

MX SOLUTION CENTER

Instruction Manual



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UNPACKING INSTRUCTIONS

The KNIGHT MX Solution Center is carefully packaged at the factory to minimize the possibility of damage during shipping. Inspect the box for external signs of damage or mishandling. Inspect the contents for damage. If there is visible damage to the equipment upon receipt, inform the shipping company and KNIGHT immediately.

DISCLAIMER

KNIGHT does not accept responsibility for the mishandling, misuse or non-performance of the described item when used for purposes other than those specified in the instructions. For hazardous materials information, consult SDS or your chemical supplier.

WARRANTY

The KNIGHT MX Solution Center is warranted against defects in material and workmanship for a period of ONE (1) year. Warranty applies only to replacement or repair of such parts when reported to KNIGHT and found to be defective upon factory authorized inspection. Parts such as 'O' rings, diaphragms and tubing 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 the warranty.

INTRODUCTION

The KNIGHT Solution Center is a cabinet dispenser chemical proportioning system designed to meet the needs of any institutional or industrial cleaning application.

The Solution Center provides two means of activating the proportioner. For the filling of spray bottles, the bottle is placed under the fill spout and activated by the simple push of a button. To fill buckets, the Solution Center features a bucket fill gun that is placed in the container and activated by the single push of a button.

A Flex Gap or Aire Gap type backflow device is offered to meet plumbing code requirements of any city, state or country.

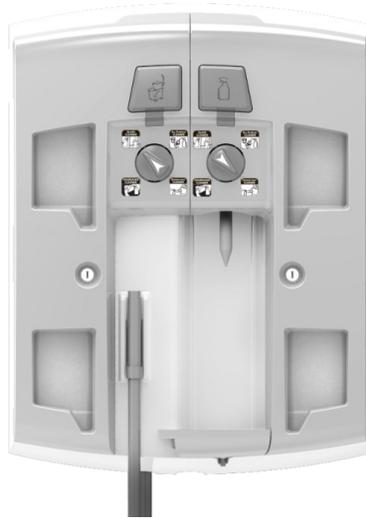
THEORY OF OPERATION

The Solution Center will activate and dispense chemicals at the proper dilution rate when the bucket fill or bottle fill button is pressed and will stop when released.

- Bucket gun activation: The bucket fill gun has an attachment to secure it at the point of delivery.
- Bottle activation: Allows the operator to insert the spray bottle over the preformed fill tube and push in the button to start the dispensing process.
- 4 Solution: Allows from one to four chemicals to be dispensed, each with its own dilution rate. The operator turns the dial selector knob to the chemical to be dispensed and activates the unit using the bottle actuator or bucket trigger.

SPECIFICATIONS

KNIGHT Solution Center

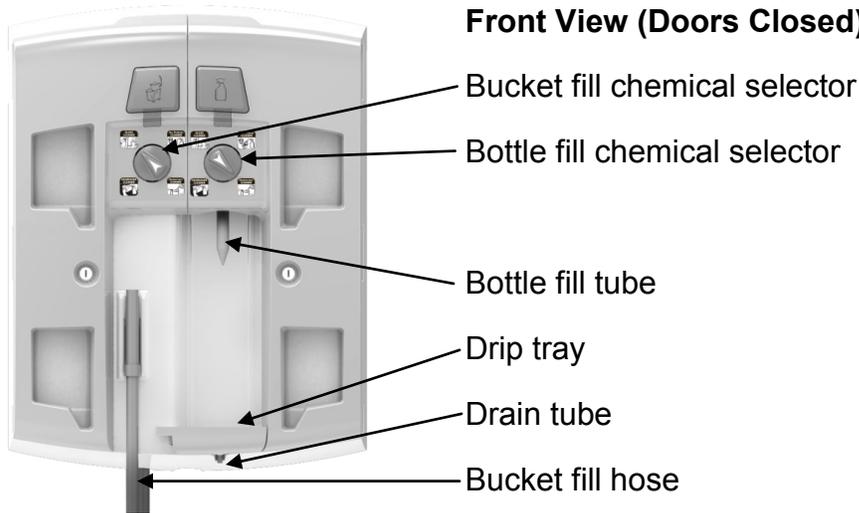


Dimensions:	H 26" x W 23" x D 7.75"
Weight	16 Lbs.
Maximum Water Pressure	125 PSI (8.6 Bar)
Minimum Water Pressure	25 PSI (1.7 Bar)
Optimum Water Pressure	30 to 60 PSI (2 to 4 Bar)
Maximum Water Temperature	140° F (60° C)
Materials of Construction:	
Case/cover	ABS
Flex Gap/ Aire Gap	Polypropylene
O' rings	Viton
Water Valve	Acetal
Water Inlet	Brass
Chemical Tubing	Vinyl
Chemical Compatibility	Contact Factory for compatibility of all parts.
Vacuum:	28 inches (.93 Bar) at 50 PSI (3.4 Bar)
Regulatory Approvals:	  ASSE IAPMO CSA

