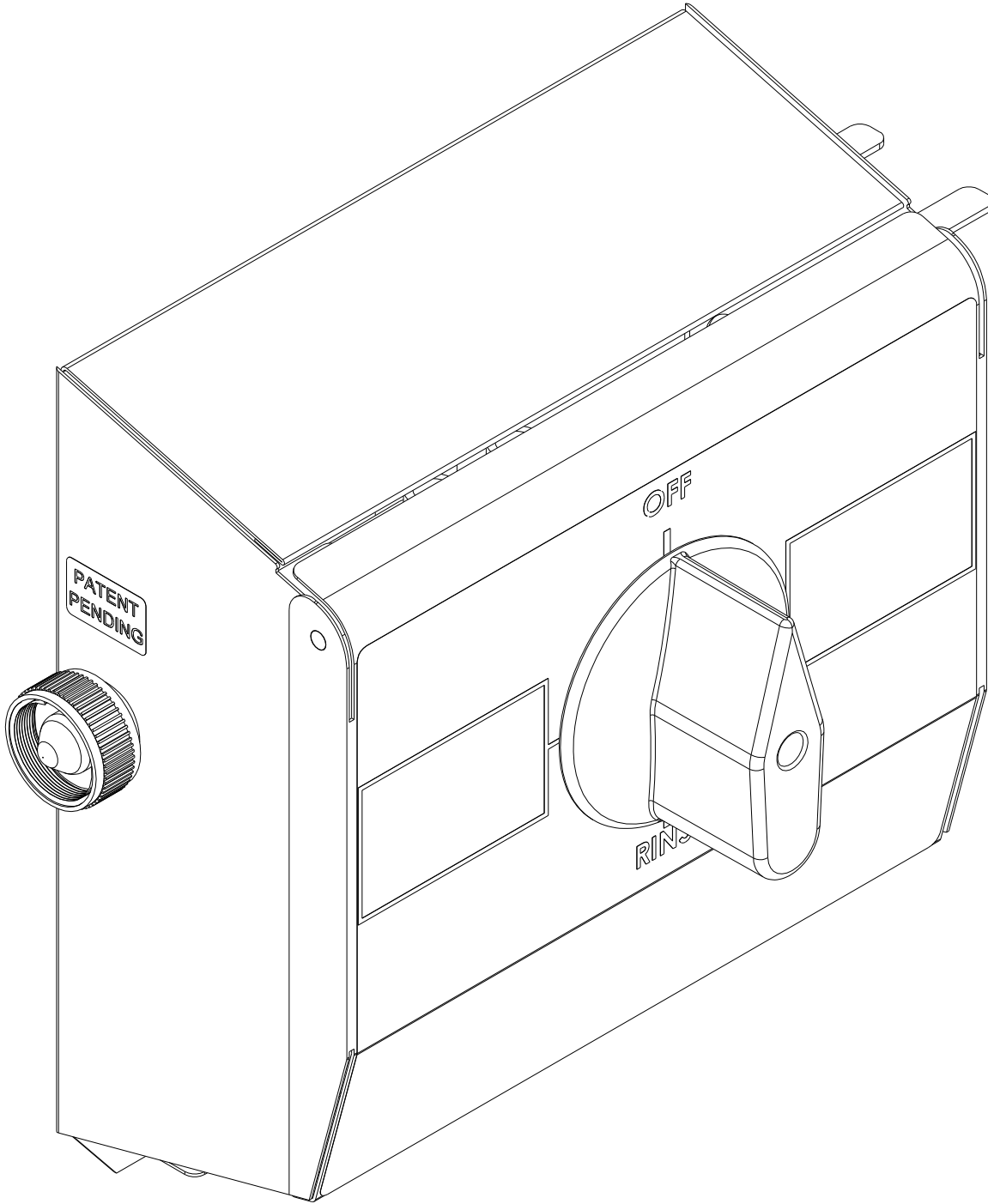


**DEMA RAPID FIRE MODELS  
6300, 6300-2, 6300-3, 6300-4 6300-5, 6310, 6300H 6300E, 6300EH, &6310E  
INSTRUCTION SHEET**



# DEMA RAPID FIRE MODELS

## 6300, 6300-2, 6300-3, 6300-4 6300-5, 6310, 6300H 6300E, 6300EH, &6310E

### INSTRUCTION SHEET

**PURPOSE:**

The RAPID FIRE is a spray system designed with a single knob to control OFF, RINSE and up to two chemicals using a single chemically resistant plastic injector. There is full water flow whenever the valve is open with the option of using a 2.1 or a 3.3 injector. A 2.7 gallon per minute injector is standard. RAPID FIRE dispensers can be used in any application where a chemical product must be sprayed or foamed without the use of compressed air or a high pressure pump. City water pressure and optional spray gun and foam wand attachments create the correct amount of pressure and foam for cleaning in food service applications such as supermarket meat rooms, deli areas, and seafood departments.

The RAPID FIRE offers the following advantages over a traditional spray system:

- No manifold
- Polypropylene injector for chemical resistance
- No ball valves
- Large knob for easy turning.
- 6 GPM Rinse Flow
- Stainless Steel cover with foam wand storage offers neat appearance

**NOTE: ALL INSTALLATIONS MUST CONFORM TO LOCAL PLUMBING CODES AND USE THE APPROVED BACKFLOW PREVENTORS.**

**WARNING: WATER SUPPLY PRESSURE MUST NOT EXCEED 125 PSI AND WATER TEMPERATURE MUST NOT EXCEED 150°F (66°C). USE CARE WHEN HANDLING HAZARDOUS CHEMICALS.**

**CAUTION: TURN OFF WATER SUPPLY BEFORE SERVICING. WHEN SERVICING UNIT BE SURE THAT REPLACEMENT PARTS HAVE BEEN INSTALLED ACCORDING TO DRAWING.**

**1. PARTS CHECKLIST:** (By RAPID FIRE model number.)

PARTS	6300	6300-2	6300-3	6300-4	6300-5	6310	6300E	6300H	6310E	6300EH
<b>Red Hose - ½”I.D. x 25’ 44-3RG</b>		1	1	1	1					
