ACTISOL®

Compact Unit

ULV Mechanical Aerosol Generator

B290300
B290300-18

Operating Manual

Actisol® Compact Unit

Congratulations on your choice of the Actisol® Compact Unit, a revolutionary insecticide delivery system that combines the technology of foggers, misters, refillable sprayers and prepackaged aerosols.

This refillable unit eliminates the need for costly prepackaged aerosols by mechanically generating the most optimum-sized, uniform insecticide particles. Its unique design allows you to treat more area per ounce than that with pre-packaged aerosol products.

Its handy size and professional appearance make it a valuable tool for both residential and light commercial accounts. In addition, it gives you the flexibility of using a variety of insecticides that are EPA approved for use in this type of equipment.

Best of all, the Actisol® Compact Unit provides deep harborage insect control, something you won't get from conventional delivery systems. This unit combines the right amount of insecticide with a high volume of moderately pressurized air to improve penetration through cracks and crevices to reach target insects deep within ceiling and wall voids. The Actisol® Compact Unit eliminates insects in places other delivery systems can't reach.

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Operating Instructions

1. Filter Insecticide and Fill Tank.

Remove Fill Cap (300075). Filter insecticide by pouring slowly into fill neck and through the in-tank filter (300064) to remove any debris that may clog or damage the Actisol® Compact Unit. **With a 28 oz. tank capacity it is VERY IMPORTANT NOT TO OVERFILL WITH PRODUCT. The tank should only be about 75% full or about 20 oz.**

2. Replace Fill Cap.

Turning the cap clockwise, hand-tighten until firmly secured.

3. Plug in / Turn on Power.

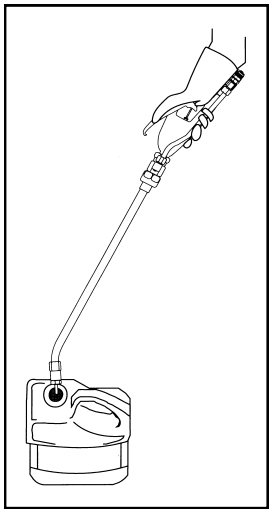
Plug the Actisol® Compact Unit into a three-prong grounded, 110/115-volt electrical source. Use a three-prong grounded heavy-duty extension cord when operating this unit (Not Included). Remove Red Tip Protector Cap (300093). Switch the unit to the ON position using the Toggle Switch on top of unit (8010051).

4. Adjust Regulator.

To adjust the Regulator (8010043) start by unlocking the safety lock located on the adjustment knob by pulling up on the knob. If a red ring is present, lift up on the red ring to unlock. Turn the knob slowly clockwise until the 0-30 psi Panel Mount Gauge (8010042) reads 10 – 12 psi.

A. The size of aerosol particles is directly affected by the pressure placed on the liquid tank. The higher the pressure on the liquid, the larger the particles will be. When desired pressure and particle size is reached, the pressure can be maintained by

pushing down on the regulator top. When snapped into the locked position, the possibility of a pressure change due to vibration is halted.



5. Purge Air Bubbles.

It is IMPORTANT to remove air bubbles that may delay the shutoff of the applicator tip. To do this, turn the unit off, point the applicator tip into the original insecticide container, depress the trigger and wait until a pinstream flows from the tip for approximately 10 seconds to fully purge the system.

6. Turn the Unit on to Begin Use.

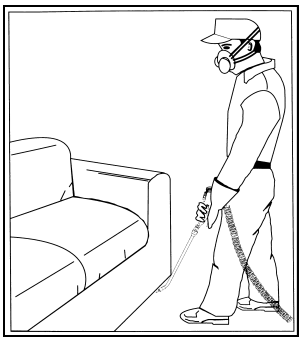
At this point the air flows freely through the twin tubing to the wand and excess air is vented to atmosphere at the tip. Next, the air flows into the regulator which controls the pressure exerted on the liquid inside the tank. The liquid product then travels through the second line of the twin tubing to the wand.

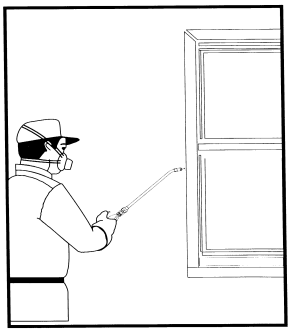
7. Apply Insecticide.

