

Underhill™

LiquidPro™

The Professional Applicator



FOR YOUR OWN SAFETY, CAREFULLY READ THESE INSTRUCTIONS BEFORE USING THE LIQUIDPRO™

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LIMITED WARRANTY

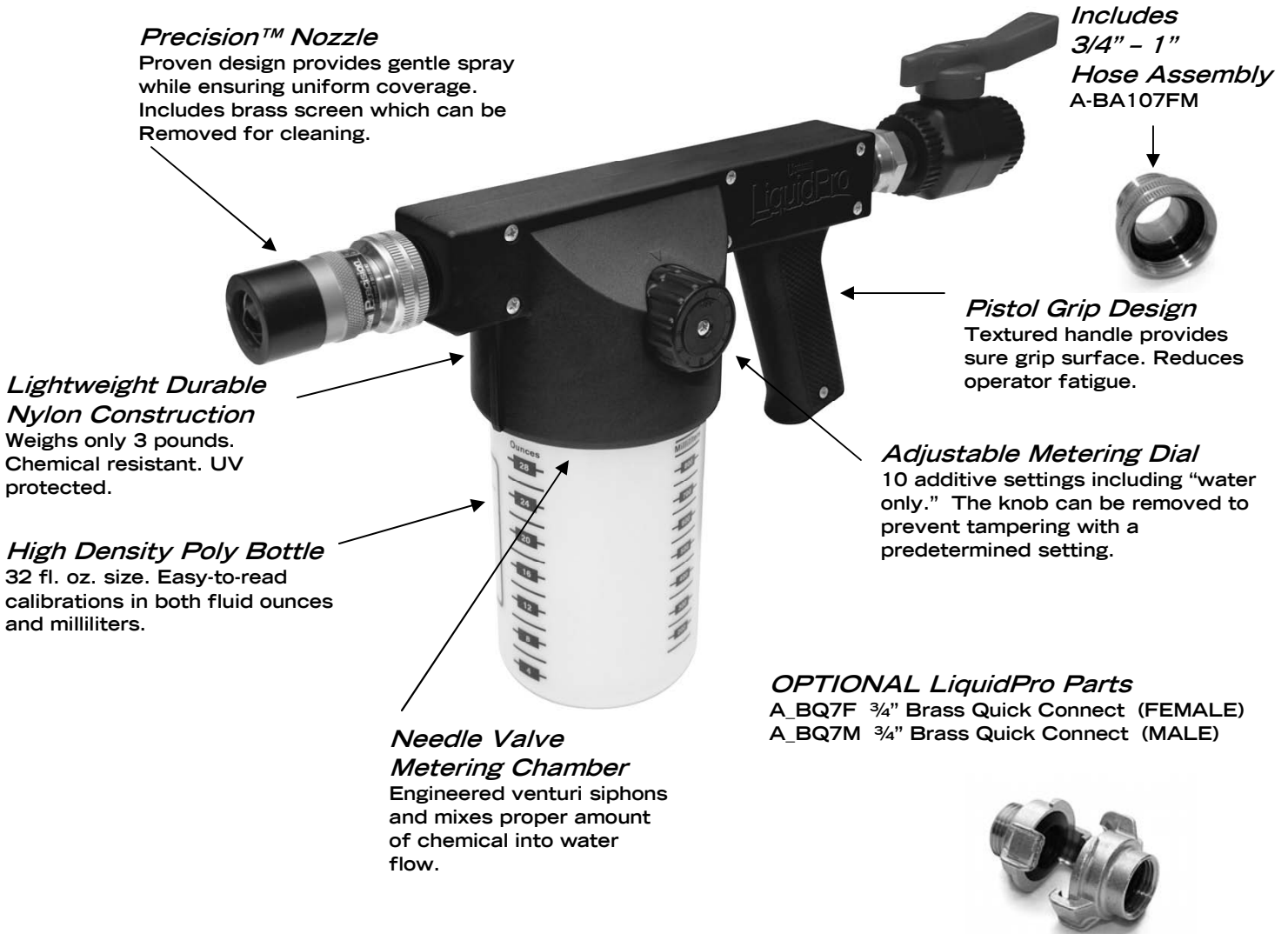
Underhill International Corporation warrants that this LiquidPro™ Applicator is free from defects in material and workmanship and agrees to the repair or replacement of any defective LiquidPro™ Applicator, free of charge, for a period of ninety (90) days from the date of purchase.

