

SuperDos 20

Operating Manual



Model 0.3%
Model 0.3% HAC
Model 2.5%
Model 2.5% WSP
Model 2.5% HAC
Model 5%
Model 5% HAC
Model 10%

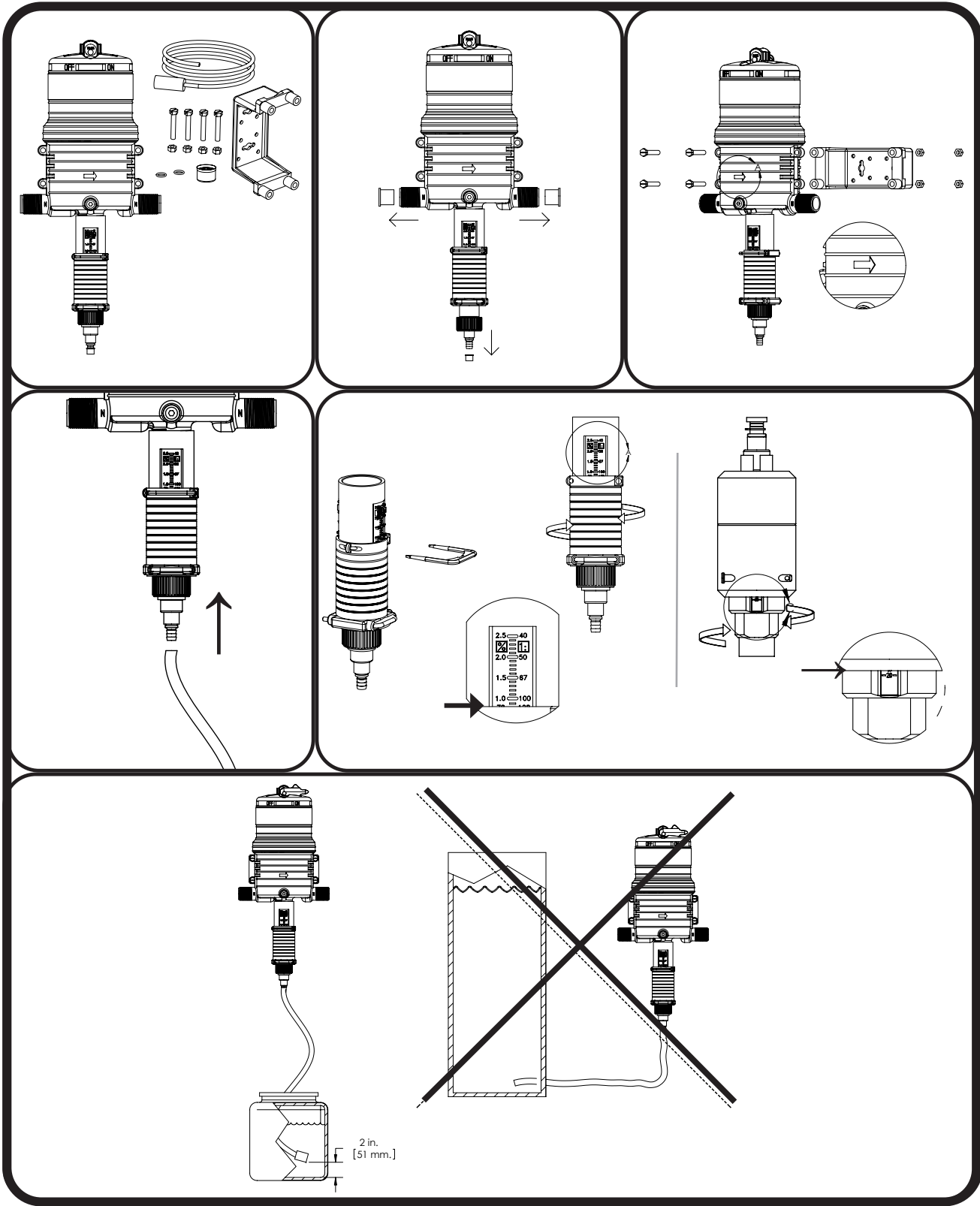
Fluid Flow Range:
0.05 gpm to 20 gpm
11 lph to 4,500 lph

Injection Range
Dosage:
0.025% to 10%
1:4000 to 1:10

Operating Pressure:
5 to 100* psi
0,34 to 6,9 bar

*Specifications vary by model.

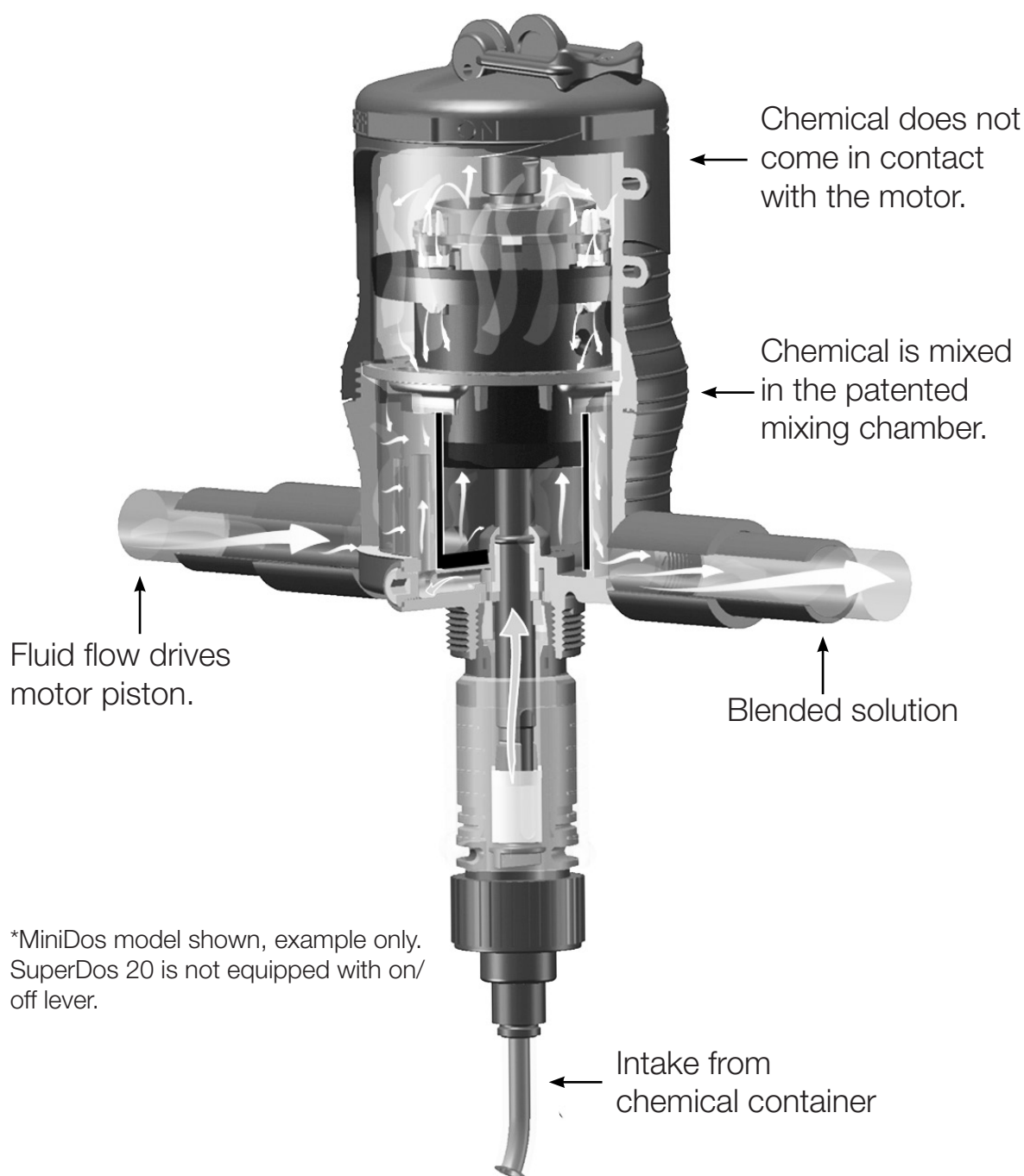
Quick Start-up



Operating Principle

Accurate and Reliable

Installed directly in the fluid supply line, the injector operates without electricity, using fluid (water) pressure as the power source. The fluid drives the injector, which pulls the required percentage of concentrate directly from the chemical solution container. Inside the Hydro patented mixing chamber, the concentrate is mixed with the fluid, and the fluid pressure forces the mixed solution downstream. The amount of concentrate will be directly proportional to the volume of fluid entering the injector, regardless of variations in flow or pressure.



*MiniDos model shown, example only.
SuperDos 20 is not equipped with on/off lever.

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Please read this manual carefully before putting the Hydro injector into operation.

This booklet has the information you will need for the use and care of your new Hydro injector. If you have any further questions about your injector, the warranty, routine maintenance or proper usage, please contact your nearest distributor or Hydro Systems customer service.

These models are designed to inject liquid concentrate or soluble powder that are recommended and approved for injection into fluid systems.

It is the responsibility of the operator to determine the correct dosage settings of the unit using the chemical manufacturers’ recommendation for dispensing their product, and to assure that proper dosage is being maintained.

Maintenance and Warranty

Hydro offers a three year limited warranty from the original date of purchase for manufacturing or materials defects only. With proper use and care, your injector should provide you long-term performance.

For Your Records

The serial number of your Hydro injector is located on the injector body. Please record this number in the space below and reference it when calling your distributor or Hydro for information, parts and service.

Serial #.....

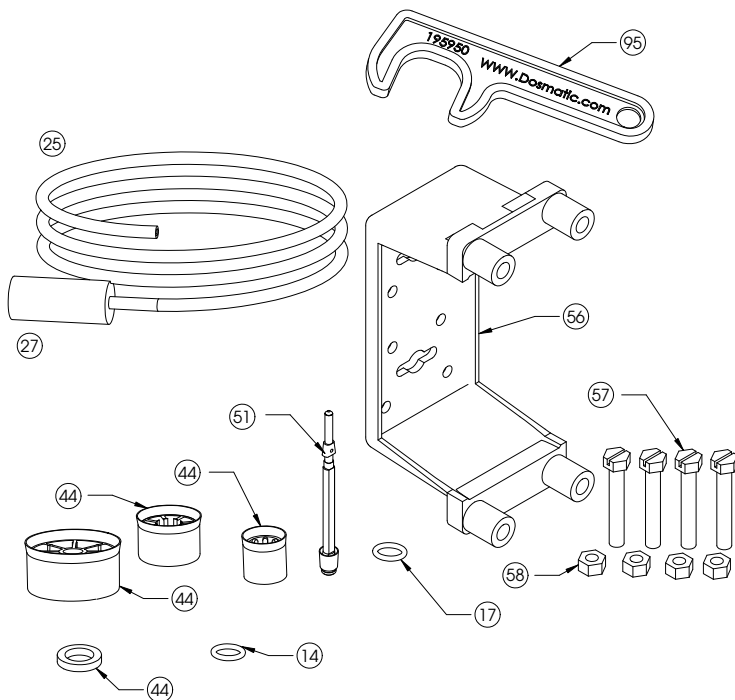
Date Purchased

This document does not form a contractual engagement on the part of Hydro Systems Company and is for information only. Hydro reserves the right to alter product specifications or appearance without prior notice.

