RSV - Reusable Stainless Valve

Comprehensive Instructions

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RSV - H3 Dimension

Please provide distance from Sealing Surface to Sump (H3).

H3 ± Tolerance = _________
Approval __________________
Date ______________________

Select Drum Opening Thread

- 2.5” x 5
- 56 x 4
- 2” BSP
- 70 x 6
RSV - Reusable Stainless Valve Instructions

Make certain that these instructions are read and understood by anyone using the Reusable Stainless Valve system.

Safety precautions – Warning!

Keep workplace and equipment clean.

Containers with Reusable Stainless Valves must only be connected to the Reusable Stainless Valve Couplers.

Check the equipment regularly for leaks and use only authorized tools or articles designed for use with the Reusable Stainless Valve.

Please handle the Reusable Stainless Valve carefully – do not drop.

Prevent foreign matter and dust from getting into the Reusable Stainless Valve.

Please contact your Micro Matic representative in case of malfunction or damage. Please do not reuse defective parts.

Risk relating to liquid used in the system must be handled with care. See product information and supplier’s instructions for use and always wear relevant personal protection equipment such as gloves and glasses.

How to operate the Reusable Stainless Valve

The Reusable Stainless Valve is a unique system for closed returnable liquid packaging designed for safety, security and greater efficiency. It offers a practical solution for the standardization of returnable containers for all industries.

The system is suitable for a wide range of liquid products.

The system offers great efficiency through high speed automated filling.

These instructions have been prepared as a procedural guide for connection, disconnection and servicing of the Reusable Stainless Valve.
RSV - Reusable Stainless Valve
Dispense Coupler

User Instructions
1. Remove Tamper Evident cap (if installed).

2. Align coupler pins with corresponding slots in the Reusable Stainless Valve.

3. Rotate coupler clockwise 1/3 turn until it stops.
Push handle down to engage.

Coupler properly installed.

Ready to dispense.
Push release tab down with thumb allowing handle to come up.

Rotate coupler 1/3 turn counter clockwise until it stops. Coupler may now be removed.
Typical Rinsing System Diagram

Reusable Stainless Valve Dispense Coupler with rinsing socket

Auxiliary Holding Tank

RSV Coupler

RSV Rinsing Socket

Air or Water

Pump
Typical system using Self Venting Coupler

Self Venting Coupler

Tank being filled

Container being emptied

Extraction Line

Pump

Typical vapor recovery system using Vapor Recovery Coupler

Vapor Recovery Coupler

Tank being filled

Container being emptied

Extraction Line

Vapor Recovery Line

Pump
RSV - Reusable Stainless Valve
Heavy Duty Fill Coupler

User Instructions
1. Heavy Duty Fill Coupler with extraction and vapor recovery hoses attached.

2. Align Heavy Duty Fill Coupler pins with corresponding slots in the Reusable Stainless Valve.

3. Rotate Heavy Duty Fill Coupler clockwise 1/3 turn until it stops.
Engage the coupler by pushing down on the handle.

The system is now ready to dispense.

Typical vapor recovery system using Heavy Duty Vapor Recovery Coupler
Disconnection

1. Pull handle out and lift.
   The system is now closed.

2. Rotate coupler counter clockwise 1/3 turn until it stops.
   Coupler may now be removed.
RSV - Reusable Stainless Valve
Fill Coupler

User Instructions
1. Fill Coupler with filling and vapor recovery hoses attached.

2. Align Fill Coupler pins with corresponding slots in the Reusable Stainless Valve.

3. Rotate Fill Coupler clockwise 1/3 turn until it stops.
Engage the Fill Coupler by pushing down on the handle.

The drum is now ready to fill.

Typical Fill Coupler vapor recovery system
Caution: Turn off pump first!

Pull handle out and lift.

Rotate Fill Coupler counter clockwise 1/3 turn until it stops.

Fill Coupler may now be removed.
RSV - Reusable Stainless Valve
Clinch Ring & Tamper Evident Cap

Installation Instructions
Clinch Ring.

