

Dilution Control Systems

Multi-Station Model 421004 Single Station Model 421001

OPERATION

SERVICE

PARTS

















CARE



Revised 1/02

Multi-Clean[®]

CARTON CONTENTS

Multi-Station #421004	Single Station #421001
Dispensing Cabinet Qty. 1 	Dispensing Cabinet Qty. 1 
Quick Connect Cap/Hose Assembly Qty. 4 Part #421320 	Quick Connect Cap/Hose Assembly Qty. 1 Part #421320 
Metering Tip Kit Qty. 1 Contains 18 assorted tips. 	Metering Tip Kit Qty. 1 Contains 9 assorted tips. 
Drip Tray for use at 1 gpm fill Qty. 3 	Drip Tray for 1 gpm fill Qty. 1 
Water Inlet Hose Part #420118 	Water Inlet Hose Part #420118 
Mounting Kit with Template Form #988367 Includes screws & solid wall anchors. 	Mounting Kit with Template Form #988367 Includes screws & solid wall anchors. 
Discharge Hose Qty. 1 6 foot tube with hose handle and clamp. 	<ul style="list-style-type: none"> Optional: Connector hose to couple two single stations together from a single water source. Order part # 420105 
Label Kit Qty. 1 Includes 15 color coded product labels. 	Label Kit Qty. 1 Includes 15 color coded product labels 

The Dilution Control Units are equipped with Air Gap Proportioners.

Each filling port is equipped with an Air Gap to prevent cross-contamination of concentrates

THANK YOU FOR YOUR INTEREST IN OUR PRODUCTS

Please use this equipment carefully and 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.
KEEP	equipment clean to maintain proper operation.
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).

Installation and Operation:

(Repeat steps as necessary for each Air Gap your unit contains.)

Color Coded Air Gaps: Yellow = 4 gallons per minute	Gray = 1 gallon per minute
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1. Unlock the front door panel and allow the door to drop down.
2. To mount the unit to a wall, see template instructions.
3. Connect a long, flexible discharge tube to the bottom of any 4 GPM (yellow) Air Gap, applying the end opposite the hose handle (The right most dispensing button on the Multi-Station). A clamp for securing the 4 GPM tube is provided. Route the tube out the bottom of the unit, through the hole provided. The hose handle allows the discharge tube to hang neatly when not in use. Make sure all discharge tubes are fully engaged onto the Air Gaps.
4. Connect water supply hose provided to water inlet swivel at right side of manifold. (Minimum 25 PSI pressure, with water running, is required for proper operation.) Route hose out the side of the cabinet, through the hole provided, and attach the hose to the water supply source. Turn water supply on. If needed, the front panel can be removed by loosening the screws inside the bottom edge and then lifting the front off.

Installation and Operation (Con't):

(Repeat steps as necessary for each Air Gap your unit contains.)

5. Select a metering tip (see next section) from the chart on page 4. Push the metering tip into the end of the hose barb on the Air Gap. Push in until tightly seated.

Metering Tip Selection:

The final concentration of the dispensed liquid is related to both the size of the metering tip opening and the viscosity of the liquid being siphoned. Such factors as inlet water pressure and temperature can affect dilution ratios. Test the actual dilution you are dispensing using the Measurement of Concentration procedure or the Calibration Kit.

