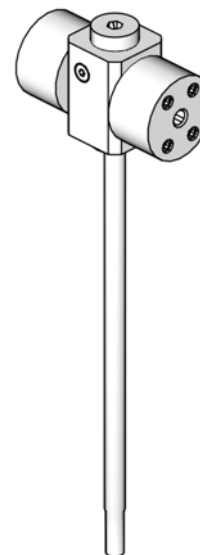


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**Part No. 262398,
24Y546 Acid**

T116517b



**Part No.
262399,**

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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	Dispense Valve

Models

Part No.	Maximum Working Pressure psi (MPa, bar)	Description	Standard Integrator Size
289695	4000 (28, 280)	For ProMix™ 2KS Proportioner	50cc
24Y548	4000 (28, 280)	For ProMix™ 2KS Proportioner (acid)	50cc
256875	4000 (28, 280)	For ProMix™ 3KS Proportioner	50cc
262398	4000 (28, 280)	For ProMix™ 2KE Proportioner, sequential dosing	50cc
24Y546	4000 (28, 280)	For ProMix™ 2KE Proportioner, sequential dosing (acid)	50cc
262399	4500 (31, 310)	For ProMix™ 2KE Proportioner, dynamic dosing	0cc
24Y547	4500 (31, 310)	For ProMix™ 2KE Proportioner, dynamic dosing (acid)	0cc

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.
3. Connect the component B supply line to the meter B (MB) 1/4 npt(f) inlet.
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.

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



The equipment must be grounded. Grounding reduces the risk of static and electric shock by providing an escape wire for the electrical current due to static build up or in the event of a short circuit.

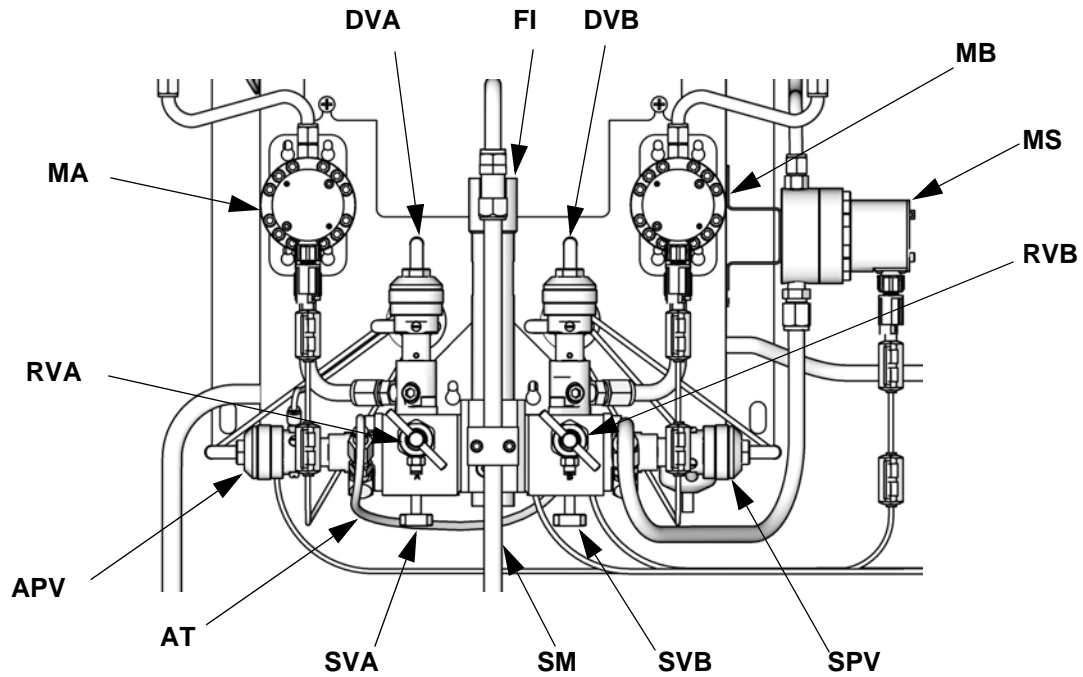
Connect a ground wire from a true earth ground to the mix manifold or the mix manifold mounting surface if there is electrical continuity between it and the mix manifold.

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

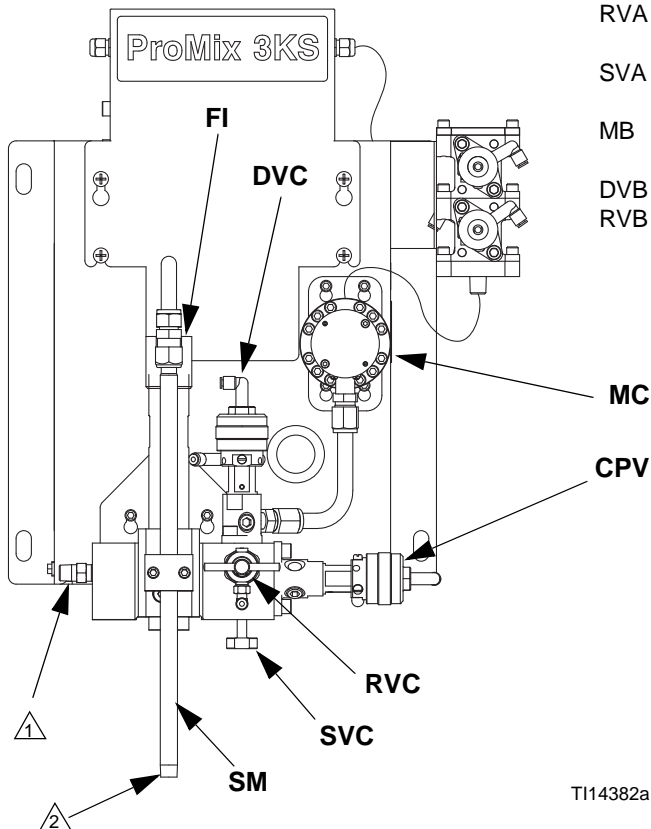
The equipment was tested with lightweight oil, which is left in the fluid passages to protect parts. To avoid contaminating your fluid with oil, flush the equipment with a compatible solvent before using the equipment. See **Purging**, page 7.



