



INSTALLATION, OPERATING AND SERVICE MANUAL

DIAMOND LINE LX **ELECTRONIC WATER SOFTENER WITH** **THE X-FACTOR CONTROL VALVE** PROGRAMMED FOR PRE-FILL BRINING OPTION

- ☐ 7-LXC-50B
- ☐ 7-LXC-75B
- ☐ 7-LXC-100B
- ☐ 7-LX-75B
- ☐ 7-LX-100B
- ☐ 7-LX-150B
- ☐ 7-LX-200B
- ☐ 7-LX-300B



Congratulations on purchasing your new **Lancaster Water Softener**. This unit is designed to give you many years of trouble free service. When installed in accordance with the following instructions and if given reasonable care, clear-soft water will be the result. For servicing and future inspection purposes, please file this booklet with your important documents.

In the event that you need assistance for servicing your water softener, please first contact the professional contractor who installed the system.

X FACTOR SERIES LX SPECIFICATIONS

MODEL NUMBER	7-LX-75B	7-LX-100B	7-LX-150B	7-LX-200B	7-LX-300B
Service Flow (GPM) at 15 PSI Pressure Drop	13	17	16	18	19
Resin Tank Size; Diameter x Height (inches)	8 x 44	10 x 40	10 x 54	12 x 48	14 x 65
Resin; Cu. Ft.	0.75	1	1.5	2	3
Brine Tank Size; (inches)	15 x 17 x 36	15 x 17 x 36	15 x 17 x 36	15 x 17 x 36	18 x 40
Brine Tank Capacity; Lbs NaCl	275	275	275	275	450
Drain Line Flow Control; GPM	1.0	1.7	1.7	2.7	4.2
Brine Line (Re-Fill) Flow Control; GPM	0.5	0.5	0.5	0.5	0.5
Injector; color	1C - Violet	1E - White	1E - White	1F - Blue	1H - Green

X FACTOR SERIES LXC SPECIFICATIONS

MODEL NUMBER	7-LXC-50B (PACKED BED)	7-LXC-75B	7-LXC-100B (PACKED BED)
Service Flow (GPM) at 15 PSI Pressure Drop	14	18	17
Resin Tank Size; Diameter x Height (inches)	9 x 18	10 x 35	10 x 35
Resin; Cu. Ft.	0.5	0.75	1
Cabinet Size (including top cover); W" x L" x H"	13.5 x 22.5 x 27.25	13.5 x 22.5 x 44	13.5 x 22.5 x 44
Cabinet Capacity (with grid); Lbs NaCl	75	225	225
Drain Line Flow Control; GPM	0.7	1.7	1.7
Brine Line (Re-Fill) Flow Control; GPM	0.5	0.5	0.5
Injector; color	1D - Red	1E - White	1E - White

X FACTOR SERIES LX SPECIFICATIONS

MODEL NUMBER		7-LX-75B	7-LX-100B	7-LX-150B	7-LX-200B	7-LX-300B
CYCLES* (Downflow Regenerant, Prefill)						
1st: Fill; Lbs NaCl		6.0	8.0	12.0	16.0	24.0
2nd: Softening; Minutes (Regenerant Production)		60	60	60	60	60
3rd: Backwash; Minutes		10	10	10	10	10
4th: Regenerant Draw DN; Minutes (Draw & Slow Rinse)		50	50	50	50	50
5th: Backwash; Minutes		10	10	10	10	10
6th: Rinse; Minutes (Fast Rinse)		5	5	5	5	5
7th: End		-	-	-	-	-
GRAINS CAPACITY	Low	12,750	17,000	25,500	34,000	51,000
	Medium*	18,000	24,000	36,000	48,000	72,000
	High	24,000	32,000	48,000	64,000	96,000
LBS NaCl Per Regeneration	Low	3.4	4.5	6.75	9.0	13.5
	Medium*	6.0	8.0	12.0	16.0	24.0
	High	11.3	15.0	22.5	30.0	45.0
(Re-) FILL Minutes	Low	2.3	3.0	4.5	6.0	9.0
	Medium*	4.0	5.3	8.0	10.7	16.0
	High	7.5	10.0	15.0	20.0	30.0
GALLONS ¹ WATER TO DRAIN at 40/50/60 PSI Inlet Pressure	Low	38.4/39.6/40.4	60.8/62.5/63.8	61.5/63.3/64.5	94.5/96.3/98.0	142.5/145.5/148.0
	Medium*	39.3/40.5/41.3	61.9/63.7/64.9	63.3/65.0/66.3	96.8/98.6/100.3	146.0/149.0/151.5
	High	41.0/42.3/43.0	64.3/66.0/67.3	66.8/68.5/69.8	101.5/103.3/105.0	153.0/156.0/158.5
WATER ² USAGE % Efficiency at 10 GRAINS per GALLON and 40 PSI Inlet Pressure	Low	97.1	96.5	97.6	97.3	97.3
	Medium*	97.9	97.5	98.3	98.0	98.0
	High	98.3	98.0	98.6	98.4	98.4

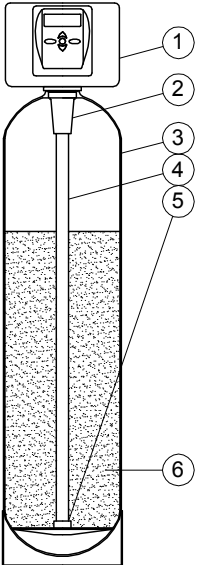
* Factory Setting.

