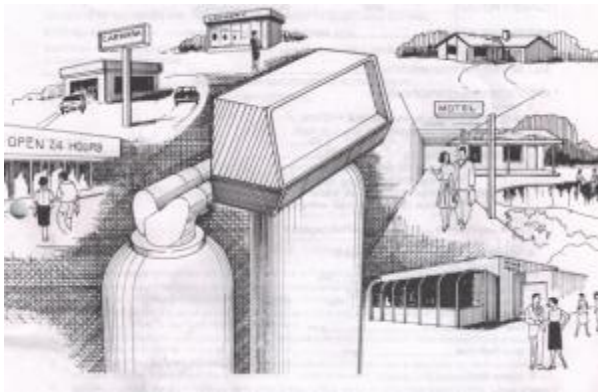
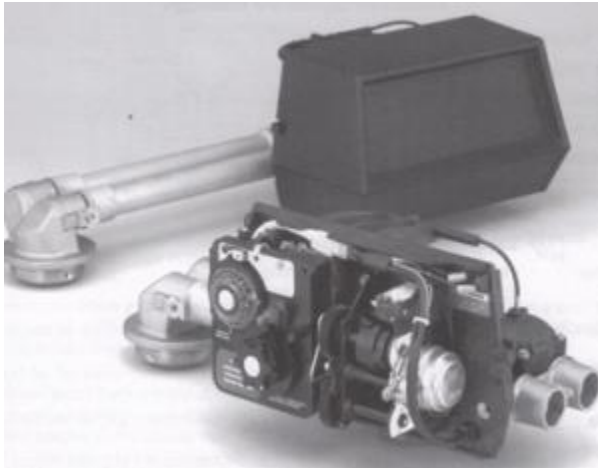


Model 9000 water softener

Rayne Infinity Water Softener



This image portrays the locations the 9000 water softener unit is best suited; a car wash; laundry; motel and restaurants. This model 9000 water softener is designed so there is never a moment of hard water. When one tank is regenerating – the other tank is producing soft water.

This unit is superb for commercial applications where soft water is required 100% of the time.



MODEL 9000 ECONOMINDER – Rayne Infinity Home Water Softeners

general, residential & commercial installation

check list

WATER PRESSURE: A minimum of 25 pounds of water pressure is required for regeneration valve to operate effectively.

ELECTRICAL FACILITIES: A continuous 110 volt, 60 Hertz current supply is required. Make certain the current supply is always hot and cannot be turned off with another switch.

EXISTING PLUMBING: Condition of existing plumbing should be free from lime and iron buildup. Piping that is built up heavily with lime and/or iron should be replaced. If piping is clogged with iron, a separate iron filter unit should be installed ahead of the water softener.

LOCATION OF SOFTENER AND DRAIN: The softener should be located close to a drain. BY-PASS VALVES: Always provide for the installation of a by-pass valve.

CAUTION: Water pressure is not to exceed 120 p.s.i., water temperature is not to exceed 110° F, and the unit cannot be subjected to freezing conditions.

INSTALLATION AND START-UP INSTRUCTIONS

Place the softener tank where you want to install the unit, making sure the tanks are level and on a firm base.

All plumbing should be done in accordance with local plumbing codes. The pipe size for the drain line should be minimum ½". Overhead drains exceeding 4' above unit require ¾" drain line.

Both tanks must be the same height and diameter and filled with equal amounts of media. The 1" distributor tube (1.050 O.D.) should be cut flush with top of each tank.

4. Lubricate the distributor O-ring seal and tank "o" ring seal with silicone lubricant. Place the main control valve on one tank and the tank adapter on the second tank.

NOTE: The 1" copper tubing to interconnect the tanks must be soldered prior to assembly on the main control valve and tank adapter. There should be a minimum of 1" distance between tanks on final assembly.

Solder joints near the drain must be done prior to connecting the Drain Line Flow Control fitting. Leave at least 6" between the DLFC and solder joints when soldering. Failure to do this could cause damage to the drain module.

Teflon tape is the only sealant to be used on the drain fitting.

Make sure that the floor is clean beneath the salt storage tank and that it is level.