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Key: ProMix 2KS Fluid Station

- | | | | |
|-----|--|-----|---------------------------------|
| MA | Component A Meter (not included in mix manifold) | SVB | Component B Shutoff Valve |
| DVA | Component A Dose Valve | MS | Solvent Meter (accessory) |
| RVA | Component A Sampling Valve | SPV | Solvent Purge Valve |
| SVA | Component A Shutoff Valve | APV | Air Purge Valve |
| MB | Component B Meter (not included in mix manifold) | SM | Static Mixer |
| DVB | Component B Dose Valve | FI | 2KS Fluid Integrator |
| RVB | Component B Sampling Valve | AT | Air Purge Valve Air Supply Tube |



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Key: ProMix 3KS Fluid Station

- | | |
|-----|--|
| MC | Component C Meter (not included in mix manifold) |
| DVC | Component C Dose Valve |
| RVC | Component C Sampling Valve |
| SVC | Component C Shutoff Valve |
| CPV | Component C Purge Valve |
| SM | Static Mixer |
| FI | 3KS Fluid Integrator |

△1 3KS fluid inlet. Connect fluid supply line from 2KS fluid manifold outlet here.

△2 Connect fluid supply line to gun.

FIG. 1. ProMix 2KS and ProMix 3KS Wall Mount Fluid Stations

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

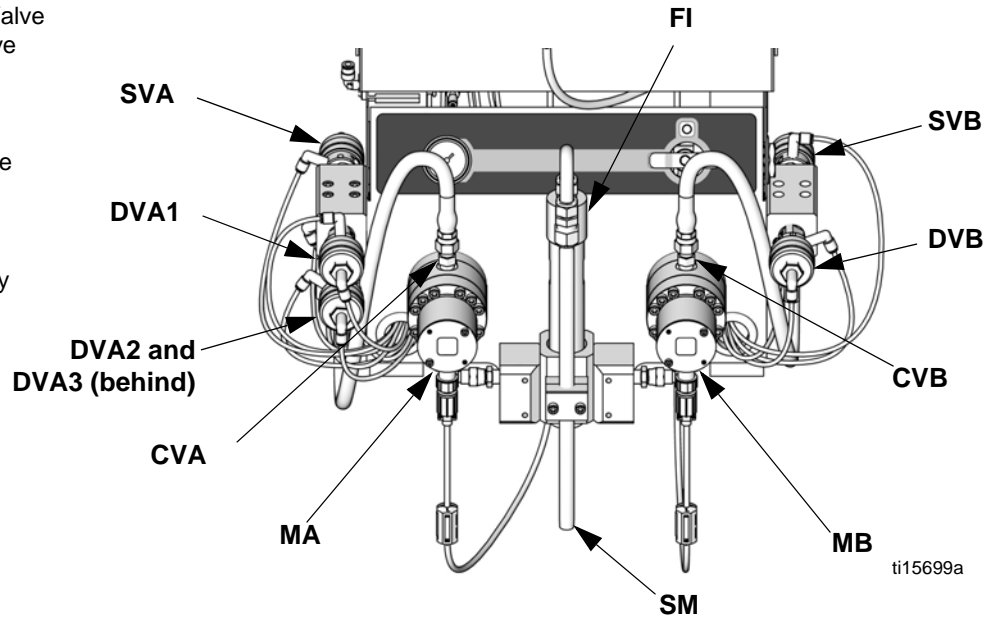
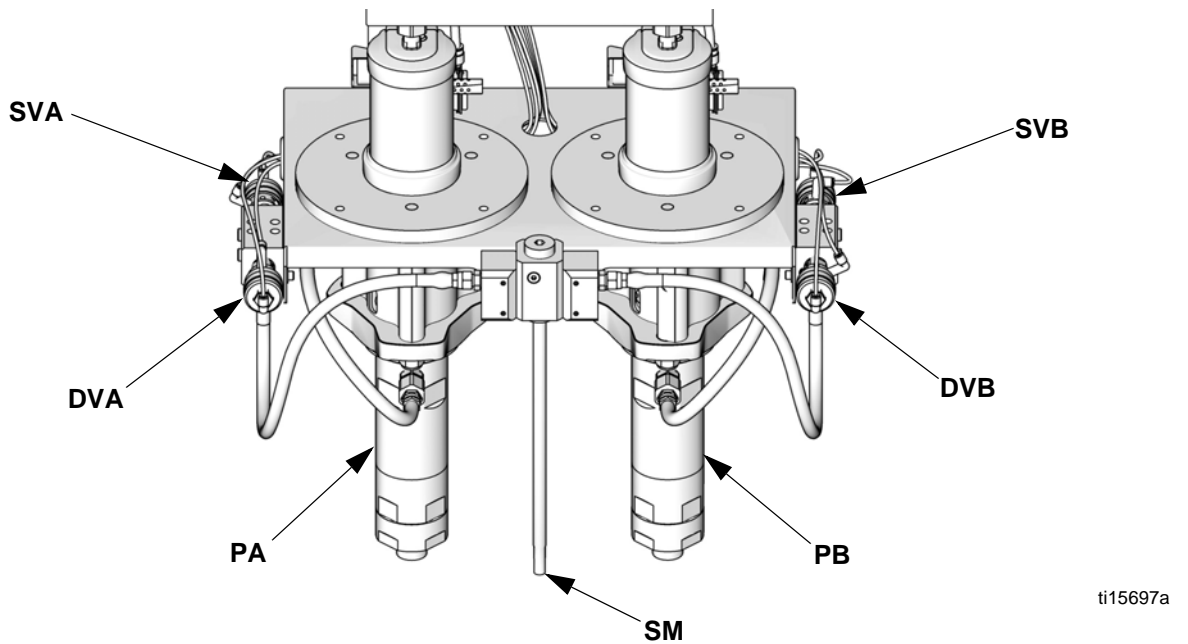


FIG. 2. ProMix 2KE Fluid Controls, Sequential Dosing



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

Setup the Fluid Manifold for Dynamic Dosing

If you will be operating using dynamic dosing, the fluid manifold must be setup properly for your application. Order the 15U955 Injection Kit (accessory).

NOTE: For ProMix 3KS, order **two** 15U955 Injection Kits.

See your proportioner manuals for setup instructions, and to select the appropriate size restrictor for your selected flow and ratio.

Table 1: Restrictor Sizes

Size Code	Orifice Size	Part No.
2*	.020	15U936
3*	.030	15U937
4*	.040	15U938
5✓	.050	15U939
6✓	.060	15U940
7*	.070	15U941
8✓	.080	16D554

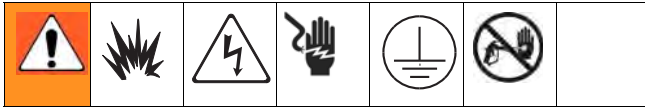
* *These restrictors are included in Injection Kit 15U955.*

✓ *These restrictors are optional sizes, not included in the Injection Kit.*

Operation

Purging

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.

Operation Guidelines

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

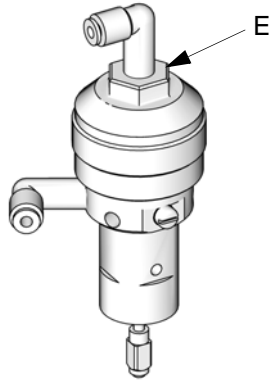
NOTE: After the system has been shut down for a period of time, it is normal for component solenoids and valves to cycle rapidly until system pressure is built back up when restarted.