Package Contents

The injector is packaged with the following items:

- Injector (not shown)
- Dosage Piston
- O-ring
- Manual (not shown)
- Lower End Wrench (0.3% only)
- Mounting Bracket
- Mounting Nuts and Bolts
- Filter
- Suction Tube



	Model	NPT	BSP
	0.3%	113228R	113728R
	0.3% HAC	113228HAC	113728HAC
	2.5%	113205	113705
	2.5% WSP	113205WSP	113705WSP
	5%	113206	113706
	10%	113207	113707
10% Remote Injection		113232	113233
	2.5% HAC	113205HAC	113705HAC
	5% HAC	113206HAC	113706HAC

Specifications



SuperDos 20 gpm (100 max. psi)

Model 0.3%	0.025% - 0.30% (1:4000 -1:333)
Model 2.5%	0.20% - 2.5% (1:333 -1:40)
Model 2.5% WSP	0.3% - 2.5% (1:300 -1:40)
Model 5%**	0.5% - 5% (1:200 -1:20)
Model 10%*	2% - 10% (1:50 -1:10)

Flow Rate:..... 0.05 - 20 gpm (11 - 4,500 lph)

Operating Pressure: ..5 - 100 psi** (0.34 - 6.9 bar)

Pipe Coupling: 1" NPT/BSP

* 10% model maximum operating pressure

is 65 psi (4.5 bar).

** 5% with remote injection kit maximum operating pressure is 60 psi (4 bar).

Housing	Proprietary Engineered Composite Material
Avg. Dosing Accuracy	+/- 5% of ratio
Repeatability	+/- 3% of ratio
Maximum Temp.	100°F (38°C)
Minimum Temp.	34°F (1°C)
Maximum vertical suction of concentrate	13 Feet (3.6 Meter)
Maximum horizontal suction of concentrate	49 Feet (15 Meter)
Self-Priming	Yes
Seal Material Available: *Contact your distributor for specific chemical information	Aflas - Alkaline concentrates Viton - Acids, oils & pesticides EPDM - Alkaline concentrates Kalrez

Safety Precautions/Warranty Compliance



Warning: Please read precautions thoroughly before operation. Must meet all applicable local codes and regulations.

Remove Red Caps Prior to Installation

Your injector is 100% factory tested before delivery and may contain a small amount of water. The three red plastic caps are fitted after testing to ensure cleanliness of the injector.

Before Applying Aggressive Chemicals

Please consult your distributor, chemical manufacturer or contact Hydro's customer service to confirm compatibility with your injector. Always wear proper safety protection as recommended by chemical supplier.

Label all Fluid Lines, Valves and Connections

If the solution that is being injected is not suitable for drinking, all fluid lines should be labelled:

Warning - not for human consumption!

Monitor Outlet Flow

It is the user's responsibility to monitor the output of chemical injected.

A Filter is Recommended and Required

Install a filter of 140 mesh (104 micron) or finer depending on your fluid quality to prolong the working life of the injector and for the warranty to be valid.

A filter is imperative since most fluid contains impurities or particles, especially if the fluid source comes from a well, pond or lake.

Avoid a Potentially Hazardous Chemical Accident

Select a safe location. Chemical container should be kept away from children and/or high usage areas and the location must also not be susceptible to freezing temperatures.

Avoid Solution Contamination

Use only clean FILTERED fluid. Do not allow contaminants to enter the solution container. They can be pumped into the fluid line and may cause the spread of disease. Dirt, debris and other contaminants in the solution container may cause excessive wear to the unit.

Fluid Temperature

Min: 34°F (1°C), Max: 100°F (38°C)

Maximum Fluid Pressure

0.3%, 2.5%, 5%, - 100 psi (6,9 bar),
10% - 65 psi (4,5 bar)

5% model with remote injection kit has maximum operating pressure of 60 psi (4 bar).

Install a pressure regulator and/or pressure relief valve to ensure operating pressure does not exceed the maximum specification.

Before Removing An Injector From The System

Release fluid pressure. While the system is in operation, turn off the incoming fluid valve. Leave the out going valve open. This will relieve the pressure at the injector and all parts of the system after the injector. Injector is now safe to remove.

General Tips

Please read this instruction manual thoroughly. Following the procedures, will increase the life of your injector.

For A Long Service Life

Start with clean fluid by using an inline filter to reduce impurities. Keep the solution container covered and clean. Keep the suction tube filter 2" (5 cm) from the bottom of the container. Perform maintenance procedures as recommended (see Maintenance page 10).

Soluble Powder Use

Ensure the chemical is completely dissolved before starting the injector. If necessary, dissolve the chemical in hot water and allow to cool before using. Failure to thoroughly dissolve the chemical will cause premature wear to the dosage piston and the inner cylinder.

Keep From Extreme Temperature

Protect the injector from freezing temperatures or excessive heat.

Rinse Injector After Each Use

Additive allowed to remain in injector can dry out, foul or damage the lower end at the next start-up (see Maintenance page 10).

Injector Not in Use for an Extended Period

If the injector has not been stored properly deposits may have dried onto the motor (see Maintenance page 10). Before operation, soak entire unit into room temperature water approx. 72°F (22°C) for an eight hour period.

Operations

Clicking Sound is Normal

Fluid flowing through the injector will automatically cause the injector to “click” and inject a set amount of solution into the fluid line. The higher the flow rate the more frequent the “clicking”. The injector is designed to inject solution proportionally (at the same set ratio) regardless of fluid flow.

Service Fluid Flow

Fluid flow and pressure must be within the established specifications (see Specification on page 6) for your model.

Change Feed (Injection) Rate

The feed rate on the injector is adjustable EVEN WHILE OPERATING AND UNDER PRESSURE. To change feed rate see (Fig. 1 and Fig. 2). Do not remove #79 when injector is under pressure.

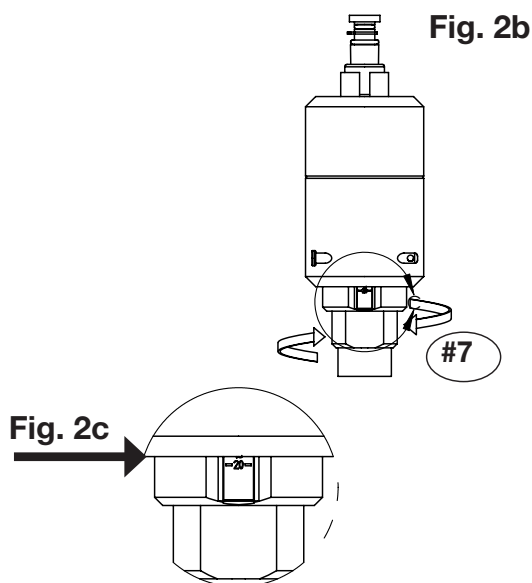
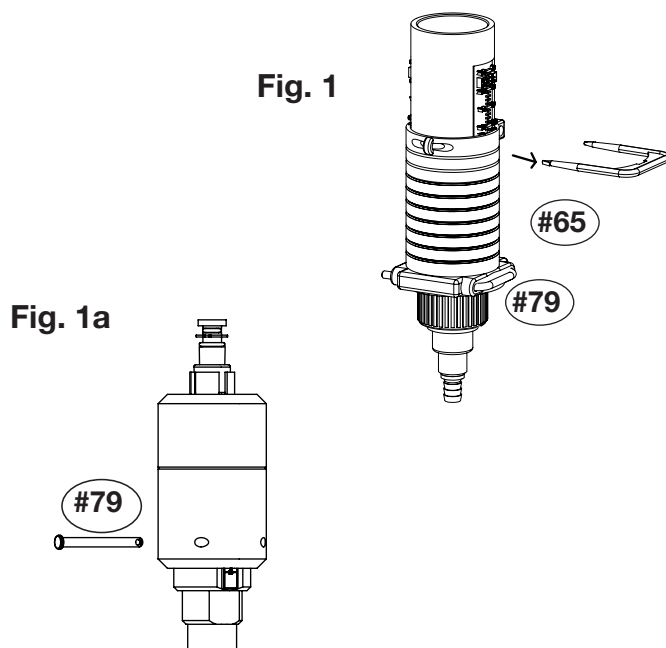
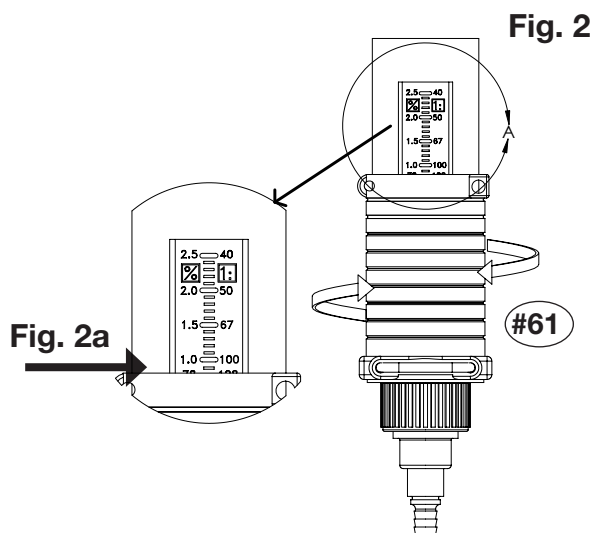
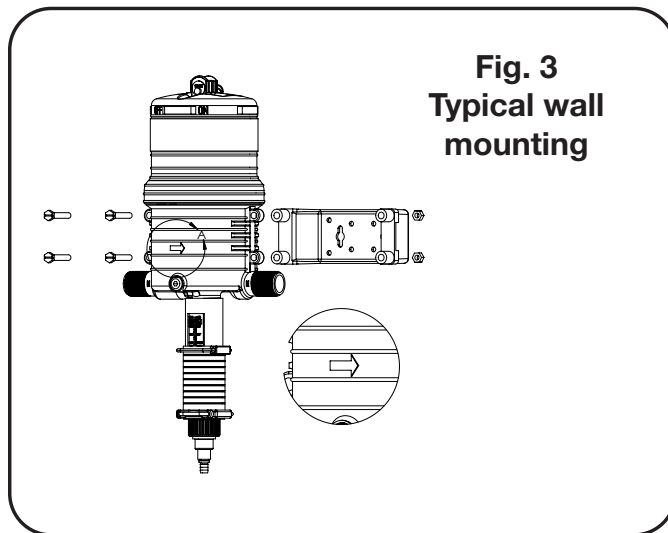
SuperDos 20 0.3%, 2.5% 5%

1. Remove Upper Interlock Pin (#65) (Fig. 1).
2. Rotate Ratio Adjuster Sleeve (#61) up or down to the desired setting (Fig. 2). Use the top of the Ratio Adjuster Sleeve to line up with the desired feed rate on the setting (Fig. 2a).
3. Re-insert Upper Interlock Pin (#65). Clip must be parallel with settings to be able to re-insert.

