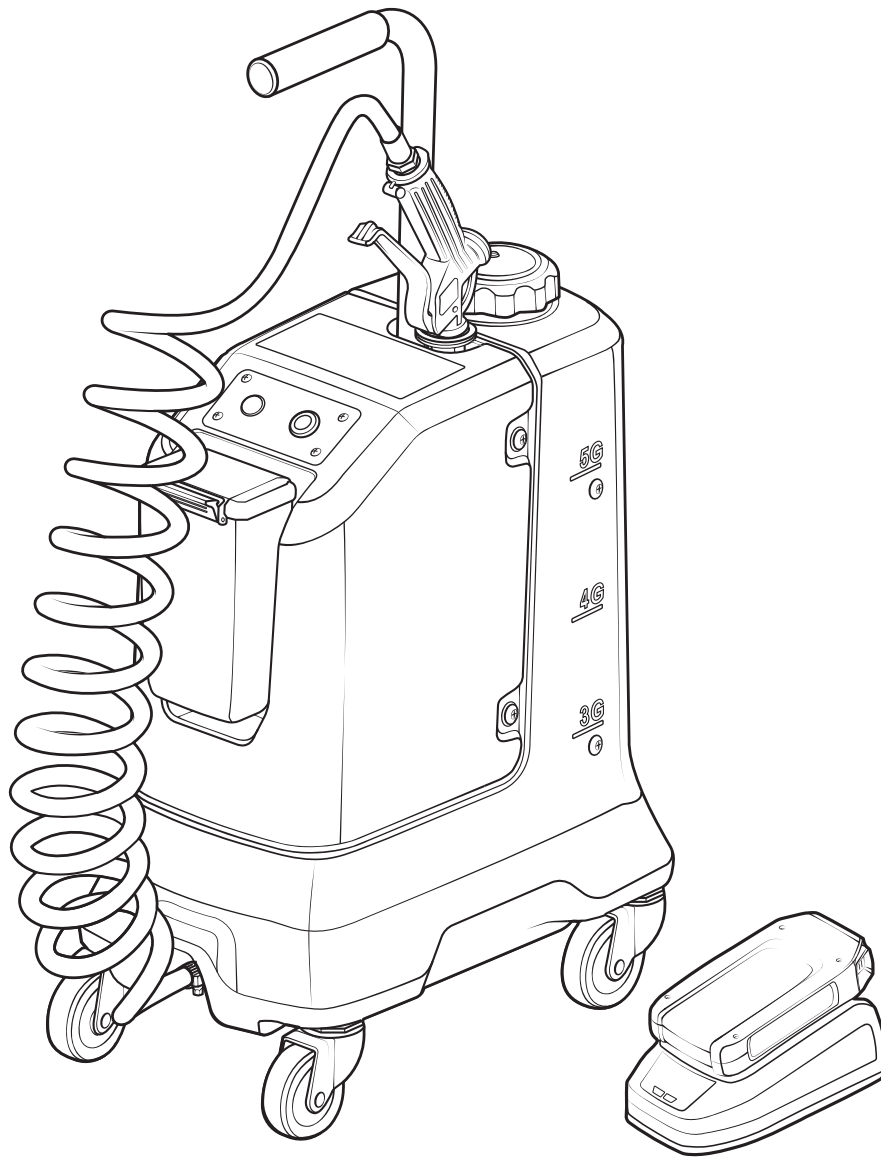


# Battery Powered Rover Spray Unit

## Service Manual

SP-BP-RVR



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.

The unit is not to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless given supervision or instructed in the safe use of the unit and understand the hazards involved. Children under 8 years old should be supervised to ensure they do not play with or handle the unit.



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. 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).

Some components may be hot during and after use. Use caution when servicing or handling the equipment.



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.

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 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.

Never point the discharge wand at yourself, another person, or any object you do not want covered in chemical.



Keep battery box lid closed and latched at all times unless accessing battery. Do not use with lid open or damaged. Do not expose unit to liquids, cleaning solutions, foam, or rain. The battery pack is not waterproof. Do not submerge in liquid. If battery pack gets wet, allow to dry before further use.

Using the unit with unapproved devices may result in a risk of fire, shock or personal injury. Only use with 24V Equip Series compatible equipment.

Store unit and battery indoors in a cool, dry location between 32°-77°F (0°-25°C) and < 75% relative humidity. Do not store below 32°F (0°C) or above 113°F (45°C). To prevent premature battery failure, do not store battery in depleted state for long periods of time.