Place approximately 1" of water above the grid plate (if used) in your salt tank. Salt may be placed in the unit at this time.

On units with a by-pass, place in by-pass position. Turn on the main water supply. Open a cold soft water tap nearby and let run a few minutes or until the system is free from foreign material (usually solder) that may have resulted from the installation.

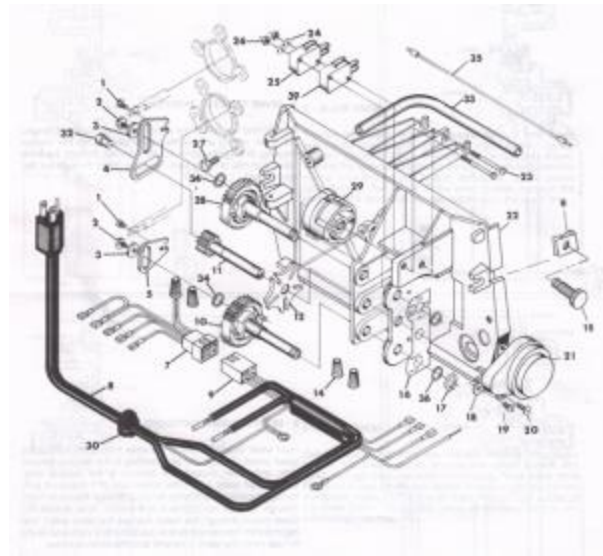
Place the by-pass in service position and let water flow into the mineral tanks. When water flow stops, open a cold water tap nearby and let run until air pressure is relieved.

12. Electrical: All electrical connections must be connected according to codes. Plug unit into electrical outlet. Do not insert meter cable into the meter yet.

USA

MODEL 9000 ECONOMINDER water softener drive assembly

Rayne Infinity Home Water Softeners



MODEL 9000 ECONOMINDER water softener drive assembly

Rayne Infinity Home Water Softeners

PARTS LIST

ItemNo	Quantity	Part No	Description
1	2	11335	Screw, #4-40
2	2	18564	Screw, Hex Washer #6-20
3	2	13363	Washer
4	1	14921	Piston Rod Link, Upper
5	1	15019	Piston Rod Link, Lower
6	2	18728	Nut, Clip, #8-32
7	1	15203	Wiring Harness – Timer
8	1	11838	Power Cord
9	1	15202	Wiring Harness – Drive
10	1	15134	Driven Gear, Lower

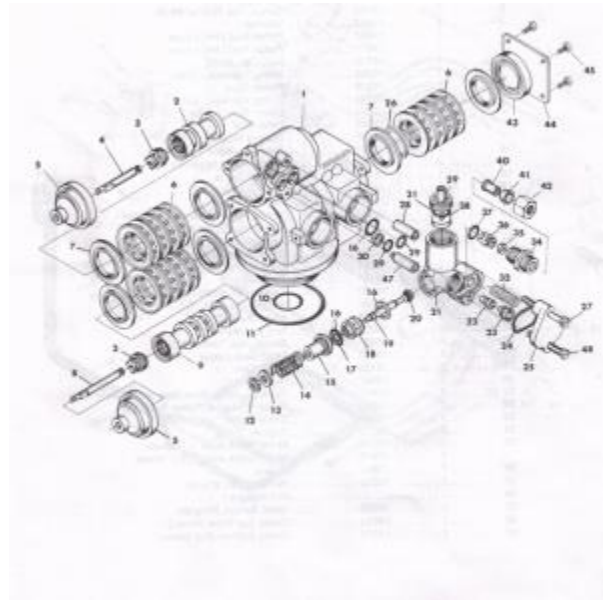
11115135Drive Gear
 12114896Geneva Wheel
 14412681Wire Connector
 15215236Cover Screw Assembly
 16115175Position Decal
 17214917Retaining Ring
 18115199Ground Plate
 19114430Screw, Hex Washer #6
 20219160Screw, Round Hd #6-32
 21 117509Drive Motor – 220V., 50 Hz
 114927Drive Motor – 120V., 60 Hz
 117611Drive Motor 24V., 50-60 Hz
 22115131Control Panel
 23215172Screw, Flat Hd #4-40
 24210340Washer, Lock #4
 25110218Micro Switch
 26210339Nut, Hex #4-40
 27715331Screw, Hex Washer #10-24
 28115133Drive Gear, Upper
 29115132Triple Cam
 30113547Strain Relief
 31115810Retaining Ring, Drive Gear (not shown)
 32115323Guide Pin Upper Piston Rod Link
 33115368Cable Guide
 34215372Washer, Thrust
 35115216Meter Cable Assy. – 1" Meter
 115425Meter Cable Assy. – 3/4" Meter
 36215692Spacer
 37110302Insulator (not shown)

