



Rayne 5066 Water Softener

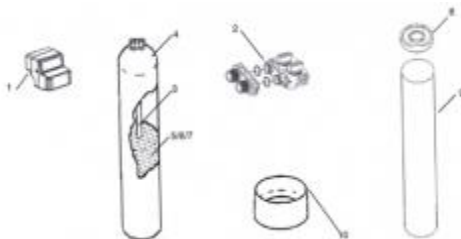
Owner's manual 5066

This manual contains information on setting the controller and normal operating maintenance required by the owner for the following units: RG 1250, RXD 1000, RXD 1500, & RXD 1500D

Water Quality Association tested and certified under industry standards

Owner's Manual

Water Softener Assembly



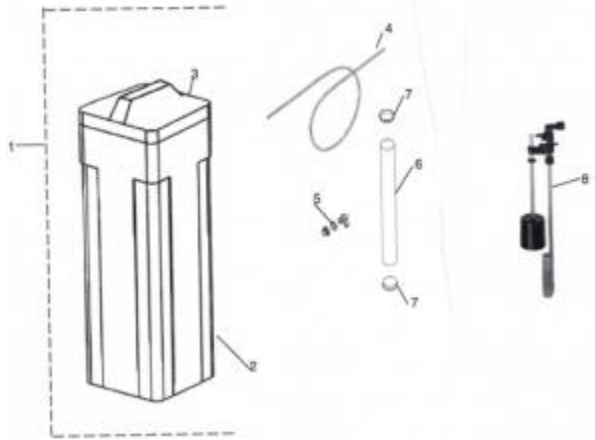
Item #    RG-1 250

DESCRIPTION – Rayne Guardian

1	5066103	RXD Controller – Specify Tank Size
1 A	18259-02	RXD Front Cover
2	60049	Bypass, plastic with 1" yoke
3	RF0030	High Flow Distributor – Specify Tank Size
4	10 x 47	Mineral Tank
5	1/4 CF	Filtrex Media
6	1-1/4 cf	High Capacity Resin, Solvent Free
7	8 lbs.	Support Bed – Gravel
8	10"	Collar – Black
9	Stainless Steel	Jacket
10	10"	Tank Base

Item #	RXD 1000	RXDI000S*	RXD 1500	RXDI500-D	Description
1		5066103			RXD Controller -Specify Model
2		60049			Bypass, plastic 1"
3	ST1040		ST1035	ST1047	
10 x 40	10 x 35		10 x 47		Mineral Tank
4	RF00011	n/a	RF00011		Tank Base
5		RF0030			High Flow 1' Distributor – Specify Model
6		A1020-5			High Capacity Resin, C-249
1 cf	1cf		1.5 cf	1.5 cf	
7	CK1040	n/a	CK1040	SS1047	
Almond			Almond		Stainless Steel jacket
10x40			10x47	10x47	
8	RF00015	n/a	RF00015	SS0010	Collar – Black
9	n/a	CK1111	n/a	n/a	Cabinet
10	n/a	CK0011	n/a	n/a	Cabinet Deck

\* Model RXD 1000S is not WQA Certified.



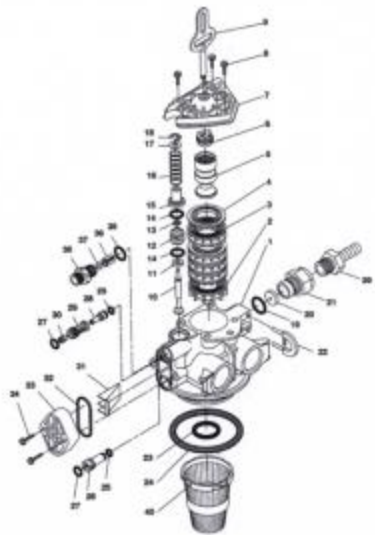
Item #	RG-1 250	DESCRIPTION
1	C10772 BR 15" x 17"	Complete Brine Tank Assembly
2	B08802 BR 15" x 17", Black	Brine Tank
3	A10171 BR 15" x 17", Black	Brine Tank Lid
4	A11510 BR	Brine Line
5	A13940 BR	Overflow Fitting
6	A14120 BR	Brine Well
7	A05300 BR (2)	Brine Well Lid
8	2310/500	Brine Valve Assembly

