

DV - Drum Valve

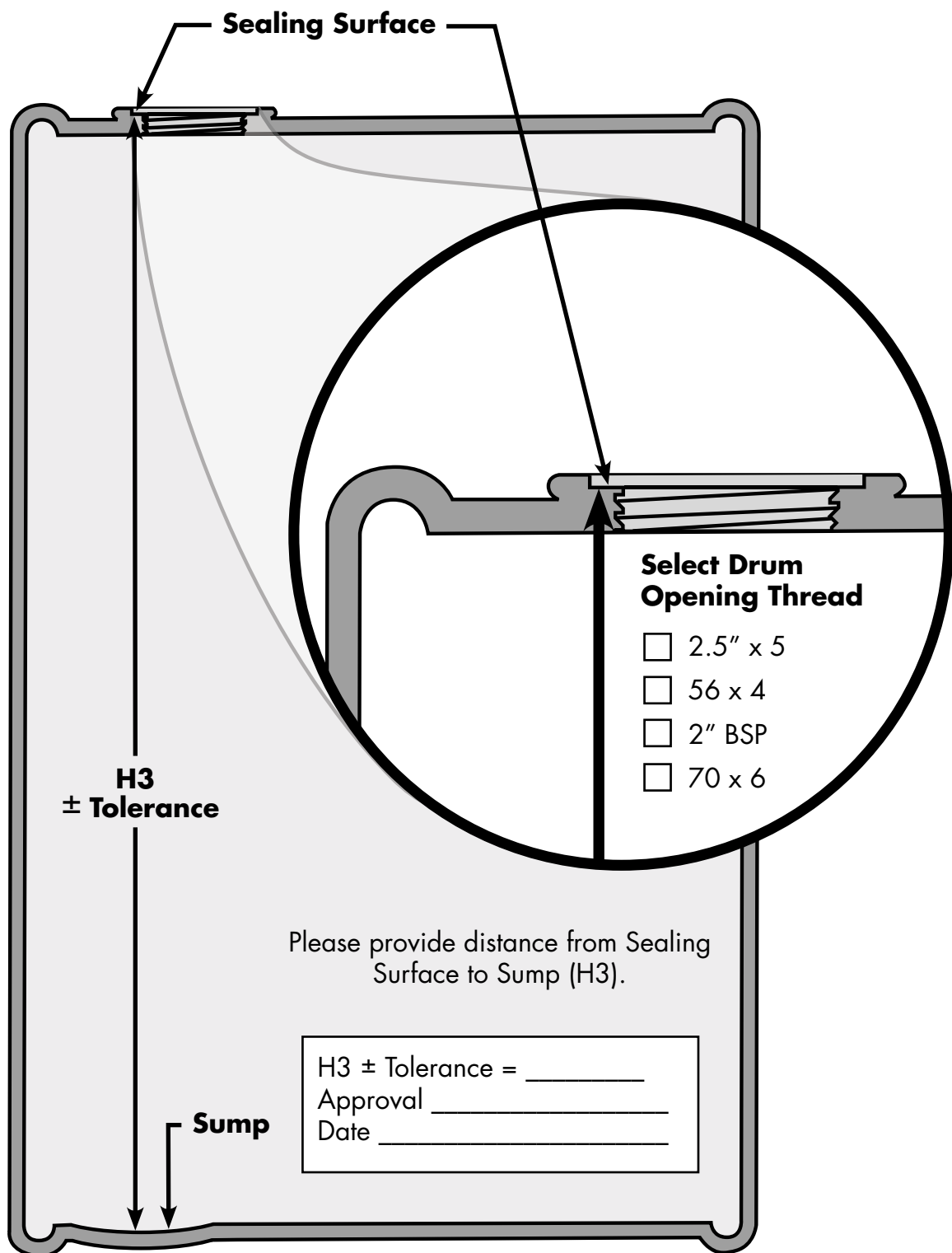


Comprehensive
Instructions

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DV - H3 Dimension



DV - Drum Valve Instructions

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

Safety precautions – Warning!

Keep workplace and equipment clean.

Containers with Drum Valve must only be connected to Drum Valve Coupler.

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

Please handle Drum Valve carefully – do not drop.

Prevent foreign matter and dust from getting into the Drum 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 Drum Valve

The Drum 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 Drum Valve.

DV - Drum Valve Coupler



User Instructions



1 Remove Tamper Evident cap (if installed).



2 Align coupler pins with corresponding slots in Drum 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.

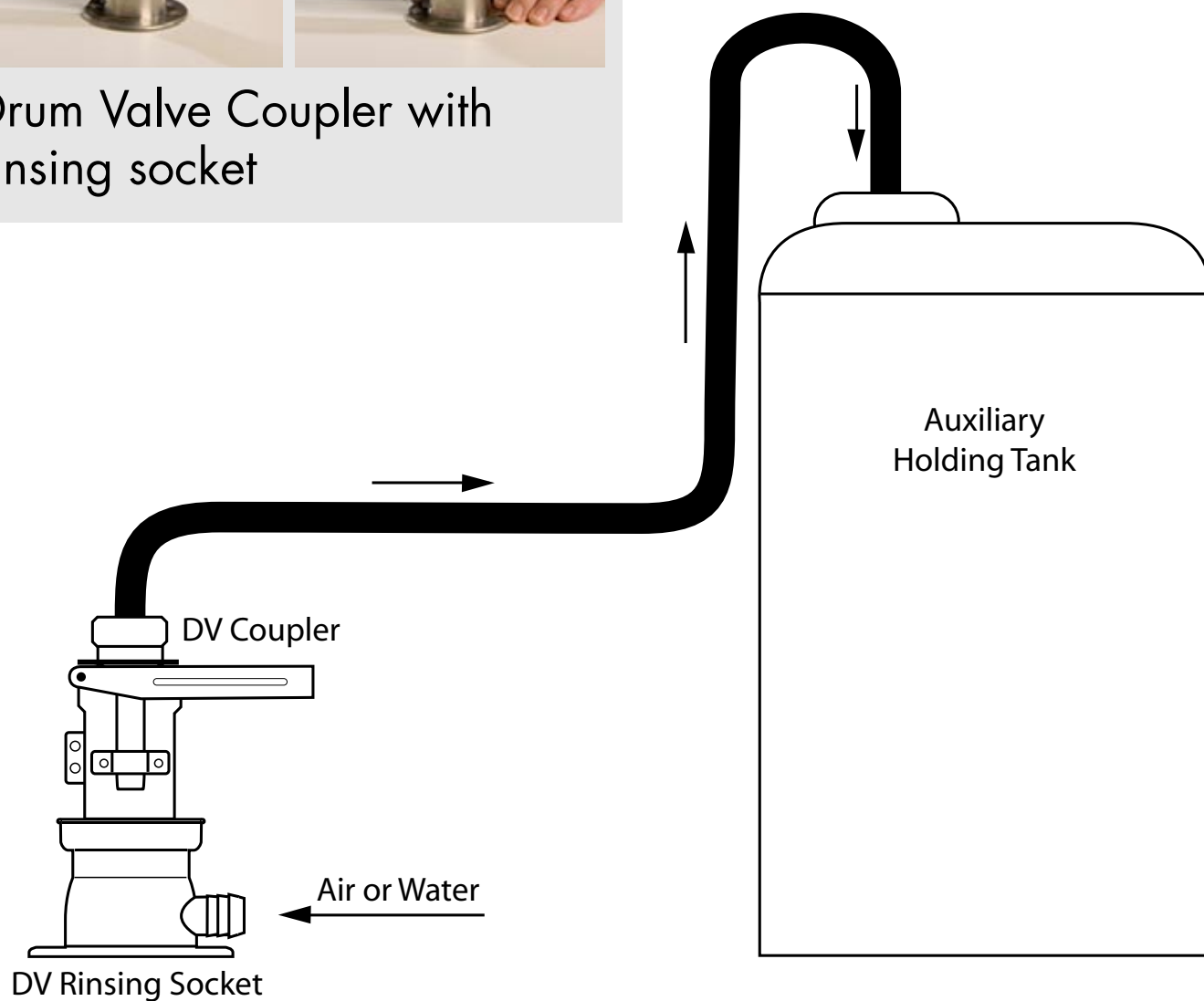


Rotate coupler 1/3 turn counter clockwise until it stops. Coupler may now be removed.