- 38Not Assigned
- 39116433Micro Switch, Program
- 40118699Cover, Top (Now Shown)
- 41114779Cover, Bottom (Not Shown)

USA

MODEL 9000 ECONOMINDER water softener control valve assembly

Rayne Infinity Home Water Softeners



MODEL 9000 ECONOMINDER water softener control valve assembly

Rayne Infinity Home Water Softeners

PARTS LIST

Item No.	Quantity	Part No.	Description
1.....	1.....	14861.....	Valve Body
2.....	1.....	14914	Piston, Upper
3.....	2.....	14309	Piston Rod Retainer
2.....	.....	16590	Piston Rod Retainer, HW

4.....1.....14919Piston Rod, Upper
 5.....2.....13446End Plug Assy
 6.....12.....14241Spacer
 12.....14241-01Spacer, HW
 7.....16.....13242Seal
 16.....18759Seal, HW
 8.....1.....14920Piston Rod, Lower
 9.....1.....14905Piston, Lower
 10.....1.....11710O-Ring, -215
 11.....1.....12281O-Ring, -338
 12.....1.....11981-01Retaining Ring
 13.....1.....16098Washer, Brine Valve (Nylon)
 14.....1.....11973Spring, Brine Valve
 15.....1.....13165Brine Valve Cap
 16.....3.....13302O-Ring, -014
 17.....1.....12550Quad Ring, -009
 18.....1.....13167Brine Valve Spacer
 19.....1.....14925Brine Valve Stem
 20.....1.....12626Brine Valve Seat
 21.....1.....15215Injector Body
 22.....1.....10914Injector Throat
 10226Injector Throat, SS
 23.....1.....10913Injector Nozzle, Specify Size
 10225Injector Nozzle, SS
 24.....1.....13303O-Ring, -021
 25.....1.....13166Injector Cover
 26.....1.....16595Spacer
 27.....1.....13387Screw, Hex Hd #10-24
 28.....1.....13361Spacer, Injector

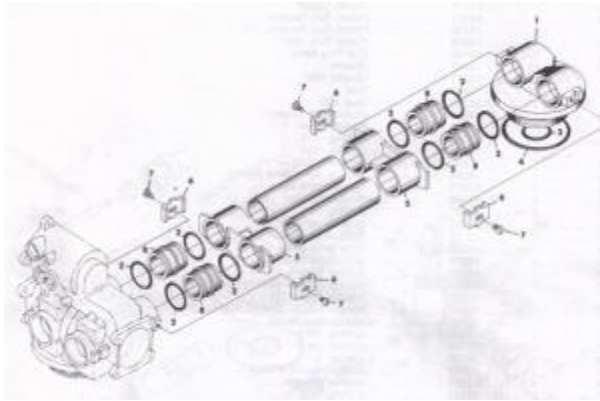
29.....1.....133010-Ring, -011
 30.....1.....13497Air Dispenser
 31.....1.....153480-Ring, -563
 32.....1.....10227Injector Screen
 34.....113244B.L.F.C. Fitting
 116173B.L.F.C. Fitting – Bored*
 35 1 B.L.F.C. Button – Specify Size pg. 24
 36.....113245B.L.F.C. Button Retainer
 37.....1.....129770-Ring, -015
 38.....1D.L.F.C. Button – Specify Size
 39.....113173D.L.F.C. Button Retainer
 40.....1.....10332...Tube Insert – 3/h Note: For Hot Water Delete Items 41
 & 42 and
 1 15415 Tube Insert – 1/2* use
 41.....1 10330. Ferrule – 3/8” 18698Nut & Sleeve Assy. 3/8”