<b>Black Hose - ½”I.D. x 6’ 44-3-6</b>		1	1	1	1					
<b>Blue Gun &amp; Wand 40-14QD/292QD</b>		1		1						
<b>Gray Gun &amp; Wand 28-1QD &amp; 292GQD</b>			1		1					
<b>Backflow Preventor * 44-89-112</b>				1	1					
<b>Metering Tip Kit 100-15K</b>	1	1	1	1	1	1	1	1	1	1
<b>Tubing And Foot Valve Assembly</b>	2	2	2	2	2	1	2	2	1	2
<b>Ceramic Weight 61-107-2</b>	2	2	2	2	2	1	2	2	1	2
<b>Screw &amp; Anchor Kit 66-54</b>	1	1	1	1	1	1	1	1	1	1
<b>Hose Clamp Kit 66-231</b>	1	1	1	1	1	1	1	1	1	1
<b>Hose Rack 44-6</b>		1	1	1	1			1		1

\* ASSE 1012 approved constant pressure backflow preventor.

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**2. INSTALLATION:**

**NOTE: ALL INSTALLATIONS MUST CONFORM TO LOCAL PLUMBING CODES AND USE THE APPROVED BACKFLOW PREVENTORS.**

**WARNING: WATER SUPPLY PRESSURE MUST NOT EXCEED 125 PSI AND WATER TEMPERATURE MUST NOT EXCEED 150°F (66°C). USE CARE WHEN HANDLING HAZARDOUS CHEMICALS.**

**A. MOUNTING AND WATER SUPPLY:**

Mount in a convenient location using the screw and anchor kit provided

The water inlet is equipped with a female garden hose fitting. The fitting may be removed to permit direct connection to 1/4" NPT pipe.

**WARNING: WATER SUPPLY PRESSURE MUST NOT EXCEED 125 PSI AND WATER TEMPERATURE MUST NOT EXCEED 150°F (66°C).**

**B. OUTLET CONNECTION:**

Connect the discharge hose to the brass outlet garden hose fitting and squeeze the hose clamp around the hose. Locate the position for the mounting screw, and mount the hose clamp to the wall using the remaining screw and anchor. Spray guns, spray nozzles or foaming wands may be used on the hose outlet. We recommend spray nozzles of 6 GPM or higher (at 40 psi). When a spray gun or nozzle is used, hose lengths must not exceed those shown in Table 1. Hoses, spray guns, and foam wands are available through DEMA. See the parts list on the last page for the various styles.

