

# Hopper or Hose Heat Circulation Kit

313259D

EN

*For circulating heated water or oil through XM and XP plural-component sprayer double wall hoppers, heated hose, and Viscon<sup>®</sup> HP heater. Approved for use in explosive atmospheres.*

## Model 256273 (for XM)

Includes parts needed to assemble heated hose system. Heated hose assembly and Viscon HP heater must be ordered separately.

## Model 24M224 (for XP)

Includes parts needed to assemble heated hose system. Heated hose assembly and Viscon HP heater must be ordered separately.

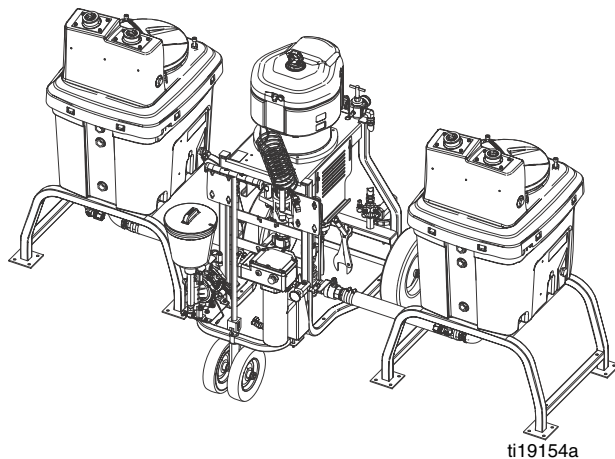


### Important Safety Instructions

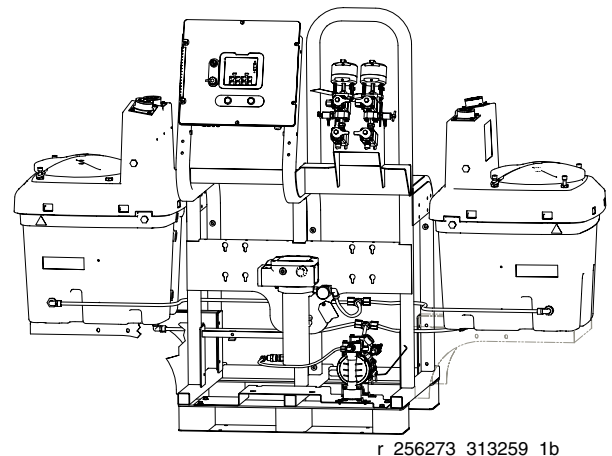
Read all warnings and instructions in this manual.  
Save these instructions.

See **Technical Data** on page 26 for Maximum Working Pressure and Temperature Rating information.

*Model 24M224  
(shown installed on XP with 20 gallon hoppers)*



*Model 256273 (shown installed on XM)*



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# Related Manuals





| Manual | Description                            |
|--------|--|
| 312359 | XM Operation                           |
| 313289 | XM Repair                              |
| 313292 | XM OEM, Instructions-Parts             |
| 3A0420 | XP Instructions-Parts                  |
| 312747 | Double Wall Hopper, Instructions-Parts |
| 309524 | Viscon <sup>®</sup> HP Heater          |
| 308981 | Husky <sup>™</sup> 716 Diaphragm Pump  |

# Warnings

The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbol refers to procedure-specific risk. Refer back to these warnings. Additional, product-specific warnings may be found throughout the body of this manual where applicable.

|  <b>WARNING</b> |   |
|--|---|
|                 | <p><b>FIRE AND EXPLOSION HAZARD</b></p> <p>Flammable fumes, such as solvent and paint fumes, in <b>work area</b> can ignite or explode. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> <li>• Use equipment only in well ventilated area.</li> <li>• Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc).</li> <li>• Keep work area free of debris, including solvent, rags and gasoline.</li> <li>• Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present.</li> <li>• Ground all equipment in the work area. See <b>Grounding</b> instructions.</li> <li>• Use only grounded hoses.</li> <li>• Hold gun firmly to side of grounded pail when triggering into pail.</li> <li>• If there is static sparking or you feel a shock, <b>stop operation immediately</b>. Do not use equipment until you identify and correct the problem.</li> <li>• Keep a working fire extinguisher in the work area.</li> </ul>   |
|               | <p><b>EQUIPMENT MISUSE HAZARD</b></p> <p>Misuse can cause death or serious injury.</p> <ul style="list-style-type: none"> <li>• Do not operate the unit when fatigued or under the influence of drugs or alcohol.</li> <li>• Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See <b>Technical Data</b> in all equipment manuals.</li> <li>• Use fluids and solvents that are compatible with equipment wetted parts. See <b>Technical Data</b> in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request MSDS forms from distributor or retailer.</li> <li>• Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.</li> <li>• Do not alter or modify equipment.</li> <li>• Use equipment only for its intended purpose. Call your distributor for information.</li> <li>• Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.</li> <li>• Do not kink or over bend hoses or use hoses to pull equipment.</li> <li>• Keep children and animals away from work area.</li> <li>• Comply with all applicable safety regulations.</li> </ul> |
|               | <p><b>ELECTRIC SHOCK HAZARD</b></p> <p>Improper grounding, setup, or usage of the system can cause electric shock.</p> <ul style="list-style-type: none"> <li>• Turn off and disconnect power cord before servicing equipment.</li> <li>• Use only grounded electrical outlets.</li> <li>• Use only 3-wire extension cords.</li> <li>• Ensure ground prongs are intact on sprayer and extension cords.</li> <li>• Do not expose to rain. Store indoors.</li> </ul>  |

# ! WARNING

|  |   |
|--|---|
|   | <p><b>SKIN INJECTION HAZARD</b></p> <p>High-pressure fluid from gun, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. <b>Get immediate surgical treatment.</b></p> <ul style="list-style-type: none"> <li>• Do not point gun at anyone or at any part of the body.</li> <li>• Do not put your hand over the spray tip.</li> <li>• Do not stop or deflect leaks with your hand, body, glove, or rag.</li> <li>• Do not spray without tip guard and trigger guard installed.</li> <li>• Engage trigger lock when not spraying.</li> <li>• Follow <b>Pressure Relief Procedure</b> in this manual, when you stop spraying and before cleaning, checking, or servicing equipment.</li> </ul> |
|   | <p><b>BURN HAZARD</b></p> <p>Equipment surfaces and fluid that's heated can become very hot during operation. To avoid severe burns, do not touch hot fluid or equipment. Wait until equipment/fluid has cooled completely.</p>   |
|   | <p><b>TOXIC FLUID OR FUMES HAZARD</b></p> <p>Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.</p> <ul style="list-style-type: none"> <li>• Read MSDS's to know the specific hazards of the fluids you are using.</li> <li>• Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.</li> <li>• Always wear impervious gloves when spraying or cleaning equipment.</li> </ul>  |
|  | <p><b>PERSONAL PROTECTIVE EQUIPMENT</b></p> <p>You must wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect you from serious injury, including eye injury, inhalation of toxic fumes, burns, and hearing loss. This equipment includes but is not limited to:</p> <ul style="list-style-type: none"> <li>• Protective eyewear</li> <li>• Clothing and respirator as recommended by the fluid and solvent manufacturer</li> <li>• Gloves</li> <li>• Hearing protection</li> </ul>  |

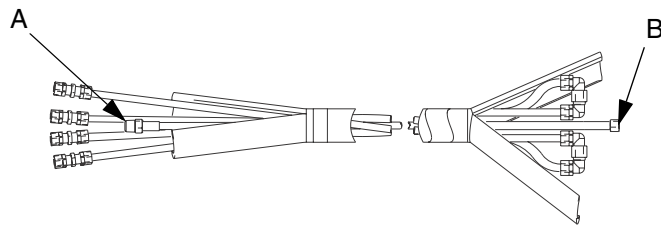
# Heated Hopper or Hose Circulation Kit 256273

The kit described in this manual; includes all miscellaneous parts needed to assemble the system. There are three options for using circulation kit 256273:

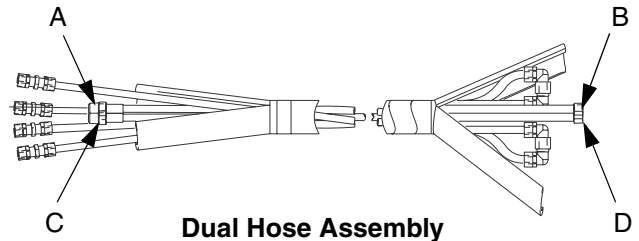
- Circulate water through the heater and only the hoppers. See page 8.
- Circulate water through the heater and only the heated hose. See page 12.
- Circulate water through the heater, hoppers, and heated hose. See page 10.

## Heated Hose Assembly

Order separately a heated hose assembly that meets maximum pressure and hose diameter requirements. You can connect up to six 50 ft. (15.2 m) heated hose sections for a maximum total length of 300 ft. (91.4 m). See manual 309525.



Single Hose Assembly




Dual Hose Assembly

### Single Hose Assemblies

| Part No., Series | Maximum Pressure Rating<br><i>psi (MPa, bar)</i> | Hose Diameter<br><i>in. (mm)</i> | Thread A<br><i>npt(m)</i> | Thread B<br><i>npsm(f)</i> | Approvals |
|------------------|--|----------------------------------|---------------------------|----------------------------|-----------|
| 245840, C        | 5000 psi (34, 345)                               | 1/4 (6.35)                       | 1/4                       | 1/4                        |           |
| 245841, C        | 7250 psi (50, 500)                               | 1/4 (6.35)                       | 1/4                       | 1/4                        |           |
| 245842, C        | 5000 psi (34, 345)                               | 3/8 (9.53)                       | 3/8                       | 3/8                        |           |
| 245843, C        | 7250 psi (50, 500)                               | 3/8 (9.53)                       | 3/8                       | 3/8                        |           |
| 245844, C        | 5000 psi (34, 345)                               | 1/2 (12.7)                       | 1/2                       | 1/2                        |           |
| 245845, C        | 7250 psi (50, 500)                               | 1/2 (12.7)                       | 1/2                       | 1/2                        |           |