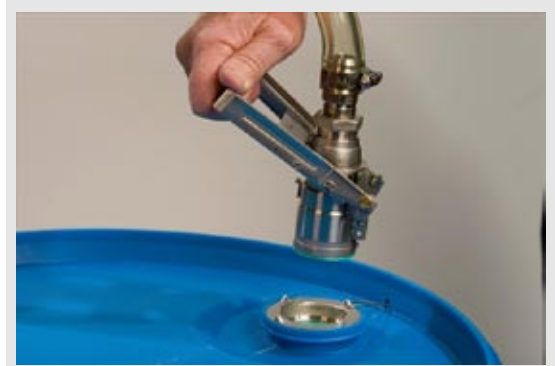
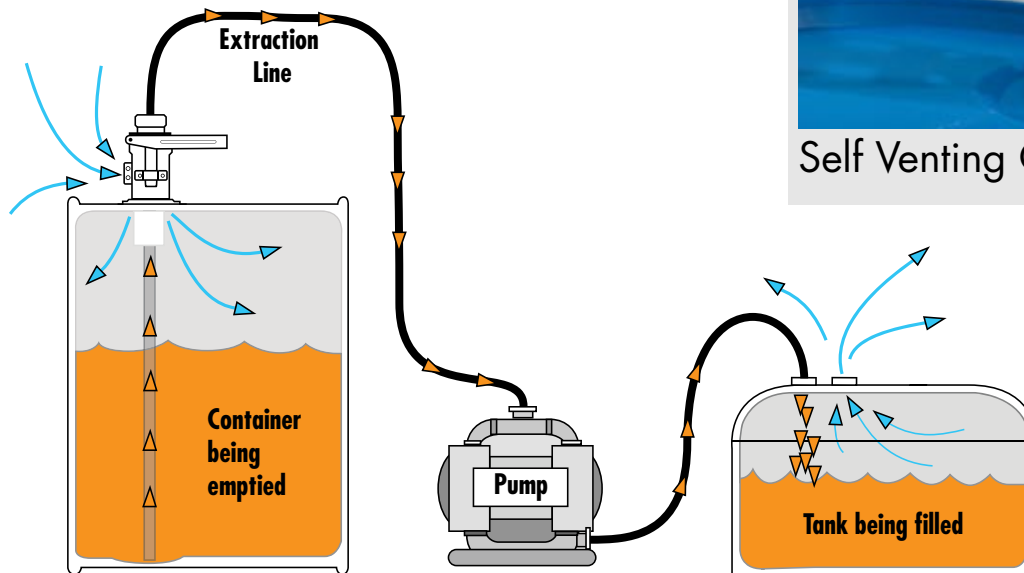
Typical Rinsing System Diagram



Drum Valve Coupler with rinsing socket

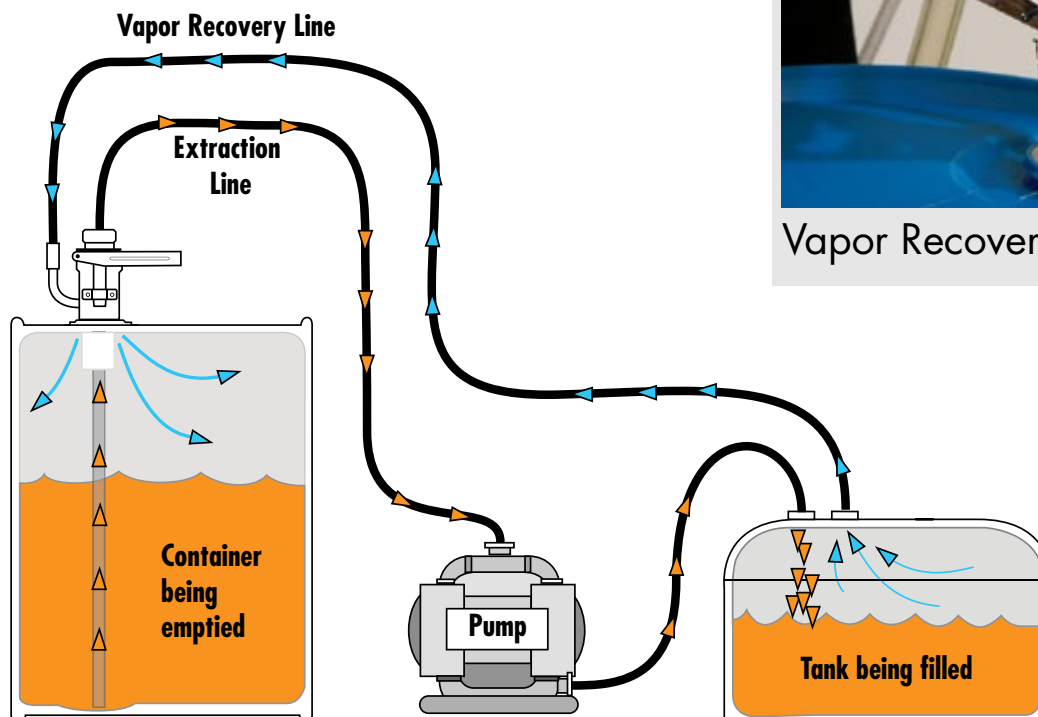


Typical system using
Self Venting Coupler



Self Venting Coupler

Typical vapor recovery system
using Vapor Recovery Coupler



Vapor Recovery Coupler

DV - Drum Valve

Heavy Duty Coupler



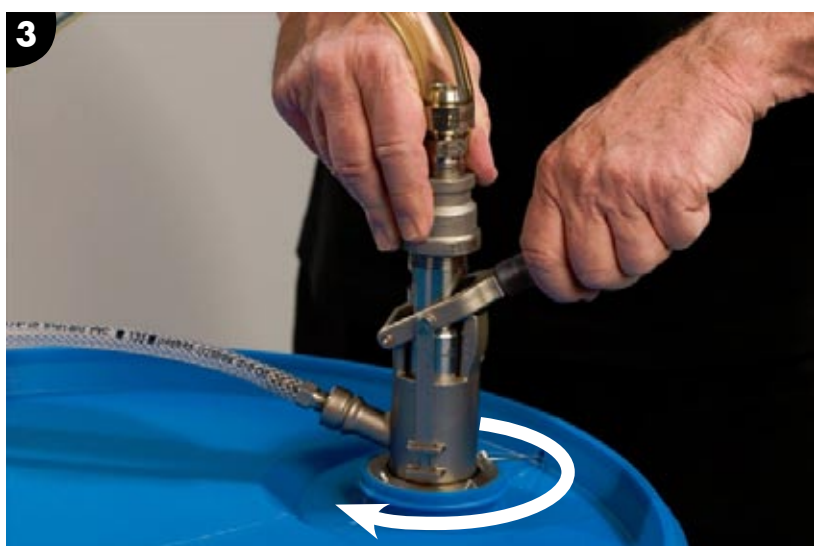
User Instructions



Heavy Duty Coupler with extraction and vapor recovery hoses attached.



Align Heavy Duty Coupler pins with corresponding slots in drum valve.



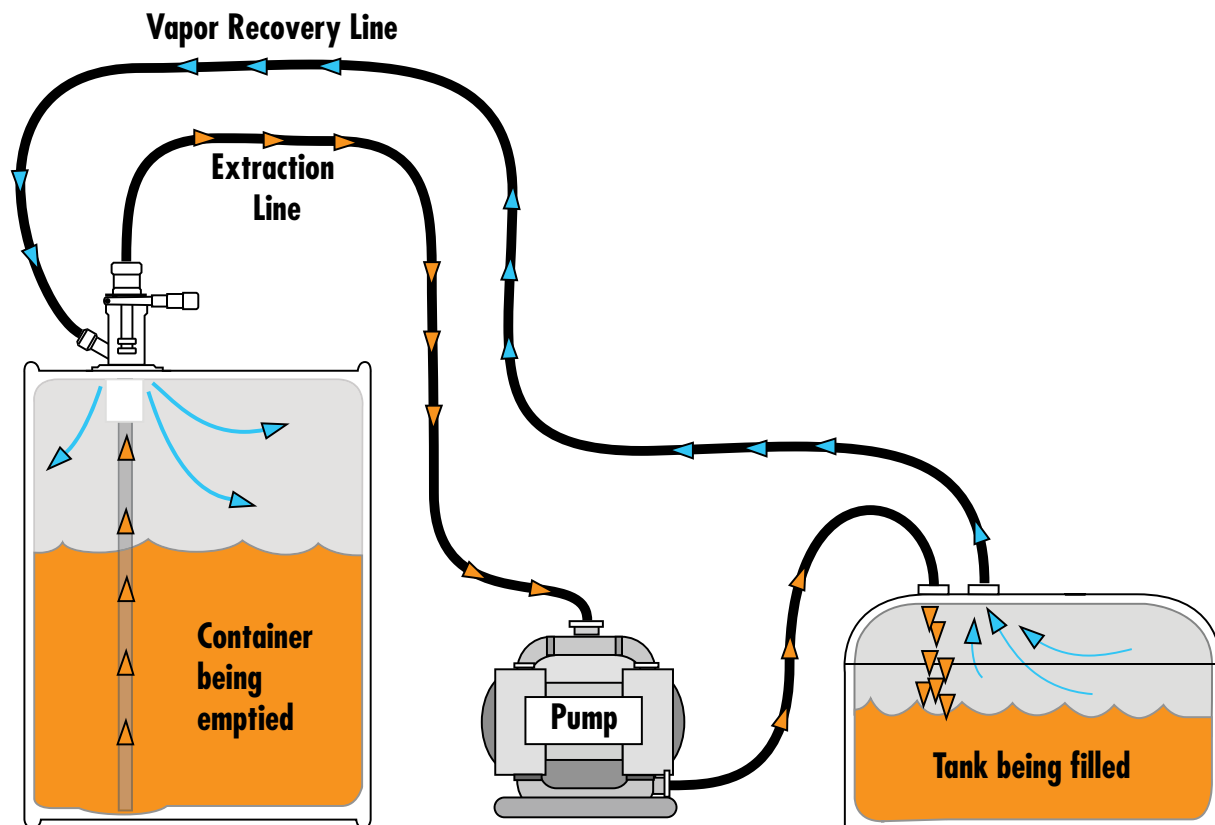
Rotate Heavy Duty Coupler clockwise 1/3 turn until it stops.