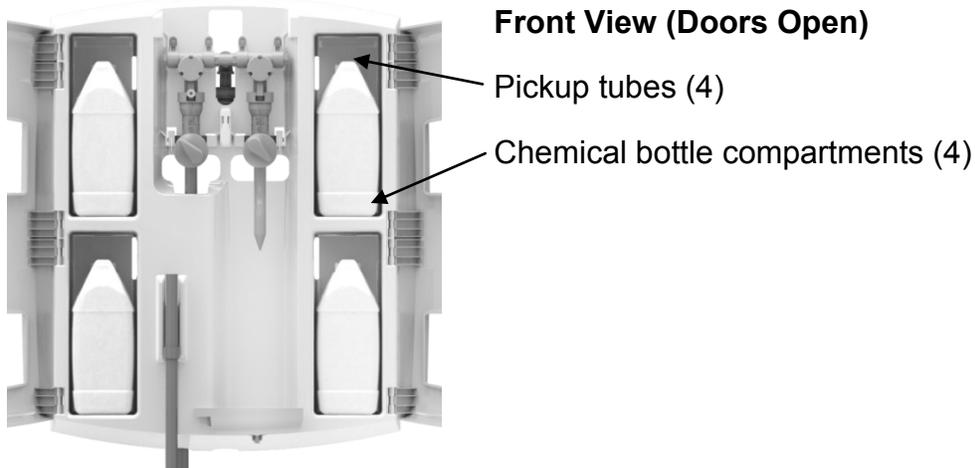
KNIGHT Solution Center

System Components

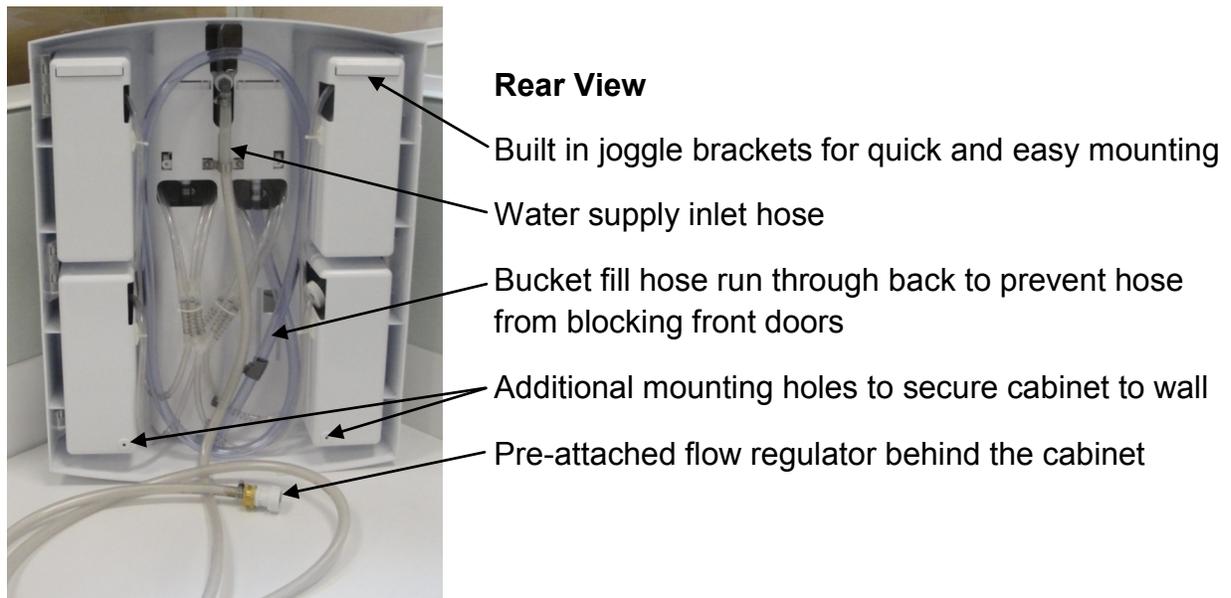
Front View (Doors Closed)