Always apply insecticide according to the label instructions. Position the applicator tip on the desired target and depress the trigger to apply insecticide. Releasing the trigger allows the unit's free airflow to push the already applied insecticide deeper into harborage areas.

The compressed air is environmentally safe and much more effective than chemical propellants. The free flowing air stream will also disturb target insects even without the use of liquid. The continuous free flowing air stream allows for deeper penetration of the target areas.

The comfortable precision wand is balanced, easy to use, and easy to maintain. This unique wand is based on a common industry design making it simple to repair with easy access to replacement parts. Replacement parts for these wands are less costly and easier to acquire than other custom designed and machined competitive systems. In addition, these wands can be easily adapted to competitive systems.





Helpful Hints: Occasionally, when working overhead, the pressure exerted on the liquid tank by the regulator will not be sufficient to drive the liquid 8-10 feet above floor level. At this time, you need to increase the pressure on the liquid tank by adjusting the regulator clockwise to the point you receive the aerosol at the tip and at the height you desire to work.

When operating the Actisol® System particle size may vary with pressure, but not as much as you think. What actually occurs is a higher rate of flow. In other words, you are using more liquid than needed to produce aerosol. The aerosols that you've probably used in the past were driven by propellant. Therefore, you saw larger particles and most of the material that was visible was that of the propellant. The Actisol® System utilizes no propellant. All you are seeing is the pesticide that has been sheared into micron sized particles. 98% are in the 2.4 to 15 micron size range. By increasing the pressure on the liquid tank you only increase the flow rate. The result being, using more pesticide than is required to do the job.

8. AFTER EVERY USE BACKFLUSH the system to remove chemical from the wand and hose. This cannot be emphasized enough. This will help protect the twin polyurethane tubing (8010047) and the capillary polyurethane tubing (30009-12 or 30009-18) inside the wand.

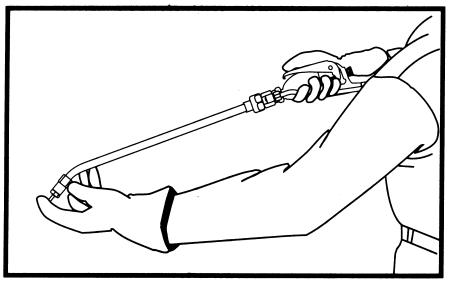
A. Switch the unit to the OFF position (8010051). To relieve pressure in the tank, press down the Pressure Relief Valve (300063) located on the top of the fill cap.

B. Switch unit to the ON position (8010051).

C. Turn Regulator knob (8010043) counter clockwise until it stops.

D. Relieve pressure in the tank by pressing down on the Pressure Relief Valve (300063).

E. Unscrew fill cap (300075) by turning counter clockwise and remove.



F. Place gloved finger over Integrated Crack & Crevice Tip (300183) exit orifice, stopping the flow of air, then squeeze the application trigger (8010022) until liquid is purged from the wand and hose. You will hear a gurgling sound coming from the tank when the process is complete. This process should take about 10 seconds.

G. Remove gloved finger from tip and release trigger.

H. Switch unit to OFF position (8010051).

I. Replace fill cap (300075) and tighten.

9. Draining the Tank.

Drain the Actisol® Compact Unit's tank when changing insecticides or storing for an extended period of time. The unique pour dry design of the tank allows you to remove all materials from the tank by simply tilting the unit over a funnel and returning the product to it's original container.

A. Follow instructions to properly backflush unit (step #8).

B. Remove the Drop in Tank Filter (300064).

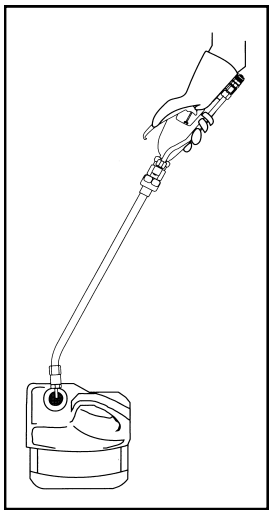
C. With the side closest to the gauge facing toward you, rotate the unit slowly away from you upside down, and pour remaining insecticide through a funnel and into the original container.