 116124 Ferrule – ½”*15414 . .Nut & Sleeve Assy. ½”
 42 1 10329 Tube Nut-3/8”
 116123 Tube Nut – ½”*
 43 1 14928 Stub End Plug
 44 1 14906 End Plate
 45 4 15137 Screw, Hex Washer, #10-24
 46 1 16140 Adapter, 1/211 T to 1/411 P (not shown)*
 47 1 15471 Brine Valve Stand Off
 48 1 13315 Screw, Hex Washer, #10-24

*These parts are used with #4 Injector and 2 GPM or larger Brine Line Flow Control (B.L.F.C.). Items 34, 35 and 36 are not used.

USA

MODEL 9000 ECONOMINDER water softener – second tank adapter assembly
 Rayne Infinity water softener



MODEL 9000 ECONOMINDER water softener – second tank adapter assembly
 Rayne Infinity water softener

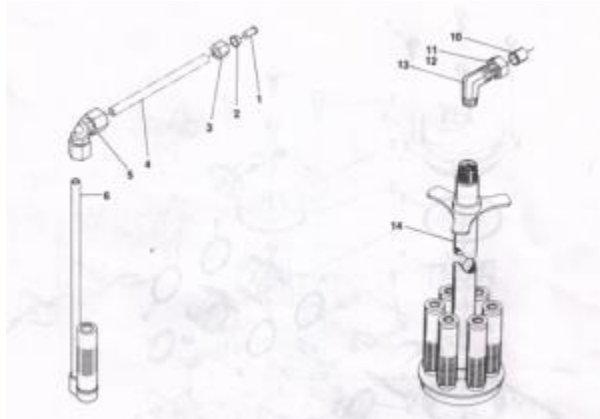
PARTS LIST

Item No	Quantity	Part No	Description
1	1	14864	2nd Tank Adapter
2	8	13305	O-Ring, -119
3	1	11710	O-Ring, -215
4	1	12281	O-Ring, -338
5	2	13708-40	Yoke
1	1	15823	Yoke Assy. Specify Tank Size
6	4	13255	Hold-Down Clip
7	4	14202	Screw, Hex Hd #8-32
8	4	15078	Coupling
9	2		Pipe – 1" Copper Cut to Length

U.S.A.

MODEL 9000 ECONOMINDER water softener – air check

Rayne Infinity water softener



MODEL 9000 ECONOMINDER water softener – air check

Rayne Infinity water softener

PARTS LIST

Item No	Quantity	Part No	Description
1	1	10332	Tube Insert /8"
2	1	10330	Ferrule 3/s
3	1	10329	Tube Nut 3/s"
4	1	Not Supplied	Brine Line Tube (s/s Flexible Tube)
5	1	12794	900 Elbow – 3/h1 T to /sl T
1	1	13555	9Q0 Elbow – 3/lu T to 3/h1 T, HW
6	1	60002	#500 Air Check Assembly
1	1	60003	#500 Air Check Assembly, HW

For Use With 2 GPM Flow Control

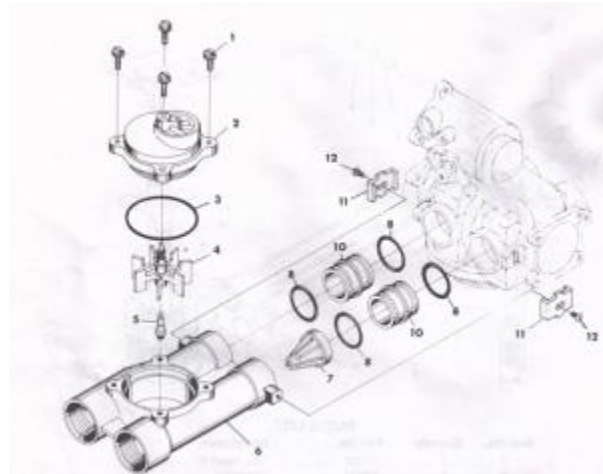
10		15415	Tube Insert 1/211
11		16123	Ferrule 1/211
12		16124	Tube Nut W'
13		15413	Elbow
14		60001	#700 Air Check Assembly