SuperDos 20 10%

1. Remove Ratio Locking Pin (#79) (Fig. 1a).
2. Rotate Outer Cylinder (#7) up or down to the desired setting (Fig. 2b). Use the bottom of the Ratio Adjuster to line up with the desired feed rate setting (Fig. 2c)

NOTE: Do not screw Ratio Adjuster Sleeve below lowest setting line. Measure outlet fluid to assure desired feed rate is being delivered.



Installation & Startup (Refer to Fig. 4 and Fig. 5)

Fluid Filter (Required)

Install a filter of 140 mesh (104 micron) or finer depending on your fluid quality to prolong the working life of the injector and for the warranty to be valid. Hydro recommends a Twist II Clean® filter that can be ordered with your injector.

Mounting Injector

Securely fasten your injector to a solid object such as a wall or in a cold fluid line. Note arrow on injector indicates fluid flow.

Backflow Preventor (Recommended)

Install one that meets local code requirements.

Pressure Safety Release Device (Recommended)

Prevents pressure from exceeding specifications of the unit.

Bypass Valve Set-up (Recommended)

Allows the injector to be taken off-line for maintenance or storage when not in use.

Fluid-Hammer Arrester (Recommended)

Prevents fluid-hammer damage to the injector when operating quick closing solenoid, pneumatic or hand-operated ball valves on the fluid system.

Anti-Siphon Valve (Optional)

To prevent solution from being siphoned out (from the solution container) into the feed lines when the upstream valve is shut off. The anti-siphon valve must be installed on the downstream outlet.

Additional Siphoning Prevention

Place solution container on a level below the injector suction tube fitting. Using the inlet side as a shut-off valve could cause full strength solution to siphon into the feed line.

Solution Container

Use any size container. A lid or cover is recommended. To connect your solution container, gently push the end of the suction tube onto the bottom of the suction tube fitting assembly. Place the filter into the solution container at least 2" (5 cm) from the bottom and fill with at least 2" (5 cm) of chemical solution.

Never Use Petroleum Based Lubricants

The injector is shipped with a thin coat of silicone around the seals for ease-of-assembly. Petroleum based lubricants such as Vaseline®, baby oil, WD40®, or motor oil on the O-rings or any part of the injector should never be used as this can cause particles to adhere and clog or damage the injector.



Check System for Leaks and Start-Up Procedures

Open the bypass valve (A), close inlet valve (B) and outlet valve (C) to prevent fluid flow into the injector. SLOWLY turn on the main fluid line. Run fluid flows between 5 - 12 gpm (11-45 l/m) through the plumbing system. Turn on all of the valves located downstream from your injector to release trapped air. SLOWLY turn on the inlet valve (B). Open the outlet valve (C) and close valve (A). As fluid travels through the injector, you will hear a "clicking" sound. Check for leaks and correct if necessary.

Suggested Installation Diagram

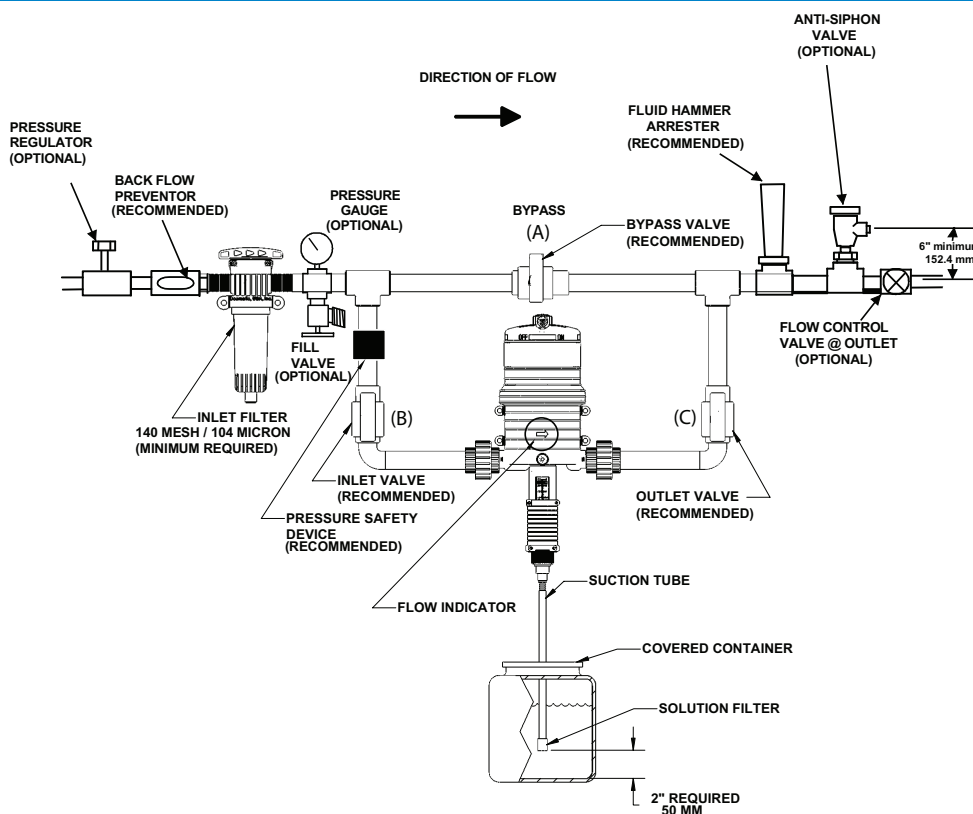
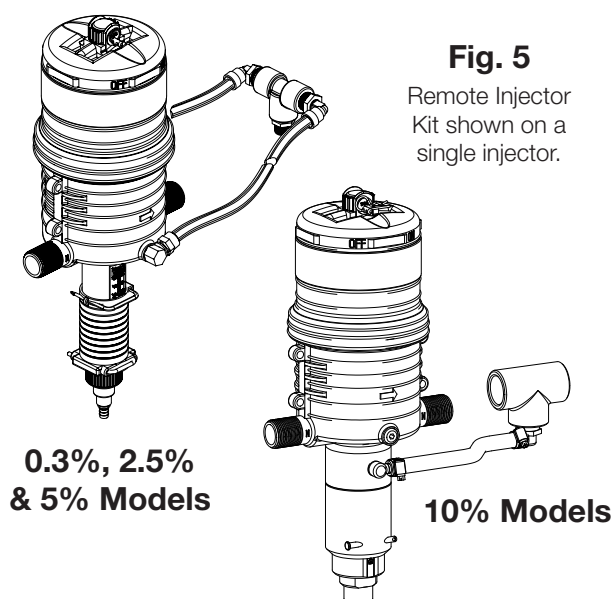


Fig. 4

Remote Injecting



Remote Injector Kit (not included)

Is recommended for the following:

Kit Part Numbers
012705

Single Injector:

To prevent mineral build-up within the body of the unit use when injecting chemicals that cause minerals to precipitate from fluid (see Fig. 5).

NOTE: When mixing more than one chemical, always refer to your chemical manufacturer information guide for proper application. Contact your local distributor or Hydro customer service for information or to order.

Maintenance

Rinse Injector After Each Use

Additive allowed to remain in injector can dry, foul or damage the lower end at the next start-up. Place suction tube into a 1 qt. (0.95 liters) or more container of fresh filtered water. Flow fresh water through the injector by operating until container is empty. This procedure is not needed for continuous operation.

Clean Solution Container

Keep covered to prevent dirt, debris from entering the container. Rinse container thoroughly and often. Do not mix chemicals together that might react and cause a precipitate. Use FILTERED fluid when filling container.

Clean Suction Tube Filter Screen

Inspect each time new solution is added. Clean filter screen (#27) and suction tube (#25) as necessary by rinsing in fresh water. Replace if necessary. Keep filter screen off bottom of solution container to prevent dirt and precipitate from clogging filter.

Clean Inlet Filter

Clean or replace inlet filter as required to increase the life of the unit as well as reduce pressure loss.

Bypass Injector

When not in use place the injector in bypass mode by using the three valve bypass.

Storage

For extended storage, rinse injector (see "Rinse Injector After Each Use") and place underwater in a container. Apply monthly, <0.1 oz. (29 ml) of chlorine bleach to avoid algae growth. KEEP FROM FREEZING.

Perform these maintenance procedures to extend the life of your unit.

