

## SaniForce® Sanitary Tote Unloader (STU)

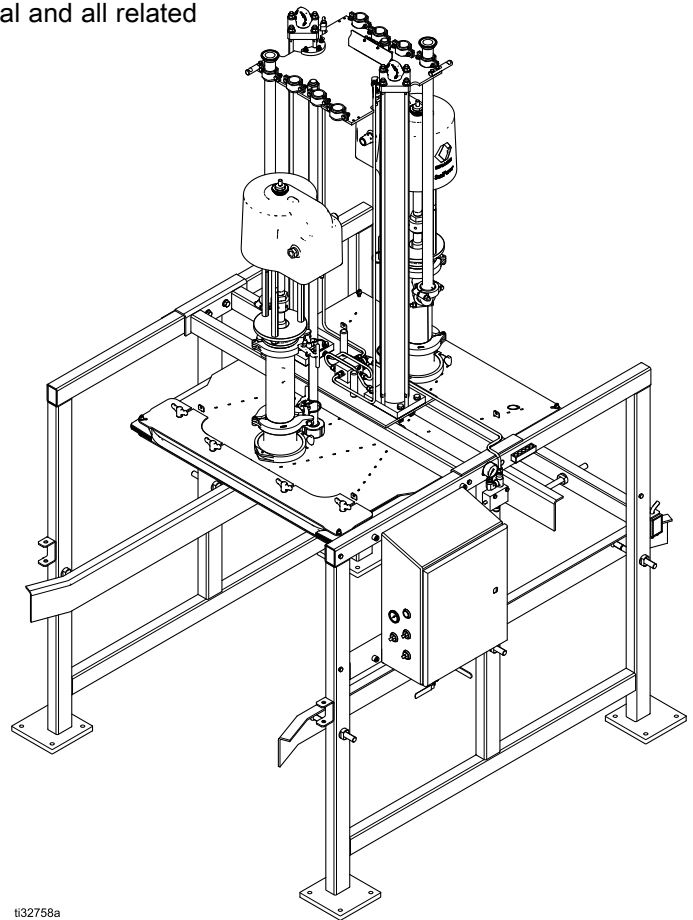
3A5417N  
EN

For use with food grade bulk supply of medium to high viscosity product. For professional use only. Only select models are approved for use in explosive atmospheres or hazardous locations. See Configuration Matrix on page 6 for more information.



### Important Safety Instructions

Read all warnings and instructions in this manual and all related manuals. **Save all instructions.**



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## Related Manuals

Manual Number	Title
3A5417	SaniForce Sanitary Tote Unloader (STU), Repair
3A5798	SaniForce 5:1 Sanitary Pumps, Instructions and Parts
3A5799	SaniForce 12:1 Sanitary Pumps, Instructions and Parts
3A5999	SaniForce High Sanitation Diaphragm Pumps, Instructions and Parts
3A6781	SaniForce 1590 High Sanitation Diaphragm Pump, Repair and Parts
3A6779	SaniForce High Sanitation Diaphragm Pumps, Model 3250, Operation
3A6783	SaniForce High Sanitation Diaphragm Pumps, Model 3250, Repair and Parts
3A1211	SaniForce Air Motors, Instructions and Parts
3A6101	Enclosed Manual Controls, Repair/Parts
3A6102	Electro-pneumatic Controls, Instructions-Parts

# 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 symbols refer to procedure-specific risks. When these symbols appear in the body of this manual or on warning labels, refer back to these Warnings. Product-specific hazard symbols and warnings not covered in this section may appear throughout the body of this manual where applicable.

 <h1 style="margin: 0;">WARNING</h1>	
 	<p><b>ELECTRIC SHOCK HAZARD</b></p> <p>This equipment must be grounded. Improper grounding, setup, or usage of the system can cause electric shock.</p> <ul style="list-style-type: none"> <li>• Turn off and remove power before disconnecting any cables and before servicing or installing equipment. For cart-mounted models, unplug the power cord. For all other units, disconnect power at the main switch.</li> <li>• Connect only to grounded power source.</li> <li>• All electrical wiring must be done by a qualified electrician and comply with all local codes and regulations.</li> </ul>
    	<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. Paint or solvent flowing through the equipment can cause static sparking. 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 sparking).</li> <li>• Ground all equipment in the work area. See <b>Grounding</b> instructions.</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>• Use only grounded hoses.</li> <li>• <b>Stop operation immediately</b> if static sparking occurs or you feel a shock. 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>Static charge may build up on plastic parts during cleaning and could discharge and ignite flammable vapors. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> <li>• Clean plastic parts only in well ventilated area.</li> <li>• Do not clean with a dry cloth.</li> </ul>

 <h1 style="margin: 0;">WARNING</h1>	
    	<p><b>SKIN INJECTION HAZARD</b></p> <p>High-pressure fluid from dispensing device, 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 dispensing device at anyone or at any part of the body.</li> <li>• Do not put your hand over the fluid outlet.</li> <li>• Do not stop or deflect leaks with your hand, body, glove, or rag.</li> <li>• Follow the <b>Pressure Relief Procedure</b> when you stop spraying/dispensing and before cleaning, checking, or servicing equipment.</li> <li>• Tighten all fluid connections before operating the equipment.</li> <li>• Check hoses and couplings daily. Replace worn or damaged parts immediately.</li> </ul>
  	<p><b>MOVING PARTS HAZARD</b></p> <p>Moving parts can pinch or amputate fingers and other body parts.</p> <ul style="list-style-type: none"> <li>• Keep clear of moving parts.</li> <li>• Do not operate equipment with protective guards or covers removed.</li> <li>• Pressurized equipment can start without warning. Before checking, moving, or servicing equipment, follow the <b>Pressure Relief Procedure</b> and disconnect all power sources.</li> </ul>



# WARNING



## EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.



- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See **Technical Data** in all equipment manuals.
- Use fluids and solvents that are compatible with equipment wetted parts. See **Technical Data** in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request Safety Data Sheet (SDS) from distributor or retailer.
- Turn off all equipment and follow the **Pressure Relief Procedure** when equipment is not in use.
- Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.
- Do not alter or modify equipment. Alterations or modifications may void agency approvals and create safety hazards.
- Make sure all equipment is rated and approved for the environment in which you are using it.
- Use equipment only for its intended purpose. Call your distributor for information.
- Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces.
- Do not kink or over bend hoses or use hoses to pull equipment.
- Keep children and animals away from work area.
- Comply with all applicable safety regulations.



## TOXIC FLUID OR FUMES HAZARD

Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.

- Read Safety Data Sheets (SDSs) to know the specific hazards of the fluids you are using.
- Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.



## PERSONAL PROTECTIVE EQUIPMENT

Wear appropriate protective equipment when in the work area to help prevent serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. Protective equipment includes but is not limited to:

- Protective eyewear, and hearing protection.
- Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.

# Configuration Matrix

Check the identification plate (ID) for the Configuration Number of your system. Use the following matrix to define the components of your system.

Sample Configuration Number: **STU A01AAA1AA1C21**

<b>STU</b>	<b>A</b>	<b>01</b>	<b>A</b>	<b>A</b>	<b>A</b>	<b>1</b>	<b>AA</b>	<b>0</b>	<b>C21</b>
Sanitary Tote Unloader	Frame	Pump	Plate Size (Bin Type)	Seal Type	Seal Material	Controls	Accessories	Wash Kit	Certification

**NOTE:** Some combinations are not possible. Please check with your local supplier.

Sanitary Tote Unloader	Frame		Pump			Plate Size (Bin Type)		Seal Type	
<b>STU</b>	<b>A</b>	Stainless Steel, Footed	<b>01</b>	5:1 Double Ball 2 pumps		<b>A</b>	44.375 x 40.375 (plywood)		<b>A</b> Inflatable
	<b>B</b>	Stainless Steel, Extended Legs	<b>02</b>	5:1 Priming Piston 2 pumps		<b>B</b>	43.9 x 39.9 (Buckhorn 315) (Schoeller 315)		<b>0</b> None
	<b>C</b>	Stainless Steel Tall 2-Gate	<b>03</b>	12:1 Priming Piston, 2 pumps		<b>C</b>	55.5 x 42 (Goodpack)		
			<b>04</b>	5:1 Double Ball, 4 pumps		<b>D</b>	43.375 x 35.625 (TNT)		
			<b>05</b>	5:1 Priming Piston, 4 pumps		<b>E</b>	43.5 x 40.375 (Arena)		
			<b>06</b>	12:1 Priming Piston, 4 pumps		<b>F</b>	41.32 x 38.9 (Ceva/Pallecon)		
			<b>07</b>	3250 HS Ball Check, P.SSPTPO, AODD, 2 pumps		<b>G</b>	43.1 x 36.4 (Spacekraft)		
			<b>12</b>	3250 HS Ball Check, P.SSFKEO, AODD, 2 pumps		<b>J</b>	43.9 x 39.9 (Citadel)		
			<b>13</b>	3250 HS Ball Check, P.SSPTPS, AODD, 2 pumps		<b>K</b>	35 x 25 (Submersible)		
			<b>14</b>	3250 HS Ball Check, P.SSSPSP, AODD, 2 pumps		<b>L</b>	45.5 x 41.0 (Goodpack MB6)		
						<b>0</b>	None		

Seal Material		Controls		Accessories		Wash Kit		Certification	
<b>A</b>	Polychloroprene (White)	<b>1</b>	Enclosed Pneumatic	<b>AA</b>	Bag Clamp/Corner Guide Kit	<b>0</b>	None	<b>C21</b>	EN 10204 type 2.1
<b>B</b>	EPDM (Black)	<b>2*</b>	Electro-pneumatic			<b>1</b>	Poly Tank Kit	<b>C31</b>	EN 10204 type 3.1
<b>0</b>	None								

\* Not ATEX. Not intended for use in explosive or hazardous environments.

## Approvals

All models are rated:



and are FDA-compliant.