## Dual Hose Assemblies

| Part No., Series | Maximum Pressure Rating<br><i>psi (MPa, bar)</i> | Hose Diameter<br><i>in. (mm)</i> | Thread A<br><i>npt(m)</i> | Thread B<br><i>npsm(f)</i> | Thread C<br><i>npt(m)</i> | Thread D<br><i>npsm(f)</i> | Approvals   |
|------------------|--|----------------------------------|---------------------------|----------------------------|---------------------------|----------------------------|---|
| 248118, C        | 7250 psi (50, 500)                               | 1/2 (12.7)                       | 1/2                       | 1/2                        | 1/2                       | 1/2                        |  |
| 248119, C        | 7250 psi (50, 500)                               | 3/8 (9.53)                       | 3/8                       | 3/8                        | 3/8                       | 3/8                        |   |
| 248120, C        | 7250 psi (50, 500)                               | A = 1/2 (12.7)<br>B = 3/8 (9.53) | 1/2                       | 1/2                        | 3/8                       | 3/8                        |   |
| 248121, C        | 7250 psi (50, 500)                               | A = 3/8 (9.53)<br>B = 1/4 (6.35) | 3/8                       | 3/8                        | 1/4                       | 1/4                        |   |
| 24M439, C        | 7250 psi (50, 500)                               | A = 1/2 (12.7)<br>B = 1/4 (6.35) | 1/2                       | 1/2                        | 1/4                       | 1/4                        |   |
| 24M440, C        | 5000 psi (34, 345)                               | A = 3/8 (9.53)<br>B = 1/4 (6.35) | 3/8                       | 3/8                        | 1/4                       | 1/4                        |   |
| 24M441, C        | 5000 psi (34, 345)                               | 3/8 (9.53)                       | 3/8                       | 3/8                        | 3/8                       | 3/8                        |   |
| 24M442, C        | 5000 psi (34, 345)                               | A = 1/2 (12.7)<br>B = 1/4 (6.35) | 1/2                       | 1/2                        | 1/4                       | 1/4                        |   |
| 24M443, C        | 5000 psi (34, 345)                               | A = 1/2 (12.7)<br>B = 3/8 (9.53) | 1/2                       | 1/2                        | 3/8                       | 3/8                        |   |
| 24M444, C        | 5000 psi (34, 345)                               | 1/2 (12.7)                       | 1/2                       | 1/2                        | 1/2                       | 1/2                        |   |

## Fluid Heater

Order separately a VISCON HP heater that meets local electrical and hazardous location requirements.

### Hazardous Location Heaters

| Part No. | Series | VAC (50/60 Hz single phase) / Watts / Amps | Approvals                               |
|----------|--------|--|---|
| 245848   | A      | 120 / 2300 / 19.2                          | See heater manual 309524 for approvals. |
| 245863   | A      | 240 / 4000 / 16.7                          |   |
| 245864   | A      | 480 / 4000 / 8.30                          |   |
| 245862   | A      | 200 / 4000 / 20.0                          |   |
| 246254   | A      | 380 / 4000 / 10.5                          |   |

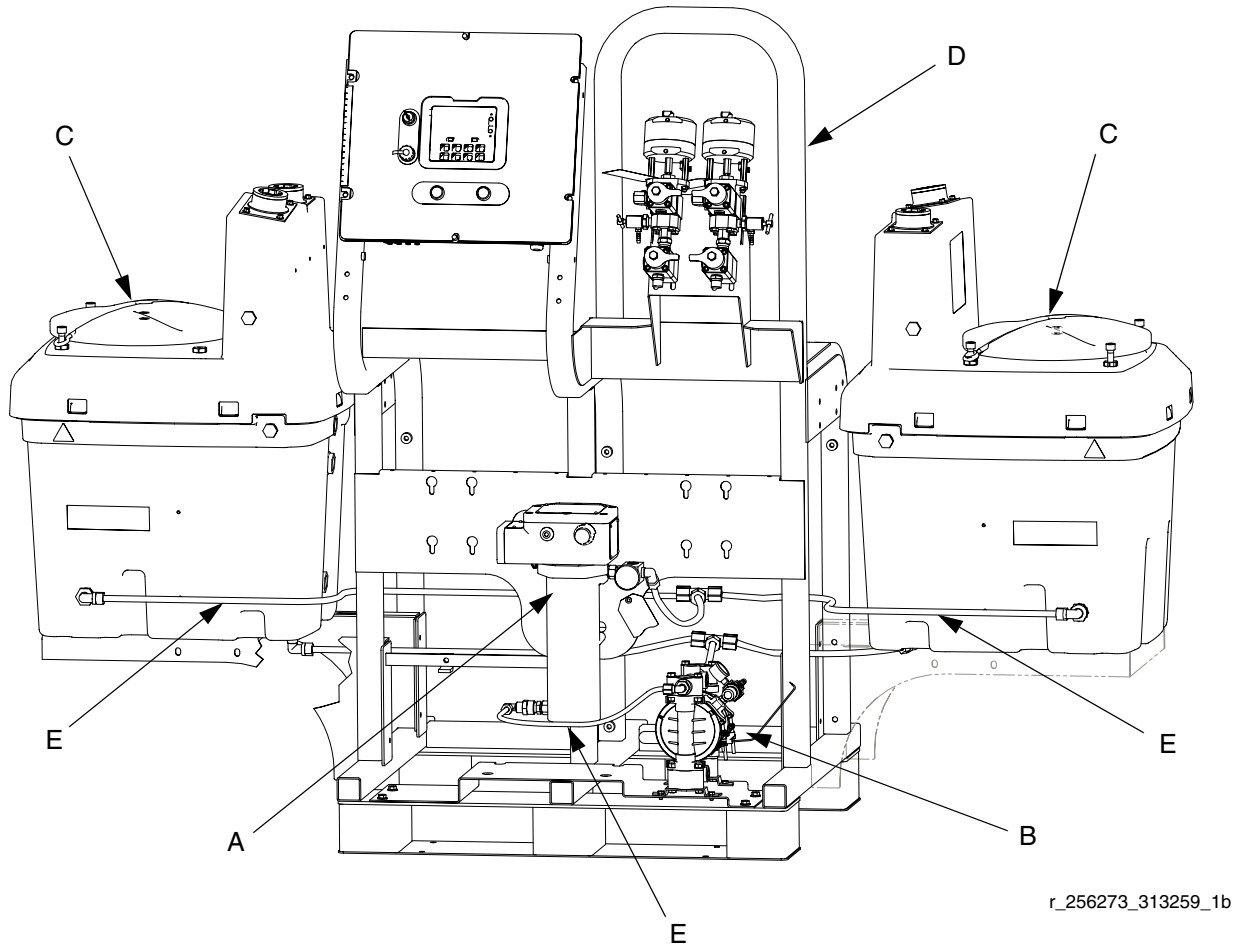
### Non-hazardous Location Heaters

| Model No. | Series | VAC (50/60 Hz single phase) / Watts / Amps | Approvals                               |
|-----------|--------|--|---|
| 245867    | A      | 120 / 2300 / 19.2                          | See heater manual 309524 for approvals. |
| 245868    | A      | 200 / 4000 / 20.0                          |   |
| 245869    | A      | 240 / 4000 / 16.7                          |   |
| 245870    | A      | 480 / 4000 / 8.30                          |   |
| 246276    | A      | 380 / 4000 / 10.5                          |   |



# Typical Installation

**NOTE:** XM kit 256273 is shown in all typical installation illustrations. The general layout for XP Kit 24M224 is the same.



r\_256273\_313259\_1b

**FIG. 1: Heat Only Hoppers Configuration**

**Key:**

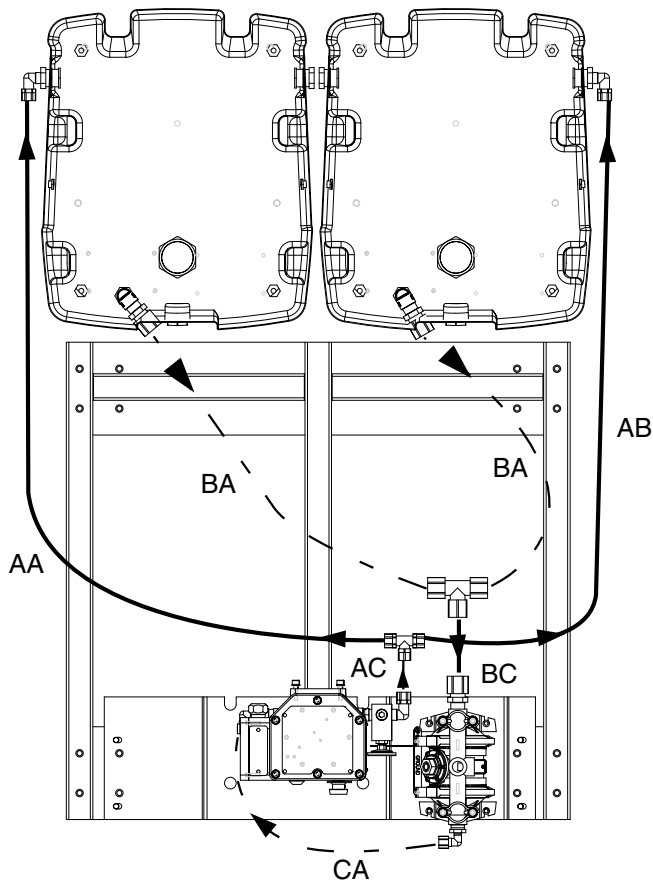
- A Viscon HP Heater
- B Husky diaphragm pump
- C Hopper
- D Frame
- E Fluid circulation tubing

**NOTE:**

See FIG. 2 on page 9 for fluid schematic of heated fluid.



