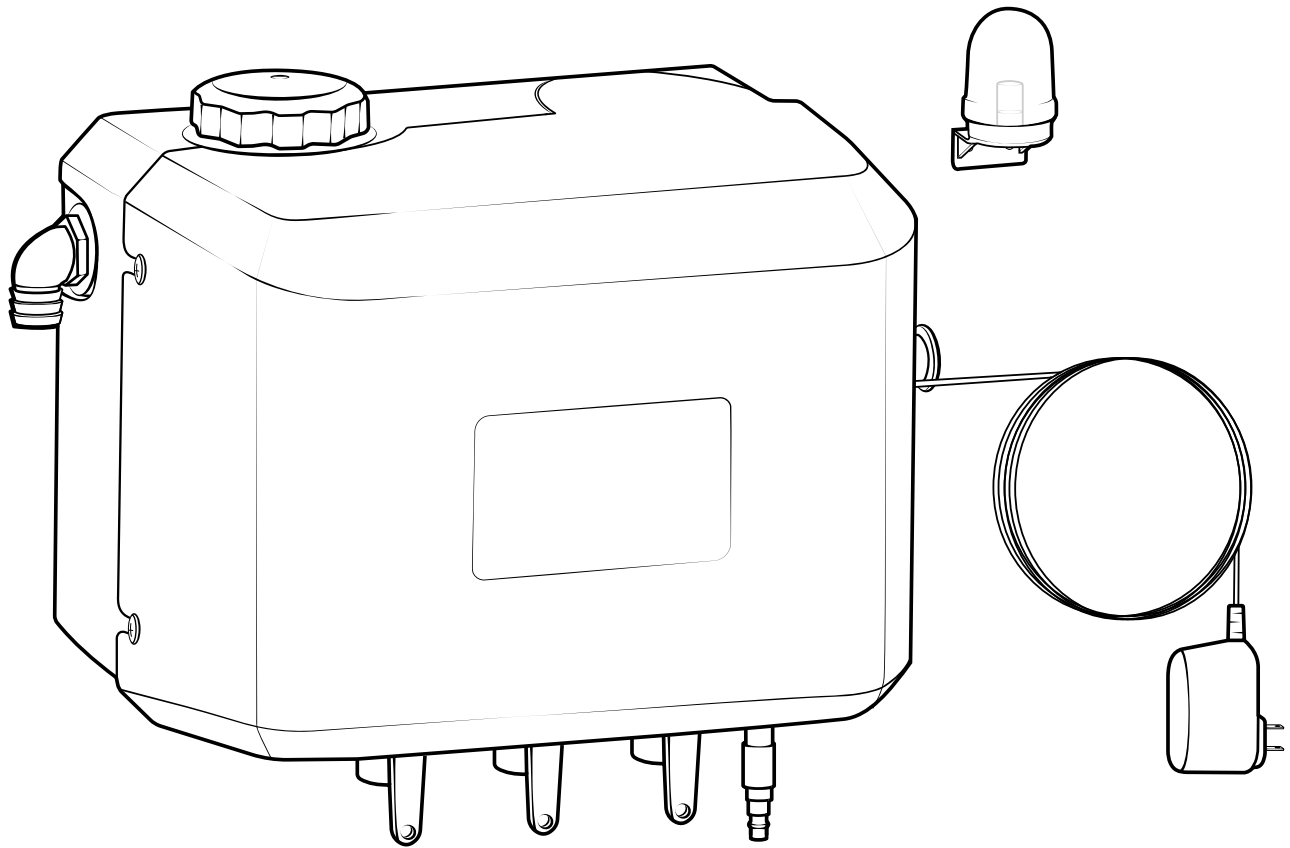


Flooded Suction Tank

Service Manual

FST-E | FSTV-V | FSTK-T

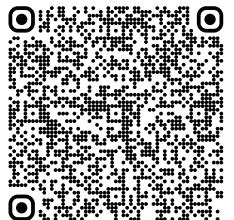


READ ALL INSTRUCTIONS BEFORE USING OR
SERVICING THIS UNIT. KEEP THIS MANUAL IN A
LOCATION THAT IS READILY AVAILABLE TO USERS
AND SERVICE TECHNICIANS.

English (Original Instructions)



Scan this code for
service manual



Safety

WARNING

PEOPLE OR OBJECTS CAN BE HURT OR DAMAGED IF THIS UNIT IS NOT USED CORRECTLY!



Failure to read all the instructions before operating the unit may result in personal injury or death from the improper use or the chemical solution. Anyone handling, operating or using the unit must read and understand the instructions in the manual. The buyer assumes all responsibility for safety and proper use in accordance with the instructions.



Using or servicing the unit without appropriate personal protective equipment (PPE) may result in serious injury such as burns, rashes, eye, throat or lung damage and death. Always wear PPE as indicated in the Safety Data Sheet (SDS) when using or servicing the unit. Protect eyes, skin, and lungs against drifting spray.



Chemical solutions may pose a health risk and death if they contact the skin or eyes, are inhaled or swallowed. Always read and follow all chemical safety precautions and handling instructions provided by the chemical manufacturer and the SDS associated with the chemical solution before using the unit.



Pressure within the equipment may cause an unexpected release of the chemical solution and cause serious injury such as burns, rashes, eye damage, throat or lung damage and death. Always depressurize and clean the unit after each use. Release any remaining air pressure by opening the discharge ball valve. Never leave the unit unattended while pressurized.