10. Transporting the Unit.

Transport the Actisol® Compact Unit in an upright position. Take care not to damage the Integrated Crack & Crevice Tip (300183) by positioning the Red Tip Protector Cap (300093) over tip of wand.

Diagnosis and Field Service

1. The unit is running and air is flowing from the tip, but no chemical aerosol is being produced.



A. Make sure the tank contains insecticide.

B. Check 15' Twin Tubing (8010047) for kinks, crimps, twists, or other factors that would obstruct chemical flow to the wand.

C. Check the Pressure Gauge (8010042), it should read 10 – 12 psi.

D. Be sure air pressure is reaching the wand tip.

E. Turn unit off, point the wand into original insecticide container, depress the trigger until a pinstream flows from tip.

F. If no pinstream appears, debris may be obstructing the chemical flow.

Solution: Check the Fluid Cap (30005) for debris. Fit an adjustable wrench on the flats provided on Stainless Extension (300011-12 or 300011-18). Fit a second adjustable wrench or ½" open end wrench on the base of the Integrated Crack & Crevice Tip (300183). Turn Integrated Crack & Crevice Tip (300183) counter clockwise to loosen and remove.

Pull Fluid Cap (30005) and the Integrated Crack & Crevice Tip (300183) to the side and away from each other. Check the Fluid Cap (30005) for small debris lodged in the center orifice. If necessary, clean with a nylon bristle brush.

Regarding the Integrated Crack & Crevice Tip (300183), the exit orifice should be maintained at .046" or use a drill bit # 56. Drill exit orifice to resize. When used on abrasive surfaces the tip tends to close up reducing the amount of air that can escape resulting in excessive backpressure on the liquid.

While this portion of the wand is apart, hold the remaining portion over the original insecticide container, and squeeze the trigger. Check the flow. Be sure that all orifices in the Fluid Cap (30005) are free of debris. Replace tip assembly. Take care when replacing the Fluid Cap (30005), do not damage the O Ring seal (30006). Follow operating instructions to generate aerosol.

2. The unit is running and the aerosol will not shut off at the tip when trigger is released.

A. Unit may have air pockets created by surfaces forcing air back into the tip during application.

Solution: To release air pockets depress trigger and hold while aerosol is released. You will see intermittent surges of aerosol, hold trigger until aerosol flows consistently without interruption.

B. Teflon Seat (8010009) may be damaged or contain debris preventing positive shutoff.

Solution: First follow instructions for step number 8 of operating instructions to backflush liquid. Remove Stainless Airline (300026) by removing compression nut at elbow (8010061) to Adapter Body (30008). Then remove Adapter Body (30008) attached to Valve Body (8010012). Check exposed seat for debris, nicks, and scratches. Replace if necessary. Also inspect Stem Stub Assembly (300023) for scratches or nicks. Replace if necessary.

3. Airflow is low and aerosol is too heavy at normal 10 – 12 psi operating pressure.

A. Fluid Cap (30005) may be damaged.

Solution: Remove Integrated Crack & Crevice Tip (300183). Inspect Fluid Cap (30005) for cracks and debris around the air holes.

B. Unit may be loosing pressure due to a leak.

Solution: With pressure in tank, turn off and inspect for leaks at the Pressure Relief Valve (300063), the tank Cap O-Ring (300070). With the unit running inspect the 15' Twin Coiled Tubing (8010047) and entire wand in areas where air could escape, such as welds or fittings. If none of these solutions corrects your problem, there may be something more serious wrong with the unit. For additional technical assistance please contact Environmental Delivery Systems, Inc. Technical Services Department at 877-ACTISOL (1-877-228-4765).

4. Unit is turned on but motor just hums and does not start.

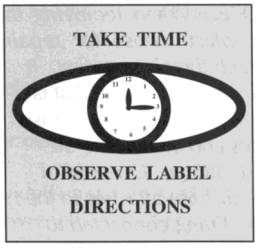
Contact Environmental Delivery Systems, Inc. for complete information on returning unit for service and repair.