¹ Gallons to Drain = (Backwash Min. x DLFC Gal./Min.) + (Fast Rinse Min. x DLFC Gal./Min.) + (Regenerant Draw DN Min. x Slow Rinse Gal./Min.) + (LBS. NaCl x 1 Gal./3 LBS. NaCl)

Note: Slow Rinse Gal./Min. is obtained from injector charts for each color injector at various pressures.

² Water Usage % Efficiency = $\frac{\text{Gallons Treated}}{\text{Gallons Treated} + \text{Gallons to Drain}} \times 100$

SOFTENER ASSEMBLY

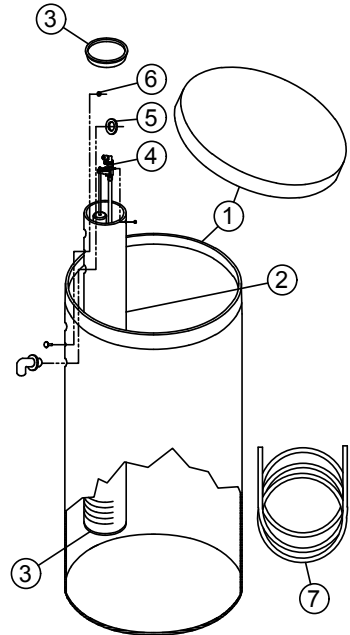


Dwg. No.	Order No.	Description	Qty
1	LXCV1 (detailed components shown in this manual)	Metered Control Valve	1
2	D1203	Top Distributor	1
3,4,5	FG844VT, D1130-12 Ft. (cut for 44 in.), R-DIP1050	Tank, Pipe, Connector, Assy for Model 7-LX-75B	1
	FG1040VT, D1130-12 Ft. (cut for 40 in.), R-DIP1050	Tank, Pipe, Connector, Assy for Model 7-LX-100B	1
	FG1054VT, D1130-12 Ft. (cut for 54 in.), R-DIP1050	Tank, Pipe, Connector, Assy for Model 7-LX-150B	1
	FG1248VT, D1130-12 Ft. (cut for 48 in.), R-DIP1050	Tank, Pipe, Connector, Assy for Model 7-LX-200B	1
	FG1465VT, D1130-12 Ft. (cut for 65 in.), R-DIP1050	Tank, Pipe, Connector, Assy for Model 7-LX-300B	1
6	A4074 (3/4 Cu. Ft. = 39 LBS)	Ion Exchange Resin for Model 7-LX-75B	1
	A4074 (1 Cu. Ft. = 52 LBS)	Ion Exchange Resin for Model 7-LX-100B	1
	A4074 (1 1/2 Cu. Ft. = 78 LBS)	Ion Exchange Resin for Model 7-LX-150B	1
	A4074 (2 Cu. Ft. = 104 LBS)	Ion Exchange Resin for Model 7-LX-200B	1
	A4074 (3 Cu. Ft. = 156 LBS)	Ion Exchange Resin for Model 7-LX-300B	1

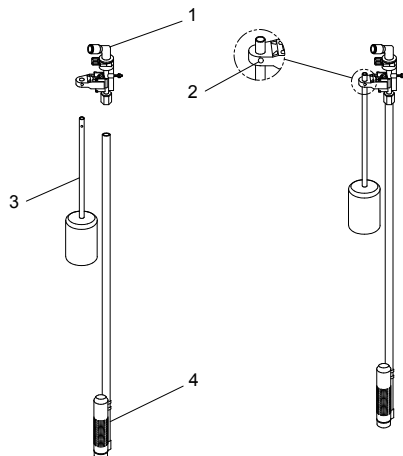
BRINE TANK ASSEMBLY

Dwg. No.	Order No.	Description	Qty
1	J7952	15x17x36 Assembly for Model 7-LX-75B, -100B, -150B, -200B	1
	G2136	18x40 Brine Tank with Cover for Model 7-LX-300B	1
2	H1031	4x30 Slotted Brine Well for Model 7-LX-75B, -100B, -150B, -200B	1
	H1036	4x36 Slotted Brine Well for Model 7-LX-300B	1
3	H7016	4 inch Brine Well Cap for Model 7-LX-75B, -100B, -150B, -200B (Top Cap Only for Models 7-LX-300B)	2 (1)
4	4740 4740-L	3/8" Brine Valve Assembly (using 1/2"x25" long air check assy for Model 7-LX-75B, -100B, -150B, -200B) (using 1/2"x43" long air check assy for Model 7-LX-300B)	1
5	H1018	Two Piece Overflow Set	1
6	1640N	Nylon Screw (only for Model 7-LX-300B)	1
	6785N	Nylon Nut (only for Model 7-LX-300B)	1
7	H1023	3/8"O.D.x6 Ft. Poly Tubing	1

L56-40A 18 x 40
Brine Tank Assy.



4740 BRINE VALVE ASSEMBLY



Dwg No.	Order No.	Description	Qty
1	H4600	3/8" Safety Brine Valve	1
2	10151	Pin	1
3	H4640-9.5	Float Assembly	1
4	H4500-48	Air Check Assembly (uncut length) see brine tank assy for cut length	1

J7952 15 x 17 x 36
Brine Tank Assy.