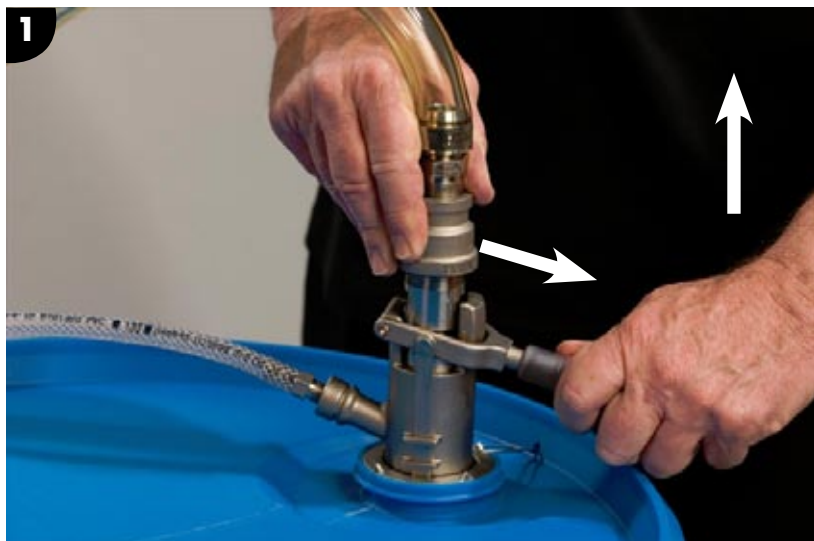
4


Engage the coupler by pushing down on the handle.

The system is now ready to dispense.

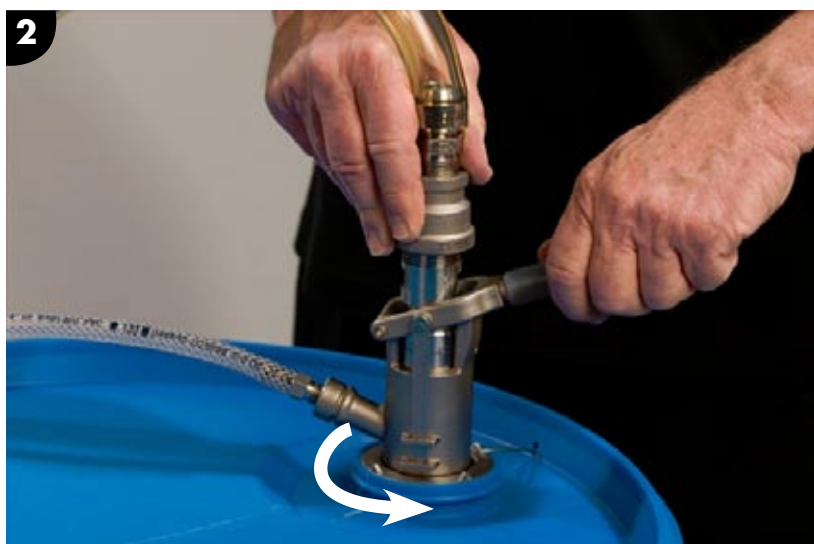
Typical vapor recovery system using Heavy Duty Vapor Recovery Coupler





Pull handle out and lift.

The system is now closed.



Rotate coupler counter clockwise
1/3 turn until it stops.

Coupler may now be removed.

DV - Drum Valve

Fill Head



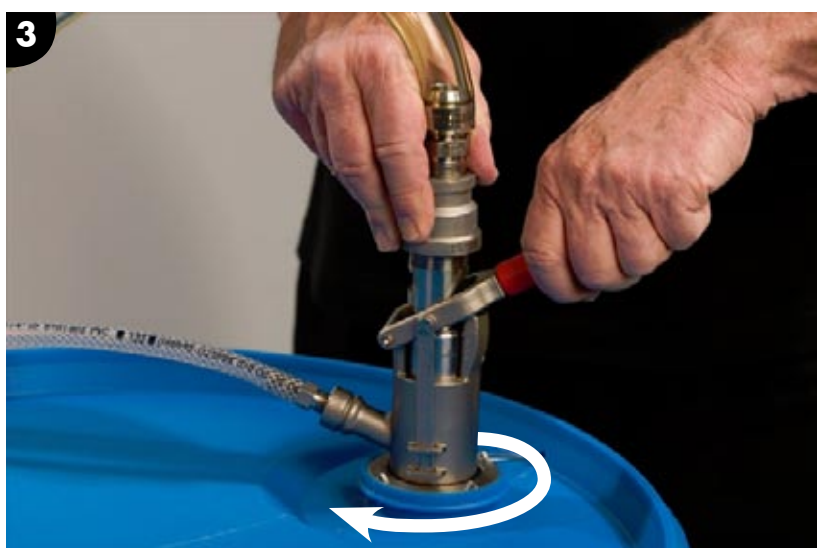
User Instructions



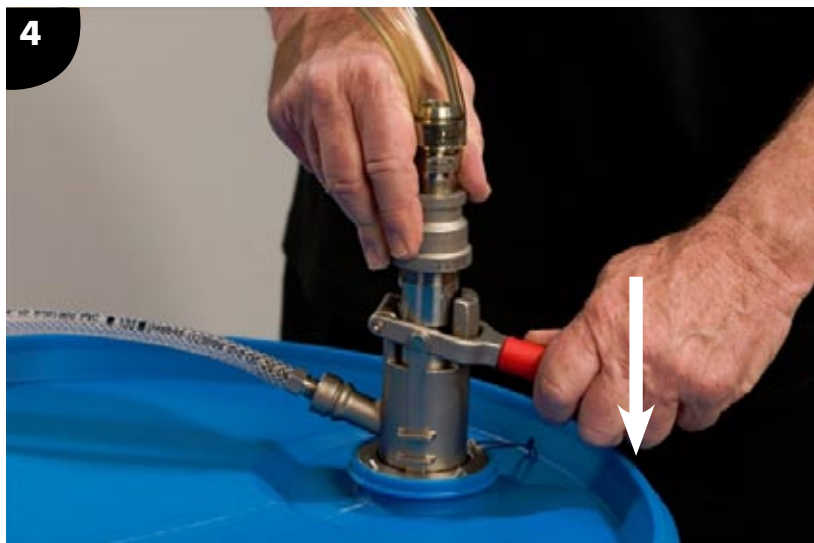
1 Fill Head with filling and vapor recovery hoses attached.



2 Align Fill Head pins with corresponding slots in Drum Valve.



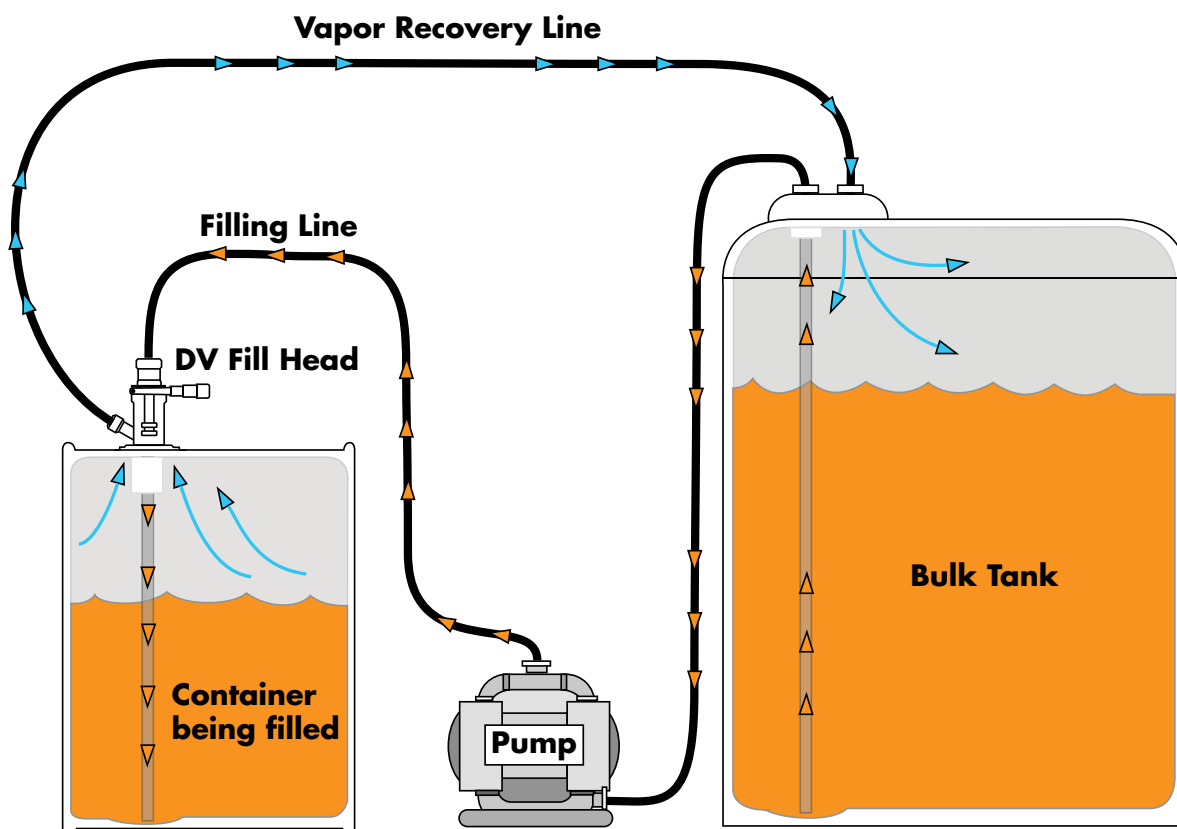
3 Rotate Fill Head clockwise 1/3 turn until it stops.

4


Engage the Fill Head by pushing down on the handle.

