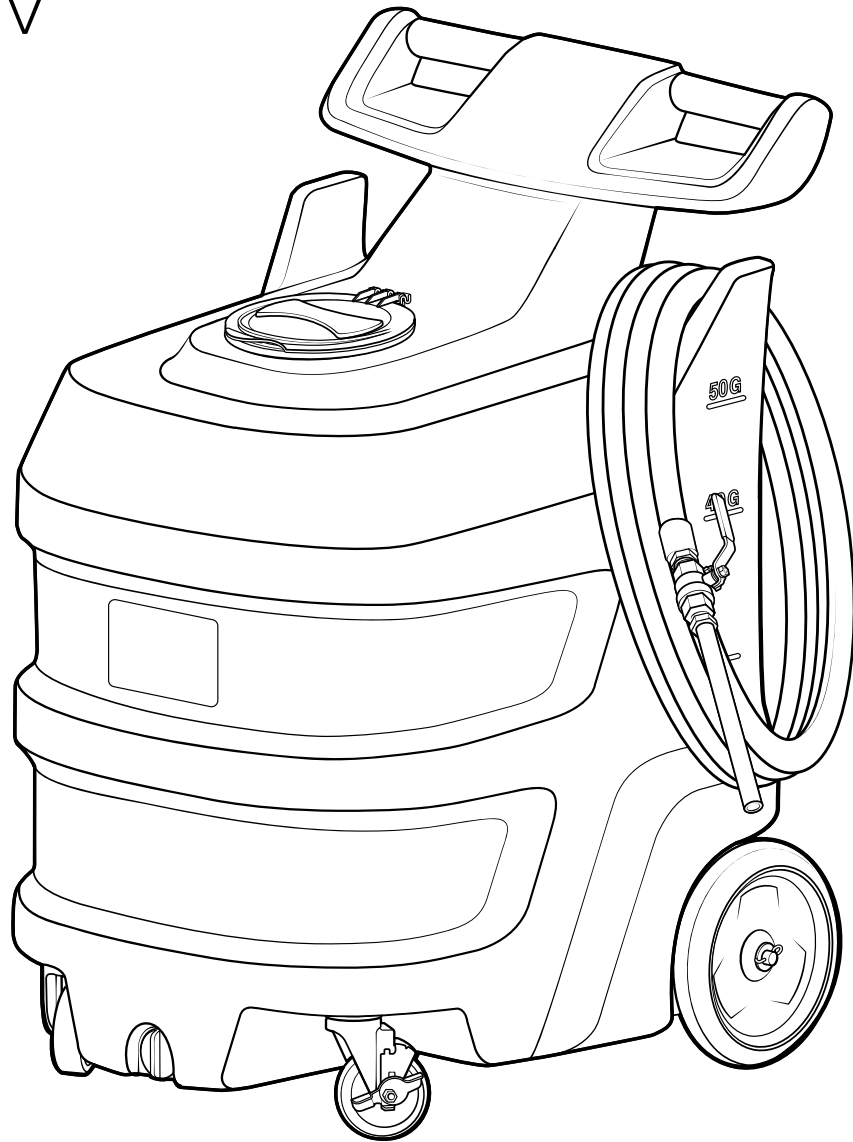


# 50 Gallon High Volume Foam Unit

## Service Manual

FI-50NT-HV



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 point the discharge wand at yourself, another person, or any object you do not want covered in chemical.



Using incoming air pressure exceeding 100 psi (6.9 bar) may result in pressure buildup, explosion, serious injury or death. DO NOT exceed 100 psi (6.9 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 the 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.

## Service Guide

### WARNING

Performing any maintenance with the unit pressurized and connected to the air supply may result in serious injury or death. Always ensure that the unit has been depressurized and disconnected from the air supply before conducting any maintenance. 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.
  - 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, install a water separator to the air fitting on the backplate. See Page 8 for more details. (Plate assembly)

## Servicing Your Unit

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

- Crescent wrench (2x)
- $\frac{7}{16}$  in. (11 mm) open-ended wrench
- Flat head screwdriver
- Thread seal tape
- #2 Phillips head screwdriver
- #3 Phillips head screwdriver
- Hose cutters
- Knife