ATEX models with piston pumps are rated:



II 2 GD  
Ex h IIA T4 Gb X  
Ex h IIIB T100°C Db X

ATEX models with diaphragm pumps are rated:



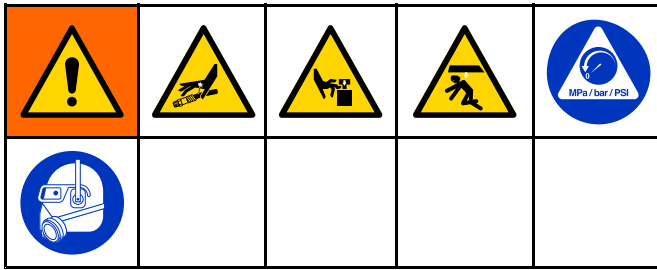
II 2 GD  
Ex h IIA 82°C...160°C Gb X  
Ex h IIIB T135°C Db

Electro-pneumatic control panel component approval:



**Intertek** Conforms to UL STD 508A  
**9902741** Certified to CSA STD C22.2 No. 286

# Troubleshooting



1. Follow the Pressure Relief Procedure in the operation manual before servicing the equipment.
2. Check all possible problems and causes before disassembling the system.

Problem	Cause	Solution
Ram plate will not rise.	Ram Up air pressure set too low.	Increase Ram Up air pressure.
	Ram stuck in tote.	Deflate seal. Check that seal pressure gauge on front of control panel reads zero.
	Ram plate stuck to bottom of tote.	Press air assist button while raising plate.
Ram plate will not lower.	Cylinder lock activated.	Raise plate to top. Pull lock lever all the way out. Lower cylinder.
	Ram Down air pressure set too low.	Increase Ram Down air pressure.
	Pumps are not evacuating product.	Troubleshoot pump.
	Inflatable seal pressure set too high.	Decrease inflatable seal air pressure.
Pumps will not cycle.	Air pressure to pumps is too low.	Increase pump air pressure.
	Outlet fluid flow blocked.	Unblock pump outlet.
Pump cycles but will not prime.	Pump is running too fast to prime.	Pumps prime better at slower speeds. Slow down pump by adjusting pump speed slow flow control valve.
Pump cycle uneven, diving on downstroke.	Pump cavitating on upstroke.	Liner blocking inlet. Raise plate and unblock inlet.
		Product too thick to flow into pump inlet fast. Slow down pump speed.
		Tote out of product.
Pump cycle uneven, diving on upstroke.	Pump check damaged.	Service pump.
Inflatable seal getting pinched between plate and tote wall.	Ram pressure set too high.	Decrease ram air pressure.
	Seal pressure set too low.	Increase seal air pressure.
Seal coming off ram plate when plate is rising.	Seal not retracting all the way before raising ram plate.	Increase venturi flow.
Product leaking past seal.	Ram Down pressure set too high.	Decrease Ram Down air pressure.
	Seal pressure set too low.	Increase seal air pressure.
	Corner seals not in place.	Install corner seals.
Plate raises or lowers too quickly.	Up or Down flow control valve too far open.	Adjust flow control valve(s).
Control levers/buttons do not actuate valves.	Not enough air pressure supplied to controls.	Increase control supply air pressure.



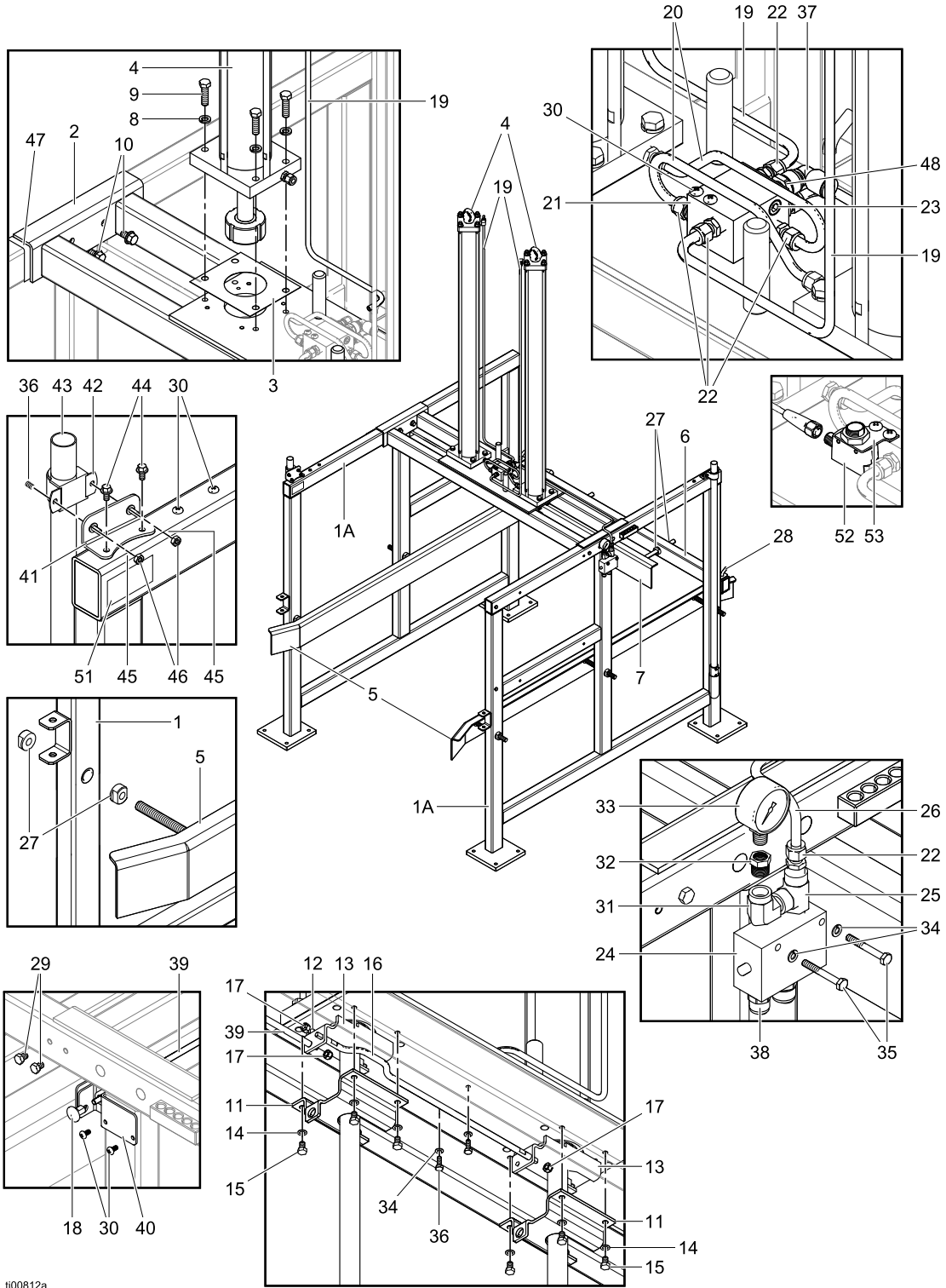
# Parts

## Frame Parts

Ref.	Part/Kit	Description	Qty.	Ref.	Part/Kit	Description	Qty.
1A	17P277	FRAME, standard	2	33	17P449	GAUGE, 0–160 psi, 1/4 npt	1
1B	17Y554‡	FRAME, extended	2	34	102024	WASHER, lock	4
1K	20B087	FRAME, submersible left	1	35	17V380	SCREW, 1/4–20 x 2	2
2	17R829	CROSSBAR	1	36	102023	SCREW	6 or 10
3	17U808	GASKET, air cylinder	2	37	17U812	FITTING, elbow, 1/2 tube to stem	1
4	17R800*	CYLINDER, air	2	38	17V408	FITTING, 1/8 npt x 3/8 tube PTC	1
5	17P317	RAIL	2	39	18A857	ROD, extension, cylinder lock	1
6	17P310	GATE	1	40	18A858	BRACKET, lock extension	1
7	17P348	STOP, back	1	41	17V612	BRACKET, muffler	2 or 4
8	EQ1135	WASHER, split, lock	8	42	17W334	CLAMP, damping	2 or 4
9	129791	BOLT, 1/2–13 x 1.75, SST	8	43	17V646	TUBE, muffler	2 or 4
10	128819	BOLT, flange, 1/2	4	44	128504	BOLT	4 or 8
11	17W856	BRACKET, cylinder lock	2	45	104123	WASHER, lock	4 or 8
12	15E788	PIN	1	46	104121	NUT	4 or 8
13	17W852	LATCH, cylinder lock	2	47	17U809	GASKET	2
14	105473	WASHER	8	48	17T103	FITTING, 3/8 npt x 1/2 tube PTC	1
15	109477	SCREW	8	49	17V403	ANTI-SIEZE	AR
16	17S286	ROD, linkage	1	50	— — —	THREAD TAPE	AR
17	17A237	NUT, polymer-insert, 5/16–18	3	51	15J074†	LABEL	2
18	17S287	KNOB, cylinder lock	1	52	17Y665	LASER	1
19	17S404	TUBE, cylinder top	2	53	17Y875	BRACKET, laser	1
20	17S357	TUBE, cylinder bottom	2	54	20B085	FRAME, submersible right	1
21	17S326	MANIFOLD, cylinder air	1	55	17Y558‡	Foot	4
22	129964	FITTING, 3/8 tube x 3.8M npt	6	* Kit 25N605 contains materials to rebuild 2 air cylinders.			
23	101748	PLUG, pipe	1	† Replacement labels available at no cost.			
24	17N330	VALVE, pilot check	1	‡ This frame and foot combination (Frame Code "B") is a full 12 in. higher than the standard frame (Frame Code "A") The feet are supplied unattached so that the frame legs can be cut and the feet welded onto the legs for a custom height.			
25	108673	FITTING, tee	1				
26	17S358	TUBE, cylinder bottom	1				
27	17P353	NUT	16				
28	17V376	PIN, clevis	2				
29	17V377	SCREW, 3/8–16 x 1/2, with o-ring	12				
30	17T272	SCREW, seal	6				
31	17D281	FITTING, elbow, 3/8 npt	1				
32	17X715	BUSHING, 3/8 npt x 1/4 npt	1				