# Safety

## WARNING

### First Aid Instructions

- Failure to follow first aid instructions may result in death or serious personal injury.
- If battery liquid comes in contact with skin, wash immediately with soap and water, then neutralize with lemon juice or vinegar.
- If battery liquid gets in your eyes, flush with clean water for a minimum of 10 minutes, then seek immediate medical attention.
- If battery liquid is swallowed, seek immediate medical attention.

### State of California Proposition 65 Warning

- The battery can expose you to chemicals, including cobalt, lithium, manganese, nickel, oxide, and carbon black, which are known to the State of California to cause cancer and reproductive harm. For additional information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## NOTICE

The unit is not rated for high-altitude areas of 2000 meters and above.

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.

In the presence of radiated RF energies, the charge indicator button can lose functionality. Refer to the separate manuals supplied with the battery and charger for additional safety precautions and instructions.

### 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.: SP-BP-RVR  
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 pressurized, may result in serious injury or death. Always ensure the unit has been depressurized, and battery has been removed before conducting any maintenance. Cleaning and user maintenance shall not be made by children without supervision. Servicing or modifying 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. Verify all hose clamps are in good condition and properly secured.
- Check the suction line and strainer for debris. Clean as needed.
- Remove and clean the holster of residue and debris.
- Store battery in a half-charged state and maintain battery every 3-6 months.

## Servicing Your Unit

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

- Crescent wrench (2x)
- ¼ in. (7 mm) hex bit
- 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:

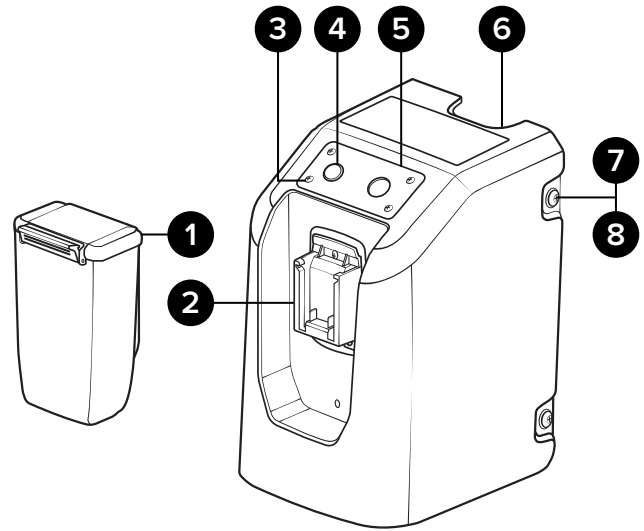
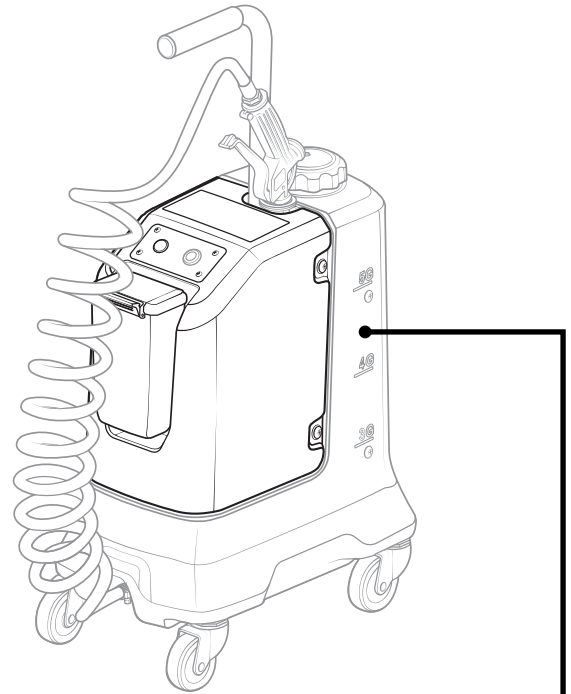
Issue	Solution
Pump is cycling improperly	<ul style="list-style-type: none"> <li>• Verify pump did not fail from chemical attack, or electrical malfunction.</li> <li>• Ensure proper chemical and concentration are being used.</li> <li>• Verify product is getting to the pump with these steps:               <ol style="list-style-type: none"> <li>1. Make sure the tank has chemical solution in it.</li> <li>2. Ensure the suction line valve is open completely.</li> <li>3. Inspect suction line and strainer for debris or damage.</li> </ol> </li> <li>• If these steps are confirmed, the pump may need to be replaced.</li> </ul>
The unit operates at a reduced pressure	<ul style="list-style-type: none"> <li>• Inspect 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>• Inspect discharge hose assembly for build up.</li> </ul>
Battery will not completely charge	<ul style="list-style-type: none"> <li>• Place a secondary battery on the charger. If the secondary battery charges as expected, it indicates that the initial battery is faulty and should be replaced.</li> <li>• If the problem continues to occur, the charger is bad. Replace battery charger.</li> </ul>
Battery discharges too quickly	<ul style="list-style-type: none"> <li>• Battery has reached life expectancy. Replace battery.</li> </ul>
Power button LED slow flashing	<ul style="list-style-type: none"> <li>• Dead battery. Charge or replace battery.</li> </ul>
Power button LED fast flashing	<ul style="list-style-type: none"> <li>• Startup failure. Reset with a power cycle.</li> <li>• A faulty pump may need to be replaced.</li> </ul>
Power button LED double flashing	<ul style="list-style-type: none"> <li>• Pump is over temperature. Allow unit to cool before use.</li> </ul>
Battery/charger fault light is flashing	<ul style="list-style-type: none"> <li>• Refer to the separate manuals supplied with the battery and charger for more information regarding indicator and fault lights.</li> </ul>

