



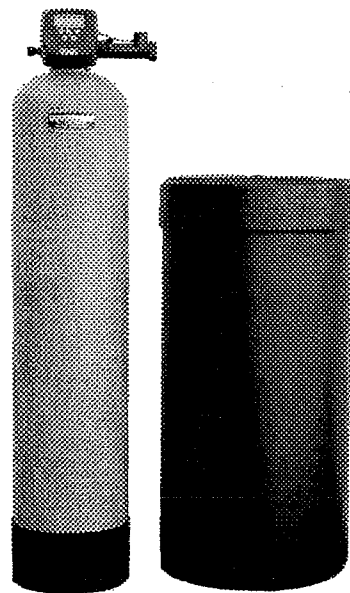
# LANCASTER<sup>®</sup>

## WATER TREATMENT

### PROGRAMMING AND DRAWINGS MANUAL

### COMMERCIAL ELECTRONIC WATER SOFTENER WITH THE WS15 VALVE

- 7-WS15-90
- 7-WS15-120
- 7-WS15-150
- 7-WS15-180
- 7-WS15-210



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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.



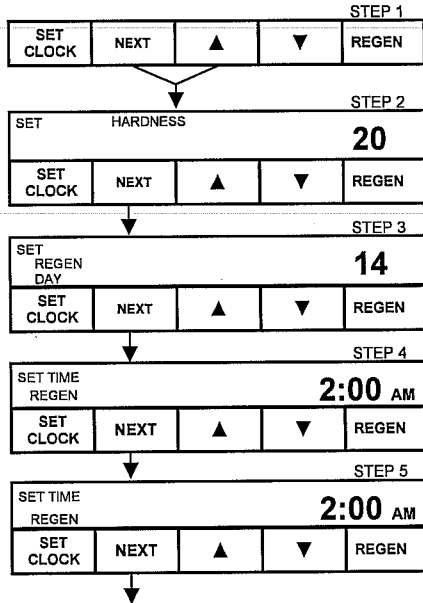
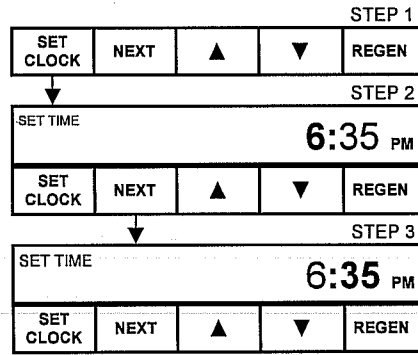
## SET TIME OF DAY

STEP 1: Press **SET CLOCK**.

STEP 2: Set current hour of the day by pressing **▲** or **▼** buttons. AM/ PM toggles after 12.

STEP 3: Press **NEXT**. Set current minutes by pressing **▲** or **▼** buttons.

STEP 4: Press **NEXT** to exit **SET-CLOCK**.



## SET HARDNESS, DAYS OVERRIDE & REGENERATION TIME

STEP 1: Press **NEXT** and **▲** simultaneously for 3 seconds.

STEP 2: **Hardness**: Set the amount of hardness in grains of hardness per gallon using the **▲** or **▼** buttons. The default is 20. The available range is 1 to 150 in 1 grain increments.

STEP 3: Press **NEXT**. Regen day: This sets the maximum number of days between regenerations. This days override feature can be shut off by pressing the **▼** button until "OFF" appears. Set the maximum number of days between by pressing **▲** or **▼**. Range is 1– 28 days. If the OFF position is selected, the softener will regenerate based solely on the gallons capacity.