60006..... #700 Air Check Assembly, HW

USA

MODEL 9000 ECONOMINDER – water softener 1" meter assembly

Rayne Infinity water softener



MODEL 9000 ECONOMINDER – water softener 1" meter assembly

Rayne Infinity water softener

PARTS LIST

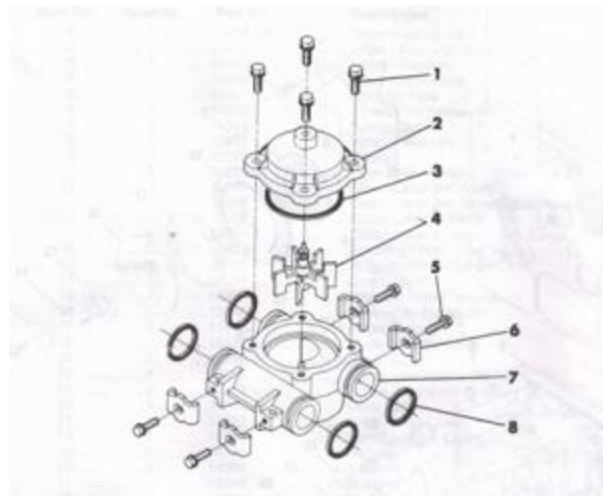
Item No	Quantity	Part No	Description
1	4	12112	Screw, Hex Hd #10-24
2	1	15218	Meter Cover Assy.
		15237	Meter Cover Assy. (Ext. range)
3	1	13847	O-Ring, -137
4	1	13509	Impeller
		13509-01	Impeller, HW
5	1	13882	Impeller Post
6	1	15043-01	Meter Body 1" – 11 1/2 N.P.T.
		15043-02	Meter Body 1" – 11 B.S.P.
7	1	14960	Flow Straightener

- 84133050-Ring, -119
- 9Not Assigned
- 10215078Coupling
- 11213255Adapter Clip
- 12214202Screw, Hex Hd #8-32

U.S.A

MODEL 9000 ECONOMINDER water softener 3/4" meter assembly

Rayne Infinity water softener



MODEL 9000 ECONOMINDER water softener 3/4" meter assembly

Rayne Infinity water softener

PARTS LIST

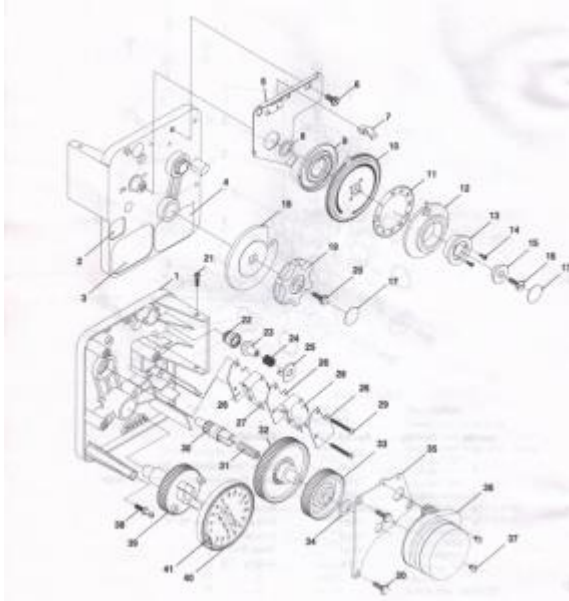
Item No	Quantity	Part No	Description
1	4	12473	Screw, Hex Washer #10-24
2	1	14038	Meter Cover Assembly – Standard
		15150	Meter Cover Assembly – Extended Range
3	1	13847	O-Ring, -137
4	1	13509	Impeller
5	4	13314	Screw, Hex Washer #8-18
6	4	13255	Adapter Clip
7	1	13821	Meter Body