# Cover Assembly

## CVRA-SP-BPRVR:

Cover assembly for battery powered Rover unit - natural - includes wire harness and battery box - battery and charger sold separately

Item number	Description
1 BLI-24V-BB	Battery box - includes box, lid, latch, pins, and gasket
2 BLI-24V-RCVR-BPRVR	Battery receiver interface plate for BLI-24V system - Rover unit
3 S1034-HL	Screw - #10 x 3/4 in. - stainless steel - round head Phillips - Hi-Lo thread
4 PLGNYL34	Plug - panel - nylon - 3/4 in. - for 5/8 in. hole - max 1/8 in. panel thickness
5 TRMPL-BPRVR	Trim plate - stainless steel - for BP Rover units
6 TNK-5N-BPRVR-CVR	5 Gallon natural rotomolded cover - for BP Rover units
7 B142012-VS	Bolt - 1/4-20 x 1/2 in. - stainless steel - truss head Phillips - Vibra-Seal
8 FW1420-LG	Flat washer - stainless steel - large - 0.28 in. id x 0.75 in. od x 0.05 in. thk



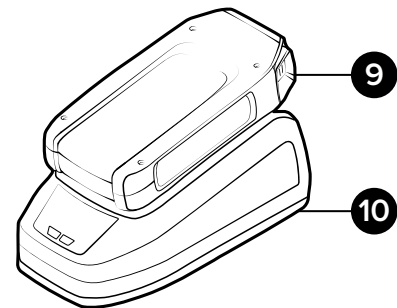
CVRA-SP-BPRVR

## Battery and Charger\*

\*not included with cover assembly

Item number	Description
9 BLI-24V-4AH	Battery - lithium ion - 24V 4AH - includes manual
10 BLI-24V-CHRGR	Battery - lithium ion - 24V - charger - includes NA power cord and manual