Using the unit with fluid temperatures above 100°F (37.8°C) may result in scalding, burns, serious injury or death. DO NOT use a solution with a temperature above 100°F (37.8°C).

Operating the unit when damaged or leaking may result in exposure to chemical solutions, serious injury or death. Never use the unit if it is damaged or leaking.

Never open ball valves with chemical in the tank, unless the ball valves are connected to an appropriate location for chemical discharge. Never point the discharge valves at yourself, another person, or any object you do not want covered in chemical. Never operate unit without the lid on.

Do not use the unit if an overflow hose is not installed. If chemical flows from the overflow port, shut down the unit immediately and correct the problem before proceeding.



Using incoming air pressure exceeding 80 psi (5.5 bar) may result in pressure buildup, explosion, serious injury or death. DO NOT exceed 80 psi (5.5 bar) incoming air pressure when operating the unit.

Use of hydrocarbons and flammable products may result in explosions, fire and serious injury or death. Never use hydrocarbons or flammable products with the unit.



Mixing an alkaline with an acid may result in a chemical reaction. Overheating of the mixture may cause it to splatter caustic compounds or release hazardous fumes, gas and vapors. Always flush unit with fresh water thoroughly when switching from an alkaline to an acid or an acid to an alkaline.

NOTICE

Servicing or modifying this unit with parts not listed in this manual may cause the unit to operate improperly. Do not use unauthorized parts when servicing the unit. Use of an air lubricator before the unit may result in diminished performance and damage to the unit. Do not use an air lubricator before the unit. Moisture in the air lines will damage the pump and diminish the pump life. The air must be filtered, clean, dry and free of moisture. If needed, install an air dryer before the unit.

PROTECT THE ENVIRONMENT



Please dispose of packaging materials, old machine components, and hazardous fluids in an environmentally safe way according to local waste disposal regulations.



Model No.: FST-E, FSTV-V, FSTK-T

Manufactured by: FOAMit

3833 Soundtech Ct. SE Grand Rapids, MI 49512 US

This equipment has been tested and found to comply with the limits for a **Class A** digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Service Guide

WARNING

Performing any maintenance with the unit connected to the air supply and/or electrical power may result in serious injury or death. Before conducting any maintenance, always ensure that the unit has been drained and disconnected from both compressed air and electrical power. Servicing or modifying this unit with parts not listed in this manual may cause the unit to operate improperly. Do not use unauthorized parts when servicing the unit.

Maintaining Your Unit

To keep your unit operating properly, periodically perform the following maintenance procedures:

- Inspect the pump for wear and leaks.
 - Inspect all hoses for leaks or excessive wear. Make sure all hose clamps are in good condition and properly secured.
 - Replace the filter located within the air regulator as needed. Clean by unthreading the air regulator bowl from the air regulator.
 - Check the suction line and strainer for debris. Clean as needed.
 - Drain your air compressor tank on a regular basis to help extend pump life. An air source with a high moisture content will accelerate pump wear.
- Note:** If your air source has a high moisture content, you may wish to install a water separator before the unit.

Servicing Your Unit

Most repairs on the unit can be performed with the following tools:

- Crescent wrench (2x)
- Flat head screwdriver
- #2 Phillips head screwdriver
- Hose cutters
- 5/8 in. (16 mm) open-ended wrench
- Thread seal tape
- #3 Phillips head screwdriver
- Knife

Troubleshooting Your Unit

If your unit is not operating properly, try using these troubleshooting tips:

Issue	Solution
Air regulator bowl or air filter has debris such as water, oil, or rust particles	<ul style="list-style-type: none"> • Clean by unthreading the air regulator bowl from the air regulator.
Air passes through the pump without cycling	<ul style="list-style-type: none"> • The pump needs to be replaced.
Pump is cycling too fast	<ul style="list-style-type: none"> • Verify suction line is in good condition with no cracks or holes. • Ensure suction line is completely submerged in the chemical drum. • Remove pump barb from suction side of pump to verify o-ring is in place and in good condition.
Pump is cycling too slow	<ul style="list-style-type: none"> • Ensure the PVC ball valve is fully open. • Inspect for debris in the outlet lines and fittings of the pump. Clean as needed. • Check for low air pressure. If air pressure is low, refer to the <i>reduced pressure</i> troubleshooting steps found below.
The unit operates at a reduced pressure	<ul style="list-style-type: none"> • Check suction line and strainer for debris or damage. Clean or replace as needed. To prevent damage to the unit, the strainer must always be used. • Check the air compressor supplying the unit. If the pressure is less than 60 psi (4.1 bar), turn off the unit until the compressor can catch up. • If the air supply is 60 psi (4.1 bar) or above, check the air gauge, which should read near 60 psi (4.1 bar). If the air gauge reads more or less than 60 psi (4.1 bar), adjust the pressure by turning the knob on the top of the air regulator.
Tank will not fill and/or pump not cycling	<ul style="list-style-type: none"> • Check to ensure PVC ball valve is in the open position.
Indicator lamp is on and on-board LED is red	<ul style="list-style-type: none"> • Unit is under filled. Inspect the unit with the following instructions: <ol style="list-style-type: none"> 1. Check for an empty chemical source tank. 2. Press the PRIME button to prime the tank.
Indicator lamp is flashing and on-board LED is red	<ul style="list-style-type: none"> • Unit error. Inspect the unit with the following instructions: <ol style="list-style-type: none"> 1. Unplug the unit and inspect components. Plug back into power source. 2. If error persists, replace level sensor.