8413305O-Ring, -119

USA

MODEL 9000 ECONOMINDER water softener timer assembly

Rayne Infinity water softener



MODEL 9000 ECONOMINDER water softener timer assembly

Rayne Infinity water softener

PARTS LIST

Item No	Quantity	Part No	Description
1	.....1	.....13870-03	.....Timer Housing Assy.
2	.....1	.....17870	.....Label – Capacity Gallons
3	.....1	.....15465	.....Label – Caution
4	.....1	.....16930	.....Label – Instruction
5	.....1	.....15227	.....Actuator Plate
6	.....1	.....10300	.....Screw, Hex Washer #8
7	.....1	.....17513	.....Spring Clip
8	.....1	.....15407	.....Washer, Plain #4

9	.....1	.....15228	.....Spring
10	.....1	.....15224-01	.....Drive Gear – Program Wheel
11	.....1	.....15967	.....Gallon Label 3/4" Meter
15968	.....Gallon Label 3/4" Meter – Ext. Range		
15969	.....Gallon Label 1" Meter		
15970	.....Gallon Label 1" Meter – Ext. Range		
12	.....1	.....15956	.....Adjusting Disc
13	.....1	.....16218	.....Program Wheel Cover
14	.....2	.....17054	.....Screw, #4-40
15	.....1	.....13806	.....Program Wheel Retainer
16	.....1	.....13748	.....Screw, Flat Hd #6-20
17	.....2	.....11999	.....Button Decal
18	.....1	.....15223	.....Cycle Actuator Gear
19	.....1	.....13886-01	.....Knob
20	.....4	.....13296	.....Screw, Hex Washer #6-20
21	.....2	.....15173	.....Screw, Round Hd #5-20
22	.....1	.....17724	.....Drive Pinion
23	.....1	.....17723	.....Drive Pinion Clutch
24	.....1	.....14276	.....Spring – Meter Clutch
25	.....1	.....14253	.....Retainer
26	.....3	.....14087	.....Insulator
27	.....1	.....15314	.....Switch
28	.....1	.....15320	.....Switch
29	.....2	.....11413	.....Screw, Pan Hd #4-40
30	.....1	.....13018	.....Idler Shaft
31	.....1	.....18563	.....Spring – Idler Shaft
32	.....1	.....13017	.....Idler Gear
33	.....1	.....13164	.....Drive Gear
34	.....1	.....13299	.....Curved Washer

- 35113887Motor Mtg. Plate
- 36113944Motor – 120V 60 Hz.-1/30 RPM
- 14254Motor – 220V 50 Hz.-1/30 RPM
- 14973Motor – 120V 60 Hz.-1/15 RPM
- 15442Motor – 220V 50 Hz.-1/15 RPM
- 37213278Screw, #6-32
- 38114265Spring Clip
- 39115055Main Drive Gear
- 4011921 0-05Program Wheel Assembly – 180 mm.
- 11921 0-02Program Wheel Assembly – 90 mm.
- 4120 15493.....Roll Pin
- 42 Not Assigned
- 43114430Screw, Hex Washer, #6 (Ground, Not Shown)

U.S.A.

MODEL 9000 ECONOMINDER water softener

Rayne Infinity water softener

service instructions

PROBLEM	CAUSE	CORRECTION
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Softener Fails To A.	Electrical Service To A.	Assure Permanent Electrical Service
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Regenerate.	Unit Has Been Interrupted.	Check Fuse, Plug, Pull Chain or Switch).
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B Timer Is Defective.	B. Replace Timer.	
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2.Hard Water.	A. By-Pass Valve is Open	A. Close By-Pass Valve.
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B No Salt in Brine Tank	B. Add Salt To Brine Tank and Maintain Salt Level	
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Above Water Level.

Injector Screen Plugged. C. Clean Injector Screen.

Insufficient Water Flowing Into Brine Tank D. Check Brine Tank Fill

Time And Clean Brine Line Flow Control If Plugged.

Hot Water Tank Hardness. E. Repeated Flushings Of The Hot Water Tank is Required.

Leak At Distributor Tube. F. Make Sure Distributor Tube Is Not Cracked. Check ‘0” Ring And Tube Pilot

Internal Valve Leak G. Replace Seals and Spacers And/Or Piston.