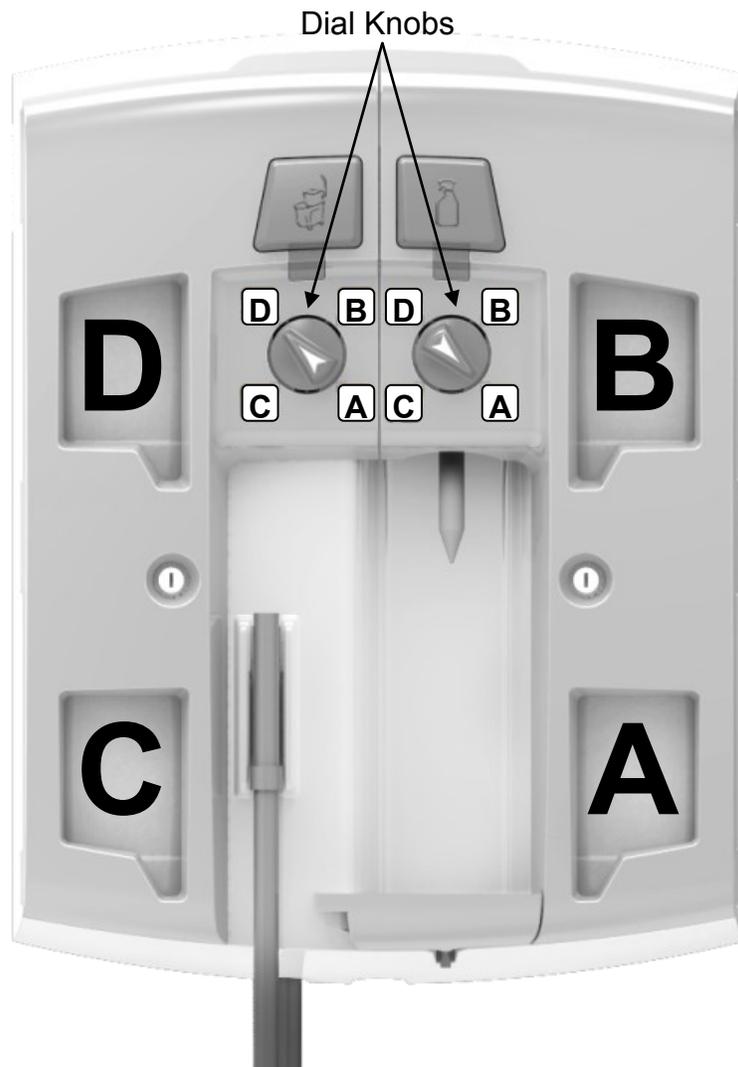
Front View (Doors Open)



Rear View



CHEMICAL SELECTOR POSITIONING DIAGRAM



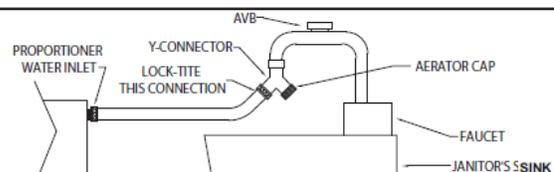
Operation:

To select a chemical to be dispensed for bottle fill or bucket fill, simply turn the dial knob with arrow pointing to the desired chemical container in the cabinet.

IMPORTANT:

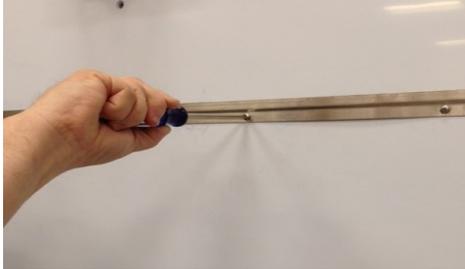
If changing to a different chemical in the same shelf position, make sure to flush out both the bottle fill and bucket fill assembly with water before dispensing the new chemical product. Turn off water at shut-off valve when not in use.

Important Note: If proportioner is connected to a janitor's sink with an atmospheric vacuum breaker, a special connection kit is required by A.S.S.E. specification 1055. See drawing below. Failure to use this kit, or equivalent connection means, will invalidate the A.S.S.E. and I.A.P.M.O. (UPC) certification.



INSTALLATION AND ASSEMBLY

Solution Center Cabinet Dispenser



Step 1. Secure the wall bracket to the wall with the appropriate hardware.



Step 2. Slide the cabinet onto the wall bracket. With the doors open, the bracket will be visible to see that the cabinet is seated.



Step 3. Secure the cabinet to the wall by installing two screws into the holes provided inside the bottom of the cabinet.



INSTALLATION AND ASSEMBLY

Solution Center Cabinet Dispenser



Step 4. Attach the 3/8" drain tube to the bottom of the drip tray.



Step 5. Connect water inlet hose to a nearby water source. Turn on water and check for leaks.



Step 6. Chemical tubes with bottle caps, ceramic weights, and footvalves are pre-installed for 4 bottle dilution and 4 bucket dilution capability.

INSTALLATION AND ASSEMBLY

Solution Center Cabinet Dispenser



Step 7. Remove one of the chemical lines from the port it is attached to in preparation for installing a metering tip.



Step 8. For each port on the unit, choose the metering tip that will be needed per the information on the following page.

Thread the metering tip into the port until hand-tight. The metering tip can also be hand-tightened with the red wrench in the accessory kit.



Step 9. Re-connect chemical line over the metering tip and cinch a plastic tie around the barb to secure it. Repeat for all other ports on the unit

INSTALLATION AND ASSEMBLY

Solution Center Cabinet Dispenser

CHOOSING DILUTION RATES

METERING TIP SELECTION

The dilution chart for Flex-Gap and Aire-Gap are the same for both 1 GPM and 4 GPM flow rates. For the initial installation, choose the appropriate metering tips from the chart below.