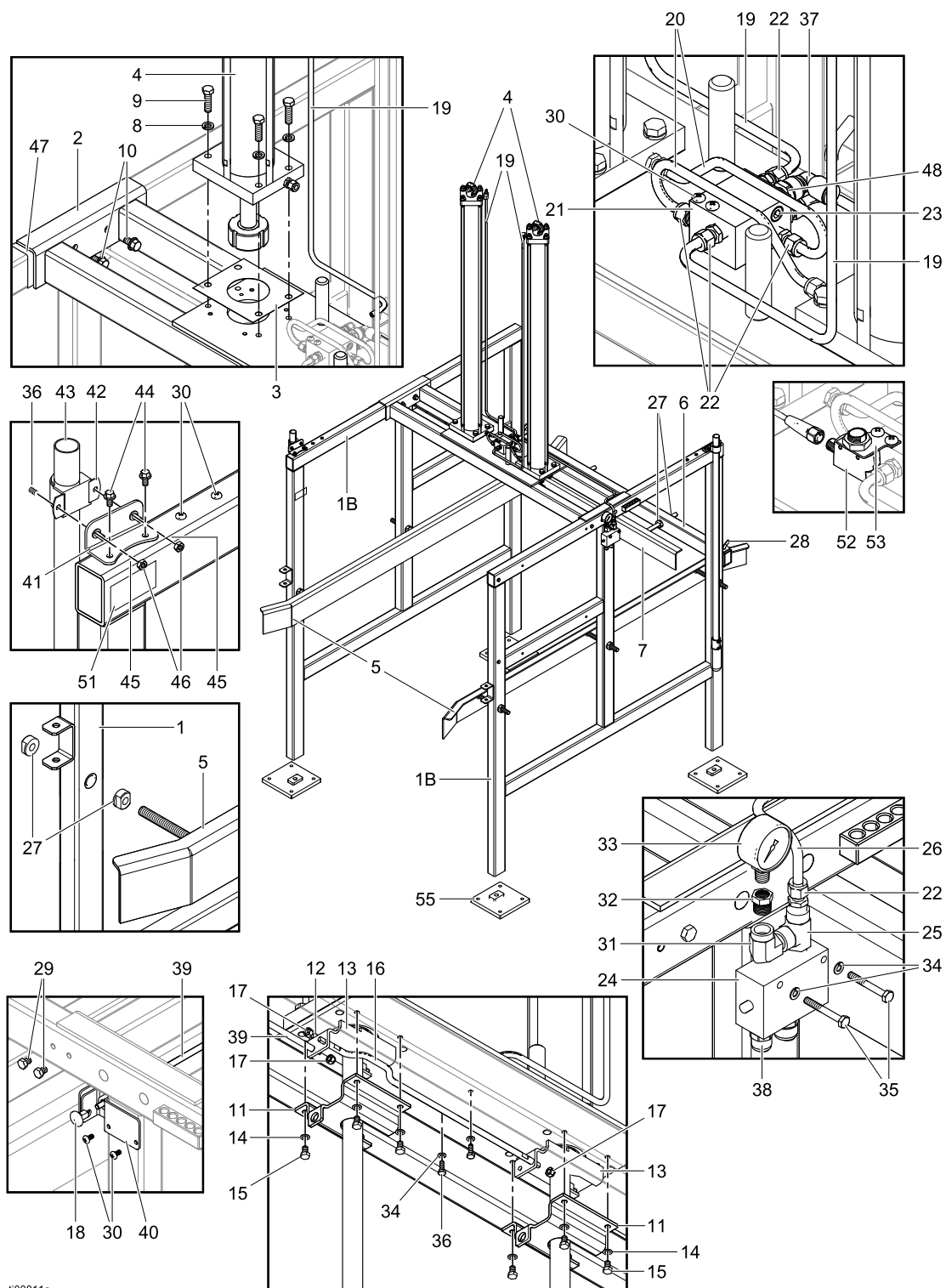
**NOTE:** Replacement pump air supply hose is available in a 15 foot length. Order part number 17Y413.

# Footed Frame Assembly



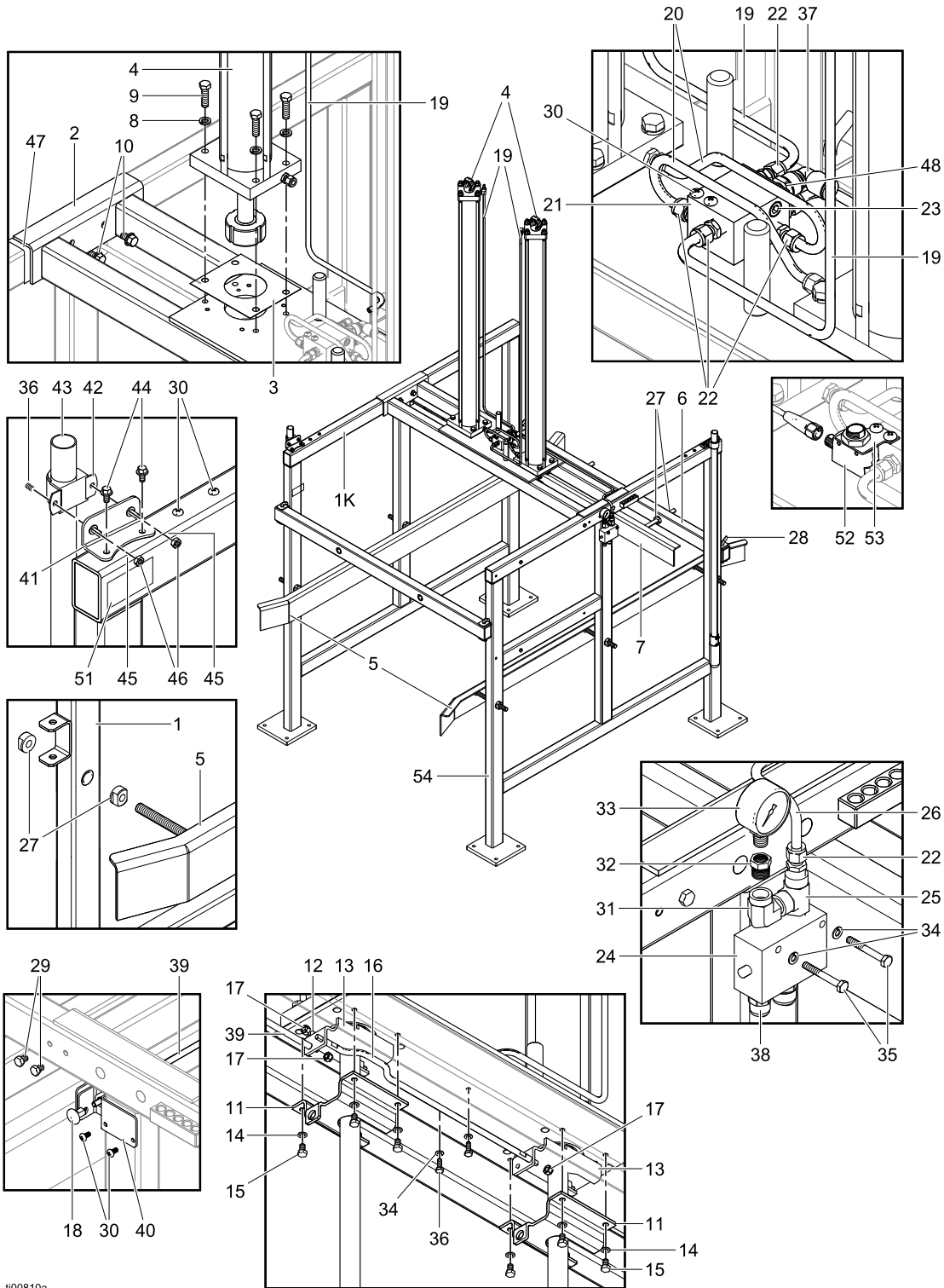
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# Extended Frame Assembly



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# Frame Assembly for Submersible Plates



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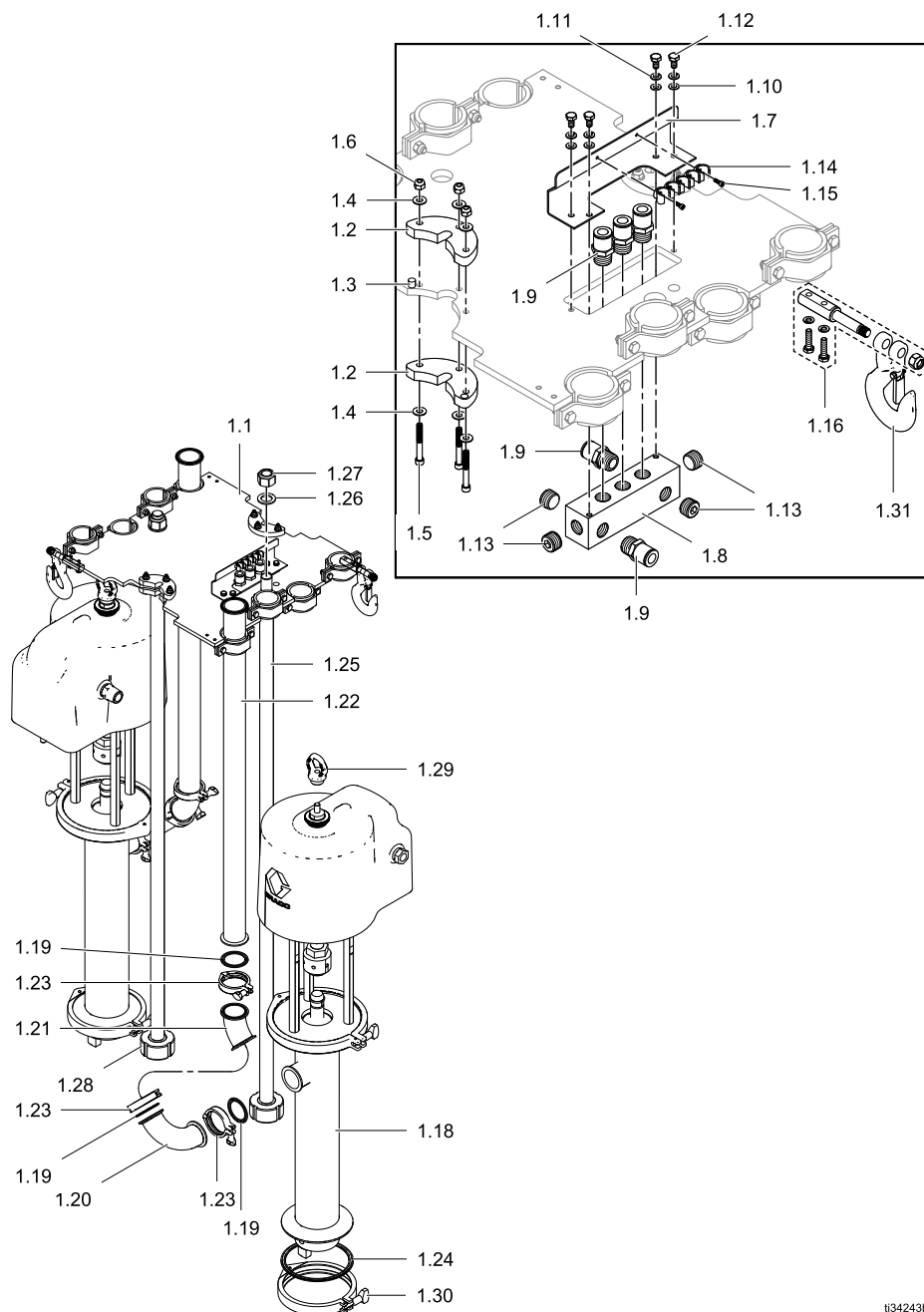
# Pump Module