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Control Valve Assembly

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Brine Tank Assembly



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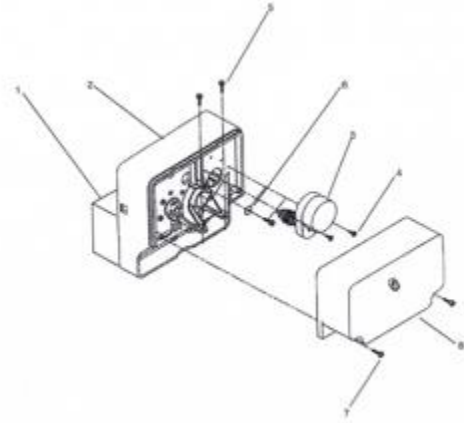
Down Flow Control Valve

Item No	Quantity	Part No	Description
1 .....	....1 .....	18815.....	Valve Body, 5000, 1 "Dist.
2.....	....1 .....	18264.....	Spacer, End
3.....	....4 .....	14241 .....	Spacer
4.....	5 .....	13242.....	Seal
5.....	1 .....	18265.....	Piston, Downflow
6.....	1 .....	14309.....	Retainer, Piston Rod
7.....	1 .....	18268.....	End Plug Assembly
8.....	3 .....	18261 .....	Screw, Hex Washer Head, 1024 x 13/16
9.....	1 .....	18267.....	Piston Rod
10 .....	1 .....	17978.....	Brine Valve Stem
11 .....	1 .....	18755.....	Seat, Brine Valve
12 .....	1 .....	13167.....	Spacer, Brine Valve
13 .....	1 .....	12550.....	Quad Ring, 009
14 .....	2 .....	13302.....	O Ring, 014
15 .....	1 .....	13165 .....	Cap, Brine Valve

16	..... 1	.....11973 .....	Spring, Brine Valve
17	.....1	.....16098.....	Washer, Plain, Nylon
18	..... 1	.....11981 01 .....	Retaining Ring
19	..... 1	.....11183 .....	O Ring, 017
20	..... 1	.....2.4 GPM .....	Flow Washer
21	..... 1	.....11385 01 .....	Flow Control Housing, Plastic
22	..... 1	.....18312.....	Retainer, Drain
23	..... 1	.....13304.....	O Ring, 121
24	..... 1	.....18303.....	O Ring, 336
25	..... 2	.....10141 .....	O Ring, 010
26	..... 1	.....18276.....	Plug, Injector
27	..... 2	.....13771 .....	O Ring, 012
28	..... 1	.....18275 X.....	Injector Throat (specify size) 000, 00, 0, 1, 2, 3
29	.....1	.....18274 X .....	Injector Nozzle (specify size) 000, 00, 0, 1, 2, 3
30	..... 1	.....18273.....	Vortex Generator
31	..... 1	.....18271 .....	Screen Injector
32	..... 1	.....18301 .....	Seal, Injector
33	..... 1	.....18277.....	Cap, Injector, Softener
34	..... 2	.....18262.....	Screw, Hex Washer Head, 10 24 x 1
35	..... 1	.....12977.....	O Ring, 015
36	..... 1	.....13245.....	Retainer, BLFC Button
37	..... 1	.....	Flow Washer (specify size)
38	..... 1	.....13244.....	Adapter, BLFC
39	..... 1	.....13308.....	Hose Barb, Black, 1/2 x 112 Straight
1	.....12338 .....	.....	Hose Barb, Black, 1/2 x 1/2 900 Elbow
40	..... 1	.....18280 .....	Top Collector, 1 X.011, Gray

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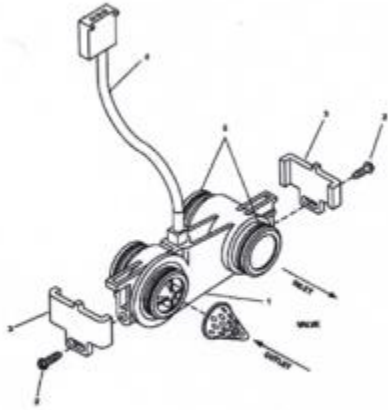
Control Drive Assembly