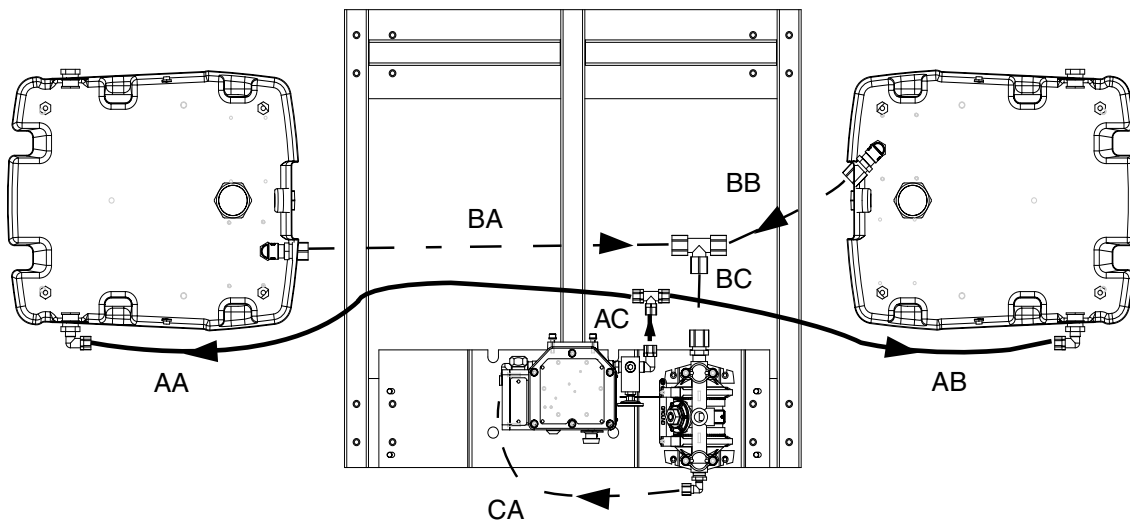
**Back-Mounted Hoppers (BM)**



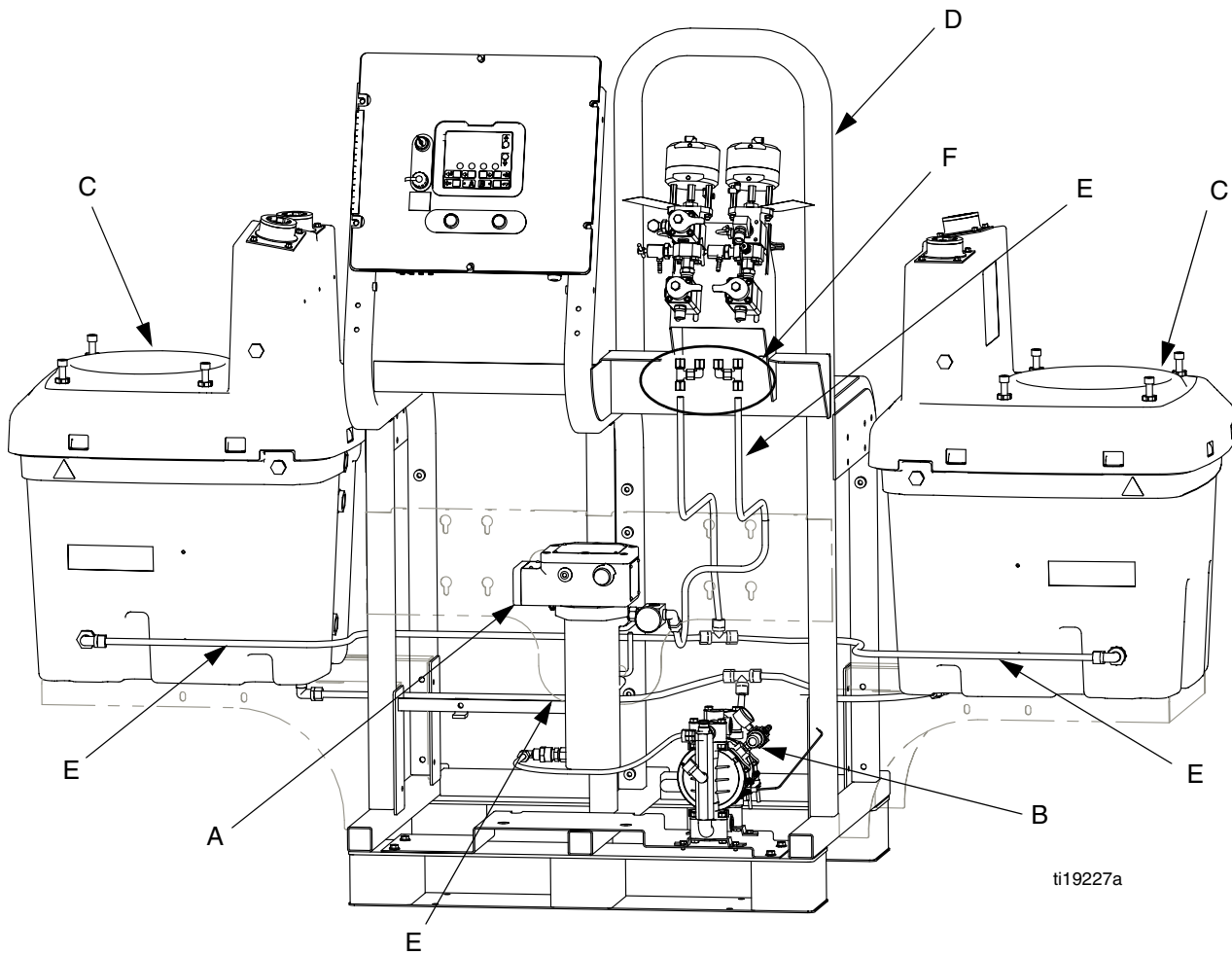
**Table 1: Tubing Lengths**

| Section | Tubing  | (BM) Hoppers<br>in (mm) | (SM) Hoppers<br>in (mm) |
|---------|---------|-------------------------|-------------------------|
| AA      | 1/2 in. | 65 (1651)               | 50 (1270)               |
| AB      |         | 51 (1295.4)             | 35 (889)                |
| AC      |         | 7 (177.8)               | 4 (101.6)               |
| BA      | 3/4 in. | 40 (1016)               | 36 (914.4)              |
| BB      |         | 29 (736.6)              | 17 (431.8)              |
| BC      |         | 7 (177.8)               | 7 (177.8)               |
| CA      | 3/8 in. | 21 (533.4)              | 21 (533.4)              |

**Side-Mounted Hoppers (SM)**



**FIG. 2: Fluid schematic for only heating hoppers**



**FIG. 3: Hoppers and Heated Hose Configuration**

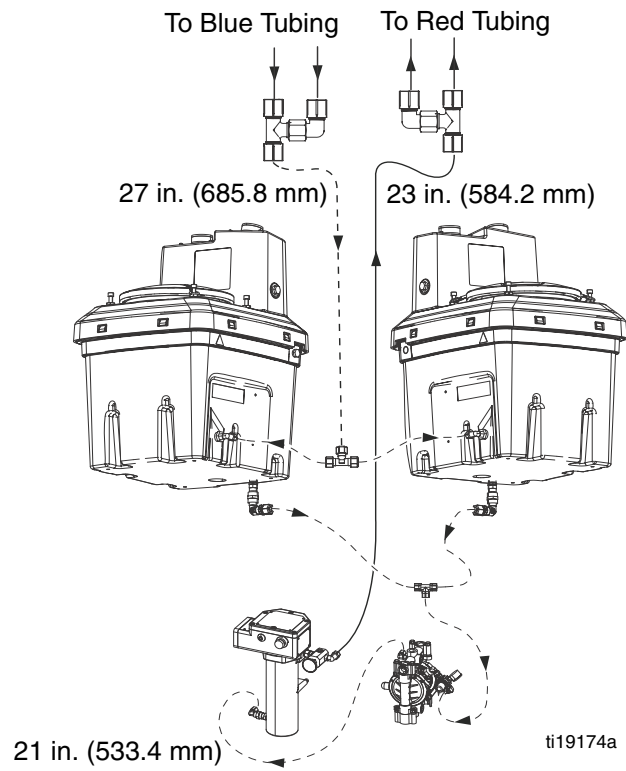
**Key:**

- A Viscon HP Heater
- B Husky diaphragm pump
- C Hopper
- D Frame
- E Fluid circulation tubing
- F Heated hose tee and elbow fittings (see heated hose connections on page FIG. 5 and FIG. 6 on page 12 and 13.)

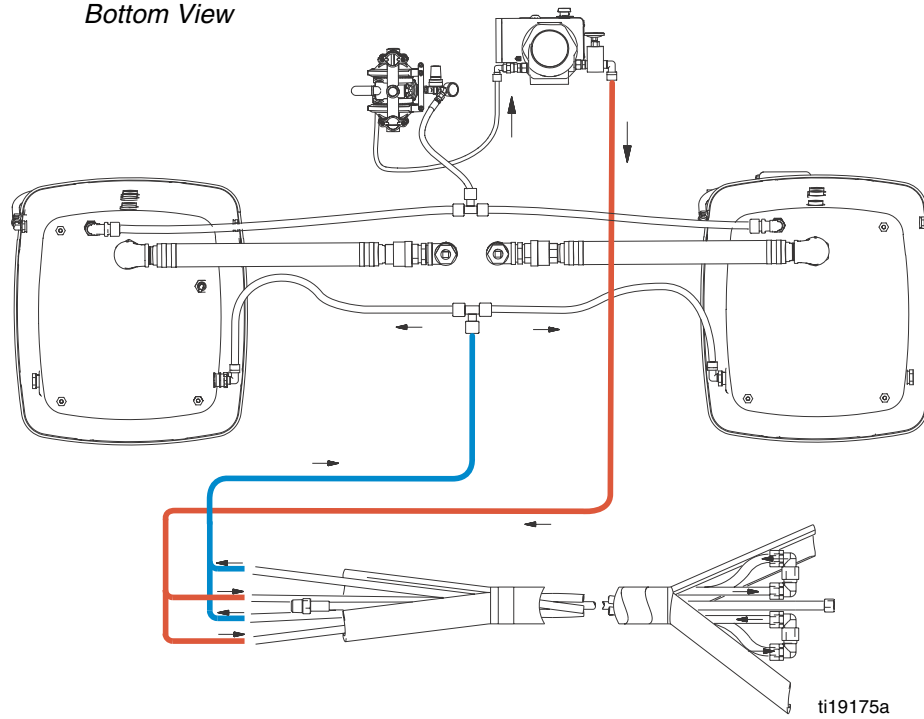
**NOTE:**

See FIG. 6 on page 13 for fluid schematic of heated fluid.

