

## TFG100 PUMPS Drum Pump Kits and Packages

309116D



### Important Safety Instructions

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

See page 2 for Table of Contents.

#### 233045

Accessory kit for pump Model No. 241565

#### 233046

Accessory kit for pump Model Nos. 241564,  
233305, 243306, 243307

#### 233047

Accessory kit for pump Model No. 241564

#### 233048

Accessory kit for pump Model No. D54311

#### 233051

Drum pump package including Kit No. 233045  
and pump Model No. 241565

#### 233052\*

Drum pump package including Kit No. 233047  
and pump Model No. 241564

#### 233053\*

Drum pump package including Kit No. 233046  
and pump Model No. 241564

#### 233054\*

Drum pump package including Kit No. 233046  
and pump Model No. 243305

#### 233055\*

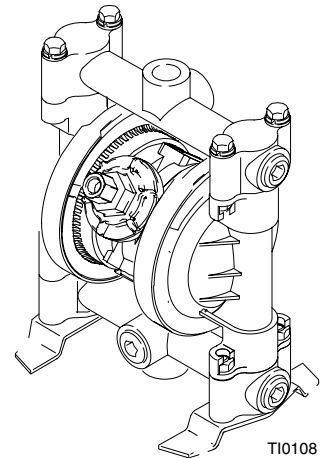
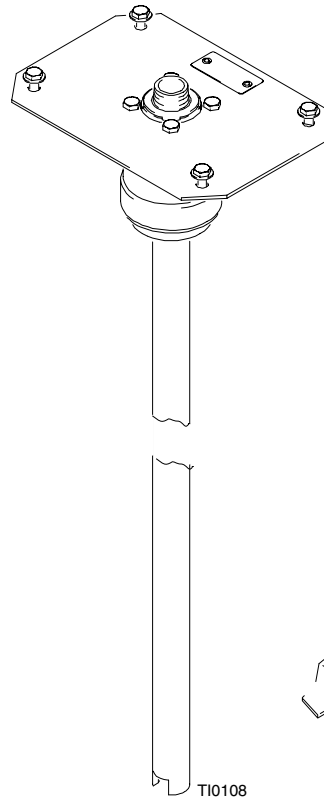
Drum pump package including Kit No. 233046  
and pump Model No. 243306

#### 233056\*

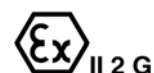
Drum pump package including Kit No. 233046  
and pump Model No. 243307

#### 233057\*

Drum pump package including Kit No. 233048  
and pump Model No. D54311



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# Symbols

## Warning Symbol



This symbol alerts you to the possibility of serious injury or death if you do not follow the instructions.

## Caution Symbol



This symbol alerts you to the possibility of damage to or destruction of equipment if you do not follow the instructions.

# ! WARNING



INSTRUCTIONS

## EQUIPMENT MISUSE HAZARD

Equipment misuse can cause the equipment to rupture or malfunction and result in serious injury.

- This equipment is for professional use only.
- Read all instruction manuals, tags, and labels before operating the equipment.
- Use the equipment only for its intended purpose. If you are not sure, call your Techni-Flow distributor.
- Do not alter or modify this equipment. Use only genuine Techni-Flow parts and accessories.
- Check equipment daily. Repair or replace worn or damaged parts immediately.
- Do not exceed the maximum working pressure of the lowest rated component in your system.
- Use fluids and solvents that are compatible with the equipment wetted parts. Refer to the **Technical Data** section of all equipment manuals. Read the fluid and solvent manufacturer's warnings.
- Always wear protective eyewear, gloves, clothing, and respirator as recommended by the fluid and solvent manufacturer.
- Wear hearing protection when operating this equipment.
- Comply with all applicable local, state, and national fire, electrical, and safety regulations.
- Route hoses away from traffic areas, sharp edges, moving parts, and hot surfaces. Do not expose hoses to temperatures above 180° F (82° C) or below -40° F (-40° C).
- Do not lift pressurized equipment.
- Comply with all applicable local, state, and national fire, electrical, and safety regulations.
- Do not use 1.1.1-trichloroethane, Methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents in pressurized aluminum equipment. Such use could result in a chemical reaction, with the possibility of explosion.

# WARNING



## TOXIC FLUID HAZARD

Hazardous fluids or toxic fumes can cause serious injury or death if splashed in the eyes or on the skin, swallowed, or inhaled. When flushing the air motor or pump, keep your face away from the exhaust port.