5. While working with wand over-head air is flowing from tip, but no chemical aerosol is being produced.

Occasionally, when working overhead, the pressure exerted on the liquid tank by the regulator will not be sufficient to drive the liquid 8-10 feet above floor level. At this time, you need to increase the pressure on the liquid tank by adjusting the regulator clockwise to the point you receive the aerosol at the tip and at the height you desire to work.

NOTE: When returning to ground level operations reduce pressure by turning Regulator (8010043) counter clockwise and releasing pressure from the Pressure Relief Valve (300063) until reaching 10 – 12 psi on gauge.

Insecticides



1. Observe Label Directions.

Do not operate the Actisol® Compact Unit with insecticides that are not labeled for aerosol, fog, or mist applications. Read the insecticide label to determine if the insecticide is EPA-approved for use in this type of equipment. Contact your chosen distributor for information on insecticides currently labeled for use in equipment such as Actisol® Delivery Systems.

2. Always Wear Personal Protective Equipment.

When filling these units always wear protective eyewear and protective gloves. When operating these units, always wear protective clothing, eyewear, chemical resistant rubber gloves, and a respirator. Refer to the insecticide label for specific instructions and other precautions.

3. Preparations and Guidelines When Making ULV Aerosol Applications. *(Mallis Handbook of Pest Control, 9th Edition)*

Refer to insecticide label for directions on proper preparation for area to be treated before operating this equipment. General preparation includes:

- Everyone in the treatment area must wear an approved respirator during treatment and when re-entering a treated area when the aerosol may still be present.

- Turn off all pilot lights or sources of open flame. Ventilation systems and air moving systems should be turned off. Appliances that routinely create high heat should be turned off. Computers and other electrical equipment should be turned off, covered, or removed from the treatment area.

- All non-pest management personnel must leave the treatment area. Cover or remove ornamental plants. Cover and seal all aquariums. Aquarium filters must be shut off and not turned back on until the aerosol is no longer present. Pets, including exotic pets (birds, amphibians, reptiles, arachnids) must be removed. Re-entry for exotic pets is not recommended for a period of 24 hours.

- All exposed food must be removed or placed in containers that will prevent contact with the insecticide. Food preparation utensils and surfaces must be covered or cleaned thoroughly before reuse.

- Close and lock all entry ways. Professionals may want to consider posting warning signs on doors opening into the treatment site.

- Open all doors, cabinets, storage areas, and drawers in the treatment area.

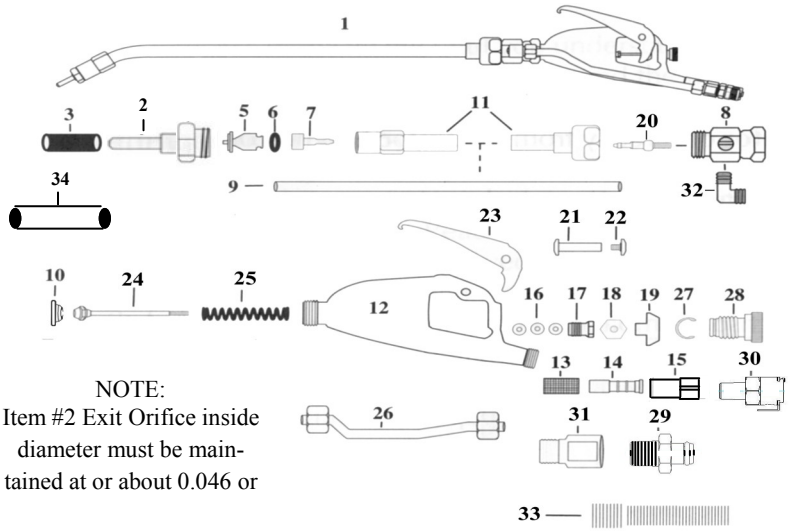
- Before reoccupation, thoroughly ventilate treatment area.

- Do not use gasoline powered equipment in grain mills, flour mills, grain storage, or grain processing areas. Grain/Flour dust may be highly explosive. Electric powered units must be certified as explosion proof for these sites. Check with manufacturers for details on certification.