Item No	Quantity	Part No.	Description
1 .....	.....1 ..	...EB5066.....	Electronic Board
2 .....	....1 .	....60200-00 .....	Control Drive Assembly, Downflow
3 .....	..1 ..	....18217-10 .....	Motor Assembly 24V /60 Hz
4 .....	....2 .....	13602 .....	Screw, Rd Head, 6-32 x 5/16
5 .....	...2	.....18261 .....	Screw, Hex Head, 10-24 x 13/16
6 .....	....1 ...	...13363 .....	Washer, Plain .145 ID
7 .....	....4 ....	..13296 .....	Screw, Hex Washer 6-20 x 1/2
8 .....	.....1 ...	...18259-02.....	Cover, Back, Black

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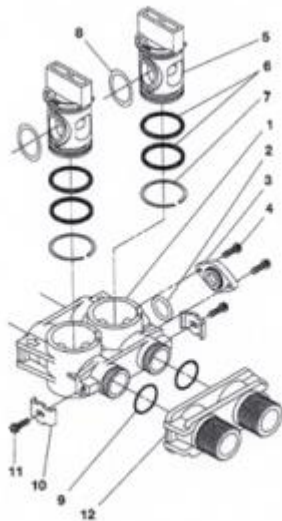
Turbine Meter Assembly



Item No.	Quantity	Part No	Description
1	..... 1	.. 19797 .....	Meter Assembly, Turbine
2	..... 1	. 13314 .....	Screw, Hex Washer, 18-18 x 5/8
3	..... 1	19569 .....	Clip, Flow Meter
4	..... 1	19791-01 .....	Meter Cable Assembly, Turbine
5.....	4	..13305 .....	O Ring, 119
6	..... 4	14613 .....	Flow Straightener

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By-Pass Assembly



Item No.	Quantity	Part No	Description
1 .....	.1 ....	.. 19723 .....	By Pass Valve Body, Plastic
2 .....	.....1 ...	...11183.....	O Ring, 015
3 .....	.....1 ...	...19724 .....	Cap, By Pass
4.....	.....2 .	....17512 .....	Screw, Hex Washer Head, #624x3
5 .....	..2 ....	..17820 .....	Plug, By Pass
6 .....	.....4 ...	...18661 .....	O Ring, 218
7 ....	.....2 .	....18662 .....	Retaining Ring
8 .....	.....2 ...	...18660 .....	ORing
9 .....	.....2 .	....13305 .....	O Ring, 119
10 .....	.....2 ....	..13255 .....	Clip, Mounting
11 .....	.....2 ...	...13314 .....	Screw, Hex Washer Head, 818x5/8
12 .....	.....1	18706.....	Yoke, Plastic, 1 "NPT
1 ....	..8706 02 .....	.....	Yoke, Plastic 3/4" (not pictured)
1 ....	..19620-01 .....	.....	90° Adapter Coupling – Optional (not pictured)

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2310\500 Safety Brine Valve Assembly



Item No	Quantity	Part No	Description
1	.....1	..... 19645.....	Safety Brine Valve Body



2.....	1	.....	19803.....	Safety Brine Valve Arm Assembly
3.....	1	.....	19804.....	Stud, 1024
4.....	1	.....	19805.....	Nut, 1024
5.....	1	.....	1965201 .....	Poppet & Seal
6.....	1	.....	19649.....	Flow Dispenser
7.....	1	.....	11183 .....	O Ring, 017
8 .....	1	.....	19647.....	Elbow, Safety Brine Valve
9 .....	2	.....	19625.....	Nut Assembly, 3/8
10.....	1	.....	18312.....	Retaining Clip
11.....	1	.....	60014.....	Safety Brine Valve, 2310 (includes
items 1 10)				
12.....	2	.....	10150.....	Grommet (included with item 13)
13.....	1	.....	60068 .....	Float Assembly, 2310
14.....	1	.....	60002.....	500 Air Check Assembly

## Owner's Manual

### Service Instructions

#### -To Remove and Replace Powerhead

Turn off water supply to conditioner: a. If the conditioner installation has a "three valve" by pass system, first open the valve in the bypass line, then close the valves at the conditioner inlet and outlet.