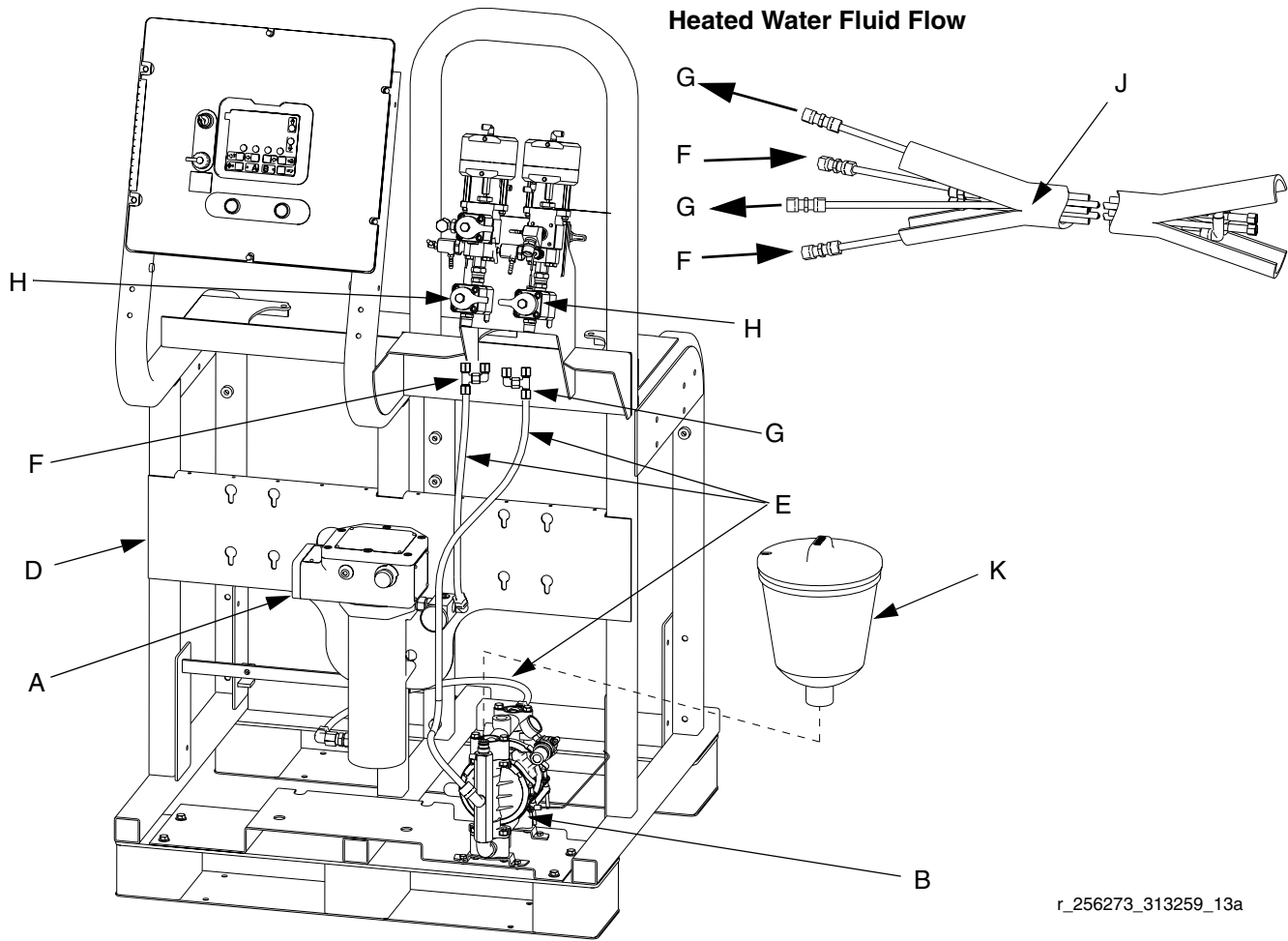
**NOTE:** See page 9 for tubing lengths not shown in FIG. 4.



*Bottom View*



**FIG. 4: Fluid schematic for heating hoppers and heated hose**



r\_256273\_313259\_13a

**FIG. 5: Heated Hose Only Configuration**

**Key:**

- A Viscon HP heater
- B Husky diaphragm pump
- C Hopper (not shown)
- D Frame
- E Fluid circulation tubing
- F Heated hose tee and elbow fitting (to red tubing)
- G Return hose tee and elbow fitting (from blue tubing)
- H Recirculation valve
- J Heated hose assembly (purchase separately)
- K Overflow tank (used for only heated hose configuration)

**NOTE:**

See FIG. 6 on page 13 for fluid schematic of heated fluid.

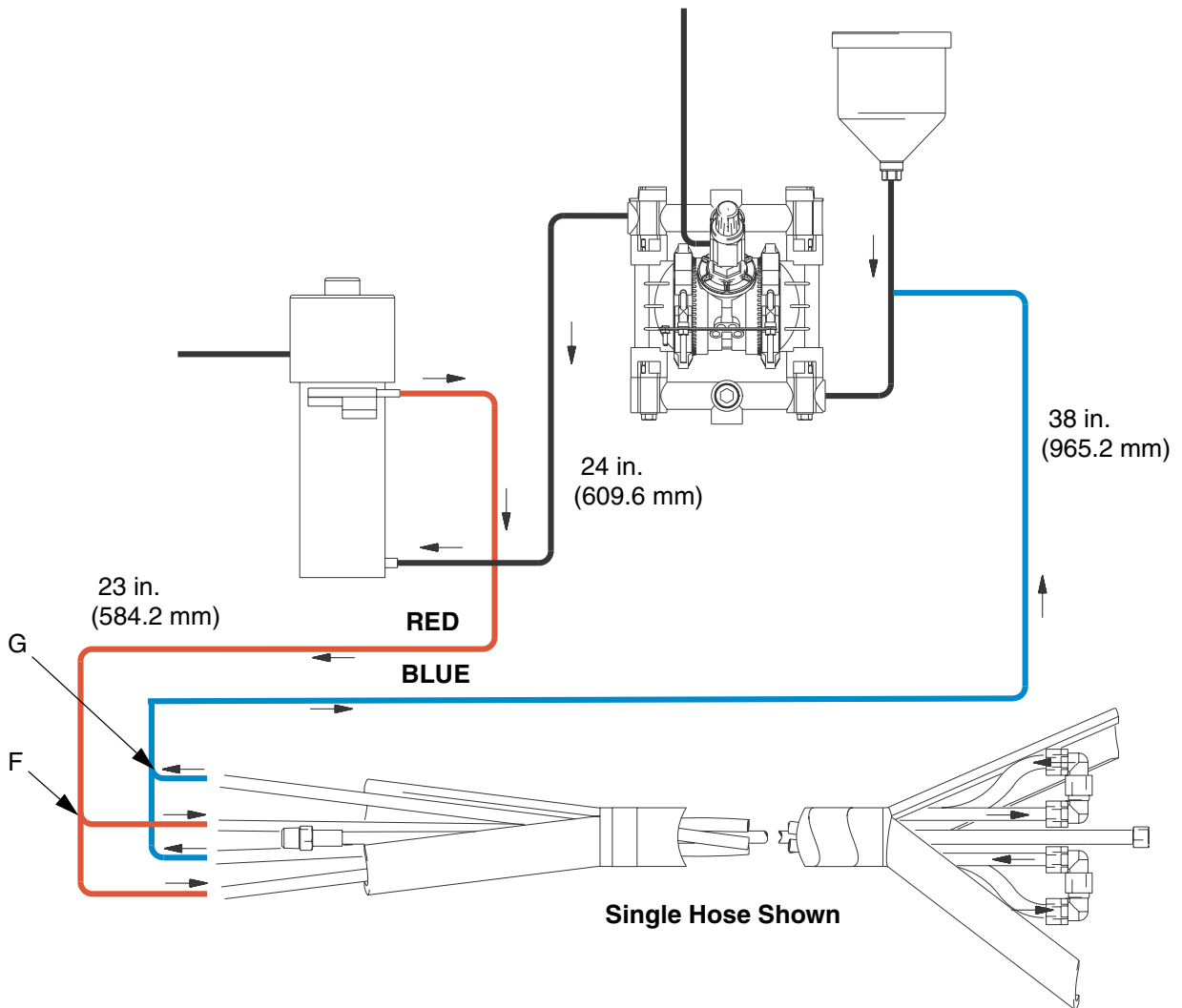


FIG. 6: Fluid schematic for heated hose

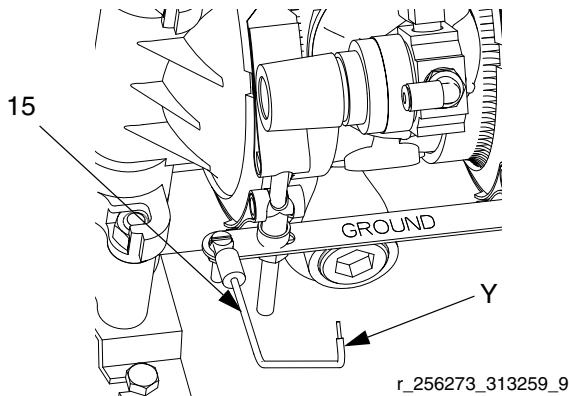
# Installation

## Grounding

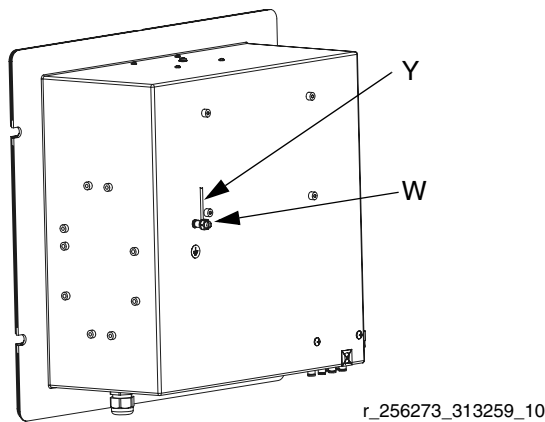


The equipment must be grounded. Grounding reduces the risk of static and electric shock by providing an escape wire for the electrical current due to static build up or in the event of a short circuit.

1. Remove grounding screw on diaphragm pump (3) and tighten ring terminal on grounding cable (15) under ground screw.



2. Loosen grounding lug locknut (W) on back of control box. Insert ground wire end (Y) into lug slot and tighten locknut securely.



## Tubing Lengths

The length of tubing (4, 16, 29) is determined by the hopper mounting configuration and heating choices. Reference the fluid schematic, from the configurations listed below, to find the tubing lengths.

- Heating hoppers only. See FIG. 2 on page 9.
- Heating hoses only. See FIG. 6 on page 13.
- Heating hoppers and hoses. See FIG. 4 on page 11.

Cut tubing to length specified in fluid schematics.

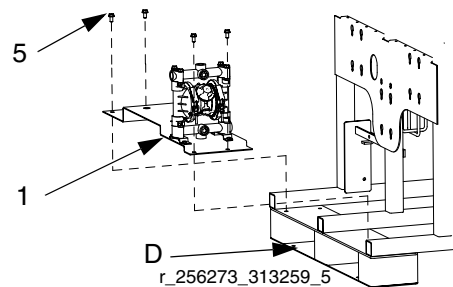
1. Use tubing cutter to cut tubing (4) squarely to desired lengths.

**NOTE: To ensure a leak-proof seal, apply PTFE tape on all npt threads.**

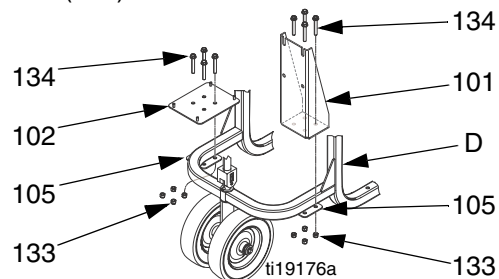
2. Insert tubing through the back of the nut in each of the plastic fittings (7) until the tube stops. Tighten the nut hand tight, then tighten it to 1-1/2 to 2 turns with a wrench.