## Troubleshooting Your Unit

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

Issue	Solution
Pump is cycling improperly	<ul style="list-style-type: none"> <li>• Ensure discharge hose is uncoiled properly and free of kinks that could obstruct fluid flow.</li> <li>• The needle valve is open too far. Close and readjust the needle valve as described in the operation section.</li> <li>• Ensure proper foaming chemical and concentration are being used.</li> </ul>
Air passes through the pump without cycling	<ul style="list-style-type: none"> <li>• The pump needs to be replaced.</li> </ul>
The solution backs up into the air regulator bowl	<ul style="list-style-type: none"> <li>• The check valve needs to be replaced.</li> </ul>
Foam comes out wet, no matter where the needle valve is positioned	<ul style="list-style-type: none"> <li>• Check for proper air pressure on the air gauge. The air regulator is factory set at 50 psi (3.4) bar. Operating range is 40 to 100 psi (2.8 to 6.9 bar) with 12 to 20 CFM (339.8-566.2 l/min).</li> <li>• The check valve may need to be replaced.</li> <li>• Verify correct chemical concentration is being used.</li> </ul>
The unit operates at a reduced pressure	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Check the air compressor supplying the unit. If the pressure is less than 40 psi (2.8 bar), turn off the unit until the compressor can catch up.</li> <li>• If the air supply is 50 psi (3.4 bar) or above, check the air gauge, which should read near 50 psi (3.4 bar). If the air gauge reads more or less than 50 psi (3.4 bar), adjust pressure by turning the knob on the top of the air regulator.</li> </ul>

# Tank Assembly

## TNKA-50N-BK-HV:

50 gallon natural high volume tank assembly - black\* lid - includes swivel casters, drain plug, wheels, and internal tank suction

## LDA-7BK:

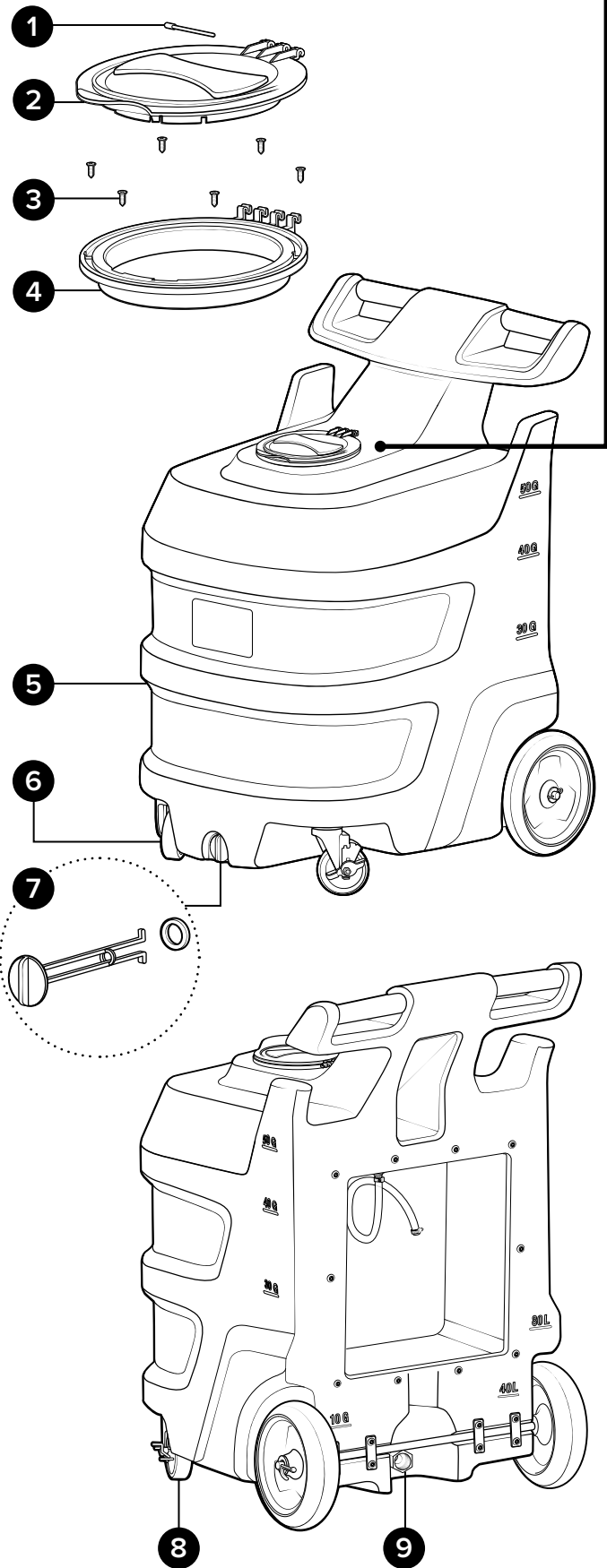
Lid assembly - includes 7 in. black\* lid, lid flange, hinge pin, and mounting screws

Item number		Description
1	LD-PIN	Hinge pin for 7 in. lid and flange
2	LD-7BK-LID	Lid - 7 in. - polypropylene - black*
3	S812-FH	Screw - #8 x ½ in. - stainless steel - flat head Phillips
4	LD-7BK-FLNG	Lid flange - 7 in. - polypropylene - black*

\* Additional colors available, see datasheet for options.