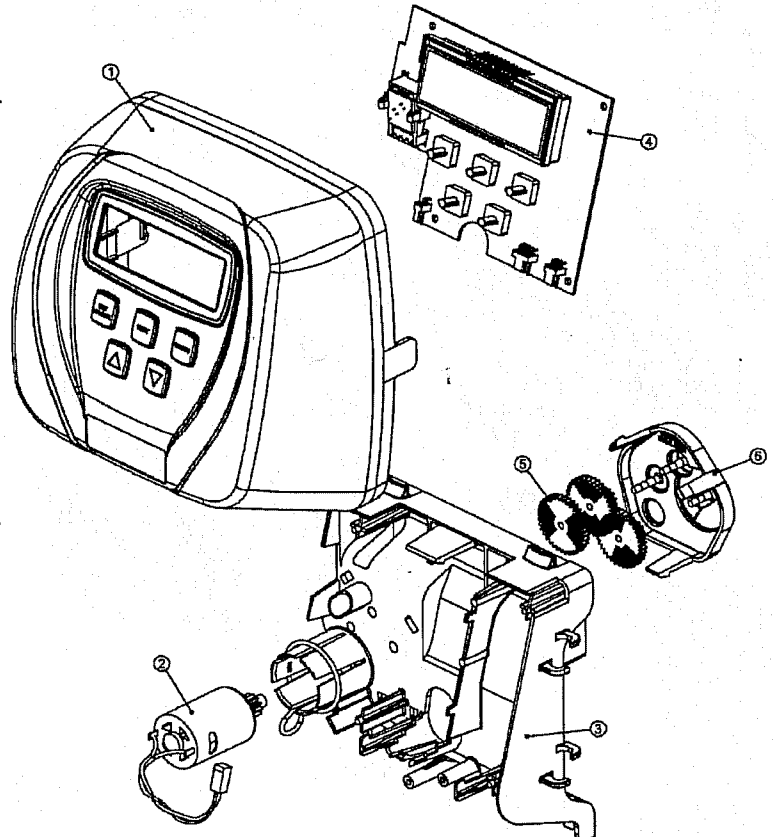
STEP 4: Press **NEXT**. Regeneration time (hour): Set the hour of the day for regeneration to occur by using **▲** or **▼** buttons. AM/ PM toggles after 12. The default time is 2:00 am.

STEP 5: Press **NEXT**. Regeneration time (minutes): Set the minutes of the day for regeneration by using **▲** or **▼** buttons. Press **NEXT** to exit Displays/Settings. Current time of day will be displayed.

## ADDITIONAL PROGRAMMING INFORMATION AVAILABLE FROM LANCASTER WATER TREATMENT UPON REQUEST.

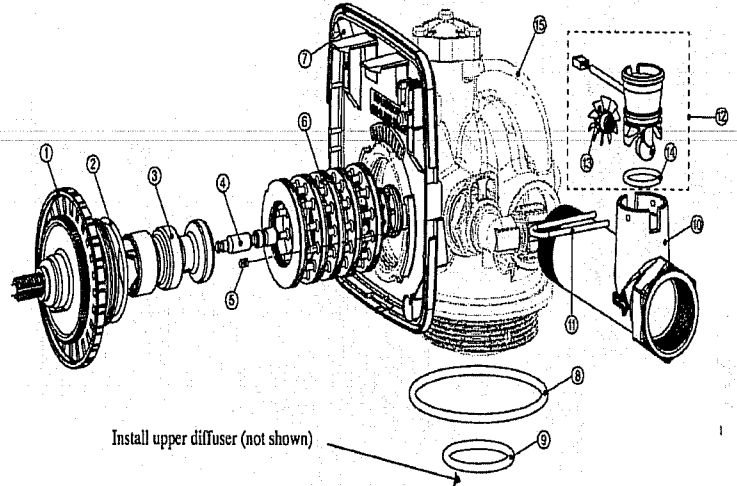
### WS15 FRONT COVER AND DRIVE ASSEMBLY

Item No.	Quantity	Part No.	Description
1	1	V3175CC-01	Front Cover Assembly
2	1	V3107	Motor
3	1	V3106	Drive Bracket & Spring Clip
4	1	V3108CC-01	PC Board
5	3	V3110	Drive Gear 12 x 36
6	1	V3109	Drive Gear Cover
2 thru 6		V3002CC	Drive Assembly - (parts 2-6)
Not Shown	1	V3186	Transformer 110V-12V



