

Pro-Ap[®]

The Professional Applicator



Instruction Manual

FOR YOUR OWN SAFETY, CAREFULLY READ THESE
INSTRUCTIONS BEFORE USING THE PRO-AP.

TABLE OF CONTENTS

Warranty.....	2
Pro-Ap Description / General Use Information.....	3
Basic Instructions.....	4
Operating Instructions.....	5
Application Time / Water Flow Rate.....	6
Metering Dial.....	7
Maintenance / Safety Precautions.....	8
KALO Wetting Agents.....	9
Designation of Parts.....	10
Accessories / Parts Order Form.....	11
About KALO / Contact and Ordering Information.....	12

STATEMENT OF LIMITED WARRANTY

KALO, Inc. warrants that this Pro-Ap Applicator is free from defects in material and workmanship and agrees to the repair or replacement of any defective Pro-Ap Applicator, free of charge, for a period of ninety (90) days from the date of purchase.

This warranty does not cover damage resulting from anything other than defects in material or workmanship. Damage caused by misuse, neglect or failure to properly clean sprayer after each use does not apply.

The warranty described in this statement is in lieu of all other warranties, expressed or implied, including, but not limited to, any implied warranty or merchantability or fitness for a particular purpose. There are no warranties which extend beyond the description of the face hereof.

Proof of purchase in the form of a dated sales receipt will be required. Buyer must, at own expense, arrange to deliver the Pro-Ap Applicator with sales receipt for warranty repairs or replacement.

To arrange for warranty service, call 1-800-255-5196.

Outside the U.S. or Canada call the authorized Pro-Ap distributor.

PRO-AP APPLICATOR

For Wetting Agent Applications Only

Shower-Type Nozzle

Proven design provides gentle spray while ensuring uniform coverage. Includes brass screen which can be removed for cleaning.



Includes 3/4" Hose Assembly Gasket



Lightweight Durable Nylon Construction

Weighs only 3 pounds. Chemical resistant. UV protected.

High Density Poly Bottle

32 fl. oz. size. Easy-to-read calibrations in both fluid ounces and milliliters.

Needle Valve Metering Chamber

Engineered venturi siphons and mixes proper amount of chemical into water flow.

Pistol Grip Design

Textured handle provides sure grip surface. Reduces operator fatigue.

Adjustable Metering Dial

10 additive settings including "water only." The knob can be removed to prevent tampering with a predetermined setting.

GENERAL USE INFORMATION

The Pro-Ap Applicator operates on water pressure. Water flowing over a small orifice creates a suction that lifts and mixes the active ingredient additive into the spray stream.

The Pro-Ap Applicator was specifically designed to apply KALO turf wetting agents to dry spots and small turf areas. The applicator design allows for small quantities of liquid product to be applied with large volumes of water. The Pro-Ap Applicator can be used to apply liquid fertilizer and micronutrients.

Notice: The Pro-Ap Applicator does not contain a back flow preventer. Your water system should have an anti-siphon device to eliminate any possibility of contamination of water sources.

BASIC INSTRUCTIONS



The Pro-Ap is the only hose-end liquid siphoning applicator specially designed for golf course use. This unique applicator uses a shower type nozzle that provides a gentle spray while ensuring uniform coverage. The Pro-Ap is the only applicator that can apply small quantities of product at high water pressure and flow rates.

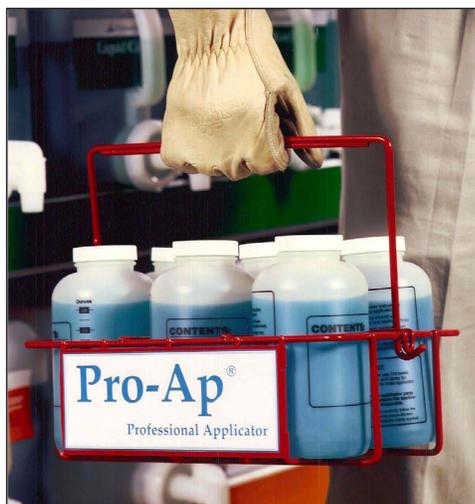
Using the golf course quick-coupler, hose spigot or pump sprayer as a source for water, the Pro-Ap can easily apply KALO wetting agent in less than one minute per 1,000 square feet.