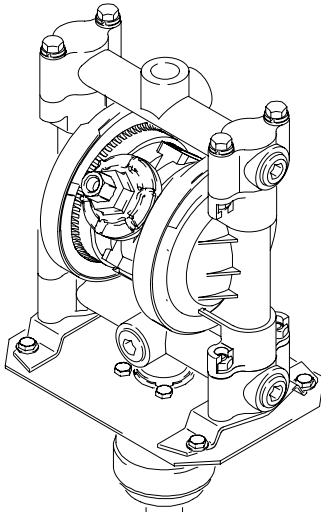
- Know the specific hazards of the fluid you are using.
- Do not lift a pump under pressure. If dropped, the fluid section may rupture. Always follow the **Pressure Relief Procedure** in the pump manual before lifting the pump.
- Store hazardous fluid in an approved container. Dispose of hazardous fluid according to all local, state, and national guidelines.
- Always wear protective eyewear, gloves, clothing, and respirator as recommended by the fluid and solvent manufacturer.
- Pipe and dispose of exhaust air safely, away from people, animals, and food handling areas. If the diaphragm fails, the fluid is exhausted along with the air. Read **Exhaust Air Ventilation** in instruction manual 308981.
- **Never** use an acetal pump to pump acids. Take precautions to avoid acid or acid fumes from contacting the pump housing exterior. Stainless steel parts will be damaged by exposure to acid spills and fumes.



## FIRE AND EXPLOSION HAZARD

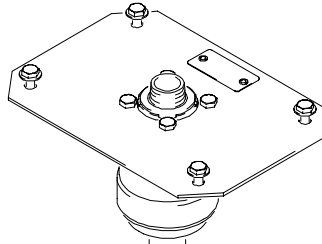
Improper grounding, poor ventilation, open flames, or sparks can cause a hazardous condition and result in a fire or explosion and serious injury.

- Ground all equipment and the equipment being dispensed to. Refer to **Grounding** in instruction manual 308981.
- **Never** use a polypropylene pump with non-conductive flammable fluids as specified by your local fire protection code. Refer to **Grounding** in instruction manual 308981 for more information. Consult your fluid supplier to determine the conductivity or resistivity of your fluid.
- If you are dispensing non-conductive flammable fluids, you must use the unit with the acetal pump, which is conductive.
- If there is any static sparking or if you feel an electric shock while using this equipment, **stop pumping immediately**. Do not use the equipment until you identify and correct the problem.
- Provide fresh air ventilation to avoid the buildup of flammable fumes from solvents or the fluid being dispensed.
- Pipe and dispose of exhaust air safely, away from all sources of ignition. If the diaphragm fails, the fluid is exhausted along with the air. Read **Air Exhaust Ventilation** in instruction manual 308981.
- Keep the work area free of debris, including solvent, rags, and gasoline.
- Electrically disconnect all equipment in the work area.
- Extinguish all open flames and pilot lights in the dispensing area.
- Do not smoke in the work area.
- Do not turn on or off any light switch in the work area while operating or if fumes are present.
- Do not operate a gasoline engine in the work area.



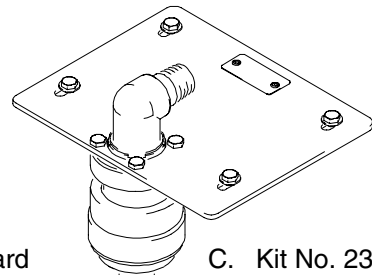
A. Representative package with pump mounted

TI0108



B. Kit with standard mounting plate

TI0108





C. Kit No. 233048 with offset mounting plate

TI0106B

# Installation

## Grounding

 **WARNING**

 **FIRE AND EXPLOSION HAZARD**

This unit must be grounded. Before you operate it, ground the system as explained in this section. Also, read **Fire and Explosion Hazard** on page 3. For further grounding information, read the **Grounding** section in instruction manual 308981.

Proper grounding is an essential part of maintaining a safe system.

To reduce the risk of static sparking, ground the pump and all other equipment used or located in the pumping area. Check your local electrical code for detailed grounding instructions for your area and type of equipment.

