



INSTRUCTION MANUAL

INTRODUCTION

The Dial-A-Chem combines the best of both worlds by creating the first all-in-one portable, self-contained foam cleaning and sanitizing system that delivers rich and consistent foam to any hard surface. The revolutionary new product allows for switching between foam, sanitizer, or rinse with a simple turn of the dial, while the chemical is left behind allowing for unlimited chemical supply and easy portability.

IMPORTANT NOTES

- Unit supplied without a backflow prevention device. To prevent possible chemical backup into the water supply, comply with all local plumbing codes and install an appropriate backflow prevention device.
- Do not leave unit unattended with trigger handle in locked position.

SPECIFICATIONS

<u>Max Water Temperature</u>	<u>Foam Throw</u>	<u>Rinse & Sani Flow rates (GPM) (Lit./Min.)</u>
Min 25°F (N/A)	30 PSI 6-8 ft (2—2,4 m.)	30 PSI (2 Bar) Refer to Metering Tip Chart
Max 150°F (65 °C)	45 PSI 6-8 ft (2—2,4 m.)	45 PSI (3,1 Bar) Refer to Metering Tip Chart
<u>Operating Pressure</u>	<u>Flashpoint of Blue PVC outside hose covering</u>	
Min 30 PSI (2 Bar)	150°F (65 °C)	
Max 45 PSI (3,1 Bar)		

INSTALLATION

- (1) Mount the hose bracket to the wall using the screws and anchors provided.
- (2) Trim back the protective cover to expose the hoses inside. Be careful to not cut or nick the hoses and ensure that the cover is stripped back far enough so that the large (water) hose can run from the bracket to the water source. If necessary, the smaller (chemical) hoses can be trimmed to a shorter length.
- (3) Route the large (water) hose and the two smaller (chemical) hoses downward through the large hole at the bottom of the bracket.
- (4) Connect the large water hose to water supply and secure with a hose clamp. Use the 1/2" barb fitting in the accessory kit to adapt the hose to the water supply. Be sure to comply with all local codes pertaining to backflow prevention. Contact Knight for information regarding approved backflow prevention devices for your area.

Note: Water pressure should be 30—45 PSI (2—3.1 BAR). Use Knight pressure regulator (7407117) if you have high water pressure at your location.

Note: Water temperature should not exceed 150°F (65°C).

- (5) Locate the chemical containers below the hose bracket. If the chemical containers will be housed in an enclosure or rack, be sure to allow enough room to coil the hose on the hose bracket.
- (6) If you wish to use a cap on top of your chemical containers, drill a hole in the top of each cap large enough to pass the chemical line through.



CAUTION: Wear protective clothing and eyewear when dispensing chemicals or other materials. Observe safety handling instructions (MSDS) of chemical mfrs.



CAUTION: When installing any equipment, ensure that all national and local safety, electrical, and plumbing codes are met.

Metering Tip Chart									
Foam					Sanitizer				
Flowrate	1 gallon	1 liter			Flowrate	1 gallon	1 liter		
Color	oz/gal	ml./lit.	ratio	%	Color	oz/gal	ml./lit.	ratio	%
None	20.9	163	6.1:1	16.3	None	18.9	147	6.8:1	14.7
White	19.6	153	6.5:1	15.3	White	17.6	137	7.3:1	13.7
Yellow	18.6	145	6.9:1	14.5	Yellow	16.9	132	7.6:1	13.2
Pink	15.6	121	8.2:1	12.1	Pink	15.6	121	8.2:1	12.1
Dk Green	12.2	95	10.5:1	9.5	Dk Green	12.2	95	10.5:1	9.5
Black	9.5	74	13.5:1	7.4	Black	9.5	74	13.5:1	7.4
Brown	7.4	57	17.3:1	5.7	Brown	7.4	57	17.3:1	5.7
Gray	5.1	39	25:1	3.9	Gray	5.1	39	25:1	3.9
Blue	4.1	32	32:1	3.2	Blue	4.1	32	32:1	3.2
Red	3.4	26	38:1	2.6	Red	3.4	26	38:1	2.6
Peach	2.7	21	48:1	2.1	Peach	2.7	21	48:1	2.1
Lt Blue	2	15	64:1	1.5	Lt Blue	2	15	64:1	1.5
Purple	1.7	13	76:1	1.3	Purple	1.7	13	76:1	1.3
Lt Green	1.4	10	92:1	1	Lt Green	1.4	10	92:1	1
Orange	0.3	2.3	430:1	0.23	Orange	0.3	2.3	430:1	0.23
Lt Brown	0.2	1.5	640:1	0.15	Lt Brown	0.2	1.5	640:1	0.15