Item number		Description
5	TNK-50N	Tank - 50 gallon natural - portable
6	CST5SS	Swivel caster - stainless - 5 in. clearance - 4 in. wheel
7	DPA	Drain plug assembly for portable units - includes gasket
8	CST5SS-L	Swivel caster - stainless - 5 in. clearance - 4 in. wheel - with lock
9	BVPVC34MF	Ball valve - PVC - ¾ NPT to ¾ FNPT - Buna seal

## LDA-7BK



# Tank Assembly

## TNKA-50N-BK-HV:

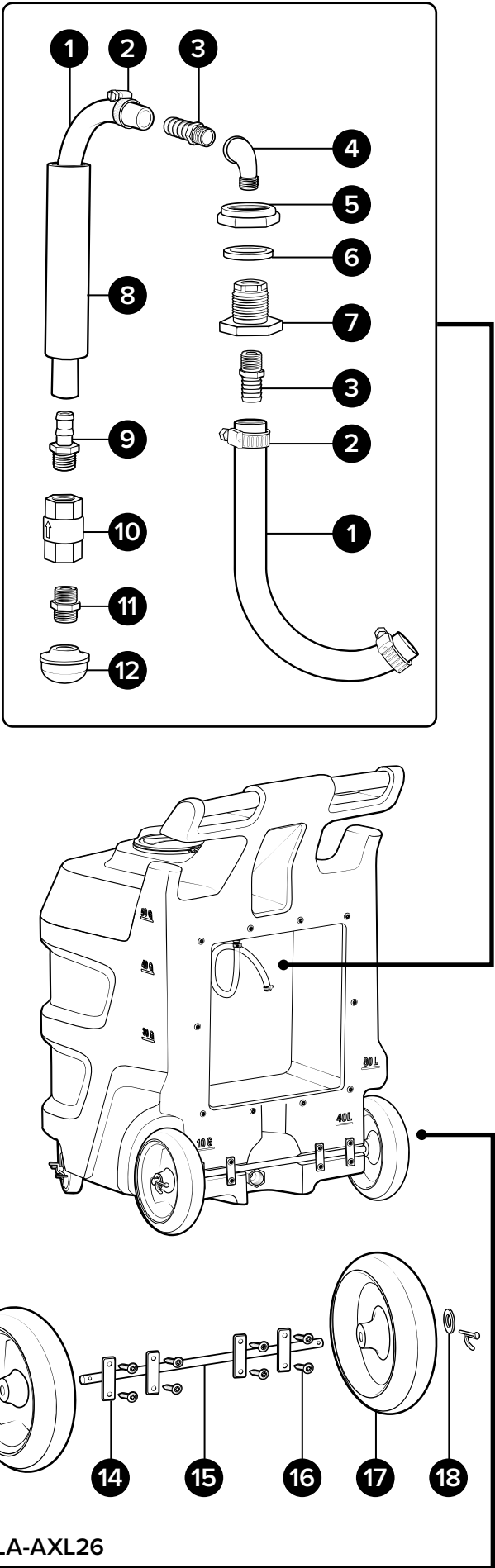
50 gallon natural high volume tank assembly - black\* lid - includes swivel casters, drain plug, wheels, and internal tank suction

Item number		Description
1	H34CL-CB	¾ in. id clear clearbraid hose - PVC - available per ft. - max 100 ft. section
2	SSC34	Screw band clamp - stainless steel - for ¾ in. hose
3	HBSS1234	Hose barb - stainless steel - straight ½ in. MPT x ¾ in. barb
4	SSE12	Stainless street elbow - 304 stainless steel - ½ in. FPT x ½ in. MPT
5	BKHPP12-NUT	Retaining nut - polypropylene
6	BKHPP12-GSKT	Gasket - EPDM
7	BKHPP12-BDY	Bulkhead body - polypropylene - ½ NPT
8	PP2S80-10	2 in. SCH80 pipe - gray PVC - 10 in.
9	HB3434	Hose barb - polypropylene - straight ¾ in. MPT x ¾ in. barb
10	CV34F	VA check valve - ⅓ lb. - 302SS spring
11	PN3434	Pipe nipple - polypropylene - ¾ in. x ¾ in. MPT
12	STR34S	Strainer - basket - 40 mesh stainless steel - for ¾ in. MPT

## WHLA-AXL26:

10 in. wheel assembly - includes 26 in. stainless steel axle, axle plates, bolts, washers, and cotter pins