Tank Assembly

TNKA-4N-FST:

4 gallon natural tank assembly - black cap - includes fill and overflow ports, 3x outlet valves, and SS mounting plate

Item number		Description
1	HBEL1010	Hose barb elbow - 1 in. MPT x 1 in. barb - polypropylene
2	BVPVC14MF	Ball valve - PVC - ¼ in. NPT to ¼ in. FNPT - EPDM seal
3	HHPB1214	Hex head poly bushing ½ MPT x ¼ FPT
4	HBEL1438	Hose barb elbow - polypropylene ¼ in. MPT x ¾ in. barb
5	BVPP12MF	Ball valve - polypropylene - ½ NPT to ½ FNPT - Viton seal
6	CP-35BK	Cap - 3.5 in. - polypropylene - black
7	TNK-4N-FST	Tank - 4 gallon natural - flooded suction

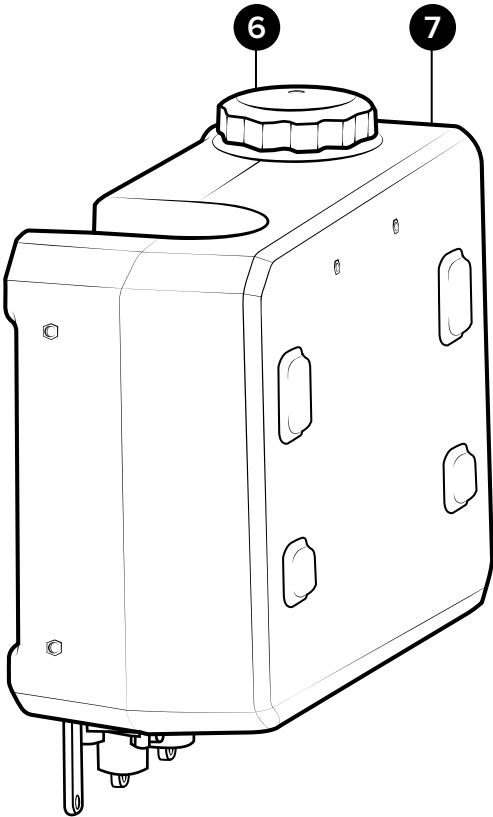
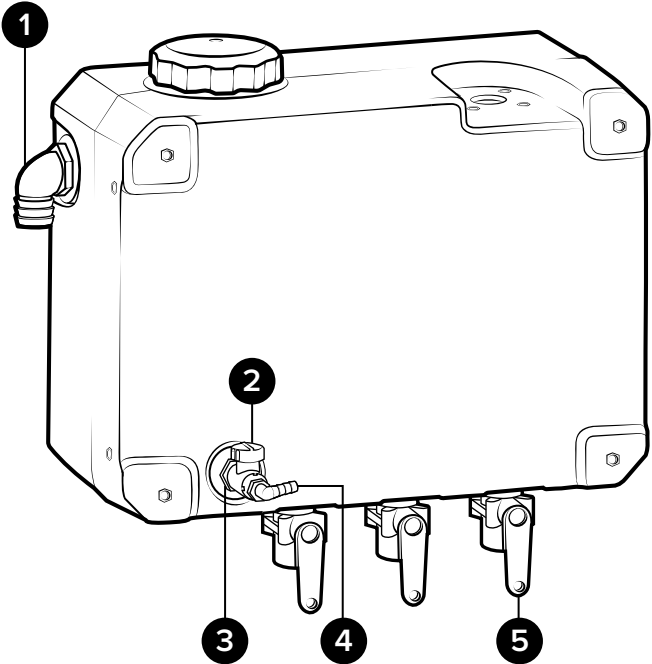


Plate Assembly

FST-E, FSTV-V

PLA-FST-E:

Plate assembly for FST-E units - includes Santoprene pump and an air-operated valve with EPDM seals

PLA-FSTV-V:

Plate assembly for FSTV-V units - includes Viton pump and an air-operated valve with Viton seals

Item number		Description
1	PBS-ESTP	Push button switch - emergency stop - panel mount
2	WRHN-ESTP	Wire harness for ESTOP-2
3	PBSA-24V-NLTCH	Push button switch assembly 24v LED switch and wire harness - non latching
4	A P56	Pump with Santoprene seals - includes hose barbs, air fitting, and exhaust barb
	B P56V	Pump with Viton seals - includes hose barbs, air fitting, and exhaust barb
5	CTRLR-FST	Controller for FST
6	R25	Air regulator - two ¼ in. FPT ports - two ⅛ in. FPT ports - includes filter and bowl
7	AG100	Air gauge - ⅛ in. NPT - 100 PSI dry model
8	ACV14-24VDC-MLX	Air control valve - 24 VDC - with Molex connector
9	PL-TNK4-FST	Plate for TNK-4N-FST
10	A VLVA-AOVE-FST	Air operated valve assembly with EPDM seals includes hose, fittings, and screw band clamp
	B VLVA-AOVV-FST	Air operated valve assembly with Viton seals includes hose, fittings, and screw band clamp
11	TB14BL-PU	¼ in. od blue tube - polyurethane - available per ft.
12	QFT14	Union tee ¼ in. tube - polypropylene
13	HBB38AP14	Hose barb adapter ¾ MPT to AP14
14	PS120VAC-24VDC-1.5A	Plug-in voltage transformer 120 VAC input - 24 VDC output 1.5 A output