- **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 8.
- **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 dispense or purge valves, turn hex nut (E) *counterclockwise*. To close, turn *clockwise*. FIG. 4.



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FIG. 4. Dispense Valve Adjustment

Table 2: Mix Manifold Valve Settings

Valve	Setting	Function
Dose Purge	Hex nut (E) 1-1/4 turns out from fully closed	Limits maximum fluid flow rate into integrator and minimizes valve response time.
Shut-off	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

<p>To reduce the risk of injury, including fluid injection, follow the Pressure Relief Procedure in your proportioning equipment manual before cleaning, checking, or repairing equipment.</p>						

Daily

- Purge the mixing system at the end of production.
- Check and refill fluid supplies for all components and solvent.
- Inspect the manifold and fluid line components for leaks.
- Make sure meter cables and air pilot lines are securely connected.
- 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 10. 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 10.

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 8.

Repair

						
<p>To reduce the risk of injury, including fluid injection, follow the Pressure Relief Procedure in your proportioning equipment manual before cleaning, checking, or repairing equipment.</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 14-23. 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 15, 19, 20, or 22), and in Acid Manifold Rebuild Kit 26A170 (see page 17, 21, or 23,). Parts included in the kit are marked with a symbol, for example (31*).

Remove from the bottom:

1. Relieve pressure.
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 8.
5. Reassemble.

Remove from the top:

1. Relieve pressure.
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 8.
5. Reassemble.

NOTE: 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 20, 21, 22, or 23. 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. Relieve pressure.
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. Relieve pressure.
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 15 or 19), and Acid Valve Seat Kit 26A169 (see page 17) 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 14, 16, or 18. Clean and inspect all parts. Apply pipe sealant to all pipe threads when reassembling.

1. Relieve pressure.
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. 5.

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

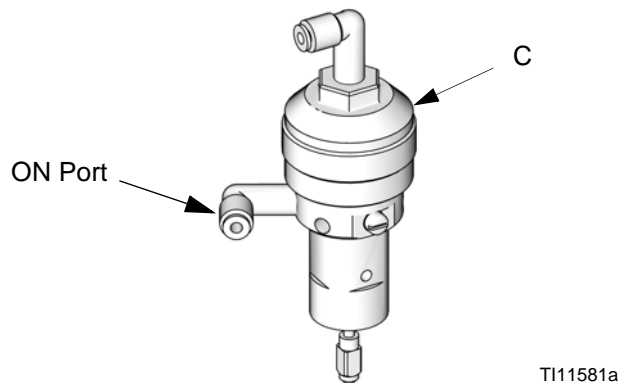


FIG. 5. Dispense Valve Cap

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 15, 19, 20, or 22), and Acid Manifold Rebuild Kit 26A170 (see page 17, 21, or 23) 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 14-23. Clean and inspect all parts. Apply pipe sealant to all pipe threads when reassembling.

1. Relieve pressure.
2. *ProMix 2KS and ProMix 3KS only:* Follow steps 2-6 under **Repair the Valves and Seats (ProMix 2KS and ProMix 3KS only)**, page 11. 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 10.

NOTE: To replace the outlet tube (21) and the static mixer tube (24), see **Replace the Outlet Tube and Static Mixer Tube**, on page 12.

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

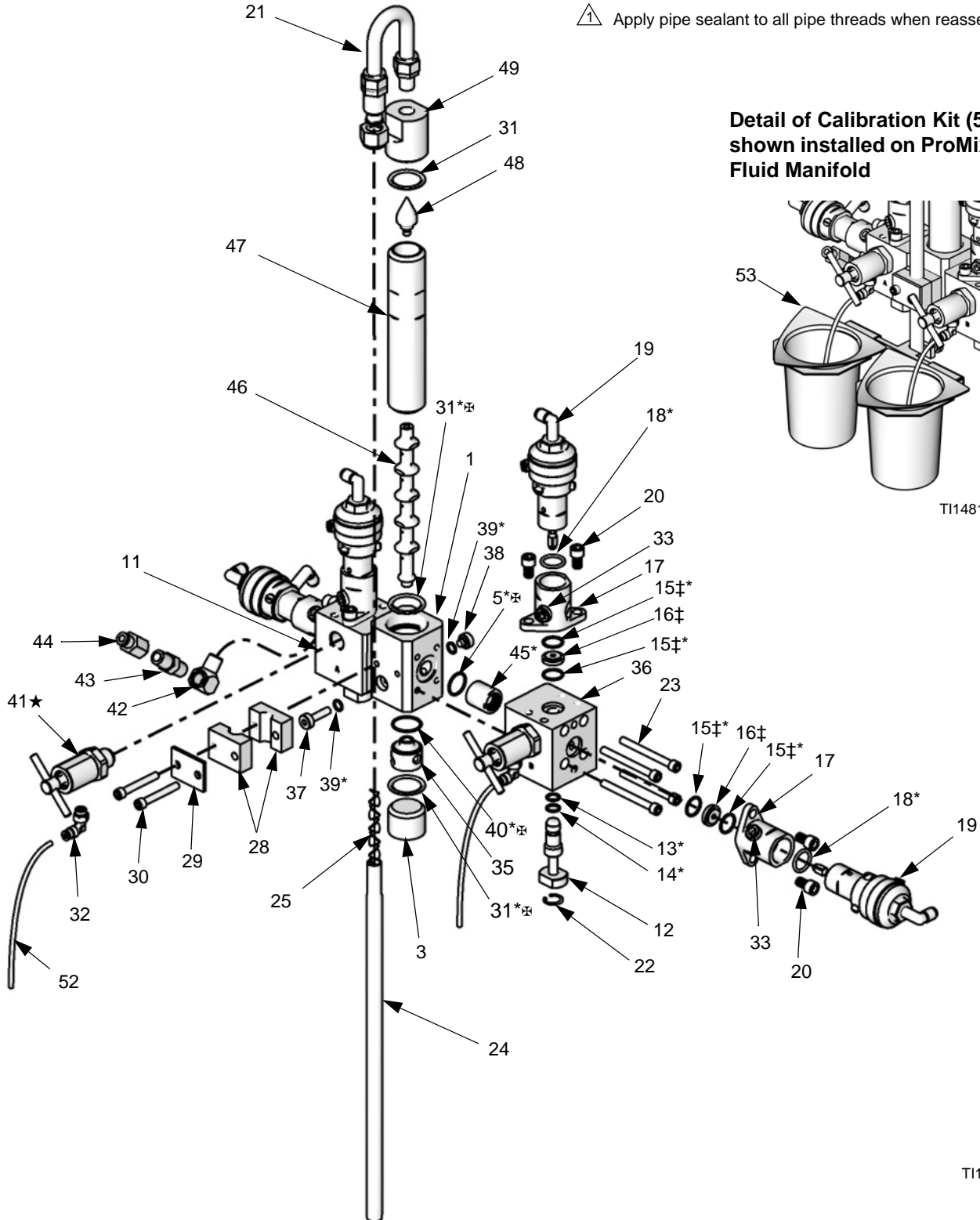
See the **Parts** drawings on pages 14-22. If the outlet tube (21) or the static mixer tube (24) need replacement, both must be replaced.

