MX Solution Center
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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.
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)
- Bucket fill chemical selector
- Bottle fill chemical selector
- Bottle fill tube
- Drip tray
- Drain tube
- Bucket fill hose

Front View (Doors Open)
- Pickup tubes (4)
- Chemical bottle compartments (4)

Rear View
- Built in joggle brackets for quick and easy mounting
- Water supply inlet hose
- Bucket fill hose run through back to prevent hose from blocking front doors
- Additional mounting holes to secure cabinet to wall
- Pre-attached flow regulator behind the cabinet
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.
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)**

<table>
<thead>
<tr>
<th>TIP COLOR</th>
<th>1 GPM</th>
<th>4 GPM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OZ/GAL</td>
<td>RATIO</td>
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<tr>
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<td>3.6:1</td>
</tr>
<tr>
<td>WHITE</td>
<td>22</td>
<td>4.8:1</td>
</tr>
<tr>
<td>YELLOW</td>
<td>18</td>
<td>6.1:1</td>
</tr>
<tr>
<td>PINK</td>
<td>16</td>
<td>7.0:1</td>
</tr>
<tr>
<td>GREEN</td>
<td>15</td>
<td>7.8:1</td>
</tr>
<tr>
<td>BLACK</td>
<td>14</td>
<td>8.5:1</td>
</tr>
<tr>
<td>BROWN</td>
<td>12</td>
<td>10:1</td>
</tr>
<tr>
<td>GRAY</td>
<td>8</td>
<td>15:1</td>
</tr>
<tr>
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<td>6</td>
<td>20:1</td>
</tr>
<tr>
<td>RED</td>
<td>3</td>
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<tr>
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<td>2.5</td>
<td>50:1</td>
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<tr>
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<td>2.0</td>
<td>63:1</td>
</tr>
<tr>
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<td>74:1</td>
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<td>84:1</td>
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<tr>
<td>ORANGE</td>
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<td>127:1</td>
</tr>
<tr>
<td>LT BROWN</td>
<td>0.5</td>
<td>255:1</td>
</tr>
</tbody>
</table>
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.

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

TORQUE REQUIREMENT IS 28 in.-oz.

APPLY LUBRICATION TO O-RINGS
(FLEX GAP)
DO NOT COVER HOLE WITH LUBRICATION

GROOVES FOR O-RINGS (1500483)

(FLEX GAP)
WARRANTY
For complete product terms and conditions scan the QR code below or enter the following URL into your browser: http://cfstech.info/t-and-c