If the conditioner has an integral by pass valve, put it in the by pass position. c. If there is only a shut off valve near the conditioner inlet, close it. 2. Relieve water pressure in the conditioner by putting the control in the backwash position momentarily. Return the control to the service position. 3. Unplug electrical cord from outlet. 4. Disconnect the cable from the meter cover. Remove the control valve back cover. 5. Remove screw and washer at drive yoke. Remove powerhead mounting screws. The entire powerhead assembly will now slide forward.

Put new powerhead on top of valve. Place lugs atop end plug and slide rearward. Be sure

drive pin on main gear engages slot in drive yoke (rotate control knob if necessary). 7. Replace powerhead mounting screws. Replace screw and washer at drive yoke.

Return by pass or inlet valving to normal service position. Water pressure should now

be applied to the conditioner, and any by pass line shut off.9. Plug electrical cord into outlet. 10. Set time of day, program wheel, and salt usage. Cycle the control valve manually to assure proper

function. Make sure the control valve is returned to the service position. 11. Replace the control valve back cover. Set top leading edge of cover over the 2 legs and rotate down 12. Make sure there is enough brine in the brine tank. 13. Plug cable into meter cover. 14. Press the Extra Cycle button to allow the unit to regenerate that evening.

To Remove and Replace Motor 1. Follow steps A1 through A4. 2. Remove the clear Motor Bearing on the front face of the powerhead by turning clockwise. 3. Disconnect wire nuts on motor leads and powercord. 4. Remove the two screws holding motor in place and pull motor out of powerhead. Note: You may have to rock motor slightly to the side. 5. Place new motor in position. Motor should set flush with powerhead and install the two screws. 6. Reconnect motor leads and powercord and install wire nuts. Note: Motor leads should be wrapped clockwise around the motor coil to keep clear of the mechanical operation of the

Control Valve.

Install the clear Motor Bearing on the front face of the powerhead. B. To Replace or Clean Injectors and Screen 1. Follow steps A1 through A3. 2. Remove the two screws in the injector cap. Remove injector cap and discard seal. With screwdriver, pry injector nozzle and throat assembly from valve body. 3. Push in cleaned or new injector nozzle and throat assembly. Be sure they are all the way in. Clean or install a new screen. 4. Install new Injector cap seal in Valve Body. 5. Insert screws through injector cap into mating 6. holes in the valve body and tighten screws. 7. Return by pass or inlet valving to normal service position. Water pressure should now be applied to the conditioner and any by pass line shut off. Check for leaks at seal around injector cap. C. To Replace Piston and/or Seals and Spacers and/or Brine Valve Follow steps A1 through A.5. Remove the three screws and pull upward on end plug and piston assembly to remove it from

Valve Body.

To Replace Brine Valve a. Pull brine valve from valve body, also remove

and discard o ring at bottom of brine valve hole b. Apply silicone lubricant to new o ring and reinstall at bottom of brine valve hole. c. Apply silicone lubricant to new o ring on new brine valve assembly and press into place, shoulder on bushing should be flush with valve body. 4. To Replace Seals and Spacers: a. Remove seals and spacers using your fingers from valve body. b. Inspect the inside bore of the valve for foreign matter that could interfere with valve operation. c. Replace new seals and spacers using your fingers to set in place. 5. To Replace Piston: a. Inspect the inside of the valve to make sure that all seals and spacers are in place, and that there is no foreign matter that could interfere with valve operation. b. Take new piston and end plug assembly as furnished and push piston into valve by means of the end plug. 6. Install and tighten the three screws in the end plug. 7. Return by pass or inlet valve to normal service position. Water pressure should now be applied to the conditioner and any by pass line shut off.

Check for leaks at all seal areas. 9. Follow steps A6 through A14. E. To Replace Meter

Turn off water supply to conditioner: a. If the conditioner installation has a "three valve" by pass system, first open the valve in the by-pass line, then close the valves at the conditioner inlet and outlet. b. If the conditioner has an integral by pass valve, put it in the by pass position. c. If there is only a shut off valve