**TABLE 1**

<b>Hose I.D.</b>	3/8"	1/2"	5/8" (or larger)
<b>Max. Length</b>	15 ft.	50 ft.	100 ft.

**C. CHEMICAL SUPPLY:**

**WARNING: USE CARE WHEN HANDLING HAZARDOUS CHEMICALS.**

Place the chemical container(s) in a convenient location not more than six feet below the RAPID FIRE (greater distances will reduce injection capabilities). The top of the chemical product container should never be higher than the RAPID FIRE. Cut vinyl tubes to any convenient length that will allow the tubes to reach the bottom of the container(s). Remove the screw (22) and knob (21), raise the hinged cover, and push the other tubing ends over the chemical inlet barbs located on the sides of the injector. Place the tubing ends with the foot valves into the chemical containers.

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**3. CHEMICAL INDUCTION:**

The chemical induction is controlled by metering tips screwed into the hose barb(s) located on the sides of assembly. The feed rates can be changed by using different sizes of metering tips. To select the proper size of metering tip for the desired dilution ratio, refer to Table 2 below.

TABLE 2  
METERING TIP SELECTION CHART  
FLUID DILUTION RATIOS WITH METERING TIP KIT (100-15K)

Metering Tip Color	Injection Rates for Viscosities Shown								
	1 cps			75 cps			200 cps		
	Oz/Gal	mL/L	Ratio	Oz/Gal	mL/L	Ratio	Oz/Gal	mL/L	Ratio
Tan	0.40	3.11	320-1	0.25	1.95	512-1	0.20	1.56	640-1
Orange	0.50	3.89	256-1	0.35	2.72	366-1	0.25	1.95	512-1
Turquoise	0.70	5.45	183-1	0.50	3.89	256-1	0.35	2.72	366-1
Pink	0.95	7.39	135-1	0.65	5.06	197-1	0.45	3.50	284-1
Clear	1.30	10.12	98-1	0.80	6.23	160-1	0.55	4.28	233-1
Brown	1.50	11.68	85-1	0.90	7.01	142-1	0.60	4.67	213-1
Red	1.90	14.79	67-1	1.00	7.78	128-1	0.70	5.45	183-1
White	2.20	17.12	58-1	1.30	10.12	98-1	0.80	6.23	160-1
Green	2.60	20.24	49-1	1.50	11.68	85-1	0.90	7.01	142-1
Blue	3.20	24.91	40-1	1.75	13.62	73-1	1.00	7.78	128-1
Yellow	4.85	37.75	26-1	2.25	17.51	57-1	1.10	8.56	116-1
Black	6.50	50.60	20-1	2.40	18.68	53-1	1.15	8.95	111-1
Purple	9.20	71.61	14-1	2.70	21.02	47-1	1.20	9.34	107-1
Gray	10.40	80.95	12-1	2.85	22.18	45-1	1.25	9.73	102-1
No Tip	16.00	124.54	8-1	3.50	27.24	37-1	1.55	12.07	83-1

All injection ratios are based on 40 PSI inlet water pressure and a water flow rate of 2.7 GPM.

**Note: Leaner dilutions are available using DEMA metering tip kit #100-15KU or capillary tip #44-61P**

**4. OPERATION:**

The RAPID FIRE permits the operator to select either chemical or clear water rinse by turning the selector knob. When using a spray gun or foaming wand, make sure that the gun on the end of the hose is in the full open position when inducting chemical.