Item number		Description
13	COT	Cotter pin - stainless steel - ⅛ in. dia x 1 in.
14	PLSS-AXL	Axle plate - stainless steel - 2.5 in. x 1 in. - 2 holes
15	AXL26	Axle - stainless - 0.625 dia. x 26 in.
16	B142012-VS	Bolt - ¼-20 x ½ in. - stainless steel - truss head Phillips - Vibra-Seal
17	W10	Wheel - 10 in. - non-marking
18	FW58	Flat washer for ⅝ in. od pipe or axle - stainless steel - 0.64 in. id x 1.2 in. od x 0.05 in. thk



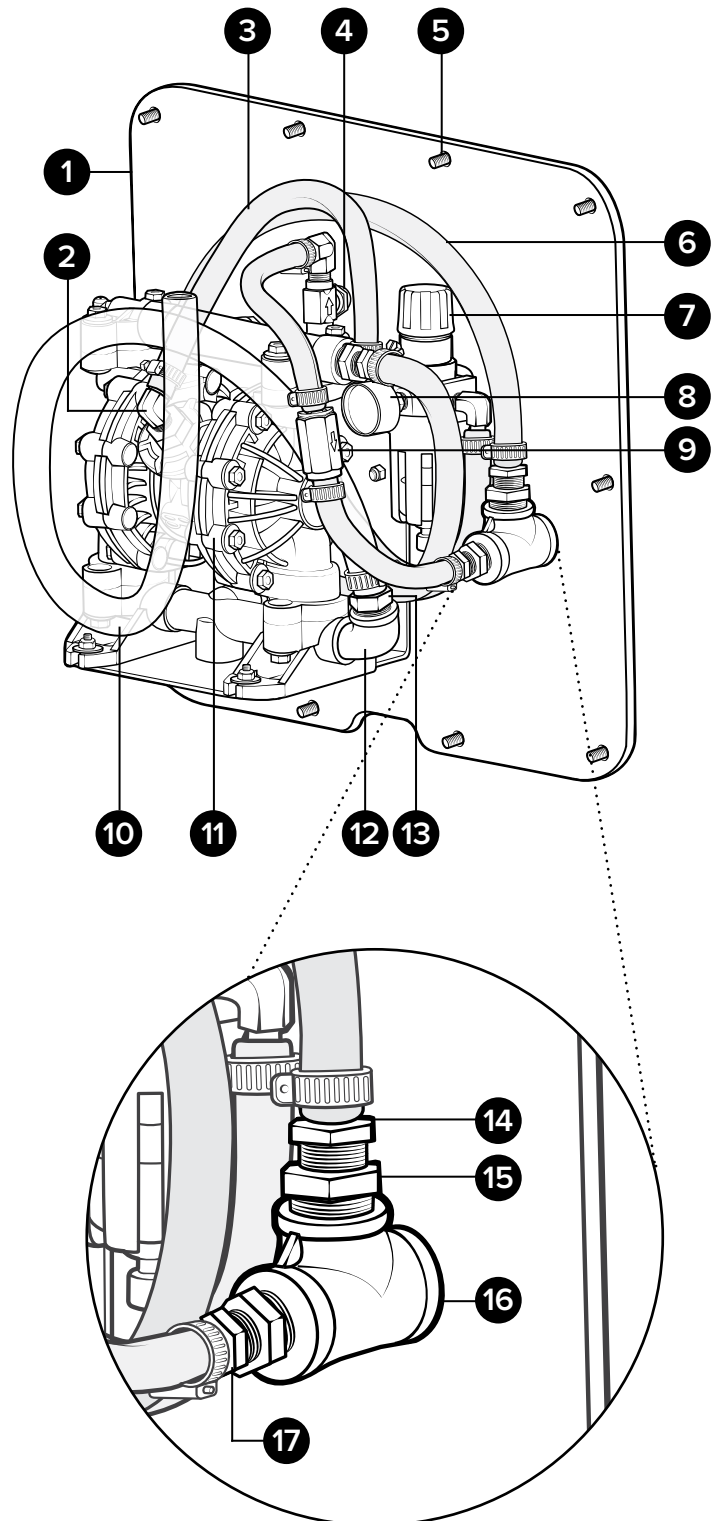
# Plate Assembly

Inside view

## PA-PF1THV:

Plate assembly for high volume portable foam units with 1 in. discharge hose barb - Teflon - includes screw band clamp