near the conditioner inlet, close it. 2. Relieve water pressure in the conditioner by putting the control in the backwash position momentarily. Return the control to the service position. 3. Unplug electrical cord from outlet. 4. Disconnect the cable from meter assembly. 5. Remove two screws and clips at by pass valve or yoke. Pull resin tank away from plumbing connections. 6. Remove two screws and clips at control valve. Pull meter module out of control valve. 7. Apply silicone lubricant to four new o rings and assemble to the four ports on new meter module. 8. Assemble meter to control valve. Note, meter portion of module must be assembled to valve outlet. 9. Attach two clips and screws at control valve. Be sure clip legs are firmly engaged over lugs. 10. Push resin tank back to the plumbing connections and engage meter ports with by pass valve or yoke. 11. Attach two clips and screws at by pass valve or yoke. Be sure clip legs are firmly engaged over lugs. 12. Return by pass or inlet valving to normal service position. Water pressure should now be applied to the conditioner, and any by pass line shut off. 13. Check for leaks at all seal areas. 14. Plug electrical cord into outlet. 15. Set time of day. Make sure the control valve is in the service position. 16. Plug cable into meter assembly. F. Replace Filtrex media 1. Approximately every 2 years contact your local Rayne Dealer.

Owner's Manual

Trouble Shooting Guide

SYMPTOM

Softener fails to regenerate automatically.

PROBABLE CAUSE

CORRECTION

Cord plugged into intermittent or dead power source.	A. Connect to constant power source.
Disconnected meter cable.	B. Reconnect cable
Defective power cord.	C. Replace cord.
D. Defective controller or meter.	D. Replace or repair.

SYMPTOM

Regeneration at wrong time.

PROBABLE CAUSE

CORRECTION

A.Controller improperly set, due  
to Power failure

A.Reset timer  
B. Check battery.

#### SYMPTOM

Loss of capacity.

#### PROBABLE CAUSE

#### CORRECTION

A.Increased raw water hardness.  
automatically.

A.Connect to constant

B.Brine concentration and for quantity.  
salt at all times. Clean  
it yearly. Salt may be  
bridged.

B.Keep full of

Resin Fouling. C.Call dealer, find out how  
to confirm it, clean the  
resin and prevent future  
fouling.

D.Poor distribution, Channeling  
(uneven bed surface).  
backwash flow.

D.Call dealer. Check  
distributors and

E.Internal valve leak.  
spacers, seals and/or  
piston.

E.Call dealer. Replace

F.Resin age.  
resin oxidation caused  
by Chlorine. Mushy resin.

F.Call dealer. Check for

G.Resin loss.  
bed depth. Broken distributors. Air or gas in

G.Call dealer. Check for correct

bed: Well gas eliminator Loose brine line.

SYMPTOM

Poor water quality.

PROBABLE CAUSE

CORRECTION

Check items listed in #3.

A. Check items listed in #3.

Bypass valve open.

B. Close bypass valve.

Channeling.

C. Check for too slow or high

flow. Check for media fouling.

SYMPTOM

High salt usage.

PROBABLE CAUSE

CORRECTION

High Salt setting.

A. Adjust salt setting.

Excessive water in brine tank. B. See symptom No. 7.

SYMPTOM

Loss of water pressure

PROBABLE CAUSE

CORRECTION

A. Scaling/Fouling of inlet pipe A. Clean or replace pipeline.

or dead power source.

Pre-treat to prevent.

B. Fouled resin.

B. Clean the resin. Pre-treat to

prevent.

Improper backwash. C. Too many resin fines and/or

sediment. Call dealer, reset

backwash flow rate, and/or

adjust time.

## SYMPTOM

Excessive water in brine tank  
and/or salty water to service.

### PROBABLE CAUSE

### CORRECTION

A.Plugged Drain Line

A.Check flow to drain, clean

flow control.

B.Dirty or damaged brine valve.

B.Clean or replace brine valve.

Plugged injector

C.Clean injector and replace screen.

D.Low inlet pressure.

D.Increase pressure to allow

injector to perform properly (20 psig minimum).

E.Timer not cycling.

E.Replace timer.

## SYMPTOM

Softener fails to use salt.

### PROBABLE CAUSE

### CORRECTION

A.Plugged/restricted drain line. A.Clean drain line and/or flow  
control.

B.Injector is plugged.

B. Clean or replace injector and

screen.

No water in brine tank.

C.Check for restriction in BLFC.

Ensure safety float is not stuck.

D.Water pressure is to low.

D.Line pressure must be at least

20 psi.

E.Brine line injects air during brine draw.

E.Check brine line for air leaks.

F.Internal control leak.

F.Call dealer, check piston, seals,and spacers

for scratches and dents.

SYMPTOM

Control cycles continuously.