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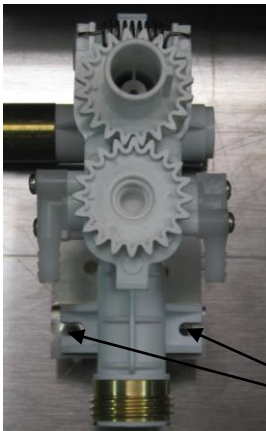
**5. TROUBLESHOOTING**

**CAUTION: TURN OFF WATER SUPPLY BEFORE SERVICING.**

Symptom	Probable Cause	Remedy
Unit fails to draw chemical	<ol style="list-style-type: none"> <li>1. The discharge hose is too long or is the inside diameter too small</li> <li>2. Gun or nozzle is sized incorrectly</li> <li>3. Metering tip is blocked</li> <li>4. Chemical hoses are kinked</li> <li>5. Spray gun is not fully open</li> <li>6. Injector is clogged</li> <li>7. Foot valve is clogged</li> <li>8. Spray nozzle is clogged</li> <li>9. Chemical seals are damaged</li> <li>10. Chemical check valve seals are damaged</li> </ol>	<ol style="list-style-type: none"> <li>1. See Table 1 for proper sizing.</li> <li>2. Refer to section 2 B and resize gun or nozzle accordingly</li> <li>3. Remove tip and clean it</li> <li>4. Replace hose</li> <li>5. Adjust gun to fully open</li> <li>6. Replace the injector</li> <li>7. Remove foot valve and clean it.</li> <li>8. Remove nozzle and clean it</li> <li>9. Replace chemical seals (See steps on replacing chemical seals).</li> <li>10. Replace check valve seals (See steps on replacing check valve seals)</li> </ol>

Steps on replacing chemical seals:

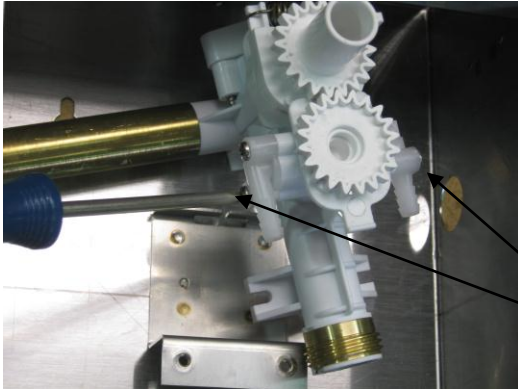
1. Turn knob to the off position and remove both the screw and knob
2. Remove the 2 screws that mount the assembly to the bracket.



Remove Screws

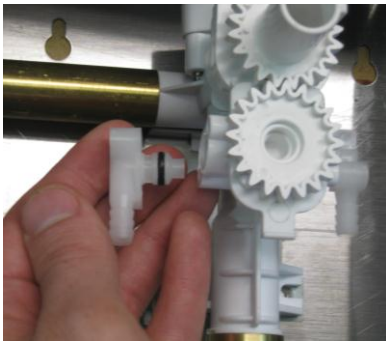
**DEMA RAPID FIRE MODELS  
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3. Remove the 2 screws from each elbow.



Remove all screws and washers from elbows.

4. Remove both elbows from assembly. Make sure O-rings are still attached to elbows.



5. Remove both chemical seals from the same openings the elbows were removed from and replace with new seals.



Chemical seals  
(Use a small flat head screw driver to help remove the seals)

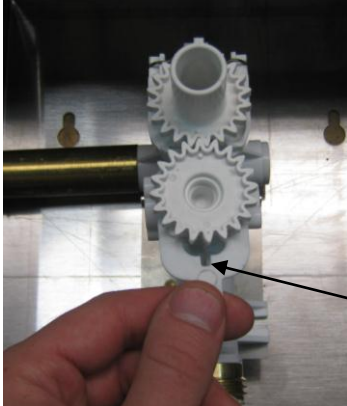
6. Reassemble all parts listed in previous steps.

Steps on replacing check valve seals:

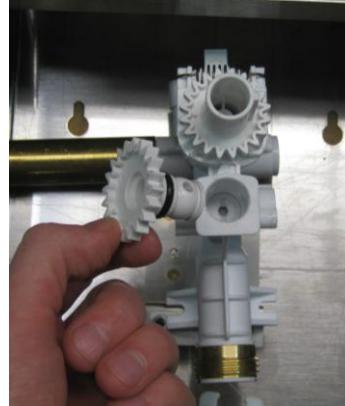
1. Refer back to the section above “Steps on replacing chemical seals” and perform steps 1-5.