CALIBRATING ACTUAL PRODUCT RATIOS

After installation is complete, you can calculate the exact ounces per gallon for a specific product if you find that the water/product mix is not correct.

- (1) Fill a graduated cylinder or spray bottle (that has ounce markings) with product.
- (2) Install the metering tip that is closest to the desired ounces per gallon per chart below.
- (3) Drop the chemical pick-up tube into the container holding the product.
- (4) Activate the water valve until the chemical line is primed up to the metering tip.
- (5) Note how many ounces (of product) are in the container.
- (6) Activate the valve again, and fill a one gallon container with water/product mix.
- (7) Note how many ounces (of product) were used.
- (8) You now have determined actual ounces per gallon for this product. Repeat this procedure as desired for other valves and products.

METERING TIP CHART (Flex-Gap & Aire-Gap Venturi)				
TIP COLOR	1 GPM		4 GPM	
	OZ/GAL	RATIO	OZ/GAL	RATIO
NO INSERT	28	3.6:1	25	4.3:1
WHITE	22	4.8:1	20	5.4:1
YELLOW	18	6.1:1	18	6.1:1
PINK	16	7.0:1	16	7.0:1
GREEN	15	7.8:1	12	12:1
BLACK	14	8.5:1	10	15:1
BROWN	12	10:1	7	20:1
GRAY	8	15:1	5	31:1
BLUE	6	20:1	4	42:1
RED	3	42:1	3	63:1
PEACH	2.5	50:1	2	72:1
LT BLUE	2.0	63:1	1.5	101:1
PURPLE	1.75	74:1	1	127:1
LT GREEN	1.5	84:1	0.75	170:1
ORANGE	1	127:1	0.50	255:1
LT BROWN	0.5	255:1	0.25	511:1

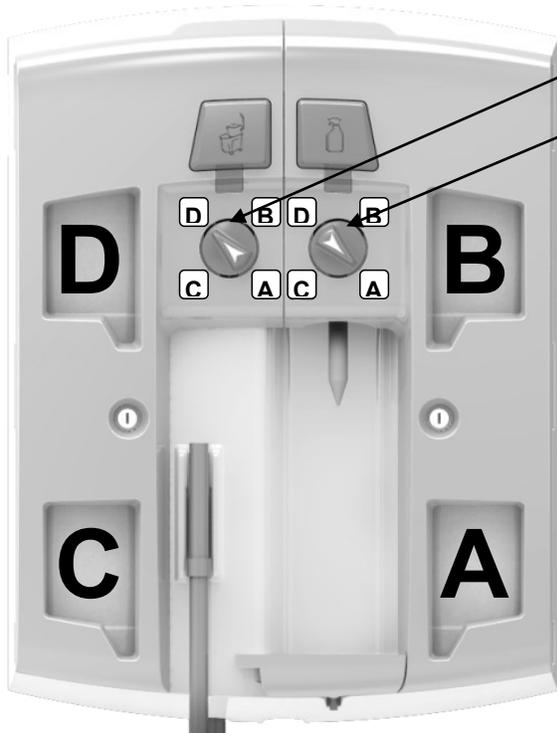
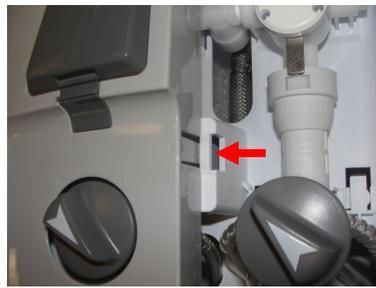
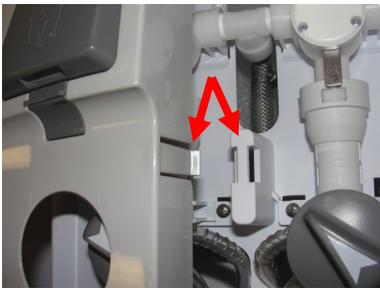
INSTALLATION AND ASSEMBLY

Solution Center Cabinet Dispenser



Step 10. Connect bottle caps onto the chemical containers. Place containers into cabinet.

NOTE: When closing the doors, ensure that the door latch snaps into the cabinet securely.



Bucket fill selector knob

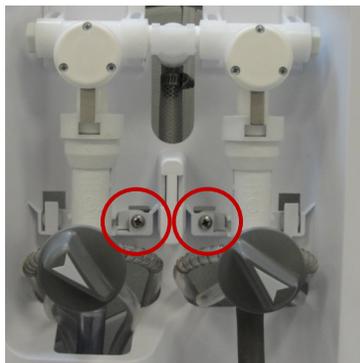
Bottle fill selector knob

Step 11. Turn bottle fill knob with white arrow so that it points to the desired chemical container in the cabinet and prime chemical line. Repeat same steps for the other 3 positions. Do the same on the bucket fill also.