Item number	Description
1 PL-TNK50-HV	Plate for TNK-50 - drilled for PF1THV - PL-4X8-1/2
2 HBSEL1438	Hose barb - stainless steel - elbow - 1/4 in. MPT x 3/8 in. barb
3 H38BL-F	3/8 in. id blue hose - hybrid TPE - available per ft.
4 NV14	Needle valve - 1/4 in. NPT - includes black knob
5 B14201	Bolt - 1/4-20 x 1 in. - stainless steel truss head Phillips
6 H12BL-F	1/2 in. id blue hose - hybrid TPE - available per ft.
7 R14	1/4 NPTF regulator with filter - no gauge
8 AG100	Air gauge - 1/8 in. NPT - 0-100 PSI markings - dry model
9 CV38-AP	Check valve - 3/8 in. barbs - PVC body - Hastelloy spring - Teflon ball - white
10 H34CL-CB	3/4 in. id clear clearbraided hose - PVC - available per ft. - max 100 ft. section
11 GP34TSS	3/4 in. Graco pump - polypropylene body - stainless steel seat - Teflon diaphragm
12 SSE34	3/4 in. street elbow - stainless
13 HBSS3434	Stainless hose barb 3/4 MPT x 3/4 barb
14 HBSS1212	Hose barb - stainless steel - 1/2 in. MPT x 1/2 in. barb
15 HHSB3412	Hex head stainless bushing - 3/4 in. MPT x 1/2 in. FPT
16 SST34	Stainless tee 3/4 FPT
17 HBSS1238	Stainless hose barb 1/2 MPT x 3/8 barb



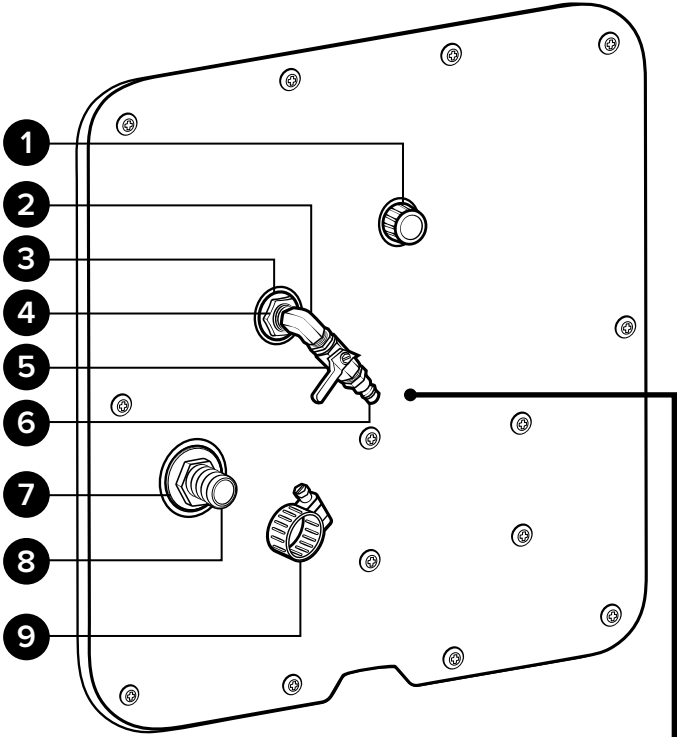
# Plate Assembly

Back view

**PA-PF1THV:**

Plate assembly for high volume portable foam units with 1 in. discharge hose barb - Teflon - includes screw band clamp

Item number		Description
1	NV14-HNDL	Black knob for needle valve
2	SEL14M	Stainless elbow ¼ in. MPT x ¼ in. MPT
3	SSSFN12	Serrated stainless steel flange nut - ½ in.
4	SSA14BKH	Bulkhead adapter - stainless - ¼ NPT x ¼ NPSM
5	BVB14	Ball valve - brass - nickel-plated - air inlet valve - ¼ in. FPT x ¼ in. FPT
6	AP14	Air fitting - ¼ in. MPT quick disconnect hose coupling plug - nickel-plated brass
7	FW34NPT	Flat washer for ¾ in. NPT - stainless - 1.06 in. id x 2.0 in. od x 0.12 in. thk
8	HBSS3410	Stainless hose barb ¾ MPT x 1 barb
9	SSC10	Screw band clamp - stainless steel - for 1 in. hose

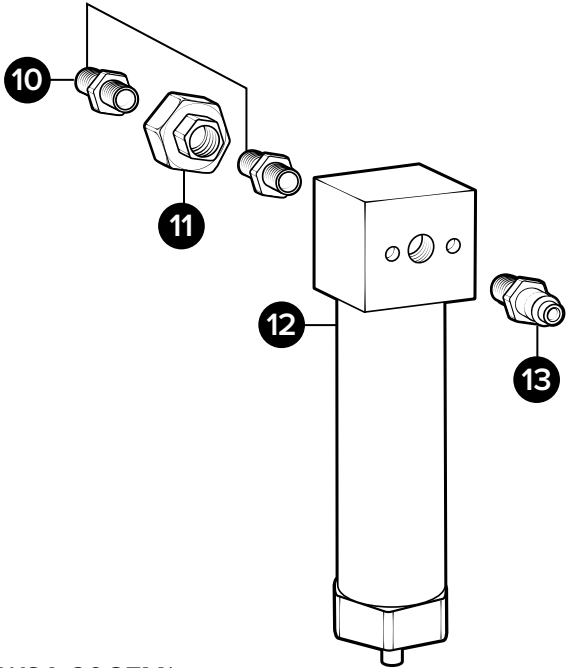


## Optional Components

**WSA-20CFM:**

Water separator assembly - 20 CFM - ¼ in. FPT ports - includes air plug and union fittings