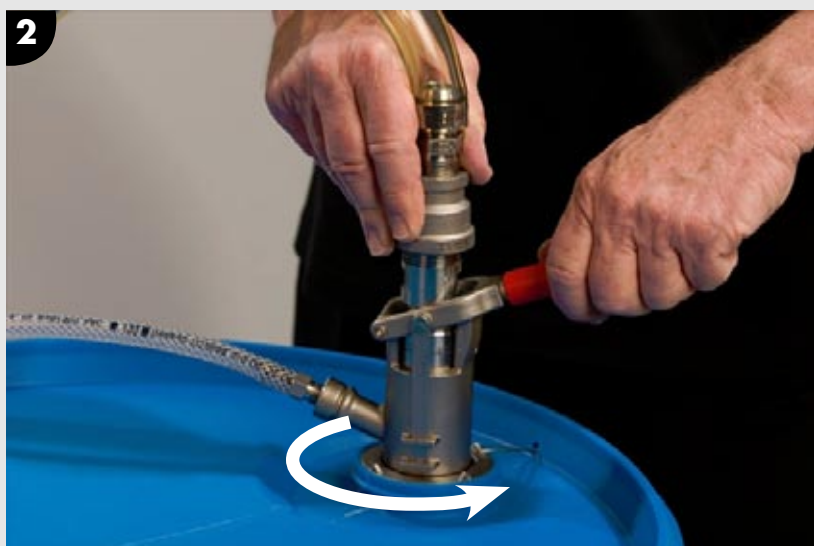
The drum is now ready to fill.

Typical Fill Head vapor recovery system



**Caution: Turn off pump first!**

Pull handle out and lift.



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

Fill Head may now be removed.

DV - Drum Valve

Clinch Ring & Tamper Evident Cap



Installation Instructions

1



Clinch Ring.

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

2



Align Clinch Ring tabs with corresponding notches
in Drum Valve.

3



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



Properly installed Clinch Ring.

1


Tamper Evident Cap.

NOTE: May be used without Clinch Ring.

2


Align cap with slots in Drum Valve.

3


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.



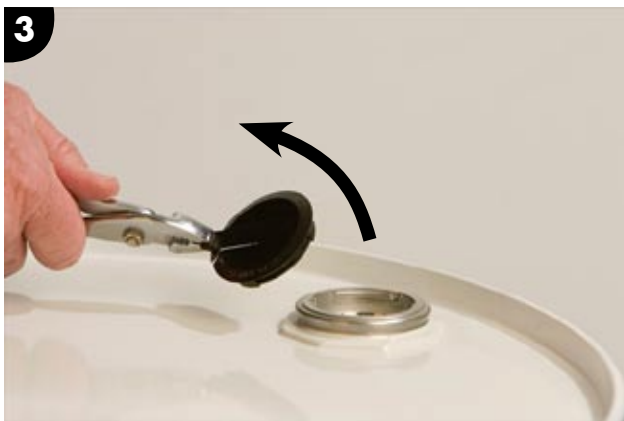
Properly installed Tamper Evident Cap.



Grab the lifting tab with pliers.



Pull up to break the tab loose.



Pull towards you to remove the cap.

DV System Cleaning & Maintenance

- Always keep your equipment clean to ensure optimum function and safe use.
- When performing cleaning or maintenance jobs on the DV 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 "DV Valve Servicing Instructions".

Coupler & Fill Head

- 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 Coupler and Fill Head 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 "DV Coupler and Fill Head Servicing Instructions".

DV 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

Coupler

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

Liquid out -
 Internal thread: 1" BSP

Air inlet -
 Standard Coupler: Self venting

Air inlet -
 Vapor Recover Coupler
 with internal thread: ¼"NPT

Fill Head

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

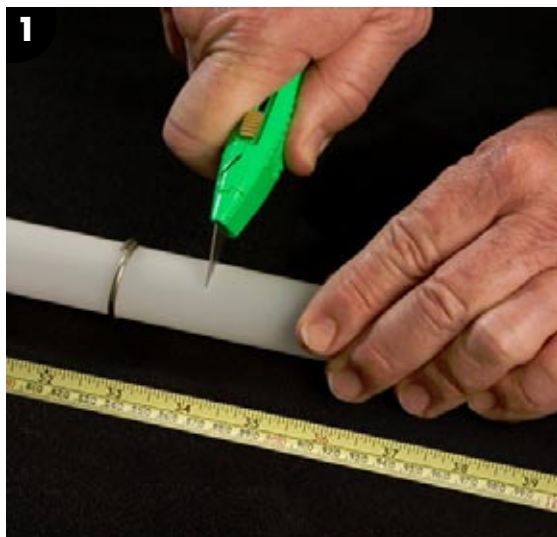
Liquid out -
 External thread: 1" NPT

Vapor Recover Fill Head
 with internal thread: ¼"NPT

DV - Drum Valve



Installation Instructions



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

www.industrial.micromatic.com



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



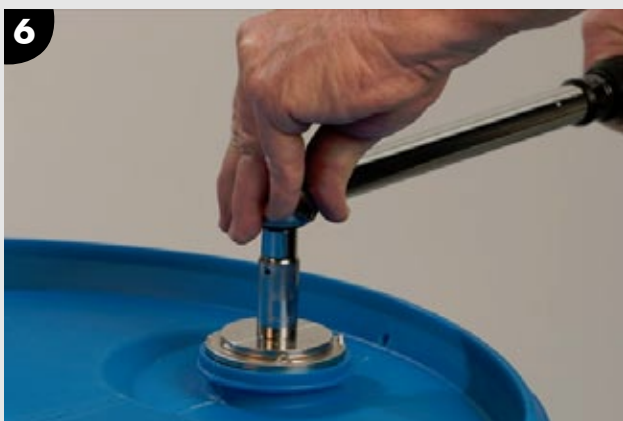
3 Push flex tube onto valve until it stops at base of valve.

4

Insert valve/tube assembly into drum opening.

5

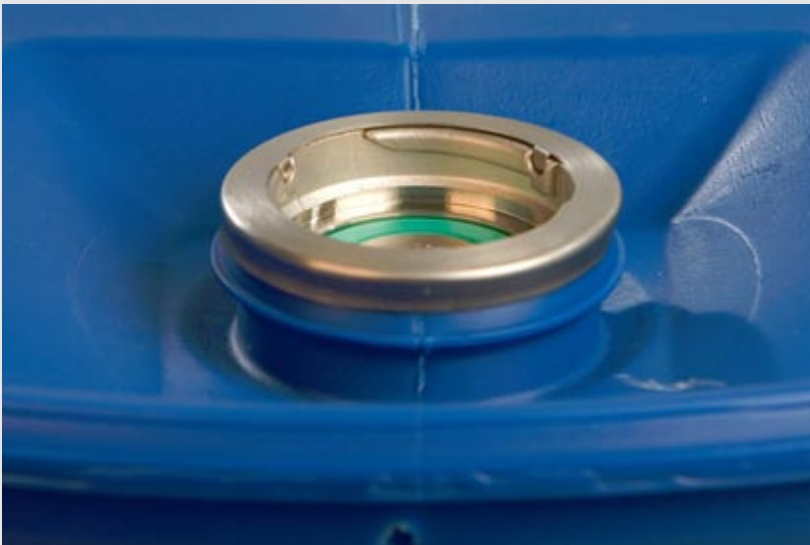
Align installation tool cams with corresponding slots in drum valve.

6

Torque drum valve to 20 - 25 ft. lbs.
(27.1 - 33.9 Newton Meters)



2.5"x5 plastic drum with
Tamper Evident Wire.



56x4 plastic drum with Clinch Ring.



2" BSP steel drum with Clinch Ring.



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.

Notes:

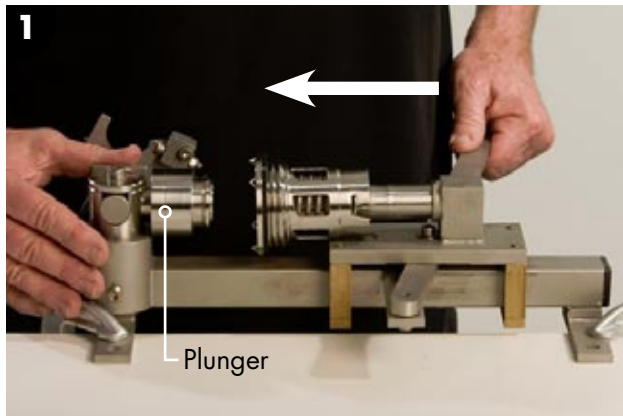
DV - Drum Valve



2.5"x5

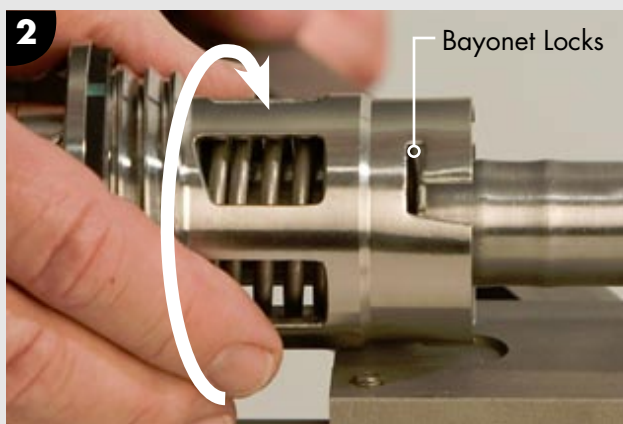
70x6

Servicing Instructions

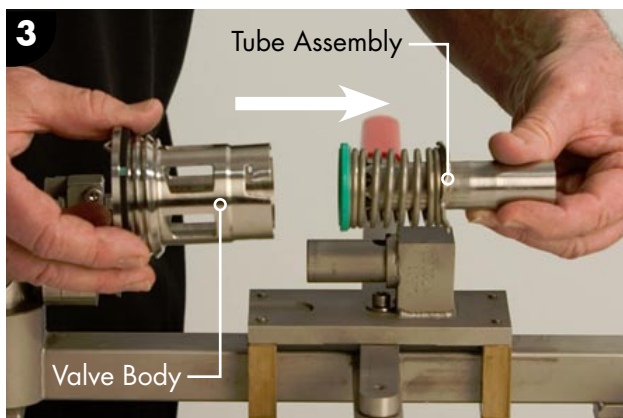


Place Drum Valve onto arbor section of bench tool #741-093.