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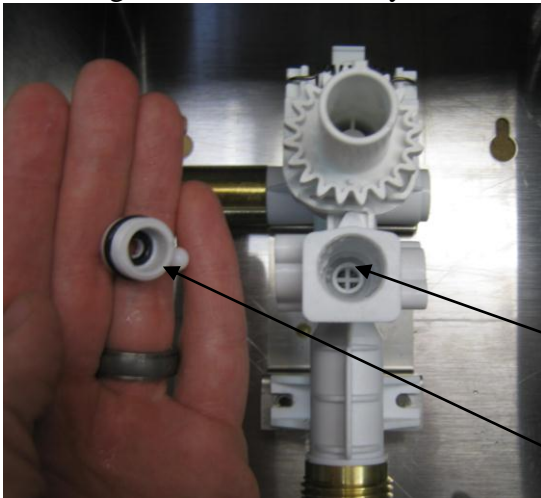
2. Remove the gear retainer and then the gear.



Gear retainer



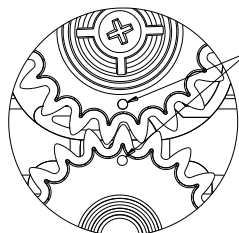
3. Using a flat head screw driver, remove the check valve body and o-ring. You might have to tap on the side of the assembly to knock loose the check valve. Be careful not to lose the check ball or spring when removing the check valve body.



Remove check valve body from here.

Check valve body, check ball, and spring.

4. Replace both inner and outer o-rings on check valve body and reassemble all components from all steps listed above. Note that smaller diameter end of the spring goes against the ball. See Detail A for assembly of the driver gear.



DETAIL A  
SCALE 2:1

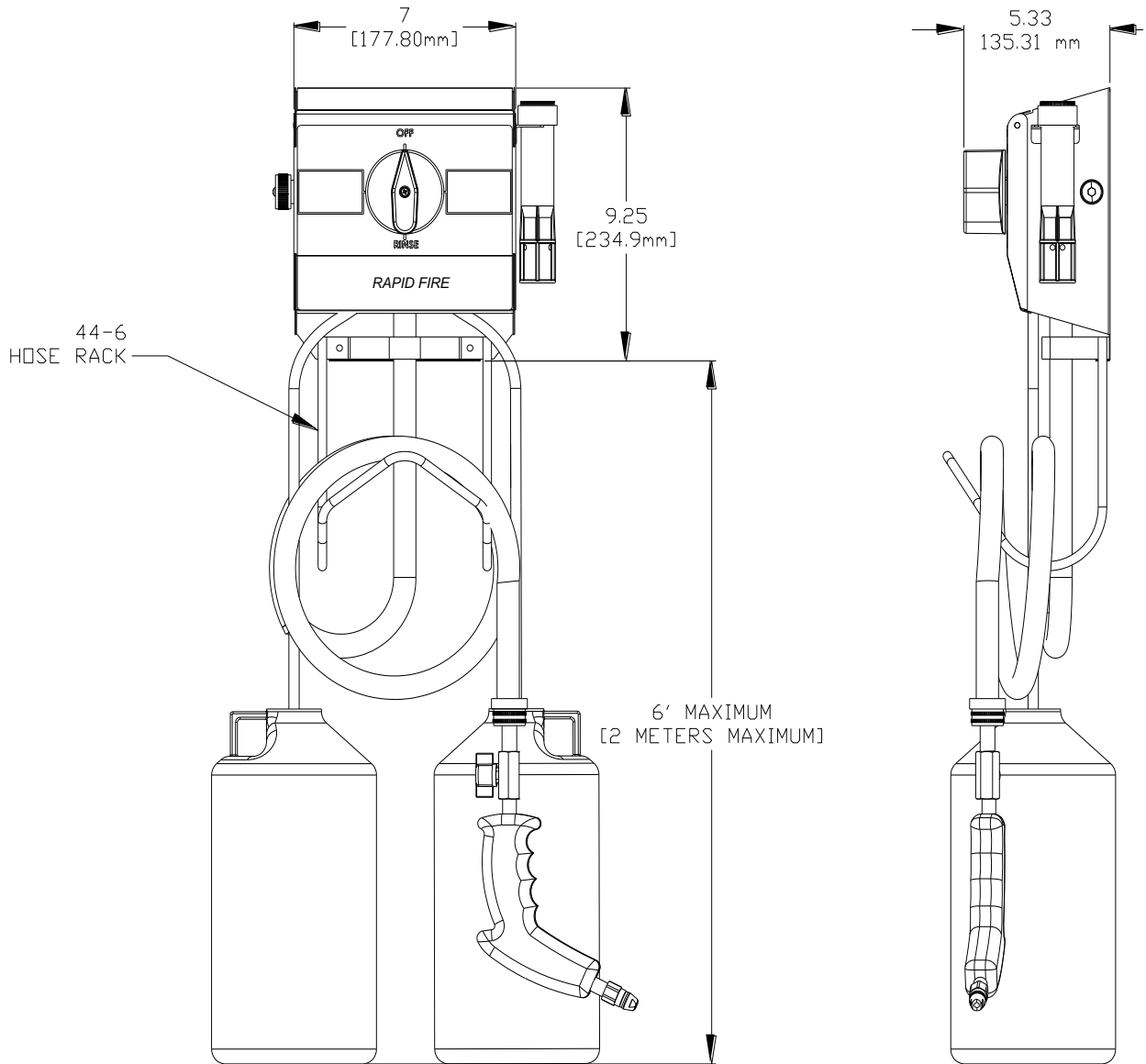
NOTE: REGISTER PINS ON GEARS MUST ALIGN AS SHOWN WITH KNOB IN THE "OFF" POSITION