1. Relieve pressure.
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.

Parts

Part No. 289695, for ProMix 2KS Proportioner

 Apply pipe sealant to all pipe threads when reassembling.



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Part No. 289695, for ProMix 2KS Proportioner

Ref. No.	Part No.	Description	Qty	Ref. No.	Part No.	Description	Qty
1	15T571	BODY, manifold integrator	1	41★	256399	VALVE, pressure, bleed	2
3	15T592	PLUG, integrator manifold	1	42	166866	ELBOW, street; 1/4 npt (m x f)	1
5*⊕	110135	O-RING; ptfe	2	43	501867	VALVE, check	1
11	17D856	MANIFOLD, shutoff valve A	1	44	114112	FITTING, connector, tube; 1/4 npt(f) x 1/4 in. (6 mm) OD tube	1
12	15T573	HANDLE, shutoff valve	2	45*	16D658	VALVE, check	2
13*	119348	O-RING; pfe	2	46◆	---	MIXER, integrator, 50 cc	1
14*	119187	O-RING, back-up; ptfe	2	47◆	---	HOUSING, integrator, 50 cc	1
15*‡	109450	O-RING; ptfe	8	48◆	---	CAP, mix, integrator	1
16‡	---	SEAT, valve needle, high pressure	4	49◆	---	CAP, integrator	1
17	15T600	ADAPTER, valve, dose	4	52	---	TUBE; nylon; 5/32 in (4 mm) OD; 6 in. (152 mm) long	2
18*	15Y627	O-RING; ptfe	4	53	15X888	KIT, calibration	1
19	15X303	VALVE, dispense; includes item 18; see manual 312782	4				
20	C20010	SCREW, cap, socket-hd; 5/16-24 x 1/2 in. (13 mm)	8				
21	118823	TUBE, outlet	1				
22	110082	RING, retaining, internal	2				
23	101950	SCREW, cap, socket-hd, 1/4-20 x 2-1/2 in. (64 mm)	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; 1/4-20 x 1-3/4 in. (44 mm)	2				
31*⊕◆	110966	O-RING; ptfe	3				
32	114151	ELBOW, connector, tube; 1/8 npt(m) x 5/32 in. (4 mm) OD tube	2				
33	101970	PLUG, pipe, headless	4				
35	15T943	BASE, integrator	1				
36	17D857	MANIFOLD, shutoff valve B	1				
37	15T748	SEAL, screw	1				
38	15T749	SEAL, screw	1				
39*	110004	O-RING; ptfe	2				
40*⊕◆---	---	O-RING; ptfe	1				

* Parts included in Manifold Rebuild Kit 15U931 (purchase separately).

⊕ Parts included in Integrator Seal Kit 15U930.

‡ Parts included in Valve Seat Kit 24A861 (purchase separately). (Optional Carbide Seat Kit 15U932 is available separately.)


★ Use Repair Kits 245145 and 249592 to repair the pressure bleed valve.

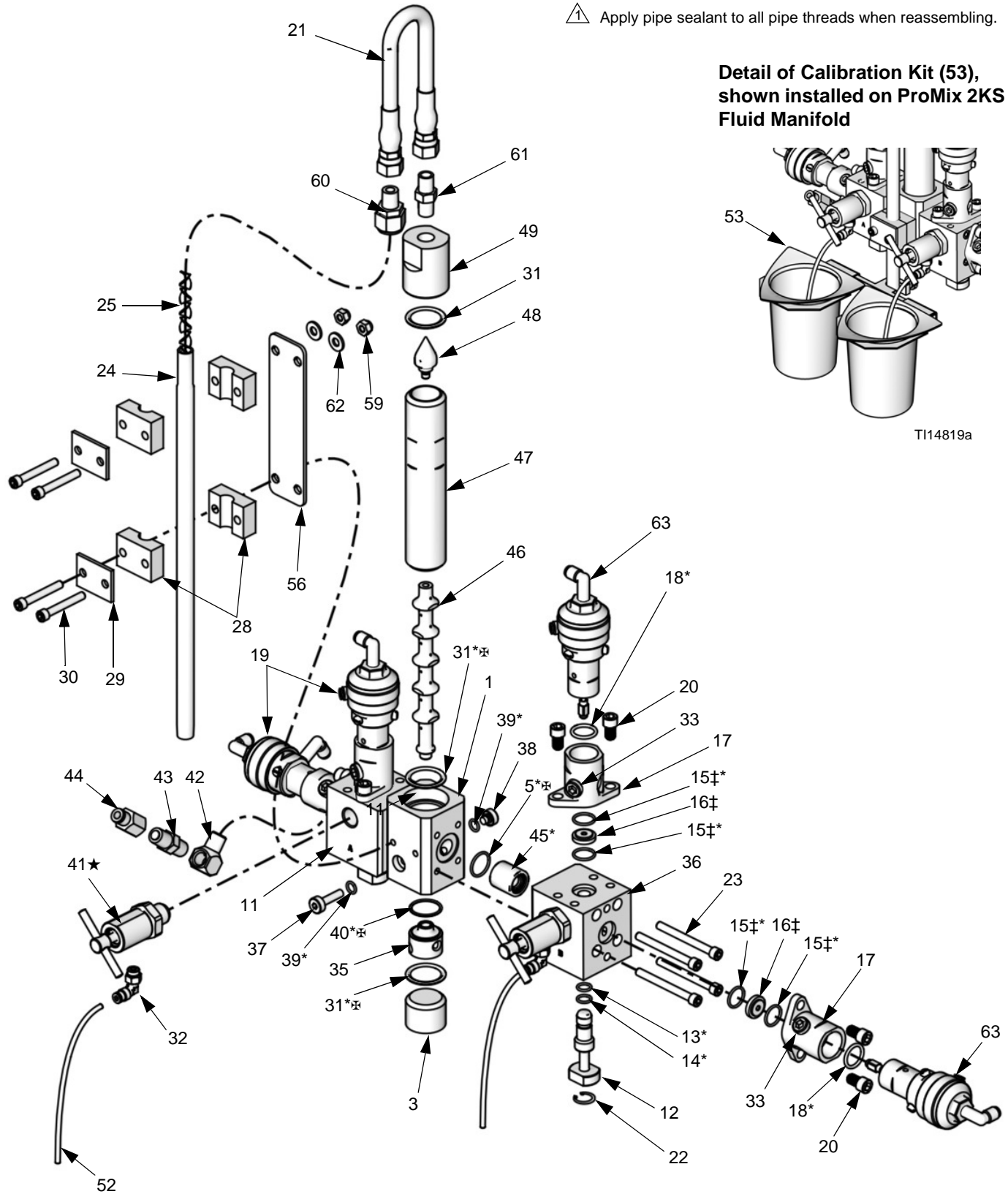
--- These parts are not available separately.