**Note:** Refer to battery and charger user manuals for more information.



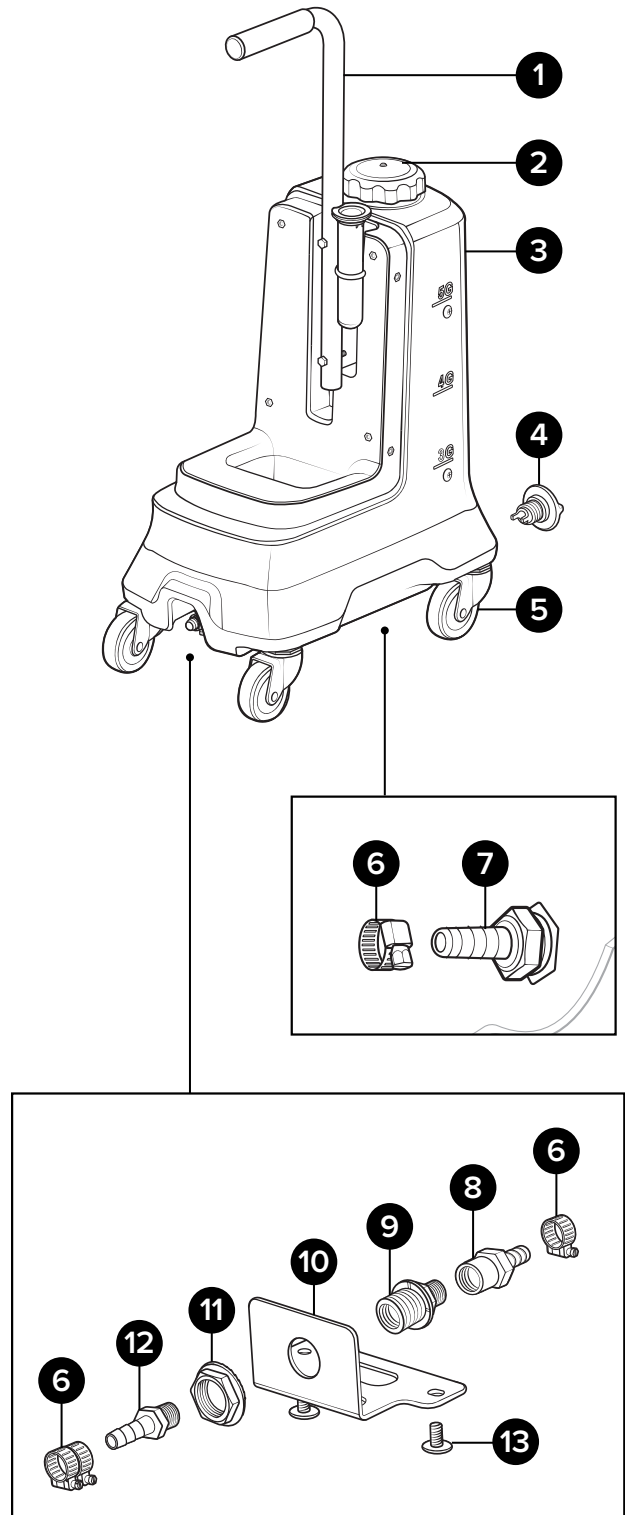
\*not included with cover assembly

# Tank Assembly

## TNKA-5N-BK-RVR:

5 gallon natural tank assembly - black\* cap - includes handle and caster wheels

Item number	Description
1	HNDLA-RVR Handle assembly - includes handle, grip, holster, and mounting hardware
2	CPA-35BK-VNT-NCHN Cap assembly - 3.5 in. PP - black* vented - EPDM check valve - EPDM gasket
3	TNK-5N-RVR Tank - 5 gallon natural - Rover
4	DPA Drain plug assembly - portable units - includes plug and gasket
5	CST3-38-RP-WWRNCH Swivel caster - zinc plated steel - 3 in. TPR wheel - 3/8-16 male mounting post - replacement part including wrench
6	SSC38 Screw band clamp - stainless steel - for 3/8 in. hose
7	HBSS1238 Hose barb - stainless steel - 1/2 in. MPT x 3/8 in. barb
8	HBFSS1438 Hose barb - stainless steel - 1/4 in. FPT x 3/8 in. barb
9	SSA14BKH Bulkhead adapter - stainless steel - 1/4 in. NPT x 1/4 in. NPSM
10	BRKT-EL-12-RVR Bracket - L-shaped mounting - for 12 NPT fittings - for Rover - stainless steel
11	SSSFN12 Serrated stainless steel flange nut - 1/2 in.
12	HBSS1438 Hose barb - stainless steel - 1/4 in. MPT x 3/8 in. barb
13	B142012-VS Bolt - 1/4-20 x 1/2 in. - stainless steel - truss head Phillips - Vibra-Seal



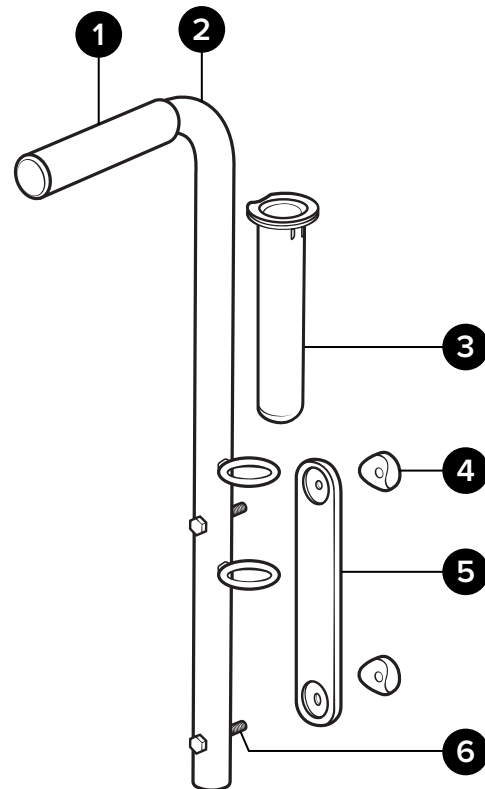
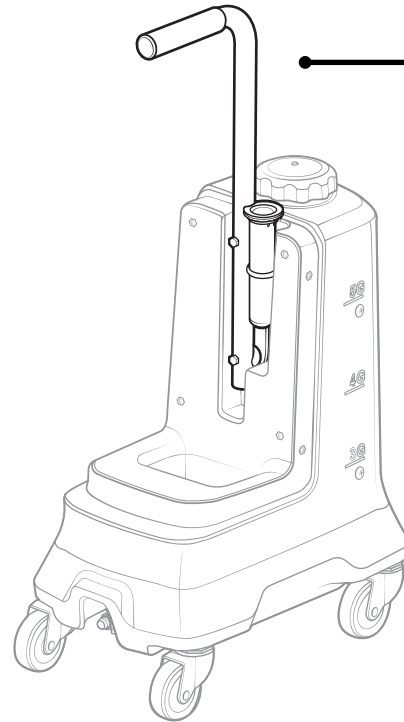
\* Additional colors available, see datasheet for options.