NOTE: The above chart is based upon the chemical viscosity of water (CPS = 1.0) and should only be used as a guide - the values were derived using water as the working fluid and 40 PSI (2,75 Bar) dynamic input pressure through a 50 ft (16 meter) hose. Actual ratios and flow rates may vary due to product viscosity, flow, pressure and tubing.

Tortuous Path Metering Device									
					Sanitizer				
					Flowrate	1 gallon	1 liter		
				Part Number	Kit Desc.	oz/gal	ml./lit.	ratio	%
				2201221-05	1/2 Knuckle	1.00	7.9	126:1	0.79
				2201221-10	1 Knuckle	0.68	5.3	189:1	0.53
				2201221-15	1 1/2 Knuckles	0.51	4.0	252:1	0.40
				2201221-20	2 Knuckles	0.34	2.6	379:1	0.26
				2201221-25	2 1/2 Knuckles	0.27	2.1	473:1	0.21
				2201221-30	3 Knuckles	0.17	1.3	757:1	0.13

NOTE: For a lower chemical ratio, Knight has a component called a "Tortuous Path Metering Device" available for very lean chemical mixes. The device connects in-line with the chemical supply and is used in place of a metering tip (no metering tip required). See the chart above for part ordering information.

(7) Select the appropriate metering tip (reference the chart above) and screw into the small end of the foot valve.

Note: For optimal consistency or when using hot water, it is recommended you screw metering tip to the eductor assembly located inside the Dial-A-Chem. (See "INSTALLING THE DILUTION TIP TO THE VENTURI (EDUCTOR)" on the following page. If using a Tortuous Path Metering, connect between the venturi (educator) and the chemical line.

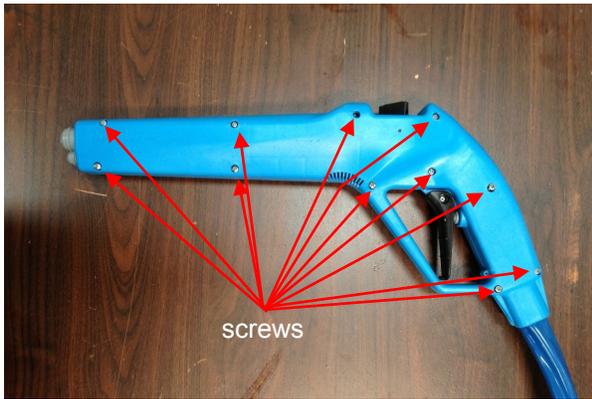
(8) Route the end of the chemical line through the hole in the cap (if applicable) then slide the ceramic weight over the end of the chemical line.

(9) Insert the footvalve into the end of the chemical line and drop the footvalve into the appropriate chemical container. If a cap is used, tighten the cap down on top of the container. Feed enough slack into the container so that the footvalve sinks to the bottom.

NOTE: To easily identify the chemical lines, look at the open end of the hose with the larger hose on top and the smaller hoses on the bottom. The left smaller hose is for sanitizer and the right smaller hose is for detergent.

(10) Repeat for the other chemical container.

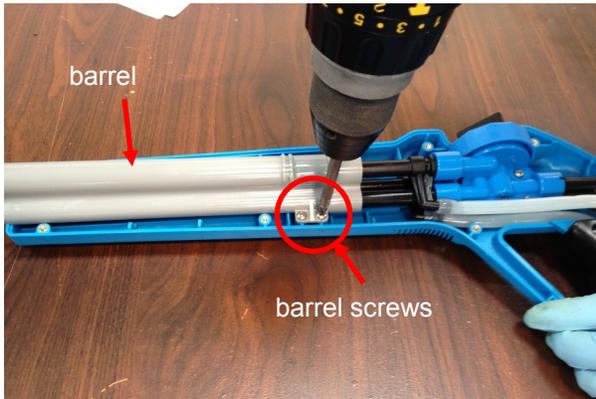
INSTALLING THE DILUTION TIP TO THE VENTURI (EDUCTOR)



1.) Loosen 11 screws that hold gun body together. Do not remove screws.