Item number		Description
10	SN1414	Stainless hex nipple ¼ MPT x ¼ MPT
11	SSU14	Stainless steel union - ¼ in. FPT
12	WS-20CFM	Tsunami water separator/air dryer - 20 CFM - ¼ in. FPT ports
13	AP14	Air fitting ¼ MPT x plug - nickel-plated brass



WSA-20CFM\*

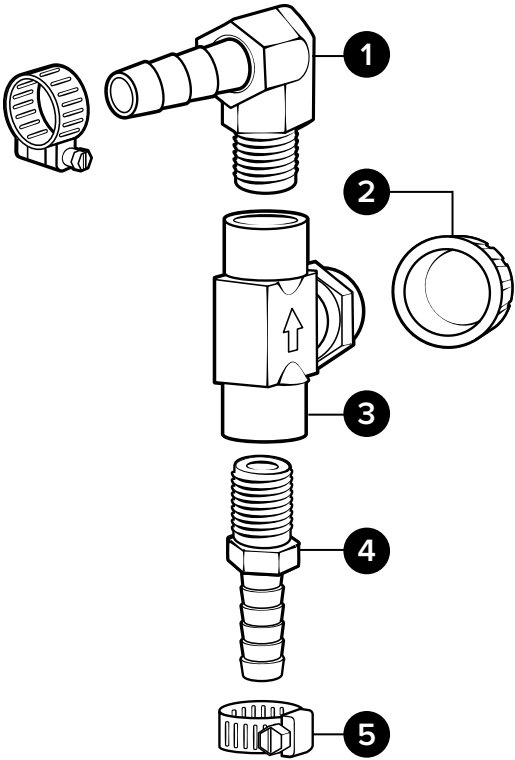
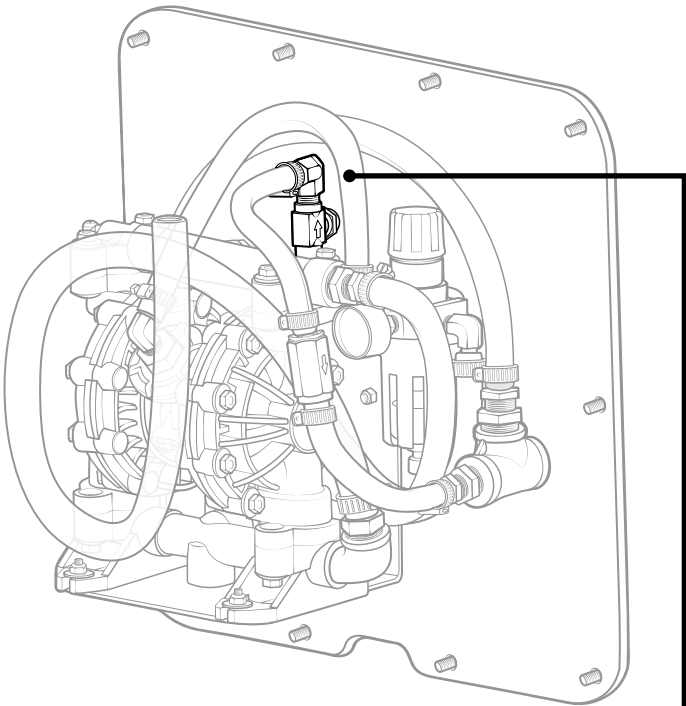
\*Optional assembly sold separately



# Back Plate Sub-assemblies

**NVA-NV14-PF:**  
Needle valve assembly for portable foam units - includes hose barbs, and screw band clamps

Item number		Description
1	HBSEL1438	Hose barb - stainless steel - elbow - ¼ in. MPT x ⅜ in. barb
2	NV14-HNDL	Black knob for needle valve
3	NV14	Needle valve - ¼ in. NPT - includes black knob
4	HBSS1438	Hose barb - stainless steel - ¼ in. MPT x ⅜ in. barb
5	SSC38	Screw band clamp - stainless steel - for ⅜ in. hose