Sample Configuration Number STU.A01BAB1AA0C21

Sanitary Tote Unloader	Frame	Pump	Plate	Seal Type	Seal Material	Control	Accessories	Wash Bin	Certification
STU	A	01	B	A	B	1	AA	0	C21

## 5:1 Double Ball Pump (2 Pumps)

Pump configuration 01



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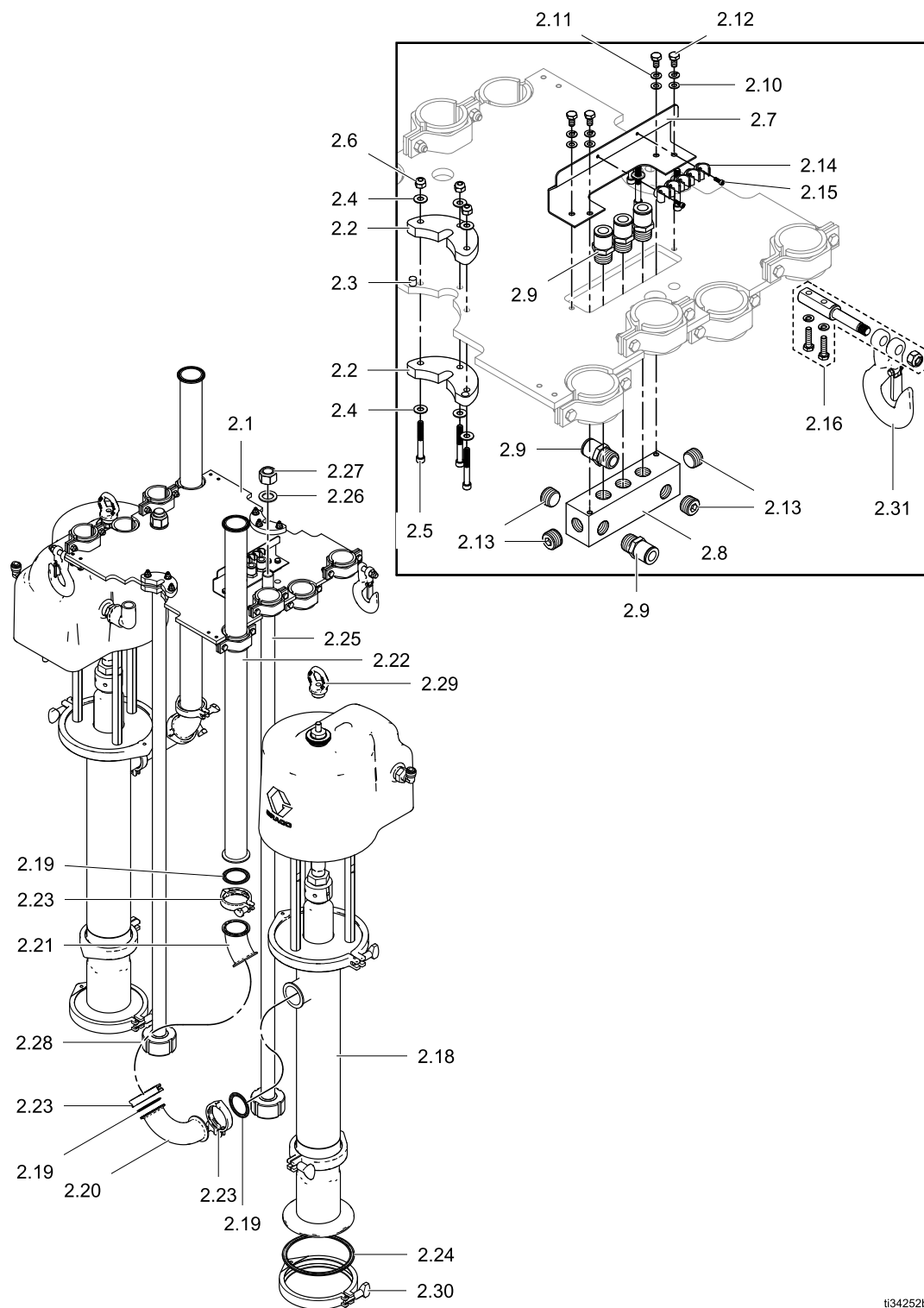
Parts

Pump Configuration 01

Ref.	Part/Kit	Description	Qty.	Ref.	Part/Kit	Description	Qty.
1.1	17S627	PLATE	1	1.18	25N010*	PUMP, Double Ball, 5:1	2
1.2	17S515	GUIDE	4	1.19	512332	GASKET, 2 inch	6
1.3	116618	MAGNET	2	1.20	17S517	FITTING, 90 degree	2
1.4	115814	WASHER	12	1.21	17S518	FITTING, 45 degree	2
1.5	128403	SCREW, 1/4-20, sst	6	1.22	17S764	PIPE, 2 inch	2
1.6	109478	NUT, lock, sst	6	1.23	500984	CLAMP	6
1.7	17S251	BRACKET, tube routing	1	1.24	16D246	GASKET, 6 inch	2
1.8	17S238	MANIFOLD, pump air distribution	1	1.25	17R855	ROD, plate support	2
1.9	17T093	FITTING, 1/2 npt x 1/2 tube	5	1.26	124664	WASHER, 1 inch I.D.	2
1.10	111750	WASHER	4	1.27	17S514	NUT, polymer insert, 1-8	2
1.11	102024	WASHER, lock	4	1.28	17R734	NUT	2
1.12	102235	SCREW	4	1.29	16C009	EYE BOLT	2
1.13	103778	PLUG	4	1.30	16D245	CLAMP, 6 inch	2
1.14	17S250	CLIP, tube routing	1	1.31	17W574	HOOK, 1760 lb capacity	2
1.15	128410	SCREW, 6-32 x 0.375	2	* To order an EN 10204:2004 Type C3.1 material certification pump, add "C31" to the end of the part number. A C3.1 certified pump 25N010, is 25N010C31.			
1.16	20B490	HOOK, pump hanger	2				