SERVICING

Servicing the Backflow Preventer Assembly

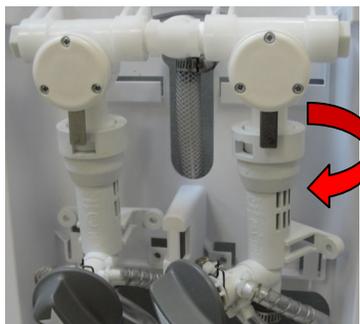
The cabinet design is geared toward a service friendly interface. Internal components can be accessed with a few steps while the chemical lines remain connected.



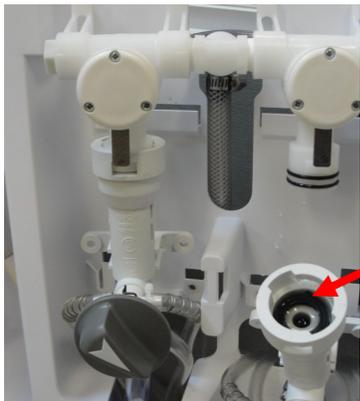
1. Unscrew the two screws that secure the engine to the cabinet. The bucket fill and bottle fill discharge assemblies remain connected.



2. Lift the engine up off the joggle bracket. The water line remains connected.



3. Grasp the valve assembly and the backflow preventer body and rotate a quarter twist to separate.



4. The chemical lines stay connected and you have access to the backflow preventer assembly.

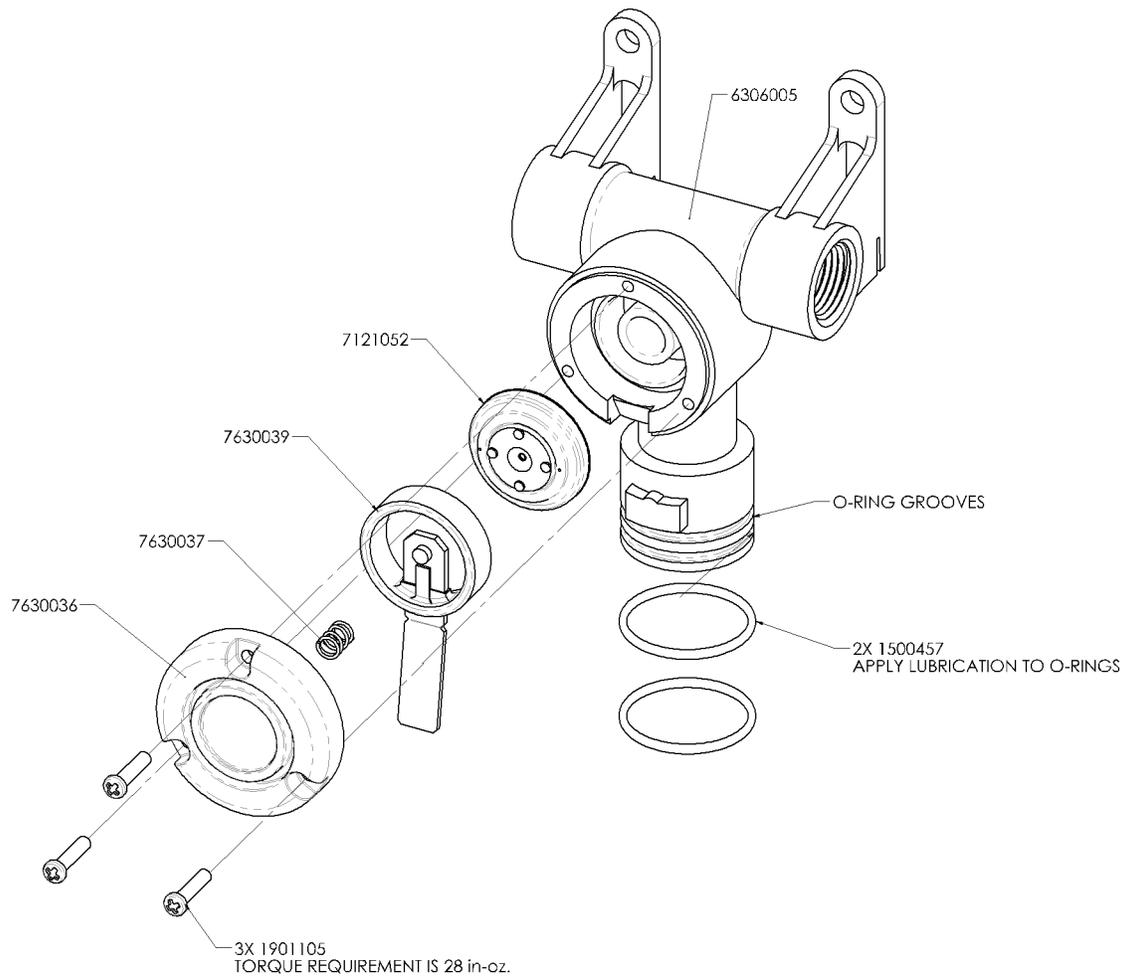
MAINTENANCE

Periodically check the following:

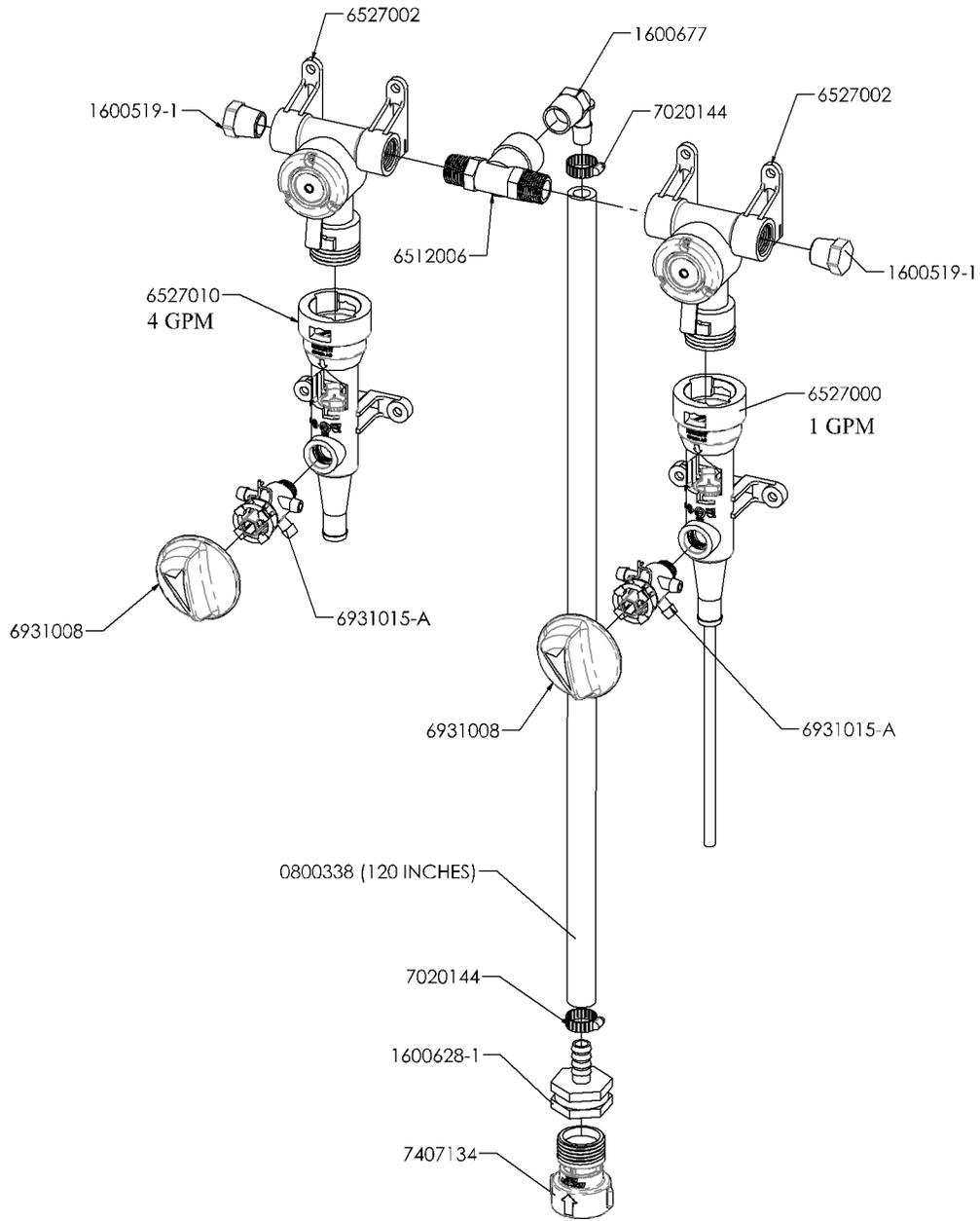
1. Ensure the supply line is keeping prime. If not, replace the footvalve.
2. Bottle and bucket activation for proper operation.
3. Solution cabinet drip tray assembly should be flushed with water periodically.