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 LiquidPro™ Applicator with sales receipt for warranty repairs or replacement. To arrange for warranty service, call 1-866-863-3744. Outside the U.S. or Canada contact your authorized LiquidPro™ distributor.

LIQUIDPRO™ DESCRIPTION



GENERAL USE INFORMATION

The LiquidPro™ Applicator operates on water pressure. Water flowing over a small orifice creates a suction that lifts and mixes the additive into the spray stream.

The LiquidPro™ Applicator was specifically designed to apply 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 LiquidPro™ Applicator can be used to apply liquid fertilizer and micronutrients.

Notice: The LiquidPro™ 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 LiquidPro™ (Professional Applicator) is the only hose-end liquid siphoning applicator specially designed for golf course use. This unique applicator uses a Precision™ nozzle that provides a high flow of water while ensuring uniform coverage. The LiquidPro™ 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 LiquidPro™ can easily apply liquid soil surfactant in less than one minute per 1,000 square feet.

Fill the LiquidPro™ bottle with the desired volume of liquid wetting agent that is to be applied to an individual turf area (32 oz. maximum). Secure the bottle into the siphon-metering cap inside the applicator. Always operate, transport and store the LiquidPro™ in the upright position. Remove the LiquidPro™ bottle and secure its contents with the bottle cap after use.

The LiquidPro™ applicator settings: The adjustable metering dial offers 10 additive settings, including water only.

Most applications of wetting agents using the LiquidPro™ are suggested at setting No.2. Refer to the LiquidPro™ operating instructions for more details regarding use of this hose-end, liquid siphoning applicator.

OPERATING INSTRUCTIONS

Follow these steps to operate the LiquidPro™:

1. Before attaching LiquidPro™ to hose assembly, flush quick-coupler and hose to clear debris.
2. Attach LiquidPro™ to hose assembly.
3. Remove bottle and fill with desired amount of wetting agent before selecting a siphon setting. Turn metering dial as far clockwise as possible to the “OFF” position.
4. Attach bottle to the LiquidPro™. *During operation and transport, always keep the LiquidPro™ 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 LiquidPro™ 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. Always keep water flow open and flowing through LiquidPro™ before turning quick-coupler key. *Note: Water flow shut-off valve causes back pressure to quick-coupler and can be hazardous!*
11. Clean the LiquidPro™ 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 LiquidPro™ 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 gallon ÷ 24 seconds x 60 seconds = 12.5 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.*

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 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 LiquidPro™ 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 LiquidPro™ 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 LiquidPro™ 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 LiquidPro™. The following safety precautions should be observed by all users.