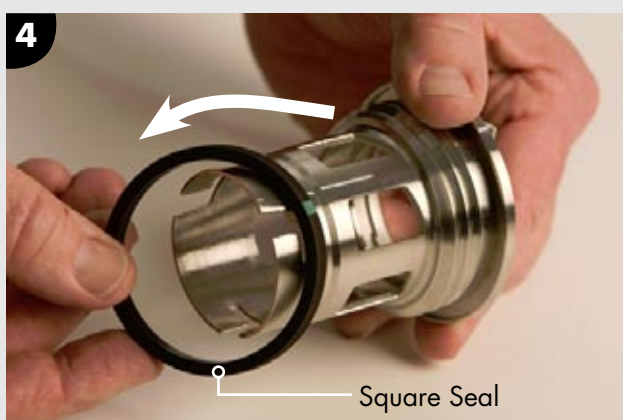
Move bench tool lever towards the plunger.



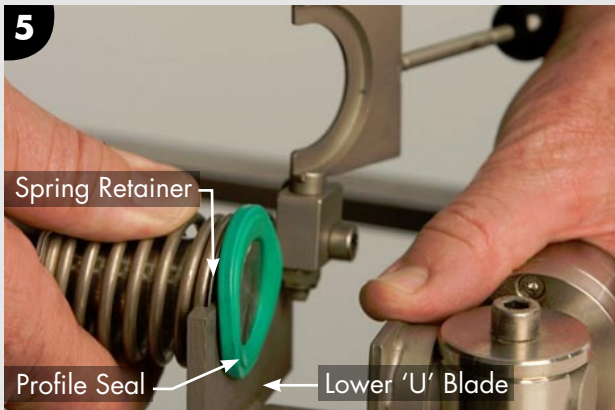
Maintaining firm lever pressure, rotate the valve body to disengage the three bayonet locks located on the valve body.



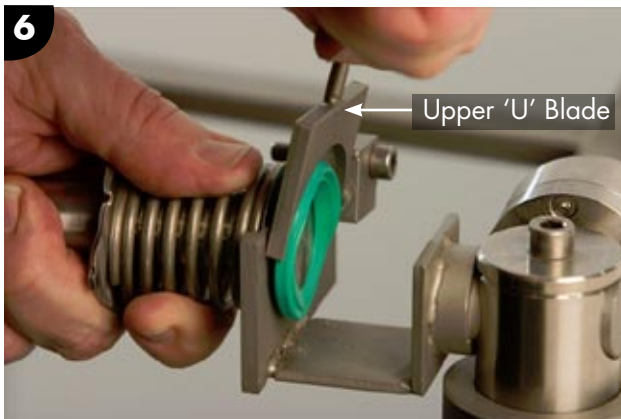
Remove Drum Valve from bench tool and separate valve body from tube assembly.



Remove square seal from valve body and discard.

5


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.

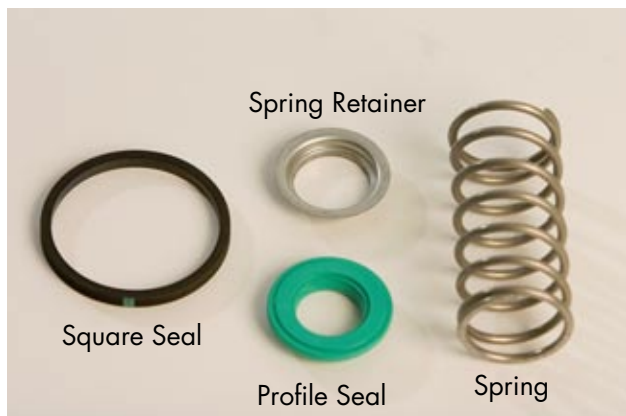
6


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

7


Push forward to remove profile seal.

Caution: Maintain a firm grip on the down tube as the spring is under pressure.



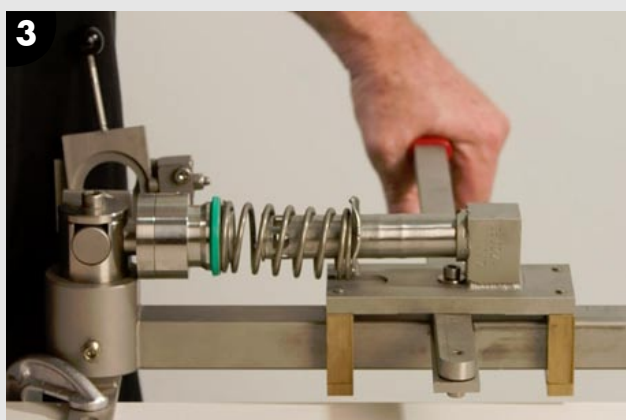
Drum Valve replacement parts.



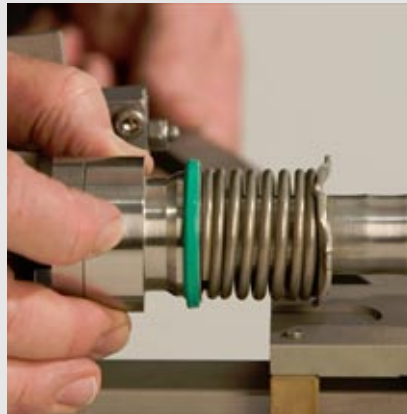
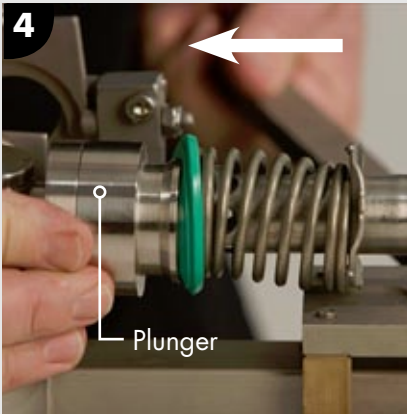
Lubricate the spring retainer and profile seal with silicon lubricant or a lubricant that is compatible with the product. A lubricant must be used.



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

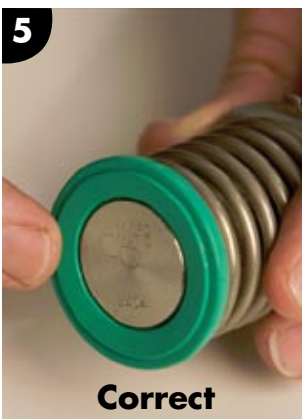


Place the tube assembly on arbor of bench tool.



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.

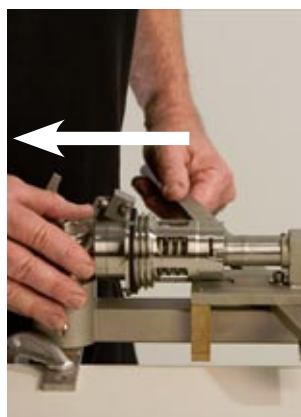


Inspect profile seal on ventil to ensure uniform positioning.

Repeat step 4 if seal is incorrectly positioned.

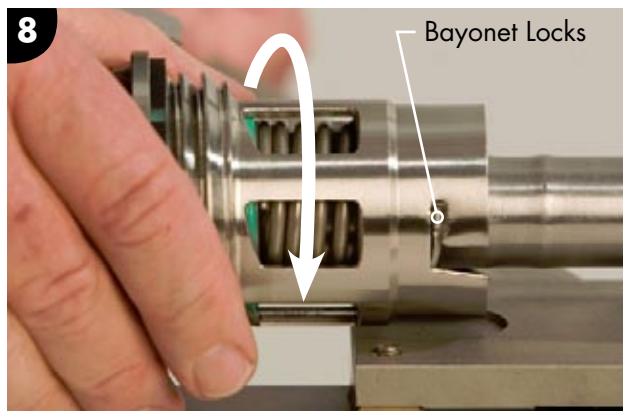


Install new square seal.

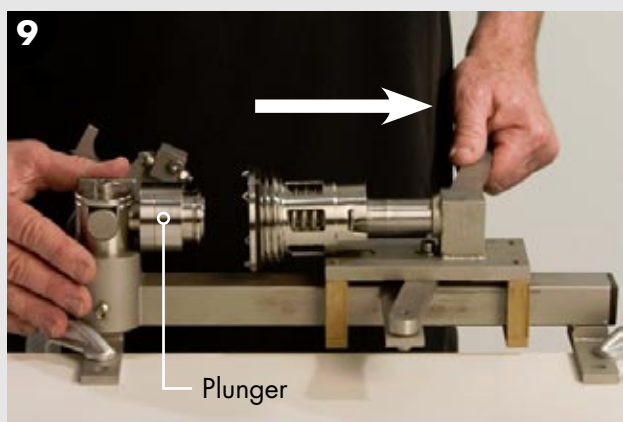


Place drum valve main body and tube sub-assembly on arbor of service tool.

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 Drum Valve assembly.



Correctly assembled Drum Valve.

DV - Drum Valve

DVC 1800 Coupler



Servicing Instructions



Remove dry break seal from coupler and discard.