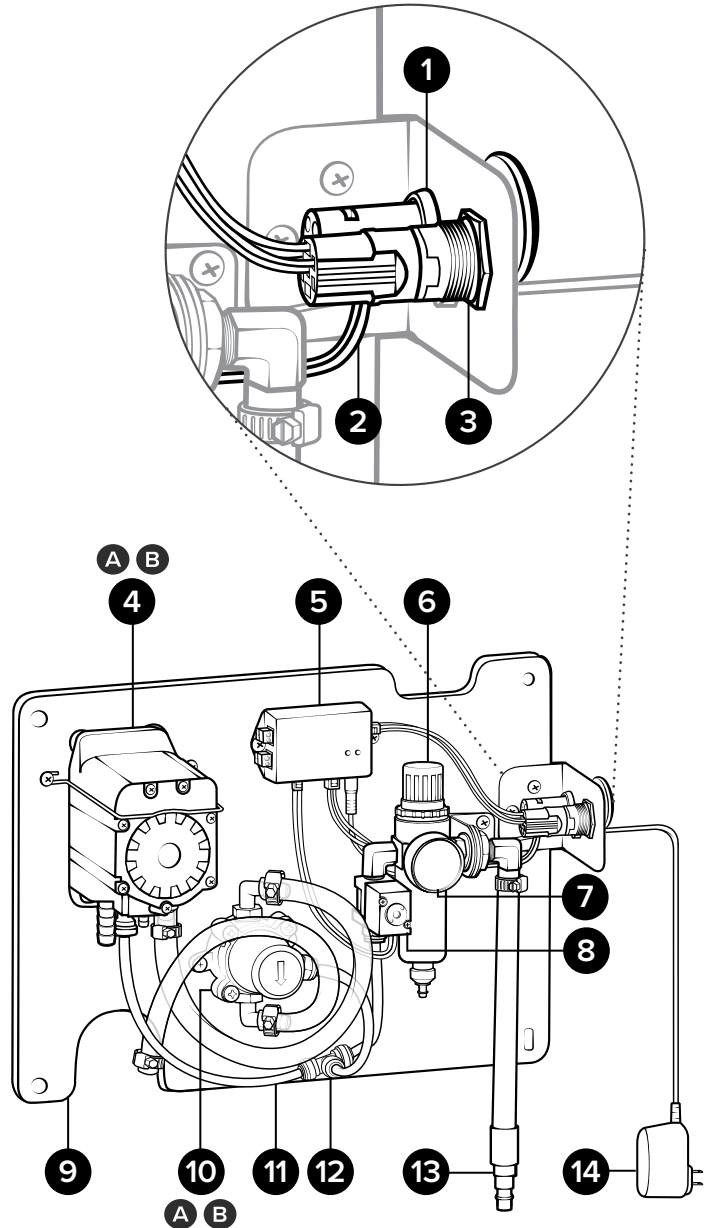


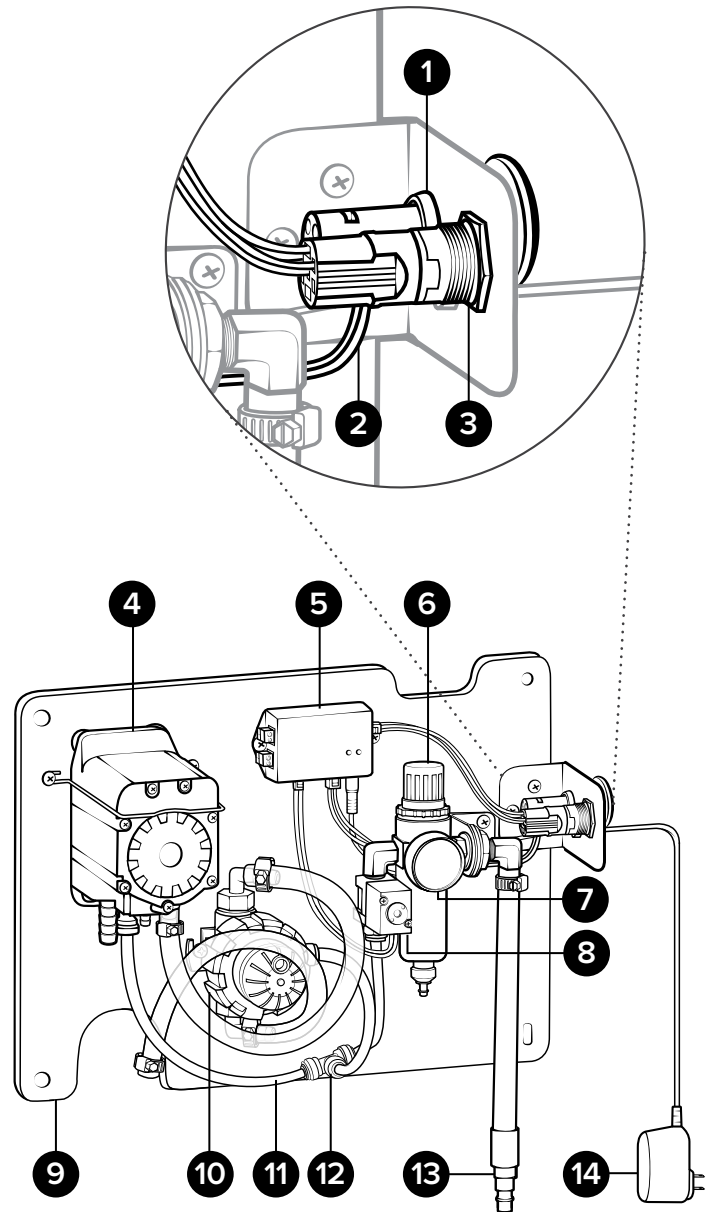
Plate Assembly

FSTK-T

PLA-FSTK-T:

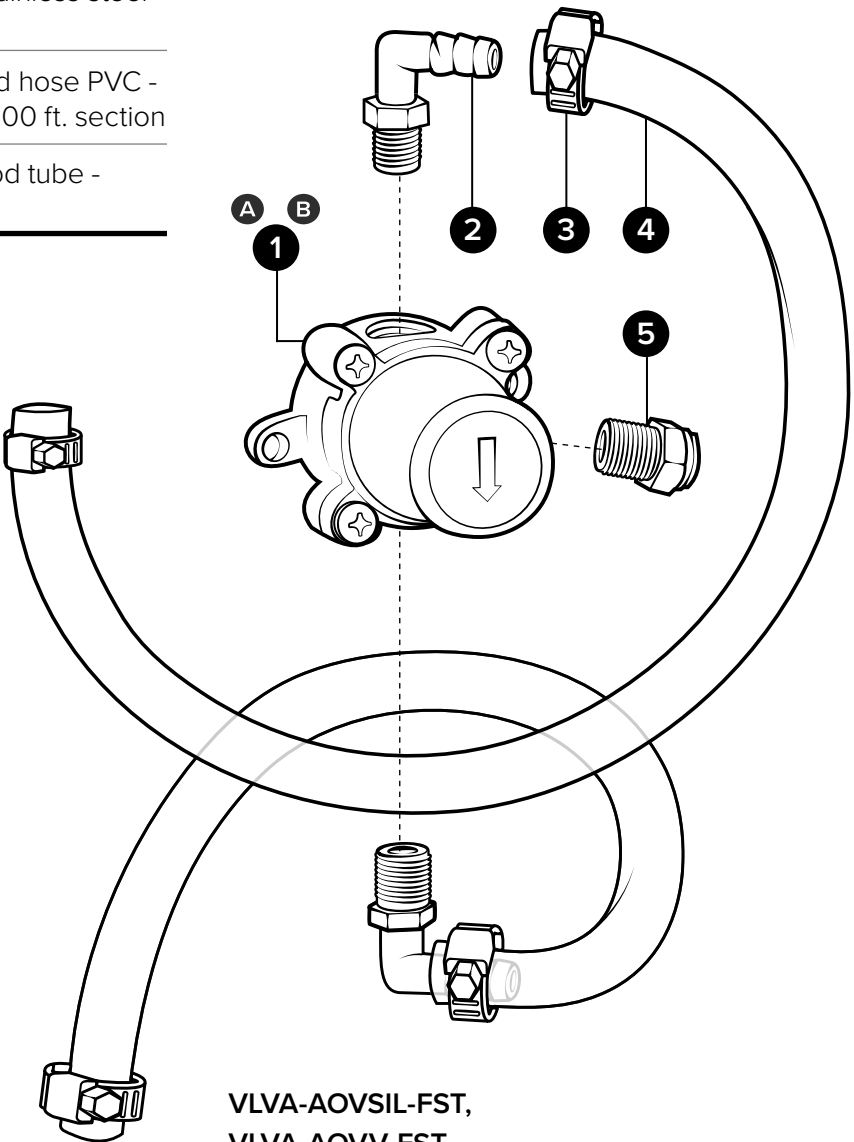
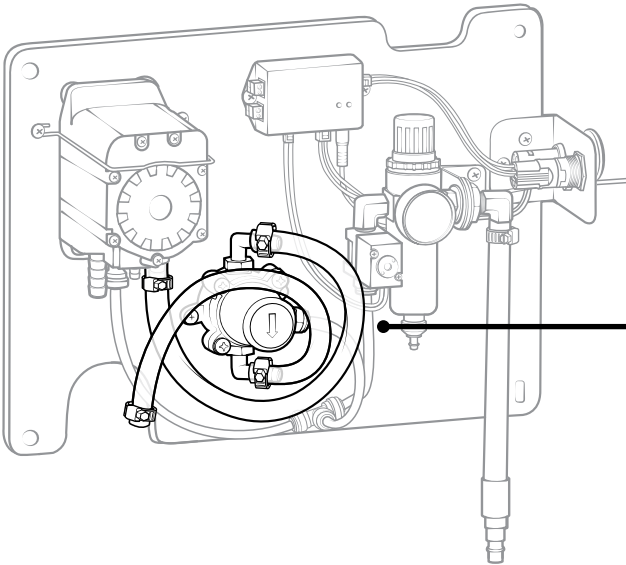
Plate assembly for FSTK-T units - includes Kalrez pump and an air-operated valve with Teflon seals