Fill the Pro-Ap bottle with the desired volume of KALO liquid wetting agent that is to be applied to an individual turf area (32 fluid ounces maximum). Secure the bottle into the siphon-metering cap inside the applicator. It is recommended to use 2 to 4 fluid ounces of KALO wetting agent per 1,000 square feet for effective treatment of localized dry spot.

The Pro-Ap adjustable metering dial offers 10 additive settings, including water only. Most applications of KALO wetting agents using the Pro-Ap are suggested at setting No. 2. Refer to the Pro-Ap operating instructions for more details regarding use of this hose-end, liquid siphoning applicator.

Remove the Pro-Ap bottle and secure its contents with the bottle cap after use. Always operate, transport, and store the Pro-Ap in the upright position when bottles are attached.

See page 9 of this manual for information about KALO's wetting agents.



OPERATING INSTRUCTIONS

Follow these steps to operate the Pro-Ap:

1. Before attaching Pro-Ap to hose assembly, flush quick-coupler and hose to clear debris.
2. Attach Pro-Ap to 3/4" hose.
3. Remove bottle and fill with desired amount of KALO wetting agent before selecting a siphon setting. Turn metering dial as far clockwise as possible to the "OFF" position.
4. Attach bottle to the Pro-Ap. *During operation and transport, always keep the Pro-Ap in an upright position.*
5. Slowly access water by turning quick-coupler key. It is not necessary to access the quick-coupler or other water source to the full operating position. The Pro-Ap will siphon at a range of water pressure and flow rates.
6. When ready to spray, turn metering dial to proper setting (1 through 9). The higher setting will increase siphon rate. *See page 7 of this manual to determine proper metering dial settings.*
7. Spray uniformly at a predetermined pace. Typically covering 1,000 square feet of area in less than one minute.
8. When finished, turn metering dial to "OFF."
9. Continue spraying with metering dial to "OFF" position to water-in product where required.
10. **Note: If using a water flow shut-off valve with the Pro-Ap, DO NOT shut off water flow downstream of quick-coupler system while removing quick-coupler key. This causes back pressure to the quick-coupler key and can be hazardous!**
11. Clean the Pro-Ap unit. *Follow Maintenance instructions on page 8 of this manual.*

APPLICATIONS

Proper application of product depends upon application time, water flow rate and metering dial setting.

Application Time

Knowing the water flow rate of the water source, and the amount of product used with each metering dial setting, helps determine the required application time to apply the proper amount of product at the proper dilution rate to achieve 1,000 square feet.

Water Flow Rate

Determine the water flow rate in gallons per minute (gpm) from the water source being used. The gpm can be determined by attaching the Pro-Ap to the hose and filling a known size container. Note the time it takes to fill the container, then calculate the gpm.

Example: If it takes 24 seconds to fill a 5 gallon bucket, then the flow rate is 12.5 gpm.
 $(5 \text{ gallon} \div 24 \text{ seconds} \times 60 \text{ seconds} = 12.5 \text{ gpm})$



METERING DIAL

For future reference, note the amount siphoned per minute for each dial setting.	
Dial Setting	ozs or mls
1	
2	
3	
4	
5	
6	
7	
8	
9	

Metering Dial Setting

The metering dial setting determines the amount of product siphoned from the bottle.

A measurement can be made by filling the bottle with water and setting the metering dial to desired setting (No. 2 setting is most commonly used*). Note: Setting the metering dial to "off" prevents any siphoning of the product. Measure the amount (ounces/ozs or milliliters/mls) removed from the bottle in one minute.