**CAUTION: WHEN SERVICING UNIT BE SURE THAT REPLACEMENT PARTS HAVE BEEN INSTALLED ACCORDING TO THE DRAWING.**

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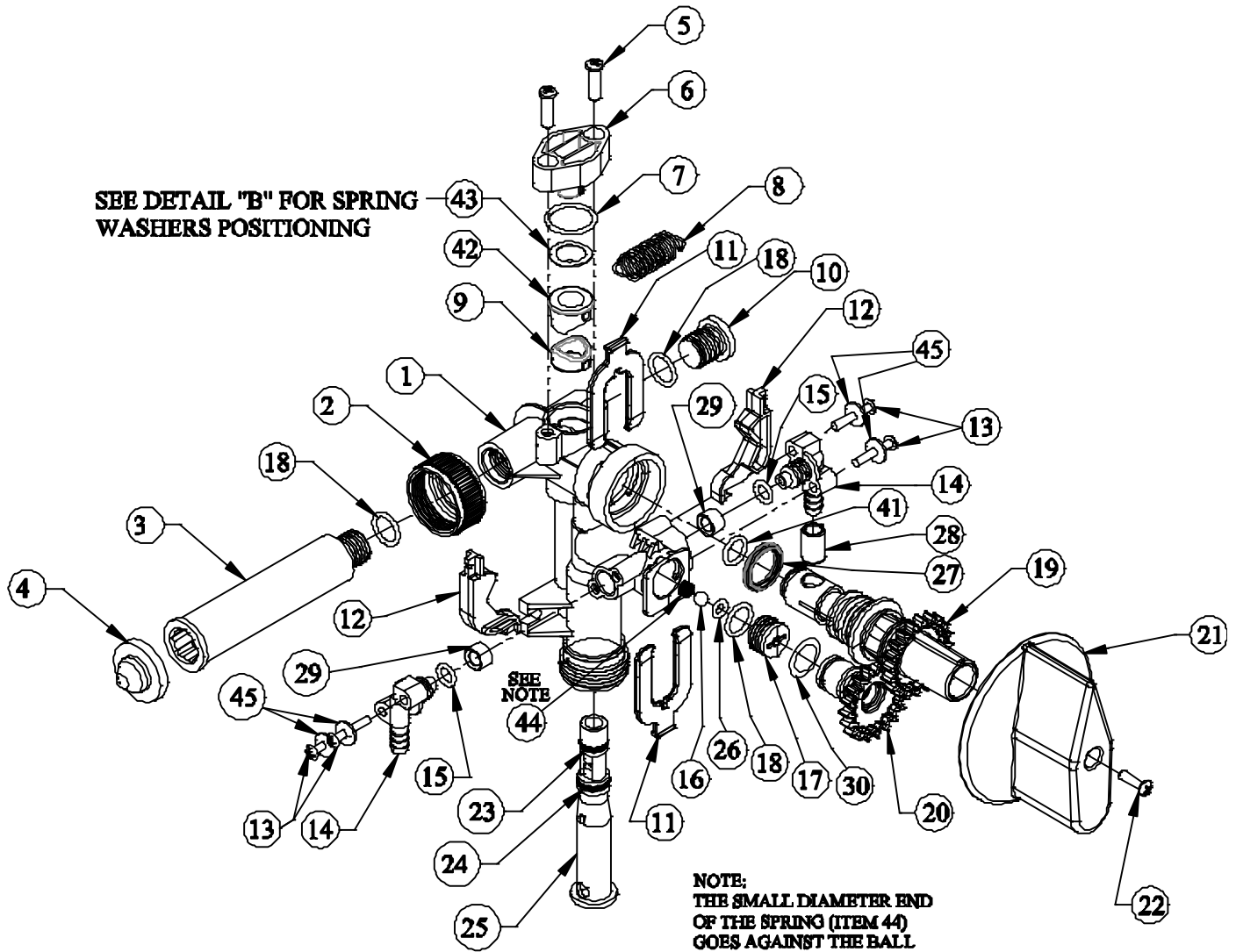
**OVERALL DIMENSIONS:**