**NOTE:** May be used without Tamper Evident Cap.

1. Align Clinch Ring tabs with corresponding notches in the Reusable Stainless Valve.

2. Position crimping tool over Clinch Ring and push down on levers.

3. Properly installed Clinch Ring.
Tamper Evident Cap.

NOTE: May be used without Clinch Ring.

1. Align cap with slots in the Reusable Stainless Valve.

2. Push down with the palm of your hand on the top of the Tamper Evident Cap opposite the lifting tab. While maintaining downward pressure, rock your hand towards the lifting tab.

1. Grab the lifting tab with pliers.

2. Pull up to break the tab loose.

3. Pull towards you to remove the cap.
RSV System Cleaning & Maintenance

• Always keep your equipment clean to ensure optimum function and safe use.

• When performing cleaning or maintenance jobs on the RSV System, it must be disconnected.

• Only Micro Matic components should be used to repair the system.

Extractor Valve

• Wipe flange with a wet cloth.

• Seals must be replaced when the valve is removed from the container.

• In case of malfunction please contact your Micro Matic representative.

• See instructions “RSV for Servicing Instructions”.

Dispense & Fill Couplers

• Wipe outside of Coupler or Fill Head with a wet cloth.

• Wipe inside of Coupler or Fill Head at the contact area (main gaskets) with a wet cloth.

• Rinsing Socket for cleaning the Dispense Coupler and Fill Coupler can be used.

• Change gaskets during disassembly and cleaning, preferably once a year or as required.

• In case of malfunction please contact your Micro Matic representative.

• See instructions “RSV Dispense and Fill Coupler Servicing Instructions”.

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RSV Technical Data & Features
Extractor Valve & Coupler

- Secure system prevents unauthorized entry (special tool needed to remove Extractor Valve)
- The coupler provides additional safety through the use of non-return valves to prevent unauthorized filling
- <2ml. Dry Break coupling
- Not compatible with other chemical or beverage systems
- Max/min working temperature +45˚C / -10˚C (113˚F / 14˚F)
- Cleaning temperature: Max 85˚C (185˚F) / 2 minutes
- Steaming temperature: Max 130˚C (266˚F) / 2 minutes

Materials

**Extractor Valve**
- Extractor Valve: Stainless Steel
- Seal Options: Viton, FKM-Hi Per, EPDM
  - others upon request

**Dispense Coupler**
- Body: Stainless Steel
- Probe: Stainless Steel
- Seal Options: Viton, FKM-Hi Per, EPDM
  - others upon request

<table>
<thead>
<tr>
<th>Component</th>
<th>Material</th>
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<tr>
<td>Liquid out -</td>
<td></td>
</tr>
<tr>
<td>Internal thread:</td>
<td>1” BSP</td>
</tr>
<tr>
<td>Air inlet -</td>
<td></td>
</tr>
<tr>
<td>Standard Coupler:</td>
<td>Self venting</td>
</tr>
<tr>
<td>Air inlet -</td>
<td></td>
</tr>
<tr>
<td>Vapor Recover Coupler</td>
<td></td>
</tr>
<tr>
<td>with internal thread:</td>
<td>¼” NPT</td>
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**Fill Coupler**
- Body: Stainless Steel
- Probe: Stainless Steel
- Seal Options: Viton, FKM-Hi Per, EPDM
  - others upon request

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<tr>
<td>with internal thread:</td>
<td>¼” NPT</td>
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RSV - Reusable Stainless Valve

Installation Instructions
1. Cut flex tube to correct length. If the correct length is not known, refer to the RSV - H3 Dimension page at:

   www.micromatic.com

2. Soak end of flex tube in hot water until flex tube softens.

3. Push flex tube onto valve until it stops at base of valve.
4. Insert valve/tube assembly into drum opening.

5. Align installation tool cams with corresponding slots in the reusable stainless valve.

6. Torque reusable stainless valve to 20 - 25 ft. lbs. (27.1 - 33.9 Newton Meters)
Optional Tamper Evident Accessories

2.5”x5 plastic drum with Tamper Evident Wire.

56x4 plastic drum with Clinch Ring.