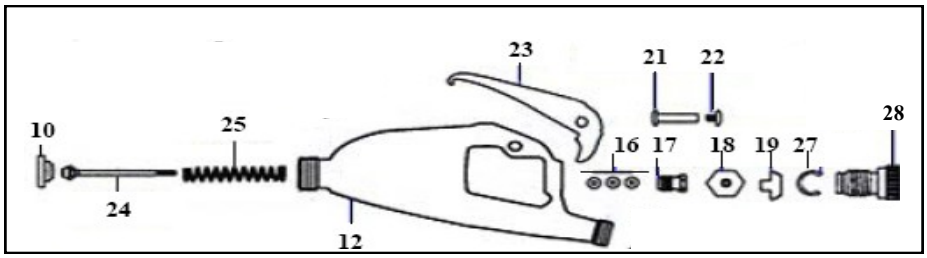
Compact Unit Specifications

Length	13.5”
Width	6.75”
Height	7.00”
Weight (empty)	16 lbs.
Weight (full)	17.5 lbs.
Shipping Weight	21 lbs.
Tank Capacity	28 oz. (Only fill to 20 oz.)
Operating Pressure (air)	20 psi
Operating Pressure (liquid)	9-20 psi
Motor	110 v AC, 60 Hz, 2.5 amps, 275 watts
	115 v AC, 60 Hz, 2.6 amps, 299 watts
Compressor Type	Diaphragm

Actisol® Wand—12” or 18”



NOTE:
Item #2 Exit Orifice inside diameter must be maintained at or about 0.046 or