## Drive Cap Assembly, Downflow Piston, Regenerant Piston, Spacer Stack Assembly, Drive Back Plate, Main Body and Meter

Drawing No.	Order No.	Description	Quantity
1	V3004	WS1 Drive Cap Asy	1
2	V3135	O-ring 228	1
3	V3407	WS1.5 Piston Downflow Asy	1
4	V3174*	WS1 Regenerant Piston	1
5	V3423	WS1.5 Backplate Dowel	1
6	V3430	WS1.5 Spacer Stack Asy	1
7	V3178	WS1 Drive Back Plate	1
8	V3419	O-ring 347	1
9	V3418	O-ring 328 for valve bodies with NPT threads	1
Not Shown	V3437	WS1.5 Flow Straightener (located inside meter housing)	1
10	V3401-01	WS1.5 Meter Housing	1
11	V3223	WS2 Meter Clip	1
12	V3003**	WS1 Meter Asy	1
13	V3118-01	WS1 Turbine Asy	1
14	V3105	O-ring	1
15	V3400-01	WS1.5 Valve Body Downflow	1

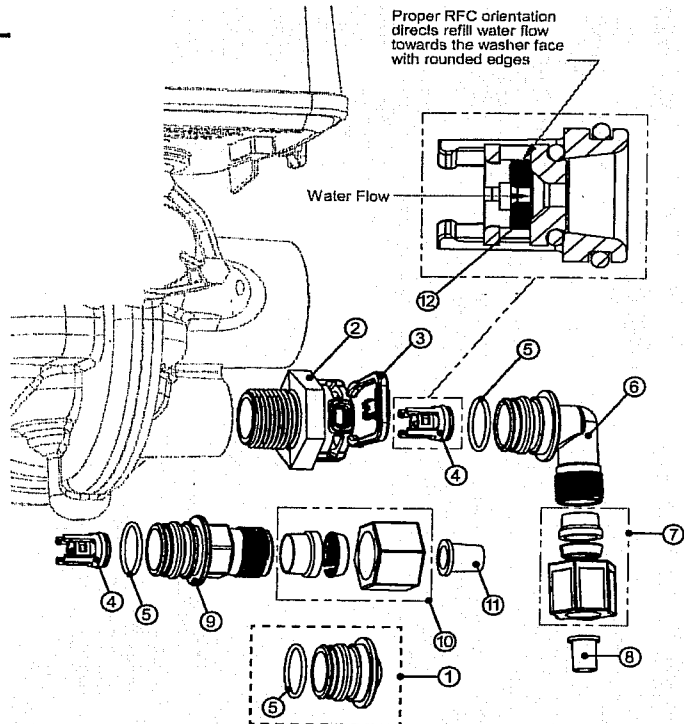


\* V3174 WS1 Regenerant Piston not used for backwash only valves. V3010-15Z Injector Plug and V3195-01 WS Refill Port Plug ASY must be used for backwash only valves.

\*\* After attaching the meter housing to the valve, break out the tab in the back plate and thread the meter cord through. Order number V3003 includes V3118-01 and V3015.