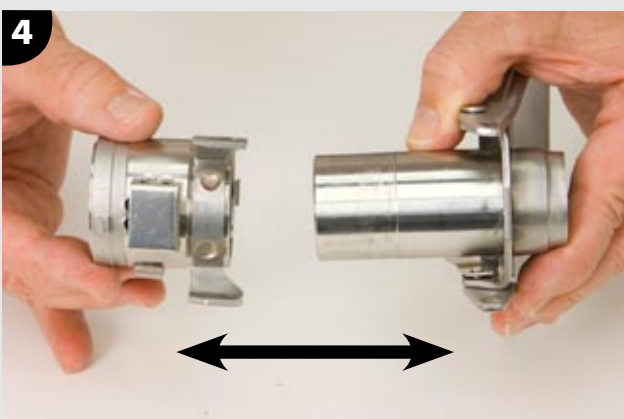
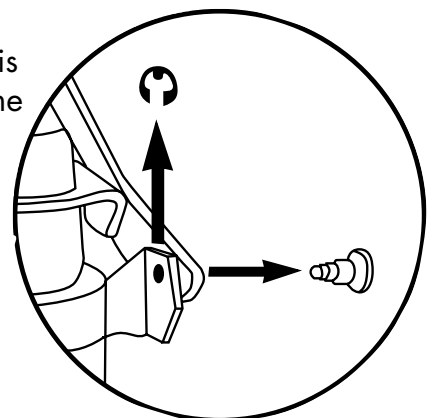


Remove main seal from coupler body and discard.



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.



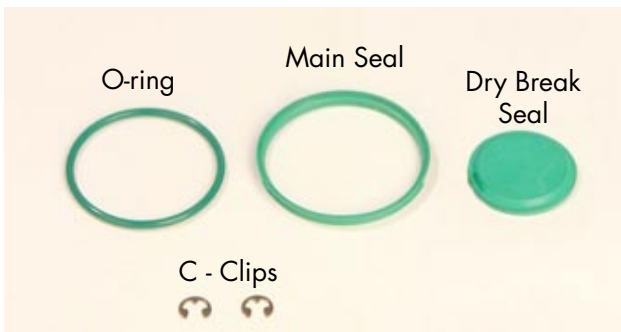
Separate probe assembly from coupler body.

5


Remove O-ring seal from coupler body and discard.

DV Coupler Assembly

DVC 1800 Viton Seal Kit.


1


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.

2


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



Turn coupler body upside down.

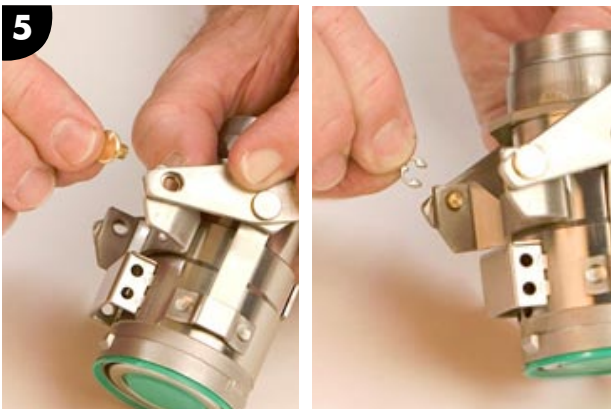
Clean main seal groove.

Install new main seal.

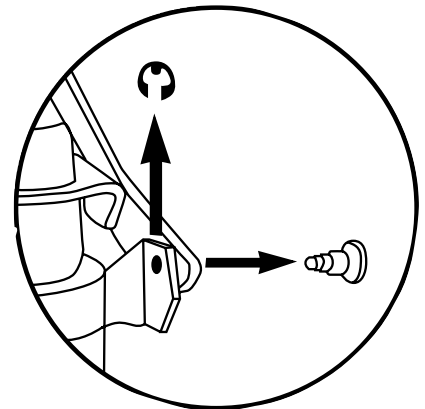


Push probe assembly into coupler body.

Slide lock arm into lock arm guide.



Install clevis pins and c-clips as shown.



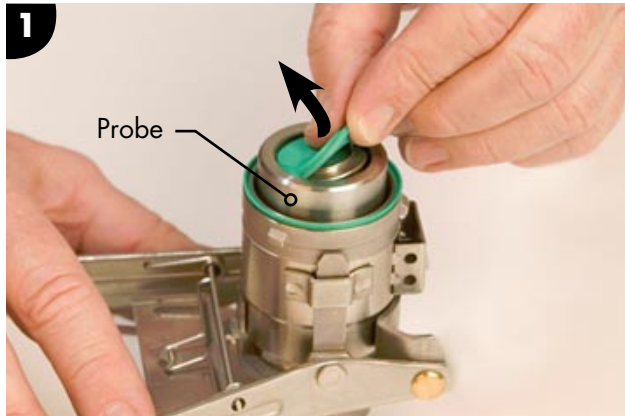
Correctly assembled coupler.

DV - Drum Valve

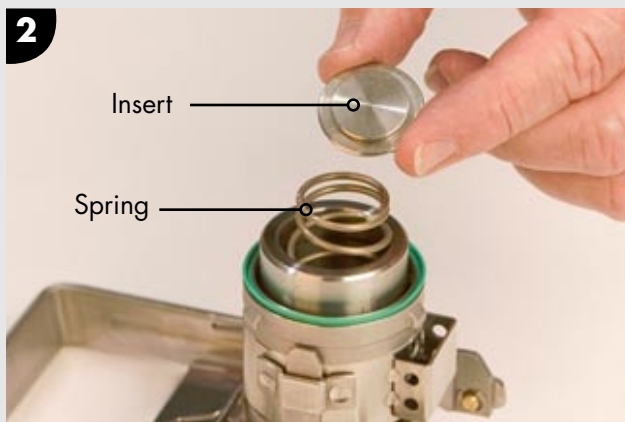
DVC 2400 Coupler



Servicing Instructions



Remove dry break seal from probe and discard.



Remove insert and discard.



Remove spring from probe and discard.

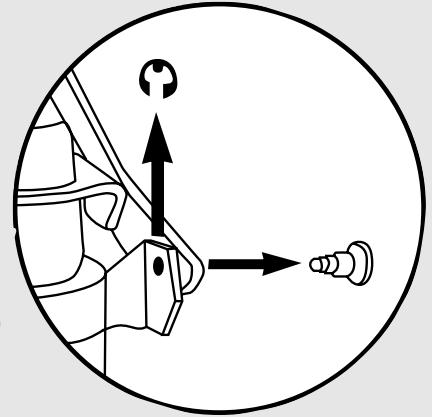
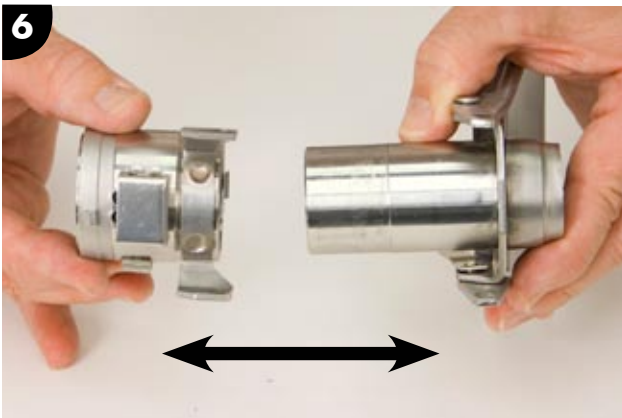


Remove main seal from coupler body and discard.

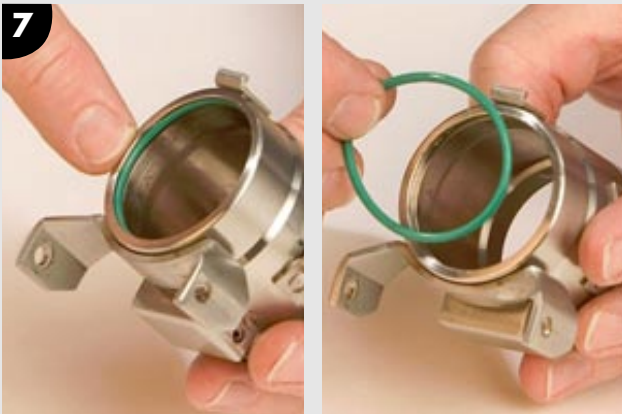
5


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

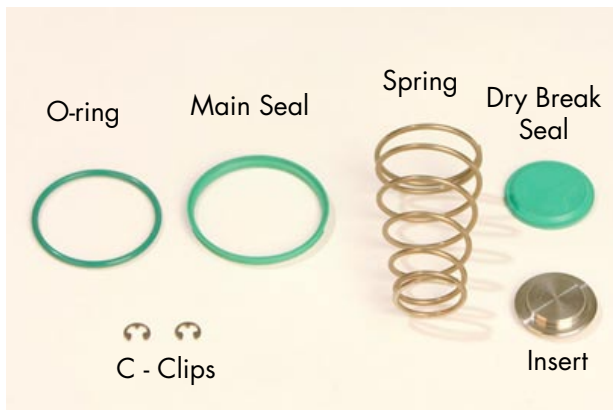
Note: This step and steps 6 and 7 in disassembly and steps 1, 7 and 8 in assembly do not apply to couplers with rivets.


6


Separate probe assembly from coupler body.

7


Remove O-ring seal from coupler body and discard.



DVC 2400 Viton Seal Kit.

1



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.

2



Turn coupler body upside down.

Clean main seal groove.

Install new main seal.