Refer to page 15 & 16 SuperDos 20 (0.3%) Model

Every 3 - 6 Months	Every 6 - 12 months	Replace as necessary
1. Clean seal areas (#13). 2. Check #17 O-ring, #68 Cylinder, clean and/or replace as necessary.	1. Replace #17 O-ring and #51 Dosage Piston Shaft Assembly. 2. Clean and/or replace #13 Check Poppet, #11 Suction Tube Fitting.	1. #68 Cylinder 2. #51 Shaft Assembly

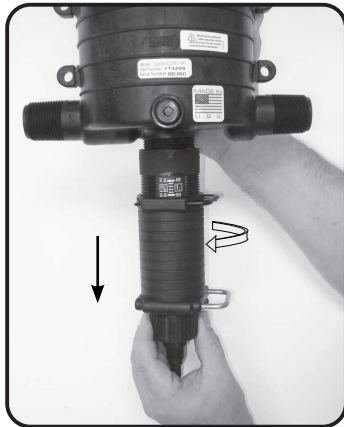
Refer to page 17, 18 & 19 SuperDos 20 (2.5%), (5%) Models

Every 3 - 6 Months	Every 6 - 12 months	Replace as necessary
1. Clean seal areas (#14 & #13, #44 - WSP). 2. Check #17 O-ring, #7 Cylinder, clean and/or replace as necessary.	1. Replace #17 O-ring and #44 Dosage Piston/gasket (WSP model). 2. Clean & inspect #13 Check Poppet, #11 Suction Tube Fitting.	1. #7 Cylinder 2. #14 (#44 - WSP) O-ring

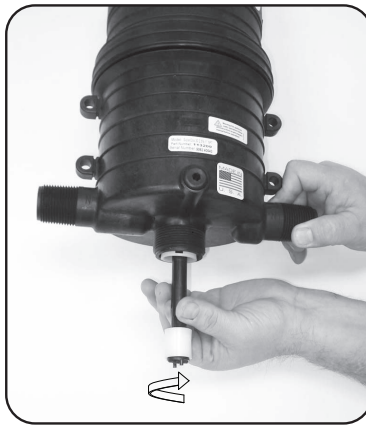
Refer to page 20 SuperDos 20 (10%) Models

Every 3 - 6 Months	Every 6 - 12 months	Replace as necessary
1. Clean seal areas (#14). 2. Check #17 O-ring, #7 Cylinder, clean and/or replace as necessary.	1. Replace #17 O-ring and #44 Dosage Piston. Clean and/or replace. 2. Replace #60 hose kit.	1. #7 Cylinder 2. #14 O-ring

Routine Maintenance Instructions 0.3%, 2.5%, 5%



Step 1.
Unscrew LOWER END
CYLINDER ASSEMBLY from
body. Remove LOWER END
CYLINDER ASSEMBLY



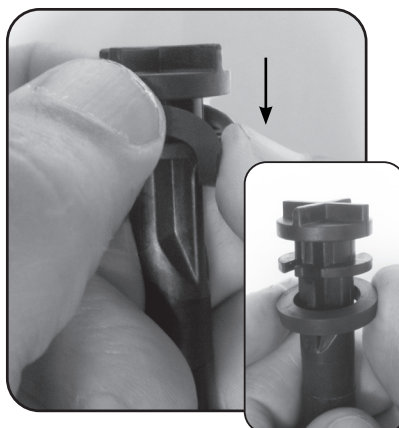
Step 2.
Rotate #51 SHAFT 90° and pull
from body.



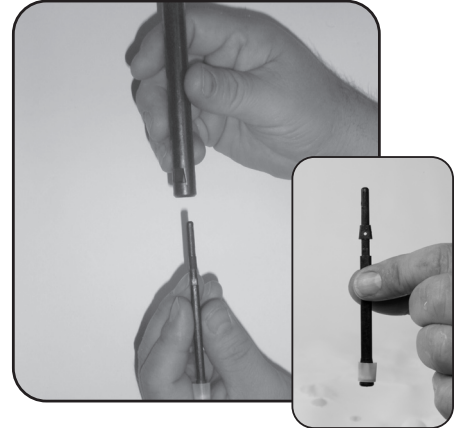
Step 3.
Pry the #15 SEAL RETAINER from
the injector. Pry #17 O-RING from
the unit. NOTE: O-ring may still be
seated at the base of the unit.



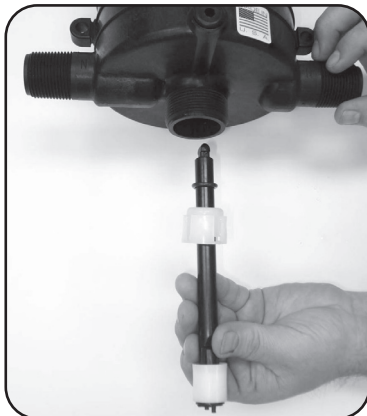
Step 4. For 2.5% & 5%
Replace #44 DOSAGE PISTON
flared-end up and #14 O-RING.



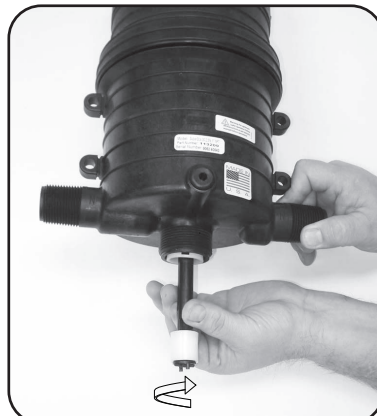
Step 5. For 2.5% WSP
Pinch and pull #44 DOSAGE
GASKET over the retainer lip. Slide
off the #51 shaft assembly.



Step 5a. For 0.3%.
Replace LOWER SHAFT
ASSEMBLY #51 into upper shaft.



Step 6.
Reinsert #15 SEAL RETAINER
and #17 O-RING onto # 51
SHAFT ASSEMBLY.



Step 7.
Reinsert #51 SHAFT ASSEMBLY
into body and rotate 90° to lock.
Confirm the shaft is locked in by
gently tugging on the shaft. Shaft
should remain inserted.

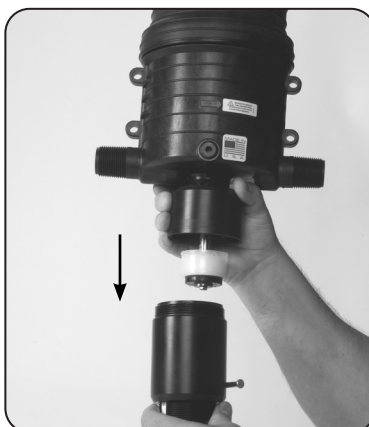


Step 8.
Screw LOWER END CYLINDER
ASSEMBLY onto body. Ensure
#16 gasket is seated on the top
of cylinder assembly.

Routine Maintenance Instructions 10%



Step 1.
Unscrew LOWER END
ASSEMBLY from body.



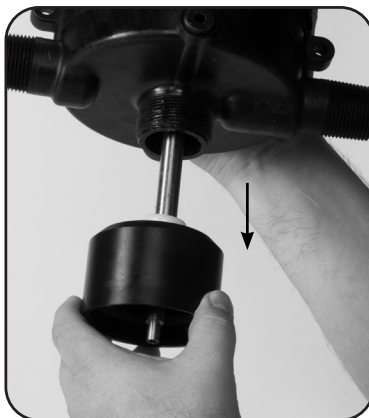
Step 2.
Remove LOWER END
ASSEMBLY.



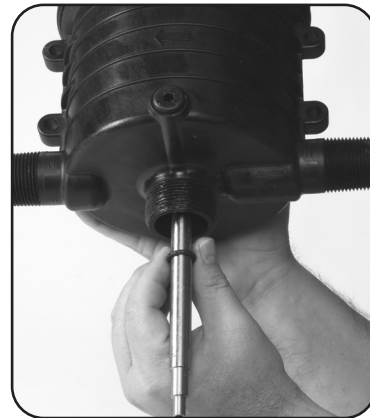
Step 3.
Remove #93 CAPSCREW
from the end of the shaft
using a wrench and nut
driver.



Step 4.
Remove the #73 DOSAGE
PISTON GUIDE and replace #44
DOSAGE
PISTON and #14 O-ring.



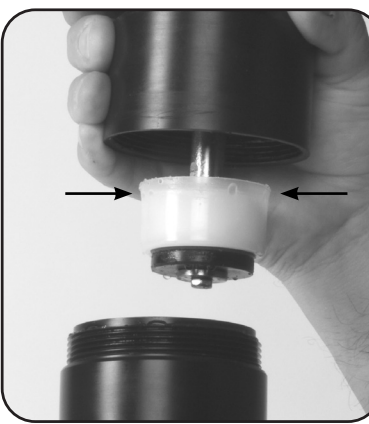
Step 5. Unscrew #72 ADAPTER
and remove.



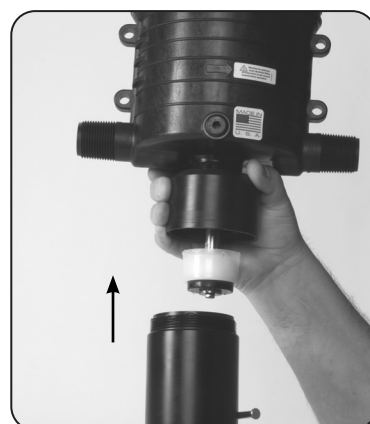
Step 6.
Remove and replace
#17 O-RING.



Step 7.
Re-install the new #44 DOSAGE
PISTON and #73 DOSAGE
PISTON GUIDE. Tighten snug
using a nut driver.



Step 7a.
NOTE: #44 DOSAGE PISTON must
be installed **flared end up**.



Step 8.
Screw LOWER END ASSEMBLY
onto body. Hand-tighten only.

Troubleshooting

New Install - Always Pressure Up Slowly (Follow start up on page 9)

Problem	Cause	Solution
No Clicking Sound	Fluid not flowing through system	Are the red plugs at the inlet, outlet and suction tube fitting openings removed? Is the unit installed backward? The arrow on the unit must point in the direction of the fluid flow. If still not clicking, do not open the upper body. Call Hydro Customer Service.
	Fluid flowing through system	Fluid rate is below or exceeds rated service flow of injector. (see Specifications page 6). Has the new injector been stored for an extended period? If so, submerge the injector in room temperature fluid for 24 hours so that the working parts can re-absorb fluid and swell back to the proper size. If below, increase flow rate. If above, reduce flow rate. Operating pressure exceeds maximum limit. Install a pressure reducer valve. (see Specifications page 6). By-pass valve (A page 9) not closed. Check and set valve to the OFF position.