TROUBLESHOOTING

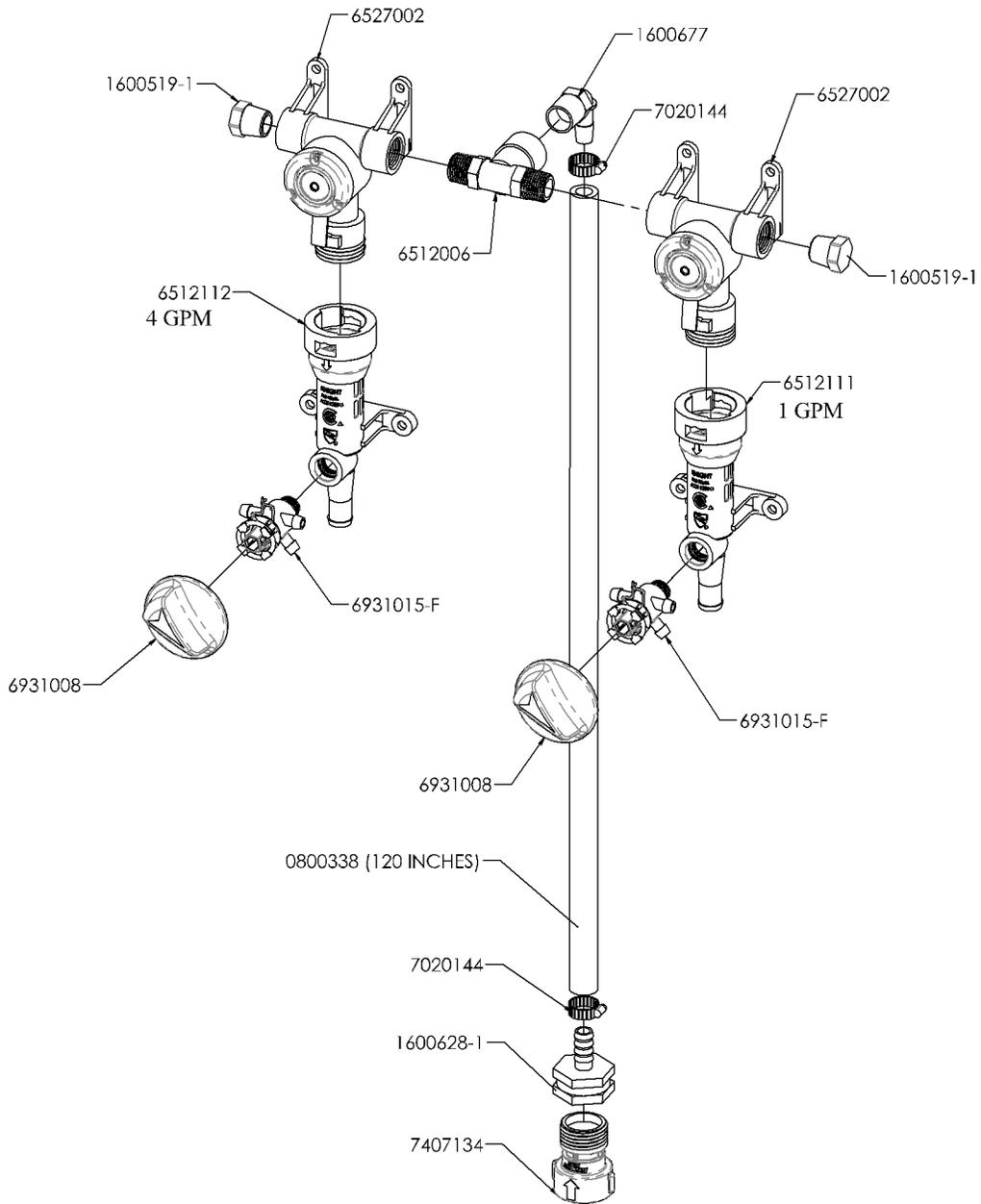
1. Dispenser will not draw chemical:
 - A. Check water pressure for 30 to 60 PSI.
 - B. Check or change footvalve.
2. Mixed chemical concentration is too weak:
 - A. Check water pressure for a minimum of 25 PSI of flow pressure.
3. Supply line loses chemical prime:
 - A. Check or change foot valve.
4. Dial 4 will not draw chemical:
 - A. Check condition of O-ring on dial selector valve.
 - B. Ensure dial 'clicks' (detents) to selected product.
5. Low water flow:
 - A. Check for sediment in the flow regulator screen washer.
 - B. Check water pressure.
6. Bottle or bucket activator on cabinet will not activate valve:
 - A. Open corresponding door and adjust calibration screw until flow is achieved.
7. Aire-Gap version cabinet dispenser is spraying a fan pattern or dripping water:
 - A. Clean mineral deposits per Aire-Gap nozzle and screen.