## Installation

**NOTE:** Numbers in parentheses refer to parts as defined on the parts list on page 8 and the parts drawing on page 9.

1. Remove the knurled bung adaptor (5) and the bung gasket (2) from the bung adaptor base assembly and install it onto the 55-gallon drum.
2. Tighten  $\frac{1}{4}$  turn past hand-tight to ensure that the bung gasket (2) engages the drum cover.
3. If an air-tight seal is required, place the white foam gasket (9) in the recess on top of the bung adaptor (8).
4. Loosely attach the pump to the mounting plate with the 4 washers (4) and 4 screws (1) provided.
5. Apply sealant to the threads of the suction tube (101).
6. Insert the threaded end of the suction tube (101) through the bottom of the bung adaptor base assembly and tighten it into the inlet manifold of the pump.
7. Tighten the four screws (1) that attach the pump to the mounting plate (7).
8. Insert the assembly into the drum through the bung adaptor (5) installed on the drum.

## **WARNING**

### TIPPING HAZARD

When mounting the stainless steel pump (D54311), ensure that the offset mounting plate (7) is positioned so that the pump is mounted over the drum to prevent tipping when the fluid level in the drum is low.

These units should be used **only** on drums positioned on a flat, level surface. Uneven or slanted surfaces could cause the drum to tip over.

Do not relocate a drum with the unit mounted in the bung hole. When the unit is mounted, the center of gravity is too high for stability when moving the drum.

## **CAUTION**

The bung adaptor (8) has 2.5 in. of adjustment to accommodate slight variances in drum size. To ensure that the bung adaptor does not come out of the retainer, do not allow the bottom of the larger diameter of the bung adaptor to extend more than 2.5 in. from the retainer (6).

9. Tighten the retainer (6)  $\frac{1}{4}$  turn past hand-tight to ensure the PTFE o-ring (3) seals against the bung adaptor base assembly.
10. Ground the pump and the system. Refer to instruction manual 308981.

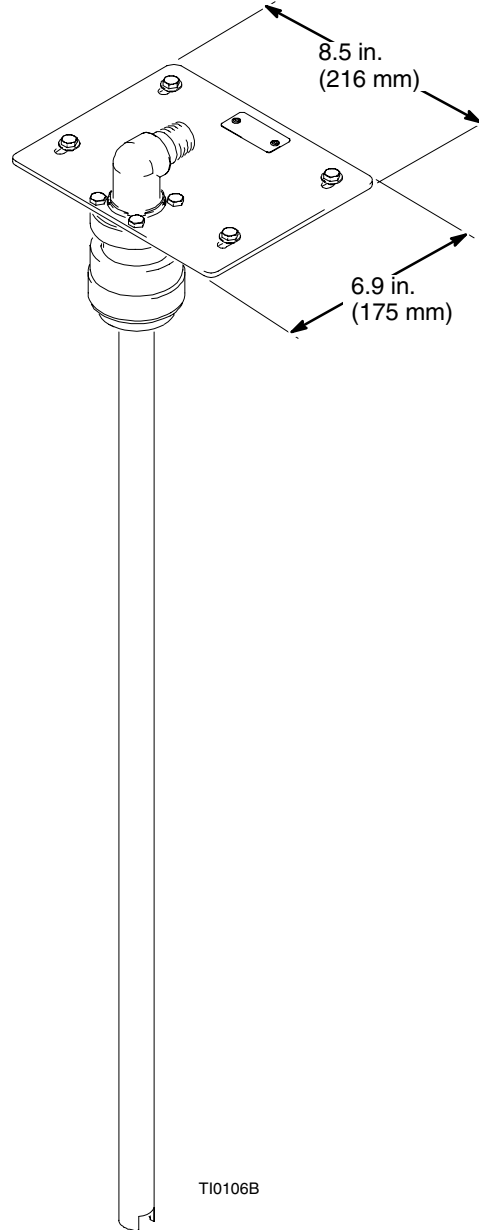
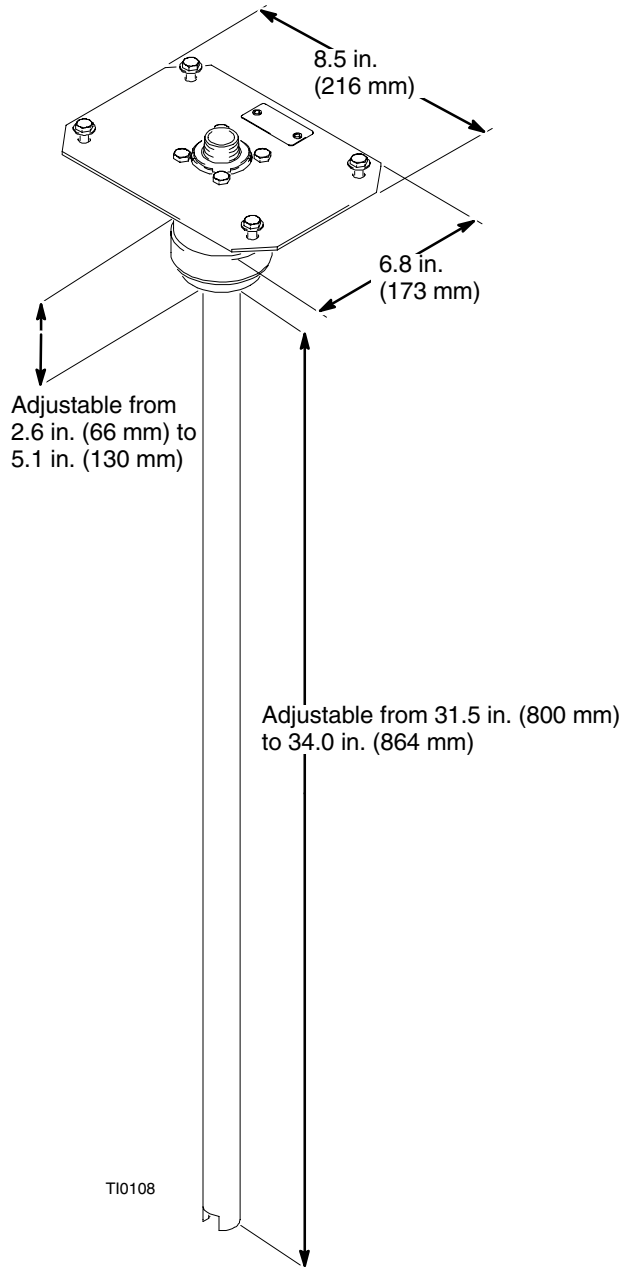
### TOXIC FLUID HAZARD