Injector in Operation or After Scheduled Maintenance

Problem	Cause	Solution
No Clicking Sound	Main Piston Assembly #9 worn	Replace # 9 Main Piston Assembly. Clean fluid filter.
	Cover #1 or main body #40 worn or scored	Replace and install or clean fluid filter.
	By-Pass Valve (A) not closed	Set By-pass valve (A) to the closed position.
	Dirty or plugged inlet filter	Ensure mesh size is correct for proper filtration. Clean filter.
	#17 Worn or not seated properly	Re-seat #17 or replace.
Clicking Sound No Suction of Solution	Cylinders #7 or #68 worn.	Replace.
	Dosage piston/gasket (WSP model) #44 (0.3% model #51) worn or installed incorrectly	Replace. Ensure during maintenance replacement that #44 was installed correctly flared-end up.
	O-ring retainer #15 installed incorrectly	Install correctly.
	O-ring seat #14 or dosage piston/gasket #44 (0.3% model #51) damaged	Replace.
	#17 O-ring worn and/or loose	Replace.
	Suction tube #25 or suction tube fitting #11 cracked, leaking or clogged suction tube filter	Replace and/or clean as necessary.
	Check valve #13 leaking	Clean & replace as necessary.
Clicking Sound. Under Injecting	#44 (0.3% model #51) Dosage Piston/gasket (WSP model) worn	Replace.
	#7 (#68 - 0.3%) Inner Cylinder worn	Replace.
	Unit operates at high-flow and not at low flow	Replace #17 O-ring.
	Main Piston Assembly #9 worn	Replace # 9 Main Piston Assembly. Clean fluid filter.
	Cover #1 or main body #40 worn or scored	Replace and install or clean fluid filter.
Fluid Re-filling Solution Tank	Check valve #13 leaking	Check seat area on suction tube fitting #11. Check valve and seal must fit loose in the suction tube fitting. Clean seal and inside fitting for debris.
	Washer seal on #13 is swollen or chemical attack	Replace with new check valve assembly.

Kits & Spare Parts List

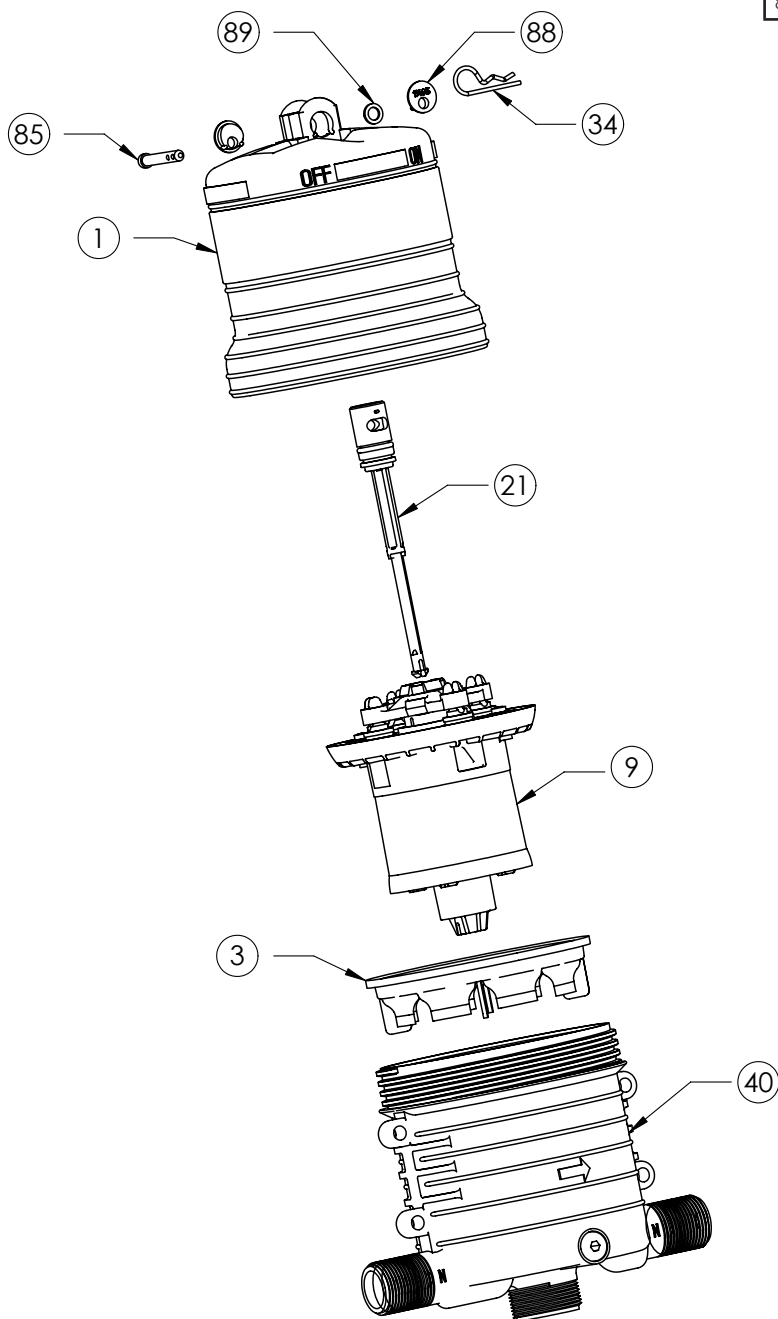
Injector Repair Parts	15
0.3% HAC Rotating:	16
0.3% Rotating:	17
2.5%:	18
2.5% WSP:	19
5%:	20
10%:	21
Accessories:	22



Kits & Spare Parts List

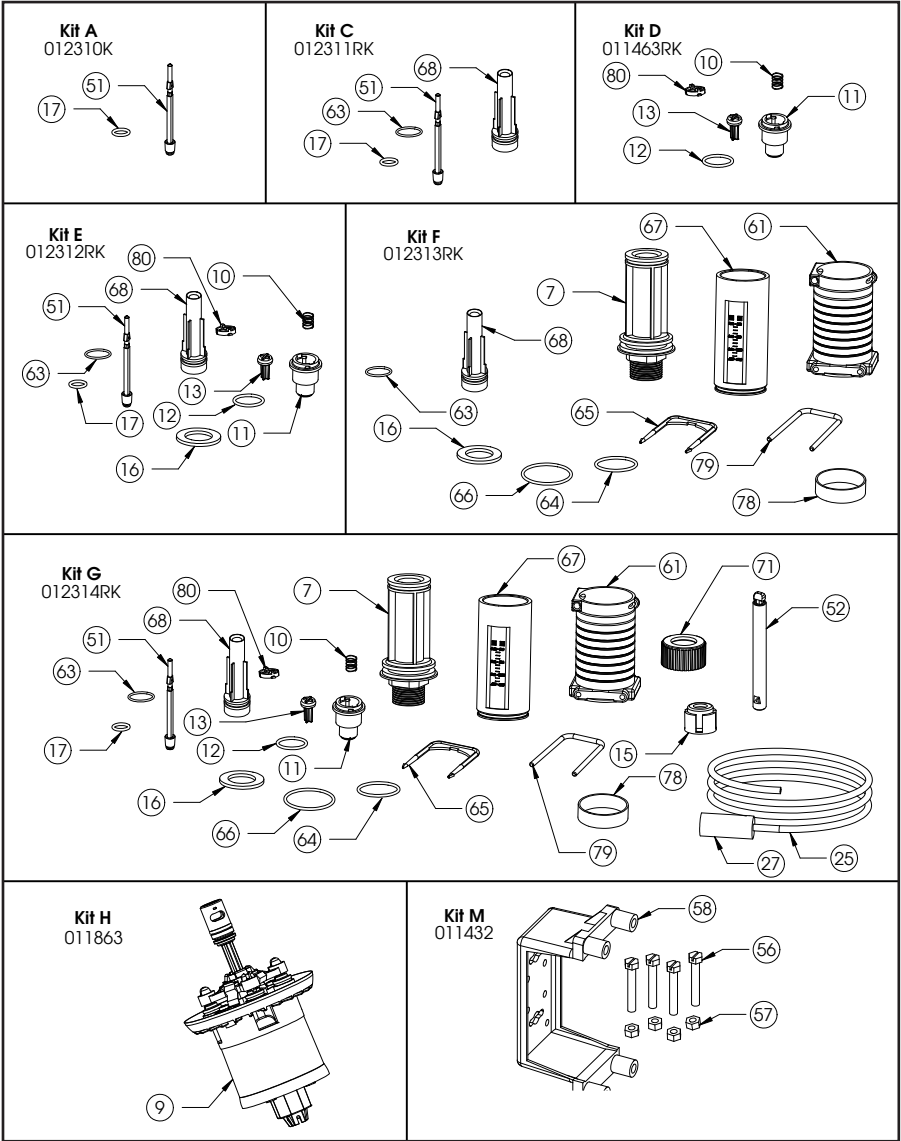
Injector Repair Parts

Ref. #	Description
1	Upper Body (Must Order w/#88)
3	Mixing Chamber Gasket
9	Piston Assembly (Must Order With #21)
9	Piston Assembly 10% (Must Order With #21)
21	Shaft Assembly
34	Hairpin
40	Lower Body NPT 1"
40	Lower Body BSP 1"
85	Upper Shaft Pin
88	Non Bypass Plug
89	Washer

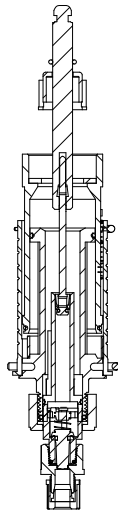


Kits & Spare Parts List

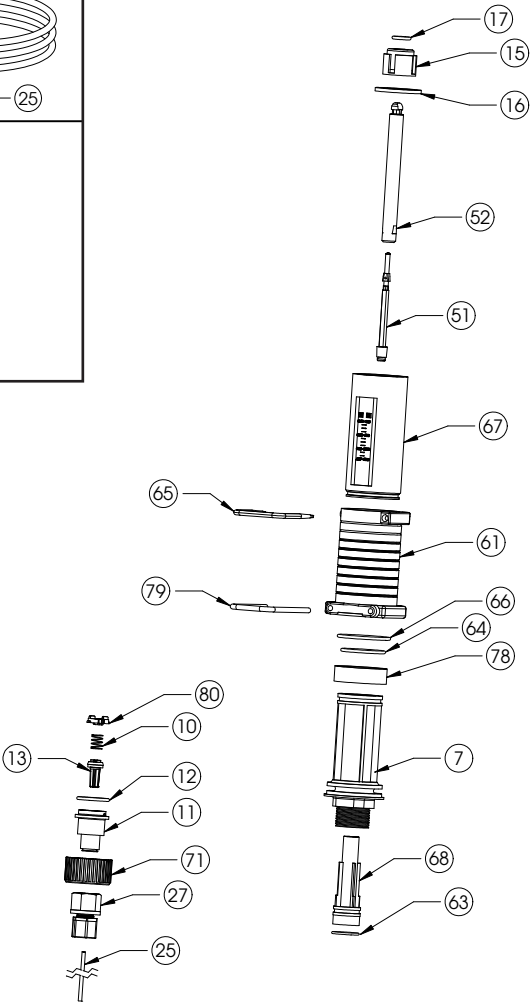
0.3% HAC Rotating



Manual Reference	Description of Part
7	Cylinder, inner
10	Spring
11	Suction tube fitting
12	O-ring
13	Check poppet
15	Seal retainer, O-ring
16	Lower End Gasket
17	O-ring
25	Suction tube, 1/4" ID x 5 ft
27	Compression fitting
51	Lower shaft Assy
52	Upper shaft
61	Ratio adjustment sleeve
63	O-ring
64	O-ring, inner cylinder, lower end
65	Pin, upper interlock
66	O-ring, outer cylinder, lower end
67	Cylinder, outer
68	Cylinder, inner for #7
71	Nut, suction tube fitting
78	Lower end stop
79	Pin, narrow interlock
80	Twistlock