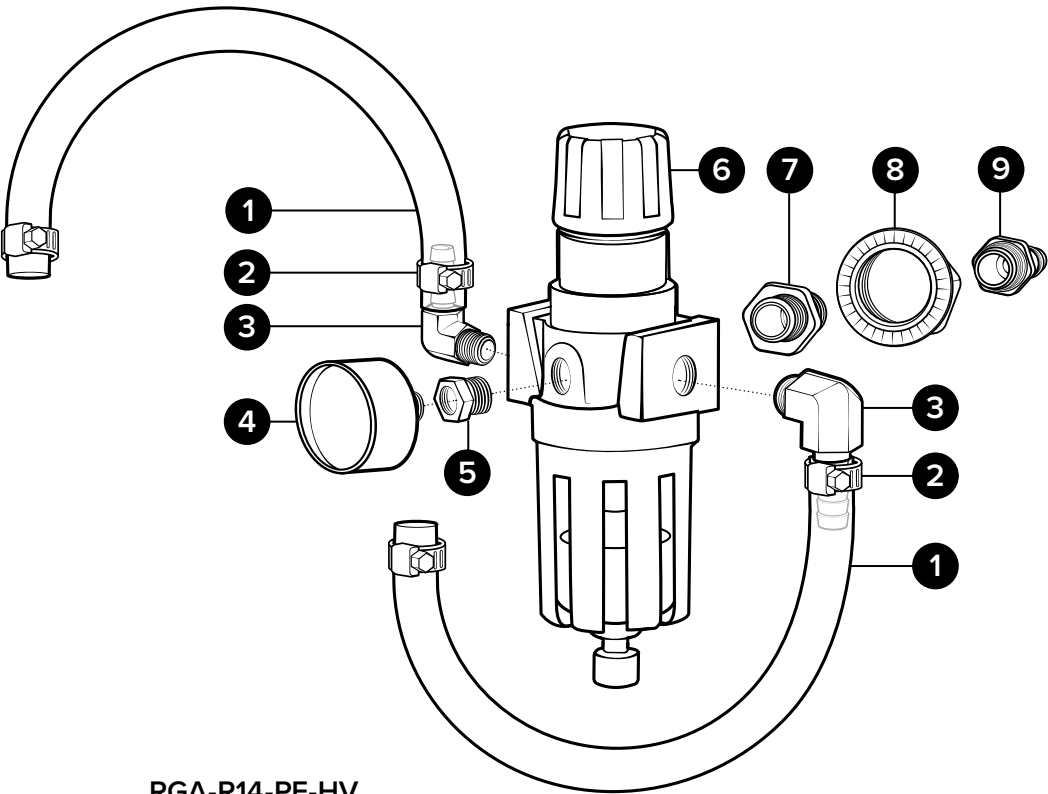
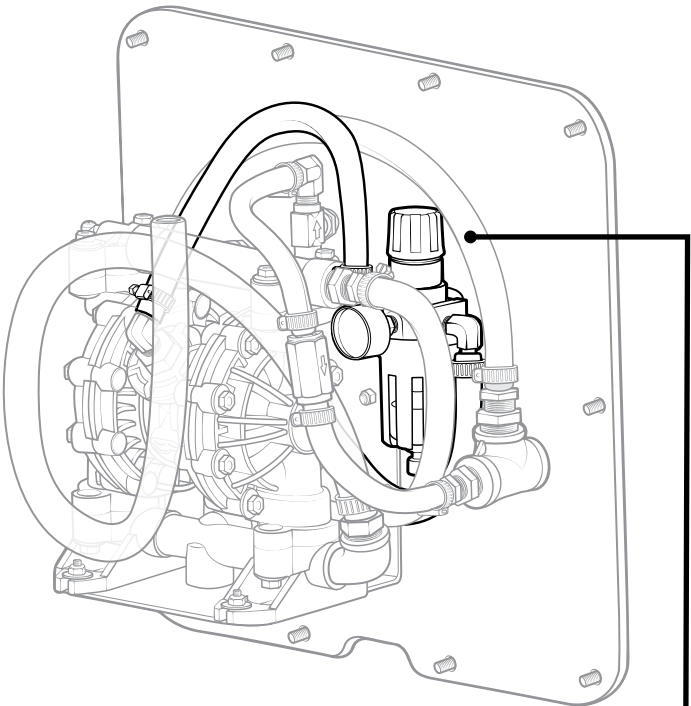
**NVA-NV14-PF**

# Back Plate Sub-assemblies

## RGA-R14-PF-HV:

Air regulator assembly for high volume portable foam units includes air gauge, hose barb elbows, hose, bulkhead fittings, and air plug

Item number	Description	
1	H38BL-F	3⁄8 in. id blue hose - hybrid TPE - available per ft.
2	SSC38	Screw band clamp - stainless steel - for 3⁄8 in. hose
3	HBSSEL1438	Hose barb - stainless steel - elbow - 1⁄4 in. MPT x 3⁄8 in. barb
4	AG100	Air gauge - 1⁄8 in. NPT - 0-100 PSI markings - dry model
5	HHSB1418	Hex head stainless bushing 1⁄4 MPT x 1⁄8 FPT
6	R14	Regulator - air - 4x 1⁄4 in. FPT ports - no gauge
7	SSA14BKH	Bulkhead adapter - stainless - 1⁄4 NPT x 1⁄4 NPSM
8	SSSFN12	Serrated flange nut - stainless - 1⁄2 in.
9	AP14	Air fitting - 1⁄4 in. MPT quick disconnect hose coupling plug - nickel-plated brass