2.) Remove gun body, and make sure you keep screws in place on the plastic body.



3.) Remove 2 barrel screws and then remove barrel



4.) Remove tubing from venturi tubes



5.) Remove 2 venturi tubes and water pipe



6.) Select appropriate dilution tip for your application and screw tip into top of venturi (eductor). Repeat for other venturi tube.

INSTALLING THE DILUTION TIP TO THE VENTURI (EDUCTOR)



7.) Connect venturi (educator) back to tube. Re-install venturi back onto gun. Note: Be careful not to dislodge or twist rubber check valve when reassembling venturi to gun. Dislodging check valve can hinder foaming or spraying.



8.) Venturi for foaming will be reinstalled first. Second install water pipe, and then reinstall venturi for sanitizer.

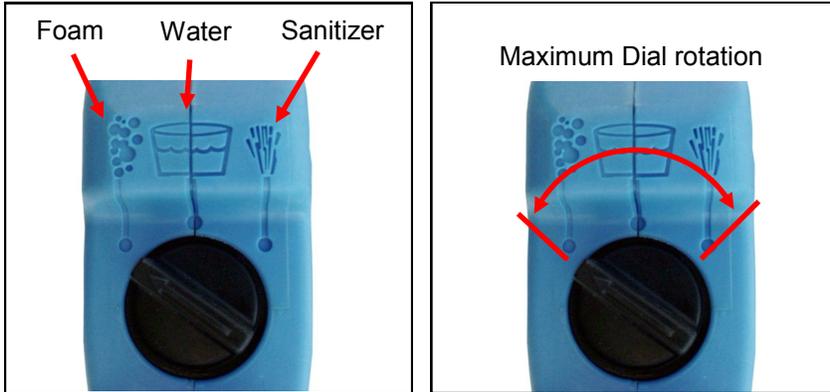


9.) Place plastic cover back on the Dial-A-Chem and re-assemble.

OPERATION

- (1) Turn on the water supply.
- (2) Prime the chemical lines by using the selector knob to choose the chemical, then squeeze the handle to activate the water flow. Make sure the knob is dialed directly toward dot indicator.

NOTE: Knob does NOT turn 360°. Do not force knob to turn past foam or sanitizer indicators.