# Tank Sub-assembly

## HNDLA-RVR:

Handle assembly - includes handle, grip, holster, and mounting hardware

Item number		Description
1	HBG-RVR	Handlebar grip for Rover unit
2	HNDL-RVR	Handle bar for Rover unit - stainless steel
3	HLSTR-WND	Holster for poly wand
4	SDLW-NYL	Saddle washer for 1 in. od tube - 1/4-20 bolt size - nylon
5	PL-HNDL-RVR	Plate for equip series rover handle - PL-4x8
6	B1420134-HH	Bolt - 1/4-20 x 1 3/4 in. - stainless steel - hex head



**HNDLA-RVR**

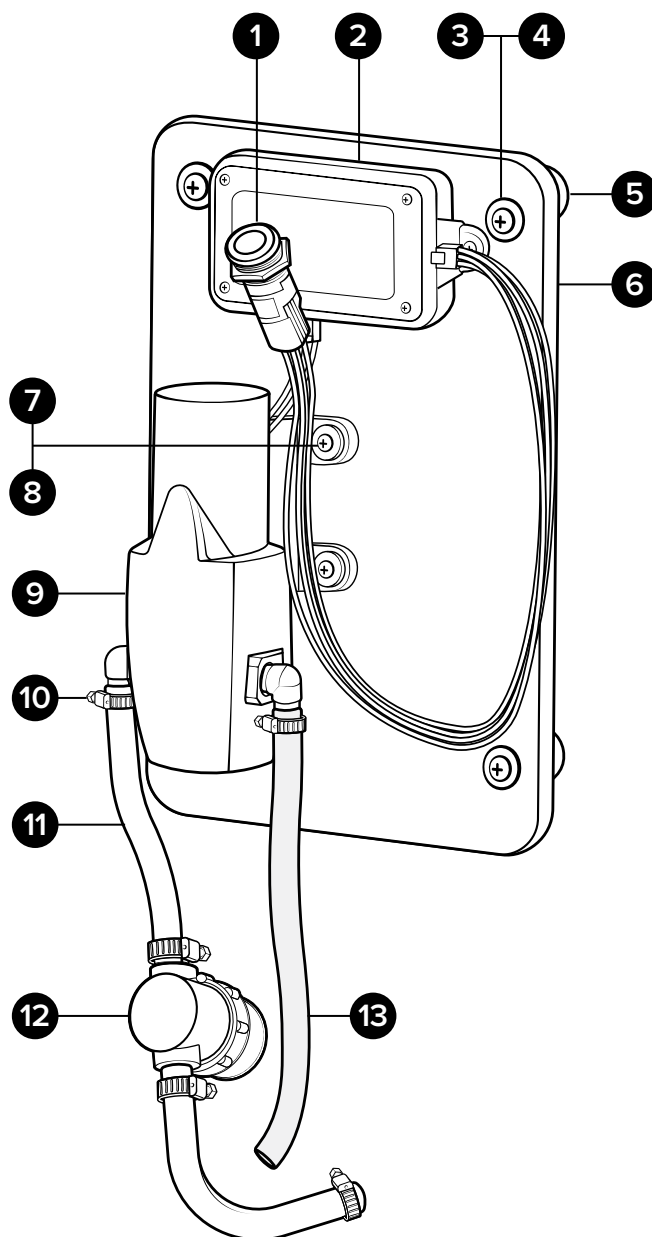


# Plate Assembly

## PLA-SP-BPRVR:

Plate assembly for battery powered portable Rover spray unit with  $\frac{3}{8}$  in. hose