Integrator Kits (include ◆ parts)

Part No.	Size	Description
15V021 (standard)	50 cc	Includes housing, mixer, o-rings, and caps
15V033 (optional)	25 cc	Includes housing, mixer, o-rings, and caps
15V034 (optional)	10 cc	Includes housing, mixer, o-rings, and cap
15U955 (optional)	0 cc	Includes housing, 6 injector restrictors, and o-rings
24B618 (optional)	100cc	Includes housing, mixer, o-rings, and cap

Part No. 24Y548, for ProMix 2KS Proportioner (Acid)

 Apply pipe sealant to all pipe threads when reassembling.



**Detail of Calibration Kit (53),
shown installed on ProMix 2KS
Fluid Manifold**


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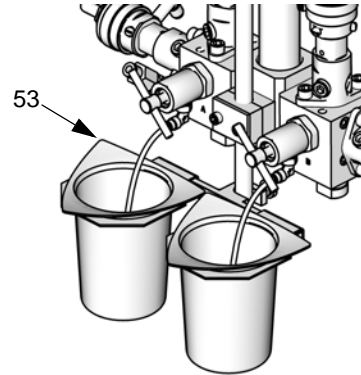
Part No. 24Y548, for ProMix 2KS Proportioner (Acid)

Ref. No.	Part No.	Description	Qty	Ref. No.	Part No.	Description	Qty																		
1	---	BODY, manifold integrator	1	41★	24Y850	VALVE, pressure, bleed	2																		
3	17H509	PLUG, integrator manifold	1	42	166866	ELBOW, street; 1/4 npt (m x f)	1																		
5*⊕	---	O-RING; ptfе	2	43	501867	VALVE, check	1																		
11	17D856	MANIFOLD, shutoff valve A	1	44	114112	FITTING, connector, tube; 1/4 npt(f) x 1/4 in. (6 mm) OD tube	1																		
12	17D858	HANDLE, shutoff valve	2	45*	---	VALVE, check	2																		
13*	---	O-RING; pfe	2	46◆	---	MIXER, integrator, 50 cc	1																		
14*	---	O-RING, back-up; ptfе	2	47◆	---	HOUSING, integrator, 50 cc	1																		
15*‡	---	O-RING; ptfе	8	48◆	---	CAP, mix, integrator	1																		
16‡	---	SEAT, valve needle, high pressure	4	49◆	---	CAP, integrator	1																		
17	17J229	ADAPTER, valve, dose	4	52	598095	TUBE; nylon; 5/32 in (4 mm) OD; 6 in. (152 mm) long	2																		
18*	---	O-RING; ptfе	4	53	15X888	KIT, calibration	1																		
19	15X303	VALVE, dispense; includes item 18; see manual 312782	2	56	17L675	BRACE, support	1																		
20	C20010	SCREW, cap, socket-hd; 5/16-24 x 1/2 in. (13 mm)	8	59	102040	NUT, hex	2																		
21	25A721	HOSE, outlet	1	60	16G636	FITTING, outlet	1																		
22	110082	RING, retaining, internal	2	61	121907	FITTING, nipple, hex, 1/4 npt,	1																		
23	101950	SCREW, cap, socket-hd, 1/4-20 x 2-1/2 in. (64 mm)	8	62	110755	WASHER, plain	2																		
24	15D430	TUBE, static mixer	1	63	24T785	VALVE, dispense, acid; includes item 18; see manual 312782	2																		
25	118822	ELEMENT, static mixer	2	* <i>Parts included in Acid Manifold Rebuild Kit 26A170 (purchase separately).</i>																					
28	118830	CLAMP, body, integrator tube	2	⊕ <i>Parts included in Integrator Seal Kit 15U930.</i>																					
29	118831	COVER, clamp, integrator tube	2	‡ <i>Parts included in PEEK Dose Valve Seat Kit 26A169 (purchase separately).</i>																					
30	101885	SCREW, cap, socket-hd; 1/4-20 x 1-3/4 in. (44 mm)	4	★ <i>Use Repair Kit 17N075 to repair the pressure bleed valve.</i>																					
31*◆	---	O-RING; ptfе	3	--- <i>These parts are not available separately.</i>																					
32	114151	ELBOW, connector, tube; 1/8 npt(m) x 5/32 in. (4 mm) OD tube	2	Integrator Kits (include ◆ parts)																					
33	128658	PLUG, pipe, headless	4	<table border="1"> <thead> <tr> <th>Part No.</th> <th>Size</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>15V021 (standard)</td> <td>50 cc</td> <td>Includes housing, mixer, o-rings, and caps</td> </tr> <tr> <td>15V033 (optional)</td> <td>25 cc</td> <td>Includes housing, mixer, o-rings, and caps</td> </tr> <tr> <td>15V034 (optional)</td> <td>10 cc</td> <td>Includes housing, mixer, o-rings, and cap</td> </tr> <tr> <td>15U955 (optional)</td> <td>0 cc</td> <td>Includes housing, 6 injector restrictors, and o-rings</td> </tr> <tr> <td>24B618 (optional)</td> <td>100cc</td> <td>Includes housing, mixer, o-rings, and cap</td> </tr> </tbody> </table>				Part No.	Size	Description	15V021 (standard)	50 cc	Includes housing, mixer, o-rings, and caps	15V033 (optional)	25 cc	Includes housing, mixer, o-rings, and caps	15V034 (optional)	10 cc	Includes housing, mixer, o-rings, and cap	15U955 (optional)	0 cc	Includes housing, 6 injector restrictors, and o-rings	24B618 (optional)	100cc	Includes housing, mixer, o-rings, and cap
Part No.	Size	Description																							
15V021 (standard)	50 cc	Includes housing, mixer, o-rings, and caps																							
15V033 (optional)	25 cc	Includes housing, mixer, o-rings, and caps																							
15V034 (optional)	10 cc	Includes housing, mixer, o-rings, and cap																							
15U955 (optional)	0 cc	Includes housing, 6 injector restrictors, and o-rings																							
24B618 (optional)	100cc	Includes housing, mixer, o-rings, and cap																							
35	15T943	BASE, integrator	1																						
36	17J230	MANIFOLD, shutoff valve B	1																						
37	15T748	SEAL, screw	1																						
38	15T749	SEAL, screw	1																						
39*	110004	O-RING; tfe	2																						
40*⊕◆	---	O-RING; ptfе	1																						