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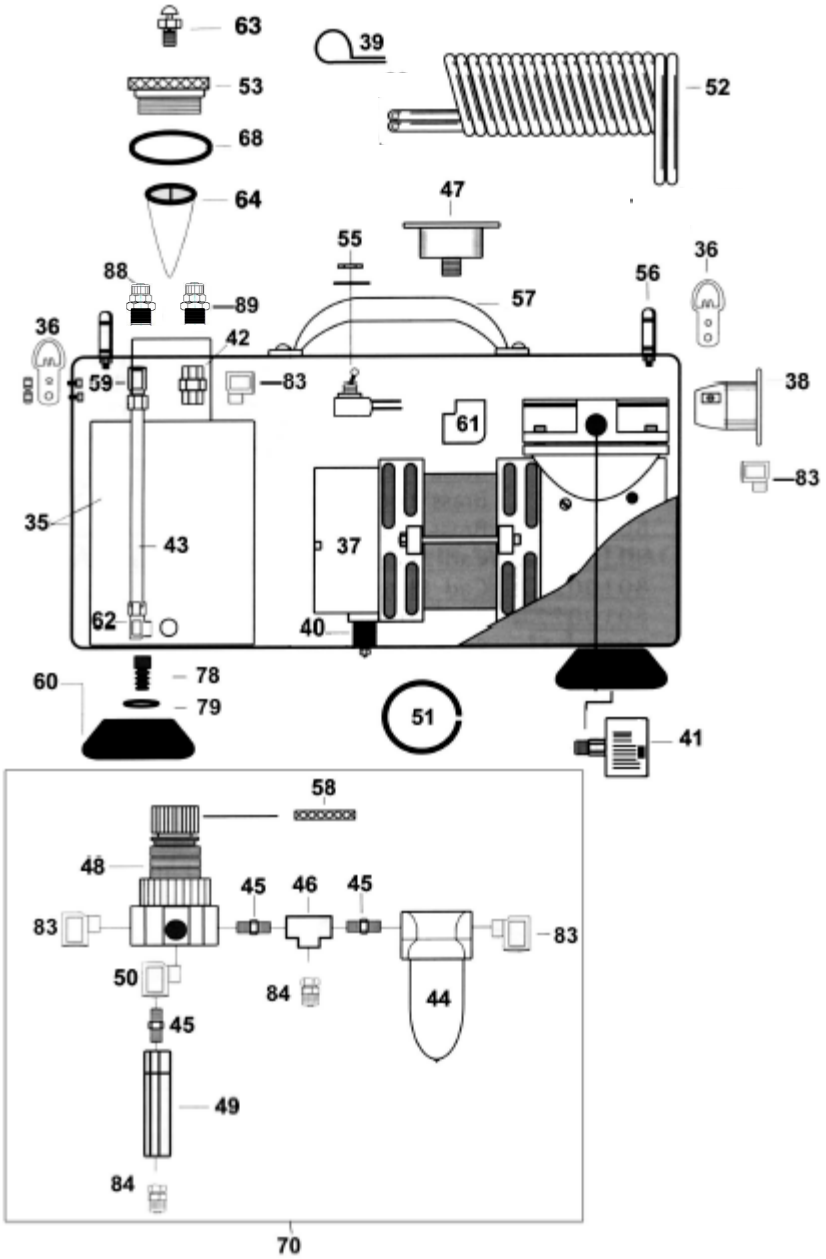
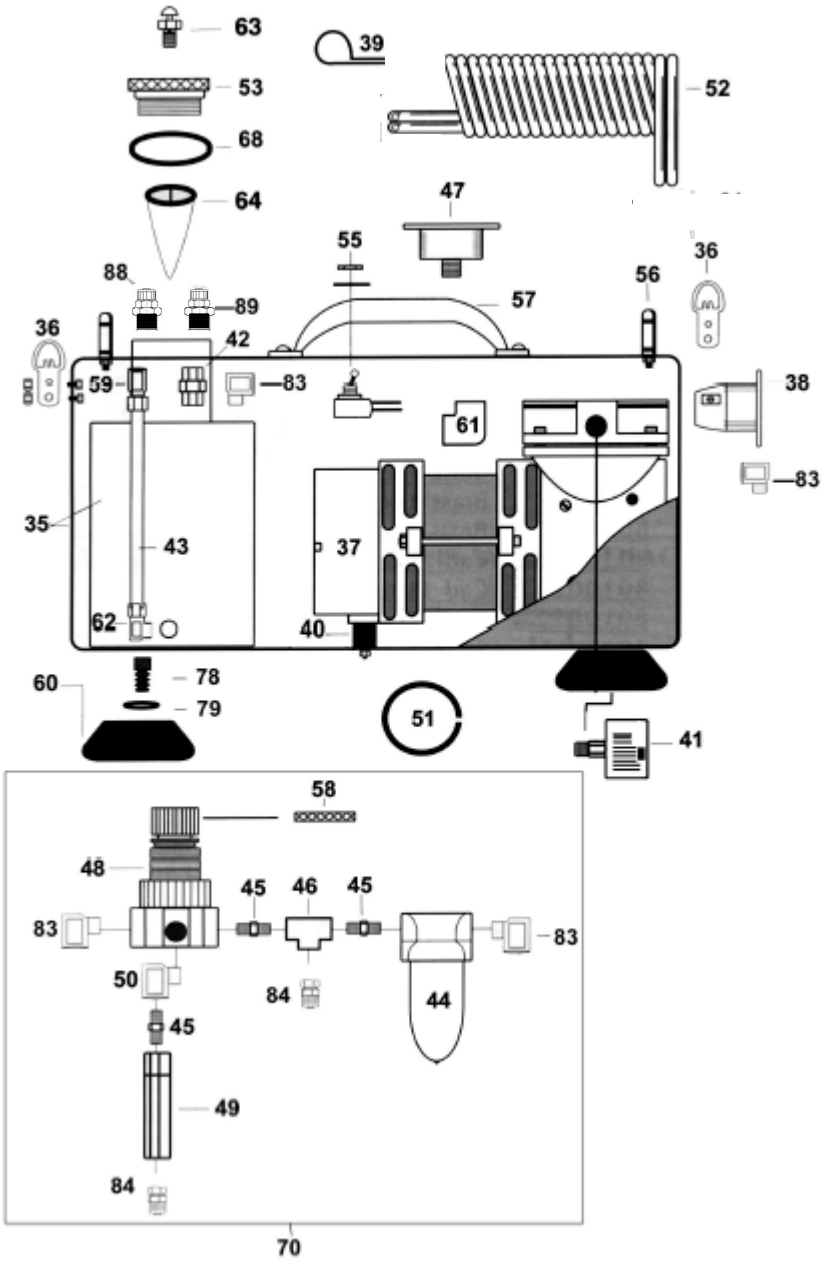
ITEM #	PART #	ITEM DESCRIPTION
1	3000112	12" Wand Complete
1	3000118	18" Wand Complete
2	300183	Integrated C & C Tip
3	30003	C & C Ploy Sleeve
5	30005	Stainless Fluid Cap
6	30006	"O" Ring for Fluid Cap
7	30007	Exit Hose Shank
8	30008	Adapter Body
9	30009-12 or 18	12” or 18" Poly Tubing for Wand
10	8010009	Teflon Seat
11	300011-12 or 18	12” or 18" Stainless Extension
12	8010011	Valve Body for Wand
13	8010013	Monel Screen 50m
14	8010014	Screen Support
15	8010015	Strainer Housing
16	8010016	Teflon Packing
17	8010017	Packing Screw
18	8010018	Lock Nut
19	8010019	Brass Nut
20	500019	Inlet Hose Shank
21	8010020	Screw Housing
22	8010021	Screw
23	8010022	Steel Trigger
24	300023	Stem Sub Assembly
25	300024	Spring Type 302-2
26	300026	Stainless Airline for Wand
27	300027	Snap Ring
28	300028	Safety Lock Screw
29	8010049	1/8 Ferrules Tube Fitting
30	8010050	1/4 Ferrules Tube Fitting
31	8010055	1/8" Female X 1/4" Compression
32	8010061	1/8" X 1/4" Compression Elbow
33	300076	Spring Guard for Wand
34	300093	Red Tip Protector Cap
35	8010012	Valve Body Complete