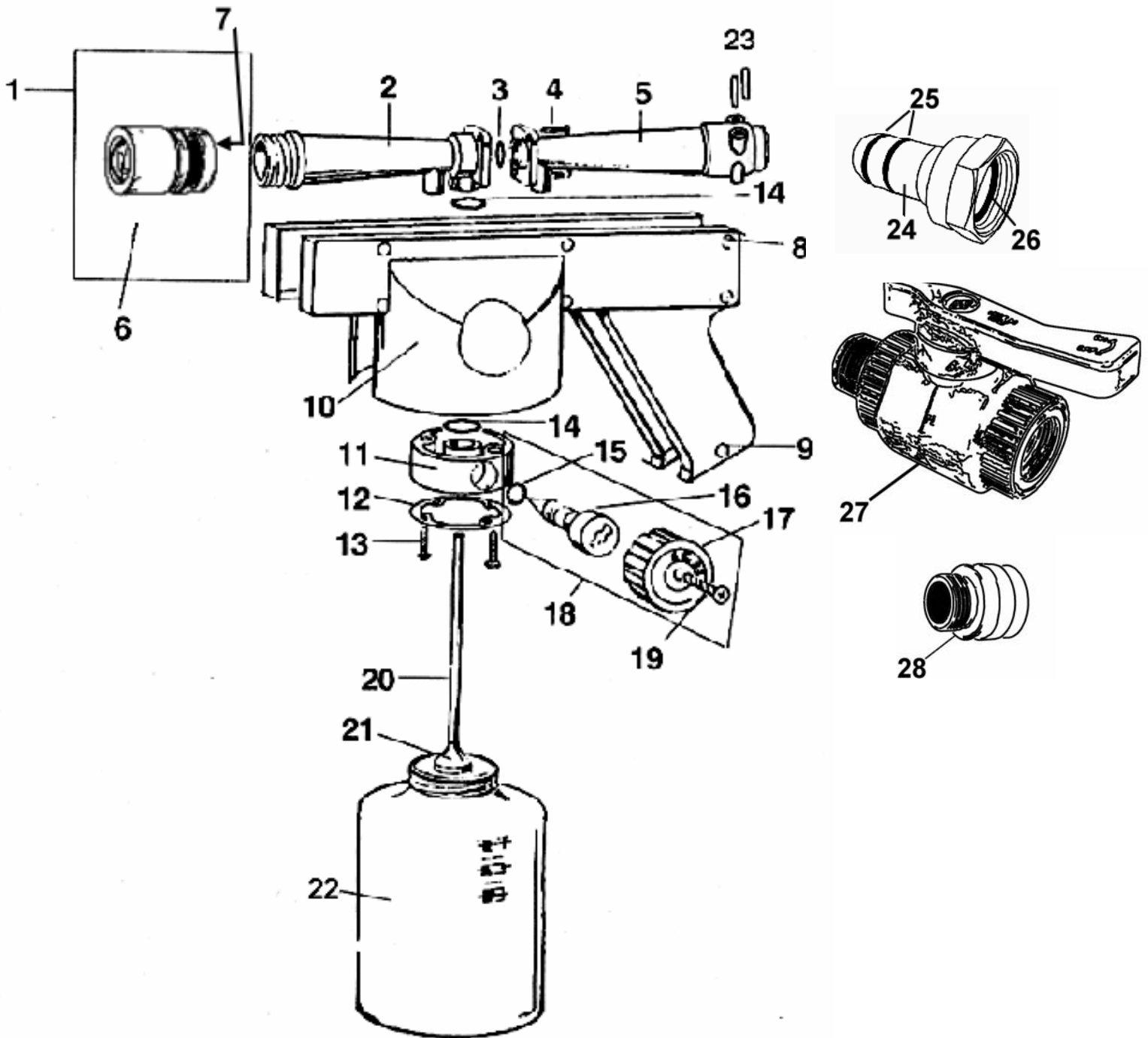
1. Do not attempt to use the LiquidPro™ with other replacement nozzles. Use only the original Precision™ nozzle enclosed (*see photo at right*).
2. Quick-coupler (water source) can be activated at less than full flow (1/4 to 1/2 turn) to reduce water pressure and flow rate. **CAUTION: Do not attempt to remove quick-coupler key if optional water shut-off valve is installed on LiquidPro™ (see photo at right). Make sure water is flowing through LiquidPro™ 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 wetting agent or other active ingredients.

Precision™ Nozzle
(Part # HN4800)



Optional Shut-Off Valve
(Part # A-BV77FM)





- 1. LV100 Nozzle Assembly
- 2. XLV40 Outlet Venturi
- 3. XOR19 O-Ring (Venturi)
- 4. XCA42 Screws (Venturi) (2)
- 5. XLV45 Inlet Venturi
- 6. HN4800 Precision™ Nozzle
- 7. HN075W 3/4" Hose/Washer
- 8. XCA06 Screw (Body Halves) (6)
- 9. XCA18 Screw (Grip)
- 10. XMP00 Body Halves (2)
- 11. XLV01 Metering Valve Body
- 12. XME50 Bottle Gasket
- 13. XCA42 Screw (Valve Body)
- 14. XOR12 O-Ring (Valve Body)

- 15. XOR08 O-Ring (Needle Valve)
- 16. XLV30 Needle Valve with Insert
- 17. XLV23 Metering Knob
- 18. XLV98 Knob/Needle Valve Assembly
- 19. XCA12 Screw (Knob)
- 20. XHA07 Lift Tube
- 21. XGL01 Monel Screen
- 22. XNWPAB Poly Bottle
- 23. XMCC 1/8 x 7/8 Stainless Steel Pins (2)
- 24. XEM34 3/4" Swivel Fitting
- 25. XOR16 O-Ring (3/4" Swivel) (2)
- 26. HN075W 3/4" Hose/Washer
- 27. A-BV77FM Plastic Highflow Control Valve; 3/4" HT
- 28. A-BA107FM Brass Hose Adapter; 1" FHT x 3/4" MHT



To learn more about any of Underhill's products or to find a distributor near you, visit

www.underhill.us

For other inquiries, call Underhill at

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