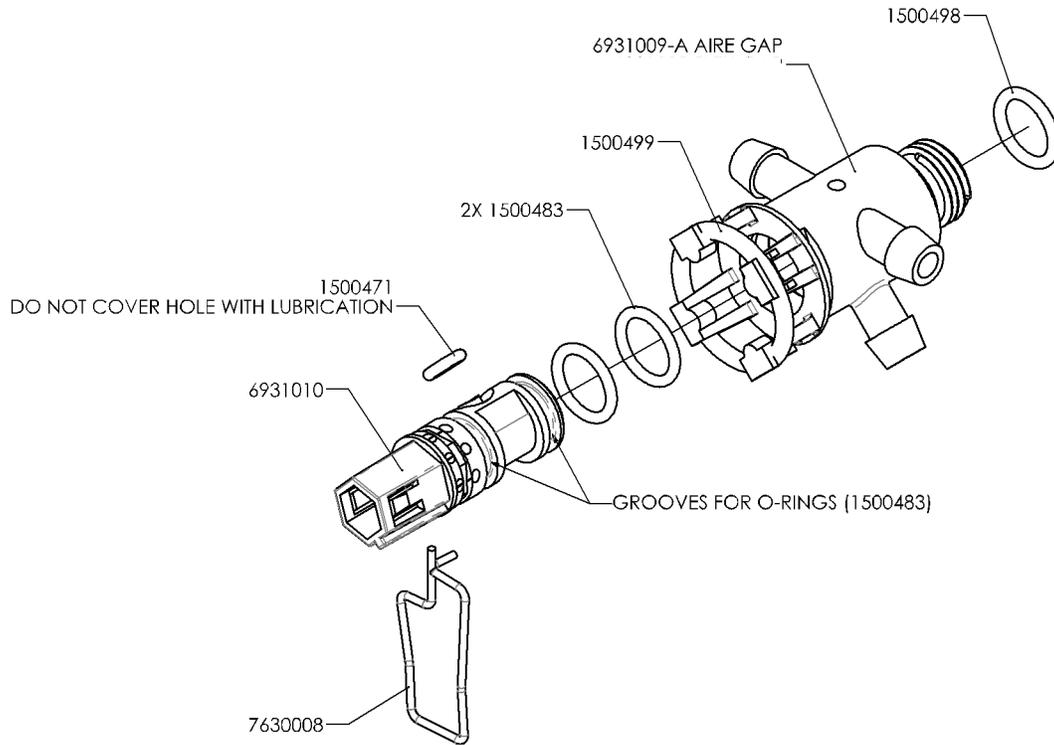
VALVE ASSEMBLY



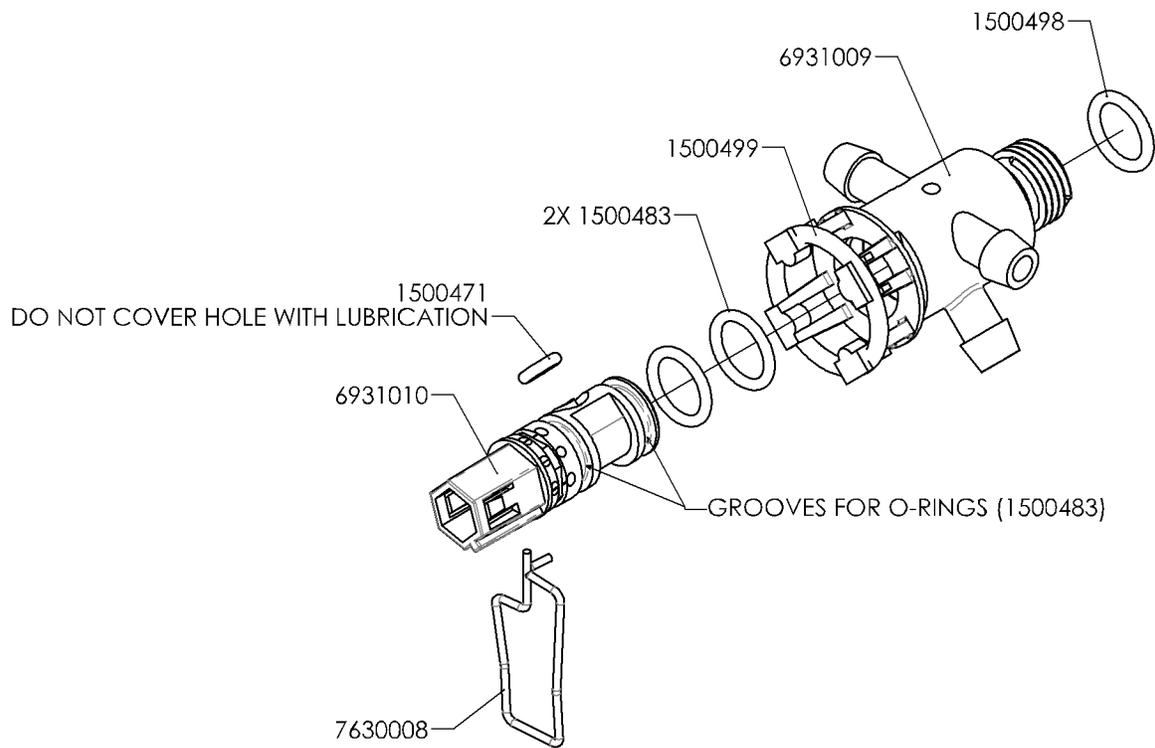
(AIRE-GAP)



(FLEX GAP)



(AIRE-GAP)



(FLEX GAP)

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