3. Unit Used Too Much Salt A. Improper Salt Setting. A. Check Salt Usage and Salt Setting.

4 Loss Of Water Pressure. A. Iron Buildup In Line To Water Conditioner. A. Clean Line To Water Conditioner.

Iron Buildup In Water Conditioner. B. Clean Control and Add Mineral Cleaner to Mineral Bed. Increase Frequency of Regeneration and/or Backwash Time.

Inlet of Control Plugged Due to Foreign C. Remove Pistons and Clean Control.

Material Broken Loose From Pipes By Recent

Work Done On Plumbing System.

5. Loss of Mineral Through Drain Line. A. Air In Water System. A. Assure That Well System Has Proper Air Eliminator Control.

Check For Dry Well Condition.

6. Iron In Conditioned Water A. Fouled Mineral Bed. A. Check Backwash, Brine Draw And Brine Tank Fill. Increase Frequency Of Regeneration.

7. Excessive Water In Brine Tank. A. Plugged Drain Line Flow Control. A. Clean Flow Control.

B Plugged Injector System. B. Clean Injector and Screen.

Timer Not Cycling. C. Replace Timer.

D. Foreign Material In Brine D. Replace Brine Valve Seat

E Foreign Material In Brine Line Flow Control. E Clean Brine Line Flow Control.

8. Softener Fails To Draw Brine. A. Drain Line Flow Control Is Plugged. A. Clean Drain Line Flow Control.

B. Injector Is Plugged. B. Clean Injector.

C. Injector Screen Plugged. C. Clean Screen.

D. Line Pressure Is Too Low. D. Increase Line Pressure To 25 P.S.I. Mm.

E. Internal Control Leak. E. Change Seals, Spacers and Piston Assembly.

F. Power Loss During Brine Fill. F. Check Power Source

9. Control Cycles Continuously

A. Broken or Shorted Switch. A. Determine If Switch or Timer
Is Faulty and Replace It or
Replace Complete Power
Head.

Excessive Water in Brine Tank.

10. Drain Flows Continuously. and A. Valve Is Not Programed Correctly. A. Check Timer Program

Positioning of Control.

Replace Power Head

Assembly If not Positioning

Properly.

B. Foreign Material In Control. B. Remove Power Head Assembly And Inspect Bore,

Remove Foreign Material and Check Control In Various

Regeneration Positions.

Internal Control Leak. C. Replace Seals and Piston Assembly.

General Service Hints

Problem: Softener Delivers Hard Water.

Cause could be that... Reserve Capacity Has Been Exceeded.

Correction: Check salt dosage requirements and reset program wheel to provide additional reserve.

Cause could be that... Program Wheel Is Not Rotating With Meter Output

Correction: Pull cable out of meter cover and rotate manually. Program wheel must move without
binding and cycle actuator

must start the cycle before the clutch releases.

Cause could be that... Meter Is Not Measuring Flow.

Correction: Check output by observing rotation of small gear on front of timer
(Note – program wheel must not be against

regeneration stop for this check). Each tooth is approximately 75 gallons on 1”
installations. If not performing properly,

replace meter.

Cause could be that. . . Trip Dog On Program Wheel Is Beyond Cycle Actuator Arm.

Correction: 1. If power failed during regeneration; reset program wheel and cycle manually.

2.If exceeding system capacity before regeneration was completed; either a) increase system capacity, b)restrict flow rates, or c) change timer from 164 min./cycle to 82 min./cycle.

3.If defective timer; replace timer.