Read the Toxic Fluid Hazard information on page 3.

11. Follow the installation procedure in instruction manual 308981 to complete the installation of the air and fluid lines to and from the pump.
12. Open the second hole in the drum cover to introduce make-up air or inert gas. The bung adaptor and bung adaptor base seal against the drum. Failure to provide make-up air or inert gas could cause the drum to collapse. If necessary, take applicable steps to ensure the make-up air is dry and that dangerous gases do not escape from the drum.
13. To operate the pump, follow the procedures in instruction manual 308981.

# Dimensional Drawing



# Service

For service instructions specific to the pump, see instruction manual 308981.

## Parts

### Kits

#### **Pump Accessory Kit 233045**

*Includes polypropylene bung base 233073 and polypropylene suction tube 196096.*

#### **Pump Accessory Kit 233046**

*Includes acetal bung base 233074 and aluminum suction tube 196095.*

#### **Pump Accessory Kit 233047**

*Includes acetal bung base 233074 and stainless steel suction tube 196094.*

#### **Pump Accessory Kit 233048**

*Includes stainless steel bung base 233076 and stainless steel suction tube 196094.*

### Pumps

<b>Part No.</b>	<b>Description</b>	<b>Qty.</b>
241564	PUMP, TFG100 Fluid section: acetal (groundable) Guides: acetal Balls: PTFE Diaphragms: PTFE	1
241565	PUMP, TFG100 Fluid section: polypropylene Guides: polypropylene Balls: PTFE Diaphragms: PTFE	1
243305	PUMP, TFG100 Fluid section: aluminum Guides: acetal Balls: Santoprene® Diaphragms: Santoprene®	1
243306	PUMP, TFG100 Fluid section: aluminum Guides: acetal Balls: buna-N Diaphragms: buna-N	1
243307	PUMP, TFG100 Fluid section: aluminum Guides: acetal Balls: PTFE Diaphragms: PTFE	1
D54311	PUMP, TFG100 Fluid section: stainless steel Guides: stainless steel Balls: PTFE Diaphragms: PTFE	1

