

# HydroSprayer Models 381 & 383

## Package Contains:

1. Injection molded assembly consisting of spraying barrel, handle and educator.
2. Concentrate container -- Model 381 -- 96 oz. capacity; Model 383 -- 48 oz. capacity.
3. Suction tube/strainer.
4. Spray gun with quick disconnect assembly.
5. Metering tip kit (14 tips).
6. Product information sheet.

## **THANK YOU FOR YOUR INTEREST IN OUR PRODUCTS**

Hydro Systems manufactures quality chemical proportioners. Please use this equipment carefully. Observe all warnings and cautions.

\*\*\*\*\***NOTE**\*\*\*\*\*

### **WEAR**

protective clothing and eyewear when dispensing chemicals or other materials.

### **ALWAYS**

observe safety and handling instructions of the chemical manufacturers.

### **ALWAYS**

direct discharge away from you or other persons or into approved containers.

### **ALWAYS**

dispense cleaners and chemicals in accordance with manufacturer's instructions. Exercise CAUTION when maintaining your equipment.

### **CLEAN**

equipment after each use in accordance with instruction sheet.

### **WEAR**

protective clothing and eyewear when working in the vicinity of all chemicals, filling or emptying equipment or changing metering tips.

### **ALWAYS**

re-assemble equipment according to instruction procedures. Be sure all components are firmly screwed or latched into position.

### **ATTACH**

only to tap water outlets (85 PSI maximum).

## Operation:

1. Unscrew sprayer lid assembly from container.
2. Select a metering tip using the chart below as a guideline and press the tip firmly into the hose barb on the bottom of the lid assembly. Install the suction tube on the hose barb.
3. Fill the container with concentrate. Screw sprayer lid assembly securely onto container.

**CAUTION:** Sprayer lid assembly must be securely fastened to container to prevent accidental spilling of concentrate during use of sprayer.

4. Insert sprayer lid assembly into female quick connect on spray gun.
5. Connect a garden hose with 3/4" male garden hose thread to the base of the spray gun handle. Turn on the water supply to the hose. (Minimum 25 PSI water pressure is required to operate the sprayer.)
6. Grasp the spray gun handle in one hand and the sprayer container in the other. Squeeze the spray gun handle to begin spraying. Continuous operation can be achieved by using the handle lock provided on the spray gun. Rinse by disconnecting the spray gun from the spraying lid assembly. To remove the sprayer from the spray gun, simply grasp the quick connect on the spray gun in one hand and the sprayer assembly in the other. Pull in opposite directions. (The outside collar around the quick connect will slide toward the spray gun, disengaging the sprayer barrel.)

## Metering Tip Selection:

Dilution ratios listed on the next page were developed at 40 PSI, using cold water (1.0 cp viscosity). Dilution ratios will vary in different situations according to PSI, concentrate viscosity and water flow rate and temperature. Removal of the foot strainer on the concentrate suction tube will also change these ratios. The ratios are supplied as **guidelines only**. Use the Measurement of Concentration procedure below to test the dilution achieved in your application.

## Measurement of Concentration:

You can determine the dispensed water-to-product ratio for any metering tip size and product viscosity. All that is required is to operate the primed dispenser for a minute or so and note two things: the amount of dispensed water/product mixture, and the amount of concentrate used in preparation of the solution dispensed. The water-to-product ratio is then calculated as follows:

$$\text{Dilution (X)} = \frac{\text{Amount of Mixed Solution} - \text{Amount of Concentrate Drawn}}{\text{Amount of Concentrate Drawn}}$$

Dilution ratio, then, equals X parts water to one part concentrate (X:1). If the test does not yield the desired ratio, choose a different tip and repeat the test. Alternative methods to this test are 1) pH (using litmus paper), and 2) titration. Contact your concentrate supplier for further information on these alternative methods and the materials required to perform them.