ACTISOL® COMPACT UNIT EXPLODED



Item #	Part #	Item Description
35	300029A	Aluminum Cabinet
	300029B	Aluminum Tank For Cabinet
	300029C	Side "A" For Cabinet
	300029D	Side "B" For Cabinet
36	300030	"D" Ring
37	3000313	Compressor
38	8010032	Flanged Electrical Inlet
39	8010035	Plastic Hose Clamp - 1/2"
40	300034	Compressor Mount Isolator
41	300133	Intake Filter
42	300037	Female Coupling - 1/8" npt
43	8010038	Nylon Plastic Tubing - 1/4" OD
44	8010039	Moisture Filter - 1/8" fnpt
45	8010040	Hex Nipple - 1/8" npt
46	8010041	Female Tee - 1/8" fnpt
47	8010042	Panel Mount Gauge - 0-30
48	8010043	Regulator - 1/8" fnpt
49	8020044	Viton Check Valve - 1/8" fnpt
50	8010045	Street Elbow - 1/8"
51	300046	Poly Grommet
52	8010047	Red Twin Coiled Tubing - 15'
52	300132	Blue Twin Coiled Tubing - 15'
52	300039	Black Twin Coiled Tubing - 15'
53	300048	Threaded & Ported Tank Cap - Coarse
55	8010051	On/Off Switch (6A / 125V; 3A / 250V)
56	8010052	Spring Clamp - Wand
57	8010053	Handle
58	300129	Regulator Mount Nut
59	8010055	1/8" fnpt x 1/4" Compression
60	8010056	Shock Absorber Foot
61	300100	1/8" fnpt x 1/8" hb - 90°
62	8010061	1/8" npt X 1/4" Compression - 90°

ACTISOL® COMPACT UNIT EXPLODED
Cont'd



Item #	Part #	Item Description
63	300063	Pressure Relief Valve - 1/8" npt
64	300064	Drop-in Tank Filter
65	8010068	Diaphragm - Compressor - Not Shown
66	300071	# 8 Sheet Metal Screws - Not Shown
67	300073	Shoulder Strap - Not Shown
68	300070	O-Ring - Aerosol Tank Cap
69	300080	Actisol Compact Unit PKG - Not Shown
70	8010075	Manifold Complete - CPT
71	300083	Tubing Support - 1/4" - Not Shown
72	300085	Nylon Insert Nut - 6-32 - Not Shown
73	300086	Pan Phil M/S - 8-32 x 3/8" - Not Shown
74	300087	Nylon Insert Nut - 8-32 - Not Shown
75	8010036	Aluminum Rivet - 1/8" x 1/4" - Not Shown
76	300088	Flat Phl M/S - 10-32 x 1/2" - Not Shown
77	300089	Nylon Insert Nut - 10-32 - Not Shown
78	300090	Socket Cap Screw - 3/8-16 x 1/2"
79	300091	Internal Tooth Lockwasher - 3/8"
80	300092	Wire - 16g - Not Shown
81	300094	Compact Unit Sticker - Not Shown
82	300095	"Important" Sticker - Not Shown
83	300098	1/8" npt x 1/8" hb - 90°
84	300099	1/8" npt x 1/8" hb
85	8010057	Male Wire Connector - Insulated - Not Shown
86	8010058	16-14 Ring Connector - Insulated - Not Shown
87	8010059	Female Wire Connector - Insulated - Not Shown
88	8010049	1/8” Ferrules Tube Fitting
89	8010049	1/8” Ferrules Tube Fitting