3

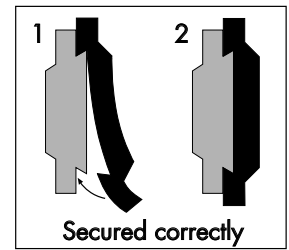


Install spring by placing the largest end of spring into the probe and wiggle in a clockwise direction while pressing down firmly.



Install new dry break seal on insert.

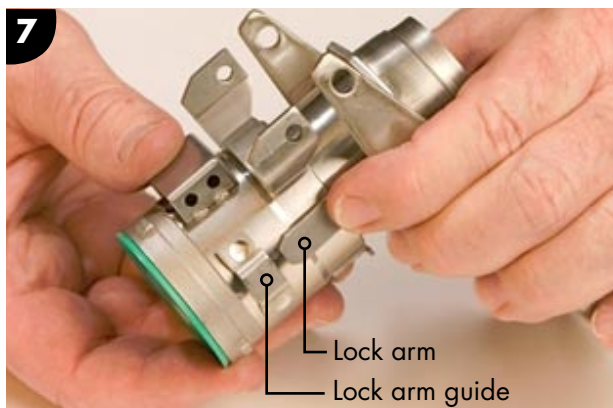
Note: Seal must be secured over groove on insert for proper installation.



Place new dry break seal assembly on spring.

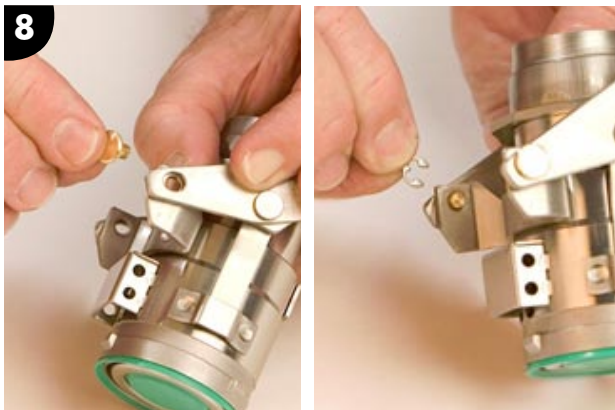


Press the new dry break seal assembly firmly into the probe until the dry break seal locks into place.

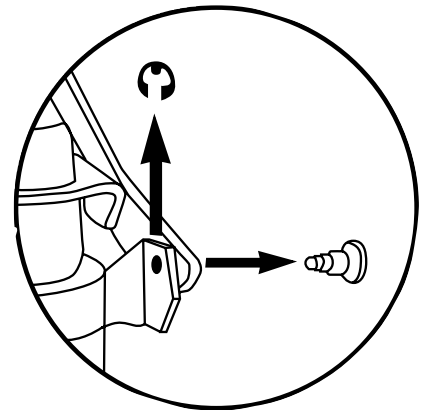


Push probe assembly into coupler body.

Slide lock arm into lock arm guide.



Install clevis pins and c-clips as shown.



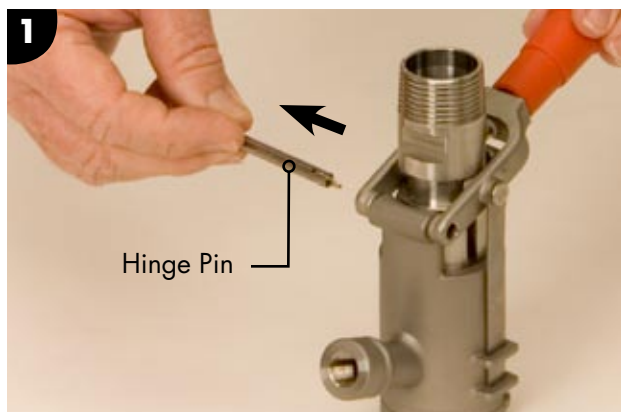
Correctly assembled coupler.

DV - Drum Valve

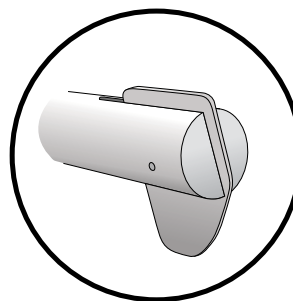
Fill Head & Heavy Duty Coupler



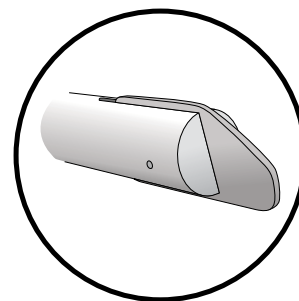
Servicing Instructions



Unlock and remove hinge pin.



Locked



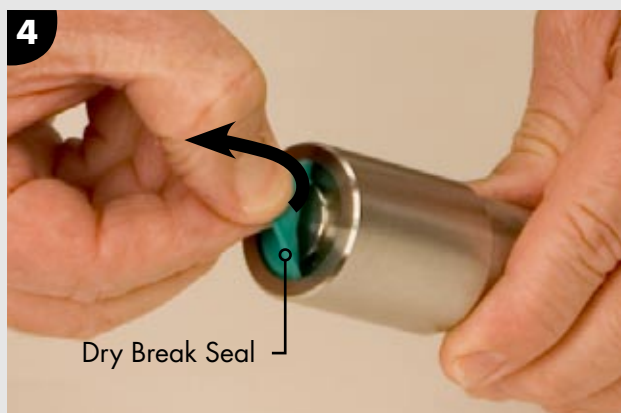
Unlocked



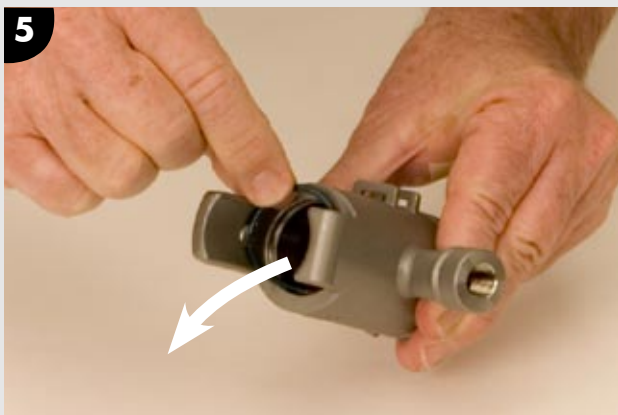
Pull handle assembly away from body.



Pull the probe assembly and body apart.



Remove dry break seal from probe.



Remove O-ring from inside body.



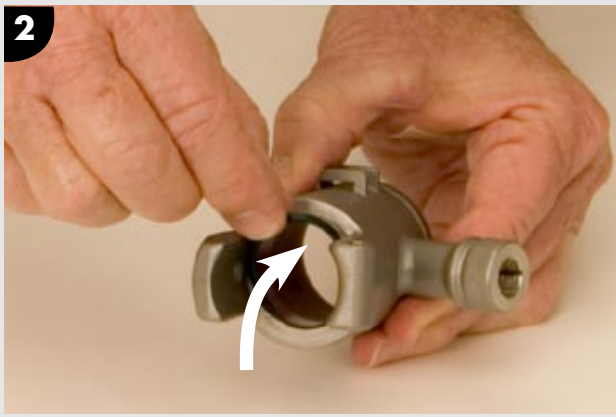
Remove main gasket from body.

1



DV 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.

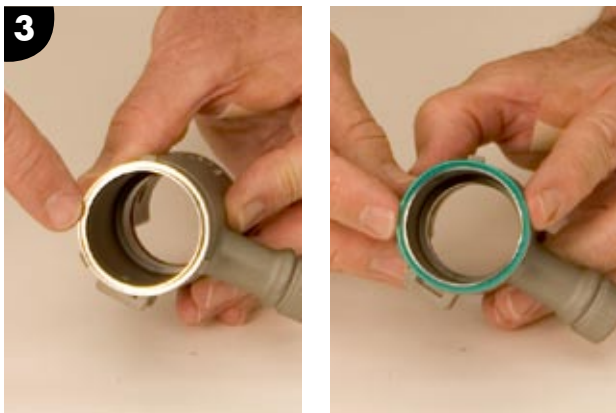
2



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.

3



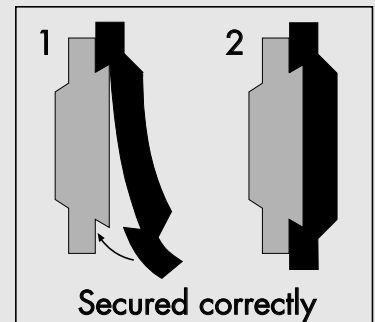
Clean foreign debris from groove before installing new main gasket in the groove on the body.

4



Replace dry break seal.

NOTE: Seal must be secured over groove for proper installation.

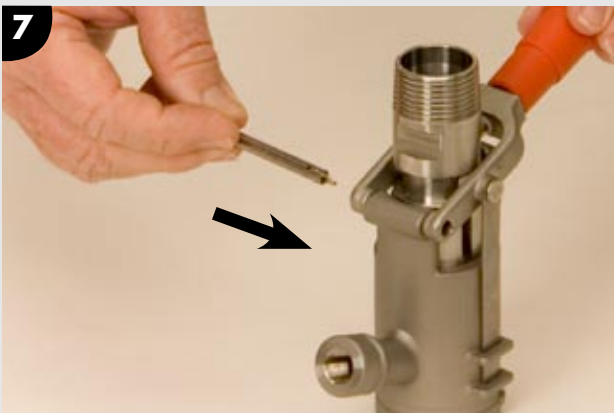


5


Push probe assembly into body.

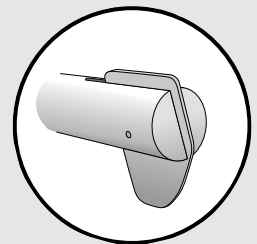
6


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.