Item number	Description	
1	PBSA-24V-RVR	Push button switch assembly includes 24V LED locking switch and wire harness - for Rover units
2	LVRC-24V	Low voltage relay controller - 24 volt
3	B1420114-PH	Bolt - $\frac{1}{4}$ -20 x $1\frac{1}{4}$ in. - stainless steel - pan head Phillips
4	FW1420-LG	Flat washer - stainless steel - large - 0.28 in. id x 0.75 in. od x 0.05 in. thk
5	SPC10X12-PE	Spacer - 1 in. od x $\frac{1}{2}$ in. long - for $\frac{1}{2}$ in. screw - polyethylene
6	PL-BPRVR	Plate for component mounting - battery power - Rover unit
7	S1034-HL	Screw - #10 x $\frac{3}{4}$ in. - stainless steel round head Phillips - Hi-Lo thread
8	FW8	Flat washer for #8 screw - stainless - 0.17 in. id x 0.63 in. od x 0.07 in. thk
9	EP24VDC-1-PS-MLX	Electric fluid pump - 24 VDC - 1 GPM open flow - 40 PSI max - Viton seals - Santo diaphragm includes pressure switch and molex connector
10	SSC38	Screw band clamp - stainless steel - for $\frac{3}{8}$ in. hose
11	H38BL-F	$\frac{3}{8}$ in. id blue hose - hybrid TPE available per ft.
12	STR38-IL-80	In line strainer - 2x $\frac{3}{8}$ hose barb - EPDM gasket - #80 mesh stainless steel screen - gray bowl
13	H38BK-HT	$\frac{3}{8}$ in. black hose - high temp EPDM rubber - available per ft.

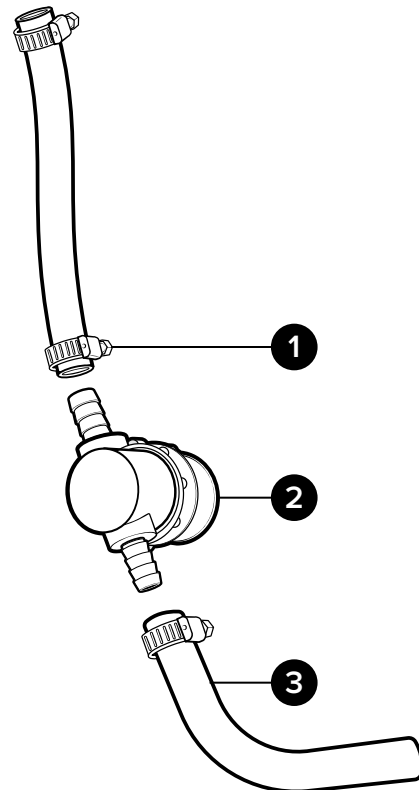
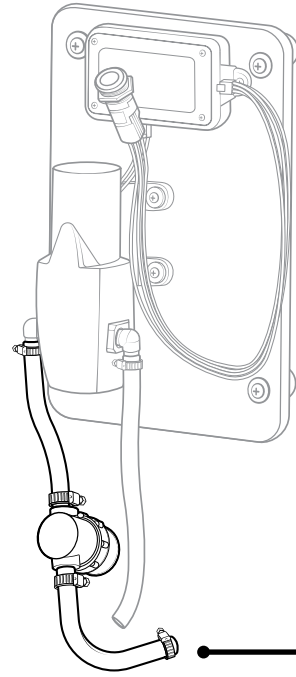


# Plate Sub-assembly

## SCTNA-BPRVR:

suction assembly for portable Rover units - includes 3/8 in. hose, screw band clamp, and in-line strainer

Item number	Description
1 SSC38	Screw band clamp - stainless steel - for 3/8 in. hose
2 STR38-IL-80	In line strainer - 2x 3/8 hose barb - EPDM gasket - #80 mesh stainless steel screen - gray bowl
3 H38BL-F	3/8 in. id blue hose - hybrid TPE available per ft.