Weight: 2.5 lb. (1.14 kg.):

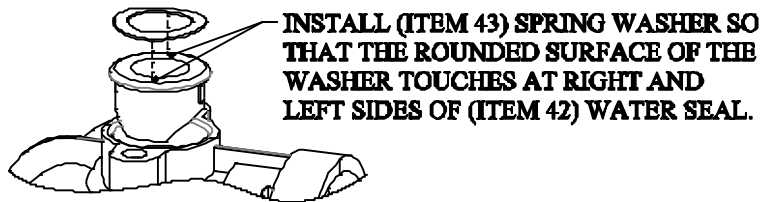




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**COVER AND CASE ASSEMBLY  
NOT SHOWN**



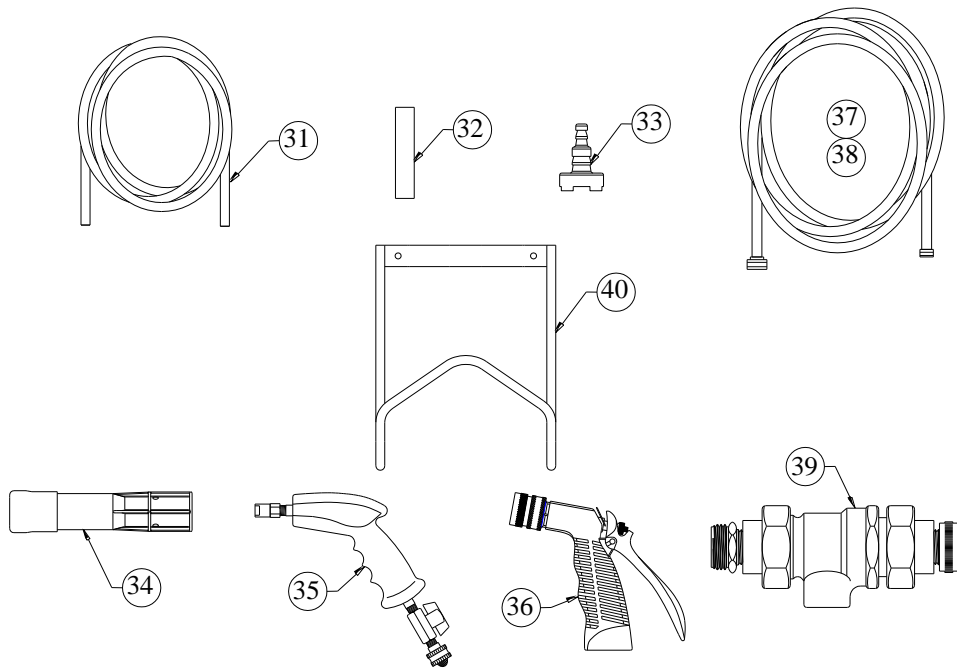
**DETAIL B**

**DEMA RAPID FIRE MODELS  
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ITEM NO.	QTY	DEMA NO.	DESCRIPTION	MATERIAL
1	1	63-1	Valve Body	POLYPROPYLENE
2	1	65-10	Coupling	BRASS
3	1	66-93	Inlet	BRASS
4	1	100-38	Strainer Washer	VINYL/SS
5	2	44-116-5	#8 HI-LO Screw x 5/8" Lg.	STNLS. STL.
6	1	63-21	Water Seal Retainer	POLYPROPYLENE
7	1	63-22	O-Ring	AFLAS
8	1	63-9	Extension Spring	STNLS. STL.
9	1	66-93-8	Water Seal	EPDM
10	1	63-11	Plug	POLYPROPYLENE
11	2	63-12	Gear Retainer	POLYPROPYLENE
12	2	63-13	Detent	POLYPROPYLENE
13	4	58-102	#6 HI-LO Screw X 3/4" Lg.	STNLS. STL.
14	2	63-14	Elbow	POLYPROPYLENE
15	2	63-4	O-Ring	AFLAS
16	1	24-24P7	Ball (.2188 Dia.)	TEFLON
17	1	63-15	Check Valve Body	POLYPROPYLENE
18	3	63-7	O-Ring	AFLAS
19	1	63-23	Drive Gear	POLYPROPYLENE
20	1	63-17	Driven Gear	POLYPROPYLENE
21	1	63-18	Knob	POLYPROPYLENE
22	1	58-60	#6 HI-LO Screw X 1/2" Lg.	STNLS. STL.
23	1	63-5	O-Ring	AFLAS
24	1	63-6	O-Ring	AFLAS
25	1	20-1M-11RF	Injector 2.7 GPM (Color, Gray)	POLYPROPYLENE
26	1	63-3	O-Ring	AFLAS
27	1	63-26	Quad Ring	VITON
28*	1	63-19	Cap	VINYL
29	2	66-93-7	Chemical Seal	AFLAS
30	1	57-10-51A	O-Ring	AFLAS
41	1	25-29VA	O-Ring	VITON
42	1	63-24	Water Seal	EPDM
43	1	63-25	Spring Washer	STNLS. STL.
44	1	63-10	Spring	HASTELLOY
45	4	29-17-3	Washers	STNLS. STL.

\* For 6310

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ITEM NO.	DEMA NO.	DESCRIPTION	MATERIAL
31	100-12	Vinyl Tubing ¼"i.d. x 8'lg	Vinyl
32	61-107-2	Ceramic Weight ¼"i.d.	Ceramic
33	100-16V	Foot Valve Assembly	Polypropylene/Viton