6. Install the concentrate feed tube as follows:
 - Push the other (open) end of the Quick Connect Cap/Hose assembly over the hose barb on the Air Gap.
 - Remove cap on concentrate, then place the Quick Connect Cap/Hose Assembly onto the concentrate container and screw on.
 - Place concentrate into appropriate location inside cabinet.
7. Close front door panel and lock. If dispenser has any 1 GPM air gaps, be sure a drip tray is in place at the bottom of the shelf (below concentrate container) for all 1 GPM stations.
8. Apply color-coded label under the button to correspond to the product that will be dispensed when depressing that button.
9. Purge air from the system by depressing the buttons briefly. There may be some water discharge from the Air Gap vents until the air is purged.
10. Push button to start flow of desired water/concentrate solution, and hold until solution starts to be discharged. (Be sure to have a bottle or other receptacle under the discharge tube.) Prime each of the supply tubes in this way. Then push the button whenever dispensing is desired, and release button to stop flow of solution. Buttons may be converted to twist-to-latch locking buttons by installing the latch spring provided (see parts diagram for placement). This allows continuous dispensing without holding button.
11. **It is essential that the discharge hose not be obstructed. If discharge is restricted, water will flow out the Air Gap vents. Do not start to operate the dispenser with liquid in the discharge tube.**

Measurement of Concentration:

To determine the dispensed water-to-product ratio for any metering tip size, operate the primed dispenser for a minute or so and note the amount of dispensed solution, and the amount of concentrate used in preparation of the solution. These values can be placed in the equation below to determine the achieved dilution ratio. Dilution Ratio equals X parts water to one part concentrate (X:1).