## Refill Flow Control Assembly and Refill Port Plug

Drawing No.	Order No.	Description	Quantity
1	V3195-01	WS1 Refill Port Plug Asy	1
2	V3415	WS1.5 BLFC Adapter	1
3	H4615	Locking Clip	1
4	V3428*	WS1.5 Refill Retainer ASY	1
5	V3163	O-ring 019	1
6	H4612	Elbow Cap 1/2"	1
7	JCPG-8PBLK	Nut Compression 1/2" Black	1
8	JCP-P-8	Insert Polytube 1/2"	1
9	V3434	WS1 Refill Adapter 5/8"	1
10	JCP-PG-10BLK	Nut Compression 5/8"	1
11	PKP10TS8-BULK	Polytube insert 5/8"	1
12	V3182	WS1 RFC	1



If Using	Applicable Drawing No.s
V3010-15D	2,3,4,5,6,7,8 and 12
V3010-15E	2,3,4,5,9,10,11 and 12
V3010-15G	2,3,4,5,9,10,11 and 12

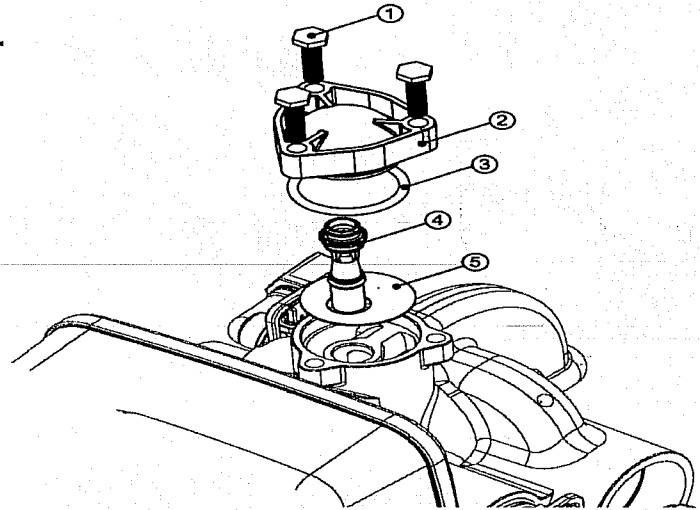
V3010-15Z 1,2,3 and 5

\*V3428 contains a V3182 WS1 RFC

# Injector Cap, Injector Screen, Injector, Plug, Bolts and O-Rings

Drawing No.	Order No.	Description	Quantity
1	V3422	Bolt	3
2	V3403	WS1.5 Injector Cap	1
3	V3417	O-ring 220	1
	V3010-15D	WS1.5 Injector Asy D White 14" tank	
4	V3010-15E	WS1.5 Injector Asy E Blue 16" Tank	1
	V3010-15G	WS1.5 Injector Asy G Green 21" Tank	
	V3010-15Z	WS1.5 Injector Plug	
5	V3404	WS1.5 Injector Screen	1
Not Shown	V3171	O-ring 013	*
Not Shown	V3416	O-ring 012	*

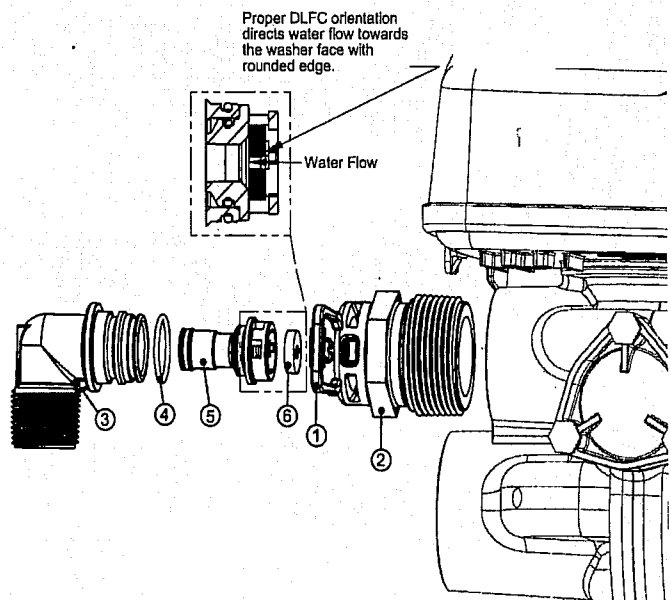
The injector or the injector plug each contain one V3416 o-ring 012 (lower) and one V3171 o-ring 013 (upper)