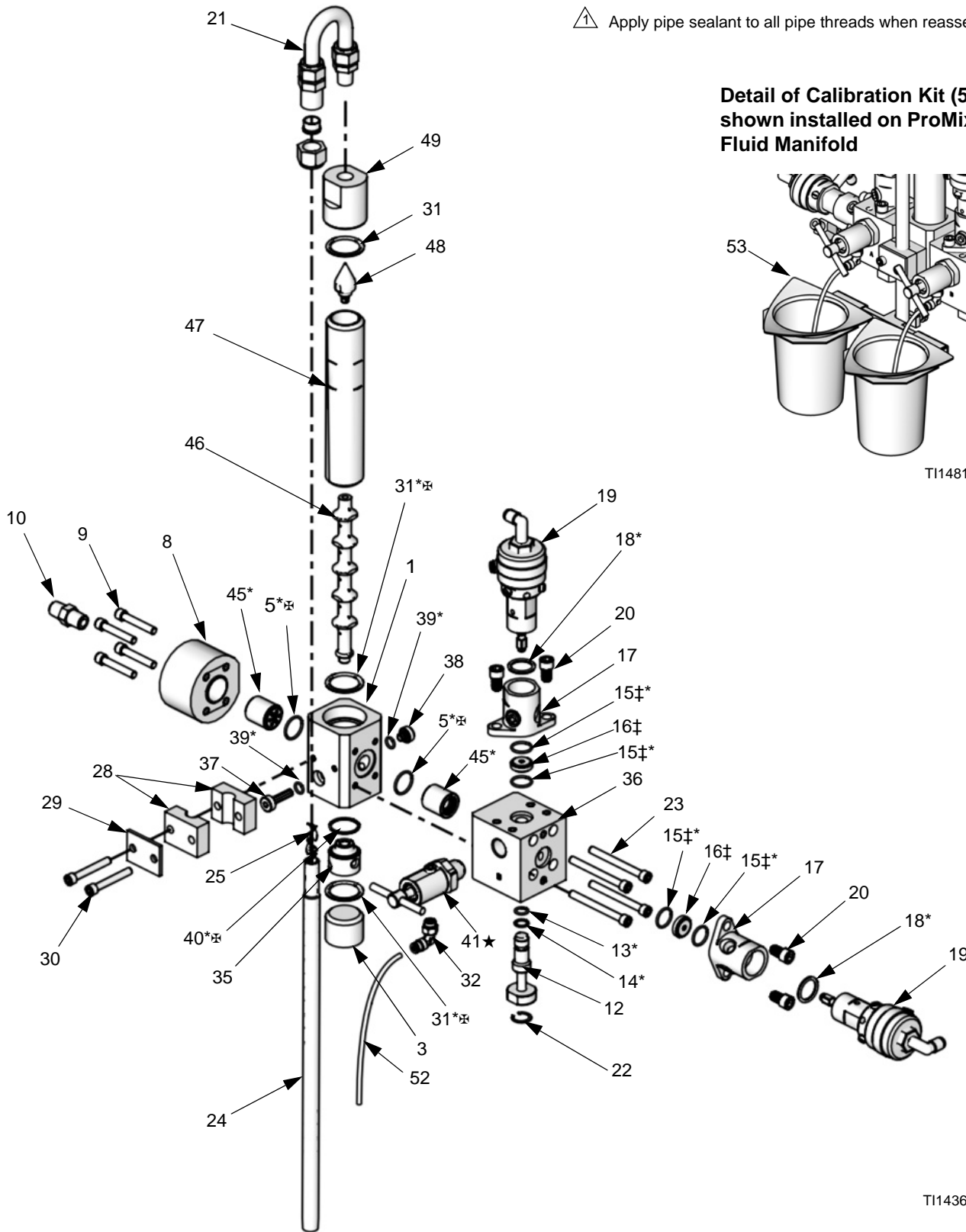
Part No. 256875, for ProMix 3KS Proportioner

 Apply pipe sealant to all pipe threads when reassembling.