Item number		Description
1	PBS-ESTP	Push button switch - emergency stop - panel mount
2	WRHN-ESTP	Wire harness for ESTOP-2
3	PBSA-24V-NLTCH	Push button switch assembly 24v LED switch and wire harness - non latching
4	P56K	Pump with Kalrez seals - includes hose barbs, air fitting, and exhaust barb
5	CTRLR-FST	Controller for FST
6	R25	Air regulator - two ¼ in. FPT ports - two ⅜ in. FPT ports - includes filter and bowl
7	AG100	Air gauge - ⅜ in. NPT - 100 PSI dry model
8	ACV14-24VDC-MLX	Air control valve - 24 VDC - with Molex connector
9	PL-TNK4-FST	Plate for TNK-4N-FST
10	VLVA-AOVT-FST	Air operated valve assembly with Teflon seals includes hose, fittings, and screw band clamp
11	TB14BL-PU	¼ in. od blue tube - polyurethane - available per ft.
12	QFT14	Union tee ¼ in. tube - polypropylene
13	HBB38AP14	Hose barb adapter ⅜ MPT to AP14
14	PS120VAC-24VDC-1.5A	Plug-in voltage transformer 120 VAC input - 24 VDC output 1.5 A output



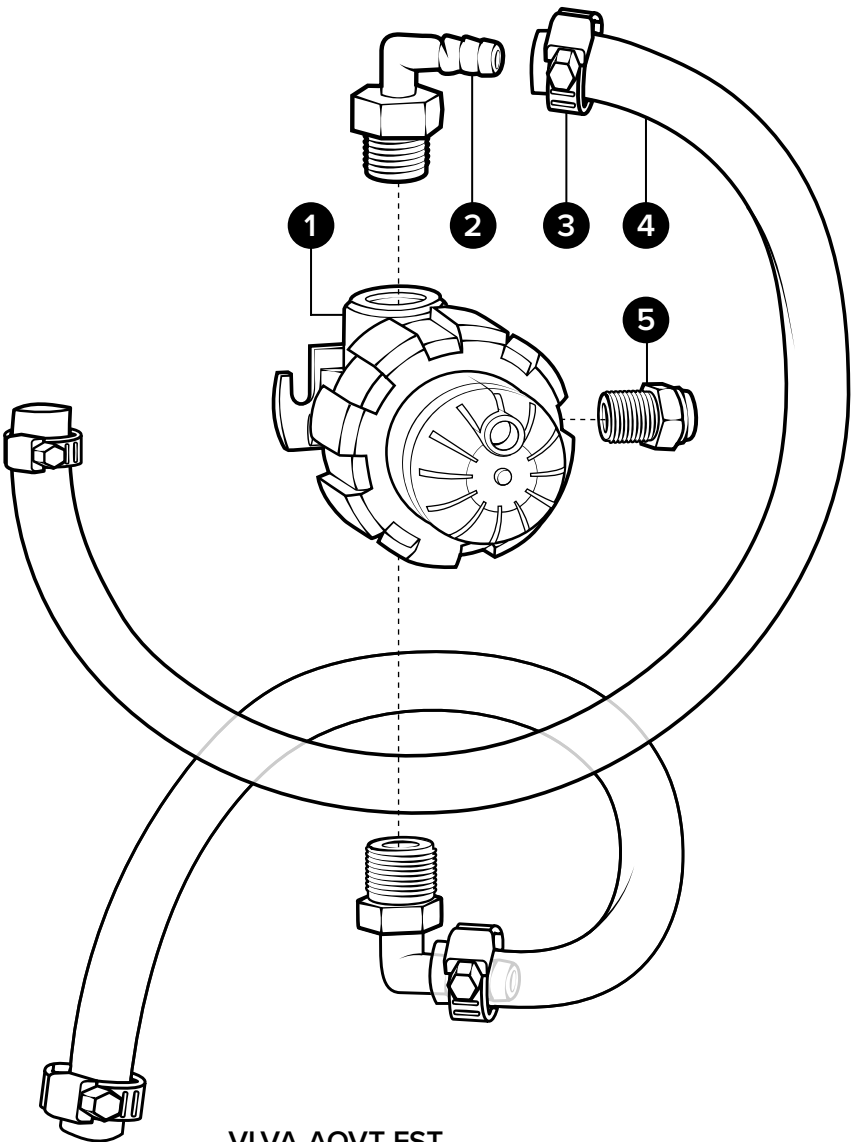
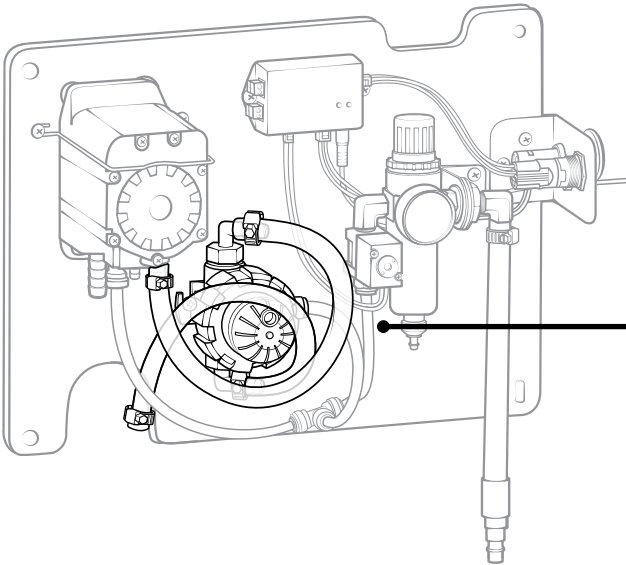
- VLVA-AOVE-FST:**
 Valve assembly for FST-E units - includes air operated valve with EPDM seal, hose, hose barb elbow, quick fit, and SS screw band clamp
- VLVA-AOVV-FST:**
 Valve assembly for FST-V units - includes air operated valve with Viton seal, hose, hose barb elbow, quick fit, and SS screw band clamp