SCTNA-BPRVR

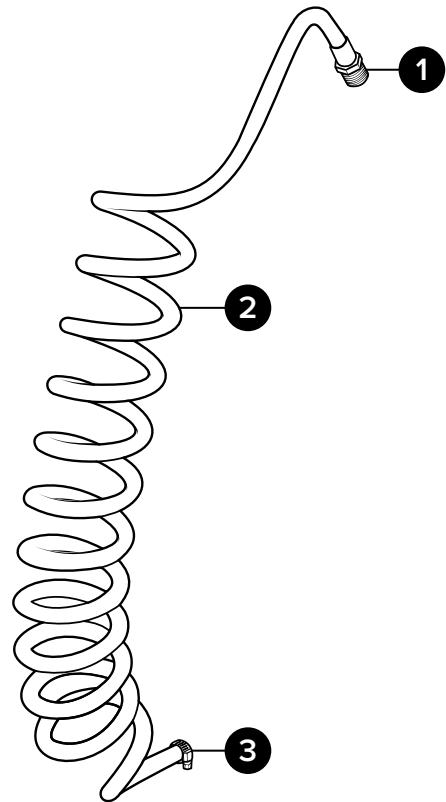
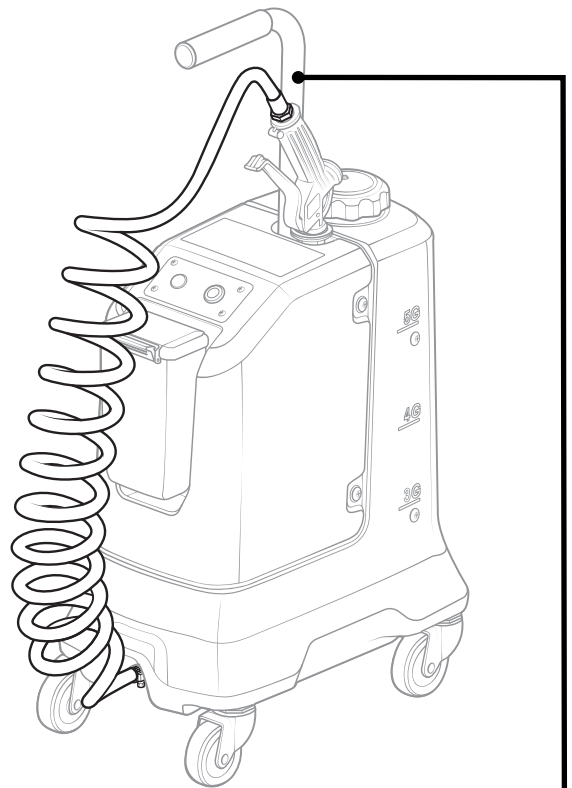
# Hose Assembly

Coiled

## CHA38BL-PU-10:

Coiled hose assembly - 10 ft. of coiled  $\frac{3}{8}$  in. blue polyurethane hose - includes SS ferruled hose barb, and screw band clamp

Item number	Description
1 HBSS1238	Hose barb - stainless steel - $\frac{1}{2}$ in. MPT x $\frac{3}{8}$ in. barb
2 CH38BL-PU-10	$\frac{3}{8}$ in. id coiled blue hose - polyurethane - 10 ft. reach
3 SSC38	Screw band clamp - stainless steel - for $\frac{3}{8}$ in. hose



CHA38BL-PU-10

# Hose Assembly

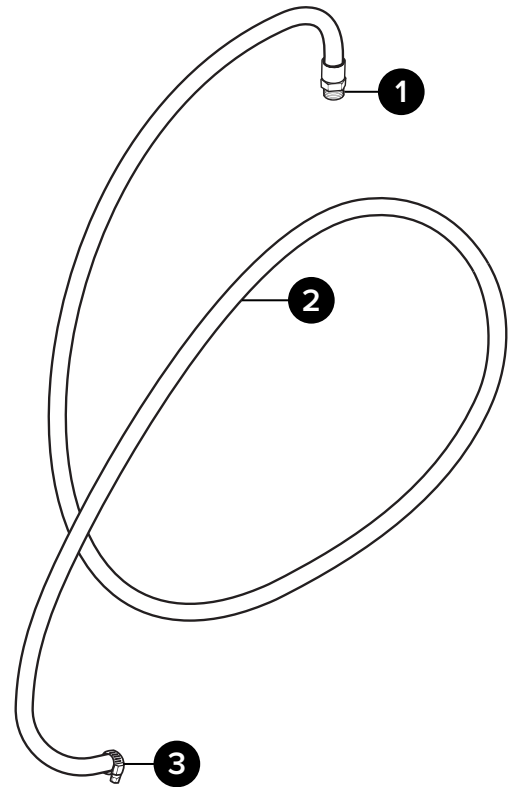
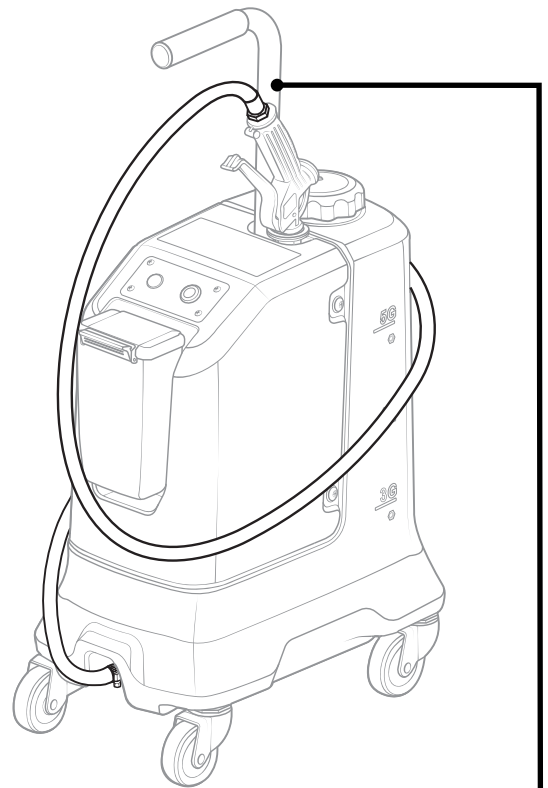
Straight