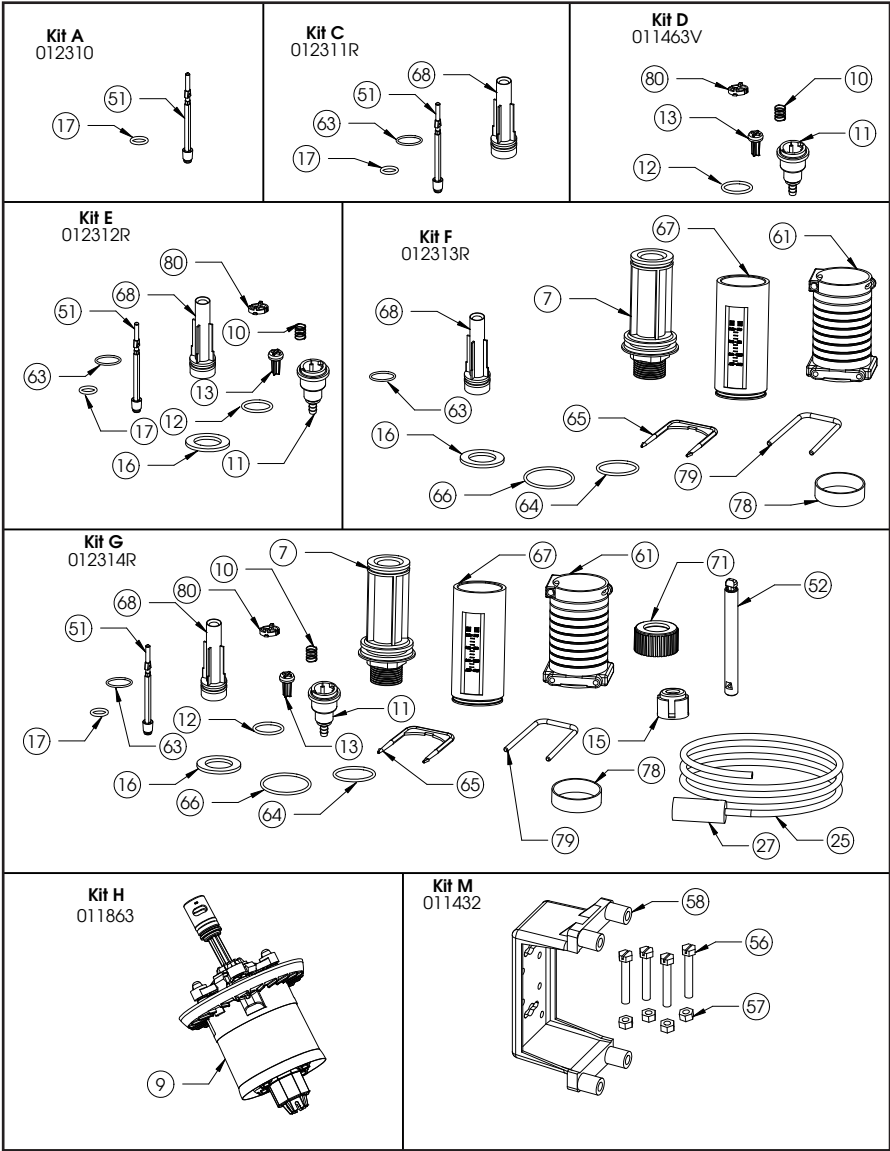


Lower End Assembly



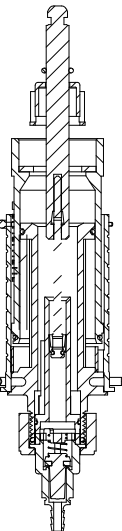
Kits & Spare Parts List

0.3% Rotating

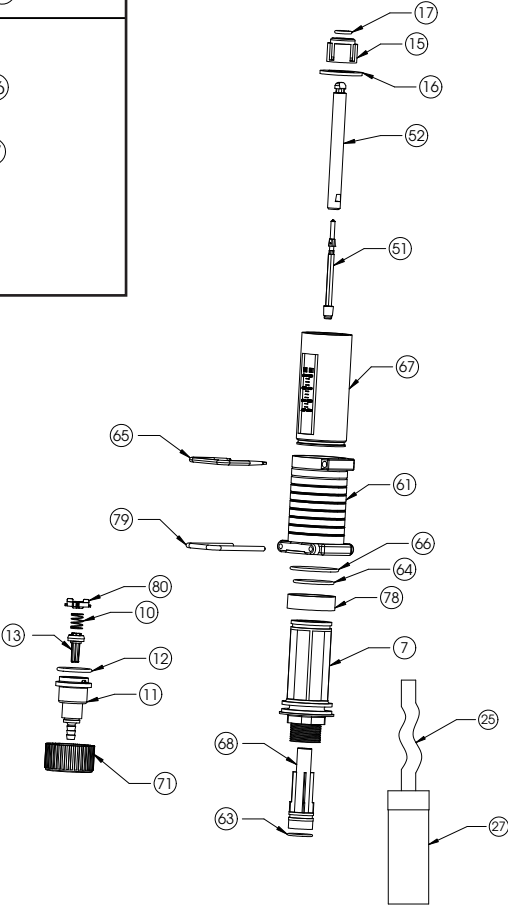


Manual Reference	Description of Part
7	Cylinder, inner
10	Spring
11	Fitting, suction tube, 1/4"
12	O-ring
13	Check poppet
15	Seal retainer, O-ring
16	Lower End Gasket
17	O-ring
25	Suction tube, 1/4" x 5'
27	Foot valve 1/4" ID
51	Lower shaft assy.
52	Upper shaft
61	Ratio adjustment sleeve
63	O-ring, inner cylinder (#68)
64	O-ring, inner cylinder, lower end
65	Pin, upper interlock
66	O-ring, outer cylinder, lower end
67	Cylinder, outer
68	Cylinder, inner for #7
71	Nut, suction tube fitting
78	Lower end stop
79	Pin, narrow interlock
80	Twistlock

Note: Viton seal materials are standard.
Other seal materials are available.

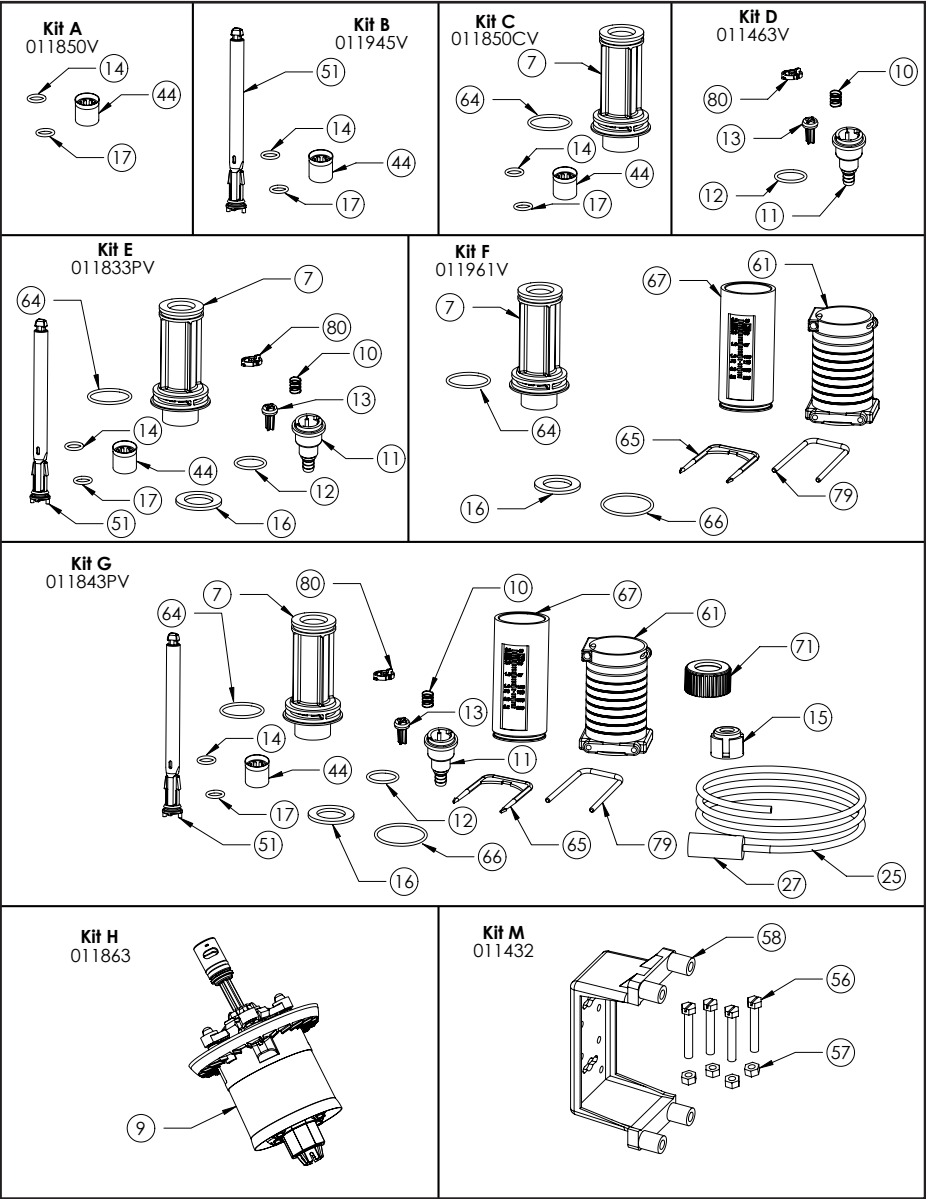


Lower End Assembly



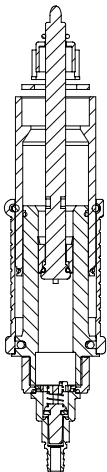
Kits & Spare Parts List

2.5%

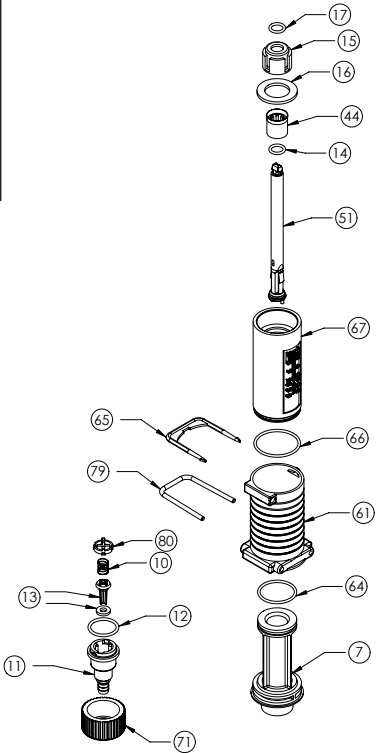
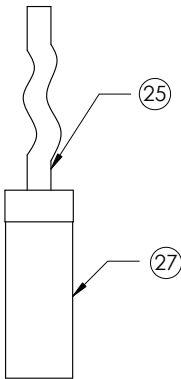


