

Pro-Ap®

The Professional Applicator



Instruction Manual

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

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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.

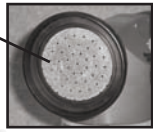
The warranty described in this statement is in lieu of all other warranties, expressed or implied, including, but not limited to, any implied warranty or merchantability or fitness for a particular purpose. There are no warranties which extend beyond the description of the face hereof.

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 DESCRIPTION

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



Comes With 3/4" Hose Assembly

***Optional Pro-AP Parts**



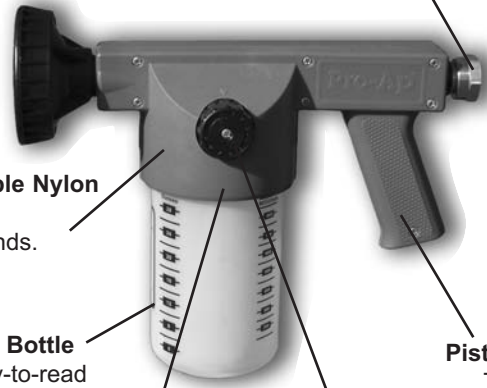
Lightweight Durable Nylon Construction
Weighs only 3 pounds. Chemical resistant. UV protected.

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.

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

Pistol Grip Design
Textured handle provides sure grip surface. Reduces operator fatigue.



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 chemical additive into the spray stream.

The Pro-AP Applicator was specifically designed to apply Hydro-Wet® and Tournament-Ready® 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 (Professional Applicator) 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 liquid Tournament-Ready soil surfactant in less than one minute per 1,000 square feet.

Fill the Pro-AP bottle with the desired volume of liquid Hydro-Wet or Tournament-Ready that is to be applied to an individual turf area (32 oz. maximum). Secure the bottle into the siphon-metering cap inside the applicator.

It is recommended to use 2 to 4 oz. of Hydro-Wet or Tournament-Ready per 1,000 square feet for effective treatment of localized dry spot. Always operate, transport and store the Pro-AP in the upright position. Remove the Pro-AP bottle and secure its contents with the bottle cap after use.

The Pro-AP applicator settings: The adjustable metering dial offers 10 additive settings, including water only.

Most applications of Tournament-Ready 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.

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 hose assembly. If using one-inch hose, use the optional 3/4" MGHT x 1" FNPT adapter (part no. XEM03).
3. Remove bottle and fill with desired amount of Hydro-Wet or Tournament-Ready soil surfactant 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 6 of this manual to determine proper metering dial settings.*
7. Spray uniformly at a predetermined pace. Typically covering 1,000 sq. ft. of area in less than one minute.
8. When finished, turn metering dial to "OFF."
9. Continue spraying to water-in product where required.
10. If using optional water shut-off valve, always keep water flow open and flowing through Pro-Ap before turning quick-coupler key. **Note: Optional water flow shut-off valve causes back pressure to quick-coupler 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 *water flow rate, metering dial setting and application time.*

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 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 (fl. oz. or ml.) removed from the bottle in 1 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.

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

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.

METERING DIAL

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 product to original container. Rinse 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.

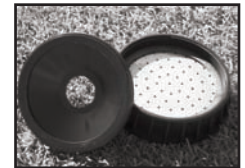
Failure to properly clean the applicator after use may cause damage beyond repair.

SAFETY PRECAUTIONS

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

1. Do not attempt to use the Pro-Ap with other replacement nozzles. Use only the original Pro-Ap nozzle enclosed *(see photo at right)*.
2. 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: Do not attempt to remove quick-coupler key if optional water shut-off valve is installed on Pro-Ap *(see photo at right)*. Make sure water is flowing through Pro-Ap before disengaging quick-coupler!**
3. Do not start spraying until the work area is clear. Treated areas will be slippery.
4. For wetting agent spills, use clay absorbent material and sweep for collection.
5. Always read carefully and follow use and safety precautions of this operating instruction manual and the label of any product used.
6. Read and understand the manufacturer's instructions and warnings before using Hydro-Wet, Tournament-Ready or other active ingredients.