A separate measurement could be made for each metering dial setting.

*Note: Remember, viscosity of each product used will likely alter the application rate and the metering dial setting. Tournament-Ready viscosity is such that it should be calibrated separately.

Removable Metering Dial

The Pro-Ap metering dial is designed so that it can be removed with a phillips screwdriver. After the proper dial setting has been determined, removal of the knob will prevent tampering with the pre-determined setting. To reset the metering dial, reattach the knob. Using a flat head screwdriver, turn the needle valve insert clockwise until it stops, prior to reinstalling knob.



MAINTENANCE

After each use, the Pro-Ap must be cleaned to ensure trouble-free operation.

Return unused KALO wetting agent to original container.

Rinse Pro-Ap bottle, refill with clean water and spray for several minutes to rinse out metering chamber body.

It is important that sufficient water be sprayed through the Pro-Ap to thoroughly clean metering valve.

Failure to properly clean the applicator after use may cause damage beyond repair.

SAFETY PRECAUTIONS

IMPORTANT: Read all instructions carefully before using the Pro-Ap. The following safety precautions should be observed by all users.

- Do not attempt to use the Pro-Ap with other replacement nozzles. Use only the original Pro-Ap nozzle assembly enclosed (see photo at right).
- Quick-coupler (water source) can be activated at less than full flow (1/4 to 1/2 turn) to reduce water pressure and flow rate. **CAUTION: If using a water flow shut-off valve with the Pro-Ap, keep water flow to Pro-Ap open while attempting to remove quick-coupler key!**
- Do not start spraying until the work area is clear. Treated areas will be slippery.
- For wetting agent spills, use clay absorbent material and sweep for collection.
- Always read carefully, and follow use and safety precautions of this operating instruction manual, and the label of any product used.
- Read and understand the manufacturer's instructions and warnings before using KALO wetting agents or other active ingredients.

Pro-Ap Nozzle Assembly
(Part #LV100)



KALO WETTING AGENTS

TOURNAMENT-READY®
SOIL SURFACTANT
*HIGH PERFORMANCE, LONG-LASTING RESIDUAL,
ENVIRONMENTALLY BALANCED*

TOURNAMENT-READY works wherever localized dry spots occur: golf greens and tees, fairways, athletic fields, and residential and commercial lawns; reduces the surface and adhesive tensions of water; assists water's infiltration and drainage of compacted or hydrophobic soils; assists in the wetting of heavy thatch and when used regularly, will eliminate localized dry spots.

- 5 gallon dense-pak (TUR05)
- 30 gallon drum (TUR30)



HYDRO-WET® INJECTABLE
SOIL AND TURF WETTING AGENT
FOR INCREASING WATER EFFICIENCY

HYDRO-WET INJECTABLE is designed to enhance the infiltration and penetration of water applied through irrigation systems. It can be applied through all conventional irrigation systems or by conventional ground spray equipment.

- 30 gallon drum (HYI30)
- 265 gallon tote (HYI265)



H2O MAXIMIZER™
SOIL SURFACTANT
POLYMER RESIN BLEND

H2O MAXIMIZER is an innovative blend of surfactants that enhance water infiltration through repellent thatch for more uniform soil moisture; polymer resin enhances water adsorption to soil particles for increased soil moisture to the plant rootzone; maximizes plant available water.