34	292QD 292GQD	Wand (for 1/4 turn valve gun #33) Wand (for trigger handle gun #34)	Polypropylene Polypropylene
35	40-14QD	Spray gun (Blue Handle)	Stainless Steel With Insulated Rubber Handle
36	28-1QD	Spray gun w/ Quick Disconnect	Metal and Plastic With Insulated Rubber Handle
37	44-3-6	Hose Assy. Black ½"ID x 6' lg.	Black Rubber
38	44-3RG	Hose Assy. Red ½"ID x 25' lg.	Red Rubber
39	44-89-112	Backflow Assy. w/ Garden Hose Fittings	Brass
40	44-6	Hose Rack	Stainless Steel

**DEMA RAPID FIRE MODELS**  
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**Return Policy**

No merchandise may be returned for credit without DEMA Engineering Company's written permission. Return Merchandise Authorization (RMA) number required in advance of return.

**Warranty**

DEMA products are warranted against defective material and workmanship under normal use and service for one year from the date of manufacture. This limited warranty does not apply to products that have a normal life shorter than one year or failure and damage caused by chemicals, corrosion, improper voltage supply, physical abuse or misapplication. Rubber and synthetic parts such as "O"-rings, diaphragms, squeeze-tubes and gaskets are considered expendable and are not covered under warranty. This warranty is extended only to the original buyer of DEMA products. If products are altered or repaired without prior approval of DEMA, this warranty will be void.

Defective units or parts should be returned to the factory with transportation prepaid. If inspection shows them to be defective, they will be repaired or replaced without charge. F.O.B. factory DEMA assumes no liability for damages. Return merchandise authorization number to return units for repair or replacement must be granted in advance of return.