Pro-Ap Nozzle Assembly
(Part # LV100)

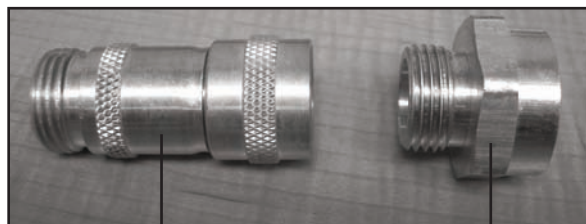


Optional Shut-Off Valve
(Part # DR21)



WATER PRESSURE REGULATOR AND ADAPTER (Optional parts available for your Pro-Ap)

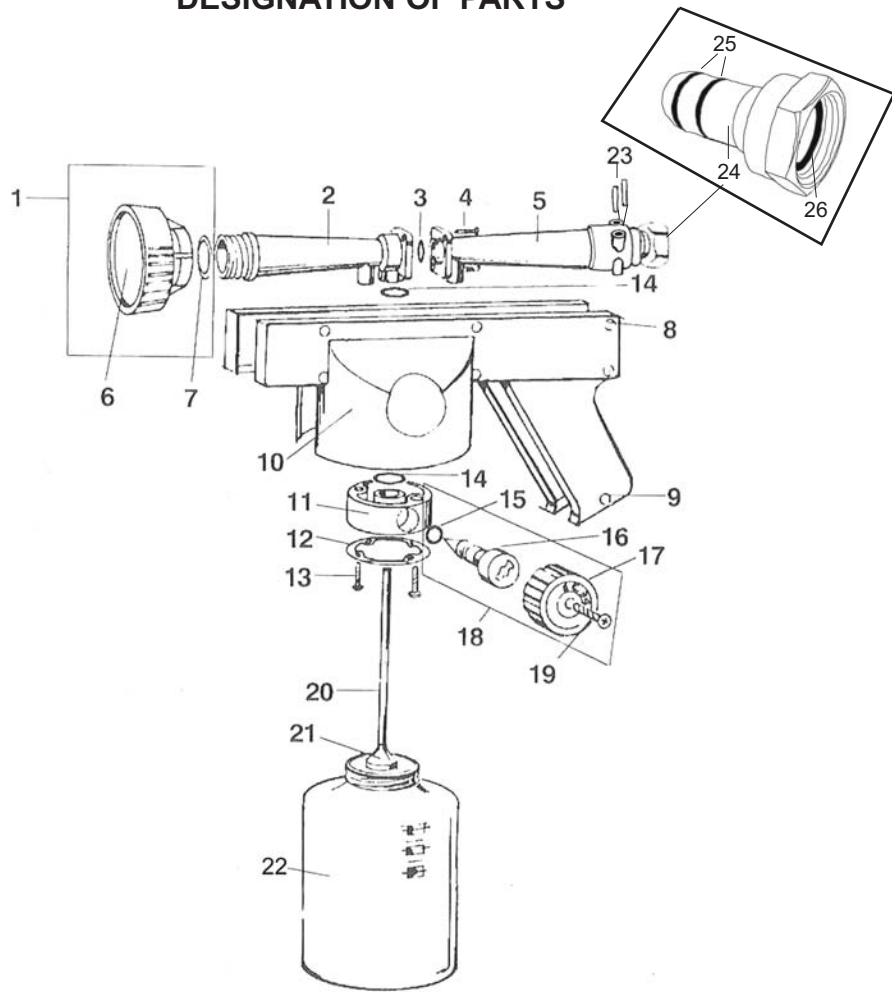
The optional 3/4" MGHT x 1" FNPT adapter is available for use with a 1" hose. An optional pressure regulator is also available for extremely high-pressure water systems. The Pro-Ap will operate under a range of pressure and flow rate conditions. Using the pressure regulator will significantly reduce spray pattern. Its use is only recommended when water is in excess of 150 psi.



Pressure Regulator
Part # XG790

3/4" to 1" Adapter
Part # XEM03

DESIGNATION OF PARTS



1	LV100	Nozzle Assembly	14	XOR12	O-Ring (Valve Body)
2	XLV40	Outlet Venturi	15	XOR08	O-Ring (Needle Valve)
3	XOR19	O-Ring (Venturi)	16	XLV30	Needle Valve with Insert
4	XCA42	Screws (Venturi) (2)	17	XLV23	Metering Knob
5	XLV45	Inlet Venturi	18	XLV98	Knob/Needle Valve Assembly
6	XKL01	Brass Screen	19	XCA12	Screw (Knob)
7	XME07	Nozzle Body Gasket	20	XHA07	Lift Tube
8	XCA06	Screw (Body Halves) (6)	21	XGL01	Monel Screen
9	XCA18	Screw (Grip)	22	XNWPAB	Poly Bottle
10	XMP00	Body Halves (2)	23	XMCC	1/8 x 7/8 Stainless Steel Pins (2)
11	XLV01	Metering Valve Body	24	XEM34	3/4" Swivel Fitting
12	XME50	Bottle Gasket	25	XOR16	O-Ring (3/4" Swivel) (2)
13	XCA42	Screw (Valve Body)	26	XHA00	3/4" Hose/Washer