Item number	Description	
1	A AOVPP38-E	Air operated valve - polypropylene body - 3⁄8 in. FPT - EPDM o-rings
	B AOVPP38-V	Air operated valve - polypropylene body - 3⁄8 in. FPT - Viton o-rings
2	HBEL3838	Hose barb elbow 3⁄8 x 3⁄8
3	SSC38	Screw band clamp - stainless steel for 3⁄8 in. hose
4	H38CL-CB	3⁄8 in. id clear clearbraided hose PVC - available per ft. - max 100 ft. section
5	QF1814	Quick fit - 1⁄8 MPT x 1⁄4 od tube - polypropylene



VLVA-AOVT-FST:
Valve assembly for FSTK-T units - includes air operated valve with Teflon seal, hose, hose barb elbow, quick fit, and SS screw band clamp

Item number	Description	
1	AOVPFA12-T	Air operated valve - perfluoroalkoxy alkane body - ½ in. FPT - Teflon seals
2	HBEL1238	Hose barb elbow ½ x ⅜
3	SSC38	Screw band clamp - stainless steel for ⅜ in. hose
4	H38CL-CB	⅜ in. id clear clearbraid hose PVC - available per ft. - max 100 ft. section
5	QF1814	Quick fit - ⅛ MPT x ¼ od tube - polypropylene



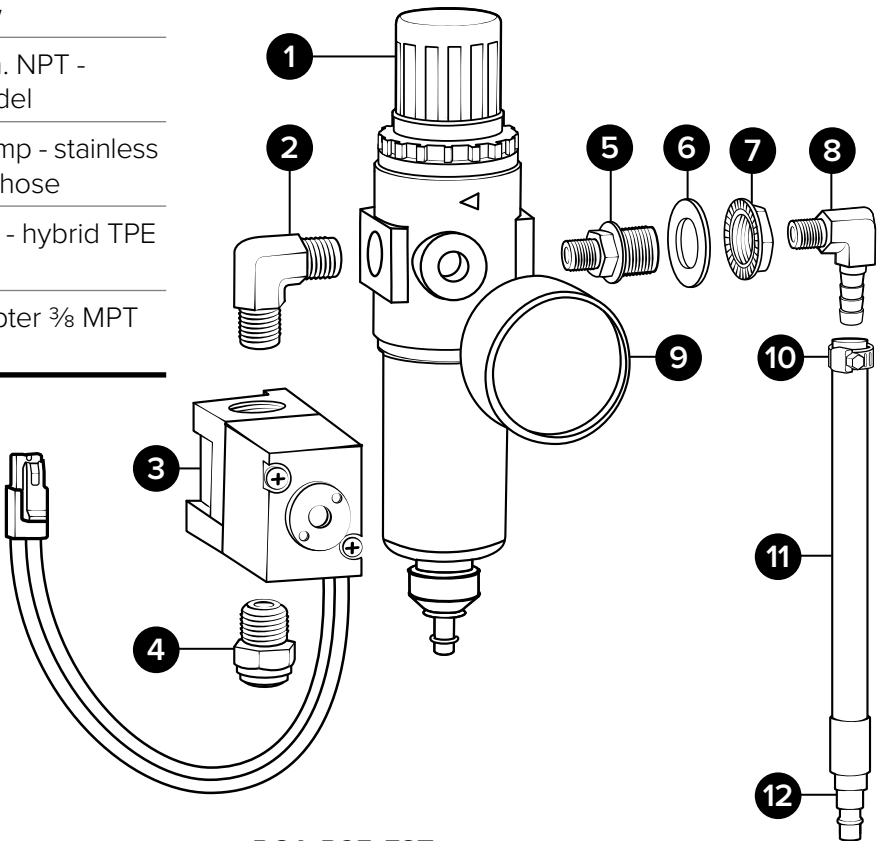
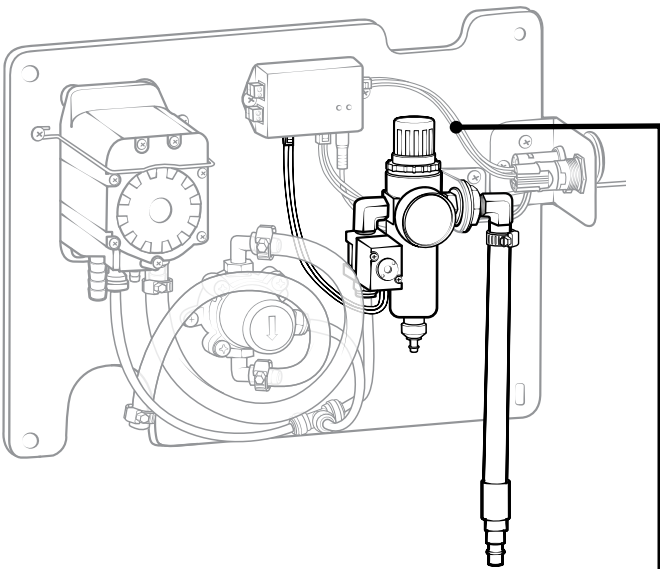
VLVA-AOVT-FST