Parts

For your convenience we maintain a large inventory of replacement parts which can be easily ordered and shipped directly from our factory to you. Call Today: 1-877-ACTISOL (1-877-228-4765)

Service

If the Actisol® Compact Unit requires factory service be sure to backflush the wand and hose, drain the tank and pack the unit in its original carton and packing material for shipping. If the original carton is not available pack the unit in a durable box and fill the bottom, sides, and top with newspaper. If using other packing materials be sure to place the unit in a plastic bag before adding materials to carton.
Ship the unit with a description of the problem, a contact name and phone number, a return shipping address and bill to address if required to:

Environmental Delivery Systems, Inc.
314 Morningside Drive
Friendswood, TX 77546

NOTE: Post warranty service will be billed for parts, labor, packaging (if needed), and freight.

HINT: Be sure to save your original factory packing for future use. Should your unit require factory service this specially designed packing is proven to protect your system during shipping.

If units are sent to the factory for service, our policy is to return the units in original factory packaging. If you return your unit in original factory packing you will not be charged unless that packaging is soiled with chemical and/or unable to protect the unit.

PRODUCT LIMITED WARRANTY

Environmental Delivery Systems, Inc. and it's products are warranted to be defect free in materials and workmanship under normal use, for a period of (1) year from the date of manufacture or (1) year of use, with proof of purchase. This limited warranty will not exceed (2) years, in any event.

Environmental Delivery Systems, Inc. shall not be liable for freight damage incurred during shipping. Package returns carefully. If the original carton is not available, pack the unit in a durable box and protect the unit as best you can. If using foam packing materials, be sure to place the unit in a plastic bag before adding materials to carton.
Environmental Delivery Systems, Inc.'s obligation under this warranty policy is limited to the repair or replacement of the unit. All returns will be tested per Environmental Delivery Systems, Inc. factory criteria. Units found not defective, under the terms of this limited warranty, are subject to the charges paid by the returnee.
Warranty replacement will be shipped on a freight allowed basis. Environmental Delivery Systems, Inc. reserves the right to choose the method of transportation.
This limited warranty is in lieu of all other warranties, expressed or implied, and no other person is authorized to give any other warranty or assume obligation or liability on Environmental Delivery Systems, Inc.'s behalf. Environmental Delivery Systems, Inc. shall not be liable for any labor, damage or other expense, nor shall Environmental Delivery Systems, Inc. be liable for any indirect, incidental or consequential damages of any kind incurred by the reason of the use or sale of any defective product or part.

Return Policy

All units must be flushed of any chemicals before shipping. Carriers, including U.S.P.S., airlines, UPS, ground freight, etc. require specific identification of any hazardous materials to be shipped. Failure to do so may result in a substantial fine and/or prison term. Check with your shipping company for specific instructions.

All Units must be flushed of any chemical (ref. OSHA Section 1910.1200 (d)(e)(f)(g)(h)) and ***NO*** hazardous chemicals will be accepted for service or warranty consideration. Environmental Delivery Systems, Inc. reserves the right to request a Material Safety Data Sheet from the returnee for any product it deems necessary. Environmental Delivery Systems, Inc. reserves the right to "disposition as scrap" any products returned which contain unknown fluids. Environmental Delivery Systems, Inc. reserves the right to charge the returnee for all costs incurred for chemical testing and proper disposal of components containing unknown fluids. Environmental Delivery Systems, Inc. requests this in order to protect the environment and personnel from the hazards of handling unknown fluids.

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