Manual Reference	Description of Part
7	Cylinder, inner
10	Spring
11	Fitting, suction tube, 1/4"
12	O-ring
13	Check poppet
14	O-ring
15	Seal retainer, O-ring
16	Lower End Gasket
17	O-ring
25	Suction tube, 1/4" x 5'
27	Filter, for suction tube, 1/4" ID
44	Dosage Piston
51	Shaft
61	Ratio adjustment sleeve
64	O-ring, inner cylinder, lower end
65	Pin, upper interlock
66	O-ring, outer cylinder, lower end
67	Cylinder, outer
71	Nut, suction tube fitting
79	Pin, narrow interlock
80	Twistlock

Note: Viton seal materials are standard. Other seal materials are available.

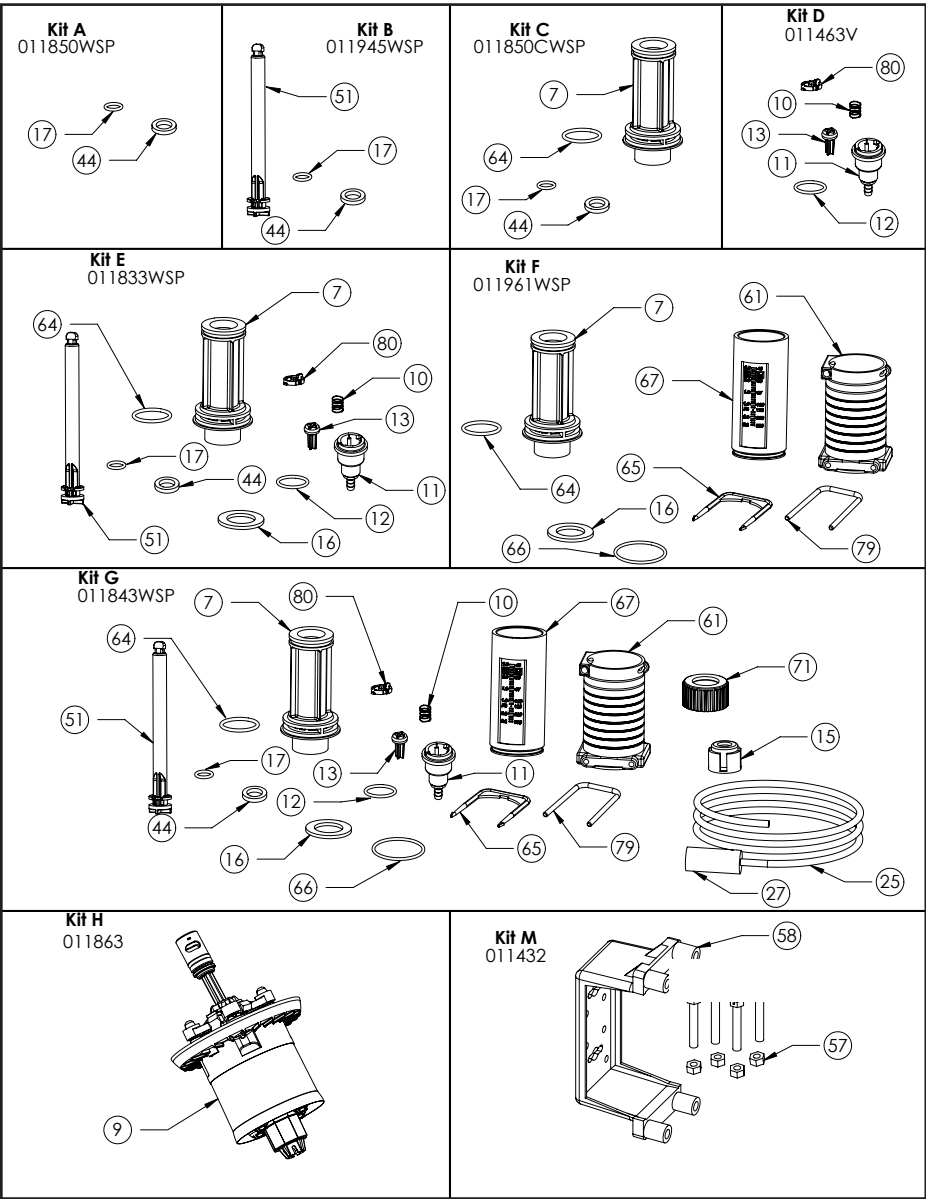


Lower End Assembly

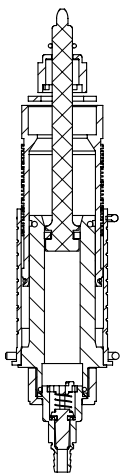


Kits & Spare Parts List

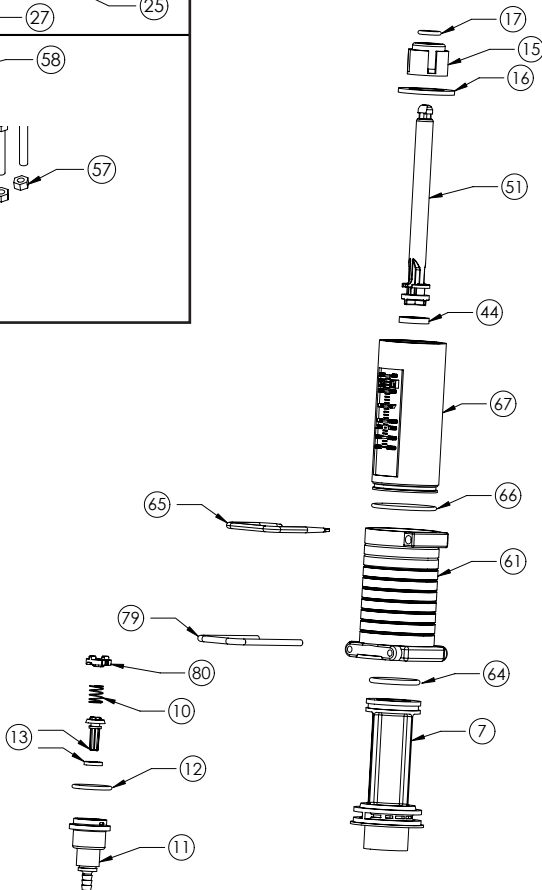
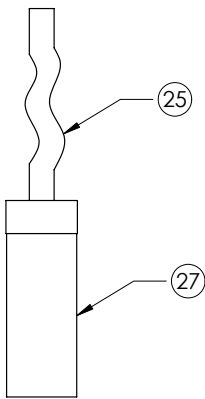
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Manual Reference	Description of Part
7	Cylinder, inner
10	Spring
11	Fitting, suction tube, 1/4"
12	O-ring
13	Check poppet
15	Seal retainer, O-ring
16	Lower End Gasket
17	O-ring
25	Suction tube, 1/4" x 5'
27	Filter, for suction tube, 1/4" ID
44	Dosage Gasket
51	Shaft
61	Ratio adjustment sleeve
64	O-ring, inner cylinder, lower end
65	Pin, upper interlock
66	O-ring, outer cylinder, lower end
67	Cylinder, outer
71	Nut, suction tube fitting
79	Pin, narrow interlock
80	Twistlock