PROBABLE CAUSE

CORRECTION

A.Faulty timer.

A.Replace timer.

SYMPTOM

Continuous flow to drain.

PROBABLE CAUSE

CORRECTION

A.Faulty timer.  
rebuild unit.

A Call dealer, clean valve,

B.Internal control leak.

B. Same as above.

Valve jammed in brine  
refill unit.

C.Same as above

Valve motor stopped or jammed. D.Replace valve motor.

60015 1610 Brine Valve

For Illustration, see page 10

1	.....	11973 .....	Spring, Brine Valve
1	.....	11981 01 .....	Retaining Ring
1	.....	12550.....	Quad Ring, 009
1	.....	.13165 .....	Cap, Brine Valve
1	.....	13167 .....	Spacer, Brine Valve

2	.....	13302.....	0 Ring, 014
1	.....	16098 .....	Washer, Plain, Nylon
1	.....	17978 .....	Brine Valve Stem
1	.....	18755.....	0 Ring, 201
6002212	.....	BLFC.1125 GPM	
6002225	.....	BLFC.25 GPM	
6002250	.....	BLFC.50 GPM – Standard	
60022100	.....	BLFC 1.0 GPM	
1	.....	17307 .....	Flow Washer. 125 GPM
12094	.....	Flow Washer.25 GPM	
12095	.....	Flow Washer.50 GPM	
12097	.....	Flow Washer 1.0 GPM	
1	.....	12977.....	0 Ring, 015
1	.....	13244 .....	Adapter, BLFC
1	.....	13245 .....	Retainer, BLFC
6011500	.....	Piston Assembly, Downtlow	
1	.....	14309 .....	Retainer, Piston Rod
1	.....	18265 .....	Piston, Downflow
1	.....	18267 .....	Piston Rod
1	.....	18268 .....	End Plug Assembly
60120	.....	Seal and Spacer Kit	
5	.....	13242.....	Seal
4	.....	14241 .....	Spacer
1	.....	18264.....	End Spacer
18272000	.....	1610 Injector Assy., 000, Brow	
1827200	.....	1610 Injector Assy., 00, Violet	
182720	.....	1610 Injector Assy., 0, Red	
182721	.....	1610 Injector Assy., 1, White	
182722	.....	1610 Injector Assy., 2, Blue	



182723..... 1610 Injector Assy., 3, Yellow

1	.....10141 .....	O Ring, 010
1	.....13771 .....	O Ring, 012
1	.....18273.....	Vortex Generator
1	.....18274 XX.....	Injector Nozzle
1	.....18275 XX.....	Injector Throat

60280 0001610 Injector Kit, 000, Brown

6028000 1610 Injector Kit, 00, Violet

602800 1610 Injector Kit, 0, Red

602801 1610 Injector Kit, 1, White

Model 1000 & 1500

602802 1610 Injector Kit, 2, Blue –

Model 2000

602803 1610 Injector Kit, 3, Yellow

1 .....18271 .....Screen, Injector

1 .....18272 XX.....1610 Injector Assembly

1 .....18277 .....Cap, Injector

1 .....18301 .....Seal, Injector

2 .....18262 .....Screw, Hex Washer Head,

10 24 x 12

CD5066 Control Drive Assembly

60086-50 .... 3/4" Meter

60049.....Bypass, Plastic

6070500 ..... DLFC BLANK

6070506 ..... DLFC .60 GPM

6070508 ..... DLFC .80 GPM

6070510 ..... DLFC 1.0 GPM

6070512 ..... DLFC 1.2 GPM

6070513 ..... DLFC 1.3 GPM

6070515 ..... DLFC 1.5 GPM

60705 17..... DLFC 1.7 GPM

6070520 ..... DLFC 2.0 GPM

6070524 ..... DLFC 2.4 GPM

Model 1250

6070530 ..... DLFC 3.0 GPM

60705 35 .... DLFC3.5 GPM

60705 40 .... DLFC 4.0 GPM

6070545 ..... DLFC 4.5 GPM

6070550 ..... DLFC 5.0 GPM

6070560 ..... DLFC 6.0 GPM

6070570 ..... DLFC 7.0 GPM

1 .....11183      O Ring, 017

1 .....11385 01      ..... DLFC Housing Plastic

Flow Washer (specify size)