2” BSP steel drum with Clinch Ring.
Optional Tamper Evident Accessories

2.5”x5 plastic drum with Tamper Evident Wire and Tamper Evident Cap.

56x4 plastic drum with Clinch Ring and Tamper Evident Cap.

2” BSP steel drum with Clinch Ring and Tamper Evident Cap.
RSV - Reusable Stainless Valve

Servicing Instructions
Place the Reusable Stainless Valve onto arbor section of bench tool #741-093.

Move bench tool lever towards the plunger.

Maintaining firm lever pressure, rotate the valve body to disengage the three bayonet locks located on the valve body.

Remove the Reusable Stainless Valve from bench tool and separate valve body from tube assembly.

Remove square seal from valve body and discard.
Remove the profile seal by placing the spring retainer and the profile seal on opposite sides of the lower ‘U’ blade located on the Bench Tool.

Lock the upper ‘U’ blade between spring retainer and profile seal.

Push forward to remove profile seal.

**Caution:** Maintain a firm grip on the down tube as the spring is under pressure.
Using a new spring, spring retainer and profile seal, create the tube assembly.

Place the tube assembly on arbor of bench tool.

Lubricate the spring retainer and profile seal with silicon lubricant or a lubricant that is compatible with the product. A lubricant must be used.

Reusable Stainless Valve replacement parts.

1. Lubricate the spring retainer and profile seal with silicon lubricant or a lubricant that is compatible with the product. A lubricant must be used.

2. Using a new spring, spring retainer and profile seal, create the tube assembly.

3. Place the tube assembly on arbor of bench tool.
Move bench tool lever towards the plunger to install new profile seal over the ventil on the tube assembly.

Repeat the motion to ensure proper installation of the profile seal.

Inspect profile seal on ventil to ensure uniform positioning.

Repeat step 4 if seal is incorrectly positioned.

Install new square seal.

Place the Reusable Stainless Valve main body and tube sub-assembly on arbor of service tool.

Pull service tool handle forward to depress spring.
Twist valve body to re-engage bayonet locks between valve and tube assembly.

Move the bench tool lever away from plunger and remove the Reusable Stainless Valve assembly.

Correctly assembled Reusable Stainless Valve.
RSV - Reusable Stainless Valve
DVC 1800 Coupler

Servicing Instructions
1. Remove dry break seal from coupler and discard.

2. Remove main seal from coupler body and discard.

3. Disassemble coupler by removing c-clips and clevis pins in order to replace the O-ring seal.

   **Note:** This step and steps 4 and 5 in disassembly and steps 1, 3 and 4 in assembly do not apply to couplers with rivets.

4. Separate probe assembly from coupler body.
Remove O-ring seal from coupler body and discard.

RSV Coupler Assembly

DVC 1800 Viton Seal Kit.

Install new O-ring seal into groove.

Note: Lubricate O-ring seal with silicon lubricant or a lubricant that is compatible with the product prior to installation. A lubricant must be used.

Press the new dry break seal firmly into the probe until the dry break seal locks into place.
RSV Coupler Servicing

3

Turn coupler body upside down.

Clean main seal groove.

Install new main seal.

4

Push probe assembly into coupler body.

Slide lock arm into lock arm guide.

5

Install clevis pins and c-clips as shown.

Correctly assembled coupler.
RSV - Reusable Stainless Valve
DVC 2400 Coupler

Servicing Instructions
1. Remove dry break seal from probe and discard.

2. Remove insert and discard.

3. Remove spring from probe and discard.

4. Remove main seal from coupler body and discard.
Remove O-ring seal from coupler body and discard.

Disassemble coupler by removing c-clips and clevis pins in order to replace O-ring seal.

Note: This step and steps 6 and 7 in disassembly and steps 1, 7 and 8 in assembly do not apply to couplers with rivets.

Separate probe assembly from coupler body.
1. Turn coupler body upside down.
2. Clean main seal groove.
3. Install new main seal.

**Note:** Lubricate O-ring seal with silicon lubricant or a lubricant that is compatible with the product prior to installation. A lubricant must be used.