Plate Sub-assemblies

RGA-R25-FST:

Regulator assembly for all FST units - includes air gauge, plug, air control valve, fittings, hose, and ferruled air hose with quick connect

Item number		Description
1	R25	Air regulator - two ¼ in. FPT ports - two ⅛ in. FPT ports - includes filter and bowl
2	SEL14M	Stainless elbow ¼ in. MPT x ¼ in. MPT
3	ACV14-24VDC-MLX	Air control valve - 24 VDC - with Molex connector
4	QF14P	Quick fit - ¼ MPT x ¼ od tube polypropylene
5	SSA14BKH	Bulkhead adapter - stainless ¼ NPT x ¼ NPSM
6	FW12NPT-THK	Flat washer for ½ in. NPT - thick - stainless - 0.88 in. id x 1.5 in. od x 0.12 in. thk.
7	SSSFN12	Serrated flange nut - stainless - ½ in.
8	HBSSEL1438	Stainless hose barb ¼ MPT x ⅜ barb elbow
9	AG100	Air gauge - ⅛ in. NPT - 100 PSI dry model
10	SSC38	Screw band clamp - stainless steel - for ⅜ in. hose
11	H38BL-F	⅜ in. blue hose - hybrid TPE available per ft.
12	HBB38AP14	Hose barb adapter ⅜ MPT to AP14



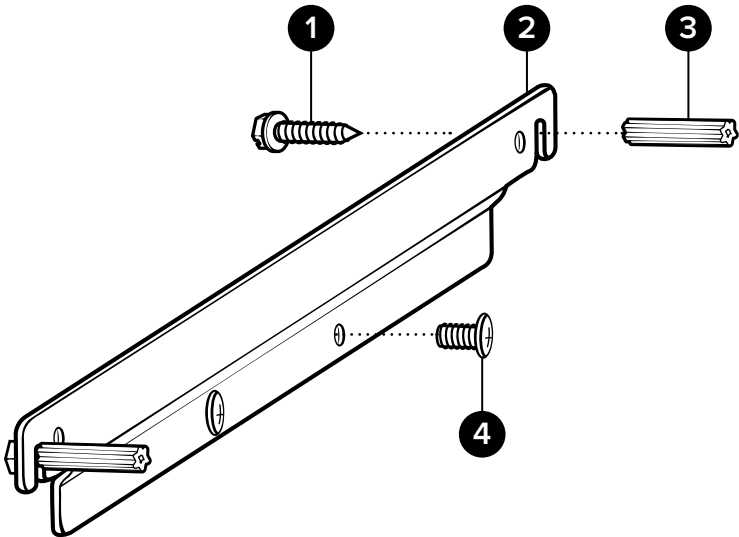
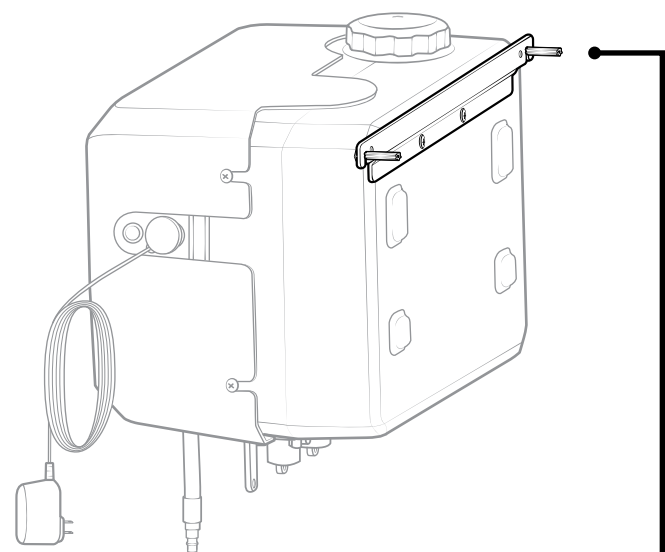
RGA-R25-FST

Bracket Assembly

WMA-TNK4:

Wall mount bracket assembly for TNK4 - includes mounting hardware

Item number		Description
1	WMS14	Wall mount screw - #14 x 1 ¼ in. - stainless steel - hex head slotted
2	WMBRKT-TNK4	Wall mount bracket - stainless steel - for TNK4
3	WMS14A	Wall mount screw anchor - #14 x 1 ¼ in. - plastic - 5/16 in. drill size
4	B142012	Bolt - ¼-20 x ½ in. - stainless steel truss head Phillips



WMA-TNK4

Additional Components

Item number		Description
1	B142012	Bolt - ¼-20 x ½ in. - stainless steel - truss head Phillips
2	IL24V-HSG-RD	Indicator light housing - red 24V LED - no bulb
3	IL24V-BLB	Indicator light bulb - 24V
4	FLS-TNK4-HRS	Float level sensor for TNK-4N-FST - with Hirose connector
5	S1012-HL	Screw - #10 x ½ in. - stainless steel - round head Phillips - hi-lo thread
6	FW1420-LG	Flat washer - stainless steel - large - 0.28 in. id x 0.75 in. od x 0.05 in. thk
7	B14201	Bolt - ¼-20 x 1 in. - stainless steel - truss head Phillips
8	TNK-4N-LID-FST	Tank - 4 gallon natural tank lid - flooded suction