### 5:1 Priming Piston Pump (2 Pumps)

Pump configuration 02



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Parts

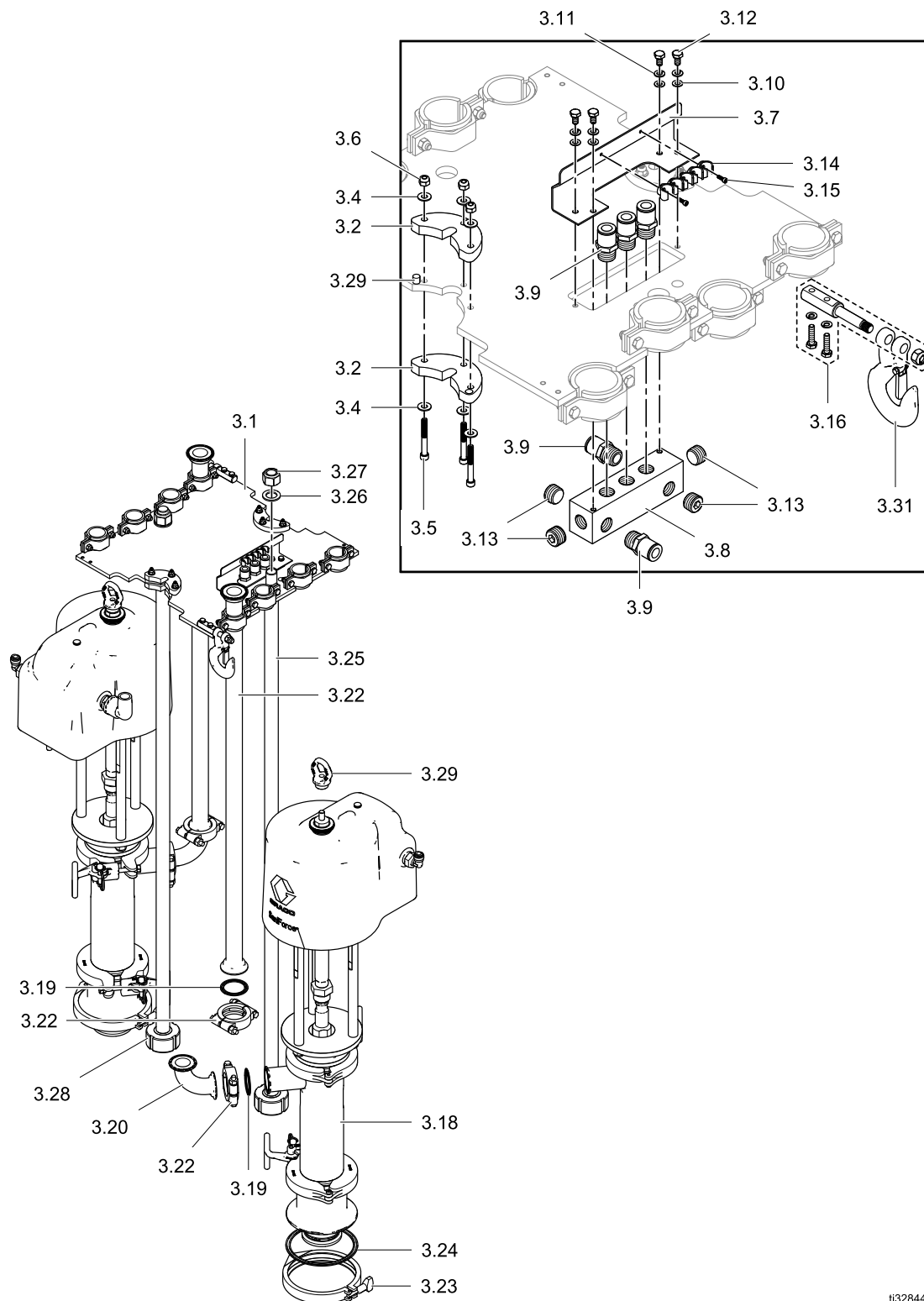
Pump Configuration 02

Ref.	Part/Kit	Description	Qty.	Ref.	Part/Kit	Description	Qty.
2.1	17S627	PLATE	1	2.19	512332	GASKET, 2 inch	6
2.2	17S515	GUIDE	4	2.20	17S517	FITTING, 90 degree	2
2.3	116618	MAGNET	2	2.21	17S518	FITTING, 45 degree	2
2.4	115814	WASHER	12	2.22	17S764	PIPE, 2 inch	2
2.5	128403	SCREW, 1/4-20, sst	6	2.23	500984	CLAMP	6
2.6	190478	NUT, lock, sst	6	2.24	16D246	GASKET, 6 inch	2
2.7	17S251	BRACKET, tube routing	1	2.25	17R855	ROD, plate support	2
2.8	17S238	MANIFOLD, pump air distribution	1	2.26	124664	WASHER, 1 inch I.D.	2
2.9	17T093	FITTING, 1/2 npt x 1/2 tube	5	2.27	17S514	NUT, polymer insert, 1-8	2
2.10	111750	WASHER	4	2.28	17R734	NUT	2
2.11	102024	WASHER, lock	4	2.29	16C009	EYE BOLT	2
2.12	102235	SCREW	4	2.30	16D245	CLAMP, 6 inch	2
2.13	103778	PLUG	4	2.31	17W574	HOOK, 1760 lb capacity	2
2.14	17S250	CLIP, tube routing	1	* To order an EN 10204:2004 Type C3.1 material certification pump, add "C31" to the end of the part number. A C3.1 certified pump 25N009, is 25N009C31.			
2.15	128410	SCREW, 6-32 x 0.375	2				
2.16	20B490	HOOK, pump hanger	2				
2.18	25N009*	PUMP, Priming Piston, 5:1	2				



### 12:1 Priming Piston Pump (2 Pumps)

Pump configuration 03



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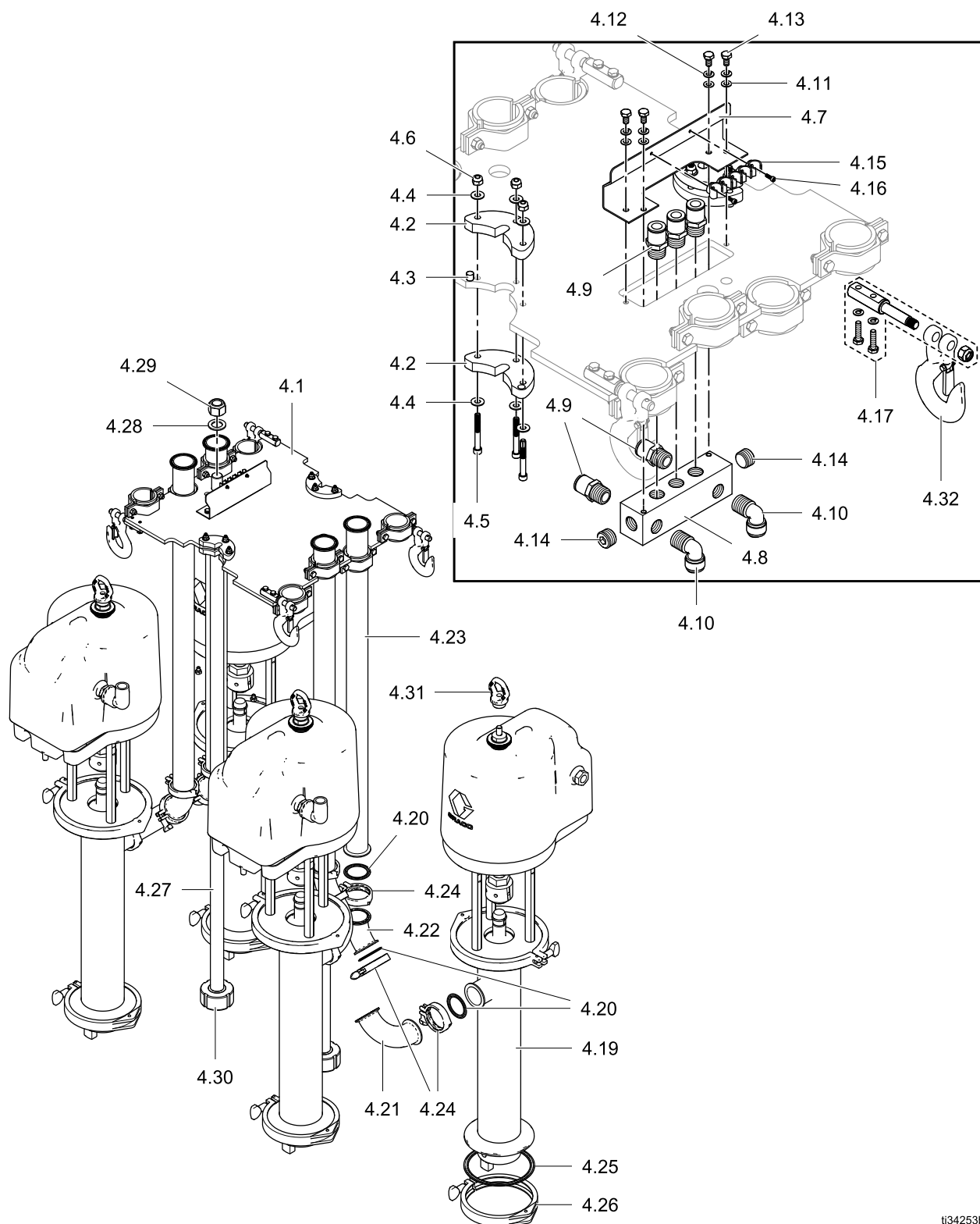
Parts

Pump configuration 03

Ref.	Part/Kit	Description	Qty.	Ref.	Part/Kit	Description	Qty.
3.1	17S534	PLATE	1	3.19	15H598	GASKET, 2 inch, EPDM	4
3.2	17S515	GUIDE	4	3.20	17T026	ELBOW, 90 degree	2
3.4	115814	WASHER	12	3.21	17S865	PIPE, 1.5 inch	2
3.5	128403	SCREW, 1/4-20, sst	6	3.22	120620	CLAMP, 2 inch, double bolted	4
3.6	190478	NUT, lock, sst	6	3.23	16D245	CLAMP	2
3.7	17S251	BRACKET, tube routing	1	3.24	16D246	GASKET, 6 inch	2
3.8	17S238	MANIFOLD, pump air distribution	1	3.25	17R855	ROD, plate support	2
3.9	17T093	FITTING, 1/2 npt x 1/2 tube	5	3.26	124664	WASHER, 1 inch I.D.	2
3.10	111750	WASHER	4	3.27	17S514	NUT, polymer insert, 1-8	2
3.11	102024	WASHER, lock	4	3.28	17R734	NUT	2
3.12	102235	SCREW	4	3.29	116618	MAGNET	2
3.13	103778	PLUG	4	3.30	16C009	EYE BOLT	2
3.14	17S250	CLIP, tube routing	1	3.31	17W574	HOOK, 1760 lb capacity	2
3.15	128410	SCREW, 6-32 x 0.375	2	* To order an EN 10204:2004 Type C3.1 material certification pump, add "C31" to the end of the part number. A C3.1 certified pump 25N008, is 25N008C31.			
3.16	20B490	HOOK, pump hanger	2				
3.17	109058	SCREW	4				
3.18	25N008*	PUMP, Priming Piston, 12:1	2				

### 5:1 Double Ball Pump (4 Pumps)

Pump configuration 04



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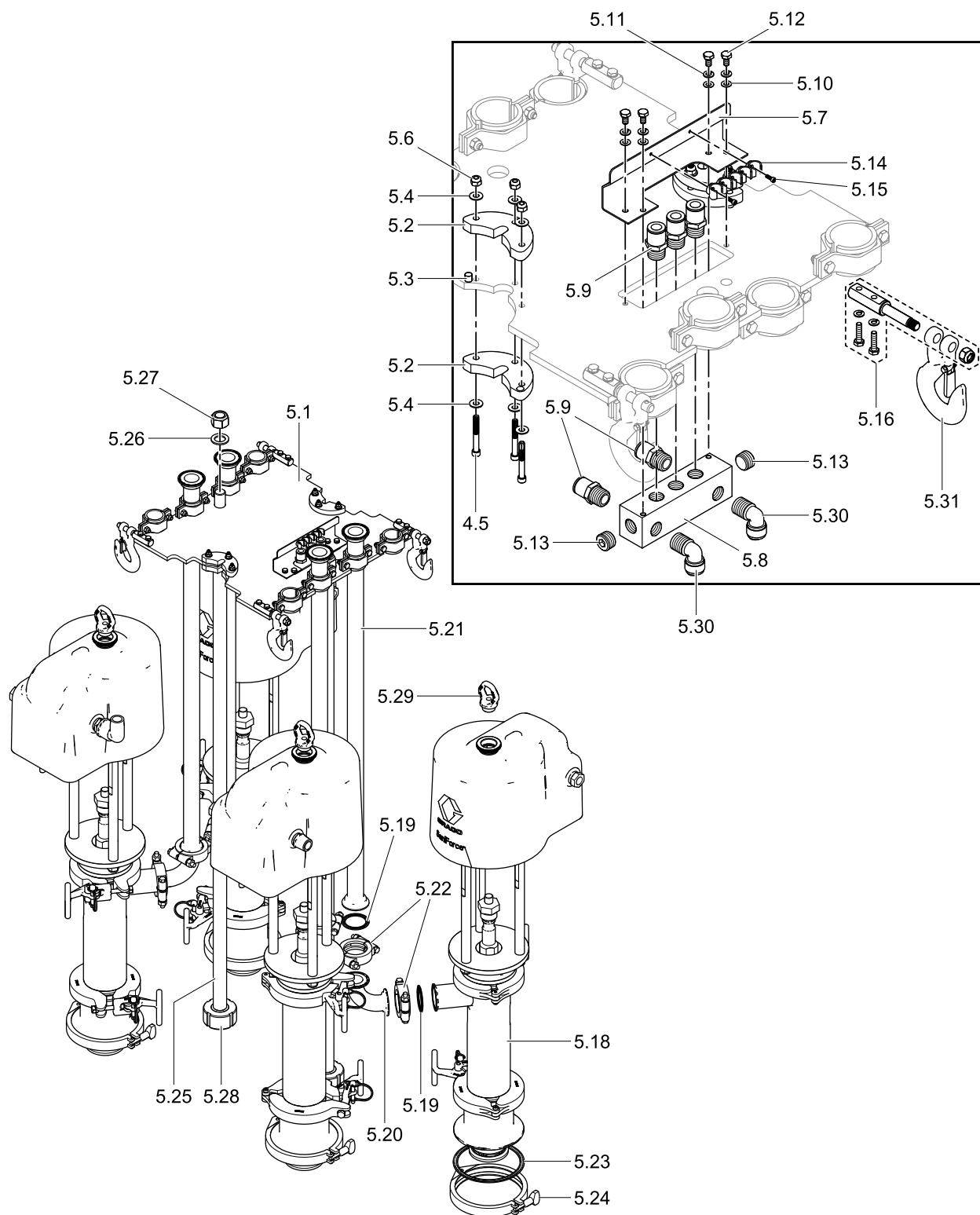
Parts