PRO-AP ACCESSORIES AND PARTS ORDER FORM

SHIP TO:

BILL TO:

(check if same as "SHIP TO")

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

<u>Quantity</u>	<u>Part #</u>	<u>Item Description</u>	<u>Price</u>
_____	DR21	Brass Shut-Off Valve.....	15.95
_____	LV100	Pro-Ap Nozzle Assembly.....	21.00
_____	XBA10	Plastic Cap/Lined.....	0.25
_____	XEM03	3/4" MGHT Adapter x 1" FNPT.....	6.00
_____	XGL01	Monel Screen.....	0.75
_____	XG790	Water Pressure Regulator.....	9.16
_____	XHA00	3/4" Hose/Washer.....	0.20
_____	XHA07	Lift Tube.....	0.65
_____	XKK03	Pro-Ap Instruction Book.....	0.00
_____	XKL01	Brass Screen.....	3.25
_____	XLV01	Metering Valve Body.....	8.95
_____	XLV09	Nozzle Ring.....	6.50
_____	XLV15	Nozzle Body.....	9.25
_____	XLV23	Metering Knob.....	3.50
_____	XLV30	Needle with Insert.....	6.25
_____	XLV40	Outlet Venturi.....	5.50
_____	XLV45	Inlet Venturi.....	5.25
_____	XLV98	Pro-Ap Knob & Needle Valve.....	11.00
_____	XMCC	1/8 x 7/8 Stainless Steel Pins (2).....	0.21
_____	XME02	Nozzle Ring Gasket.....	0.85
_____	XME07	Nozzle Gasket.....	0.50
_____	XME50	Bottle Gasket.....	0.85
_____	XNWPAB	Poly Bottle.....	1.84
_____	XOR08	O-Ring, Needle Valve.....	0.35
_____	XOR12	O-Ring, Body.....	0.25
_____	XOR16	O-Ring, 3/4" Swivel (2).....	0.45
_____	XOR19	O-Ring, Venturi.....	0.35

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 TOURNAMENT-READY®

Tournament-Ready works wherever localized dry spots occur: golf greens and tees, fairways, athletic fields, and residential and commercial lawns.

Tournament-Ready reduces the surface and adhesive tensions of water. Tournament-Ready assists water's infiltration and drainage of compacted or hydrophobic soils. It assists in the wetting of heavy thatch and when used regularly, will eliminate localized dry spots.

Tournament-Ready delivers long lasting residual performance. Tournament-Ready will enhance beneficial soil microbes and has been developed with respect for the environment and worker safety.

Tournament-Ready Liquid

5 gal dense-pack (Item TUR05)
30 gal drum (Item TUR30)

Tournament-Ready Fairway

30 gal drum (Item TURF30)

Tournament-Ready Granular

40 lb poly bag (Item TRG40)



TUR05 / TUR30
TURF30

TRG40



ABOUT HYDRO-WET®

The Pro-Ap is an effective way to apply Hydro-Wet around trees, ornamentals and flower beds. Used regularly, Hydro-Wet helps get water to plant roots. Adequate soil moisture is essential to maintain healthy plants during periods of temperature and moisture stress.

Hydro-Wet applied with the Pro-Ap is ideal for athletic fields, and golf course greens & tees. Hydro-Wet applied prior to and during the season helps to maintain turf vigor. Hydro-Wet aids water penetration of sport compacted soils, and helps restore damaged turfgrass.

Hydro-Wet Concentrate

2 x 2.5 gal jug (Item HY02)
30 gal drum (Item HY30)
55 gal drum (Item HY55)



HY02



HY30 / HY55



HYRTA30
HYRTA55

Hydro-Wet RTA

5 gal dense-pack (Item HYRTA05)
30 gal drum (Item HYRTA30)
55 gal drum (Item HYRTA55)



HYRTA05



HYTG

Hydro-Wet TG (Granular)

50 lb poly bag (Item HYTG)



HYPEL

Hydro-Wet Pellets

30 x 4oz. pellets (Item HYPEL)

ABOUT KALO

KALO was founded in 1932. Since that time, KALO has served agriculture by providing solutions to challenges that custom applicators and growers face with the utilization of crop protection products.

KALO was also an early developer of water management products for highly maintained turf. Hydro-Wet® Turf Wetting Agent and Tournament-Ready® Soil Surfactant help ensure turf quality while reducing watering costs.

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

KALO supplies growers with a complete line of adjuvant and specialty products that cover a broad range of uses. For over 75 years, KALO has had one simple purpose *to help growers and turf managers operate more efficiently.*



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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