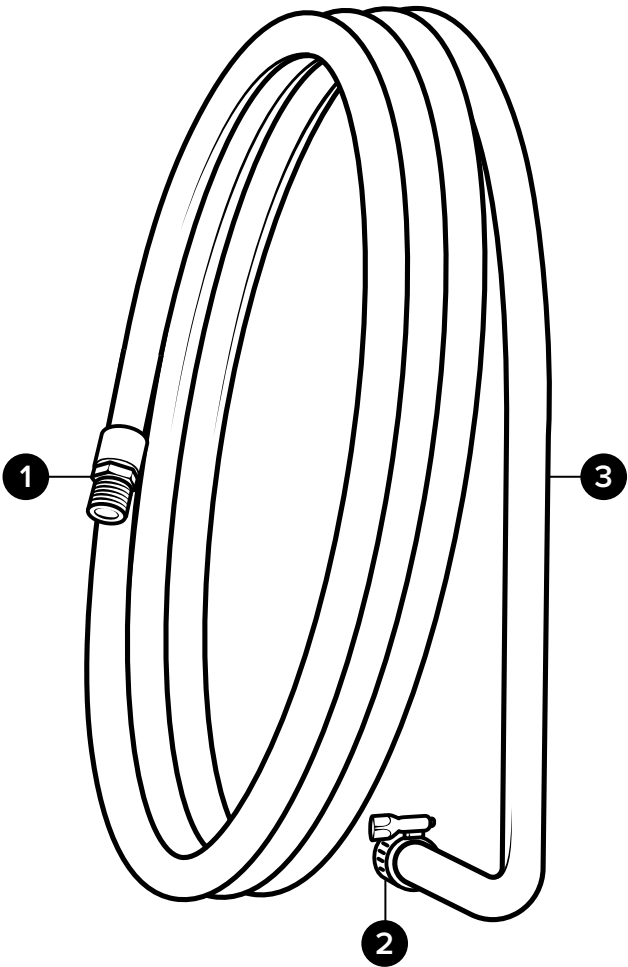
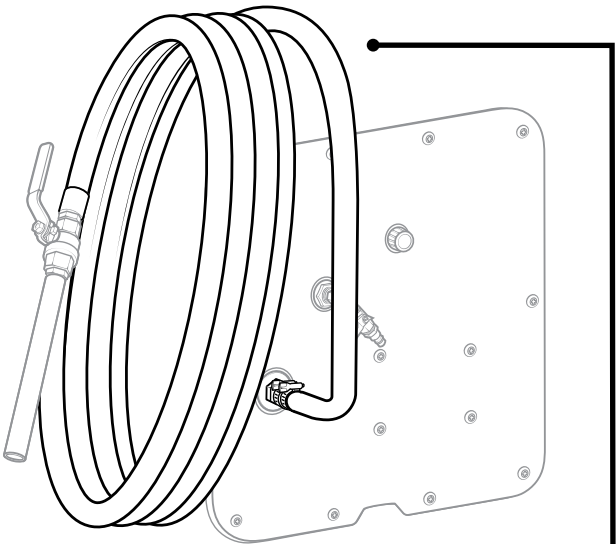


RGA-R14-PF-HV

# Hose Assembly

**HA10BL-50:**  
Hose assembly - 50 ft. of 1 in. blue hose - includes  
ferruled hose barb

Item number		Description
1	HBSS3410	Stainless hose barb ¾ MPT x 1 barb
2	SSC10	Screw band clamp - stainless steel - for 1 in. hose
3	H10BL-F	1 in. id blue hose - hybrid TPE - available per ft.



**HA10BL-50**

# Wand Assembly

**SSWA1010:**

Stainless wand assembly for 1 in. hose - includes 10 in. SS wand, ¾ in. ball valve, bushing, hose barb and screw band clamp

Item number		Description
1	SSC10	Screw band clamp - stainless steel - for 1 in. hose
2	HBSS3410	Stainless hose barb ¾ MPT x 1 barb
3	BVSS34	Ball valve - SS body - 2x ¾ in. FNPT - PTFE seat and seals - yellow straight handle
4	HHSB3412	Hex head stainless bushing - ¾ in. MPT x ½ in. FPT
5	W1210	½ in. NPT wand - polished stainless - 10 in. long - threaded one end only