Locked

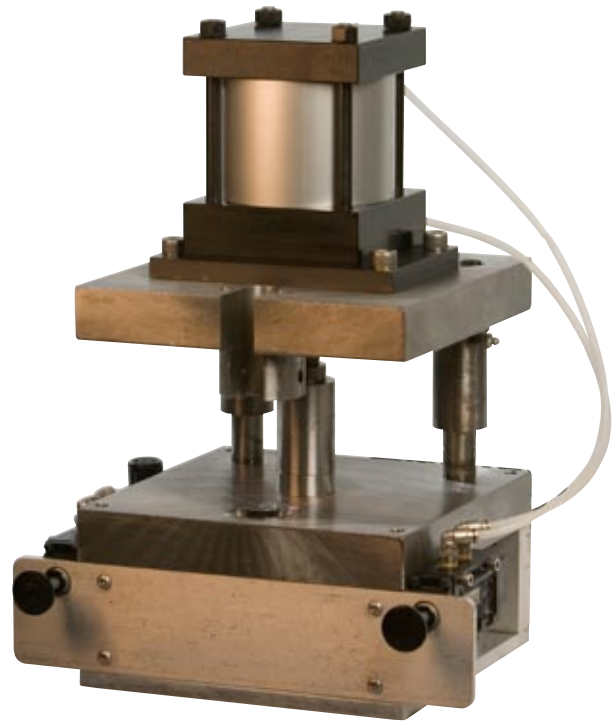
8


Correctly assembled Fill Head and Heavy Duty Coupler.

Notes:

DV - Drum Valve

Heavy Duty Servicing Tools



2" BSP



56x4

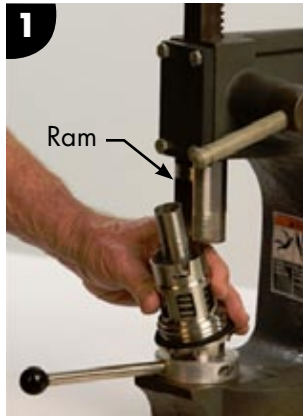


2.5"x5



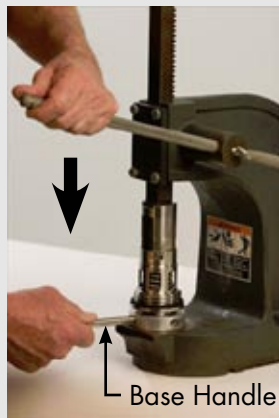
70x6

User Instructions



Place Drum Valve on base of #740-907 Final Assembly tool.

Align tube assembly of Drum 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.



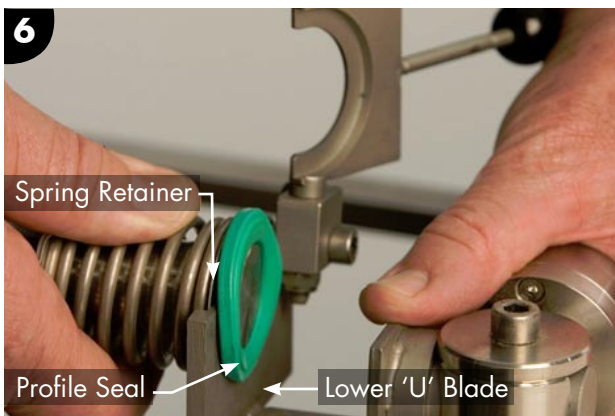
Remove Drum Valve from Final Assembly Tool.



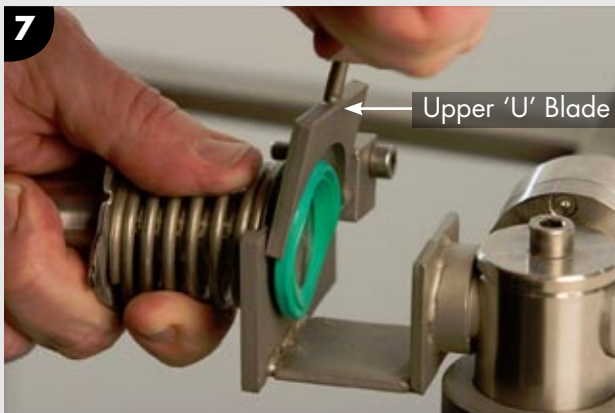
Separate tube from valve body.

5

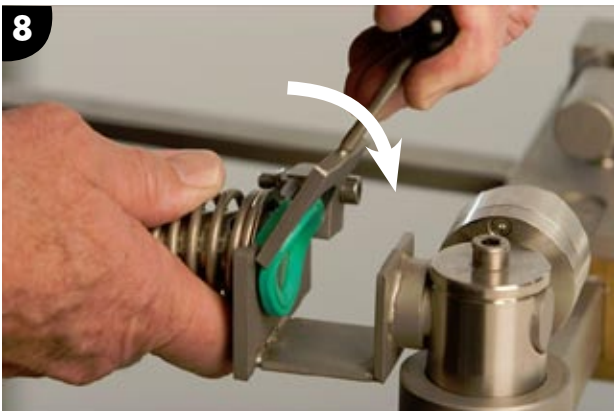

Remove square seal and discard.

6


Using the #741-093 DS-DV 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.

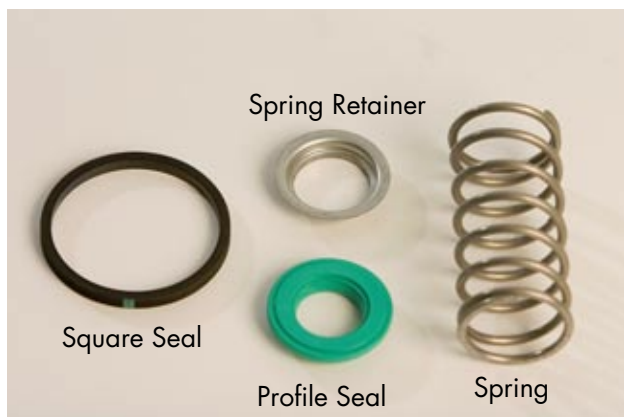
7


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

8


Push forward to remove profile seal.

Caution: Maintain a firm grip on the down tube as the spring is under pressure.



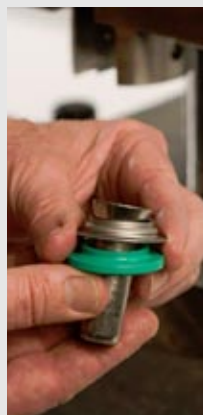
Drum Valve replacement parts.



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.



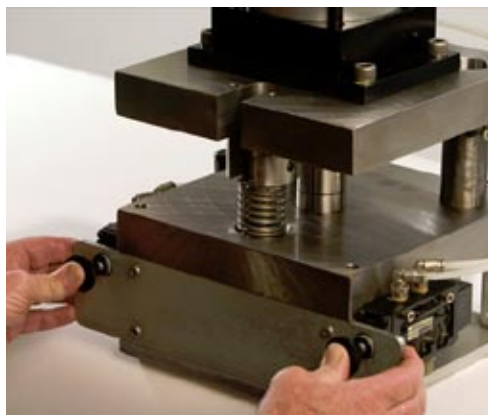
Insert the arbor with spring retainer and profile seal into the base hole of the Valve Assembly Tool.



Place down tube and spring on top of spring retainer.

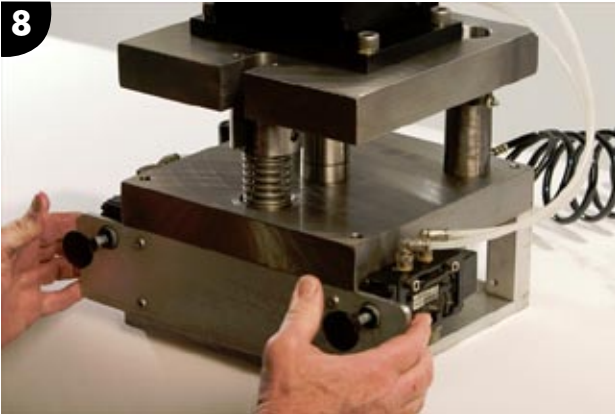


Align down tube within the slot of ram.



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.

8


Release the two buttons on the Valve Assembly Tool.

9


Remove the sub-assembly from the Valve Assembly Tool.

10


Inspect profile seal on vent to ensure uniform positioning.

Repeat steps 7 & 8 if seal is incorrectly positioned.

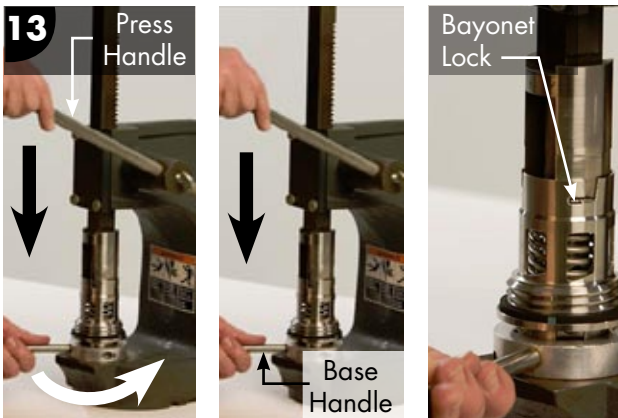
Note: Arbor should remain in fixture if steps 7 & 8 are repeated.

11


Install new square seal on Drum Valve body.



Place Drum 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 Drum Valve from the Final Assembly tool.



Correctly assembled Drum Valve.