USA

MODEL 9000 ECONOMINDER water softener

Rayne Infinity water softener

service assemblies

60022-25	.....	BLFC .25 GPM	60400.....	Piston Assy, 9000 Upper	
60022-50	.....	BLFC .50 GPM			
60022-100	.....	BLFC 1.0 GPM 1	.....11335.....	Screw, Fil Hd Mach 4-40 X 3/16	
1	.....	13446.....	End Plug, White Assy		
1.....	12094.....	Flow Washer .25 GPM	1.....	14309..... Retainer, Piston Rod		
12095.....		Flow Washer .50 GPM	1.....	14914..... Piston, Upper 9000		
12097.....		Flow Washer 1.0 GPM	1.....	14919..... Piston Rod, Upper		
1	.....	12977	O-Ring, -015 1	..... 14921	Link, Piston Rod
1	.....	13244.....	Adapter, BLFC		
1	.....	13245.....	Retainer, BLFC Button	60125..	Seal & Spacer Kit, 9000 – Upper
60350.....		Brine Valve Assy, 9000	5	.....	13242..... Seal
4	.....	14241	Spacer		
1	.....	11973.....	Spring, Brine Valve		
1	.....	11981	Retaining Ring 60421	Seal & Spacer Kit, 9000 – Lower	
1	.....	16095.....	Washer, Plain #10 Nylon		
1	.....	12550.....	Quad Ring, -009	11	..... 13242..... Seal
1	12626.....	Seat, Brine Valve	8 14241	Spacer
1	13165.....	Cap, Brine Valve	i 16595	Spacer, 9000
1	13167.....	Spacer, Brine Valve			

2	.....	13302	O-Ring, -014	60412.....	9000 Powerhead Assembly
1	.....	14925.....	Brine Valve Stem, 9000		
60385-XXXX	...		Injector/Drain Assy	60375-XX	9000, Timer 1/15 RMP
60376-XX			9000, Timer 1/30 RPM		
60086.....			3/4" Meter, Standard Range		
60087..3/4"			Meter, Extended Range	60136-9000 . . .9000	Service Repair Kit DLFC, Flow Washers
60389.....			1" Meter, Standard Range	12085	Flow Washer, 1.2 GPM
-			12086.....		Flow Washer, 1.5 GPM
60390.....			1" Meter, Extended Range	12087.....	Flow Washer, 2.0 GPM
12088.....			Flow Washer, 2.4 GPM		
12089.....			Flow Washer, 3.0 GPM		
12090.....			Flow Washer, 3.5 GPM		
60401			Piston Assy, 9000 Lower	12091	Flow Washer, 4.0 GPM
12092.....			Flow Washer, 5.0 GPM		
12408.....			Flow Washer, 7.0 GPM		
1	.....	11335.....	Screw, Fil Hd Mach 4-40 x 3/16		
1	.....	13446.....	End Plug Assy White		
1	.....	14309.....	Retainer, Piston Rod		
1	.....	14905.....	Piston, Lower 9000		
1	.....	14920.....	Piston Rod, Lower		
1	.....	15019.....	Link, Piston Rod		

U.SA

MODEL 9000 ECONOMINDER WATER softener

Rayne Infinity water softener

service assemblies, hot water

60612.....1" Meter, Standard Range, HW

60401-01Piston Assy, 9000 Lower, HW

111335 Screw, Fil Hd Mach 4-40 x 3/16

111335-01End Plug Assy White

116590 Retainer, Piston Rod, HW

114905 Piston, Lower 9000

114920 Piston Rod, Lower

115019 Link, Piston Rod

60400-01Piston Assy, 9000 Upper, HW

111335Screw, Fil Hd Mach 4-40X3/16

113446-01End Plug, White Assy

116590Retainer, Piston Rod

114914Piston, Upper 9000

114919Piston Rod, Upper

114921Link, Piston Rod

60125 HW.....Seal & Spacer Kit, 9000 – Upper, HW

5.....18759Seal

4.....14241-01Spacer

60421 HW.....Seal & Spacer Kit, 9000 – Lower, HW

1118759Seal

8.....14241 -01Spacer

116595Spacer, 9000

U.S.A.

Rayne
Water Conditioning

INFINITI
Water Softener/Conditioner

1.5" Nickel Plated Valve Alternating Control Valve

1" Nickel Plated BS Valve

BUILT TO LAST A LIFETIME!

Rayne Limited Lifetime Warranty
See warranty card for full details.

Rayne Water Conditioning
1750 West 10th Street
P.O. Box 10000
Des Moines, IA 50316
800-725-7251

Rayne - Providing Quality Water Conditioning for Over 75 years

This is the ultimate water softener machine. People love them.