**Detail of Calibration Kit (53),
shown installed on ProMix 2KS
Fluid Manifold**



TI14819a

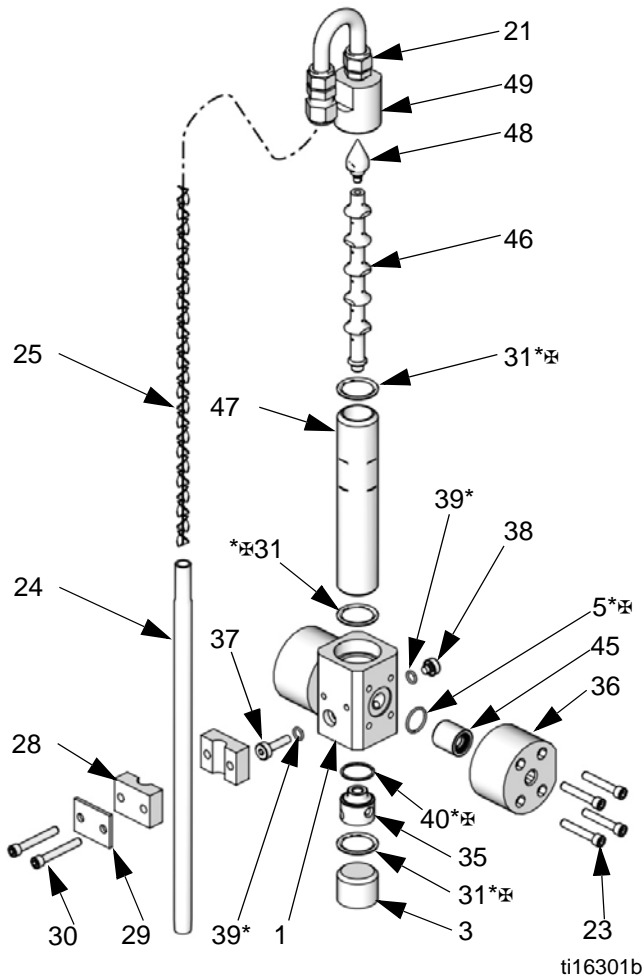


TI14363b

Part No. 256875, for ProMix 3KS Proportioner

Ref. No.	Part No.	Description	Qty	Ref. No.	Part No.	Description	Qty
1	15T571	BODY, manifold integrator	1	41★	256399	VALVE, pressure, bleed	2
3	15T592	PLUG, integrator manifold	1	45*	16D658	VALVE, check	2
5*⊕	110135	O-RING; ptfe	2	46◆	---	MIXER, integrator, 50 cc	1
8	---	MANIFOLD, end, 3KS adapter	1	47◆	---	HOUSING, integrator, 50 cc	1
9	15B588	SCREW, cap, socket hd; 1/4-20 x 1-1/2 in. (38 mm)	4	48◆	---	CAP, mix, integrator	1
10	C20482	NIPPLE; 1/4 npt; sst	1	49◆	---	CAP, integrator	1
12	15T573	HANDLE, shutoff valve	1	52	---	TUBE; nylon; 5/32 in (4 mm) OD; 6 in. (152 mm) long	1
13*	119348	O-RING; pfe	1	53	15X888	KIT, calibration	1
14*	119187	O-RING, back-up; ptfe	1	* <i>Parts included in Manifold Rebuild Kit 15U931 (purchase separately).</i>			
15*‡	109450	O-RING; ptfe	4	⊕ <i>Parts included in Integrator Seal Kit 15U930.</i>			
16‡	---	SEAT, valve needle, high pressure	2	‡ <i>Parts included in Valve Seat Kit 24A861 (purchase separately). (Optional Carbide Seat Kit 15U932 is available separately.)</i>			
17	15T600	ADAPTER, valve, dose	2	★ <i>Use Repair Kits 245145 and 249592 to repair the pressure bleed valve.</i>			
18*	15Y627	O-RING; ptfe	2	--- <i>These parts are not available separately.</i>			
19	15X303	VALVE, dispense; includes item 18; see manual 312782	2	Integrator Kits (include ◆ parts)			
20	C20010	SCREW, cap, socket-hd; 5/16-24 x 1/2 in. (13 mm)	4	Part No.	Size	Description	
21	118823	TUBE, outlet	1	15V021	50 cc	Includes housing, mixer, o-rings, and caps	
22	110082	RING, retaining, internal	1	(standard)			
23	101950	SCREW, cap, socket-hd, 1/4-20 x 2-1/2 in. (64 mm)	4	15V033	25 cc	Includes housing, mixer, o-rings, and caps	
24	15D430	TUBE, static mixer	1	(optional)			
25	118822	ELEMENT, static mixer	2	15V034	10 cc	Includes housing, mixer, o-rings, and cap	
28	118830	CLAMP, body, integrator tube	2	(optional)			
29	118831	COVER, clamp, integrator tube	1	15U955	0 cc	Includes housing, 6 injector restrictors, and o-rings	
30	101885	SCREW, cap, socket-hd; 1/4-20 x 1-3/4 in. (44 mm)	2	(optional)			
31*⊕◆	110966	O-RING; ptfe	3	24B618	100cc	Includes housing, mixer, o-rings, and cap	
32	114151	ELBOW, connector, tube; 1/8 npt(m) x 5/32 in. (4 mm) OD tube	1	(optional)			
33	101970	PLUG, pipe, headless	2				
35	15T943	BASE, integrator	1				
36	17D857	MANIFOLD, shutoff valve B	1				
37	15T748	SEAL, screw	1				
38	15T749	SEAL, screw	1				
39*	110004	O-RING; ptfe	2				
40*⊕◆	---	O-RING; ptfe	1				

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

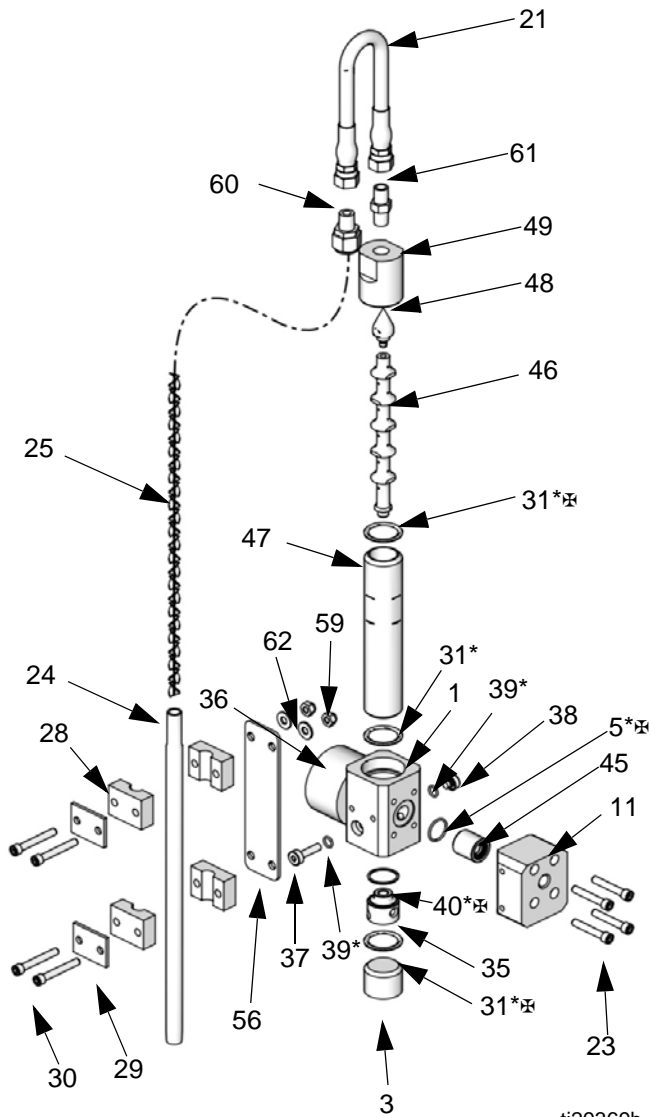
* Parts included in Manifold Rebuild Kit 15U931 (purchase separately). Note: the kit contains parts used to rebuild the check valve (45), and has additional parts not needed to rebuild this manifold.