## Drain line 3/4"

Drawing No.	Order No.	Description	Quantity
1	H4615	Locking Clip	1
2	V3414	WS1.5 DLFC Adapter	1
3	V3158-01	WS1 Drain Elbow 3/4" Male Asy	1
4	V3163	O-ring 019	1
5	V3159-01	WS1 DLFC Retainer Asy	1
6	V3162-032	WS1 DLFC 3.2 gpm for 3/4"	
	V3162-042	WS1 DLFC 4.2 gpm for 3/4"	
	V3162-053	WS1 DLFC 5.3 gpm for 3/4"	
	V3162-065	WS1 DLFC 6.5 gpm for 3/4"	
	V3162-075	WS1 DLFC 7.5 gpm for 3/4"	
	V3162-090	WS1 DLFC 9.0 gpm for 3/4"	
	V3162-100	WS1 DLFC 10.0 gpm for 3/4"	

One DLFC must be used if 3/4" fitting is used

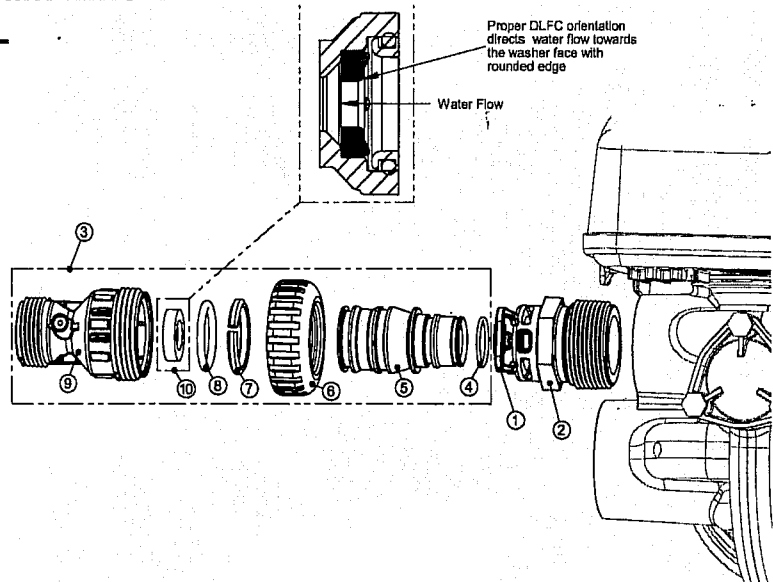


Vales are shipped without drain line flow control (DLFC)-install DLFC before using. Use a minimum drain line size of 3/4".

## Drain Line 1"

Drawing No.	Order No.	Description	Quantity
1	H4615	Locking Clip	1
2	V3414	WS1.5 DLFC Adapter	1
3	V3008-02	WS1 Drain Ftg 1" Straight	1
4*	V3163	O-ring 019	1
5*	V3167	WS1 Drain Ftg Adapter 1"	1
6*	V3151	WS1 Nut 1"	1
7*	V3150	WS1 Split Ring	1
8*	V3105	O-ring 215	1
9*	V3166	WS1 Drain Ftg Body 1"	1
10	V3190-090	WS1 DLFC 9.0 gpm for 1"	
	V3190-100	WS1 DLFC 10.0 gpm for 1"	
	V3190-110	WS1 DLFC 11.0 gpm for 1"	
	V3190-130	WS1 DLFC 13.0 gpm for 1"	
	V3190-150	WS1 DLFC 15.0 gpm for 1"	
	V3190-170	WS1 DLFC 17.0 gpm for 1"	
	V3190-200	WS1 DLFC 20.0 gpm for 1"	
	V3190-250	WS1 DLFC 25.0 gpm for 1"	

One DLFC must be used if 1" fitting is used



\*Can be ordered as a set, order number V3008-02 WS1 Drain Ftg 1" Straight