$$\text{Dilution Ratio (X:1) where } X = \frac{\text{Amount of Mixed Solution} - \text{Amount of Concentrate Drawn}}{\text{Amount of Concentrate Drawn}}$$

Multi-Clean has a calibration kit to make this easier. Consult your dealer representative for more information.

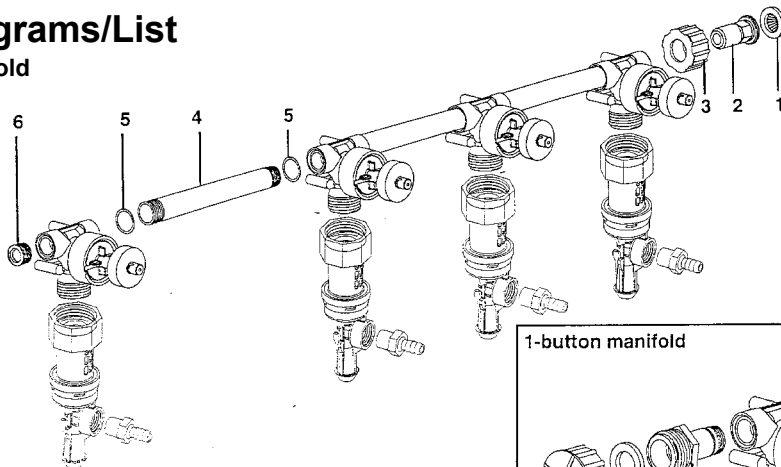
RECOMMENDED TIPS FOR USE WITH MULTI-CLEAN SUPER CONCENTRATES

Product	1 GPM Fill Rate				4 GPM Fill Rate			
	Heavy Cleaning Dilution	Tip Color	Normal Cleaning Dilution	Tip Color	Heavy Cleaning Dilution	Tip Color	Normal Cleaning Dilution	Tip Color
#2 Glass & Surface Cleaner	NA	NA	1:20	Green	NA	NA	1:20	White
#3 Soap Scum Remover	1:20	Green	1:32	Brown	1:20	White	1:32	Tan
#4 F.A.S.T. (Foaming Acid Shower Treatment)	1:20	Green	1:32	Brown	1:20	White	1:32	Tan
#5 Neutral Cleaner	1:128	Purple	NA	NA	1:128	Yellow	1:256	Pink
#6 A.P.C. (All Purpose Cleaner)	1:64	Aqua	1:150	Purple	1:64	Green	1:150	Aqua
#7 X-Stream Surface Cleaner	1:4	Black	1:6	Beige	1:4	Gray	1:6	Black
#8 Super-D Degreaser	1:32	Brown	1:50	Yellow	1:32	Tan	1:50	Green
#9 R ² Stripper	NA	NA	NA	NA	NA	NA	1:8	Beige
#10 MC-10 Sanitizer	NA	NA	NA	NA	1:160	Purple	1:512	*Olive Green
#11 Odor Control	1:20	Green	1:64	Aqua	1:20	White	1:64	Green
#12 Foaming F.S.D.	1:20	Green	1:32	Brown	1:20	White	1:32	Tan
#13 Extraction Cleaner	NA	NA	NA	NA	NA	NA	1:256	Pink
#14 Carpet Spotter & Pre-Spray	1:5 (spotter)	Beige	1:32 (pre-spray)	Brown	1:5 (spotter)	Black	1:32 (pre-spray)	Tan
#15 Power Suds	1:128	Aqua	1:256	Purple	1:128	Green	1:256	Purple
#64 Ful-Trole 64	1:64	Aqua	1:100	Purple	1:64	Green	1:100	Dark Brown
#70 Ultra 70	1:64	Aqua	1:128	Purple	1:64	Green	1:128	Yellow
#256 Century Q	1:64	Aqua	1:256	Pink	1:64	Green	1:256	Pink
#257 P.H.D.	1:64 (toilet bowls)	Yellow	1:256	Pink	1:64	Blue	1:256	Aqua