† 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. 24Y546, for ProMix 2KE Proportioner (Acid), Sequential Dosing



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Ref.	Part	Description	Qty.
1	----	BODY, integrator manifold	1
3	17H509	PLUG, integrator manifold	1
5*	----	O-RING	2
11	----	MANIFOLD, end (B)	1
21	25A721	HOSE, 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	4
29	118831	COVER, clamp, integrator tube	2
30	101885	SCREW, cap, socket hd	4
31*	----	O-RING	3
35	15T943	BASE, integrator	1
36	----	MANIFOLD, end (A)	1
37	15T748	SEAL, screw	1
38	15T749	SEAL, screw	1
39*	110004	O-RING	2
40*	----	O-RING	1
45*	24Y516	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
56	17L675	BRACE, support	1
59	102040	NUT, hex	2
60	16G636	FITTING, outlet	1
61	121907	FITTING, nipple, hex, 1/4 npt,	1
62	110755	WASHER, plain	2

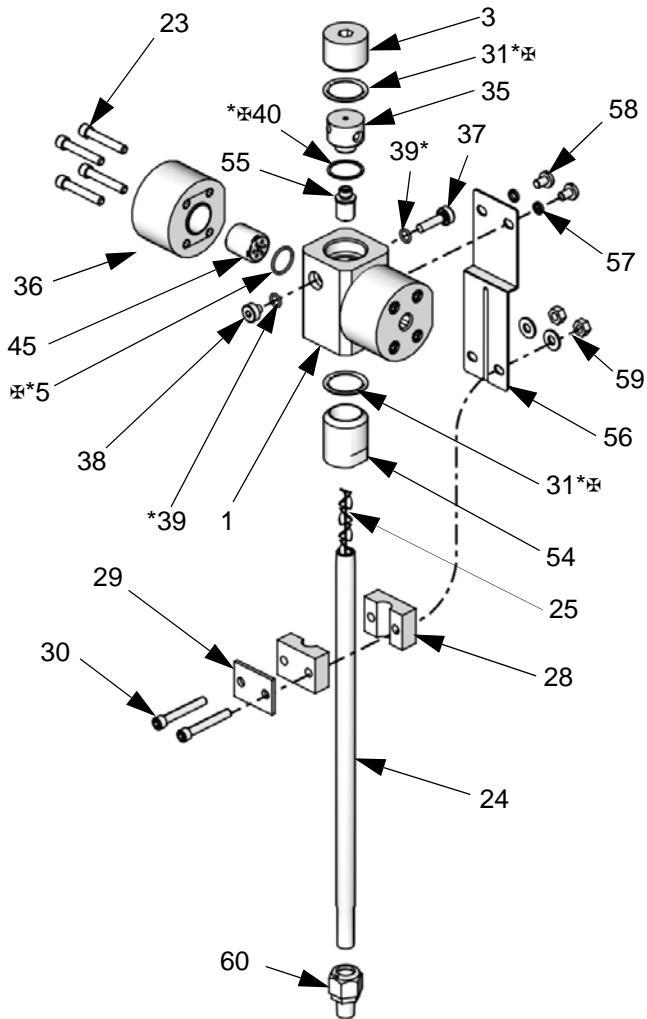
* Parts included in Acid Manifold Rebuild Kit 26A170 (purchase separately). Note: the kit contains parts used to rebuild the check valve (45), and has additional parts not needed to rebuild this manifold.

* 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



ti29368b

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

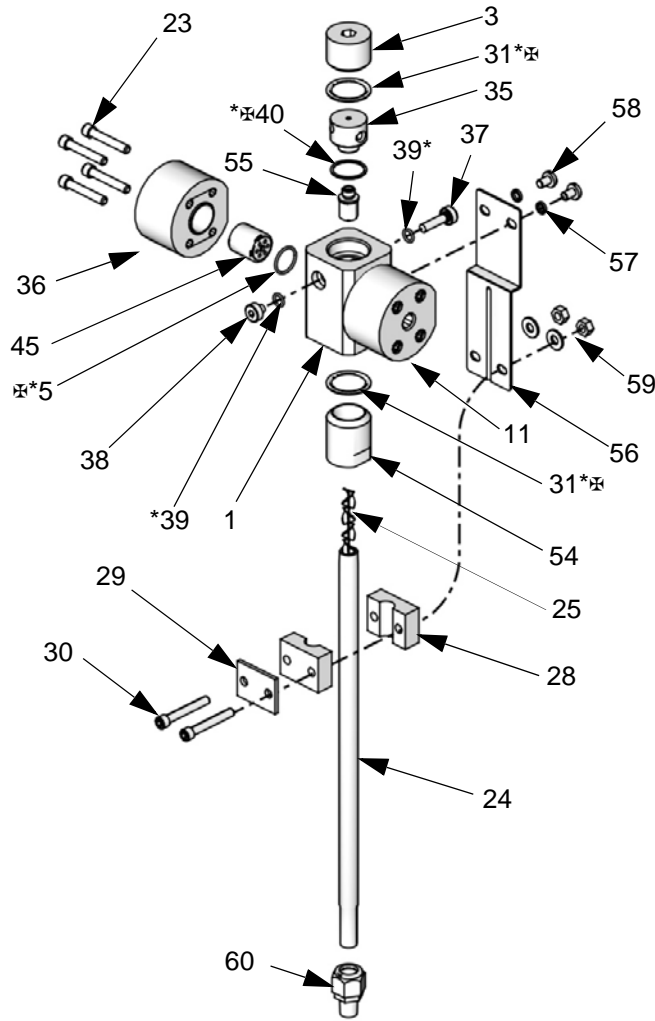
* Parts included in Manifold Rebuild Kit 15U931 (purchase separately). Note: the kit contains parts used to rebuild the check valve (45), and has additional parts not needed to rebuild this manifold.

† Parts included in Integrator Seal Kit 15U930.

Restrictor Kit

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

Part No. 24Y547, for ProMix 2KE Proportioner (Acid), Dynamic Dosing



Ref.	Part	Description	Qty.
1	----	BODY, integrator manifold	1
3	17H509	PLUG, integrator manifold	1
5*	----	O-RING	2
11	----	MANIFOLD, end (B)	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*	----	O-RING	2
35	15T943	BASE, integrator	1
36	----	MANIFOLD, end (A)	1
37	15T748	SEAL, screw	1
38	15T749	SEAL, screw	1
39*	110004	O-RING	2
40*	----	O-RING	1
45*	24Y516	VALVE, check	2
54	15U955	CAP, 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 Acid Manifold Rebuild Kit 26A170 (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.

Restrictor Kit

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

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Technical Data

Maximum Fluid Working Pressure	289695, 256875, 262398, 24Y548, and 24Y546: 4000 psi (28 MPa, 280 bar) 262399 and 24Y547: 4500 psi (31 MPa, 310 bar)
Dispense Valve Fluid Inlet Size	1/4 npt(f)
Dispense Valve Air Inlet Fitting Size	5/32 in. (4 mm) OD tube
Wetted Parts.	303 SST, 316 SST, 17-4 SST, Tungsten Carbide, PTFE, PEEK Dispense Valves: see manual 312782
Weight	289695: 18.15 lb (8.23 kg) 24Y548: 18.15 lb (8.23 kg) 256875: 14.00 lb (6.35 kg) 262398: 10.00 lb (4.54 kg) 24Y546: 10.00 lb (4.54 kg) 262399: 8.50 lb (3.86 kg) 24Y547: 8.50 lb (3.86 kg)

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Original instructions. This manual contains English. MM 312781

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