## Install

1. **XM Kit 256273 only:** Mount bracket (1) on XM frame (D) using screws (5).



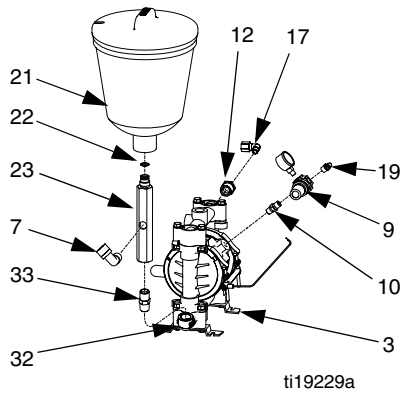
2. **XP Kit 24M224 only:** Mount brackets (101, 102) on XP frame (D) using plates (105), screws (134), nuts (133).



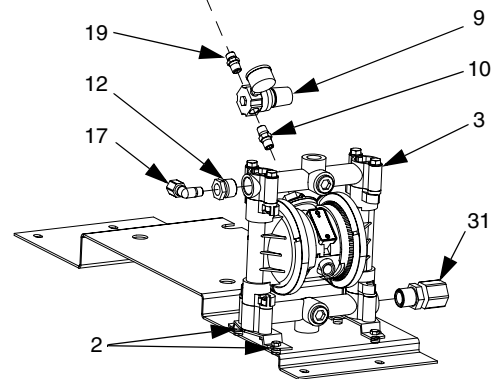
3. **XM Kit 256273 only:** Remove 3/4 npt plugs from the end of the diaphragm pump fluid manifold and place in center.
4. **For only heating hoppers or heating hoppers and heated hose:** Install tube fitting (31) in fluid inlet. See FIG. 7.
5. **For heating heated hose only (see FIG. 7):**
  - a. Install elbow (32), mounting fitting (23), o-ring (22) and 1.5 gallon reservoir tank (21) on diaphragm pump fluid inlet.
  - b. **XM Kit 256273 only:** Connect elbow fitting (7) to mounting fitting (23).
6. Install bushing (12) and elbow tube fitting (17) to diaphragm pump fluid outlet. See FIG. 7.
7. Mount diaphragm pump to bracket.
  - XM Kit 256273 only:** Use four screws (2) to mount pump (3) on mounting bracket. See FIG. 7.
  - XP Kit 24M224 only:** Use nuts (135) to mount pump (3) to threads on mounting bracket. See FIG. 7.
8. Connect air regulator assembly.
  - XM Kit 256273 only:** Connect nipple (10), air regulator/gauge (9), and fitting (19) to pump (3). See FIG. 7.
  - XP Kit 24M224 only:** Connect elbow (137), nipple (10), air regulator/gauge (9), elbow (136), and fitting (19) to pump (3).
9. Remove plug on system air control supply and connect fitting (19) in place of the plug. Connect hose (27) between fitting (19) on 100 psi (0.7 MPa, 7 bar) XM air supply and fitting (19) on the air regulator/gauge (9). See FIG. 7. Refer to Husky 716 manual 308981 if needed.

**NOTE:** The air regulator (9) controls pump pressure.

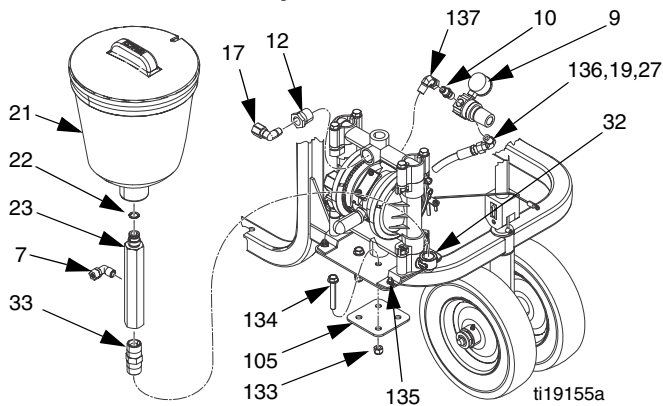
**XM: Heated Hose Only**



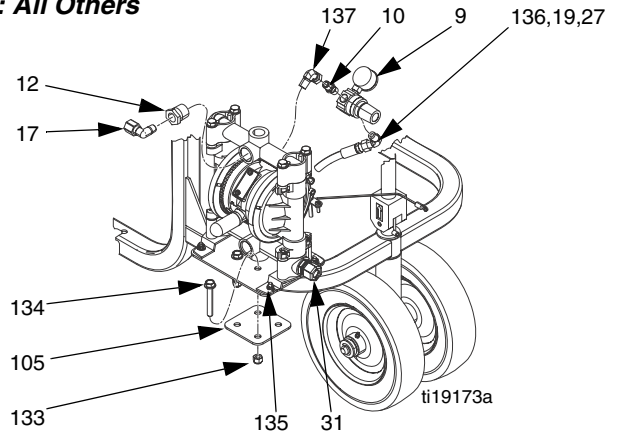
**XM: All Others**



**XP: Heated Hose Only**

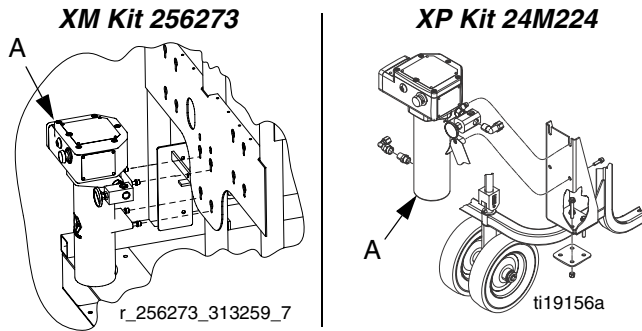


**XP: All Others**



**FIG. 7: Diaphragm Pump Installation**

10. Slide Viscon HP heater (A) into slots on frame. Tighten bolts to secure to frame.



11. **For heating hoppers or heating hoppers and heated hose:** install fitting (18) and elbow (17) in the heater's fluid inlet facing away from the system. Install elbow (7) in heater outlet facing the back of the system.

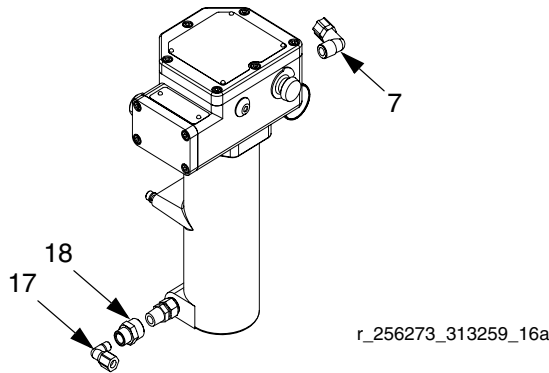


FIG. 8

12. **For heating heated hose only:** connect elbow fitting (17) to heater fluid inlet facing the back of the system. Install elbow (7) in the heater outlet facing upward.

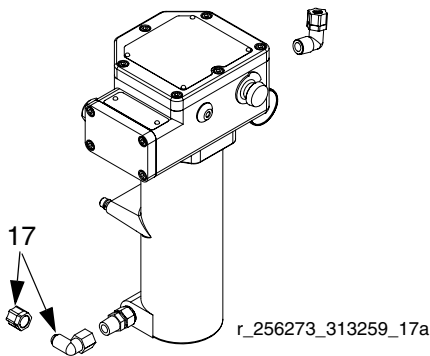


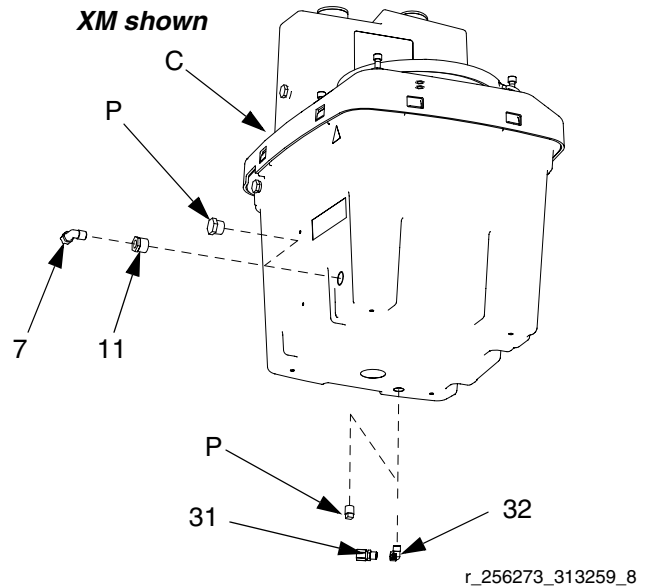
FIG. 9

|   |  |  |  |  |  |  |
|---|--|--|--|--|--|--|
|   |  |  |  |  |  |  |
| All wiring must be done by a qualified electrician. See warnings, page 3. |  |  |  |  |  |  |

13. Wire Viscon HP heater (B) to your voltage supply. Follow wiring procedure in the Viscon HP manual 309524.

**14. If heating hoppers:**

- Remove bottom plug (P) from hopper (C).
- XP Kit 24M224 only:** Install nipple (33) and coupling (139) into bottom of hopper. See page 24.
- Install elbows (32) and fittings (31).
- Repeat for second hopper.



- Remove side plug (P) used for fluid inlet.
- Replace plug with bushing (11) and elbow fitting (7).
- Cut tubing (4, 16, 29). See **Tubing Lengths** on page 14.

**NOTE:**

Fitting nuts may need retightening as the system reaches normal operating temperatures.



## Setup

### For heating hoppers only:

See fluid schematic on page 9 and parts on page 21.

**NOTE: To ensure a leak-proof seal, use PTFE tape on all pipe thread connections.**

1. Connect A and B fluid hoses to shutoff check valve outlets (H).
2. Connect elbow fitting (17) in pump outlet (3) and elbow fitting (17) on heater inlet (A) with tubing (16).
3. Connect fitting (7) in the heater fluid outlet (A) and tee fitting (13) with tubing (4). Connect tee fitting (13) and fittings (7) in the hopper side ports with tubing (4).
4. Connect fittings (31) to elbow in bottom outlet of hoppers and tee fitting (30) with tubing (29). Connect tee fitting (30) and the pump (3) inlet fitting (31) with tubing (29).

### For heating heated hose only:

See fluid schematic on page 13 and parts on page 22.