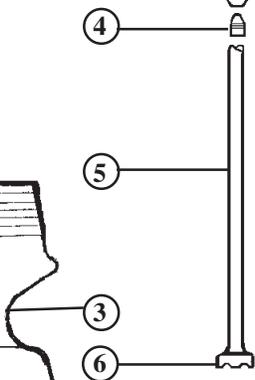
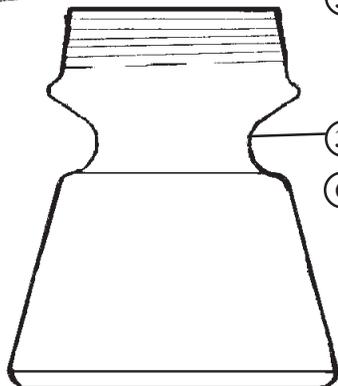
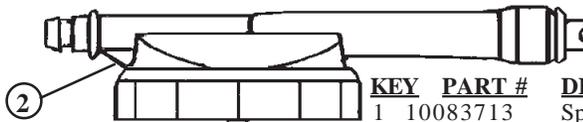
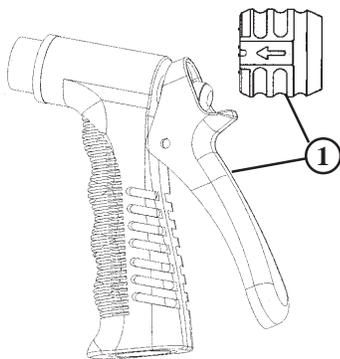
APPROXIMATE DILUTIONS AT 40 PSI FOR WATER-THIN PRODUCTS (1.0 CP)		
Tip Color	Size / Std. Drill #	Ratio
No Tip	.187 (3/16)	16:1
Gray	.128 (30)	16:1
Black	.098 (40)	17:1
Beige	.070 (50)	18:1
Red	.052 (55)	20:1
White	.043 (57)	21:1
Blue	.040 (60)	22:1
Tan	.035 (65)	25:1
Green	.028 (70)	32:1
Orange	.025 (72)	35:1
Brown	.023 (74)	38:1
Yellow	.020 (76)	42:1
Aqua	.018 (77)	48:1
Purple	.014 (79)	64:1
Pink	.010 (87)	128:1

CONVERSION CHART: Ratio Equivalents to Standard Measures		
Oz./Gal.	Ratio	dl/l
128	1:1	10.00
64	2:1	5.00
32	4:1	2.50
21	6:1	1.64
16	8:1	1.25
14	9:1	1.09
8	16:1	0.62
6	24:1	0.47
4	32:1	0.31
3	48:1	0.23
2	64:1	0.16
1	128:1	0.08
1/2	256:1	0.04
1/4	512:1	0.02

**Troubleshooting:**

Problem	Cause	Remedy
1. Unit does not draw concentrate	a. Clogged suction tube strainer b. Metering tip orifice obstructed  c. Water pressure too low d. Mineral deposits in barrel of sprayer  e. Clogged water inlet strainer (low water flow)	a. Clean or replace b. Rinse tip or replace: Do not attempt to clean — may alter size of orifice c. Minimum 25 PSI required d. Back flush unit. Remove container, suction tube and metering tip. Put finger over barrel opening. Apply minimal water pressure through trigger spray gun. d. Clean: Soak in weak descaling solution. e. Clean or replace strainer.
2. Weak spraying action	a. Clogged water inlet strainer b. Water pressure too low	a. Clean or replace b. Minimum 25 PSI required

If above steps fail to produce good concentrate draw or spraying action, replace lid assembly. See component chart below.



KEY PART #	DESCRIPTION
1 10083713	Spray gun & quick disconnect
2 10061502	Sprayer lid assembly
3	Concentrate container
688202	48 oz. container (shown)
688201	96 oz. container (not shown)
4 690014	Metering tip kit
5 500808	Suction tube, 8"
6 609600	Foot strainer



**Hydro Systems Company**  
 3798 Round Bottom Road  
 Cincinnati, OH 45244 USA  
 Phone: (513) 271-8800  
 Fax: (513) 271-0160