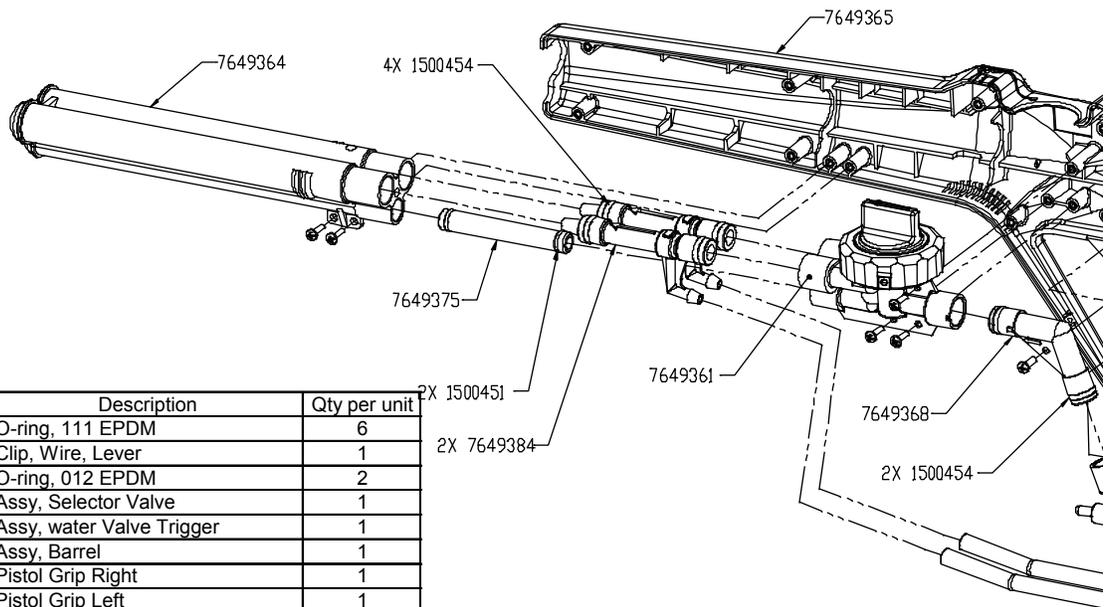


- (3) Check the sanitizer level by choosing the sanitizer with the selector knob, then activate the handle and spray a small amount into a bucket or catch pan. Use test strips on the sample to determine the sanitizer level.
- (4) To dispense foam, use the selector knob to choose foam, then squeeze the handle. Point the discharge end toward the surface to be cleaned and move the end back and forth to cover the area.
- (5) To rinse, rotate the selector knob to the rinse position and squeeze the handle. The rinse water will spray out in a wide fanned out pattern. Move the end back and forth to rinse down the cleaning surface. No chemical will be dispensed when using the rinse feature.
- (6) To sanitize, rotate the selector knob to the sanitizer position and squeeze the handle. The sanitized water will spray out in a wide fanned out pattern. Move the end back and forth to sanitize the cleaning surface.
- (7) Turn off the water supply and coil the hose on the bracket when not in use.

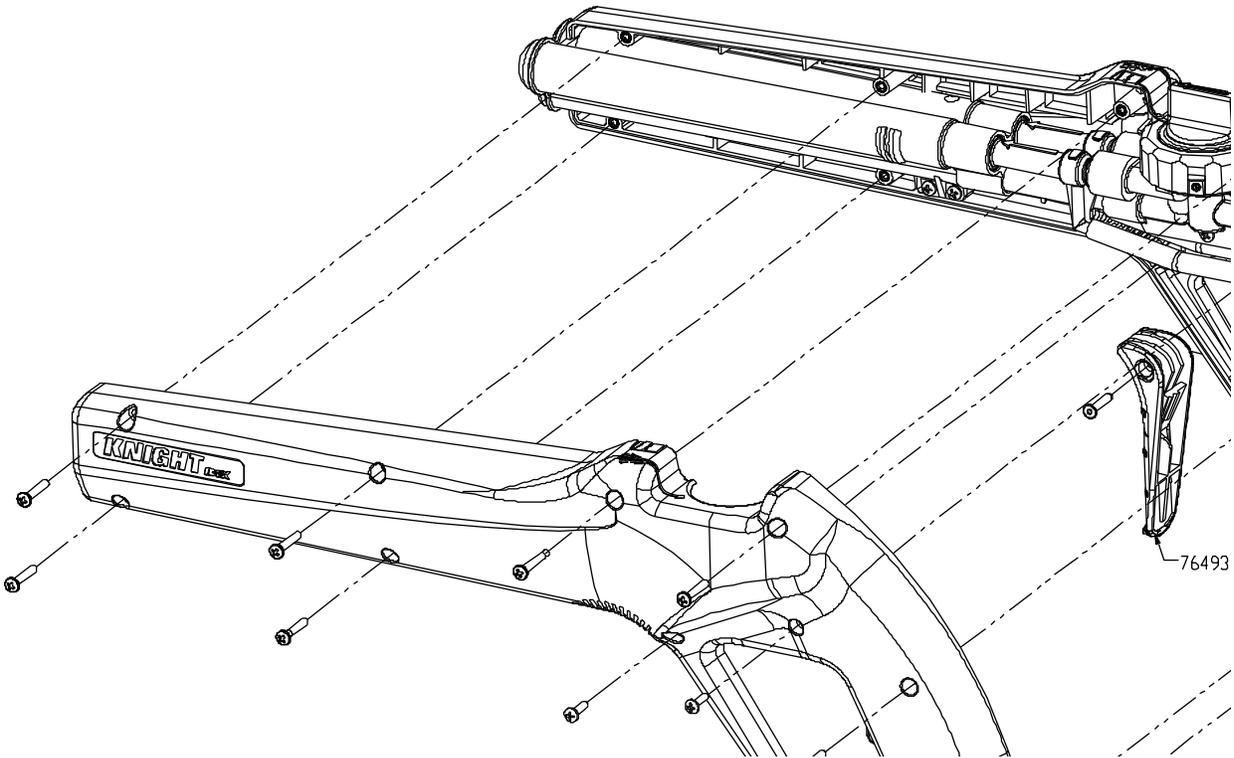
Note: It is recommended to store the Dial-A-Chem pointing downward when not in use to maximize the life of the seals.

TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE	REMEDY
No output	(1) Water supply is off (2) Water valve trigger is damaged	(1) Turn water supply on (2) Replace water valve trigger
Product is not drawn from container	(1) Foot valve obstruction (2) Clogged metering tip (3) Water inlet blocked (4) Low water pressure (5) No product in container (6) Supply tube is loose	(1) Clean or replace (2) Clean or replace (3) Check/clean screen (4) Must be 30 PSI minimum (5) Re-fill or use new container (6) Tighten or replace tie wrap
Too much, or too little product is drawn	Incorrect metering tip	Choose the next closest ratio from chart and verify results — repeat this step as necessary until the correct tip is chosen
No water (or very low flow)	(1) Obstruction at inlet screen area (2) Low water pressure (3) Scaled or clogged fittings (4) Check valve on venturi (educator) is dislodged or damaged	(1) Clean obstruction/replace screen (2) Use a more suitable source (3) Clean scaling or free obstructions (4) Open up gun and unlodge check valve. If needed replace or remove check valve. Dial-A-Chem will operate without venturi check valve, but the check valve helps prevent chemical from entering into dial when not stored vertically.
Supply container fills with water	Check valve clogged	Clean or replace check valve
Dial-A-Chem leaks water through the dial	Water pressure is too high (Max. water pressure is 45 PSI)	Connect pressure regulator to water hose (Knight part number: 7407117)
Dial-A-Chem leaks	(1) Hose clamp is not tight enough (2) Dial on the knob is not directly on indicator	(1) Open up gun and tighten hose clamp where the hose connects to the gun (2) Turn dial to where it points directly at the dot for foaming or water, or sanitizer



Part Number	Description	Qty per unit
1500454	O-ring, 111 EPDM	6
1900344	Clip, Wire, Lever	1
1500451	O-ring, 012 EPDM	2
7649361	Assy, Selector Valve	1
7649363	Assy, water Valve Trigger	1
7649364	Assy, Barrel	1
7649365	Pistol Grip Right	1
7649366	Pistol Grip Left	1
7649367	Lever	1
7649368	Elbow Selector	1
7649375	Pipe, Water	1
7649384	Assy Eductor	2
7649387	Hose, Tri-tube, 25ft	1
7649388	Hose, Tri-tube, 50ft	1
7649389	Hose, Tri-tube, 100ft	1



DISCLAIMER

Knight LLC does not accept responsibility for the mishandling, misuse, or non-performance of the described items when used for purposes other than those specified in the instructions. For hazardous materials information consult label, MSDS, or Knight LLC. Knight products are not for use in potentially explosive environments. Any use of our equipment in such an environment is at the risk of the user, Knight does not accept any liability in such circumstances.

WARRANTY

All Knight controls and pump systems are warranted against defects in material and workmanship for a period of ONE year. All electronic control boards have a TWO year warranty. Warranty applies only to the replacement or repair of such parts when returned to factory with a Knight Return Authorization (KRA) number, freight prepaid, and found to be defective upon factory authorized inspection. Bearings and pump seals or rubber and synthetic rubber parts such as "O" rings, diaphragms, squeeze tubing, and gaskets are considered expendable and are not covered under warranty. Warranty does not cover liability resulting from performance of this equipment nor the labor to replace this equipment. Product abuse or misuse voids warranty.

FOOTNOTE

The information and specifications included in this publication were in effect at the time of approval for printing. Knight, LLC reserves the right, however, to discontinue or change specifications or design at any time without notice and without incurring any obligation whatsoever.

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