1. Connect A and B fluid hoses to shutoff check valve fluid outlets (H).
2. Connect elbow fitting (17) in pump outlet (3) and elbow fitting (17) on heater inlet (A) with tubing (16).
3. Connect fitting (7) in the heater fluid outlet (A) and tee fitting (13) with tubing (4).
4. Connect tee fitting (42) and elbow fitting (41) to recirculation inlets and outlet connections of the heated hose. See FIG. 10.
5. Connect elbow fitting (7) to 1-1/2 gallon tank manifold (23) with tubing (4).

### For heating hoppers and heated hose:

See fluid schematic on page 11 and parts on page 20.

1. Connect A and B fluid hoses to shutoff check valve outlets (H).
2. Connect elbow fitting (17) in pump outlet (3) and elbow fitting (17) on heater inlet (A) with tubing (16).

3. Connect fitting (7) in the heater fluid outlet (A) and tee fitting (13) to hose circulation inlet with tubing (4).
4. Connect tee fitting (13) from hose circulation return to tee fitting (13) with tubing (4).
5. Connect tee fitting (13) and fittings (7) in the hopper side ports with tubing (4).
6. Connect fittings (31) to elbow in bottom outlet of hoppers and tee fitting (30) with tubing (29). Connect tee fitting (30) and the pump (3) inlet fitting (31) with tubing (29).

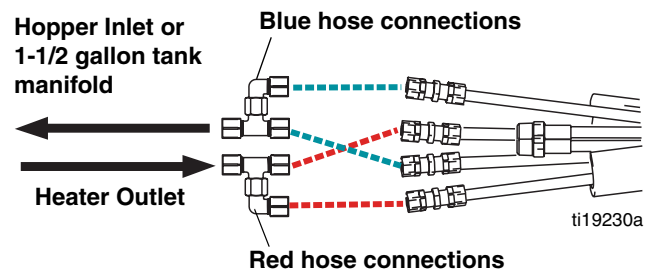


FIG. 10: Recirculation Inlet and Outlet Connections

## Connecting Additional Hose Lengths

Up to six 50 ft (15.2 m) sections of heated hose can be attached for a maximum total length of 300 ft (91.4 m).

1. Remove plastic u-turn fittings at the end of the heated hose assembly.
2. Connect the next length of hose, using union fittings supplied with the hose.
3. Tubes are color coded. Connect like colors.

| NOTICE   |
|--|
| To prevent cross-contamination, ensure you connect "A" side fluid hose to "A" side fluid hose on additional heated hose. |

# Operation



1. Select fluid to use for heating circulation.
  - 50% water and 50% ethylene glycol mixture is recommended for fastest heat-up time and prevention of algae build-up regardless of ambient temperature.
  - Oil can be used but heat-up time will increase and the hopper fill level must be decreased. See item 2.

**NOTE:**

Detailed diaphragm pump operating instructions are in the Husky 716 diaphragm pump manual 308981.

2. **Fill Heating Fluid** in double wall hopper (C) outer cavity. See manual 312747 for instructions.

| <b>NOTICE</b>   |
|---|
| Do not plug top ports. Always have venting fittings installed to prevent outer cavity pressurization. Failure to do so may cause leakage into spray material. |

| <b>NOTICE</b>  |
|--|
| If oil is the heating fluid selected, the maximum oil level must be 3 in. (76.2 mm) below the hopper side port level. A higher fluid level may cause the oil to overflow during initial pump and heater startup. |

**NOTE:**

**If using heated hose: each 50 ft. (15.2 m) heated hose section holds approximately 1.25 gal. (4.7 liters) of fluid.**

3. Set the flow rate of the circulation fluid by adjusting the pump's air regulator (9) until the pump cycles about 50 cycles/min. Do not use a higher flow rate as doing so will decrease system heating performance and pump life. Never exceed the hose's 95 psi (0.6 MPa, 6.6 bar) maximum working pressure rating.
4. Adjust the heater thermostat to the desired circulation temperature. The setting at the heater output thermometer should be about 10° F (6° C) higher than the desired paint temperature. Never exceed the hose's 140° F (60° C) maximum temperature rating. See Viscon HP heater manual 309524 for instructions.

**NOTE:**

If the hose is not being used for more than one hour, shut off Viscon HP heater and pump to lengthen heater life.

## Maintenance

- Check double wall hopper heating fluid level monthly. Add fluid as needed.
- **Do not overfill when using oil.** See overfilling notice on page 18.
- Follow pump maintenance instructions in Husky 716 diaphragm pump manual 308981.
- Follow heater maintenance instructions in Viscon HP manual 309524.

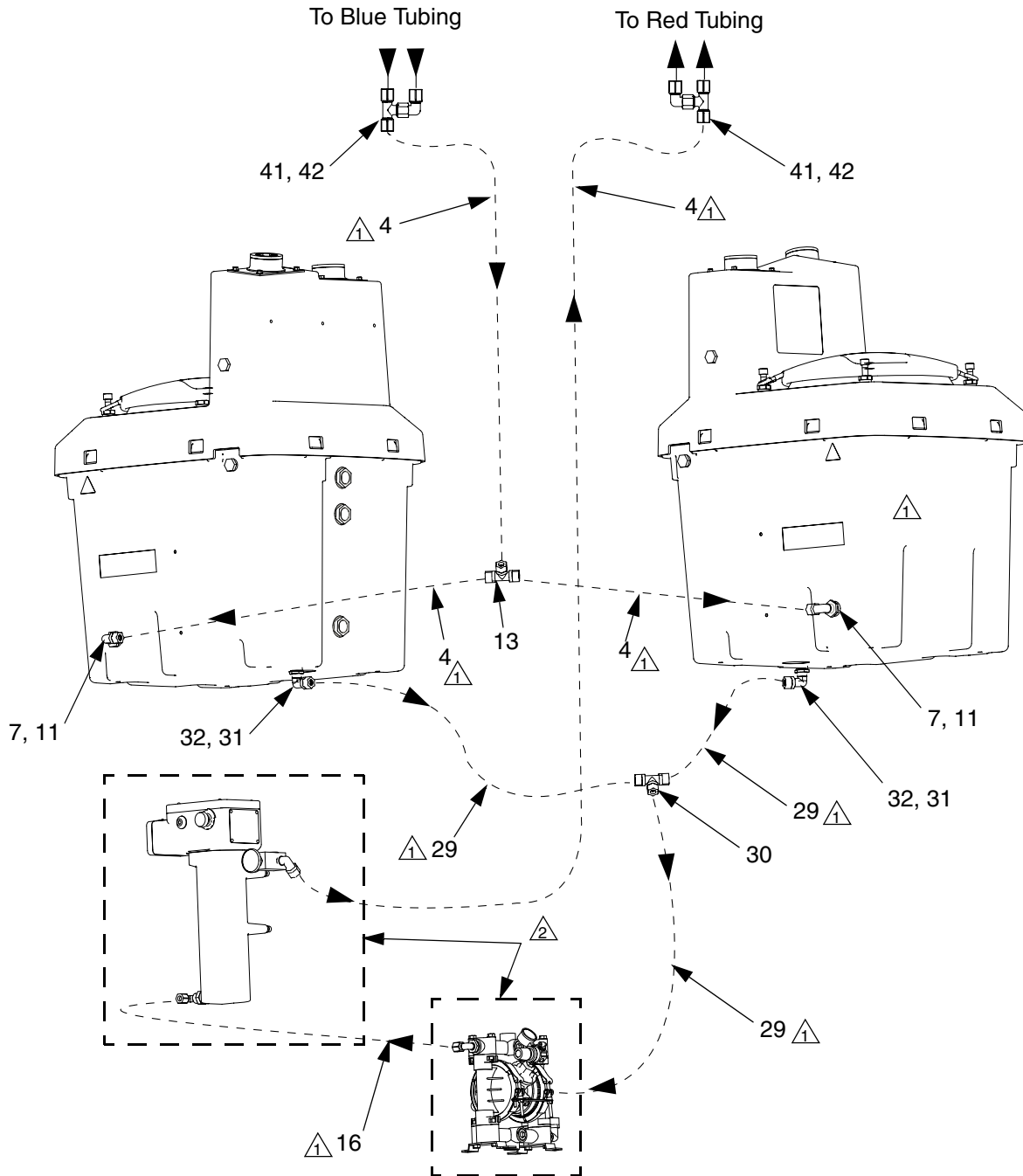
## Troubleshooting

| Problem  | Cause  | Solution   |
|--|--|--|
| Fluid fittings leaking.  | Loose fittings.  | Tighten fittings after system reaches desired temperature.     |
| Hose not heating to desired temperature.                           | Diaphragm flow rate set too high.  | Decrease diaphragm pump flow rate to 50 cycles/min.            |
|  | Problem with Viscon HP heater.   | See troubleshooting in Viscon HP heater manual 309524.         |
| Diaphragm pump not operating correctly.                            |  | See troubleshooting in Husky 716 diaphragm pump manual 308981. |
| Oil overflowing out vented hopper side fill port during startup.   | Oil level higher than 3 in. (76.2 mm) below fill port at room temperature and at rest. | Lower oil level to 3 in. (76.2) below hopper fill port.        |
| Hopper not reaching set temperature when heating fluid hose first. | Temperature loss in heated hose is too much for the heater capacity to compensate for. | Allow longer heating time. Insulate heated hose bundle.        |
| Air and heating fluid splatter is exiting hopper vented fitting.   | Diaphragm in Husky 716 diaphragm pump is cracked.                                      | Replace pump diaphragm. See manual 308981 for parts.           |