## HA38BL-8:

Hose assembly - 8 ft. of  $\frac{3}{8}$  in. blue\* hose - includes SS ferruled hose barb, and screw band clamp

Item number	Description
1 HBSS1238	Hose barb - stainless steel - $\frac{1}{2}$ in. MPT x $\frac{3}{8}$ in. barb
2 H38BL-F	$\frac{3}{8}$ in. id blue* hose - hybrid TPE - available per ft.
3 SSC38	Screw band clamp - stainless steel - for $\frac{3}{8}$ in. hose

\* Additional colors available



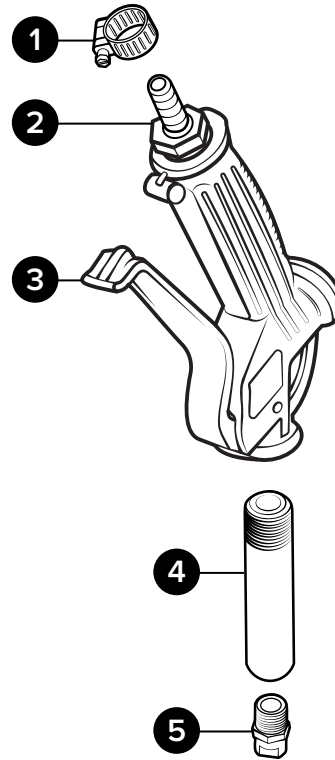
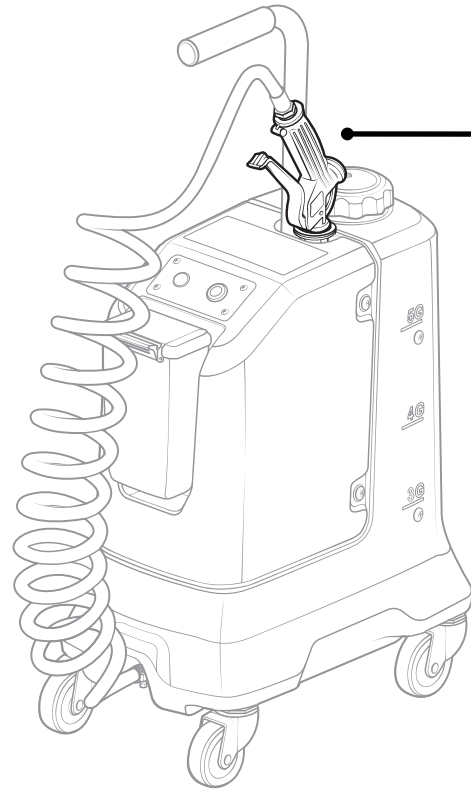
HA38BL-8

# Wand Assembly

## PSGA384-ST2510:

Poly spray gun assembly for 3/8 in. hose - includes 4 in. black poly wand, ST2510SS spray tip, hose barb, and screw band clamp

Item number	Description
1 SSC38	Screw band clamp - stainless steel - for 3/8 in. hose
2 HBSS1238	Hose barb - stainless steel - 1/2 in. MPT x 3/8 in. barb
3 PSG12	Poly spray gun with 2x 1/2 in. straight thread - gray handle with red clip - 316SS internal spring - includes 2x o-ring
4 PW12M14F4	1/2 in. NPT and 1/4 in. FNPT wand - black UHMW - 4 in. long
5 ST2510SS	Spray tip - 25 degree fan - 1.0 GPM - stainless - 1/4 MPT



PSGA384-ST2510