Pump configuration 04

Ref.	Part/Kit	Description	Qty.	Ref.	Part/Kit	Description	Qty.
4.1	17S627	PLATE	1	4.18	109058	SCREW	8
4.2	17S515	GUIDE	4	4.19	25N010*	PUMP, Double Ball, 5:1	4
4.3	116618	MAGNET	2	4.20	512332	GASKET, 2 inch	12
4.4	115814	WASHER	12	4.21	17S517	FITTING, 90 degree	4
4.5	128403	SCREW, 1/4-20, sst	6	4.22	17S518	FITTING, 45 degree	4
4.6	109478	NUT, lock, sst	6	4.23	17S764	PIPE, 2 inch	4
4.7	17S251	BRACKET, tube routing	1	4.24	500984	CLAMP	12
4.8	17S238	MANIFOLD, pump air distribution	1	4.25	16D246	GASKET, 6 inch	4
4.9	17T093	FITTING, 1/2 npt x 1/2 tube	5	4.26	16D245	CLAMP, 6 inch	4
4.10	17S934	FITTING, elbow, 1/2 tube x 1/2 npt	2	4.27	17R855	ROD, plate support	2
4.11	111750	WASHER	4	4.28	124664	WASHER, 1 inch I.D.	2
4.12	102024	WASHER, lock	4	4.29	17S514	NUT, polymer insert, 1-8	2
4.13	102235	SCREW	4	4.30	17R734	NUT	2
4.14	103778	PLUG	2	4.31	16C009	EYE BOLT	4
4.15	17S250	CLIP, tube routing	1	4.32	17W574	HOOK, 1760 lb capacity	4
4.16	128410	SCREW, 6-32 x 0.375	2	* To order an EN 10204:2004 Type C3.1 material certification pump, add "C31" to the end of the part number. A C3.1 certified pump 25N010, is 25N010C31.			
4.17	20B490	HOOK, pump hanger	4				

# 12:1 Priming Piston Pump (4 Pumps)

Pump configuration 06



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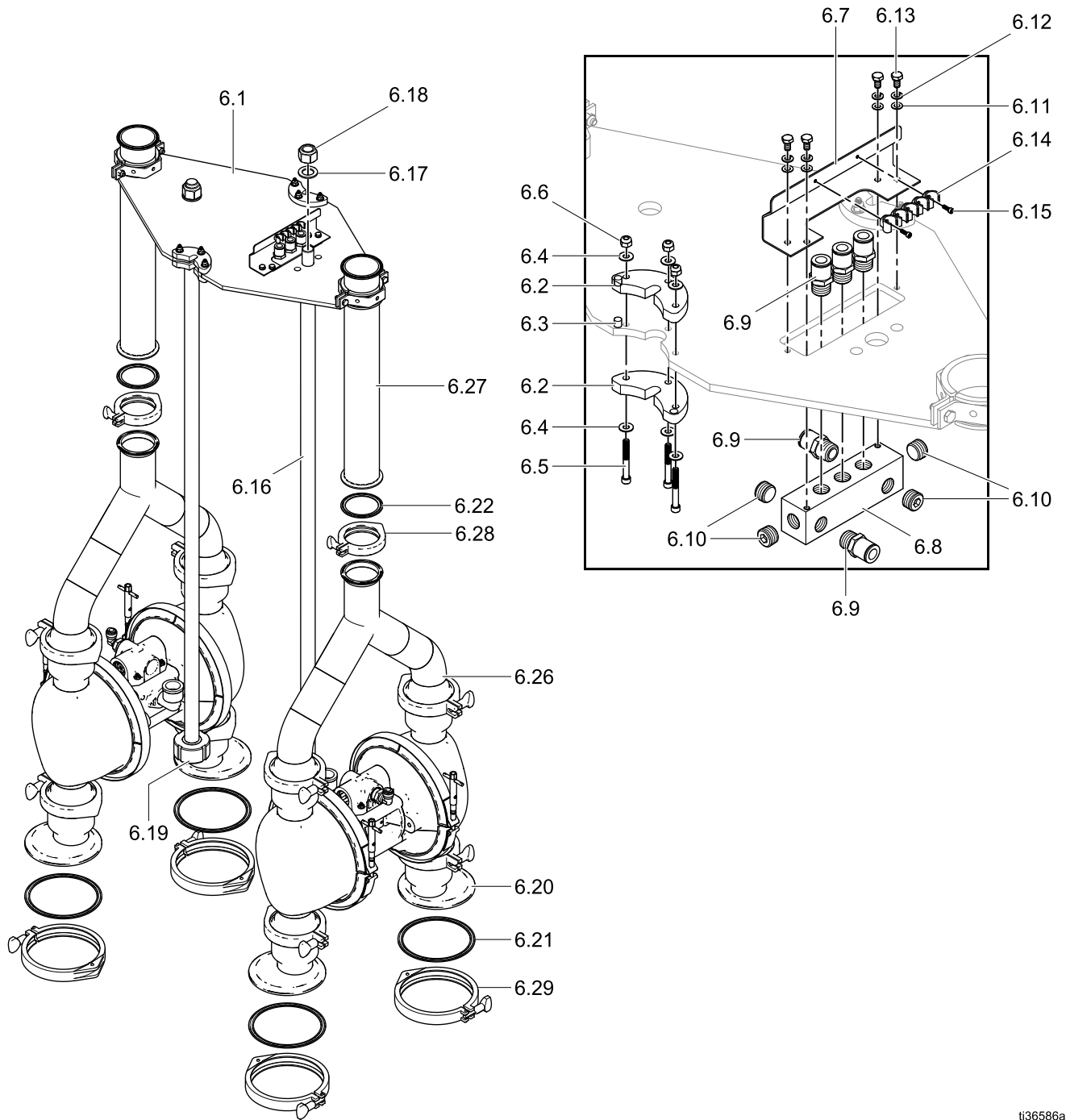
Parts

Pump configuration 06

Ref.	Part/Kit	Description	Qty.	Ref.	Part/Kit	Description	Qty.
5.1	17S534	PLATE	1	5.19	15H598	GASKET, 2 inch, EPDM	8
5.2	17S515	GUIDE	4	5.20	17T026	ELBOW, 90 degree	4
5.3	116618	MAGNET	2	5.21	17S865	PIPE, 1.5 inch	4
5.4	115814	WASHER	12	5.22	120620	CLAMP, 2 inch, double bolted	8
5.5	128403	SCREW, 1/4-20, sst	6	5.23	16D246	GASKET, 6 inch	4
5.6	190478	NUT, lock, sst	6	5.24	16D245	CLAMP	2
5.7	17S251	BRACKET, tube routing	1	5.25	17R855	ROD, plate support	2
5.8	17S238	MANIFOLD, pump air distribution	1	5.26	124664	WASHER, 1 inch I.D.	2
5.9	17T093	FITTING, 1/2 npt x 1/2 tube	5	5.27	17S514	NUT, polymer insert, 1-8	2
5.10	111750	WASHER	4	5.28	17R734	NUT	2
5.11	102024	WASHER, lock	4	5.29	16C009	EYE BOLT	2
5.12	102235	SCREW	4	5.30	17S934	FITTING, elbow, 1/2 tube x 1/2 npt	2
5.13	103778	PLUG	2	5.31	17W574	HOOK, 1760 lb capacity	4
5.14	17S250	CLIP, tube routing	1	* To order an EN 10204:2004 Type C3.1 material certification pump, add "C31" to the end of the part number. A C3.1 certified pump 25N008, is 25N008C31.			
5.15	128410	SCREW, 6-32 x 0.375	2				
5.16	20B490	HOOK, pump hanger	2				
5.17	109058	SCREW	4				
5.18	25N008*	PUMP, Priming Piston, 12:1	4				