# Parts

## 256273, XM Heated Hopper or Hose Circulation Kit

For heating hoppers and heated hose



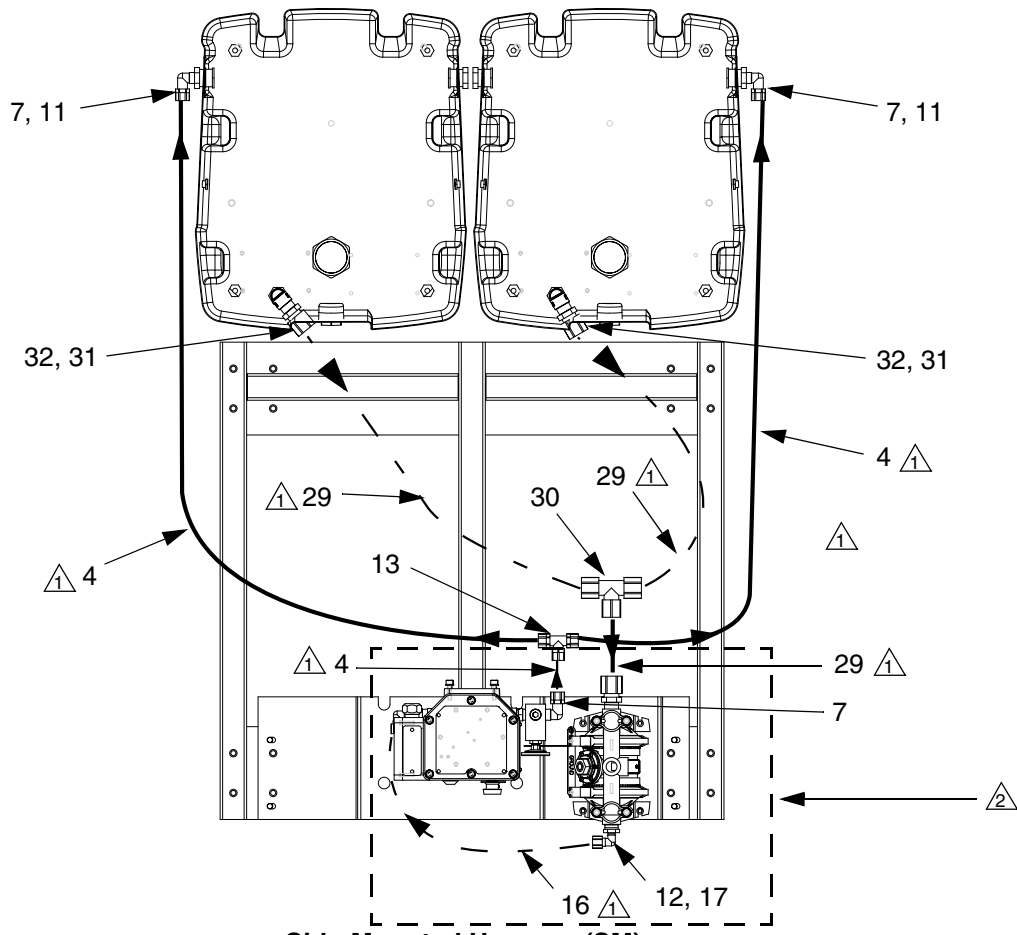
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⚠ 1 Cut tubing to length. See table on page 9.

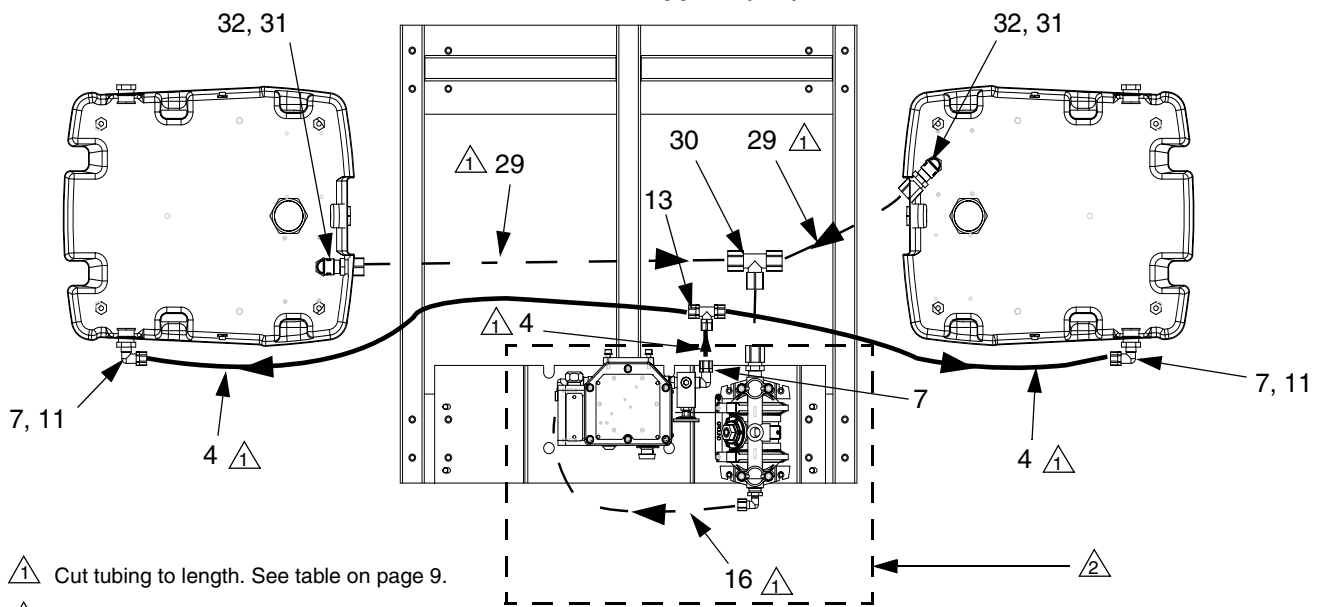
⚠ 2 See **Heater and Diaphragm Pump (3) Connections** on page 22.

For only heating hoppers

**Back-Mounted Hoppers (BM)**



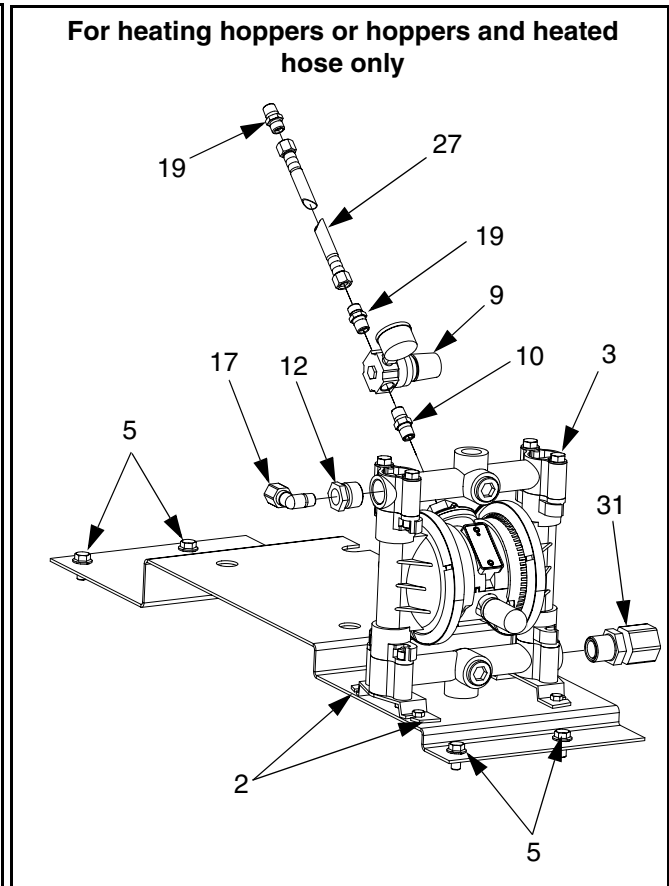
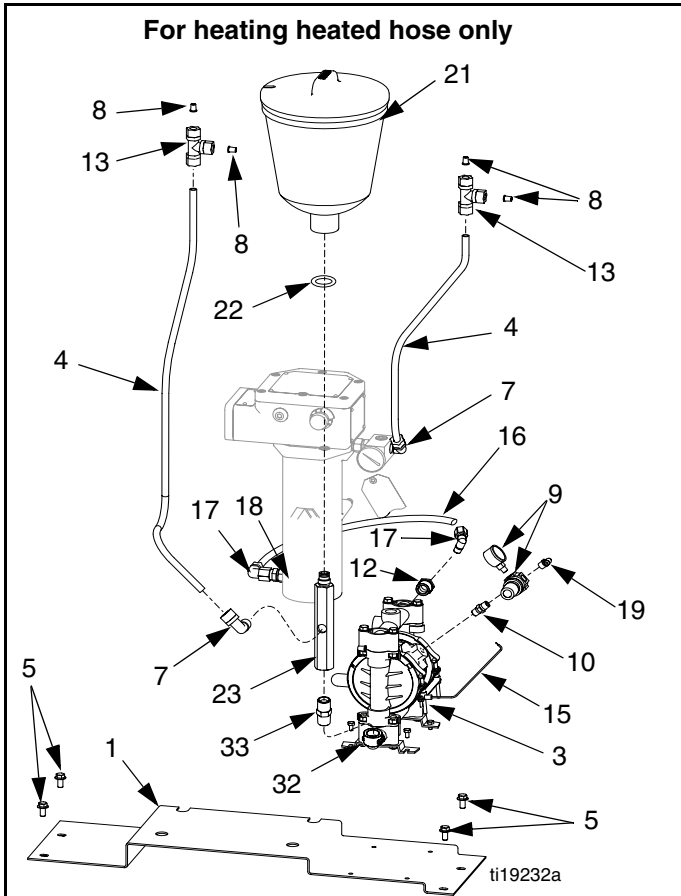
**Side-Mounted Hoppers (SM)**



⚠ Cut tubing to length. See table on page 9.

⚠ See **Heater and Diaphragm Pump (3) Connections** on page 22.