Install new O-ring seal into groove.

Install spring by placing the largest end of spring into the probe and wiggle in a clockwise direction while pressing down firmly.
Install new dry break seal on insert.

**Note:** Seal must be secured over groove on insert for proper installation.

Place new dry break seal assembly on spring.

Press the new dry break seal assembly firmly into the probe until the dry break seal locks into place.

Push probe assembly into coupler body.

Slide lock arm into lock arm guide.
Install clevis pins and c-clips as shown.

Correctly assembled coupler.
RSV - Reusable Stainless Valve
Fill Coupler & Heavy Duty Fill Coupler

Servicing Instructions
1. Unlock and remove hinge pin.

2. Pull handle assembly away from body.

3. Pull the probe assembly and body apart.

4. Remove dry break seal from probe.
Remove O-ring from inside body.

Remove main gasket from body.
RSV coupler and fill head replacement parts. Do not reuse old components. Clean body in soap or a solution that is compatible with the product to remove dirt and debris before assembly.

1. Install new O-ring seal into groove.

**NOTE:** Lubricate O-ring seal with silicon grease or a product that is compatible with the product prior to installing. A lubricant must be used.

2. Clean foreign debris from groove before installing new main gasket in the groove on the body.

3. Replace dry break seal.

**NOTE:** Seal must be secured over groove for proper installation.
5. Push probe assembly into body.

6. Reinstall handle assembly into body. Ensure that the locking arm is in the locking arm guide.

7. Replace the hinge pin. **NOTE: Lock hinge pin securely.**

8. Correctly assembled Fill Coupler and Heavy Duty Fill Coupler.
RSV - Reusable Stainless Valve
Heavy Duty Servicing Tools

User Instructions

2” BSP  56x4  2.5”x5  70x6
Place the Reusable Stainless Valve on base of #740-907 Final Assembly tool.

Align tube assembly of the Reusable Stainless Valve with groove in ram of Final Assembly Tool.

While applying downward pressure on the Final Assembly Tool press handle, rotate the base handle clockwise to disengage the three bayonet locks located on the valve body.

Remove the Reusable Stainless Valve from Final Assembly Tool.

Separate tube from valve body.
Remove square seal and discard.

Using the #741-093 DS-RSV Bench Tool, remove the profile seal by placing the spring retainer and the profile seal on opposite sides of the lower ‘U’ blade located on the Bench Tool.

Lock the upper ‘U’ blade between spring retainer and profile seal.

Push forward to remove profile seal.

**Caution:** Maintain a firm grip on the down tube as the spring is under pressure.
Reusable Stainless Valve replacement parts.

Lubricate spring retainer and profile seal with silicon lubricant or a lubricant that is compatible with the product. A lubricant must be used.

Using a new spring, spring retainer and profile seal, create the tube assembly.

Remove the arbor from the base of #740-906 Valve Assembly Tool.

Slide the spring retainer and profile seal onto the arbor.
4. Insert the arbor with spring retainer and profile seal into the base hole of the Valve Assembly Tool.

5. Place down tube and spring on top of spring retainer.

6. Align down tube within the slot of ram.

7. Press the two buttons on the Valve Assembly Tool as shown. Keep all foreign objects clear from tool.

**Caution:** Serious bodily injury may occur if assembly tool is not operated as shown.
Release the two buttons on the Valve Assembly Tool.

Remove the sub-assembly from the Valve Assembly Tool.

Inspect profile seal on venti to ensure uniform positioning.

Repeat steps 7 & 8 if seal is incorrectly positioned.

**Note:** Arbor should remain in fixture if steps 7 & 8 are repeated.

Install new square seal on the Reusable Stainless Valve body.
Place the Reusable Stainless Valve main body and the tube sub-assembly on the base of Final Assembly tool.

While applying downward pressure on the Final Assembly Tool press handle, rotate the base handle counter clockwise to engage the three bayonet locks located on the valve body.

Remove completed the Reusable Stainless Valve from the Final Assembly tool.

Correctly assembled the Reusable Stainless Valve.