### 3250 HS Ball Check Diaphragm Pump (2 Pumps)

Pump configurations 07, 12, 13, and 14



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*Parts*

Pump configurations 08–11

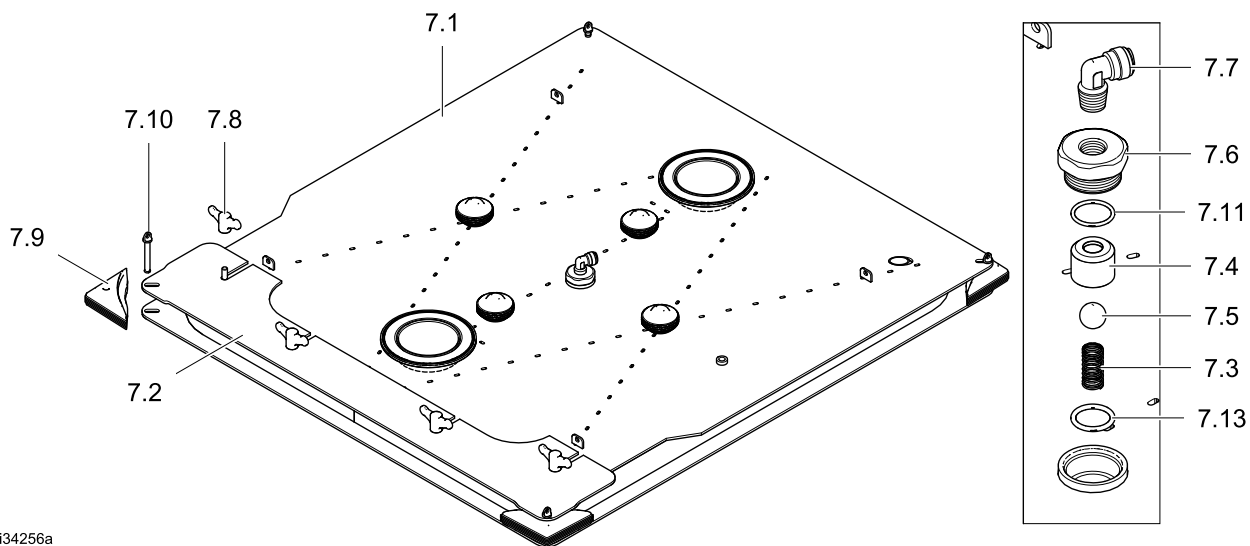
<b>Ref.</b>	<b>Part/Kit</b>	<b>Description</b>	<b>Qty.</b>	<b>Ref.</b>	<b>Part/Kit</b>	<b>Description</b>	<b>Qty.</b>
6.1	17W135	PLATE	1	6.15	128410	SCREW, 6-32 x 0.375	2
6.2	17S515	GUIDE	4	6.16	17R855	ROD, plate support	2
6.3	116618	MAGNET	2	6.17	124664	WASHER, 1 inch I.D.	2
6.4	115814	WASHER	12	6.18	17S514	NUT, polymer insert, 1-8	2
6.5	128403	SCREW, 1/4-20, sst	6	6.19	17R734	NUT	2
6.6	109478	NUT, lock, sst	6	6.20	25U314	ADAPTER	2
6.7	17S251	BRACKET, tube routing	1	6.21	16D246	GASKET, 6 inch	2
6.8	17S238	MANIFOLD, pump air distribution	1	6.22	15H459	GASKET, 3 inch, EPDM	8
6.9	17T093	FITTING, 1/2 npt x 1/2 tube	5	6.26	— — —	PUMP; refer to the pump manuals for replacement part numbers	2
6.10	103778	PLUG	4	6.27	20A733	PIPE, straight, tri-clamp	2
6.11	111750	WASHER	4	6.28	15D475	CLAMP, 3 inch	8
6.12	102024	WASHER, lock	4	6.29	16D245	CLAMP, 6 inch	4
6.13	102235	SCREW	4				
6.14	17S250	CLIP, tube routing	1				



## Standard Plate

Sample Configuration Number STU.A01BAB1AA0C21

Sanitary Tote Unloader	Frame	Pump	Plate	Seal Type	Seal Material	Control	Accessories	Wash Bin	Certification
STU	A	01	B	A	B	1	AA	0	C21



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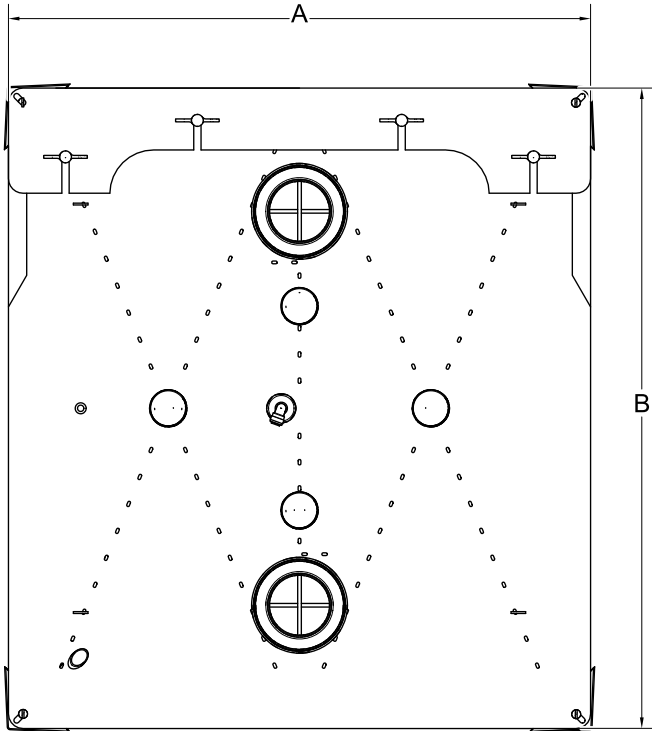
Ref.	Part/Kit	Description	Qty.
7.1	---	PLATE; see following table	1
7.2	---	RETAINER; see following table	1
7.3	17R926	SPRING	1
7.4	187242	GUIDE	1
7.5	103462	BALL, sst	1
7.6	17R928	ADAPTER, check	1
7.7	16F384	FITTING, 1/2 npt x 1/2 PTC	1
7.8	17T569	KNOB, sst, 3/8-16	4
7.9	18B908	SEAL, corner	4
7.10	17S885	PIN, corner retainer	4

Pump/Plate Configuration Code	Plate (Ref 1)	Retainer (Ref 2)
01A, 02A, 03A	17P868	17S236
04A, 05A, 06A, 07A, 12A, 13A, 14A	17S877	17S236
01B, 02B, 03B	17V226	17V057
04B, 07B, 12B, 13B, 14B	17V051	17V057
04D, 05D, 06D	17S580	17S583
01E, 02E, 03E	17W660	17S236
04E, 05E, 06E, 07E, 12E, 13E, 14E	17S535	17S236
01F, 02F, 03F	17W480	17W486
07F, 12F, 13F, 14F	19D275	17W486

**NOTE:** For disassembly and reassembly, use spanner wrench 17V367.

### Plate Kits

These kits contain parts 7.1-7.10.



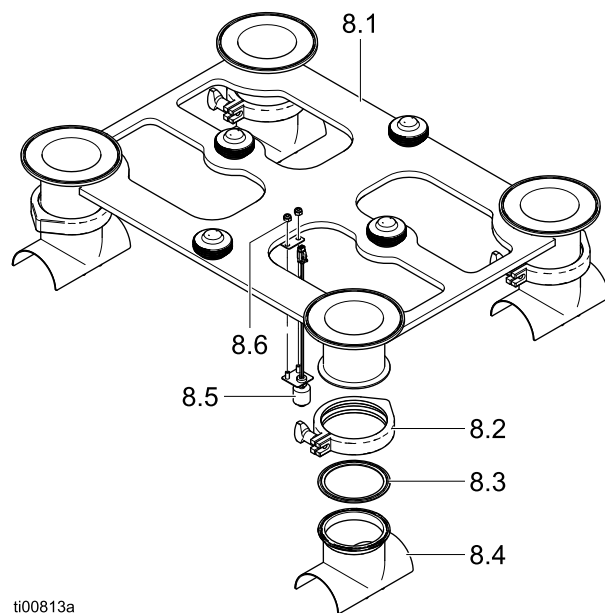
ti34257a

Pump/Plate Codes	Kit Part No.	Bin Type	Pump Mounts	Plate Dim A inches (cm)	Plate Dim B inches (cm)
01A, 02A, 03A	25C788	Plywood	2	40.38 (102.5)	44.38 (112.7)
04A, 06A, 07A, 12A, 13A, 14A	25C933	Plywood	4	40.38 (102.5)	44.38 (112.7)
01B, 02B, 03B	25D630	Buckhorn 315, Schoeller 315	2	39.90 (101.3)	43.90 (111.5)
04B, 07B, 12B, 13B, 14B	25D542	Buckhorn 315, Schoeller 315	4	39.90 (101.3)	43.90 (111.5)
04D, 06D	25M557	TNT	4	35.62 (90.47)	43.37 (110.2)
01E, 02E, 03E	25E012	Arena	2	40.38 (102.5)	43.50 (110.5)
04E, 06E, 07E, 12E, 13E, 14E	25C848	Arena	4	40.38 (102.5)	43.50 (110.5)
01F, 02F, 03F	25M719	Ceva/Pallecon	2	38.97 (99)	41.32 (105)
07F, 12F, 13F, 14F	25U540	Ceva/Pallecon	4	38.97 (99)	41.32 (105)

## Submersible Plate

Sample Configuration Number STU.C12K0012AB0C21

Sanitary Tote Unloader	Frame	Pump	Plate	Seal Type	Seal Material	Control	Accessories	Wash Bin	Certification
STU	C	12	K	0	0	2	AB	0	C21



Ref.	Part/Kit	Description	Qty.
8.1	20B079	PLATE, submersible	1
8.2	510490	CLAMP, 4 in. tri-clamp	4
8.3	15H460	GASKET, sanitary 4 in. EPDM	4
8.4	20B073	FITTING, inlet tee	4
8.5	20B080	SWITCH, float assembly	1
8.6	109478	NUT, lock hex sst	2

NOTE: For disassembly and reassembly, use spanner wrench 17V367.

### Submersible Plate Kit

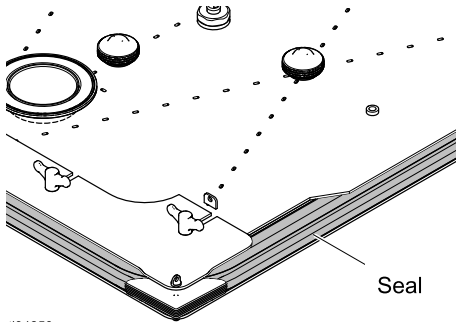
Frame/Pump/Plate Code	Kit Part No.	Bin Type	Pump Mounts	Plate Dim A in. (cm)	Plate Dim B in. (cm)
C07K, C12K, C13K, C14K	25U842	All	4	25.0 (63.5)	35.0 (89.0)

## Inflatable Seals

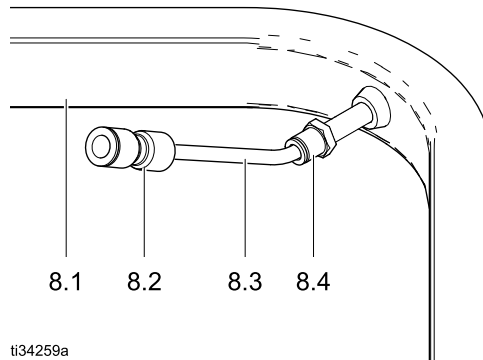
In order to determine the correct seal to order, refer to the table below for applicable configuration number data to use for your system.