### Packages

#### **Drum Pump Package 233051**

*Includes pump 241565 and Kit No. 233045*

#### **Drum Pump Package 233052**

*Includes pump 241564 and Kit No. 233047*

#### **Drum Pump Package 233053**

*Includes pump 241564 and Kit No. 233046*

#### **Drum Pump Package 233054**

*Includes pump 243305 and Kit No. 233046*

#### **Drum Pump Package 233055**

*Includes pump 243306 and Kit No. 233046*

#### **Drum Pump Package 233056**

*Includes pump 243307 and Kit No. 233046*

#### **Drum Pump Package 233057**

*Includes pump D54311 and Kit No. 233048*

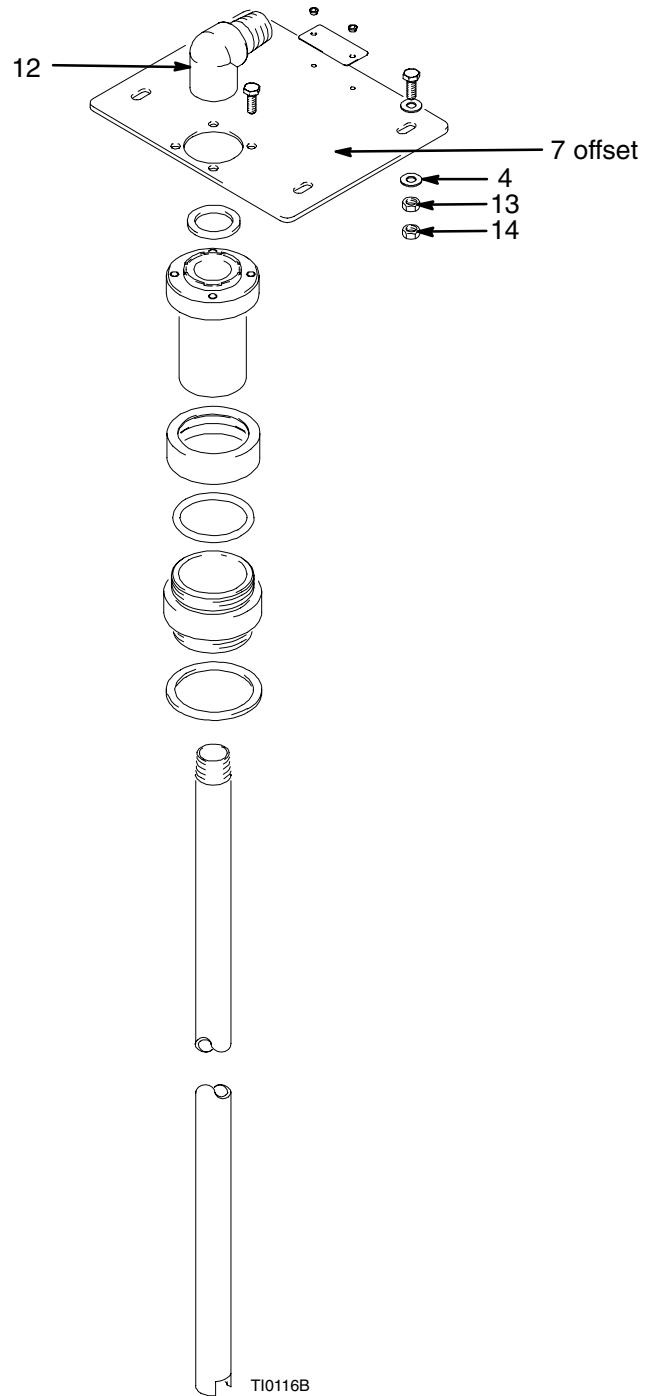
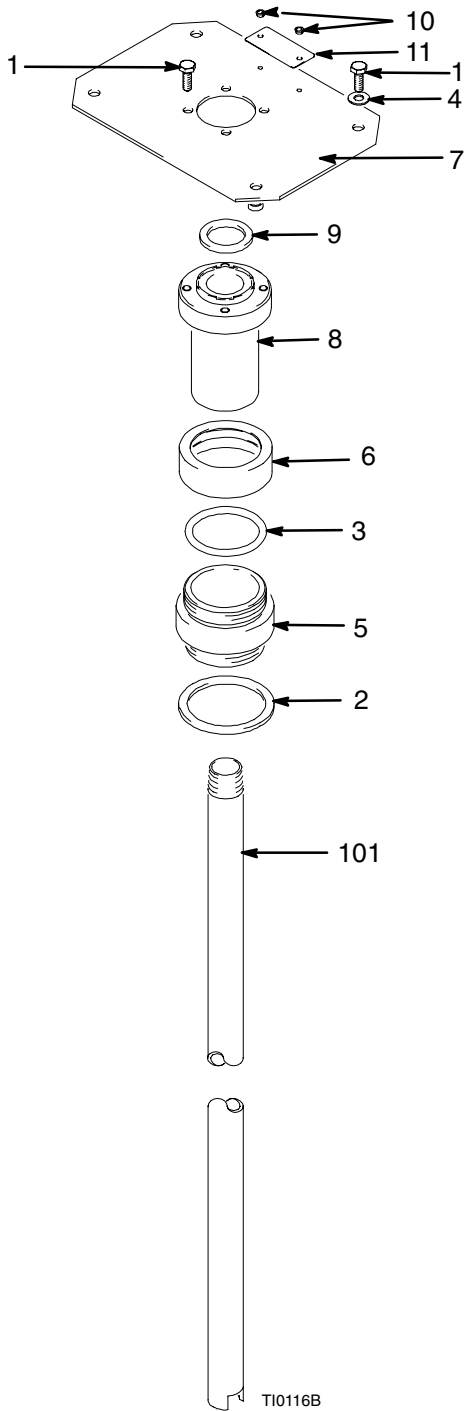
# Parts List and Accessory Kit Matrix