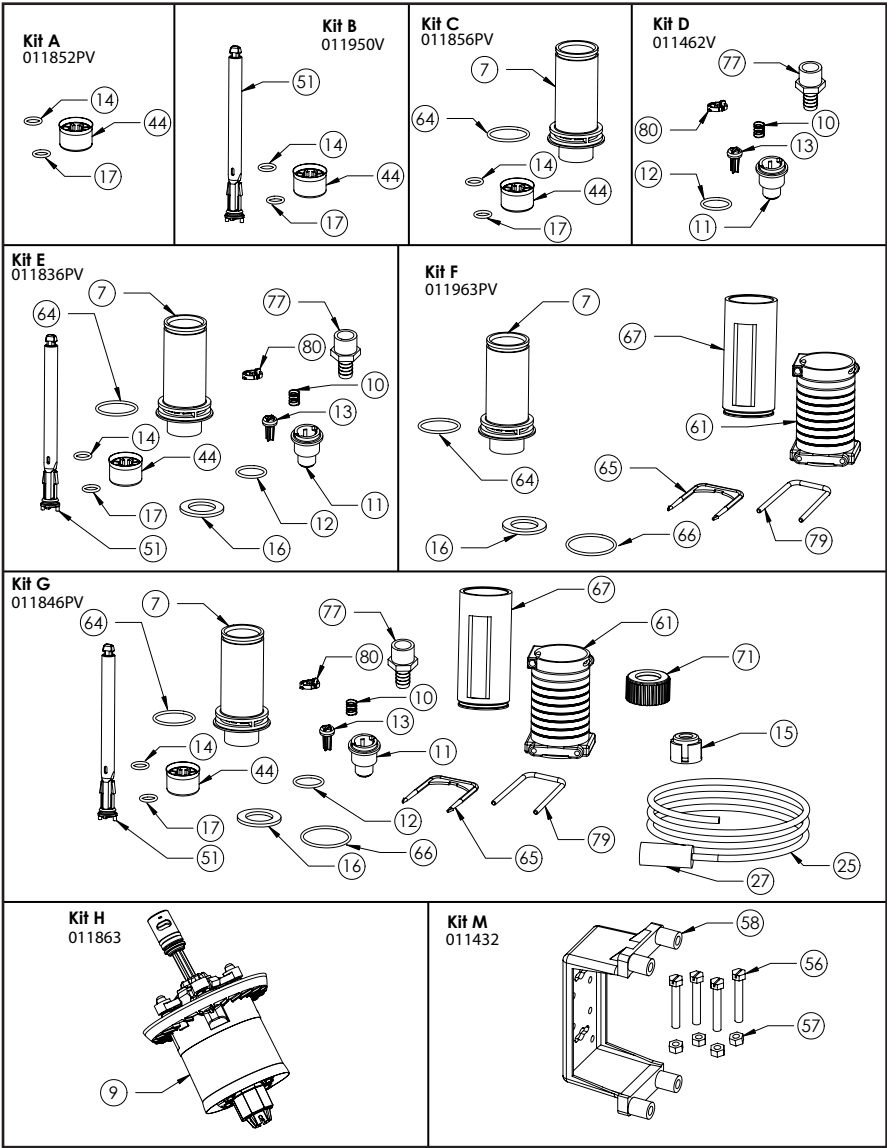


Lower End Assembly



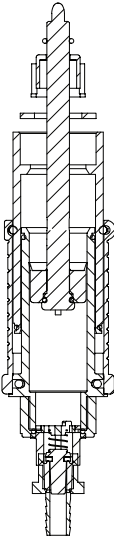
Kits & Spare Parts List

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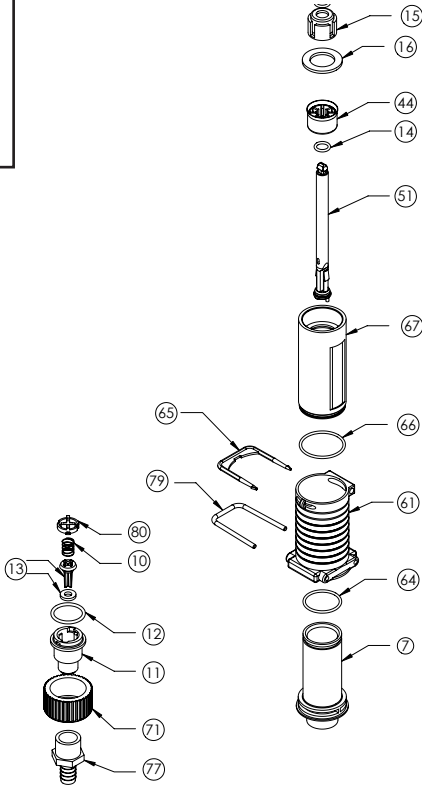
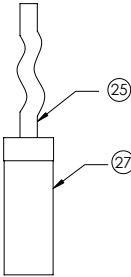


Manual Reference	Description of Part
7	Cylinder, inner
10	Spring
11	Suction Tube Fitting
12	O-ring
13	Check Poppet
14	O-ring
15	Seal retainer, O-ring
16	Lower End Gasket
17	O-ring
25	Suction tube, 1/2" x 5'
27	Filter, for suction tube, 1/2" ID
44	Dosage Piston
51	Shaft
61	Ratio adjustment sleeve
64	O-ring, inner cylinder, lower end
65	Pin, upper interlock
66	O-ring, outer cylinder, lower end
67	Cylinder, outer
71	Nut, suction tube fitting
77	Hose Barb 1/2" x 3/8"
79	Pin, narrow interlock
80	Twistlock

Note: Viton seal materials are standard.
Other seal materials are available.

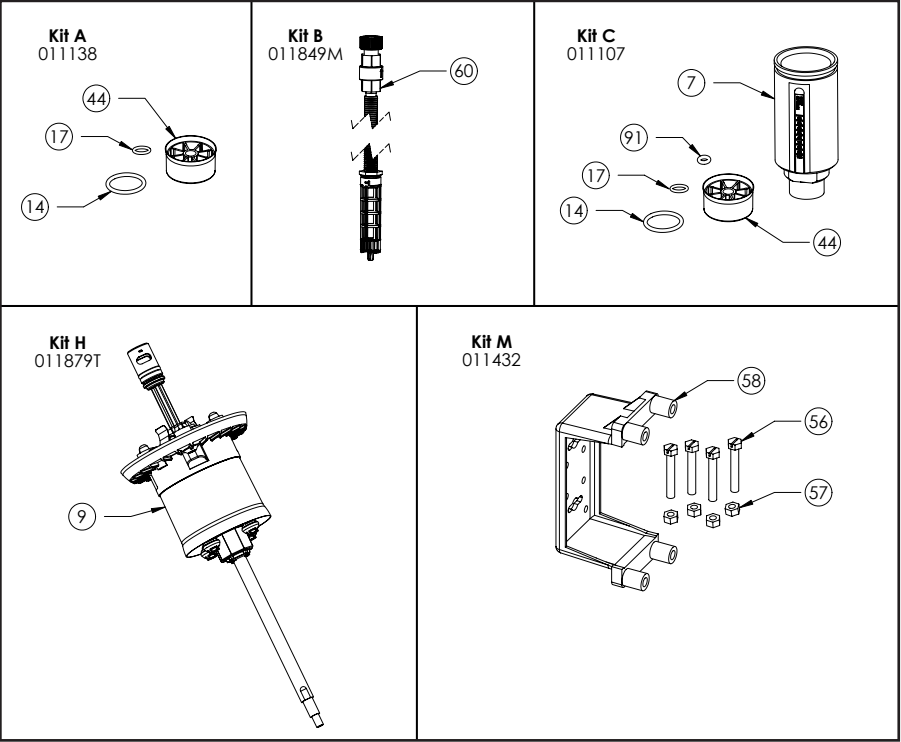


Lower End Assembly



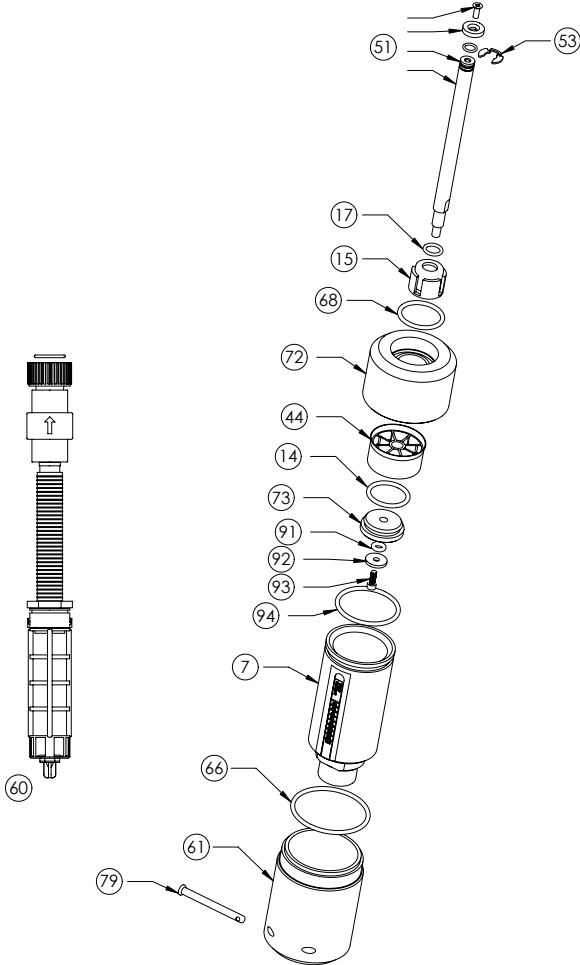
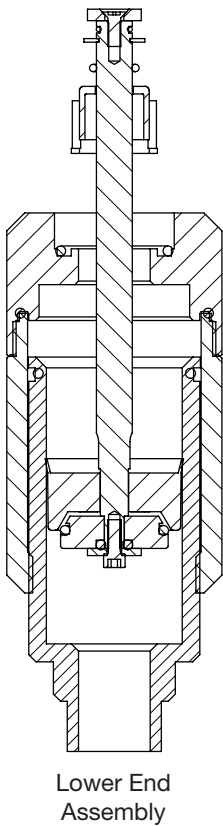
Kits & Spare Parts List

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Manual Reference	Description of Part
7	Outer Cylinder
14	O-ring, Dosage Piston Guide
15	Seal Retainer, O-ring
17	O-ring
44	Dosage Piston
51	Shaft Assembly, Stainless Steel
53	Klipring
61	Ratio Adjuster
66	O-ring, Outer Cylinder, Lower End
68	O-ring, Cylinder Adapter, Lower End
72	Adapter
73	Dosage Piston Guide
79	Ratio Locking Pin
93	Capscrew 10-32 X 1/2" Ss Hex
92	Shaft Cap
94	O-ring, Outer Cylinder
91	O-ring, Dosage Piston Guide
60	Hose Kit

Note: Viton seal materials are standard. Other seal materials are available.



Accessories



Twist II Clean Inline Filter®

Available In:

- 3/4" - 25 gpm (95 l/mn) 100 psi (7 bar)
- 1" - 39 gpm (114 l/mn) 100 psi (7 bar)
- 1.5" - 78 gpm (295 l/mn) 100 psi (7 bar)
- 2" - 150 gpm (568 l/mn) 100 psi (7 bar)
- * Various mesh sizes available.



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Warranty

Limited Warranty

Seller warrants solely to **Buyer** the products will be free from defects in material and workmanship under normal use and service for a period of one year from the date of completion of manufacture. This limited warranty does not apply to (a) hoses; (b) products that have a normal life shorter than one year; or (c) failure in performance or damage caused by chemicals, abrasive materials, corrosion, lightning, improper voltage supply, physical abuse, mishandling or misapplication. In the event the products are altered or repaired by **Buyer** without **Seller's** prior written approval, all warranties will be void.

No other warranty, oral, expressed or implied, including any warranty of merchantability or fitness for any particular purpose, is made for these products, and all other warranties are hereby expressly excluded.

Seller's sole obligation under this warranty will be, at **Seller's** option, to repair or replace F.O.B. **Seller's** facility in Cincinnati, Ohio any Products found to be other than as warranted.

Limitation of Liability

Seller's warranty obligations and **Buyer's** remedies are solely and exclusively as stated herein. **Seller** shall have no other liability, direct or indirect, of any kind, including liability for special, incidental, or consequential damages or for any other claims for damage or loss resulting from any cause whatsoever, whether based on negligence, strict liability, breach of contract or breach of warranty.