*Sample Configuration Number* STU.A01BAB1AA0C21

Sanitary Tote Unloader	Frame	Pump	Plate	Seal Type	Seal Material	Control	Accessories	Wash Bin	Certification
STU	A	01	<b>B</b>	<b>A</b>	<b>B</b>	1	AA	0	C21



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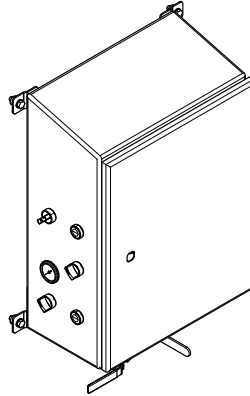
Plate/Seal Config Code	Seal Material	Seal Part Number
AAA	White Polychloroprene	17S601
AAB	Black EPDM	17S609
BAA	White Polychloroprene	17S598
BAB	Black EPDM	17S606
CAA	White Polychloroprene	17S602
CAB	Black EPDM	17S610
DAA	White Polychloroprene	17S599
DAB	Black EPDM	17S607
EAA	White Polychloroprene	17S598
EAB	Black EPDM	17S606
FAA	White Polychloroprene	17S600
FAB	Black EPDM	17S608
GAA	White Polychloroprene	17S605
GAB	Black EPDM	17S611
JAA	White Polychloroprene	17S598
JAB	Black EPDM	17S606

Ref	Part	Description	Qty
8.1	See table at left	Inflatable seal	1
8.2	17W349	FITTING, 1/2 tube x 3/8 tube PTC	1
8.3	18H048	TUBE, 3/8	2 ft
8.4	19A798	FITTING, 1/8 npt x 3/8 PTC	1

## Manual Control

Sample Configuration Number STU.A01BAB1AA0C21

Sanitary Tote Unloader	Frame	Pump	Plate	Seal Type	Seal Material	Control	Accessories	Wash Bin	Certification
STU	A	01	B	A	B	1	AA	0	C21

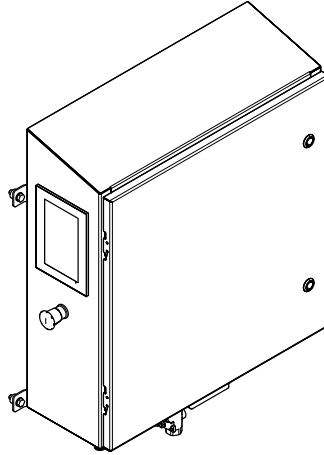


Control Config Code	Part	Title	Description	Refer to manual:
1	25P261	Manual Control	Manually driven control systems with Saniforce 5:1 or 12:1 piston pumps (pump codes 01-06).	3A6101
1	25P262	Manual Control	Manually driven control for system with Saniforce diaphragm pumps (pump codes 07-11).	3A6101

## Electro-Pneumatic Control

Sample Configuration Number STU.A01BAB2AA0C21

Sanitary Tote Unloader	Frame	Pump	Plate	Seal Type	Seal Material	Control	Accessories	Wash Bin	Certification
STU	A	01	B	A	B	2	AA	0	C21



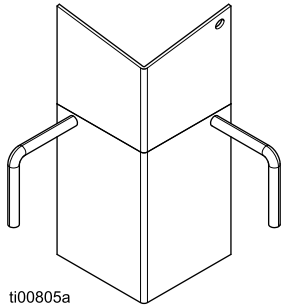
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Control Config Code	Part	Title	Description	Refer to manual:
2	25P263	EP Control	Automatically driven EP control for systems with Saniforce 5:1 or 12:1 piston pumps (pump codes 01-06).	3A6102
2	25P264	EP Control	Automatically driven EP control for system with Saniforce diaphragm pumps (pump codes 07-11).	3A6102

# Bag Liner Clamp

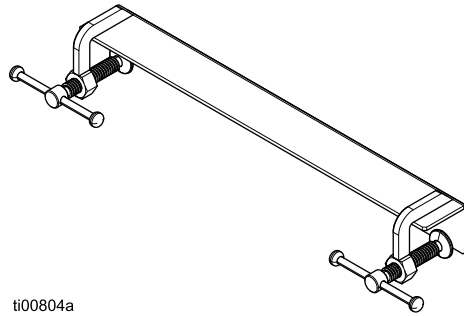
Sample Configuration Number STU.A01BAB2AA0C21

Sanitary Tote Unloader	Frame	Pump	Plate	Seal Type	Seal Material	Control	Accessories	Wash Bin	Certification
STU	A	01	B	A	B	2	AA	0	C21



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**Corner Guide**



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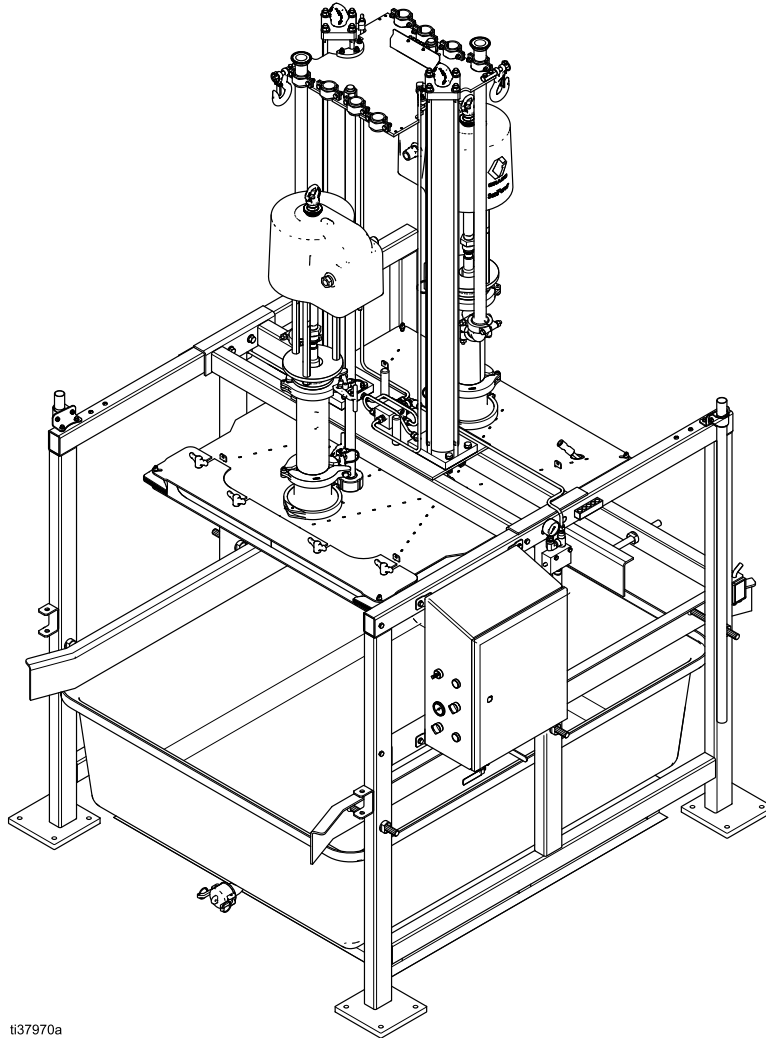
**Bag Liner Clamp**

Accessory Config Code	Part	Title	Description
AA	2000665	Bag liner clamp and corner guide (Set of 4)	Guides plate into bin and clamps liner to bin
AA	25V467	Corner guide (Set of 4)	Guides plate into bin
AA	25V468	Bag liner clamp (Set of 4)	Clamps liner to bin

## Wash Bin

Sample Configuration Number STU.A01BAB2AA0C21

Sanitary Tote Unloader	Frame	Pump	Plate	Seal Type	Seal Material	Control	Accessories	Wash Bin	Certification
STU	A	01	B	A	B	2	AA	<b>1</b>	C21



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Wash Bin Config Code	Part	Title	Description	Refer to manual:
0	---	---	---	---
1	25N650	Wash Bin	Polypropylene wash bin mounted on an aluminum pallet. Uses a 2.125 outside-diameter polypropylene cam-and-groove fitting for drainage (included).	---



# Technical Data

<b>SaniForce STU</b>		
	<b>US</b>	<b>Metric</b>
Maximum working fluid pressure	See pump manual	
Compressed air requirement	60-100 psi	0.41-0.7 MPa, 4.1-7 bar
Pressure ratio	See pump manual	
Air consumption	See pump manual. Multiply by number of pumps	
Flow rate @ 60 cpm	See pump manual. Multiply by number of pumps	
Fluid displacement	See pump manual. Multiply by number of pumps	
<b>Pump Outlet</b> (See pump manual for pump outlet information)		
<b>Wetted Parts</b> (See pump manual for pump wetted parts)		
300 series stainless steel, buna-n, and polychloroprene or EPDM on the ram plate and seals. <i>See your pump manual for additional wetted parts.</i>		
<b>Control panel</b>		
Enclosure type	4X	
Maximum input air pressure	100 psi	0.7 MPa, 7 bar
Maximum up/down ram pressure	100 psi	0.7 MPa, 7 bar
Maximum seal pressure	18 psi	0.1 MPa, 1.2 bar
Air inlet – air controls	1/2 in npt(f)	
Air inlet – pump	3/4 in npt(f)	
<b>Electrical specifications for electro-pneumatic control panel</b>		
Supply voltage	100–240 VAC	
Phase	1	
Frequency	50/60 Hz	
Maximum current	1.3 A	
No electrical disconnect switch or branch circuit protection provided on the panel.		
<b>Sound data</b> <i>See your pump manual.</i>		

## Fluid Temperature Range

**NOTICE**

Temperature limits are based on mechanical stress only. Certain chemicals will further limit the fluid temperature range. Stay within the temperature range of the most-restricted wetted component. Operating at a fluid temperature that is too high or too low for the components of your pump may cause equipment damage.

Diaphragm/Ball/Seat Material	Stainless Steel Pump Fluid Temperature Range	
	Fahrenheit	Celsius
FKM Fluoroelastomer (FK)	-40° to 275°F	-40° to 135°C
Polychloroprene check balls (CW)	0° to 180°F	-18° to 82°C
PTFE overmolded diaphragm (PO)	40° to 180°F	4° to 82°C
PTFE check balls (PT) or two-piece PTFE/Santoprene diaphragm (PS)	40° to 220°F	4° to 104°C
Santoprene (SP)	-40° to 180°F	-40° to 82°C

*\* The maximum temperature listed is based on the ATEX standard for T4 temperature classification.*

# California Proposition 65

### CALIFORNIA RESIDENTS

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

# Notes

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# Graco Standard Warranty

Graco warrants all equipment referenced in this document which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

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

**To place an order**, contact your Graco Distributor or call to identify the nearest distributor.

**Phone:** 612-623-6921 **or Toll Free:** 1-800-328-0211 **Fax:** 612-378-3505

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Graco reserves the right to make changes at any time without notice.

Original Instructions. This manual contains English. MM 3A5417

**Graco Headquarters:** Minneapolis

**International Offices:** Belgium, China, Japan, Korea

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