Ref. No.	Part No.	Description	Kits			
			233045	233046	233047	233048
1	102023	SCREW, cap	8	8	8	8
2	106537	GASKET, bung	1	1	1	1
3	112553	PACKING, O-ring	1	1	1	1
4	115814	WASHER, flat, SST	4	4	4	8
5	178575	ADAPTOR, bung	1	1	1	1
6	178576	RETAINER, O-ring	1	1	1	1
7	196092	PLATE, mounting, offset				1
	196093	PLATE, mounting	1	1	1	
8	196097	ADAPTOR, bung, polypropylene	1			
	196098	ADAPTOR, bung, acetal		1	1	
	196099	ADAPTOR, bung, stainless steel				1
9	196103	GASKET	1	1	1	1
10	111183	RIVET, pop	2	2	2	2
11	290045	PLATE, designation	1	1	1	1
12	115813	FITTING, street elbow				1
13	101324	NUT, hex, jam				4
14	102025	NUT, full, hex, regular				4
101	196094	TUBE, suction, stainless steel			1	1
	196095	TUBE, suction, aluminum		1		
	196096	TUBE, suction, polypropylene	1			



# Parts Drawing

Offset mounting plate and street elbow for use with stainless steel pump, model D54311.



# Pump Package Matrix

Package Part No.	Description	Pump						Bung Base				Tube		
		241565 PP-PP-TE-TE	241564 AC-AC-TE-TE	243305 AL-AC-SA-SA	243306 AL-AC-BU-BU	243307 AL-AC-TE-TE	D54311 SS-SS-TE-TE	233045 PP/PP	233046 AC/AL	233047 AC/SS	233048 SS/SS	196094 SS	196095 AL	196096 PP
233051	Polypropylene/PTFE with polypropylene tube	✓						✓						✓
233052	Acetal/PTFE with stainless steel tube		✓						✓		✓			
233053	Acetal/PTFE with aluminum tube		✓					✓				✓		
233054	Aluminum/Santoprene with aluminum tube			✓				✓				✓		
233055	Aluminum/buna-N				✓			✓				✓		
233056	Aluminum/PTFE with aluminum tube					✓		✓				✓		
233057	Stainless steel/Stainless steel with stainless steel tube						✓			✓	✓			

See the **Parts Drawing** on page 9.

# Technical Data

## TFG100

Maximum fluid working pressure	100 psi (0.7 MPa, 7 bar)
Air pressure operating range	30 –100 psi (0.2–0.7 MPa, 2.1–7 bar)
Weight	
233045	4.0 lb (1.8 kg)
233046	4.5 lb (2.0 kg)
233047	6.5 lb (2.9 kg)
233048	9.5 lb (4.3 kg)
Wetted parts	
233045	polypropylene
233046	aluminum
233047	stainless steel
233048	stainless steel
Non-wetted parts (materials vary depending on kit)	epoxy-coated steel, stainless steel, PTFE, nickel-plated steel, polyethylene, polypropylene, aluminum, zinc-plated steel

*Santoprene® is a registered trademark of the Monsanto Company.*

For additional technical data specific to the pump, refer to instruction manual 308981.

*Techni-Flow*