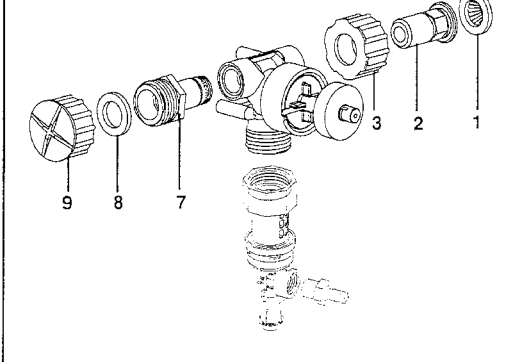
* Note: Not included with standard tip kit.

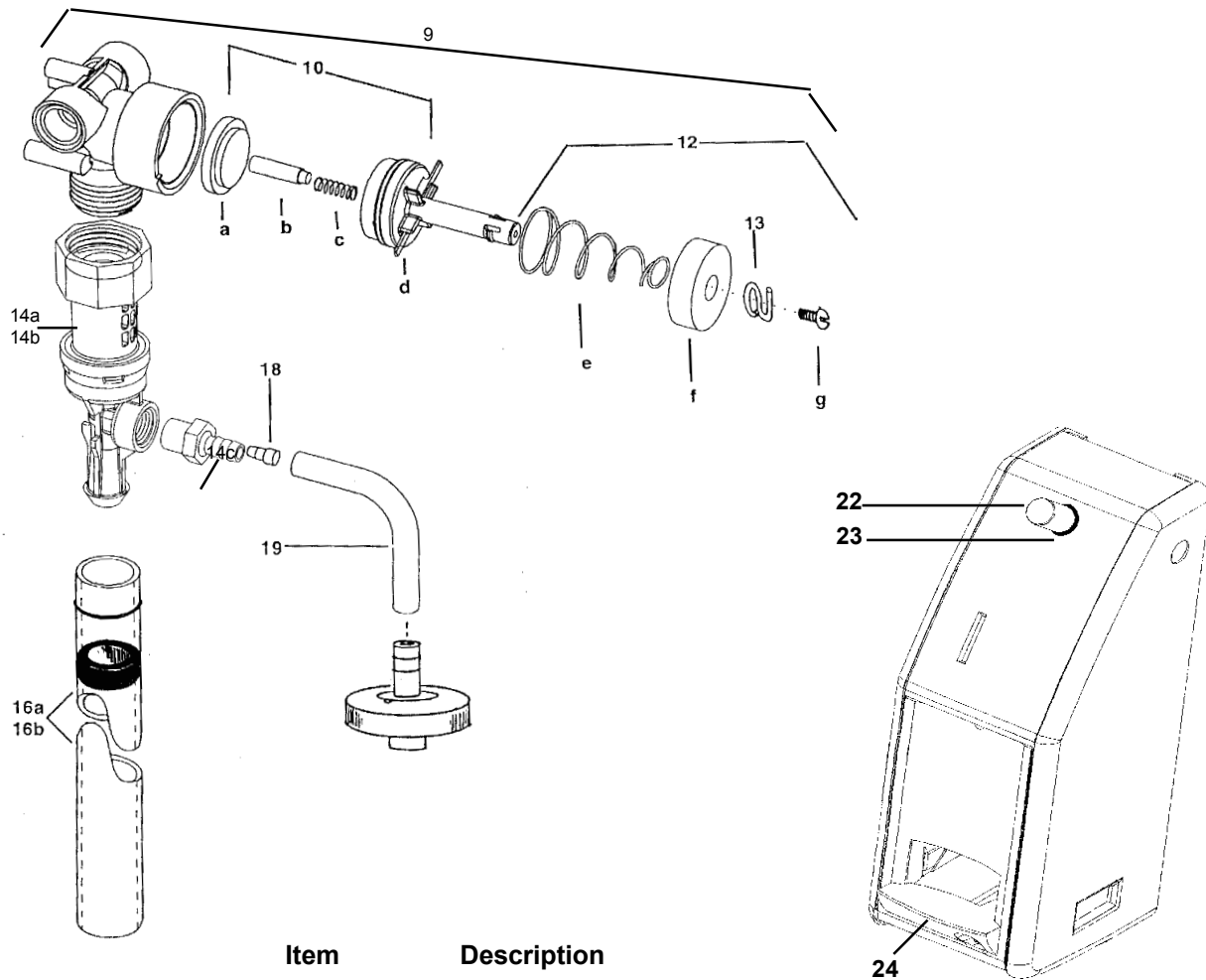
Parts Diagrams/List

4-button manifold



1-button manifold





Item	Description
9	Valve Body Complete
10	Valve parts kit: a. diaphragm, b. armature, c. spring, d. valve bonnet
12	Magnet parts kit: e. spring, f. magnet, g. screw
13	1 GPM Air gap kit (grey)
14a	4 GPM Air gap kit (yellow)
14b	Kits include #14c hose barb, #15 inner discharge tube and #16 outer discharge tube
14c	Air gap hose barb
15a	
15b	
16a	Outer discharge tube assembly, 4 GPM
16b	Outer discharge tube assembly, 1 GPM
18	Metering tip (kit)
19	Quick connect cap/hose
22	Button, maroon
23	Grommet
24	Drip Tray (for 1 gpm only)

NOT SHOWN:

- Hole plug (for side cabinet opening)
- Lock
- Nut for lock
- MSDS Envelope
- Water inlet hose

TROUBLESHOOTING CHART:

Problem	Cause	Solution
1. No discharge	<ul style="list-style-type: none"> a. No water b. Magnetic valve not functioning c. Excessive water pressure d. Air gap clogged 	<ul style="list-style-type: none"> a. Open water supply b. Install valve parts kit c. Install regulator if flowing water pressure exceeds 60 PSI d. Clean* or replace
2. No concentrate draw	<ul style="list-style-type: none"> a. Clogged foot valve b. Metering tip or Air gap has scale build-up c. Low water pressure d. Discharge tube and/or flooding ring not in place e. Concentrate container empty f. Inlet hose barb not screwed into Air gap tightly g. Clogged water inlet strainer 	<ul style="list-style-type: none"> a. Clean or replace b. Clean (descale)* or replace c. Minimum 25 PSI (with water running) required to operate unit properly d. Push tube firmly onto eductor discharge hose barb, or replace tube if it doesn't have a flooding ring e. Replace with full container f. Tighten, but do not overtighten g. Disconnect inlet water line and clean strainer
3. Excess concentrate draw	<ul style="list-style-type: none"> a. Metering tip not in place 	<ul style="list-style-type: none"> a. Press correct tip firmly into barb on eductor
4. Failure of unit to turn off	<ul style="list-style-type: none"> a. Water valve parts dirty or defective b. Magnet doesn't fully return c. Push button stuck d. Excessive water pressure 	<ul style="list-style-type: none"> a. Clean* or replace with valve parts kit b. Make sure magnet moves freely. Replace spring if short or weak c. Realign cabinet or clean grommet that button passes through d. Install regulator if pressure (with water flowing) exceeds 60 PSI
5. Excess foaming in discharge	<ul style="list-style-type: none"> a. Air leak in pick-up tube b. Inner discharge tube not in place 	<ul style="list-style-type: none"> a. Put clamp on tube or replace tube if brittle b. Install inner discharge tube
6. Water discharge from air vents of Air Gap	<ul style="list-style-type: none"> a. Restricted discharge hose b. High water pressure 	<ul style="list-style-type: none"> a. Be sure discharge hose is not imersed, kinked or elevated. Be sure there is no liquid in the discharge hose when beginning to operate dispenser b. Install pressure regulator if flowing water pressure exceeds 60 PSI

* In hard water areas, scale may form inside the discharge end of the Air Gap, as well as in other areas of the unit that are exposed to water. This scale may be removed by soaking the Air Gap in a descaling solution (deliming solution). To remove an Air Gap located in the cabinet, firmly grasp valve and unthread Air Gap. Replace in same manner. Alternatively, a scaled Air Gap can be cleaned (or kept from scaling) by drawing the descaling solution through the unit. Operate the unit with the suction tube in the descaling solution. Operate the unit until solution is drawn consistently, then flush the unit by drawing clear water through it for a minute. Replace concentrate container and put suction tube into concentrate.

LIMITED WARRANTY

Multi-Clean Division warrants to the original purchaser/user that this product is free from defects in workmanship and materials under normal use and service for a period of 90 days from date of purchase. In addition, Multi-Clean Division will, at its option, honor labor warranty claims for the first 90 days from date of sale, provided such claims are submitted through and approved by factory authorized repair stations. Multi-Clean Division will, at its option, repair or replace without charge, except for transportation costs, parts that fail under normal use and service when operated and maintained in accordance with the applicable operation and instruction manuals.

This warranty does not apply to normal wear, or to items whose life is dependent on their use and care, such as belts, cords, switches, hoses, rubber parts, electrical motor components or adjustments. Parts not manufactured by Multi-Clean Division such as engines, batteries, battery chargers, hydraulic pumps, and tires are covered by and subject to the warranties and/or guarantees of their manufacturers. Please contact Multi-Clean Division for procedures in warranty claims against these manufacturers.

Special warning to purchaser — A potential health hazard exists without exact original equipment replacement.

All warranted items become the sole property of Multi-Clean Division or its original manufacturer, whichever the case may be.

Multi-Clean Division disclaims any implied warranty, including the warranty of merchantability and the warranty of fitness for a particular purpose. Multi-Clean Division assumes no responsibility for any special, incidental or consequential damages.

This limited warranty is applicable only in the U.S.A. and Canada, and is extended only to the original user/purchaser of this product. Customers outside the U.S.A. and Canada should contact their local distributor for export warranty policies. Multi-Clean Division is not responsible for costs or repairs performed by persons other than those specifically authorized by Multi-Clean Division. This warranty does not apply to damage from transportation, alterations by unauthorized persons, misuse or abuse of the equipment, use of non-compatible chemicals, or damage to property, or loss of income due to malfunctions of the product.

If a difficulty develops with this machine, you should contact the dealer from whom it was purchased.

This warranty gives you specific legal rights, and you may have other rights which vary from state to state. Some states do not allow the exclusion or limitation of special, incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions and limitations may not apply to you.

Multi-Clean®

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