### Heater and Diaphragm Pump (3) Connections



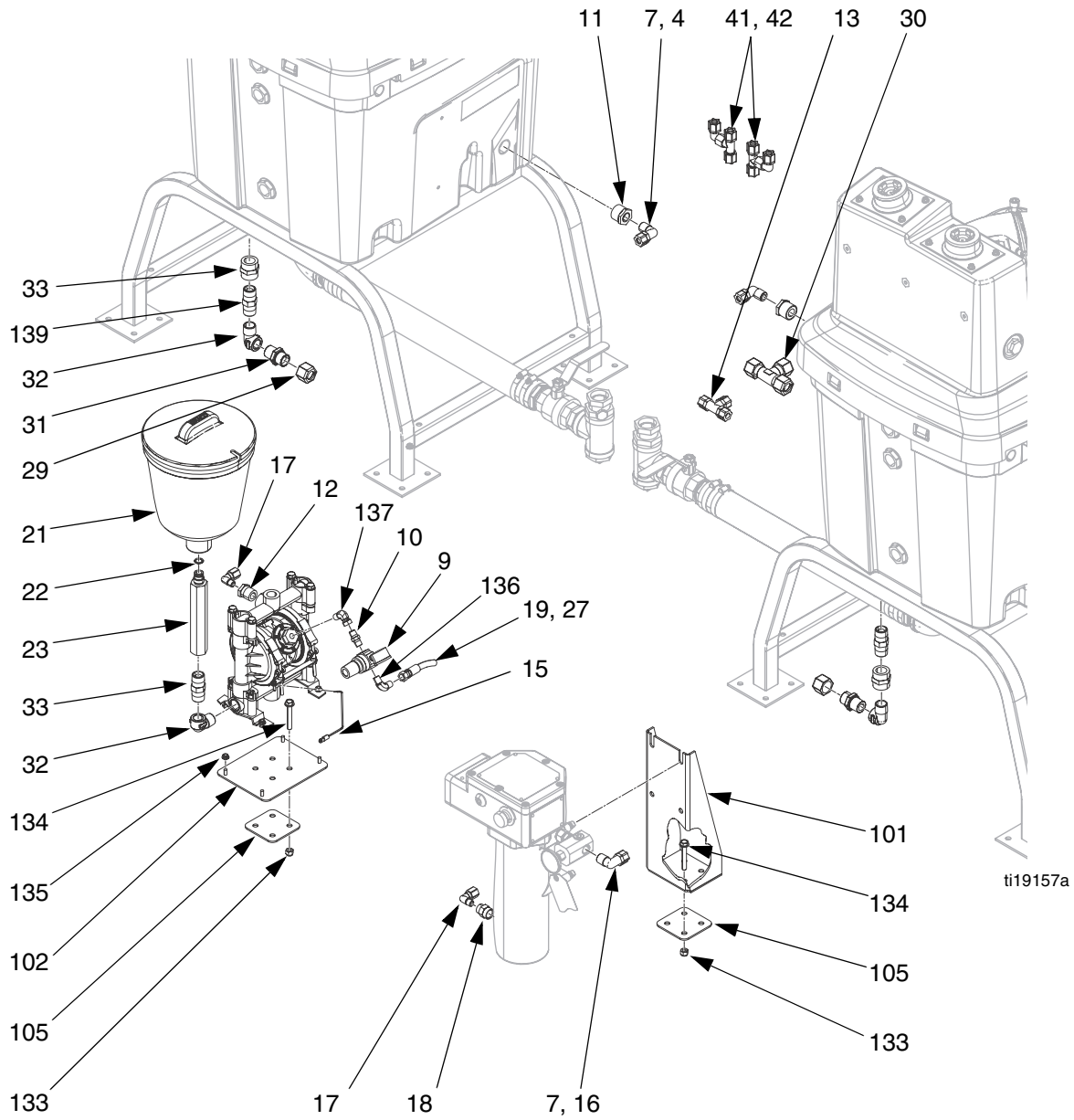
| Ref. | Part   | Description  | Qty. |
|------|--------|--|------|
| 1    | 256196 | PLATE, mounting  | 1    |
| 2    | 100333 | SCREW, cap, hex; 1/4-20 x 1/2 in. (13 mm)                | 4    |
| 3    | D53288 | PUMP, 716, Husky   | 1    |
| 4    | 054139 | TUBE, nylon, flexible, 1/2 in. (13 mm) OD; 17 ft (5.2 m) | 1    |
| 5    | 112395 | SCREW, cap, flng hd                                      | 4    |
| 7    | 117423 | FITTING, elbow; 1/2 npt(m) x 1/2 in. (13 mm) OD tube     | 5    |
| 9    | 110147 | REGULATOR, air, 1/4 npt                                  | 1    |
| 10   | 156971 | FITTING, nipple, short; 1/4-18 npt                       | 1    |
| 11   | 124070 | BUSHING, pipe; 1 npt(m) x 1/2 npt(f)                     | 2    |
| 12   | C19683 | BUSHING, reducing; 3/4(m) x 3/8(f)                       | 1    |
| 13   | 117425 | FITTING, tee; 1/2 in. (13 mm) OD tube                    | 1    |
| 15   | 119402 | CABLE, coiled, ground                                    | 1    |
| 16   | 054134 | TUBE, nylon; 3 ft (914 mm); 3/8 in. (9.5 mm)             | 1    |
| 17   | 114456 | FITTING, elbow, male; 3/8-18 npt x 3/8 OD tube           | 2    |
| 18   | 122275 | FITTING, coupling, reducing; 3/8 x 1/2                   | 1    |
| 19   | 162453 | FITTING, nipple; 1/4 npt(m) x 1/4 nps(m)                 | 2    |
| 21*  | 188787 | HOPPER, 1.5 gallon                                       | 1    |
| 22*  | 104938 | O-RING   | 1    |
| 23*  | 15B338 | FITTING, reservoir, mounting                             | 1    |
| 27   | 212005 | HOSE, coupled; 6 ft (1.8 m)                              | 1    |
| 29   | 054929 | TUBE, nylon, flexible; 3/4 in. (19 mm) OD, 8 ft (2.4 m)  | 1    |
| 30   | 124040 | FITTING, union tee, 3/4 in tube                          | 1    |
| 31   | 124041 | FITTING, connector, male; 3/4 npt(m) x 3/4 OD tube       | 3    |
| 32   | 124042 | FITTING, elbow, street; 3/4 npt(m) x 3/4 in.(f)          | 3    |
| 33   | 175013 | FITTING, nipple 3/4                                      | 1    |
| 41   | 126345 | FITTING, elbow, tube x nptf                              | 2    |
| 42   | 126346 | FITTING, tee, tube x tube x nptm                         | 2    |

\* Only used for circulating heated fluid through heated hose.

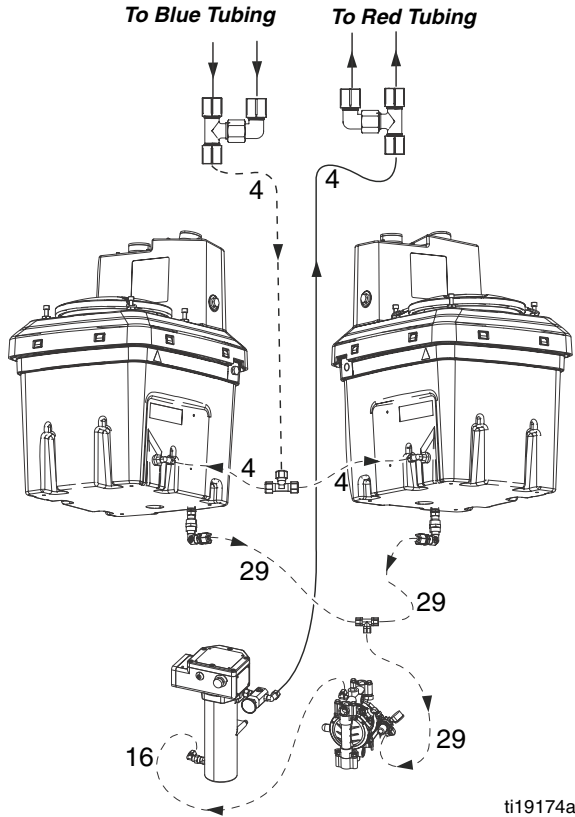
Viscon HP heater is not included with this kit (purchase separately).

Heated hose assembly is not included with this kit (purchase separately).

### 24M224, XP Heated Hopper or Hose Circulation Kit







- 1 Cut tubing to length. See table on page 9.
- 2 See **Heater and Diaphragm Pump (3) Connections** on page 22.

| Ref | Part   | Description                              | Qty |
|-----|--------|--|-----|
| 3   | D53288 | PUMP, 716, husky                         | 1   |
| 4   | 054139 | TUBE, nylon, round                       | 20  |
| 7   | 117423 | FITTING, elbow                           | 5   |
| 9   | 110147 | REGULATOR, air, 1/4 in. npt, with gauge  | 1   |
| 10  | 156971 | FITTING, nipple, short                   | 1   |
| 11  | 100380 | BUSHING, pipe                            | 2   |
| 12  | C19683 | BUSHING, reducing                        | 1   |
| 13  | 117425 | FITTING, tee, tube                       | 3   |
| 15  | 119402 | CABLE, coiled                            | 1   |
| 16  | 054134 | TUBE, nylon                              | 3   |
| 17  | 114456 | FITTING, elbow, male                     | 2   |
| 18  | 122275 | FITTING, coupling, reducing              | 1   |
| 19  | 162453 | FITTING, 1/4 npsm x 1/4 npt              | 2   |
| 21* | 188787 | HOPPER, 1.5 gallon                       | 1   |
| 22* | 104938 | PACKING, o-ring                          | 1   |
| 23* | 15B338 | FITTING, reservoir mounting              | 1   |
| 27  | 212005 | HOSE, coupled, 6 ft                      | 1   |
| 29  | 054929 | TUBE, nylon, round, 0.75 OD              | 14  |
| 30  | 124040 | FITTING, tee, 0.75 tube                  | 1   |
| 31  | 124041 | FITTING, 0.75 npt to 0.75 tube           | 3   |
| 32  | 124042 | FITTING, elbow, 0.75 street, brass       | 3   |
| 33  | 175013 | NIPPLE, pipe                             | 3   |
| 41  | 126345 | FITTING, elbow, tube x nptf              | 2   |
| 42  | 126346 | FITTING, tee, tube x tube x nptm         | 2   |
| 101 | 24N445 | BRACKET, heater, heated hose             | 1   |
| 102 | 24N446 | BRACKET, pump, heated hose               | 1   |
| 105 | 24N447 | BRACKET, base, heated hose               | 2   |
| 133 | 113981 | NUT, lock, high tensile                  | 8   |
| 134 | 123443 | SCREW, cap, flange head                  | 8   |
| 135 | 115942 | NUT, hex, flange head                    | 4   |
| 136 | 111763 | FITTING, elbow, 1/4 npt                  | 1   |
| 137 | 155541 | FITTING, swivel, 90 degree               | 2   |
| 139 | 16P292 | COUPLING, pipe, 3/4 npt, female x female | 2   |
| 140 | 114958 | STRAP, tie                               | 20  |

\* Only used for circulating heated fluid through heated hose.

Viscon HP heater is not included with this kit (purchase separately).

Heated hose assembly is not included with this kit (purchase separately).

# Technical Data

## Maximum Working Pressure

- High Pressure Fluid Hose . . . . . See **Heated Hose Assembly** table, page 5
- Heated Fluid Circulation Components . . . . . 95 psi (0.6 MPa, 6.6 bar)

Maximum Temperature Rating . . . . . 140° F (60° C)

## Wetted Parts

- High Pressure Fluid Hose . . . . . Nylon, Zinc-Plated Carbon Steel
- Heated Fluid Circulation Tubing . . . . . Polyether-based Polyurethane, nylon
- Heated Fluid Circulation Fittings . . . . . Polypropylene, Aluminum, Brass, Zinc-Plated Carbon Steel

Reservoir Tank . . . . . Low Density Polyethylene

Heated Hose Weight (50 ft. section) . . . . . Dry: 31 lb (14.1 kg)  
Wet: 41 lb (18.6 kg)



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