- 2 x 2.5 gallon case (HMAX02)
- 30 gallon drum (HMAX30)



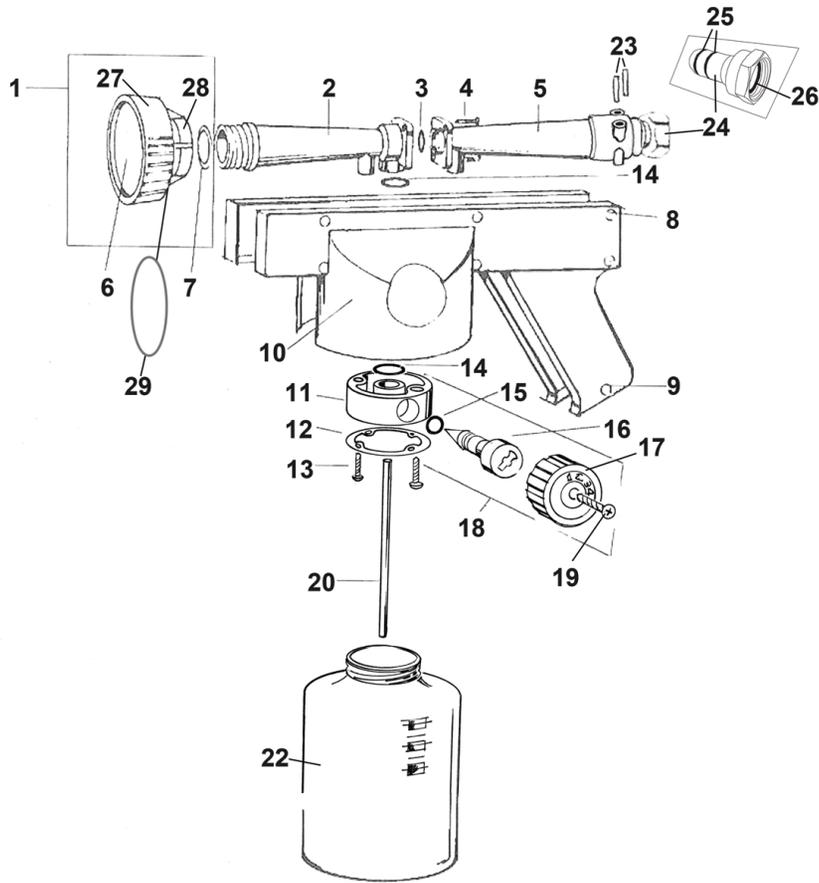
MEDALIST®
SOIL SURFACTANT
*ELIMINATES LOCALIZED DRY SPOT, ENHANCES TURF QUALITY,
AND REDUCES WATERING FREQUENCY*

MEDALIST soil surfactant, when used in a water management program, will distribute water more uniformly through the root zone thereby minimizing localized dry spot, enhancing turf quality and reducing watering frequency; can be used with irrigation injection systems; improves water use efficiency everywhere you irrigate; provides safe, effective treatment of highly maintained turf.

- 2 x 2.5 gallon case (MED02)
- 30 gallon drum (MED30)



DESIGNATION OF PARTS



1	LV100	Nozzle Assembly	16	XLV30	Needle with Insert
2	XLV40	Outlet Venturi	17	XLV23	Metering Knob
3	XOR19	O-Ring for Venturi	18	XLV98	Knob & Needle Valve Assembly
4	XCA42	Screws for Venturi and/or Body Halves (2) 1/2"	19	XCA12	Screw for Knob (1) 1 3/4"
5	XLV45	Inlet Venturi	20	XHA07	Lift Tube
6	XKL01	Brass Screen for Nozzle	22	XNWPAB	Poly Bottle (32 ounce)
7	XME07	Gasket for Nozzle	23	XMCC	Stainless Steel Pins (2) 1/8" x 7/8"
8	XCA06	Screw for Body Halves (6) 1 1/8"	24	XEM34	Swivel Fitting 3/4"
9	XCA18	Screw for Grip (1) 1 3/4"	25	XOR16	O-Ring for 3/4" Swivel (2)
10	XMP00	Body Halves (2)	26	XHA00	Hose/Washer 3/4"
11	XLV01	Metering Valve Body	27	XLV09	Nozzle Ring
12	XME50	Gasket for Poly Bottle	28	XLV15	Nozzle Body
13	XCA42	Screws for Venturi and/or Body Halves (2) 1/2"	29	XME02	Ring Gasket for Nozzle
14	XOR12	O-Ring for Body		XBA10	Lined Plastic Cap for Poly Bottle
15	XOR08	O-Ring for Needle Valve			

PRO-AP ACCESSORIES AND PARTS ORDER FORM

SHIP TO:

BILL TO: (If different than "SHIP TO")

Page 10#	Part#	Item Description	Price Each	Qty	Total \$
1	LV100	Nozzle Assembly	\$21.00		
	XBA10	Lined Plastic Cap for Poly Bottle	\$0.25		
8	XCA06	Screw for Body Halves (6) 1 1/8"	\$0.00		
19	XCA18	Screw for Knob (1) 1 3/4"	\$0.00		
9	XCA12	Screw for Grip (1) 7/8"	\$0.00		
4,13	XCA42	Screws for Venturi and/or Body Halves (2) 1/2"	\$0.00		
24	XEM34	Swivel Fitting 3/4"	\$9.45		
26	XHA00	Hose/Washer 3/4"	\$0.20		
20	XHA07	Lift Tube	\$0.65		
	XKK03	Pro-AP Instruction Manual	\$0.00		
6	XKL01	Brass Screen for Nozzle	\$3.25		
11	XLV01	Metering Valve Body	\$8.95		
27	XLV09	Nozzle Ring	\$6.50		
28	XLV15	Nozzle Body	\$9.25		
17	XLV23	Metering Knob	\$3.50		
16	XLV30	Needle with Insert	\$6.25		
2	XLV40	Outlet Venturi	\$5.50		
5	XLV45	Inlet Venturi	\$5.25		
18	XLV98	Knob & Needle Valve	\$11.00		
23	XMCC	Stainless Steel Pins (2) 1/8" X 7/8"	\$0.21		
29	XME02	Ring Gasket for Nozzle	\$0.85		
7	XME07	Gasket for Nozzle	\$0.50		
12	XME50	Gasket for Poly Bottle	\$0.85		
10	XMP00	Body Halves (2)	\$0.00		
22	XNWPAB	Poly Bottle (32 ounce)	\$1.84		
15	XOR08	O-Ring for Needle Valve	\$0.35		
14	XOR12	O-Ring for Body	\$0.25		
25	XOR16	O-Ring for 3/4" Swivel (2)	\$0.45		
3	XOR19	O-Ring for Venturi	\$0.35		

*Minimum order of \$10.00 per shipment. UPS shipping charges will be added to order.

Mail order with payment to: KALO, Inc., 13200 Metcalf Ave., Suite 250, Overland Park, KS 66213
Phone order to: (800) 255-5196 Fax order to: (913) 491-9146

ABOUT KALO

Since 1932, we at KALO have operated under a simple philosophy, put our customers first, help them perform at the top of their game, and take a common sense approach to business.

It's just common sense.

At KALO, we take best-in-class science, and make it better. We maximize every molecule to bring affordable and safe products to market that help turf managers and growers work more efficiently, so they get a higher return on their investments, so they get more from every dollar.

In the turf industry, we help golf course superintendents, lawn care professionals and homeowners squeeze every drop of performance from precious water. An early developer of water management products for highly maintained turf, our wetting agents are proven to keep moisture where it's needed, in the root zone. For decades, we've provided our turf managers with common sense solutions for creating healthy and beautiful greens, fairways, sports turf and lawns, while saving on irrigation and being kinder to the environment.

Look to KALO for solutions. We provide innovative technical support encompassing formulation development, packaging, label design, shipping and order fulfillment operations.

If you're a grower or turf manager, it's common sense to protect your investment with tools that let you work safely and efficiently, that conserve resources and are affordable. That's the science behind what we do every day at KALO.



To learn more about any of KALO's products,
or to find a distributor near you,
visit www.kalo.com

For other inquiries, call KALO at (800) 255-5196.

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